

Population and Migration Statistics Committee (Scotland)

Births and Deaths Time-Series Tables for Local Authority and NHS Board Areas

1. This paper asks members of the Committee for their views on possible new time-series tables, which would give the numbers of births and deaths for each local authority and each NHS board area.

2. At present, the "time-series tables" part of the General Register Office for Scotland (GROS) web site includes pages for "Births" (<http://www.gro-scotland.gov.uk/statistics/births/births-time-series-data.html>) and "Deaths" (<http://www.gro-scotland.gov.uk/statistics/deaths/deaths-time-series-data.html>), and these pages include links to workbooks which provide the following information:
 - Births by Council Area, by sex, 1997 to 2008;
 - Births by post-April 2006 NHS Board Area, by sex, 1997 to 2008;
 - Deaths by sex, age and Council Area, Scotland, 1997 to 2008; and
 - Deaths by post-April 2006 NHS Board Area, by age group and sex, 1997 to 2008; and
 - Births and Deaths for the pre-April 2006 NHS Board Areas, which are no longer updated.

However, these workbooks do not contain what might be described as "proper" time-series tables, because each workbook has a separate spreadsheet for each year. For example, in the first workbook, the first spreadsheet gives the number of births by council (rows) and sex (columns) for 1997, the second spreadsheet gives the corresponding figures for 1998, and so on. Therefore, in each workbook, the "time" dimension runs across the spreadsheets (rather than down the rows or across the columns), and anyone who wants to see how the numbers are changing from one year to the next must move from one spreadsheet to the next - which is not how one would use a true time-series table.

3. GROS therefore proposes to add to its web site some proper time-series tables which will show more easily how the numbers of births and deaths have changed over the years for each local authority area and for each (post-April 2006) NHS board area. The number and form of the new tables will be decided in the light of comments from members of the Committee.

4. In the case of births, there could be two new workbooks: one containing the figures for local authorities and one for NHS boards. Each workbook would contain three spreadsheets: one for male births, one for female births and one for total births. Within each spreadsheet, the years would go down the rows and the areas would go across the columns, so the general layout would be:

Sex: -----

| Year | All births | Area not known | Area 1 | Area 2 | etc | etc | Last area |
|-----------|------------|----------------|--------|--------|-----|-----|-----------|
| Year 1 | | | | | | | |
| Year 2 | | | | | | | |
| etc | | | | | | | |
| etc | | | | | | | |
| Last year | | | | | | | |

5. Spreadsheets with a similar general layout could provide time-series tables of the total numbers of deaths by sex in each area.
6. The current time-series tables for deaths also give the numbers of deaths broken down by sex and age (with the latter grouped as follows: 0, 1-4, 5-9, 10-14, and then in 5-year bands up to 80-84 and 85+). Therefore, if there is a need for time-series tables giving the numbers of deaths by sex and age, more spreadsheets would be required. There could be one spreadsheet for each area, with the following general layout:

Area: -----

| | Male deaths | | | | | Female deaths | | | | | Total deaths | | | | | | |
|-----------|-----------------|------------------|-----|-----|----------------|---|--|--|--|--|---|--|--|--|--|--|--|
| Year | First age-group | Second age-group | etc | etc | Last age-group | <i>broken down by age-group, as for male deaths</i> | | | | | <i>broken down by age-group, as for male deaths</i> | | | | | | |
| Year 1 | | | | | | | | | | | | | | | | | |
| Year 2 | | | | | | | | | | | | | | | | | |
| etc | | | | | | | | | | | | | | | | | |
| etc | | | | | | | | | | | | | | | | | |
| Last year | | | | | | | | | | | | | | | | | |

7. Such spreadsheets would make figures that appear in current time-series tables available in a way that lets users see much more easily how they have changed from year to year. In theory, GROS could add other spreadsheets, which would provide new time-series tables - but GROS will not prepare any proposals for further tables until a clear need for them has been identified.
8. Members of the Committee are asked to note a few points of detail about the possible new time-series tables:
 - Years which might be covered - GROS's birth and death statistics databases go back to 1974, and include codes for local authorities and NHS boards for all years. However, because the current local authorities did not exist pre-1996, their codes for earlier years were allocated retrospectively, based on whatever information was recorded at the time (e.g. based on postcodes, and the codes for the former Regions, Districts and Island Areas), which is insufficient to identify the current local authority in every case. For example,

GROS could not allocate a current local authority code for roughly 1% of deaths from 1974 to 1990, inclusive (the figure fluctuates from year to year, between around ¾% and about 1¼%). These cases would be counted under "Area not known" in spreadsheets whose general layout is shown in paragraph 4. The extent to which the current local authority boundaries are compatible with those of the former areas varies between different parts of Scotland, so such cases are not spread "randomly" across Scotland, and the resulting break in the time-series could be much more than 1% for some areas.

- Sex not known - by convention, any cases for which the sex was not known are counted under "male".
 - Age-groups - any new time-series tables of deaths by age and sex for each area would have many columns which contain mainly zeros, and occasionally 1s and 2s, if they used the same age-groups as the current tables (0, 1-4, 5-9, 10-14, and then in 5-year bands up to 80-84 and 85+). For example, for Scotland as a whole in 2008, each of the 1-4, 5-9 and 10-14 age-groups had a total of only 30-40 deaths, representing averages of only about one such death in each of the age-groups for each local authority.
9. Members of the Committee are asked for their views on these possible new time-series tables - for example:
- what years should the time-series cover - e.g. 1991 onwards (for which there are very few cases without a code for the current local authority) or going further back (with some areas having unquantifiable breaks in the series between 1990 and 1991)?
 - is there a need for "births by area for each sex" time-series with the general layout shown in paragraph 4?
 - is there a need for "deaths by area for each sex" time-series with the general layout shown in paragraph 4?
 - is there a need for "deaths by age and sex for each area" time-series with the general layout shown in paragraph 6? If so, what age-groups should be used?
 - are any other time-series needed?
10. Finally, Members of the Committee might also like to see changes to some of GROS's other statistical outputs giving the numbers of Vital Events (births, stillbirths, adoptions, marriages, civil partnerships, divorces, dissolutions of civil partnerships, and deaths), such as the Reference Tables which are available via this address: <http://www.gro-scotland.gov.uk/statistics/publications-and-data/vital-events/index.html> - if so, GROS would be happy to discuss any suggestions at the meeting.