

Annex G: Drug-related Deaths – comparison with other countries

G1. This Annex uses figures for the latest year (at the time of writing) for which other countries' statistics were available from a European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) report. It explains that Scotland's drug-related death figures imply a drug-death rate (relative to the number of people aged 15 to 64, inclusive) which is higher than those that have been reported by the European countries for which figures are available from the EMCDDA (although the EMCDDA warns that caution is required when comparing different countries' drug-death figures due to issues of coding, coverage and under-reporting in some countries). This Annex concludes by using more up-to-date data to show that the normally-published figures for Scotland imply a drug-death rate (relative to the size of the population of all ages) of over 3½ times that of the UK as a whole.

G2. When using the EMCDDA's figures for other countries, it must be remembered that the EMCDDA stated that
difference in the national practices of coding the causes of deaths implies that direct comparisons between countries in the numbers or rates of DRDs should be made with caution

(in the 'Limitations' section of its note on the ['Methods and Definitions'](#) used for the Statistical Bulletin which it published on 6 June 2019, which is available on the EMCDDA's website). That note gave some examples of differences between countries, such as (Note: the points in square brackets have been added by NRS):

- ... differences in which codes are applied. In particular, in some countries 'T' codes [which, for deaths from poisoning, identify the types of substances that were involved] are never or rarely used, whereas in others they are more frequently used. Where 'T' codes are not applied, the number of drug-induced deaths [refer to paragraph G4] would be an underestimate;
- ... differences between countries in procedures for recording cases, and in the frequency of post-mortem toxicological investigations; and
- information exchange between General Mortality Registers [GMRs, such as NRS] and Special Registers (forensic or police) is insufficient or lacking in some countries, which may compromise the completeness of the information.

More recently, the ['methods and definitions for overdose deaths' page](#) of the 'Statistical Bulletin 2021' which the EMCDDA published on 9 June 2021 included the following:

The EMCDDA encourages countries to both harmonise their data collection and reporting. Nevertheless, differences in the availability of autopsies and in coding practices between countries will influence the interpretation and comparability of the results.

And, further down the page, the points made under 'Limitations' included the following:

The key factors in the quality of the data on drug-induced deaths are the availability and nature of post-mortem investigations and the full use of this information for death certification and coding. The comparability of the national figures depends on the harmonisation of coding practices at national levels.

Notable issues related to coding include the following:

- There are country differences in which codes are applied. In particular, in some countries T codes are never or rarely used, whereas in others they are more frequently used. Where T codes are not applied, the number of drug-induced deaths would be an underestimate.
- A few countries still include cases due to psychoactive medicines or non-overdose deaths, generally as a limited proportion of the total.
- The GMR will not identify the presence of new psychoactive substances as there are no specific codes in the ICD-10 to code these substances. Deaths

involving these substances would be coded with more general codes such as 'other stimulants'.

In addition, there are still differences between countries in procedures for recording cases, and in the frequency of post-mortem toxicological investigations. Information exchange between GMRs and SRs (forensic or police) is insufficient or lacking in some countries, which may compromise the completeness of the information.

The difference in the national practices of coding the causes of deaths implies that direct comparisons between countries in the numbers or rates of DRDs should be made with caution. However, the trends observed can give valuable insight if methods are maintained consistently within a country, especially when interpreted together with other drug indicators.

It follows that figures for different countries must be used cautiously.

