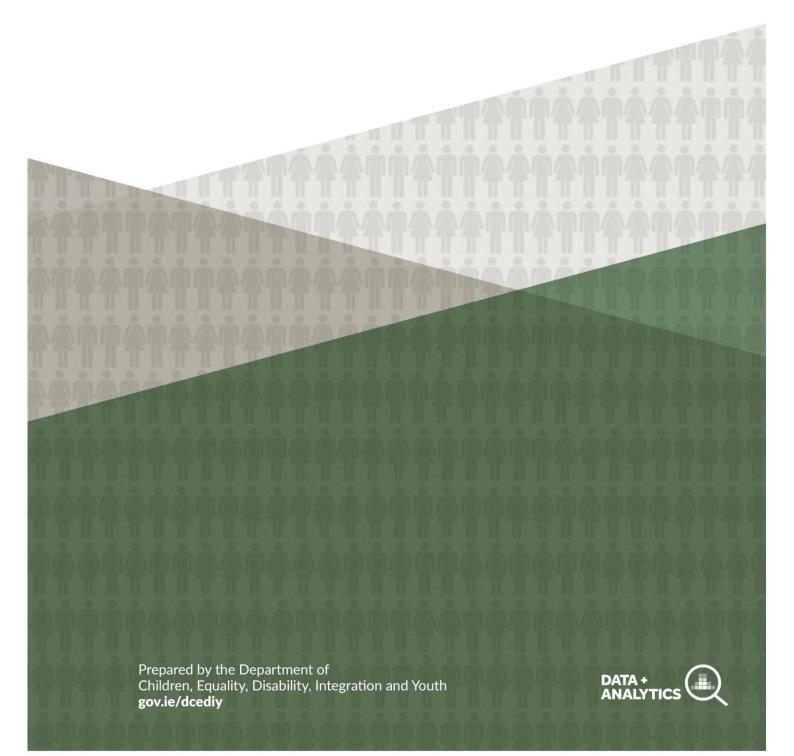




STATISTICAL SPOTLIGHT

#13

Child and Youth Mortality in Ireland



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1. Introduction

This Statistical Spotlight collates available data on child and youth mortality in Ireland and other EU countries. It also presents available data on mortality for children and young people in care or availing of aftercare services in Ireland. The Department of Children, Equality, Disability, Integration and Youth wish to acknowledge and remember all of the children and young people who have died in Ireland and whose data are included in this report. For the purposes of this Spotlight, mortality refers to deaths occurring after birth; data on stillbirths is not reported here. This Spotlight is split into 4 parts:

- Child and Youth Mortality in Ireland Over the Decades this section focuses on mortality of children and young people in Ireland over the past 50 years (1970-2020).
- Child and Youth Mortality Today this section focuses on mortality of children and young people in Ireland in more recent years (2015-2021).
- Child and Youth Mortality Internationally this section focuses on how the mortality of children and young people in Ireland today (2021) compares internationally.
- Child and Youth Mortality in Care and Aftercare in Ireland this section focuses on child mortality in care and mortality of young people in receipt of aftercare services in Ireland (2015-2022) and how this compares to Ireland generally.

Although data are only available up to 2021, the report contains a small section on deaths related to COVID-19.

Presenting data on mortality among our young population is an important way to mark progress in terms of health and wellbeing outcomes, as well as highlighting areas where continued efforts are essential.

Article 6 of the UN Convention on the Rights of the Child states that 'Children have an inherent right to life and the State has an obligation to ensure to the maximum extent possible the survival and development of the child'¹. Further, one of the government's policy priorities under Healthy Ireland, a framework for improved health and wellbeing, is to increase the proportion of people who are healthy at all stages of life. This means addressing risk factors and promoting protective

¹ Convention on the Rights of the Child



factors at every stage of life – from pre-natal through childhood, adolescence, adulthood and into old age, to support lifelong health and wellbeing².

Similarly, two of the national outcomes in Young Ireland, the National Policy Framework for Children and Young People, relate to children and young people being active and healthy and safe and protected from harm³. Child and youth mortality is monitored in two separate publications from the Department of Children, Equality, Disability, Integration and Youth. These are the Children and Young People's (CYP) Indicator Set, which tracks progress in the lives of children and young people aged 0-24 years old, in line with the Young Ireland Policy Framework, and the State of the Nation's Children (SONC) report which tracks data on a National Set of Child Wellbeing indicators for those aged under 18. Both indicator sets source data from the Central Statistics Office Vital Statistics data.⁴

In this Spotlight, data are presented on child and youth mortality from three sources:

- Central Statistics Office (CSO) Vital Statistics (requested and downloaded)
- Eurostat population and demography data (downloaded)
- Tusla data on children and young people in care and in receipt of aftercare services (requested)

The primary purpose of this publication is to gather the most relevant data available on children and young people's mortality, within the Irish context, and in comparison to children and young people's mortality internationally. This Spotlight aims to highlight trends and features observed in the data. Therefore, while this information may be useful for further research, it should not be used alone to determine a cause-and-effect relationship between any two variables.

Data Limitations

The CSO publishes both quarterly and annual statistics on deaths in Ireland based on the national death register. The quarterly statistics present information on deaths **registered** in each reference quarter, followed by a yearly summary of these registered deaths. However, deaths can be

² Healthy Ireland, A Framework For Improved Health And Wellbeing 2013-2025

³ Young Ireland National Policy Framework for Children and Young People 2023-2028

⁴ Note: This is not an exhaustive list of relevant policies or monitoring frameworks dealing with child and youth mortality. These have been chosen to provide some contextual information, in particular referring to those relevant to the Department of Children, Equality, Disability, Integration and Youth.



registered in a different quarter or a different year than they occurred. This issue is exacerbated in cases where an inquest is necessary.

The annual report, on the other hand, presents information on deaths **occurring** in the reference year. As such, annual reports are published with a delay of roughly seven quarters. The most recent annual report available from the CSO Vital Statistics at the time of publishing was for 2021. The annual reports present more complete information with regard to the time and cause of death. However, there are cases where deaths are registered even beyond the 22-month deadline for annual reports. This is particularly relevant to suicide statistics. As such, there are late registrations that are not included in this report.

It was not possible to disaggregate the mortality figures by ethnicity, and so it was not possible to investigate mortality rates in subgroups of the population, for example the Traveller and Roma communities, in which other sources have found higher mortality rates and suicide rates in particular⁵.

According to the National Office of Clinical Audit's (NOCA) most recent National Paediatric Mortality Register 2023⁶, delays in death registration in children are preventing access to timely reports of mortality and in turn the identification of trends and areas of focus for prevention. NOCA report that linkage of hospital data with death registration information would permit a more meaningful analysis of child mortality data by allowing additional information on underlying causes and pre-existing medical conditions to be considered. The group has recommended the development of a central national database on deaths in children that could capture timely, high-quality data on deaths.

Tusla report data on deaths among children in care and young people availing of aftercare services, including some detail on causes of death. There are seven different causes of death listed in Tusla data. However, Tusla don't have a formal categorisation for referencing cause of death; these data are based on the information provided within the initial notification to Tusla, received from the relevant social work department. As such, comparison with other classification systems for cause of death is limited, for example the International Statistical Classification of Diseases and Related Health Problems (ICD), a medical classification list by the World Health Organization (WHO) and used by the CSO.

⁵ Our Ge<u>els All Ireland Traveller Health Study: Demography & Vital Statistics</u>

⁶ National Paediatric Mortality Register 2023



2. Child and Youth Mortality in Ireland Over the Decades

This section focuses on child and youth mortality in Ireland in the past 50 years, that is, deaths among the population aged from under 1 to 24 years (under 25) from the years 1970-2020. The age and gender of the deceased are also examined. The sources for this chapter are the CSO Vital Statistics annual report data and CSO population data.

2.1 Population Change 1970s to 2020s

Before examining the changes in mortality in the past 50 years, it is important to understand how the population has changed in this period. Figure 1 shows how the total population of children and young people aged under 25 has changed since 1970 based on CSO population estimates.



Figure 1 Change in population aged under 25, 1970-2022

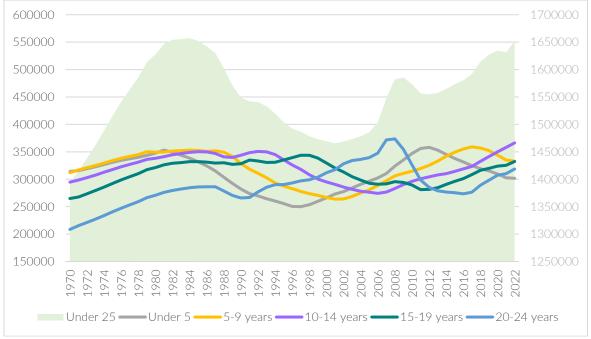
Source: CSO PxStat table PEA01

Overall, the population under 25 has grown over the period, rising from 1,394,600 in 1970 to 1,652,200 in 2022 but with peaks and troughs in between. The population rose throughout the 1970s, reaching a peak in 1984 before dropping throughout the 1990s. The population rose again to 2009, dipping to 2012 and rising once again.



Figure 2 shows the population changes since 1970 for specific age groups.

Figure 2 Change in population aged under 25 by age group, 1970-2022



Source: CSO PxStat table PEA01

Looking at specific age groups more closely, all age groups over 5 years have grown in population over the period, while the population under 5 is currently lower than in 1970. The under 5 population started to drop in the early 1980s continuing until the late 1990s. This led to drops for the following age groups between 1 and 19 in the following years and decades. The under 5 population picks up again in the early 2000s, rising to a peak in 2012, with the older age groups seeing this effect a few years later. The 20-24-year group, for the most part continued to rise to a pronounced peak in 2008 before seeing the decline of the other age groups, dropping to 2017 and rising once again in recent years.

The following Section 2.2 of the report presents figures on the number of deaths occurring in Ireland in certain years, however these numbers don't take into account the overall population and how changes in the population in the period relate to the number of deaths. Section 2.3 presents death rates, which are a more comparable measure of mortality over time.



2.2 Number of Deaths

Figure 3 presents the number of deaths of children and young people aged under 25 from 1970 to 2020.

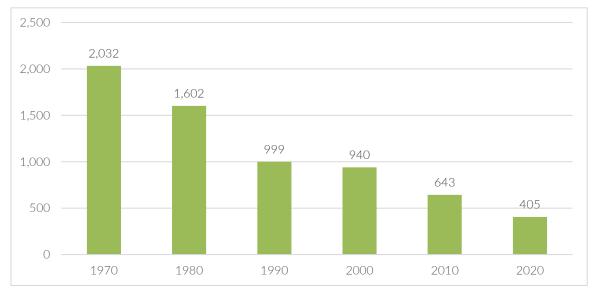


Figure 3 Number of deaths of children and young people aged under 25, 1970-2020

The overall number of deaths of children and young people (aged under 25 years) in Ireland has reduced by 80% over the past 5 decades from 2,032 in 1970 to 405 in 2020. This is despite an overall population growth of 17% over the period.

Table 1 presents the number of deaths in the years 1970, 1980, 1990, 2000, 2010 and 2020 for eight different age groups and the total group of interest – children and young people aged under 25. It also presents a percentage change figure which represents the percentage change in the number of deaths from 1970 to 2020. Figure 4 presents the percentage change in the number of deaths for each age group since 1970 and the percentage change in the population since 1970.



	Table 1 Number of	f deaths of children and	young people aged under 2:	5. 1970-2020
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Number of Deaths, 1970-2020											
	1970	1980	1990	2000	2010	2020	% Change from 1970 to 2020				
Under 18 years	1,789	1,312	727	565	413	278	-84%				
18 - 24 years	243	290	272	375	230	127	-48%				
Under 1 year	1,255	821	434	338	271	178	-86%				
1 - 4 years	210	185	88	45	45	25	-88%				
5 - 9 years	118	115	57	39	30	22	-81%				
10 - 14 years	106	97	61	43	22	23	-78%				
15 - 19 years	170	181	167	207	101	67	-61%				
20 - 24 years	173	203	192	268	174	90	-48%				
Under 25 years	2,032	1,602	999	940	643	405	-80%				

Figure 4 Percentage change in the no. of deaths and in the population between 1970 and 2020

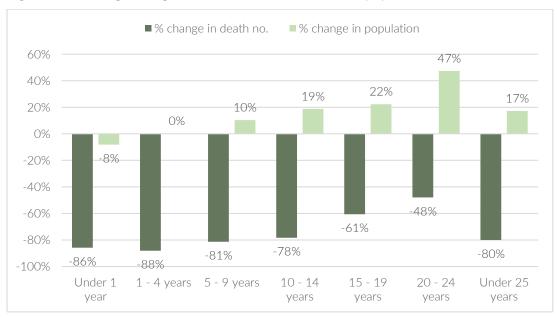


Table 1 and Figure 4 show that there are different trends in the number of deaths for different age groups within the under 25 group. The greatest improvements can be seen in younger children (that is the groups aged between under 1 and 14 years) where the number of deaths has reduced by between 78% and 88% from 1970 to 2020. Declines in mortality for these age groups continued despite some population rises in the same period. For example, the population rose by 19% for the 10-14-year age group from 1970 to 2020 but the number of deaths declined by 78%.

Further, where the population dropped between certain decades, the rate of decline of deaths was greater than the decline of the population. For example, the population under 1 dropped by 29% between 1980 and 1990, while the number of deaths dropped by 47% in the same period.



For young people aged 15 to 19 years and 20 to 24 years, the reduction in the number of deaths has been less pronounced and has largely occurred in the past 20 years. However, the population changes for these age groups must also be considered. Overall for these age groups the population rose by 22% and 47% respectively over the period 1970-2020, while the number of deaths declined by 61% and 48% respectively. There are also trends within the period 1970-2020. Between 1970 and 1980 the number of deaths rose for 20-24-year-olds (17%) but this was to a lesser degree than the population rise (23%), whereas between 1990 and 2000 the number of deaths rose to a greater extent (40%) than the population did (17%). Since 2000, the number of deaths for those aged over 15 has been dropping more substantially and despite some population rises.

