C2 Neonatal mortality
C3 Infant mortality

Euro-Peristat Meeting

Rolduc Abbey, the Netherlands

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C2 Neonatal deaths: definitions

Numbers

Neonatal deaths: deaths 0-27 completed days after live birth

Can be subdivided into

Early neonatal deaths: deaths 0-6 completed days after live birth

Late neonatal deaths: deathe 7-27 completed days after live birth

Rates

Annual / death cohort rates

Deaths in a given time period expressed as a rate per 1,000 live births in the same time period

Birth cohort rates

Deaths among babies born in a given time period expressed as a rate per 1,000 live births in the same time period

Why indicator is important

Wide variation between European countries, with low rates in Nordic countries and highest rates in newer EU countries

Differences in relative proportions of early and late neonatal deaths

Differences in proportions of deaths reported at gestational ages below 24 weeks contribute to overall differences. Differences in resuscitation policies may contribute to these.

C3 Infant deaths: definition

Deaths of babies under the age of one year, 0-364/365 days after live birth

Can subdivide into neonatal and postneonatal, 28 to 364/365 days after live birth

Rates

Can be expressed as annual or cohort rates per 1,000 live births

Why indicator is important

Wide variation between European countries, with low rates in Nordic countries and highest rates in newer EU countries

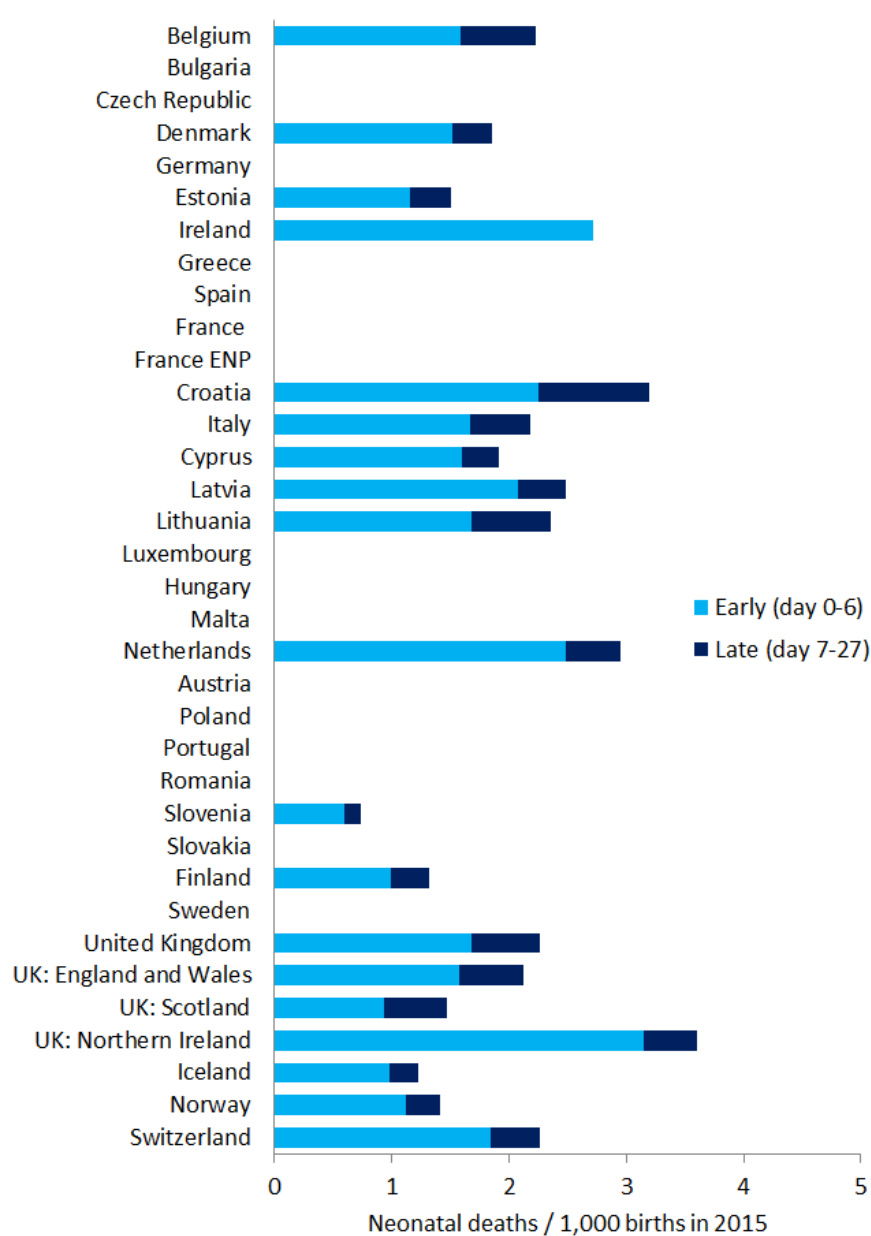Differences in relative proportions of neonatal and postneonatal deaths