- G3. It has been suggested that better identification and recording of such deaths may be a reason for the drug-death rate appearing to be higher in the UK (and, hence, Scotland) than in several other countries. For example:
- NRS normally allocates a 'T' code for every substance that was reported as being present in the deceased's body - so there should be very little (if any) under-estimation in the figures for Scotland. NRS understands that the UK's other GMRs also make good use of 'T' codes, so the UK's figures should not be underestimates;
 - Scotland has a good exchange of information, as forensic pathologists provide NRS with details of many drug-deaths (using the form which is shown at the end of Annex C) - so the data for Scotland should be more-or-less complete. NRS understands that the UK's other GMRs are usually told, by coroners, which drugs caused each death, so (again) the UK's figures should not be underestimates.
- G4. Table EMCDDA gives the number of 'drug-induced' deaths aged 15 to 64 inclusive, and the resulting rate per million population of that age, for various countries. These numbers were copied from Table A6, in the Annexes of the ['European Drug Report 2021'](#), which is available on the EMCDDA website. On page 5 of that publication, the 'Introductory note' starts thus:
- This report is based on information provided to the EMCDDA by the EU Member States, Turkey and Norway, in an annual reporting process.
- and later states that:
- The United Kingdom left the European Union as of 1 February 2020 and is not included in the analysis presented in this report. UK data ... can be found in the country data tables annex.
- 'Drug-induced deaths' is the EMCDDA's term for deaths directly caused by illegal drugs, which it defines in terms of particular codes for the underlying causes of death, in some cases in combination with certain codes for the types of substance involved. Its definition appears in the EMCDDA 'methods and definitions' page that was referred to earlier. The EU countries are listed in order of the native language versions of their names - for example, Germany appears between Denmark and Estonia; and Austria is between Netherlands and Poland. The EMCDDA's Table A6 indicates that 2019 is the latest year for which drug-death statistics are available, but some countries' data are for earlier years. Because the UK is not among what the EMCDDA report's introductory note describes as
- the countries participating in the European information system in 2020 (the EU Member States, Turkey and Norway)
- the 'UK' row in the EMCDDA's Table A6 gives the '2017' figures that appeared in the previous edition (['European Drug Report 2020'](#)).

- G5. Public Health England (PHE) collects and collates drug-related deaths statistics using a consistent methodology based on that used by the EMCDDA for the purpose of reporting figures on behalf of the UK (using the broadest available coverage within the UK) to international agencies. PHE also publishes these figures in its annual [United Kingdom Drug Situation Report](#). In 2020, PHE (which supplied the EMCDDA with the statistics for the UK) confirmed that the UK's figure in Table A6 of 'European Drug Report 2020' was (broadly speaking) the number of such deaths which occurred in 2017. (The Scottish component of the UK figure is the number of such deaths that were registered in Scotland in that year. Because deaths in Scotland are normally registered within a few days, the number that were registered in Scotland in any given year will be similar to the number that occurred in Scotland in that year.) In both editions, the EMCDDA's table has a footnote saying that, for the UK figure, "drug-induced deaths data do not include Northern Ireland". In 2020, PHE confirmed that that was the case: the 'UK' figures for 2017 covered only Great Britain rather than the UK as a whole. In 2021, PHE provided NRS with the corresponding figures for 2018 (again for GB, not the UK as a whole), and allowed NRS to publish them here ahead of their expected publication by PHE later in 2021.
- G6. The corresponding figures for Scotland for 2017 have been added at the foot of the table. They were produced as follows:
- 813 drug-induced deaths (using the EMCDDA definition) aged 15 to 64 inclusive were registered in that year – extracted from NRS's drug-related deaths database. This is slightly fewer than the 828 deaths on the basis of the EMCDDA 'general mortality register' definition (shown in Table X), because the latter figure includes deaths at ages 0-14 and 65+;
 - the drug-induced death rate (aged 15-64) per million population was then calculated by dividing the 813 drug-induced deaths aged 15-64 by the corresponding mid-year population estimate, of 3,548,079.
- The resulting drug-induced death rate (aged 15-64) for Scotland is 229 per million population. This appears to be higher than for any of the countries shown in the EMCDDA table. The next highest rates are for Sweden (77 per million) and Norway (also 77 per million). Scotland's drug-induced death rate is much higher than the "UK" one (76 per million) – so, for 2017, the Scottish figure was about three times that of the UK as a whole. (However, it should be noted that the Scottish drug-death rate is over 3½ times that of the UK as a whole, when calculated from more up-to-date data which are on a different basis [the numbers of drug-related / 'drug misuse' deaths, of all ages, that were registered in 2019], as is shown in paragraph G9, below.)
- G7. The same approach has been used to produce the equivalent figures for Scotland for three further years, which also appear in the table:
- 2018, the latest year for which figures on the EMCDDA's basis are available for GB (supplied to NRS by PHE, and appearing below the 'Scotland' part of the table)
 - 2019, the year for which there are figures for most of the other countries that are shown in the EMCDDA's table; and
 - 2020, the most recent year for which figures for Scotland can be produced (which are more up-to-date than the EMCDDA's data for any country).
- G8. It must be remembered that the figures for some countries may not be truly comparable with those for Scotland (or the UK as a whole), for reasons like those given in paragraphs G2 to G3. Page 79 of the EMCDDA's ['European Drug Report 2019'](#) included the following statement:
- Overdose data ... must be interpreted with caution. Among the reasons for this are systematic under-reporting in some countries, differences in the ways