Average Number of Deaths for each Decade

The data in Table 1 show the number of deaths for single years 1970, 1980, 1990, 2000, 2010 and 2020. The average number of deaths for each decade from the 1970s to the 2020s was also calculated, incorporating the number of deaths each year from 1970 to 2021. Using these averages, the number of deaths under 25 is also trending consistently downwards in the period, reducing by 78% from the 1970s (average of 1,941) to the 2020s (average of 424) indicating that the trends observed in Table 1 are generally reflective of the period and are not due to outlying years. See Appendix A for this analysis.

2.3 Death Rates per 1,000 Children and Young People

The previous section presents data on the number of deaths among different age groups in the State over time. However, deaths are also often reported as a rate out of 1,000. This is calculated as the number of deaths in a particular age group as a proportion of the overall population for that age group, expressed per 1,000 people. Death rates are useful for making comparisons on the number of deaths among different population sizes or population sizes that may change with time. Death rates are presented below and in the following chapters. For this section of the Spotlight, death rates were calculated using population data from the CSO, which reference the population at the end of April for the reference year. These figures will differ to other publications that use different time points to measure the population. The calculation was completed as follows: (number of deaths in age group in year / population of age group in year) X 1000.

Figure 5 shows the death rates per 1,000 of children and young people aged under 25 from 1970 to 2020. The death rate has reduced steadily over the period from 1.5 in 1970 to 0.2 in 2020.

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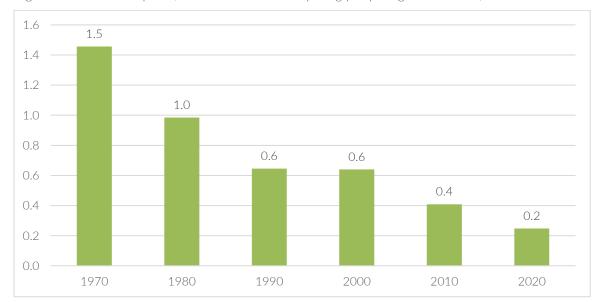


Figure 5 Death rates per 1,000 for children and young people aged under 25, 1970-2020

Table 2 below shows the death rates for the years 1970 to 2020 for six different age groups and the total group aged under 25, as well as the change in the death rate between 1970 and 2020.

Table 2 Death rates per 1,000 for children and young people by age group, 1970-2020

Death Rates per 1,000, 1970-2020											
	1970	1980	1990	2000	2010	2020	Change from 1970-2020				
Under 1 year	19.8	11.3	8.4	6.3	3.6	3.1	-16.7				
1 - 4 years	0.8	0.7	0.4	0.2	0.2	0.1	-0.7				
5 - 9 years	0.4	0.3	0.2	0.1	0.1	0.1	-0.3				
10 - 14 years	0.4	0.3	0.2	0.1	0.1	0.1	-0.3				
15 - 19 years	0.6	0.6	0.5	0.6	0.3	0.2	-0.4				
20 - 24 years	0.8	0.7	0.7	0.9	0.5	0.3	-0.5				
Under 25 years	1.5	1.0	0.6	0.6	0.4	0.2	-1.2				

Note 1: Due to limited population data available it was only possible to calculate death rates for the 6 age groups presented and the total group under 25.

Note 2: Death rates calculated for those aged under 1 are different to infant mortality rates in other publications, which are calculated based on all births rather than the population aged under 1.

When changes in population size are taken into account in the death rates presented, the trend among the older age groups (15-19 and 20-24) is more apparent, with death rates remaining at a relatively stable rate between 1970 to 1990, rising somewhat in 2000 and declining from then. Death rates again demonstrate steady mortality reductions for the younger age groups.

The most marked change has occurred in the under 1-year age group where the death rate has dropped from 19.8 in 1970 to 3.1 in 2020.



2.4 Profile of Deceased

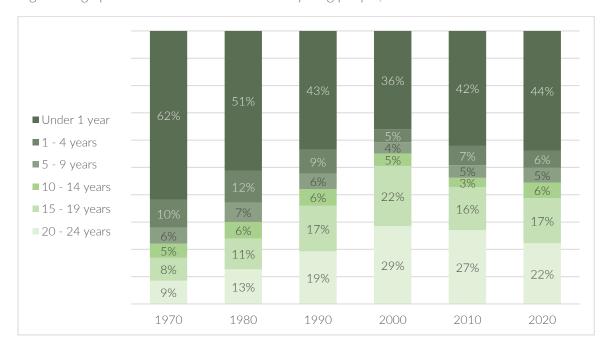
This section presents information on deceased children and young people in the State from 1970 to 2020 in terms of their gender and age.

Table 3 Gender profile of deceased children and young people, 1970-2020

Gender of Deceased, 1970-2020											
1970 1980 1990 2000 2010 2020											
Males	58%	61%	63%	66%	68%	61%					
Females	42%	39%	37%	34%	32%	39%					
Under 25 years	2,032	1,602	999	940	643	405					

For each year examined, there are more deaths among males than females. The highest proportion of male deaths occurred in 2000 and 2010 where 66% and 68% of the deceased respectively, were male.

Figure 6 Age profile of deceased children and young people, 1970-2020



In terms of age, although the number of deaths in the under 1-year age group has steadily reduced, the proportion of deaths in this age group has been more variable, ranging from 62% in 1970 to 36% in 2000. The proportion of deaths occurring in the oldest age group, 20 to 24, also varies considerably, ranging from 9% in 1970 to 29% in 2000. The proportions for 2020 were 44% and 22% for the under 1 and the 20–24 age groups respectively.



3. Child and Youth Mortality Today

This section focuses on child and youth mortality in Ireland in more recent years, specifically from 2015 to 2021. With this more recent data, other factors like cause of death can be examined. The source for this chapter is the CSO Vital Statistics data.

3.1 Number of Deaths

Figure 7 below shows the number of deaths occurring among children and young people aged under 25 in each year from 2015 to 2021. The number of deaths follows a U-shaped trend, reducing from 2015 to 2019 but rising to 2021. Overall, the number of deaths has reduced slightly from 2015 to 2021 while the population has risen by 4% in this period. The average number of deaths over the period was 426.

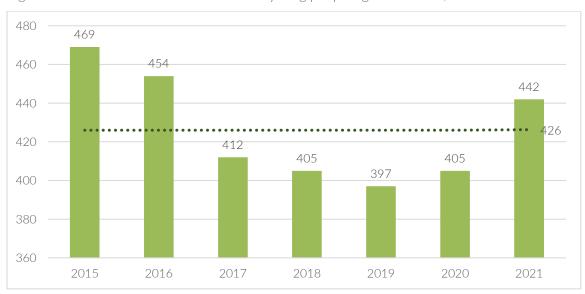


Figure 7 Number of deaths of children and young people aged under 25, 2015-2021

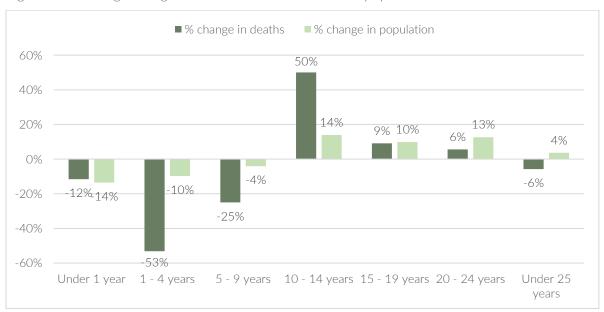


Table 4 presents the number of deaths in the years 2015 to 2021 for eight different age groups and the total group of children and young people aged under 25, as well as the percentage change over the period in terms of the number of deaths and the population.

Table 4 Number of deaths of children and young people by age group, 2015-2021

Number of Deaths, 2015-2021											
	2015	2016	2017	2018	2019	2020	2021	% Change from 2015 to 2021			
Under 18 years	326	310	296	279	284	278	291	-11%			
18 - 24 years	143	144	116	126	113	127	151	6%			
Under 1 year	225	194	188	174	167	178	199	-12%			
1 - 4 years	32	31	31	24	27	25	15	-53%			
5 - 9 years	20	13	27	13	31	22	15	-25%			
10 - 14 years	18	30	18	35	23	23	27	50%			
15 - 19 years	66	86	58	62	60	67	72	9%			
20 - 24 years	108	100	90	97	89	90	114	6%			
Under 25 years	469	454	412	405	397	405	442	-6%			

Figure 8 Percentage change in the no. of deaths and in the population between 2015 and 2021



See CSO PxStat PEA11 for source of population estimates

Table 4 and Figure 8 show that the trend over the period 2015-2021 is not consistent across age groups. The groups aged 9 and under have seen decreases in the number of deaths from 2015 to 2021 while the groups aged between 10 and 24 have overall seen increases in the number of deaths. However, these trends are following the population changes for each age group over the period. In other words, where a certain age population has risen over the period, the number of deaths has risen and where a population has fallen, the number of deaths have fallen.



For the full group aged under 25 however, the number of deaths has reduced by 6% while the population has increased by 4%.

There are also fluctuations in the number of deaths within most age groups during the past seven years. For example, the under 1-year group had been reducing steadily from 2015 to 2019 but increased in 2020 and 2021. In the under 18 age group, there is a steady decline of deaths from 2015 to 2018 followed by increases in 2019 and 2021. In contrast, for the 18- to 24-year group, the number of deaths has fluctuated up and down throughout the period. Again, it is important to consider population changes and so the death rates in the following section provide a clearer picture of the trends.

3.2 Death Rates per 1,000 Children and Young People

Figure 9 shows the death rates of children and young people aged under 25 from 2015 to 2021. The death rate has remained relatively stable over the period, remaining between 0.2 and 0.3 per 1,000 people aged under 25 but following a slight U-shaped trend over the past 7 years. As in the previous section, the death rate was calculated as follows: (number of deaths in age group in year / population of age group in year) X 1000.

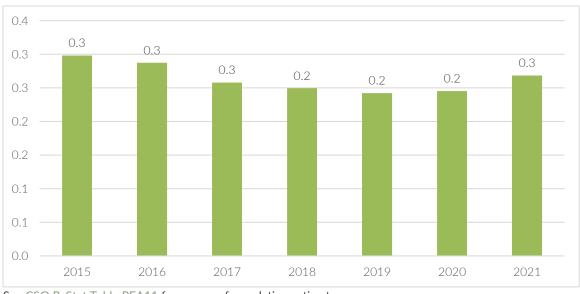


Figure 9 Death rates per 1,000 for children and young people aged under 25, 2015-2021

See CSO PxStat Table PEA11 for source of population estimates



Table 5 below presents the death rates per 1,000 people from 2015 to 2021 for eight different age groups and the total group aged under 25 as well as the change in the death rate between 2015 and 2021.

Table 5 Death Rates per 1,000 for children and young people by age group, 2015-2021

	Death Rates per 1,000, 2015-2021												
	2015	2016	2017	2018	2019	2020	2021	Change from 2015 to 2021					
Under 18 years	0.3	0.3	0.2	0.2	0.2	0.2	0.2	-0.03					
18 - 24 years	0.4	0.4	0.3	0.3	0.3	0.3	0.3	-0.02					
Under 1 year	3.5	3.1	3.0	2.8	2.8	3.1	3.6	+0.06					
1 - 4 years	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-0.06					
5 - 9 years	0.1	0.0	0.1	0.0	0.1	0.1	0.0	-0.01					
10 - 14 years	0.1	0.1	0.1	0.1	0.1	0.1	0.1	+0.02					
15 - 19 years	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.00					
20 - 24 years	0.4	0.4	0.3	0.3	0.3	0.3	0.4	-0.03					
Under 25 years	0.3	0.3	0.3	0.2	0.2	0.2	0.3	-0.03					

See CSO PxStat Table PEA11 for source of population estimates

Note: Death rates calculated for those aged under 1 are different to infant mortality rates in other publications, which are calculated based on all births rather than the population aged under 1.

In terms of death rates, mortality in the under 18 and 18-24 year groups has similarly remained relatively stable since 2015. There is more variation among the under 1 population, where death rates were highest in 2015 and 2021 at 3.5 and 3.6 per 1,000 respectively, but dropped to a low of 2.8 in the intervening period. Cause of death data is explored later in this chapter which can provide further context for these trends. There were fairly stable death rates for all other age groups across this period.

These data suggest that the fluctuations in the number of deaths seen in the groups aged 1-24 in Table 4 may be more to do with population changes than a change in mortality levels, whereas for the under 1 group, the change is more significant.

3.3 Profile of Deceased

This section presents information on deceased children and young people in the State from 2015 to 2021 in terms of their gender and age.

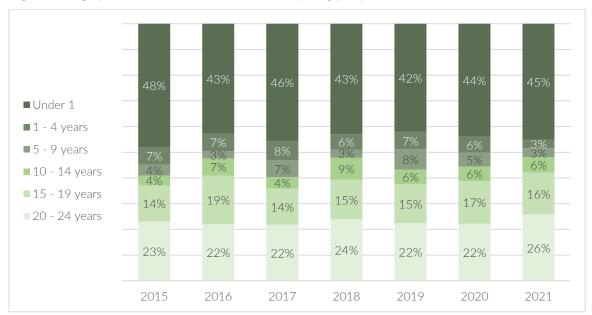


Table 6 Gender profile of deceased children and young people, 2015-2021

Gender of Deceased, 2015-2021											
2015 2016 2017 2018 2019 2020 2021											
Males	64%	63%	57%	61%	64%	61%	63%				
Females	36%	37%	43%	39%	36%	39%	37%				
Under 25 years	469	454	412	405	397	405	442				

For each year between 2015 and 2021 there were more deaths among males than females. The highest proportion of male deaths occurred in 2015 and 2019 where 64% of the deceased were male.

Figure 10 Age profile of deceased children and young people, 2015-2021



In terms of age, the proportion of deaths occurring in each age group has remained fairly stable over the period 2015-2021.



Figure 11 below presents further information on the exact age of the deaths occurring among children aged under 1. Early neonatal deaths refer to deaths occurring in the first 7 days of life, late neonatal deaths refer to deaths occurring from day 8 to day 28 of life and post neonatal deaths refer to deaths occurring after the first month of life.

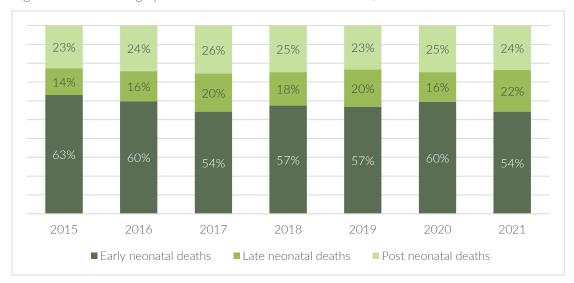


Figure 11 Detailed age profile of deceased children under 1, 2015-2021

Looking at the under 1-year group more closely, it is clear that over half of the deaths are occurring in the first 7 days of life (early neonatal) and about a quarter are occurring after the first month of life (post neonatal).