Some postneonatal deaths may be of babies who have never left neonatal intensive care

Differences in proportions of deaths reported at gestational ages below 24 weeks contribute to overall differences. Differences in resuscitation policies may contribute to these.
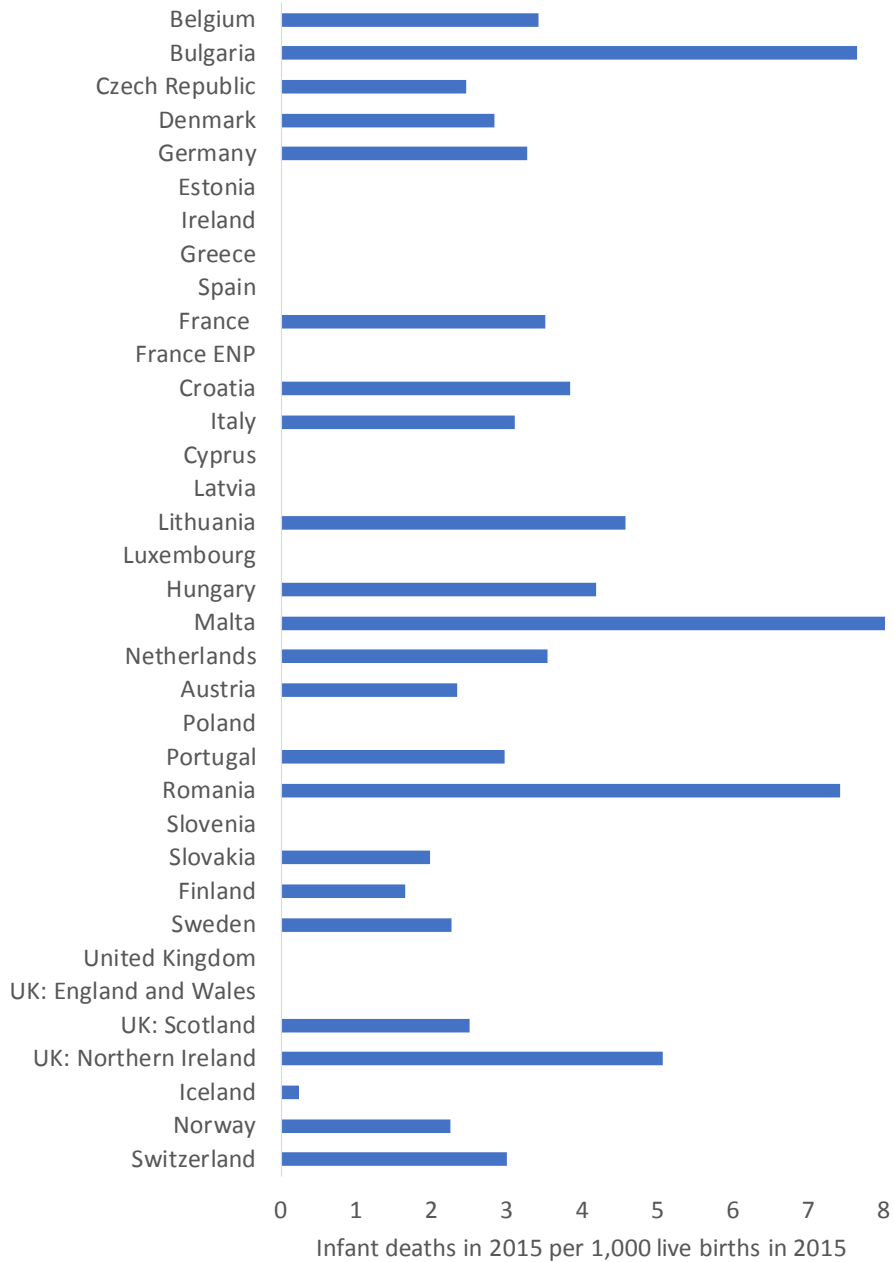
Annual neonatal mortality, 2015