toxicological examinations are conducted and registration processes that can result in reporting delays.

Because some countries' figures may be affected by (say) under-reporting, one cannot say that Scotland has a drug-induced death rate (aged 15-64) which is definitely 'X' times the level for the EU as a whole, or higher than that of exactly 'Y' European countries. However, it appears certain that Scotland's rate is well above the level of most (if not all) of the European countries for which figures are available from the EMCDDA report.

- G9. Scotland's drug-related death rate is also seen to be much higher than that of the UK as a whole when the comparison uses the kind of drug-death figures that are normally published for Scotland, England and Wales, and Northern Ireland. As an example, in terms of the definition that is used for most of the statistics in this report (that introduced in 2001 for the 'baseline' figures for the UK Drugs Strategy), the numbers of drug-related deaths (of all ages – not just of 15-64 year olds) that were registered in 2019 are set out below. Figures for 2019 are used because, at the time of writing (6 July 2021), that is the latest year for which figures have also been published for England and Wales and for Northern Ireland (for example, the ONS website indicates that figures for England and Wales for 2020 are provisionally scheduled for publication in August 2021). Therefore, at the time of writing, 2019 is the latest year for which one can produce a total for the UK as a whole.

The relevant numbers of deaths registered in 2019 were:

- 1,280 in Scotland – the 'standard definition' figure in Table 1;
- 2,883 in England and Wales – 'drug misuse' deaths (that being ONS's term for the number of deaths based on the 'Drug Strategy' definition) – more information can be found via the [deaths related to drug poisoning in England and Wales statistical bulletins](#) page of the ONS website; and
- 165 in Northern Ireland – also referred to as 'drug misuse' deaths – more information can be found in the [Drug Related and Drug Misuse Deaths 2009-2019](#) section of the NISRA website.

So, the UK had a total of 4,328 drug-related/'misuse' deaths (of all ages) registered in 2019.

Scotland's so-called 'crude' drug-death rate (per head of population) was 3.6 times that of the UK as a whole. The calculations (using those figures for all ages) are:

- Scotland:
 - 1,280 drug-related deaths registered in 2019;
 - population of 5,463,300 at mid-2019;
 - hence 234 drug-related deaths per million population in 2019 (or, to two decimal places, 234.29 per million);
- UK as a whole:
 - 4,328 drug-related/'misuse' deaths registered in 2019;
 - population of 66,796,807 at mid-2019;
 - hence 65 drug-related/'misuse' deaths per million population in 2019 (or, to two decimal places, 64.79 per million);
- so the Scottish figure of 234 per million is 3.6 times the figure for the UK as a whole of 65 per million (as 234.29 is 3.62 times 64.79).

These figures (and the corresponding ones for the regions of England, for Wales and for Northern Ireland) are illustrated in Figure 9 in the publication (as will be seen, Scotland has a much higher rates than the English regions, Wales and Northern Ireland).

In due course, a similar calculation could be performed for 2020, after ONS has published its figures for England and Wales for 2020. At that time, if figures for Northern Ireland for 2020 had not yet been published, one could assume that they will be the same as they were in 2019 in order to estimate the number and rate for the UK as a whole for 2020. Such estimates should have, at worst, only very small percentage

margins of error, because Northern Ireland accounted for only 3-4% of drug-deaths in the UK in each year from 2016 to 2019.