3.4 Cause of Death Analysis

This section focuses on the causes of death for children and young people in the State and how they differ over time (2015-2021) and between different age groups.

Medical vs External Causes

Table 7 and Figure 12 below show the percentage breakdown of recent deaths, in terms of deaths with an external cause, for example, a road transport accident, and those that arose from some form of medical condition.

For younger age groups, the vast majority of deaths tend to be due to medical causes whereas external causes start to feature more in the teenage years, becoming the majority cause from age 15 onwards.

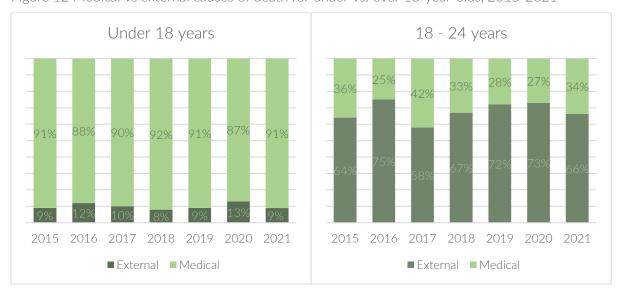


For example, for those aged under 1, external causes represent 1% or less of the deaths across the period 2015-2021, whereas for 20-24-year-olds, between 58% and 79% of deaths are due to external causes.

Table 7 Medical vs external causes of death by age group, 2015-2021

	Medical vs. External Cause of Death, 2015-2020									
Age	Cause of Death	2015	2016	2017	2018	2019	2020	2021		
Under 18 years	External causes	9%	12%	10%	8%	9%	13%	9%		
Officer 10 years	Medical causes	91%	88%	90%	92%	91%	87%	91%		
18 - 24 years	External causes	64%	75%	58%	67%	72%	73%	66%		
10 - 24 years	Medical causes	36%	25%	42%	33%	28%	27%	34%		
Under 1 year	External causes	0%	0%	1%	0%	0%	1%	1%		
Under 1 year	Medical causes	100%	100%	99%	100%	100%	99%	99%		
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	External causes	16%	13%	23%	8%	19%	12%	7%		
1 - 4 years	Medical causes	84%	87%	77%	92%	81%	88%	93%		
5 Overs	External causes	5%	8%	11%	0%	3%	23%	13%		
5 - 9 years	Medical causes	95%	92%	89%	100%	97%	77%	87%		
10 11 4000	External causes	11%	37%	22%	23%	22%	39%	19%		
10 - 14 years	Medical causes	89%	63%	78%	77%	78%	61%	81%		
1F 10 years	External causes	65%	57%	52%	52%	52%	60%	51%		
15 - 19 years	Medical causes	35%	43%	48%	48%	48%	40%	49%		
20 24 years -	External causes	63%	79%	58%	65%	72%	78%	69%		
20 - 24 years	Medical causes	37%	21%	42%	35%	28%	22%	31%		
Lladay OF	External causes	26%	32%	24%	26%	27%	32%	29%		
Under 25 years	Medical causes	74%	68%	76%	74%	73%	68%	71%		

Figure 12 Medical vs external causes of death for under vs. over 18-year-olds, 2015-2021





Looking at the under 18 and 18-24-year age group, external causes represent roughly 1 in 10 deaths for those aged under 18, with the highest proportion of external deaths occurring in 2020 (13%). For 18-24-year-olds, between roughly 6 in 10 and 7 in 10 deaths were due to external causes. The highest proportion of externally caused deaths for this group occurred in 2016 (75%) and the lowest in 2017 (58%). There was a greater proportion of deaths due to road transport accidents than average for this group in 2016 and a lower proportion than average of deaths due to accidents (other than road transport accidents) and intentional self-harm in 2017. See Appendix C for further details on detailed causes of death by age group.

In terms of trends, the proportions of external vs medical causes of death are quite variable, fluctuating for all age groups within the period but not following any clear downward or upward trend.

Detailed Causes

Table 8 below presents more detail into the causes of death for children and young people aged under 25. These causes of death are reported by the CSO based on the International Statistical Classification of Diseases and Related Health Problems 10th Revision (ICD-10). Some groupings are reported in the ICD-10 and others have been grouped for the purposes of this paper. See Appendix B for further details on the causes of death groupings presented here.



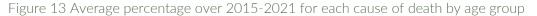
Table 8 Causes of death of children and young people aged under 25, 2015-2021

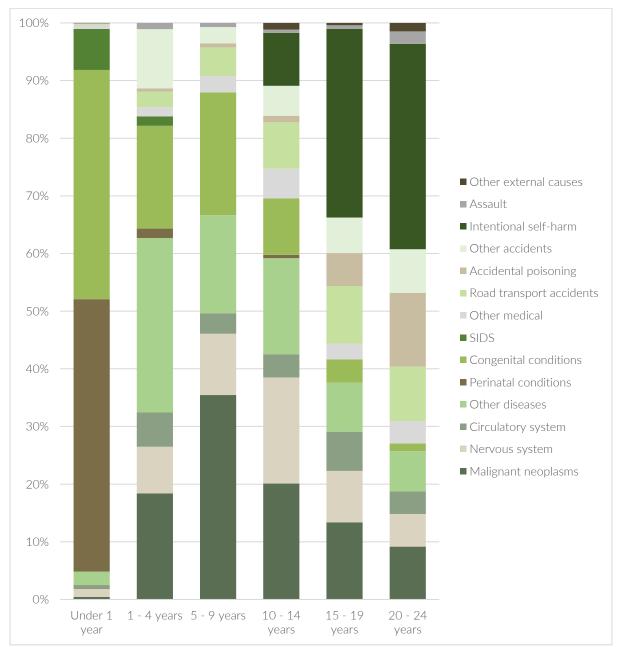
Causes of Death Under 25, 2015-2021									
Cause of Death		2016	2017	2018	2019			Average 2015-2021	
Congenital malformations, deformations and chromosomal abnormalities	24%	20%	23%	20%	22%	22%	18%	21%	
Certain conditions originating in the perinatal period	22%	20%	21%	22%	20%	21%	23%	21%	
Intentional self-harm	11%	15%	12%	15%	15%	16%	15%	14%	
Malignant neoplasms	8%	7%	9%	9%	9%	9%	8%	8%	
Other diseases	8%	9%	6%	9%	8%	7%	6%	8%	
Diseases of the nervous system	4%	6%	8%	7%	7%	2%	3%	5%	
Road transport accidents	6%	6%	5%	4%	3%	3%	5%	5%	
Accidental poisoning (including accidental overdoses)	3%	4%	3%	2%	5%	7%	4%	4%	
Other accidents	4%	4%	3%	3%	4%	4%	5%	4%	
Sudden infant death syndrome	3%	2%	4%	3%	4%	3%	4%	3%	
Diseases of the circulatory system	3%	2%	3%	3%	2%	3%	5%	3%	
Other medical/natural causes	2%	2%	2%	1%	2%	1%	5%	2%	
Assault	1%	1%	1%	1%	1%	0%	0%	1%	
Other external causes	1%	1%	0%	1%	0%	0%	0%	0%	

Looking at the specific causes of death, congenital malformations, deformations and chromosomal abnormalities and conditions in the perinatal period – that is, the period immediately before, during and after birth – represent over 4 in 10 of the deaths in the total group of interest aged under 25 across the period. Congenital malformations, deformations and chromosomal abnormalities refer to defects and disorders that develop prenatally due to abnormal genes that may be identified before or after birth, or later in life. Intentional self-harm is the third most common cause of death for this age group, accounting for over 1 in 10 deaths between 2015 and 2021. Cancers (malignant neoplasms), accidents and other diseases make up the majority of the remaining causes of death for under 25s.

However, looking at causes of death within the different age groups shows a different picture. Figure 13 shows an average percentage of each cause of death, based on the average number of deaths over the period 2015-2021 for each of the six age groups under 25: under 1, 1-4 years, 5-9 years, 10-14 years, 15-19 years and 20-24 years.







Conditions in the perinatal period and congenital defects and disorders represent 40% on average of the causes of death in the total group aged under 25. However, it is clear from Figure 13 that this proportion is being driven largely by deaths in the under 1-year age group. Close to 90% of the deaths in the under 1-year age group are due to conditions in the perinatal period and congenital defects and disorders. Congenital causes reduce considerably as age increases, while perinatal conditions feature mainly in the youngest age group. Sudden infant death syndrome (SIDS) similarly features mainly in the under 1-year age group where it represents on average 7% of deaths.



Malignant neoplasms represent a considerable proportion (9-35%) of deaths for all age groups over 1 year. Similarly, diseases of the nervous and circulatory systems represent roughly 10-22% of causes of death for children over 1-year-old. As discussed above, external causes of death are much more prominent in older age groups; road transport accidents represent about 9% of deaths on average among those aged 10-24 years. Accidental poisoning which includes accidental overdoses, increases considerably among those aged 15-19 (6%) and 20-24 (13%) years old. Other accidents represent 6% on average of deaths occurring in groups aged over 1-year-old. Intentional self-harm starts to appear as a cause of death in the 10-14-year-old age group and represents about a third of deaths from age 15 onwards. Intentional self-harm is the leading cause of death for both 15-19-year-olds (33%) and 20-24-year-olds (36%). A full list of the percentages of different causes of death for each age group by year can be found in Appendix C.

Trends

In terms of trends, the only age group which has seen a considerable change in death rates is the group aged under 1. The number of deaths resulting from the top four causes of death for this age group from 2015-2021 are shown in Figure 14.

The drop observed in under 1 mortality between 2016 and 2019 in Table 5 appears to be largely due to a reduction in the number of deaths due to conditions originating in the perinatal period and congenital malformations, deformations and chromosomal abnormalities. There were also reductions in certain diseases and sudden infant death syndrome in this period.

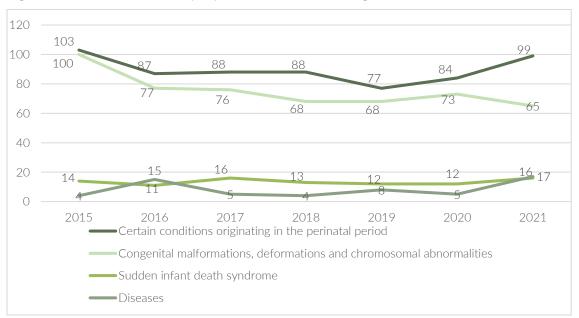


Figure 14 Number of deaths by top 4 causes for children aged under 1, 2015-2021

Note: Diseases here includes 'diseases of the nervous system', 'diseases of the circulatory system' and 'other diseases'.



However, this reduction in death rates was followed by a rise in both 2020 and 2021. The number of deaths occurring due to conditions originating in the perinatal period rose once again in 2020 and 2021, while deaths due to SIDS and various diseases similarly rose to 2021. The number of deaths due to congenital malformations, deformations and chromosomal abnormalities, on the other hand, declined in 2021. See Appendix C for further details.

Suicide

The following section provides further information on children and young people aged under 25 who have died as a result of intentional self-harm, that is, by suicide. However, the data presented here refer to deaths by suicide included in the CSO annual reports. Late registrations of suicides (after the 22-month deadline for annual reports) do occur and the most up to date data on suicides in the State can be found on the CSO website.

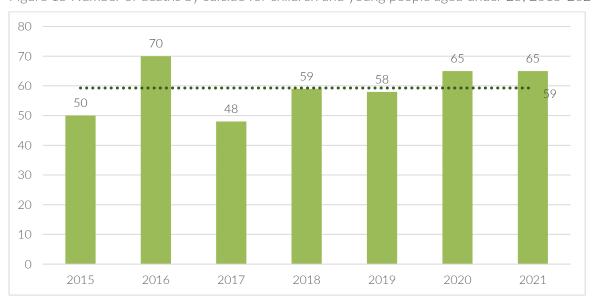


Figure 15 Number of deaths by suicide for children and young people aged under 25, 2015-2021

The number of deaths by suicide have fluctuated between 48 and 70 over the period 2015-2021 with an average of 59 deaths per year in this period.

Table 9 presents a profile of young people who died by suicide in the State in terms of their gender and age.



Table 9 Gender and age profile of young people who died by suicide, 2015-2021

Death by Suicide, 2015-2021									
Groups	2015	2016	2017	2018	2019	2020	2021		
Condor	Male	82%	70%	71%	64%	72%	72%	80%	
Gender	Female	18%	30%	29%	36%	28%	28%	20%	
Age	Under 18 years	28%	26%	27%	8%	26%	20%	14%	
	18 - 24 years	72%	74%	73%	92%	74%	80%	86%	
	10 - 14 years	0%	7%	6%	5%	3%	3%	2%	
	15 - 19 years	40%	44%	40%	27%	36%	38%	34%	
	20 - 24 years	60%	49%	54%	68%	60%	58%	65%	
	Under 25 years	50	70	48	59	58	65	65	

Death by suicide was more common in young males than in young females across the period 2015-2021. The proportion of female suicides has fluctuated in the period with the highest proportion of female suicides occurring in 2018 (36%). The majority of these deaths occurred among young people aged over 18. Between 5 and 7 in 10 suicides occurred in the oldest age group aged 20-24 years. The proportion of suicides occurring in the 10-14-year-old group has reduced steadily from a high of 7% in 2016.

COVID-19

For the purposes of this paper, COVID-19 has been grouped in the category 'Other medical/natural causes'. There were 7 deaths due to COVID-19 between 2020 and 2021 among those aged under 25. The majority of these deaths occurred in the 18-24 age group.



4. Child and Youth Mortality Internationally

This chapter presents information on mortality rates for different age groups under 25 across Europe and compares mortality for children and young people in Ireland with their international peers. The data for this chapter come from the Eurostat data bank. All mortality figures in this chapter are presented as death rates per 1,000 for children and young people and refer to the most recent publication year – 2021.