Neonatal deaths in 2015 per 1,000 live births in 2015

Legend: Early (day 0-6), Late (day 7-27)
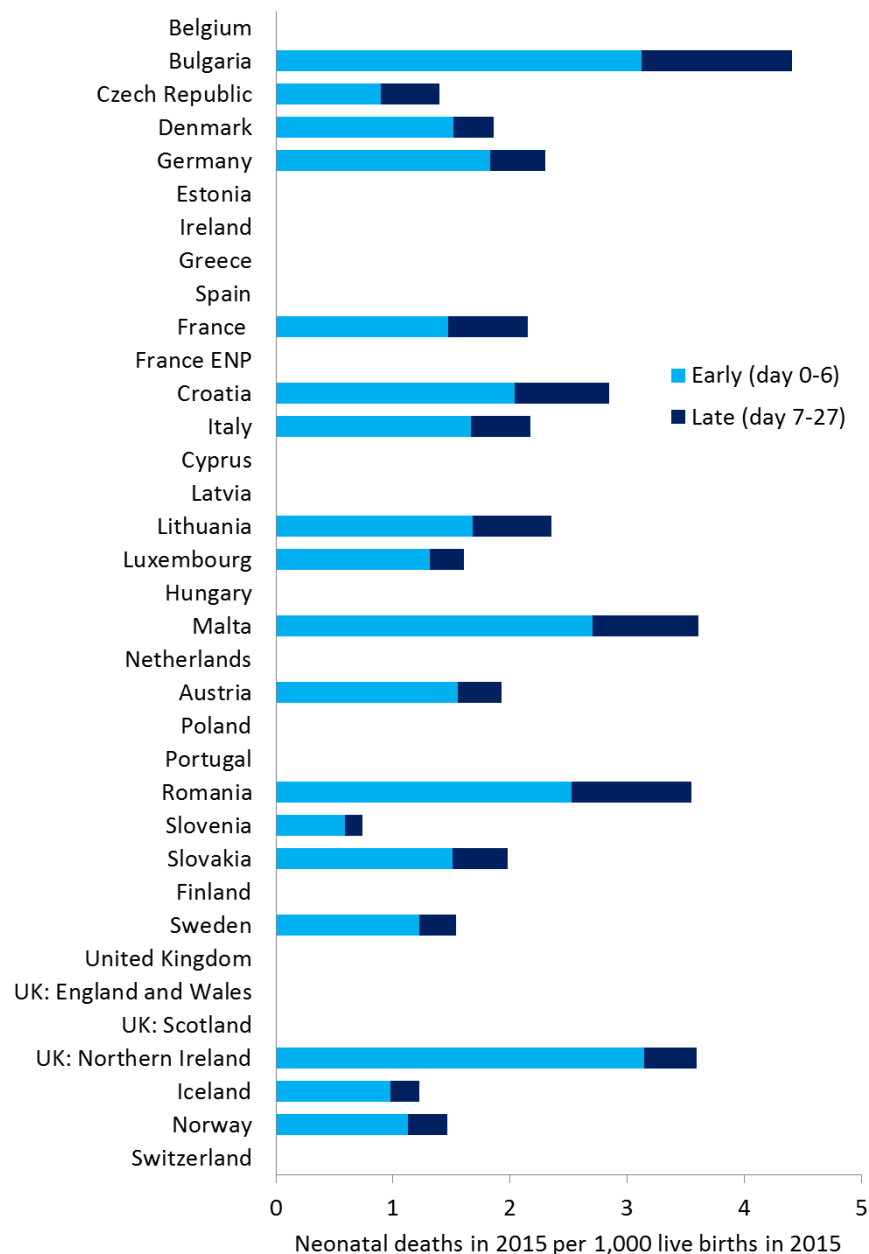
Cohort neonatal mortality, 2015 births