G10. One can also compare the age-standardised drug-death rates of Scotland, Wales, England, and the regions of England. The relevant figures for 2019 (as explained above, at the time of writing, the latest year for which they are available for England and Wales) are as given below (they are not available for Northern Ireland, or for the UK as a whole). They are all expressed per million population, for consistency with the age-standardised drug misuse death rates that appear in Table 6 of the ONS publication referred to above.

- Scotland - 244 drug-related deaths per million population (ten times the rate per 100,000 shown in Table 1);
- Wales – 56.2 drug misuse deaths per million population;
- England – 49.5 drug misuse deaths per million population;
 - North East - 95.0 drug misuse deaths per million population;
 - North West - 71.2 ... ;
 - Yorkshire and the Humber - 68.0 ;
 - East Midlands - 36.7 ;
 - West Midlands - 49.7 ;
 - East - 33.6 ;
 - London - 37.2 ;
 - South East - 39.9 ;
 - South West - 52.7 ;

So the rate for Scotland (244 per million) was over 2½ times that of the region of England which had its highest rate (North East England – 95.0 per million), almost 5 times the rate for England as a whole (49.5 per million), and over 4 times the rate for Wales (56.2 per million).

G11. It should be noted that how information about drug-related/'misuse' deaths is collected differs between Scotland and other parts of the UK. In particular:

- in England and Wales, almost all drug-related deaths are certified by a coroner following an inquest, and cannot be registered until that is completed. As a result, about half of their drug-related deaths registered in (say) 2015 occurred in a previous year – more information can be found in the sections of the ONS publications on the effect of registration delays on the statistics. Very crudely, the England and Wales figures for (say) 2015 can be thought of as representing the deaths which occurred between (say) mid-2014 and mid-2015, so are less 'up to date' than Scottish figures for 2015, which can be thought of as representing the deaths which occurred in the whole of that year (as almost all Scottish deaths are registered within a few days of occurring);
- there is no English equivalent of the form (shown at the end of Annex C) which is used by forensic pathologists in Scotland to provide details of deaths to NRS.
 - The UK's other GMRs are usually told, by coroners, which drugs caused each death, but not about all the substances that were found in the body. It follows that some deaths could (in theory) be counted differently in, say, Scotland and England. For example, a death from intentional self-poisoning by an uncontrolled substance would be counted in Scotland (but not in England) if a controlled substance was present in the body but was not believed to have contributed to the death (because the presence of the controlled substance would not be recorded in the data for England)
 - NRS is more likely than ONS to be told which drugs caused a death. In Spring 2017, ONS said that:
 - in around 1 in 8 cases, it receives only a very generic description of the death, such as 'drug overdose' or 'drug-related death'. In contrast,

Scotland had only about 8 drug-deaths per year (on average, from 2008 to 2015) for which NRS was not told which drugs caused them.

- in around 10% of opiate deaths, ONS is not told which opiate was involved. In contrast, Scotland had an average of only about 4 drug-deaths per year caused by opiates (possibly in combination with other substances) for which NRS was not told which particular opiates were involved.

Such differences may affect the comparability of drug-death rates for Scotland and the UK as a whole, but are unlikely to account for the majority of the difference between those rates. For example:

- if the numbers of drug-related deaths were rising at 10% per year, their being registered (on average) six months earlier in Scotland than in England would increase the Scottish drug-death rate by only 5% (relative to the English one), all else being equal (because one would be comparing the Scottish number of deaths which occurred, broadly speaking, in [say] 2015 with the English number of deaths which occurred, broadly speaking, between [say] mid-2014 and mid-2015 – a period when drug-death rates were lower).
- on average, Scotland had only around 3 deaths per year from intentional self-poisoning by an uncontrolled substance for which a controlled substance was present in the body but was not believed to have contributed to the death. Such deaths are included in the drug-related death figures for Scotland, but not England – but are too few to have much effect on the comparability of drug-death rates.
- ‘drug overdose’ and ‘opiate’ deaths in England are counted as drug-related/‘misuse’ deaths, so the lack of information about which drugs were involved does not affect the comparability of the overall drug-death rates. (However, it could have a noticeable effect on any comparison of figures for deaths which were caused by particular drugs, of course.)

It follows that the Scottish rate could be well over three times that of the UK as a whole even if there were no methodological differences.