It is important to note that in Sections 2 and 3, death rates were calculated using population figures from the CSO which reference the population in April of each year. Whereas, Eurostat publishes population figures which reference 1st January each year. This means there will be slight differences in the death rates presented in Section 2 and 3 compared to this chapter (Section 4). The death rates in this chapter were calculated from the data included in the Eurostat table 'Deaths by age and sex'⁷ which were divided by the relevant population data from the table 'Population on 1 January by age and sex'⁸ and multiplied by 1000. The data in the table 'Deaths by age and sex' refer to the age of the individual at the time of death. It is important to note that data in Eurostat tables can be updated and may differ to the data used in the report.

4.1 Death Rates per 1,000 Children and Young People in Europe

The figures in this section present data on the death rates for three age groups of children and young people (under 18, 18-24 and the total group of interest, those aged under 25) across the EU27 countries in 2021. The EU27 countries are the 27 countries that are part of the European Union, as such data was not reported for the UK by Eurostat in 2021. Death rates are shown to two decimal places to allow for more comparison between countries.

Table 10 and Figure 16 show the death rates for the full group aged under 25.

⁷ Eurostat: Deaths by age and sex accessed on 11/03/2024

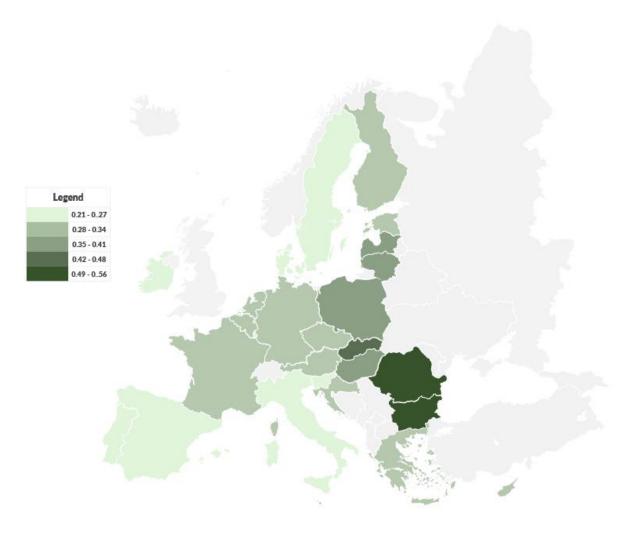
⁸ Eurostat: Population on 1 January by age and sex accessed on 11/03/2024



Table 10 Death rates for children and young people in EU27 countries, 2021

Death Rate per 1,00	00 Under 25, 2021
EU27 countries	Under 25
Italy	0.21
Spain	0.21
Slovenia	0.22
Sweden	0.24
Ireland	0.24
Portugal	0.26
Denmark	0.27
Luxembourg	0.27
Netherlands	0.28
Belgium	0.28
Czechia	0.28
Cyprus	0.28
Germany	0.28
Greece	0.29
Finland	0.29
Austria	0.30
EU27	0.30
Malta	0.31
France	0.32
Estonia	0.34
Croatia	0.34
Hungary	0.35
Latvia	0.37
Poland	0.39
Lithuania	0.40
Slovakia	0.44
Romania	0.52
Bulgaria	0.56

Figure 16 Map of death rates for children and young people aged under 25 in EU countries, 2021





In terms of the total group of interest aged under 25, Ireland had the fifth lowest death rate of the EU27 countries in 2021 at 0.24 per 1,000. This was lower than the EU27 average of 0.30. Italy reported the lowest death rate in this age group in 2021 at 0.21, followed by Spain (0.21), Slovenia (0.22) and Sweden (0.24). Bulgaria (0.56), Romania (0.52) and Slovakia (0.44) had the highest death rates for the under 25 age group in 2021.

Table 11 shows the death rates in the EU for two subgroups in terms of age, those aged under 18 and those aged 18-24.

Table 11 Death rates for children under 18 and young people aged 18-24 in EU27 countries, 2021

Source S		Death Rates per 1,000	in EU27 Countries, 2021				
Italy 0.19 Italy 0.26 Sweden 0.19 Netherlands 0.28 Spain 0.20 Luxembourg 0.29 Finland 0.20 Ireland 0.29 Ireland 0.23 Slovenia 0.30 Portugal 0.23 Germany 0.30 Czechia 0.23 Denmark 0.31 Latvia 0.24 Portugal 0.31 Denmark 0.25 Cyprus 0.33 Belgium 0.26 Malta 0.33 Cyprus 0.26 Belgium 0.33 Estonia 0.26 Greece 0.34 Austria 0.26 EU27 0.36 Greece 0.26 Croatia 0.37 Luxembourg 0.26 France 0.37 Luxembourg 0.26 France 0.37 EU27 0.27 Sweden 0.39 Germany 0.28 Czechia 0.41	Under 18						
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Hungary 0.30 Finland 0.52 Malta 0.30 Estonia 0.56 Poland 0.33 Poland 0.57 Croatia 0.33 Romania 0.59 Slovakia 0.43 Lithuania 0.64 Romania 0.49 Bulgaria 0.74	France	0.30	Slovakia	0.47			
Malta 0.30 Estonia 0.56 Poland 0.33 Poland 0.57 Croatia 0.33 Romania 0.59 Slovakia 0.43 Lithuania 0.64 Romania 0.49 Bulgaria 0.74	Lithuania	0.30	Hungary	0.47			
Poland0.33Poland0.57Croatia0.33Romania0.59Slovakia0.43Lithuania0.64Romania0.49Bulgaria0.74	Hungary	0.30	Finland	0.52			
Croatia0.33Romania0.59Slovakia0.43Lithuania0.64Romania0.49Bulgaria0.74	Malta	0.30	Estonia	0.56			
Slovakia 0.43 Lithuania 0.64 Romania 0.49 Bulgaria 0.74	Poland	0.33	Poland	0.57			
Romania 0.49 Bulgaria 0.74	Croatia	0.33	Romania	0.59			
	Slovakia	0.43	Lithuania	0.64			
Bulgaria 0.50 Latvia 0.76	Romania	0.49	Bulgaria	0.74			
	Bulgaria	0.50	Latvia	0.76			

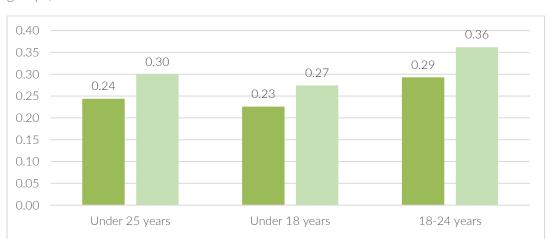
For the under 18 age group, Ireland reported the sixth lowest death rate of the EU27 countries in 2021 at 0.23.



The average for the EU27 countries in 2021 was 0.27 per 1,000. Slovenia reported the lowest death rate at 0.18, followed by Italy (0.19), Sweden (0.19), Spain (0.20) and Finland (0.20). Again, Bulgaria (0.50), Romania (0.49) and Slovakia (0.43) had the highest death rates for the under 18 age group in 2021.

Ireland reported the fifth lowest death rate for the 18-24-year-old age group at 0.29 per 1,000 in 2021. Spain had the lowest death rate at 0.25, while, Latvia (0.76), Bulgaria (0.74) and Lithuania (0.64) reported the highest death rates for this age group of young adults in 2021.

Overall, Figure 17 shows that Ireland had lower death rates than the EU27 average for all three age groups (under 18, 18-24 and the full group under 25) in 2021. Ireland's death rate was closest to the EU average for those aged under 18.



■ Ireland ■ EU27

Figure 17 Death rates in Ireland and EU27 countries for under 25, under 18 and 18-24 age groups, 2021

The following section presents data on the death rates for six further age groups under 25 – under 1, 1 to 4 years, 5 to 9 years, 10 to 14 years, 15 to 19 years and 20 to 24 years. This allows for further analysis on the age ranges where Ireland's death rates are higher or lower than other EU countries' death rates. Death rates are again shown to two decimal places to allow for more comparison.

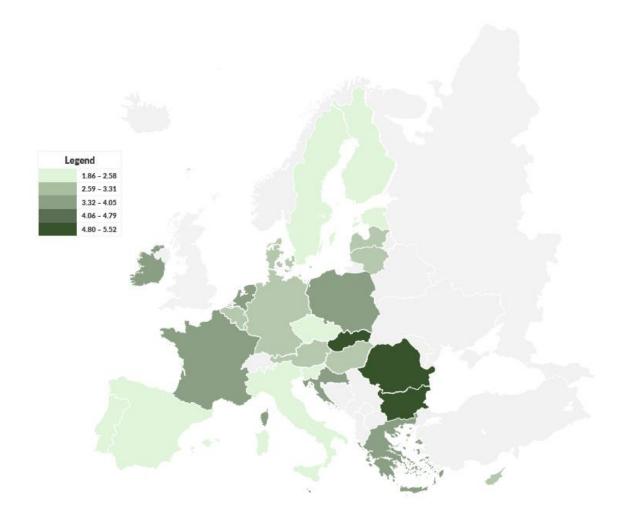
Table 12 and Figure 18 show the death rates for children aged under 1.



Table 12 Death rates for children aged under 1 in EU27 countries, 2021

Sweden 1.86 Slovenia 1.87 Finland 1.89 Estonia 2.19 Italy 2.26 2.26 Portugal Czechia 2.29 Spain 2.51 Latvia 2.70 2.83 Cyprus Austria 2.87 Lithuania 2.91 Belgium 2.99 Germany 3.08 Luxembourg 3.24 Denmark 3.24 EU27 3.27 Hungary 3.30 Greece 3.48 Netherlands 3.55 3.75 Poland 3.83 Croatia Malta 3.86 France 3.95 Slovakia 4.87 5.14 Romania 5.52 Bulgaria

Figure 18 Map of death rates for children under 1 in EU27 countries, 2021



Note: Death rates calculated for those aged under 1 are different to infant mortality rates in other publications which are calculated based on all births, rather than the population aged under 1.



Table 13 Death rates for children and young people aged between 1 and 24 in EU27 countries, 2021

Death Rates per 1,000 in EU27 Countries, 2021									
1 - 4 years		5 - 9 year	S	10 - 14 years		15 - 19 years		20 - 24 years	
Malta	0.05	Ireland	0.04	Ireland	0.06	Cyprus	0.06	Slovenia	0.25
Ireland	0.06	Slovenia	0.06	Luxembourg	0.06	Spain	0.17	Italy	0.26
Finland	0.09	Italy	0.06	Denmark	0.06	Denmark	0.17	Spain	0.27
Italy	0.10	Austria	0.06	Austria	0.07	Netherlands	0.17	Luxembourg	0.28
Netherlands	0.11	Luxembourg	0.06	Belgium	0.07	Ireland	0.19	Malta	0.29
Spain	0.11	Sweden	0.06	Slovenia	0.07	Italy	0.20	Germany	0.30
Slovenia	0.11	Cyprus	0.06	Sweden	0.07	Greece	0.21	Netherlands	0.30
Luxembourg	0.11	Netherlands	0.06	Greece	0.08	Portugal	0.22	Denmark	0.31
Czechia	0.11	Latvia	0.07	Latvia	0.08	France	0.23	Ireland	0.31
Sweden	0.12	Denmark	0.07	Croatia	0.08	Belgium	0.23	Portugal	0.32
Austria	0.13	Estonia	0.07	Hungary	0.08	Germany	0.23	Belgium	0.34
Germany	0.13	Germany	0.07	Italy	0.08	Malta	0.23	Croatia	0.37
Denmark	0.14	Greece	0.07	Germany	0.08	Sweden	0.24	Greece	0.37
Greece	0.14	Spain	0.07	Spain	0.08	Luxembourg	0.24	EU27	0.38
EU27	0.15	France	0.07	France	0.09	EU27	0.25	Austria	0.38
Lithuania	0.15	Belgium	0.07	Finland	0.09	Czechia	0.26	Cyprus	0.39
Hungary	0.15	EU27	0.08	EU27	0.09	Croatia	0.29	France	0.41
Portugal	0.15	Poland	0.08	Netherlands	0.10	Slovenia	0.29	Sweden	0.41
France	0.16	Finland	0.08	Portugal	0.10	Austria	0.30	Czechia	0.43
Poland	0.17	Malta	0.08	Czechia	0.10	Hungary	0.30	Slovakia	0.48
Estonia	0.18	Croatia	0.09	Cyprus	0.11	Latvia	0.33	Hungary	0.50
Belgium	0.18	Czechia	0.09	Poland	0.11	Slovakia	0.34	Estonia	0.53
Slovakia	0.18	Hungary	0.09	Slovakia	0.13	Lithuania	0.35	Finland	0.53
Latvia	0.19	Portugal	0.09	Estonia	0.14	Finland	0.36	Poland	0.59
Cyprus	0.21	Slovakia	0.12	Lithuania	0.16	Poland	0.38	Romania	0.61
Croatia	0.22	Lithuania	0.13	Bulgaria	0.18	Romania	0.42	Lithuania	0.68
Romania	0.28	Romania	0.15	Malta	0.18	Estonia	0.44	Bulgaria	0.79
Bulgaria	0.28	Bulgaria	0.18	Romania	0.19	Bulgaria	0.46	Latvia	0.82



In terms of the under 1 age group, Table 12 and Table 13 show that death rates for this age group remain considerably higher than for the other age groups across all of the EU27 countries in 2021. The EU27 average was at 3.27 per 1,000 for children under 1, compared to death rates under 0.4 per 1,000 for all other age groups under 25. Ireland's under 1 death rate was reported as 3.40 per 1,000, which is higher than the EU27 average of 3.27. Sweden reported the lowest death rate of the EU27 countries (1.86), followed by Slovenia (1.87) and Finland (1.89). Once again, Bulgaria, Romania and Slovakia had the highest death rates under 1 in 2021.

In terms of children aged between 1 and 14, Ireland reported among the lowest death rates in 2021 as illustrated in Table 13. For the group aged 1 to 4 years Ireland reported the second lowest death rate of the 27 countries at 0.06; for the 5 to 9-year age group Ireland reported the lowest death rate of all the countries presented at 0.04 and for the 10 to 14 years' group, again Ireland was lowest at 0.06. Bulgaria reported the highest death rate for those aged 1 to 4 and 5 to 9 years, while Romania reported the highest death rate for the group aged 10 to 14 years.