Neonatal deaths / 1,000 births in 2015
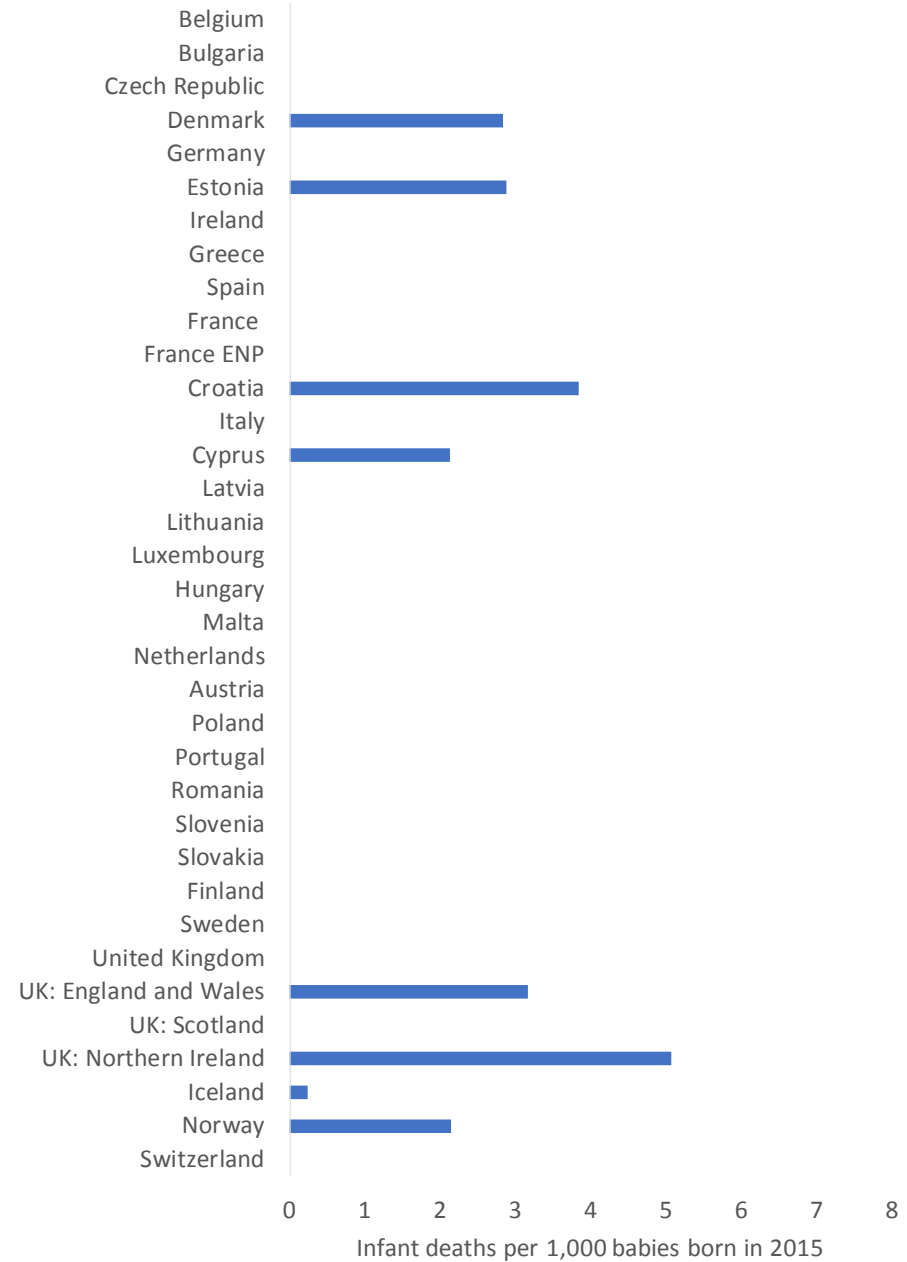
Legend: Early (day 0-6), Late (day 7-27)

Annual neonatal mortality available for 19 countries. Cohort neonatal mortality available for 19 countries. Numbers will change as some countries' data wer missing from file