For young people aged between 15 and 24, Ireland's death rates were not as low, but are still lower than the EU27 averages in 2021. For the 15 to 19 years' group, Ireland reported a rate of 0.19 compared to 0.25 for the EU27 average, while for the 20 to 24 years' group Ireland reported a rate of 0.31 compared to the EU27 average of 0.38 per 1,000. Bulgaria, Estonia and Romania had the highest death rates of the EU countries in 2021 for those aged 15-19. Latvia, Bulgaria and Lithuania had the highest death rates in the 20 to 24 years' group in 2021.

Overall, as illustrated in Figure 19, this indicates that despite the significant improvement in under 1 mortality over the past five decades, Ireland is still behind many of its EU27 counterparts when it comes to mortality in this age group. However, Ireland has lower death rates than the EU27 average for all other age groups under 25.



Figure 19 Death rates for Ireland and EU27 for children and young people under 1, 1-4, 5-9, 10-14, 15-19, and 20-24 years old, 2021



4.2 Cause of Death Analysis

In this section the cause of death is examined for certain subgroups of interest and across particular regions using data from the most recent year available – 2021. Death rates for each cause of death were calculated from the data included in the Eurostat table 'Causes of death deaths by country of residence and occurrence' using the statistic 'All deaths reported in the country' and relevant population data from the table 'Population on 1 January by age and sex' 10.

Table 14 presents death rates for each cause of death for children under 1 across 3 countries (Ireland, Sweden and Bulgaria). This is the age group where Ireland has its lowest ranking relative to the EU27 countries. Sweden and Bulgaria were chosen as comparator countries as the countries with the lowest and highest death rate for this age group respectively.

⁹ Eurostat: Causes of death - deaths by country of residence and occurrence accessed on 19/01/2024

¹⁰ Eurostat: Population on 1 January by age and sex accessed on 11/03/2024



Table 14 International comparison of death rates by causes of death for children aged under 1, 2021

Death Rates per 1,000 by 0	Cause of Death -	Under 1	
Cause of Death	Bulgaria	Ireland	Sweden
Malignant neoplasms	0.03	0.00	0.00
Diseases of the nervous system and the sense organs	0.19	0.07	0.04
Diseases of the circulatory system	0.59	0.04	0.00
Other diseases	0.85	0.18	0.12
Certain conditions originating in the perinatal period	2.32	1.78	1.05
Congenital malformations, deformations and chromosomal abnormalities	1.02	1.16	0.50
Sudden infant death syndrome	0.07	0.28	0.10
Other medical/natural causes (including Covid-19)	0.17	0.00	0.08
Transport accidents	0.02	0.02	0.00
Accidental poisoning (including accidental overdoses)	0.00	0.00	0.00
Other accidents	0.17	0.02	0.02
Intentional self-harm	0.00	0.00	0.00
Assault	0.02	0.00	0.00
Other external causes	0.03	0.00	0.00

Note 1: There are some differences between this cause of death classification system and the one presented in Section 3.

Note 2: These rates do not sum to the rates presented in Table 12 as the Eurostat tables use different methodologies and sources. For Ireland, data are sent to Eurostat by the CSO at different time points.

Bulgaria reported higher death rates for most causes of death presented in the under 1 age group in 2021, and reported particularly high death rates in relation to diseases of the circulatory system, other diseases and certain conditions originating in the perinatal period. However, the causes where Bulgaria performed better than Ireland are worth noting. Bulgaria reported a death rate of 1.02 per 1,000 for congenital malformations, deformations and chromosomal abnormalities, while Ireland reported a death rate of 1.16 per 1,000. Bulgaria also reported considerably lower death rates in relation to sudden infant death syndrome (0.07 per 1,000) compared to Ireland (0.28 per 1,000) and even Sweden (0.10 per 1,000).

Sweden reported the lowest death rates for most causes of death, and in particular reported low rates of deaths due to congenital malformations, deformations and chromosomal abnormalities at 0.50 per 1,000, less than half the rate reported by Ireland at 1.16 per 1,000.

Ireland placed 9th in terms of death rates among 20-24-year-olds in 2021 (Table 13). This is another age group where Ireland's death rates could be improved.



Table 15 presents death rates for each cause of death for young people aged 20-24 across 3 countries (Ireland, Slovenia and Latvia). Slovenia and Latvia were chosen as comparator countries as the countries with the lowest and highest death rate for this age group respectively.

Table 15 International comparison of death rates by causes of death for young people aged 20-24, 2021

Death Rates per 1,000 by Cause	e of Death – 20-	24 year olds	
Cause of Death	Latvia	Ireland	Slovenia
Malignant neoplasms	0.07	0.03	0.03
Diseases of the nervous system and the sense organs	0.04	0.01	0.02
Diseases of the circulatory system	0.10	0.02	0.02
Other diseases	0.04	0.02	0.00
Certain conditions originating in the perinatal period	0.00	0.00	0.00
Congenital malformations, deformations and chromosomal abnormalities	0.00	0.00	0.00
Sudden infant death syndrome	0.00	0.00	0.00
Other medical/natural causes (including Covid-19)	0.08	0.04	0.01
Transport accidents	0.17	0.04	0.10
Accidental poisoning (including accidental overdoses)	0.00	0.05	0.01
Other accidents	0.10	0.04	0.06
Intentional self-harm	0.13	0.14	0.06
Assault	0.00	0.00	0.00
Other external causes	0.04	0.00	0.00

Note 1: There are some differences between this cause of death classification system and the one presented in Section 3.

Note 2: These rates do not sum to the rates presented in Table 12 as the Eurostat tables use different methodologies and sources. For Ireland, data are sent to Eurostat by the CSO at different time points.

As above, Latvia reported the highest death rates for most causes of death and, in particular, in relation to diseases of the circulatory system, transport accidents and other accidents. However, the areas where they outperformed Ireland are of particular interest. Latvia reported no deaths by accidental poisoning, lower than Ireland (0.05 per 1,000) and even Slovenia (0.01 per 1,000). Latvia also reported slightly lower rates of death by intentional self-harm at 0.13 per 1,000 compared to Ireland at 0.14 per 1,000.

Slovenia and Ireland reported similar rates in some areas like malignant neoplasms, and diseases of the circulatory system. However, Slovenia reported considerably lower rates than Ireland in relation to intentional self-harm at 0.06 per 1,000 and accidental poisoning (0.01 per 1,000). Ireland reported lower rates of deaths due to transport and other accidents.



Note on Other Age Groups

In relation to the other age groups, Ireland has lower death rates than the majority of its EU counterparts among children aged 1-4, 5-9 and 10-14. The leading causes of death in Ireland in 2021 for these age groups tended to be malignant neoplasms (cancers), congenital malformations, deformations and chromosomal abnormalities, and diseases of the nervous system.



5. Child and Youth Mortality in Care and Aftercare in Ireland

This section looks at child mortality for children in the care of the State – aged under 18 – as well as youth mortality for those in receipt of aftercare services from the State – aged 18 to 22 – and compares death rates with the general populations of the same age ranges in Ireland. Aftercare services can include in-person support, individual plans of support, and financial assistance. The data for this chapter come from Tusla, the Child and Family Agency, and CSO Vital Statistics.

5.1 Number of Deaths in Care

Figure 20 presents the number of deaths that occurred in the years 2015 to 2022 among children aged under 18 in the care of the State.

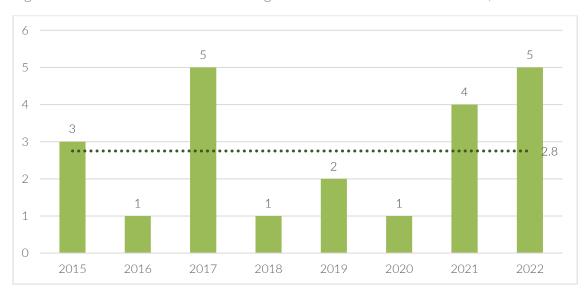


Figure 20 Number of deaths of children aged under 18 in the care of the State, 2015-2022

The number of deaths occurring among children in care ranges from 1 to 5 per year for the period 2015-2022. The highest number of deaths occurred in 2017 and 2022. The average over the period is 2.8 deaths per year.

Table 16 presents information on the age and gender of these children.



Table 16 Number of deaths of children in the care of the State by age and gender, 2015-2022

	Number of Deaths in Care, 2015-2022											
Age	2015	2016	2017	2018	2019	2020	2021	2022				
Under 1 year	0	0	0	0	0	0	1	0				
1 - 4 years	0	0	1	0	1	0	0	1				
5 - 9 years	0	0	1	0	1	0	0	0				
10 - 14 years	3	0	1	0	0	0	0	2				
15 - 17 years	0	1	2	1	0	1	3	2				
Gender	2015	2016	2017	2018	2019	2020	2021	2022				
Male	2	1	2	0	1	0	2	5				
Female	1	0	3	1	1	1	2	0				
Total	3	1	5	1	2	1	4	5				

The majority of the deceased were aged over 10 and over half of the deceased over the period were males.

5.2 Death Rates for Children in Care

Figure 21 presents the death rates per 1,000 people from 2015 to 2021 for children under 18 in care and children under 18 in Ireland generally. Death rates are not presented for 2022 as these data are not yet available for the general population.

Figure 21 Death rates per 1,000 for children aged under 18 in care and in Ireland generally, 2015-2021



Death rates among children aged under 18 in care are higher than in Ireland generally for 4 of the years under examination (2015, 2017, 2019 and 2021) and are lower than in Ireland generally in 3 of the years examined (2016, 2018 and 2020).



However, it is important to note the difficulty in comparing death rates accurately when the population of children in care is so small compared to the whole state. Table 17 presents the death rates for 5 additional age bands within the under 18 group. However, it is clear that even one death results in a very high death rate, as illustrated for children aged under 1 in 2021 where the death rate is 14.5 but relates to one death. An average death rate over the period 2015-2021 is also presented in Table 17. Death rates in this section of the report, as well as these averages, should be interpreted with caution due to the very small sample sizes.

Table 17 Death rates per 1,000 for children in care and in Ireland generally by age group, 2015-2021

		Dea	ath Rates i	in Care, 20	015-2021			
In Care	2015		2017	2018	2019	2020		Avg. over period
Under 1 year	0.0	0.0	0.0	0.0	0.0	0.0	14.5	2.1
1 - 4 years	0.0	0.0	1.3	0.0	1.4	0.0	0.0	0.4
5 - 9 years	0.0	0.0	0.6	0.0	0.6	0.0	0.0	0.2
10 - 14 years	1.4	0.0	0.5	0.0	0.0	0.0	0.0	0.3
15 - 17 years	0.0	0.6	1.3	0.7	0.0	0.7	2.0	0.7
Under 18 years	0.5	0.2	0.8	0.2	0.3	0.2	0.7	0.4
Ireland	2015	2016	2017	2018	2019	2020	2021	Avg. over period
Under 1 year	3.5	3.1	3.0	2.8	2.8	3.1	3.6	3.1
1 - 4 years	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
5 - 9 years	0.1	0.0	0.1	0.0	0.1	0.1	0.0	0.1
10 - 14 years	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
15 - 17 years	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Under 18 years	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2

For those aged under 1, the death rate is lower for children in care than in the State generally from 2015-2020 but higher for children in care in the year 2021. Overall, the average death rate over the period 2015-2021 is lower for under 1s in care at 2.1 per 1,000 than for under 1s generally in Ireland (3.1 per 1,000).

For those aged 1-4 years, 5-9 years and 10-14 years the death rates in care are lower than in Ireland generally for most years in the period 2015 to 2021. However, higher rates in certain years in care has resulted in higher averages over the period when compared to in Ireland generally. For example, for those aged between 1-4 the average death rate from 2015-2021 for children in the care of the State is 0.4 per 1,000, higher than for children generally at 0.1 per 1,000, despite the fact that for 5 out of 7 years presented there were no deaths occurring among children in care.



For those aged 15-17 however, the death rates are more consistently higher for children in care between 2015 and 2021. In this age group, the death rate is higher for 5 out of the 7 years examined, with an average of 0.7 deaths per 1,000 for 15-17-year-olds in care, compared to 0.2 per 1,000 for 15-17-year-olds generally.

5.3 Number of Deaths among Young People availing of Aftercare Services

Figure 22 presents the number of deaths that occurred in the years 2015 to 2022 among young people aged 18-22 who were availing of aftercare services.

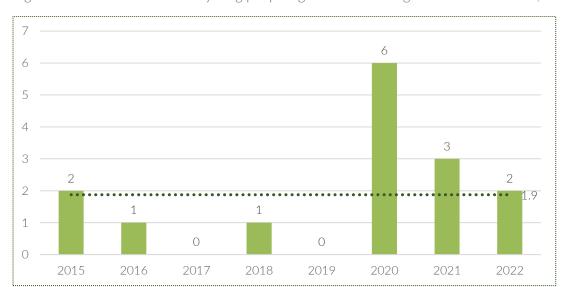


Figure 22 Number of deaths of young people aged 18-22 availing of aftercare services, 2015-2022

The number of deaths occurring among young people availing of aftercare services ranges from 0 to 6 per year over the period 2015-2022. The highest number of deaths occurred in 2020. There were 3 deaths in 2021 and 2 deaths in 2022; the average over the period is 1.9 deaths per year.

Table 18 presents information on the age and gender of the deceased.



Table 18 Number of deaths of young people availing of aftercare services by age and gender, 2015-2022

N	Number of Deaths among those Availing of Aftercare, 2015-2022											
Age	2015	2016	2017	2018	2019	2020	2021	2022				
18 - 20 years	1	1	0	1	0	6	3	2				
21 - 22 years	1	0	0	0	0	0	0	0				
Gender	2015	2016	2017	2018	2019	2020	2021	2022				
Male	2	0	0	0	0	4	3	2				
Female	0	1	0	1	0	2	0	0				
Total	2	1	0	1	0	6	3	2				

The majority of the deceased were male and were aged between 18-20 years old.

5.4 Death Rates among Young People availing of Aftercare Services

Figure 23 and Table 19 present the death rates per 1,000 people from 2015 to 2021 for young people availing of aftercare services aged 18-22 and young people aged 18-22 in Ireland generally. An average death rate over the period 2015-2021 is also presented.

Figure 23 Death rates per 1,000 for young people aged 18-22, 2015-2021

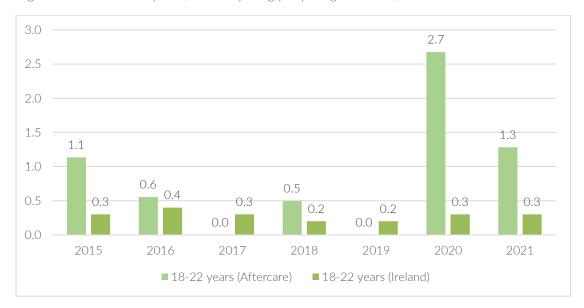




Table 19 Death rates per 1,000 for young people aged 18-22 availing of aftercare services and in Ireland generally, 2015-2021

	Death Rates among those Availing of Aftercare, 2015-2021											
Group	2015	2016		2018	2019	2020	2021	Avg. over period				
18 - 22 years (Aftercare)	1.1	0.6	0.0	0.5	0.0	2.7	1.3	0.9				
18 - 22 years (Ireland)	0.3	0.4	0.3	0.2	0.2	0.3	0.3	0.3				

For those aged 18–22 availing of aftercare services, the death rates are higher than in Ireland generally in 5 of the 7 years examined. On average, over the period 2015-2021, the death rate is 0.9 per 1,000 for those receiving aftercare compared with 0.3 per 1,000 for people aged 18-22 in general in Ireland.

5.5 Cause of Death Analysis

An analysis of the causes of death for children in care and young people in aftercare in comparison to the population generally is presented in this section.

Medical vs External Causes - Children in Care

Table 20 presents information on the causes of death for children in care compared to their peers in Ireland generally for the years 2015-2021. In particular, this table focuses on the proportions of deaths that were due to a natural or medical cause or due to an external cause. It is important to note that comparison is limited due to the small number of deaths occurring for this subgroup compared to in the State as a whole. Further, deaths among children in care are recorded by Tusla and use a different system to classify causes of death compared to the CSO; therefore, only high level comparisons can be made.



Table 20 Medical vs. external causes of death of children in care and in Ireland generally, 2015-2021

Cause of Death of Under 18-year-olds, 2015-2021											
Group	Cause of Death	2015	2016	2017	2018	2019	2020	2021			
	External	0%	100%	40%	100%	0%	0%	25%			
Under 18 in Care	Medical	100%	0%	40%	0%	100%	0%	75%			
Officer to in Care	Unknown	0%	0%	20%	0%	0%	100%	0%			
	Number	3	1	5	1	2	1	4			
	External	9%	12%	10%	8%	9%	13%	9%			
Under 18 (Ireland)	Medical	91%	88%	90%	92%	91%	87%	91%			
	Number	326	310	296	279	284	278	291			

The causes of death are more variable for children in care than for children in Ireland generally, where for some years there are no deaths due to medical causes and other years there are no deaths due to external causes. In Ireland generally, the majority of deaths are due to medical causes in each year examined. Using an average of all years presented, for children in care, the average proportion of deaths due to external causes is 38% over the period 2015-2021 compared to an average of 10% for children in Ireland in general.

Detailed Causes - Children in Care

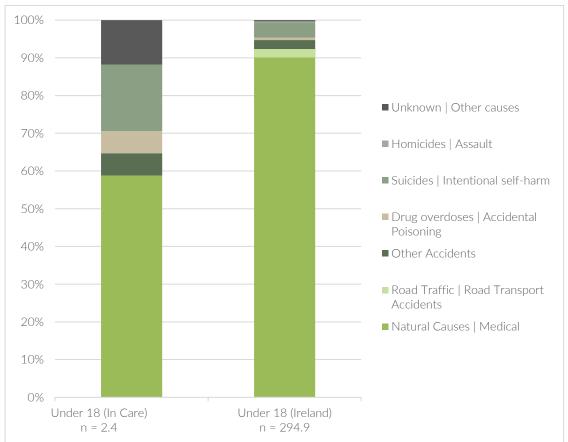
Figure 24 shows an average percentage for a more detailed list of causes of death over the period 2015-2021 for children under 18 in care and children under 18 in Ireland generally. However, it is important to note that the two sources of data use very different systems to classify causes of death. While the CSO reports causes based on the ICD-10, Tusla do not have a formal categorisation for referencing cause of death. Cause of death reported by Tusla is based on the information provided within the initial notification received from the relevant social work department.

Tusla reports deaths due to Natural Causes, Homicides, Suicides, Drug overdoses, Road Traffic Accidents, Other Accidents or Unknown causes. The ICD-10, in comparison is a much more comprehensive list of causes. However, the ICD-10 can also separate natural or medical causes of death *versus* externally caused deaths and reports deaths due to assault, similar to 'homicides' reported by Tusla. In relation to deaths by suicide, the ICD-10 reports deaths due to intentional self-harm which includes intentional poisoning due to overdose; they also have separate codes for deaths due to accidental poisoning, which includes accidental drug overdoses.



For the purposes of this analysis, it is assumed that deaths due to intentional self-harm including intentional poisoning is the closest comparison available to deaths due to suicide in the Tusla classifications, and deaths due to accidental poisoning is the closest comparison available to deaths due to drug overdoses. However, whether the overdose was accidental or not is not reported by Tusla and so it is possible that some of these deaths may be classified differently in the ICD-10. Although the two lists have enough in common to make some high level comparisons, the following analysis should be interpreted with caution.

Figure 24 Average percentage over 2015-2021 for each cause of death for children in care and in Ireland generally



Note: the key shows the cause of death listed by Tusla and by the CSO ICD-10 separated by '|' except for 'Other Accidents' where the same language is used in both sources.

The percentages presented in Figure 24 are based on the average number of deaths over the period 2015-2021 for both groups. The average number of deaths per year for children under 18 in care is 2.4 over the period and for children under 18 generally is 294.9. It is important to note that while percentages for certain causes appear high for children in care, the number of deaths referred to is very small.



For children under 18 in care (59%) and generally (90%) the majority of deaths are occurring due to medical or natural causes. When deaths with unknown causes are removed, this figure rises to 67% for children in care.

There is a considerably higher proportion of deaths occurring due to suicides (18%) and drug overdoses (6%) for those aged under 18 in care, compared to those occurring due to intentional self-harm (4%) and accidental poisoning (1%) in the population generally. There are also a greater proportion of deaths occurring due to other accidents (6%) for children in care than for children under 18 generally (2%).

Medical vs External Causes - Young People availing of Aftercare Services

Table 21 presents information on the causes of death for young people aged 18-22 availing of aftercare services compared to their peers in Ireland generally for the years 2015-2021. In particular, this table focuses on the proportions of deaths that were due to a natural or medical cause or due to an external cause. It is again important to note that comparison is limited due to the small number of deaths occurring for this subgroup compared to the State as a whole and due to the differences between how the two sources classify causes of death.

Table 21 Medical vs. external causes of death of young people availing of aftercare services, and in Ireland generally, 2015-2021

Cause of Death for 18-22-year-olds, 2015-2021											
Group	Cause of Death	2015	2016	2017	2018	2019	2020	2021			
18 - 22 (Aftercare)	External	100%	100%	0%	100%	0%	83%	100%			
	Medical	0%	0%	0%	0%	0%	17%	0%			
	Number	2	1	0	1	0	6	3			
	External	67%	75%	58%	71%	69%	70%	64%			
18 - 22 (Ireland)	Medical	33%	25%	42%	29%	31%	30%	36%			
	Number	97	104	79	75	68	87	95			

For 2 of the 7 years examined no deaths occurred in the group aged 18-22 availing of aftercare. In the remaining five years, the vast majority of deaths occurring in this group were due to external causes. The average proportion of deaths due to external causes for 18-22-year-olds receiving aftercare is 97% (excluding the years no deaths occurred). For 18-22 year olds in Ireland generally, the majority of deaths are also due to external causes but at a lower proportion (68% on average over the period).

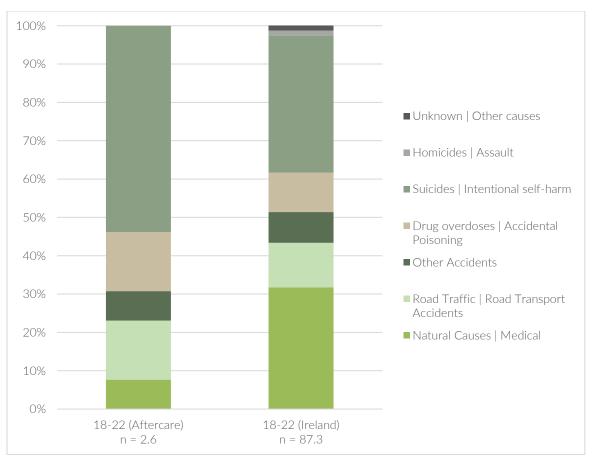


Detailed Causes - Young People Availing of Aftercare Services

Figure 25 shows an average percentage for a more detailed list of causes of death over the period 2015-2021 for young people aged 18-22 availing of aftercare services and young people aged 18-22 in Ireland generally.

Again it is important to highlight that Tusla and the CSO use two different ways to classify causes of death and although the two lists have enough in common to make some high level comparisons, the following analysis should be interpreted with caution.

Figure 25 Average percentage over 2015-2021 for each cause of death for 18-22-year-olds availing of aftercare and in Ireland generally



Note 1: the key shows the cause of death listed by Tusla and by the CSO ICD-10 separated by '|' except for 'Other Accidents' where the same language is used in both sources.

Note 2: The years where no deaths occurred in aftercare have been removed from calculations.

The percentages presented in Figure 25 are based on the average number of deaths over the period 2015-2021 for both groups. The average number of deaths per year for young people aged 18-22 availing of aftercare is 2.6 over the period (based on the years that any deaths occurred) and for young people aged 18-22 generally is 87.3.



It is important to note that while percentages for certain causes appear high for young people availing of aftercare, the number of deaths referred to is very small.

For young people aged 18-22, again there are a considerably higher proportion of deaths occurring as a result of suicide among those availing of aftercare services (54%) compared to those occurring among this age group generally due to intentional self-harm (36%).

Similarly, there is a higher proportion of deaths occurring due to drug overdoses (15%) among those availing of aftercare compared to those occurring due to accidental poisoning aged 18-22 in the general population (10%). There is also a considerably lower proportion of deaths due to natural/medical causes (8%) for those availing of aftercare compared to the overall population (32%).



6. Summary

Over the past five decades, child and youth mortality has improved substantially in Ireland. Death rates have reduced in all age groups examined between 1970 and 2020. The most marked change has occurred in the under 1-year age group where the death rate has dropped from 19.8 per 1,000 in 1970 to 3.1 per 1,000 in 2020.

In terms of the total group of interest aged under 25, Ireland had the fifth lowest death rate of the EU27 countries in 2021 at 0.24 per 1,000. This was lower than the EU27 average of 0.30. Despite these improvements, Ireland is still behind its EU counterparts with regard to under 1 mortality. Eurostat reported a death rate of 3.40 per 1,000 in Ireland in 2021, compared to 3.27 per 1,000 for the EU27 average. Prevalence of prenatal diagnosis of congenital anomalies and termination of pregnancy for foetal anomaly (TOPFA) may be factors influencing death rates in this group aged under 1. There is some evidence to suggest that higher rates of prenatal diagnosis and TOPFA are associated with lower levels of congenital anomaly-related perinatal mortality in Europe, though available data was limited and related to years 2008-2012. Further, congenital anomalies are the leading cause of death in early neonatal deaths in particular (first 7 days) in Ireland.

Looking at recent trends in Ireland, between 2015 and 2021, child and youth mortality has remained relatively stable. When age groups within the under 25 group are examined, all groups except the under 1-year age group have remained stable. For the under 1-year group, the death rate dropped from 3.5 in 2015 to 2.8 in 2018 and 2019 but rose again to 3.6 in 2021. Over half of the deaths among under 1s in Ireland are occurring in the first 7 days of life.

The leading causes of death of under 1s in Ireland are certain conditions originating in the perinatal period (average of 47% of deaths 2015-2021), congenital malformations, deformations and chromosomal abnormalities (average of 40% of deaths 2015-2021) and sudden infant death syndrome (average of 7% of deaths 2015-2021). The reduction in under 1 mortality between 2015 and 2019 appears to be largely due to a reduction in the number of deaths due to these leading causes: conditions originating in the perinatal period and congenital malformations, deformations and chromosomal abnormalities. There were also reductions in certain diseases and sudden infant death syndrome in this period.

Bulgaria reported the highest death rate among under 1s in the EU27 countries. However, Bulgaria reported lower rates of deaths due to congenital malformations, deformations and

¹¹ See Multilevel analyses of related public health indicators: The European Surveillance of Congenital Anomalies (EUROCAT) Public Health Indicators

¹² See Perinatal Mortality National Clinical Audit in Ireland Annual Report 2020



chromosomal abnormalities (1.02 per 1,000) than Ireland (1.16 per 1,000) in 2021. Bulgaria also reported considerably lower death rates in relation to sudden infant death syndrome (0.07 per 1,000) compared to Ireland (0.28 per 1,000) in 2021.

Ireland reported the 9th lowest death rate of the EU27 countries among the oldest group examined (20-24-year-olds) in 2021, with Slovenia, Italy, Spain, Luxembourg, Malta, Germany, Netherlands and Denmark reporting lower death rates. This is another age group where Ireland's death rates could be improved. Intentional self-harm is the leading cause of death among 20-24-year-olds (average of 36% of deaths 2015-2021) in Ireland. Latvia reported the highest death rate of the EU27 countries for this age group in 2021. Interestingly, Latvia reported no deaths by accidental poisoning, lower than Ireland (0.05 per 1,000) and even Slovenia (0.01 per 1,000). Latvia also reported slightly lower rates of death by intentional self-harm at 0.13 per 1,000 compared to Ireland at 0.14 per 1,000 in 2021, while Slovenia reported considerably lower rates than Ireland in relation to intentional self-harm at 0.06 per 1,000. Ireland reported lower rates of deaths due to transport and other accidents than Slovenia in 2021.

While death rates could be improved for the youngest and oldest age groups under 25 in Ireland, death rates among the groups aged 1-4, 5-9, and 10-14 are among the very lowest in the EU27 at 0.06, 0.04 and 0.06 per 1,000, respectively. The leading causes of death in Ireland in 2021 for these age groups tended to be malignant neoplasms (cancers), congenital malformations, deformations and chromosomal abnormalities, and diseases of the nervous system.