Annual infant mortality, 2015

Cohort infant mortality, 2015

Infant deaths in 2015 per 1,000 live births in 2015

Infant deaths per 1,000 babies born in 2015

Annual and cohort infant mortality rates

Many countries had cohort neonatal mortality rates
Fewer had cohort infant mortality rates

Annual mortality rates
      More timely
      Numerator - denominator bias, especially for infant mortality
Cohort mortality rates
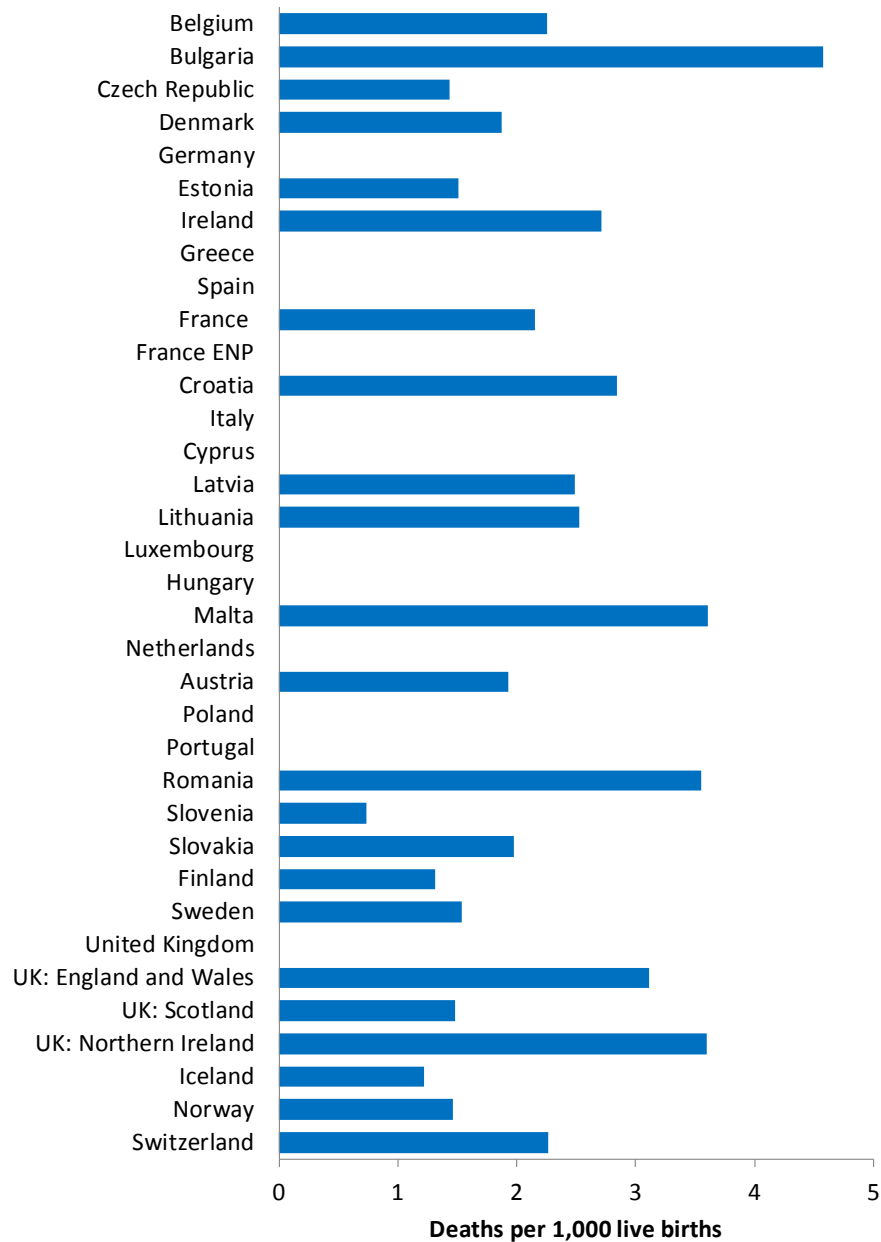   Correct denominator