For younger age groups in Ireland the vast majority of deaths tend to be due to medical causes whereas external causes start to feature more in the teenage years, becoming the majority cause from age 15 onwards. Looking at the under 18 and 18-24-year groups, external causes represented roughly 1 in 10 deaths for those aged under 18 between 2015-2021. For 18-24-year-olds, between roughly 6 and 7 in 10 deaths were due to external causes. Intentional self-harm starts to appear as a cause of death in the 10-14-year age group and represents about a third of deaths from age 15 onwards. Intentional self-harm was the leading cause of death for both 15-19-year-olds (33%) and 20-24-year-olds (36%) between 2015 and 2021. Road transport accidents represented about 9% of deaths on average among those aged 10-24 from 2015 to 2021.

The majority of deaths occurring among children and young people under 25 in Ireland are among males, and this has remained the case since 1970. Death by suicide was more common in young males than in young females across the period 2015-2021.



In terms of COVID-19, there were 7 deaths due to COVID-19 among children and young people aged under 25 between 2020 and 2021. The majority of deaths due to COVID-19 occurred in the 18-24 age group.

There are a very small number of deaths occurring among children in care or young people availing of aftercare services when compared to the population as a whole.

The small sample size of these groups makes comparison across the populations difficult. Death rates among children aged under 18 in care are higher than in Ireland generally for 4 of the years under examination (2015, 2017, 2019 and 2021) and are lower than in Ireland generally in 3 of the years examined (2016, 2018 and 2020). Death rates reported between 2015 and 2021 appear higher than the general population, in particular among those aged 15-17 in care and among those aged 18-22 availing of aftercare services.

There are a considerably higher proportion of deaths occurring due to suicides (18%) and drug overdoses (6%) for those aged under 18 in care, compared to those occurring due to intentional self-harm (4%) and accidental poisoning (1%) in the population generally. For young people aged 18-22, again there are a considerably higher proportion of deaths occurring as a result of suicide among those availing of aftercare services (54%) compared to this age group generally (intentional self-harm – 36%). There is also a considerably lower proportion of deaths due to medical causes (8%) for those availing of aftercare services compared to the overall population (32%).

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Appendix A

This is an analysis of the average number of deaths per decade, incorporating the number of deaths in all years between 1970 and 2020. The average number of deaths has dropped considerably in the period.

Figure 26 Average number of deaths of children and young people under 25 years old for each decade, 1970-2020

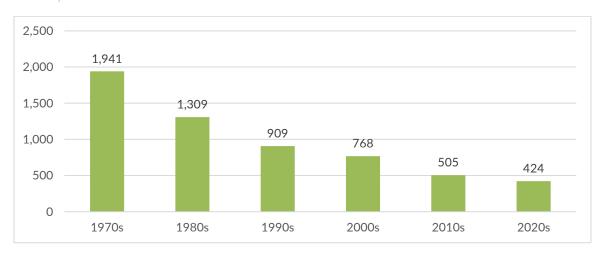


Table 22 presents the average number of deaths for each decade and for eight different age groups, and the full group aged under 25, as well as a percentage change figure.

Table 22 Average number of deaths of children and young people each decade, 1970-2020

	Average number of deaths 1970s - 2020s											
	1970s	1980s	1990s	2000s	2010s	2020s	%change					
Under 18 years	1,649	1,004	589	465	342	285	-83%					
18 - 24 years	292	305	320	304	164	139	-52%					
Under 1 year	1,144	608	331	281	219	189	-84%					
1 - 4 years	201	135	68	51	35	20	-90%					
5 - 9 years	118	87	45	29	25	19	-84%					
10 -14 years	95	82	63	40	25	25	-74%					
15 - 19 years	177	186	173	147	74	70	-61%					
20 - 24 years	206	211	229	220	127	102	-50%					
Under 25 years	1,941	1,309	909	768	505	424	-78%					

Source: Eurostat for 1970s-2000s, CSO for 2010-2020s

Using these averages, the overall trends remain similar to those highlighted in Table 1. Again there are lesser reductions for the older age groups compared to the younger age groups, and reductions in the older groups are largely occurring since the 2000s.



Appendix B

ICD-10 Codes	Cause of Death	Existing ICD-10 Grouping (✔) / Information on Grouping
C00-C97	Malignant Neoplasms	✓
G00-G99	Diseases of the nervous system	✓
100-199	Diseases of the circulatory system	✓
A00-B99, D50-D89, E00-E90, H00- H95, J00-J99, K00-K93, L00- L99, M00- M99, N00- N99	Other diseases	Combination of disease groupings for which there were a small number of deaths in the years examined. Includes: infectious and parasitic diseases, blood diseases and disorders, diseases of the endocrine system, diseases of the sensory organs, diseases of the respiratory system, diseases of the digestive system, diseases of the skin and subcutaneous tissue, diseases of the musculoskeletal system and connective tissue and diseases of the genitourinary system.
P00-P96	Certain conditions originating in the perinatal period	✓
Q00-Q99	Congenital malformations, deformations and chromosomal abnormalities	✓
R95	Sudden infant death syndrome (SIDS)	\checkmark
D00-D48, F00-F99, R00- 94, R96-R99, O00-O99, U07	Other medical/natural causes (including COVID-19)	Combination of causes not included in other groupings and for which there were a small number of deaths in the years examined. Includes: non-malignant neoplasms, mental and behavioural disorders, symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (excluding SIDS), pregnancy, childbirth and the puerperium, and deaths due to COVID-19.
V00-V89	Road Transport Accidents	Combination of transport related accidents excluding water transport accidents, air and space transport accidents and other and unspecified transport accidents. Although this grouping includes some railway codes, there were no deaths occurring involving railway in the period 2015 - 2021 and so Road Transport Accidents was chosen as the name for this grouping.
X40-X49	Accidental poisoning (including accidental overdoses)	✓
V90-V99, W00-X39, X50-X59	Other accidents	Combination of all accident types excluding road transport accidents (V00-V89) and accidental poisoning. Includes falls, accidental drownings, among other causes.
X60-X84	Intentional self-harm	✓
X85-Y09	Assault	✓
Y10-Y98	Other external causes	Combination of remaining external causes not included in other groupings
V00-Y98	External causes of injury and poisoning	✓
A00-R99, U07	Medical causes of death	Combination of all codes excluding external causes of death



Appendix C

		Table 23. Cause o	of Death	: Under 2	25 years				
Age at Death	ICD 10 Codes	Cause of Death	2015	2016	2017	2018	2019	2020	2021
0 - 24 years	C00-C97	Malignant Neoplasms	8%	7%	9%	9%	9%	9%	8%
0 - 24 years	G00-G99	Diseases of the nervous system	4%	6%	8%	7%	7%	2%	3%
0 - 24 years	100-199	Diseases of the circulatory system	3%	2%	3%	3%	2%	3%	5%
0 - 24 years	A00-B99, D50- D89, E00-E90, H00-H95, J00- J99, K00-K93, L00-L99, M00- M99, N00-N99	Other diseases	8%	9%	6%	9%	8%	7%	6%
0 - 24 years	P00-P96	Certain conditions originating in the perinatal period	22%	20%	21%	22%	20%	21%	23%
0 - 24 years	Q00-Q99	Congenital malformations, deformations and chromosomal abnormalities	24%	20%	23%	20%	22%	22%	18%
0 - 24 years	R95	Sudden infant death syndrome	3%	2%	4%	3%	4%	3%	4%
0 - 24 years	D00-D48, F00- F99, R00-94, R96-R99, O00- O99, U07	Other medical/natural causes (including COVID-19)	2%	2%	2%	1%	2%	1%	5%
0 - 24 years	V00-V89	Road Transport Accidents	6%	6%	5%	4%	3%	3%	5%
0 - 24 years	X40-X49	Accidental poisoning (includes accidental overdoses)	3%	4%	3%	2%	5%	7%	4%
0 - 24 years	V90-V99, W00- X39, X50-59	Other accidents	4%	4%	3%	3%	4%	4%	5%
0 - 24 years	X60-X84	Intentional self- harm	11%	15%	12%	15%	15%	16%	15%
0 - 24 years	X85-Y09	Assault	1%	1%	1%	1%	1%	0%	0%
0 - 24 years	Y10-Y98	Other external causes	1%	1%	0%	1%	0%	0%	0%
0 - 24 years	V00-Y98	External causes of injury and poisoning	26%	32%	24%	26%	27%	32%	29%
0 - 24 years	A00-R99, U07	Medical causes of death	74%	68%	76%	74%	73%	68%	71%
0 - 24 years	All	Total Deaths	100%	100%	100%	100%	100%	100%	100%



		Table 24. Cause	of Death	: Under	18 years	;			
Age at Death	ICD 10 Codes	Cause of Death	2015	2016	2017	2018	2019	2020	2021
0 - 17 years	C00-C97	Malignant Neoplasms	8%	6%	8%	9%	9%	9%	7%
0 - 17 years	G00-G99	Diseases of the nervous system	4%	8%	6%	6%	6%	2%	3%
0 - 17 years	100-199	Diseases of the circulatory system	1%	3%	2%	3%	2%	3%	4%
0 - 17 years	A00-B99, D50- D89, E00-E90, H00-H95, J00- J99, K00-K93, L00-L99, M00- M99, N00-N99	Other diseases	7%	10%	6%	10%	8%	7%	6%
0 - 17 years	P00-P96	Certain conditions originating in the perinatal period	32%	29%	30%	32%	27%	30%	34%
0 - 17 years	Q00-Q99	Congenital malformations, deformations and chromosomal abnormalities	34%	27%	31%	28%	31%	32%	26%
0 - 17 years	R95	Sudden infant death syndrome	4%	4%	5%	5%	5%	4%	6%
0 - 17 years	D00-D48, F00- F99, R00-94, R96-R99, O00- O99, U07	Other medical/natural causes (including COVID-19)	1%	2%	1%	1%	2%	1%	3%
0 - 17 years	V00-V89	Road Transport Accidents	2%	3%	2%	2%	2%	3%	2%
0 - 17 years	X40-X49	Accidental poisoning (includes accidental overdoses)	0%	2%	1%	0%	0%	1%	1%
0 - 17 years	V90-V99, W00-X39, X50-59	Other accidents	2%	1%	3%	3%	1%	3%	3%
0 - 17 years	X60-X84	Intentional self- harm	4%	6%	4%	2%	5%	5%	3%
0 - 17 years	X85-Y09	Assault	0%	0%	1%	0%	0%	1%	0%
0 - 17 years	Y10-Y98	Other external causes	0%	0%	0%	0%	0%	0%	0%
0 - 17 years	V00-Y98	External causes of injury and poisoning	9%	12%	10%	8%	9%	13%	9%
0 - 17 years	A00-R99, U07	Medical causes of death	91%	88%	90%	92%	91%	87%	91%
0 - 17 years	All	Total Deaths	100%	100%	100%	100%	100%	100%	100%



Table 25. Cause of Death: 18 – 24 years										
Age at Death	ICD 10 Codes	Cause of Death		2016		2018	2019	2020	2021	
18 - 24 years	C00-C97	Malignant Neoplasms	10%	9%	10%	9%	8%	9%	9%	
18 - 24 years	G00-G99	Diseases of the nervous system	5%	3%	12%	9%	9%	3%	3%	
18 - 24 years	100-199	Diseases of the circulatory system	6%	1%	5%	4%	3%	4%	7%	
18 - 24 years	A00-B99, D50- D89, E00-E90, H00-H95, J00- J99, K00-K93, L00-L99, M00- M99, N00-N99	Other diseases	10%	6%	7%	8%	6%	7%	5%	
18 - 24 years	P00-P96	Certain conditions originating in the perinatal period	0%	0%	0%	0%	0%	0%	0%	
18 - 24 years	Q00-Q99	Congenital malformations, deformations and chromosomal abnormalities	2%	3%	3%	2%	1%	2%	1%	
18 - 24 years	R95	Sudden infant death syndrome	0%	0%	0%	0%	0%	0%	0%	
18 - 24 years	D00-D48, F00- F99, R00-94, R96- R99, O00-O99, U07	Other medical/natural causes (including COVID-19)	3%	2%	4%	2%	2%	2%	9%	
18 - 24 years	V00-V89	Road Transport Accidents	13%	15%	13%	10%	7%	4%	10%	
18 - 24 years	X40-X49	Accidental poisoning (includes accidental overdoses)	10%	9%	9%	7%	16%	21%	11%	
18 - 24 years	V90-V99, W00- X39, X50-59	Other accidents	10%	10%	3%	2%	9%	6%	9%	
18 - 24 years	X60-X84	Intentional self-harm	25%	36%	30%	43%	38%	41%	37%	
18 - 24 years	X85-Y09	Assault	3%	2%	3%	3%	2%	0%	0%	
18 - 24 years	Y10-Y98	Other external causes	3%	3%	0%	2%	0%	1%	0%	
18 - 24 years	V00-Y98	External causes of injury and poisoning	64%	75%	58%	67%	72%	73%	66%	
18 - 24 years	A00-R99, U07	Medical causes of death	36%	25%	42%	33%	28%	27%	34%	
18 - 24 years	All	Total Deaths	100%	100%	100%	100%	100%	100%	100%	



		Table 26. Cause	of Deat	h: Under	1 year				
Age at Death	ICD 10 Codes	Cause of Death	2015	2016	2017	2018	2019	2020	2021
Under 1 year	C00-C97	Malignant Neoplasms	0%	0%	0%	1%	1%	2%	0%
Under 1 year	G00-G99	Diseases of the nervous system	0%	4%	2%	1%	1%	0%	2%
Under 1 year	100-199	Diseases of the circulatory system	0%	0%	1%	0%	2%	1%	1%
Under 1 year	A00-B99, D50- D89, E00-E90, H00-H95, J00- J99, K00-K93, L00-L99, M00- M99, N00-N99	Other diseases	1%	4%	0%	2%	2%	2%	6%
Under 1 year	P00-P96	Certain conditions originating in the perinatal period	46%	45%	47%	51%	46%	47%	50%
Under 1 year	Q00-Q99	Congenital malformations, deformations and chromosomal abnormalities	44%	40%	40%	39%	41%	41%	33%
Under 1 year	R95	Sudden infant death syndrome	6%	6%	9%	7%	7%	7%	8%
Under 1 year	D00-D48, F00- F99, R00-94, R96-R99, O00- O99, U07	Other medical/natural causes (including COVID-19)	1%	2%	1%	0%	1%	0%	0%
Under 1 year	V00-V89	Road Transport Accidents	0%	0%	0%	0%	0%	0%	1%
Under 1 year	X40-X49	Accidental poisoning (includes accidental overdoses)	0%	0%	0%	0%	0%	1%	0%
Under 1 year	V90-V99, W00- X39, X50-59	Other accidents	0%	0%	1%	0%	0%	0%	1%
Under 1 year	X60-X84	Intentional self- harm	0%	0%	0%	0%	0%	0%	0%
Under 1 year	X85-Y09	Assault	0%	0%	0%	0%	0%	0%	0%
Under 1 year	Y10-Y98	Other external causes	0%	0%	1%	0%	0%	0%	0%
Under 1 year	V00-Y98	External causes of injury and poisoning	0%	0%	1%	0%	0%	1%	1%
Under 1 year	A00-R99, U07	Medical causes of death	100%	100%	99%	100%	100%	99%	99%
Under 1 year	All	Total Deaths	100%	100%	100%	100%	100%	100%	100%



Table 27. Cause of Death: 1 - 4 years										
Age at Death	ICD 10 Codes	Cause of Death	2015	2016	2017	2018	2019	2020	2021	
1 - 4 years	C00-C97	Malignant Neoplasms	16%	13%	23%	21%	11%	24%	27%	
1 - 4 years	G00-G99	Diseases of the nervous system	9%	13%	6%	17%	4%	4%	0%	
1 - 4 years	100-199	Diseases of the circulatory system	0%	3%	6%	17%	0%	4%	20%	
1 - 4 years	A00-B99, D50- D89, E00-E90, H00-H95, J00- J99, K00-K93, L00-L99, M00- M99, N00-N99	Other diseases	38%	39%	23%	29%	30%	28%	20%	
1 - 4 years	P00-P96	Certain conditions originating in the perinatal period	0%	3%	0%	0%	4%	0%	7%	
1 - 4 years	Q00-Q99	Congenital malformations, deformations and chromosomal abnormalities	22%	13%	16%	8%	22%	28%	13%	
1 - 4 years	R95	Sudden infant death syndrome	0%	0%	0%	0%	7%	0%	7%	
1 - 4 years	D00-D48, F00- F99, R00-94, R96-R99, O00- O99, U07	Other medical/natural causes (including COVID-19)	0%	3%	3%	0%	4%	0%	0%	
1 - 4 years	V00-V89	Road Transport Accidents	3%	3%	0%	4%	7%	0%	0%	
1 - 4 years	X40-X49	Accidental poisoning (includes accidental overdoses)	0%	3%	0%	0%	0%	0%	0%	
1 - 4 years	V90-V99, W00- X39, X50-59	Other accidents	13%	6%	19%	4%	7%	12%	7%	
1 - 4 years	X60-X84	Intentional self- harm	0%	0%	0%	0%	0%	0%	0%	
1 - 4 years	X85-Y09	Assault	0%	0%	3%	0%	4%	0%	0%	
1 - 4 years	Y10-Y98	Other external causes	0%	0%	0%	0%	0%	0%	0%	
1 - 4 years	V00-Y98	External causes of injury and poisoning	16%	13%	23%	8%	19%	12%	7%	
1 - 4 years	A00-R99, U07	Medical causes of death	84%	87%	77%	92%	81%	88%	93%	
1 - 4 years	All	Total Deaths	100%	100%	100%	100%	100%	100%	100%	



		Table 28. Caus	se of Dea	ath: 5 - 9	years				
Age at Death	ICD 10 Codes	Cause of Death	2015	2016	2017	2018	2019	2020	2021
5 - 9 years	C00-C97	Malignant Neoplasms	55%	46%	33%	31%	32%	23%	33%
5 - 9 years	G00-G99	Diseases of the nervous system	10%	0%	19%	23%	10%	5%	7%
5 - 9 years	100-199	Diseases of the circulatory system	0%	8%	0%	0%	3%	9%	7%
5 - 9 years	A00-B99, D50- D89, E00-E90, H00-H95, J00- J99, K00-K93, L00-L99, M00- M99, N00-N99	Other diseases	15%	15%	15%	15%	19%	23%	13%
5 - 9 years	P00-P96	Certain conditions originating in the perinatal period	0%	0%	0%	0%	0%	0%	0%
5 - 9 years	Q00-Q99	Congenital malformations, deformations and chromosomal abnormalities	15%	23%	22%	23%	26%	18%	20%
5 - 9 years	R95	Sudden infant death syndrome	0%	0%	0%	0%	0%	0%	0%
5 - 9 years	D00-D48, F00- F99, R00-94, R96-R99, O00- O99, U07	Other medical/natural causes (including COVID-19)	0%	0%	0%	8%	6%	0%	7%
5 - 9 years	V00-V89	Road Transport Accidents	0%	8%	11%	0%	3%	5%	7%
5 - 9 years	X40-X49	Accidental poisoning (includes accidental overdoses)	0%	0%	0%	0%	0%	0%	7%
5 - 9 years	V90-V99, W00- X39, X50-59	Other accidents	5%	0%	0%	0%	0%	14%	0%
5 - 9 years	X60-X84	Intentional self- harm	0%	0%	0%	0%	0%	0%	0%
5 - 9 years	X85-Y09	Assault	0%	0%	0%	0%	0%	5%	0%
5 - 9 years	Y10-Y98	Other external causes	0%	0%	0%	0%	0%	0%	0%
5 - 9 years	V00-Y98	External causes of injury and poisoning	5%	8%	11%	0%	3%	23%	13%
5 - 9 years	A00-R99, U07	Medical causes of death	95%	92%	89%	100%	97%	77%	87%
5 - 9 years	All	Total Deaths	100%	100%	100%	100%	100%	100%	100%



		Table 29. Cause	of Deatl	n: 10 - 1	4 years				
Age at Death	ICD 10 Codes	Cause of Death	2015	2016	2017	2018	2019	2020	2021
10-14 years	C00-C97	Malignant Neoplasms	22%	27%	17%	23%	22%	17%	11%
10-14 years	G00-G99	Diseases of the nervous system	22%	17%	22%	14%	26%	13%	19%
10-14 years	100-199	Diseases of the circulatory system	6%	0%	0%	0%	4%	9%	11%
10-14 years	A00-B99, D50- D89, E00-E90, H00-H95, J00- J99, K00-K93, L00-L99, M00- M99, N00-N99	Other diseases	28%	13%	22%	29%	9%	13%	4%
10-14 years	P00-P96	Certain conditions originating in the perinatal period	0%	3%	0%	0%	0%	0%	0%
10-14 years	Q00-Q99	Congenital malformations, deformations and chromosomal abnormalities	6%	3%	17%	6%	17%	4%	19%
10-14 years	R95	Sudden infant death syndrome	0%	0%	0%	0%	0%	0%	0%
10-14 years	D00-D48, F00- F99, R00-94, R96-R99, O00- O99, U07	Other medical/natural causes (including COVID-19)	6%	0%	0%	6%	0%	4%	19%
10-14 years	V00-V89	Road Transport Accidents	6%	17%	0%	3%	4%	22%	4%
10-14 years	X40-X49	Accidental poisoning (includes accidental overdoses)	0%	0%	6%	0%	0%	0%	4%
10-14 years	V90-V99, W00- X39, X50-59	Other accidents	0%	3%	0%	9%	9%	4%	7%
10-14 years	X60-X84	Intentional self- harm	0%	17%	17%	9%	9%	9%	4%
10-14 years	X85-Y09	Assault	0%	0%	0%	0%	0%	4%	0%
10-14 years	Y10-Y98	Other external causes	6%	0%	0%	3%	0%	0%	0%
10-14 years	V00-Y98	External causes of injury and poisoning	11%	37%	22%	23%	22%	39%	19%
10-14 years	A00-R99, U07	Medical causes of death	89%	63%	78%	77%	78%	61%	81%
10-14 years	All	Total Deaths	100%	100%	100%	100%	100%	100%	100%



		Table 30. Cause	of Death	: 15 - 19	years				
Age at Death	ICD 10 Codes	Cause of Death	2015	2016	2017	2018	2019	2020	2021
15-19 years	C00-C97	Malignant Neoplasms	11%	10%	14%	13%	15%	13%	18%
15-19 years	G00-G99	Diseases of the nervous system	6%	12%	12%	13%	15%	3%	3%
15-19 years	100-199	Diseases of the circulatory system	5%	7%	9%	6%	3%	6%	11%
15-19 years	A00-B99, D50- D89, E00-E90, H00-H95, J00- J99, K00-K93, L00-L99, M00- M99, N00-N99	Other diseases	11%	10%	5%	11%	10%	6%	6%
15-19 years	P00-P96	Certain conditions originating in the perinatal period	0%	0%	0%	0%	0%	0%	0%
15-19 years	Q00-Q99	Congenital malformations, deformations and chromosomal abnormalities	2%	3%	7%	3%	2%	7%	4%
15-19 years	R95	Sudden infant death syndrome	0%	0%	0%	0%	0%	0%	0%
15-19 years	D00-D48, F00- F99, R00-94, R96-R99, O00- O99, U07	Other medical/natural causes (including COVID-19)	2%	0%	2%	2%	3%	4%	7%
15-19 years	V00-V89	Road Transport Accidents	17%	7%	10%	15%	8%	7%	7%
15-19 years	X40-X49	Accidental poisoning (includes accidental overdoses)	6%	8%	5%	3%	5%	9%	3%
15-19 years	V90-V99, W00- X39, X50-59	Other accidents	9%	5%	2%	8%	3%	6%	10%
15-19 years	X60-X84	Intentional self- harm	30%	36%	33%	26%	35%	37%	31%
15-19 years	X85-Y09	Assault	2%	0%	2%	0%	0%	0%	1%
15-19 years	Y10-Y98	Other external causes	2%	1%	0%	0%	0%	0%	0%
15-19 years	V00-Y98	External causes of injury and poisoning	65%	57%	52%	52%	52%	60%	51%
15-19 years	A00-R99, U07	Medical causes of death	35%	43%	48%	48%	48%	40%	49%
15-19 years	All	Total Deaths	100%	100%	100%	100%	100%	100%	100%



		Table 31. Cause	of Death	: 20 - 24	years				
Age at Death	ICD 10 Codes	Cause of Death	2015	2016	2017	2018	2019	2020	2021
20-24 years	C00-C97	Malignant Neoplasms	10%	6%	11%	10%	8%	10%	9%
20-24 years	G00-G99	Diseases of the nervous system	6%	2%	11%	8%	8%	2%	3%
20-24 years	100-199	Diseases of the circulatory system	6%	2%	4%	4%	2%	2%	5%
20-24 years	A00-B99, D50- D89, E00-E90, H00-H95, J00- J99, K00-K93, L00-L99, M00- M99, N00-N99	Other diseases	8%	6%	9%	8%	7%	7%	4%
20-24 years	P00-P96	Certain conditions originating in the perinatal period	0%	0%	0%	0%	0%	0%	0%
20-24 years	Q00-Q99	Congenital malformations, deformations and chromosomal abnormalities	2%	2%	2%	2%	1%	0%	0%
20-24 years	R95	Sudden infant death syndrome	0%	0%	0%	0%	0%	0%	0%
20-24 years	D00-D48, F00- F99, R00-94, R96-R99, O00- O99, U07	Other medical/natural causes (including COVID-19)	4%	3%	4%	2%	2%	1%	10%
20-24 years	V00-V89	Road Transport Accidents	11%	16%	12%	7%	4%	3%	11%
20-24 years	X40-X49	Accidental poisoning (includes accidental overdoses)	10%	10%	9%	8%	17%	24%	12%
20-24 years	V90-V99, W00- X39, X50-59	Other accidents	8%	12%	4%	2%	9%	7%	10%
20-24 years	X60-X84	Intentional self- harm	28%	34%	29%	41%	39%	42%	37%
20-24 years	X85-Y09	Assault	3%	3%	3%	4%	2%	0%	0%
20-24 years	Y10-Y98	Other external causes	3%	4%	0%	2%	0%	1%	0%
20-24 years	V00-Y98	External causes of injury and poisoning	63%	79%	58%	65%	72%	78%	69%
20-24 years	A00-R99, U07	Medical causes of death	37%	21%	42%	35%	28%	22%	31%
20-24 years	All	Total Deaths	100%	100%	100%	100%	100%	100%	100%



Background Notes

This is the 13th publication in the Statistical Spotlight series. A Statistical Spotlight is a short publication focused on a specific topic, gathering together available statistical data and highlighting trends or patterns in the data. These are intended to be short, statistics-based publications bringing together available information for interested users. The publications include some commentary detailing (where relevant) trends and comparisons as appropriate (e.g. comparisons between gender, region, age group, etc.).

The primary purpose is to gather together the most relevant data, highlight those most recent, and draw attention to the most evident features or trends. Therefore, although it could serve as the basis for further research, none of the information contained therein should in and of itself be used to ascribe cause and effect between any two variables.



Previous Statistical Spotlights in the series



Statistical Spotlight #1

Young Carers in Ireland

Publication Date April 2018



Statistical Spotlight #2

Family and Household Structure in Ireland

Publication Date August 2018



Statistical Spotlight #3

Striking a Balance: The Reconciliation of Work and Family Life

Publication Date December 2019



Statistical Spotlight #4

Family and Household Structure in Ireland

Publication Date April 2020



Statistical Spotlight #5

Profile of Parents in Ireland

Publication Date May 2021



Statistical Spotlight #6

Gender Norms in Ireland

Publication Date December 2021



Statistical Spotlight #7

Experiences and Perceptions of Discrimination in Ireland

Publication Date March 2022



Statistical Spotlight #8

The First Five Years of Life in Ireland

Publication Date December 2022





Statistical Spotlight #9

Young People's Participation in Youth Organisations

Publication Date February 2023



Statistical Spotlight #10

The Mental Health of Children and Young People in Ireland

Publication Date April 2023



Statistical Spotlight #11

Children and Young People's Indicator Set:

Outcome "Active and Healthy", An international Comparison.

Publication Date October 2023



Statistical Spotlight #12

Children and Young People's Indicator Set:

Outcome "Economic Security and Opportunity" Healthy", An international Comparison.

Publication Date TBD