      Useful as part of a larger cohort approach
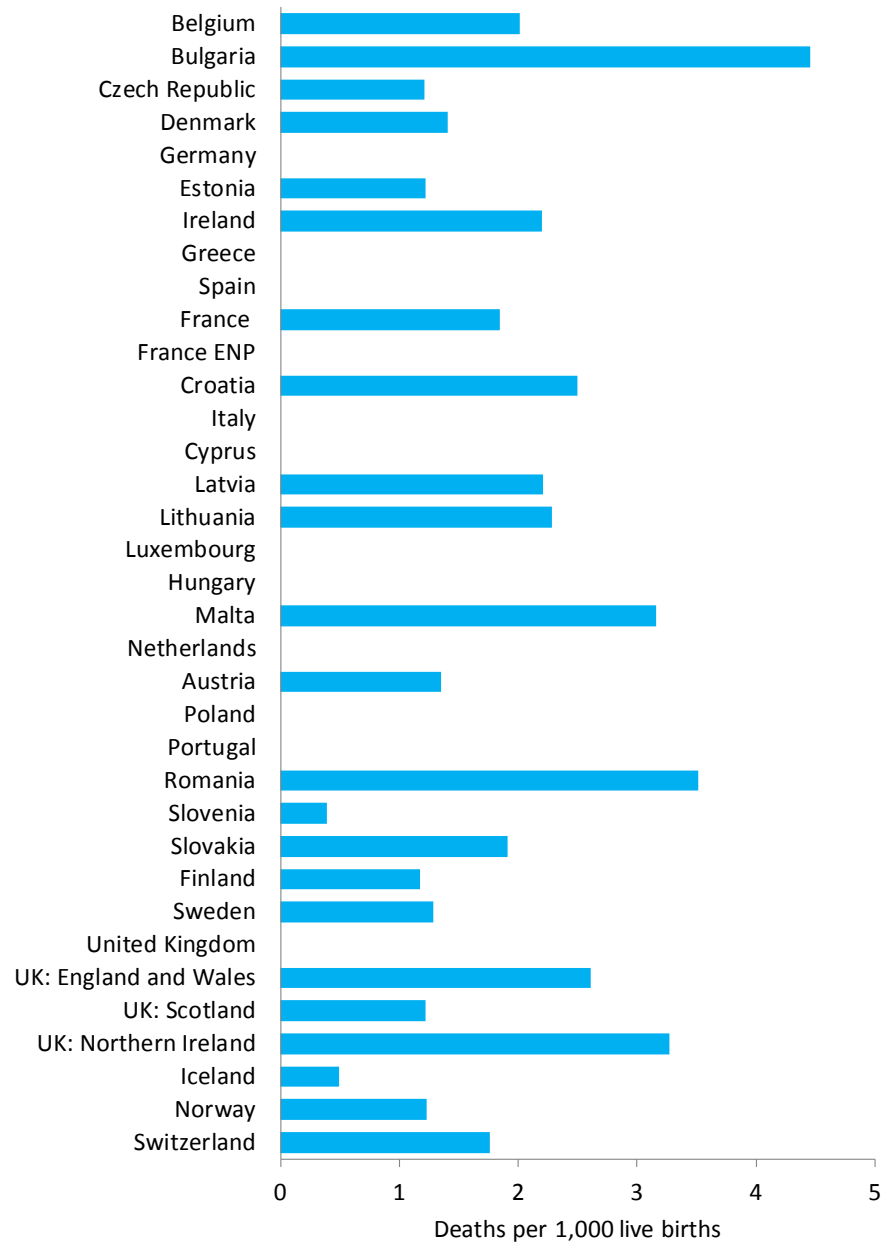   Take longer to produce, especially for infant mortality
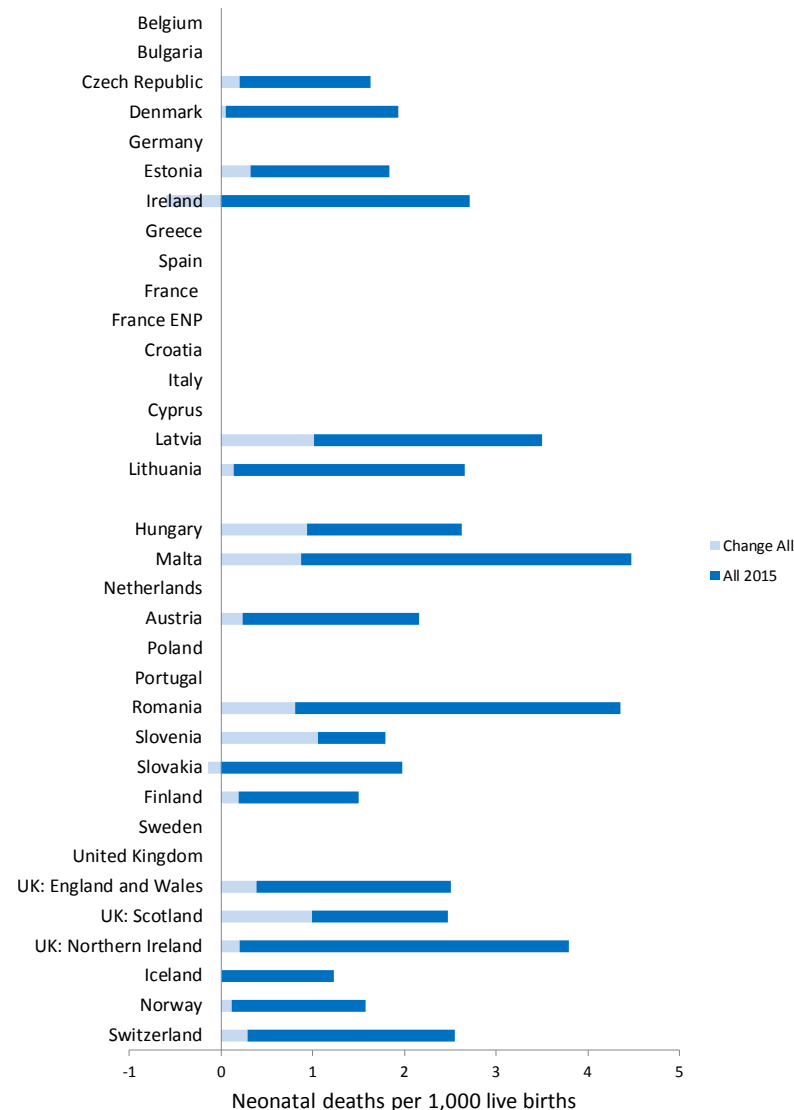
Neonatal mortality, all

24 weeks and over

Deaths per 1,000 live births

Changes 2010-2015

Neonatal mortality 2015 and change 2010-2015

Neonatal mortality at 24 weeks and over

How can we monitor changes in rates for small populations?

Neonatal mortality rates,
United Kingdom and constituent countries, 1971-2016
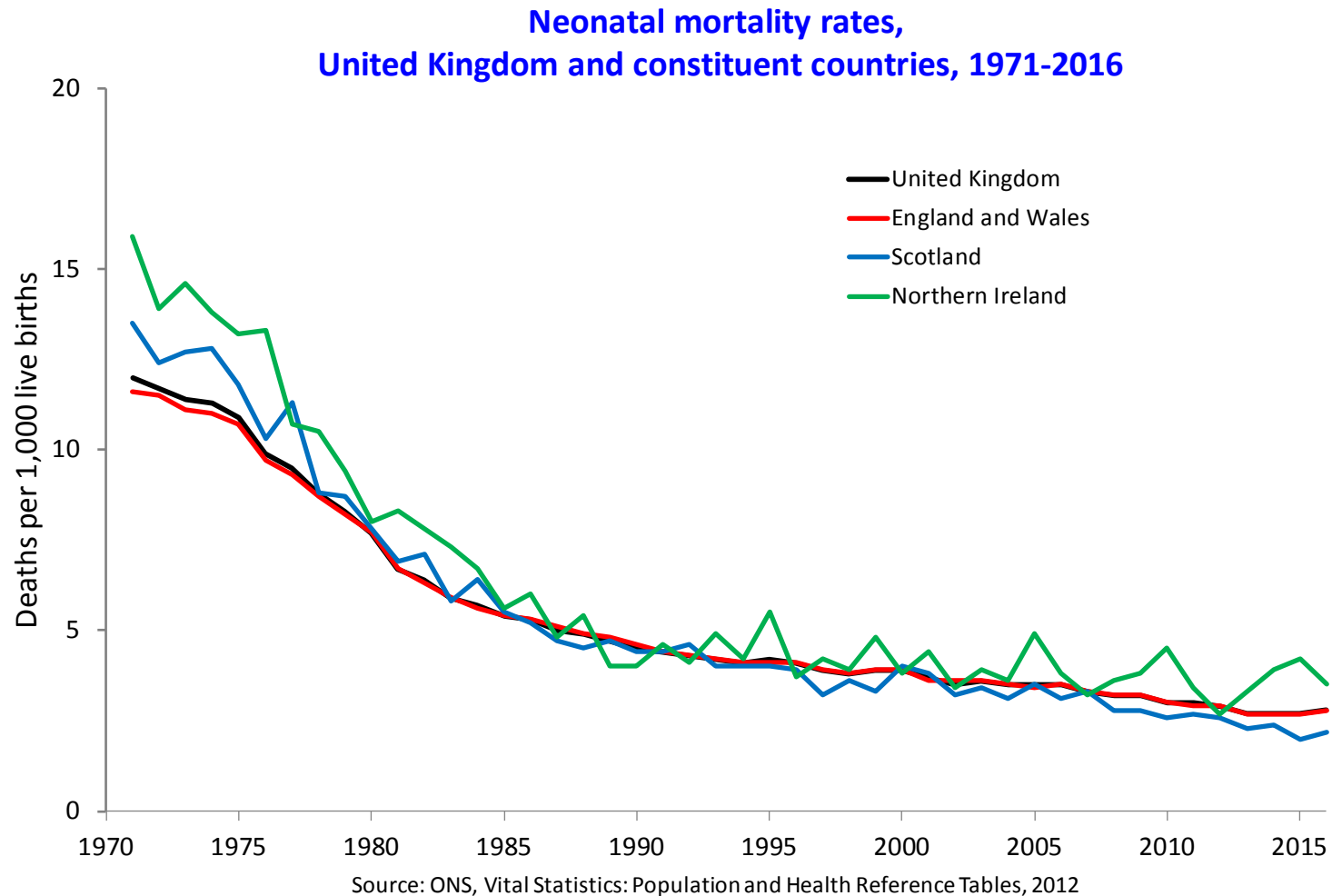
Northern Ireland had more births in 2015 than Estonia, Luxembourg Cyprus, Latvia, Malta, Slovenia and Iceland

Source: ONS, Vital Statistics: Population and Health Reference Tables, 2012

Neonatal mortality and multiple births

Neonatal mortality by multiplicity

Legend: Singletons, Multiples

x-axis: Neonatal deaths per 1,000 live births

Countries (top to bottom): Belgium, Bulgaria, Czech Republic, Denmark, Germany, Estonia, Ireland, Greece, Spain, France, France ENP, Croatia, Italy, Cyprus, Latvia, Lithuania, Luxembourg, Hungary, Malta, Netherlands, Austria, Poland, Portugal, Romania, Slovenia, Slovakia, Finland, Sweden, United Kingdom, UK: England and Wales, UK: Scotland, UK: Northern Ireland, Iceland, Norway, Switzerland

Ratio of multiple to singleton mortality

x-axis: Ratio multiple to singleton

Conclusions so far

Data still being checked, so tentative

Complex within countries which uses multiple sources and data linkage

Changes over time difficult to interpret where rates are low and numbers are small

N of countries able to provide the indicator (any, partially, all…)

Ireland provided only early neonatal mortality

X1, X2, x3 provided no data at all

X provided a breakdown by gestational age

XX provided a breakdwon by birthweight

XXX provided rates by plurality

Quality questions

Summarise issues to consider when looking at the indicator

High or low differences between overalll early and late neonatal mortality

High numbers of missing birthweights or gestational ages

See whether there are countries with a lot of missing data

List those with lots of missing birthweights or gestational ages

See if countries with outlying values or other information that we don't understand. There are - to be listed

Indicator in Europe in 2015 (2 slides)

If several different ways to present the indicator, select a maximum of 2 ways (you can base your choices on last report).

Present graphically

Present data ordered by indicator value (easier to look at and identify outliers) – this is NOT the was we will present the data in the tables.

Changes since 2010 (up to 2 slides)

Same as previous slide

Summary of findings

Key messages related

    to current values and variation of this indicator in Europe

    Changes over time

    Next steps to finalise work on this indicator for the report