

Checking the Quality of National Records of Scotland (NRS) Statistical Data on Vital Events

The following information describes some of the checks that are performed on National Records of Scotland's (NRS's) statistical data on Vital Events.

Checking that the statistical databases have the correct numbers of records

With effect from the checking of the data for the events that were registered in Scotland in 2012, the overall total numbers are obtained from NRS's Forward Electronic Register (FER) system, which holds the official record for each event (as entered by the local Registrar). Any differences between the statistical database's numbers of events and the figures from FER are investigated, in order to identify any events for which (a) records are missing from the statistical database or (b) records should be deleted from the statistical database. National Records of Scotland Vital Events then resolves any discrepancies: for example, by obtaining the data for any events which were found to be missing from its statistical database.

In previous years, each Registration Office in Scotland had sent a Statistical Data Annual (SDA) form to NRS Vital Events in January each year. The SDA form contained the numbers of births, stillbirths, deaths, marriages and civil partnerships registered in that office during the previous year. These figures were checked against the records processed by NRS Vital Events to ensure that details of all events had been received in NRS for the year and had been processed. In cases where the number of events registered differed from the number processed, NRS Vital Events contacted the Registration Office in question, discussed the discrepancy and asked for additional details. Communication with the Registration Office continued until both sets of figures were the same.

Checking the codes allocated by Registrars

For each event registered in Scotland, certain codes are allocated by the Registrar when entering the event on NRS's FER system. The information is passed from FER to the NRS Vital Events statistical database. The codes allocated by Registrars include, where appropriate, codes for the institution, the mother's country of residence, the father's country of residence, the registration district of occurrence, the country of residence of the deceased, the celebrant, and the countries of residence of the two parties involved in a marriage or a civil partnership. The record for each event is processed by a member of NRS Vital Events staff. In cases where the Vital Events computer system highlights an error, it is corrected; in other cases, the staff aim to identify any obvious anomalies, by looking at the codes and the other information that was recorded about the event (e.g., is a country of residence code clearly not consistent with an associated address?), and - if it is clear that the wrong code has been allocated (e.g., perhaps the Registrar accidentally clicked on the wrong entry in a drop-down list) - correct the code in the Vital Events statistical database. Quality checks are then carried out on each record by the Vital Events branch staff supervisor.

Allocating and checking Occupation and Industry codes

In Scotland, occupation information is collected through birth, stillbirth, death, marriage and civil partnership registrations each year. Codes for the occupations are subsequently added

to the statistical copies of the records for births, stillbirths and deaths (but not for marriages and civil partnerships). When the information from FER is loaded into the Vital Events statistical database, occupation codes are generated by an automatic coding system, which uses a combination of the information from the registration form relating to occupation and industry. This combination is inspected and coded according to the relevant version of the Standard Occupational Classification (SOC) coding index. Exact matches with the coding index occur but in many cases a decision must be made to allocate a code by Vital Events staff based on experience, judgement and approximation. (NB: for a number of years, the occupation of the deceased was not coded if he/she was aged 76 or over: more information about this is available from a separate note which is titled 'Occupation and social class / socio-economic classification').

Before the quarterly and annual births, stillbirths, death and marriage datasets are closed, a computer program is run to produce a list of cases where the codes which were allocated by the Vital Events software and/or staff differ from those which would be allocated by the Computer Assisted Structured Coding Tool (CASCOT) software (which was produced by the Warwick Institute for Employment Research). Each pair of differing codes is examined by an experienced Occupation Coder and, if the CASCOT code seems more appropriate, the code in the Vital Events database is changed to the code which was allocated by the CASCOT software.

Where any doubt exists on coding an occupation, or when what appears to be a new industry is found, details of the case are added to a list which is sent to the Office for National Statistics for clarification on the correct occupation or industry code. When the list is returned to NRS, the occupation (or industry) code for each record which was queried is amended accordingly.

Checking the quarterly and annual tables

Each quarterly and annual Vital Events table undergoes a number of quality checks. These include checking that some key numbers are the same, in every table for which this should be the case (e.g., every table which analyses the number of deaths registered in the year should have the same overall total, apart from those tables which cover only, say, certain types of death). Examples of the figures which are checked for consistency across a number of tables include:

- Births – 'Both sexes', 'Rate', 'Males', 'Females' and 'To unmarried parents';
- Stillbirths – 'Number' and 'Rate';
- Deaths – for both sexes, males and females 'Number' and 'Rate';
- Marriages – 'Number' and 'Rate'; and
- Civil Partnerships – 'Male' and 'Female'.

Other checks include making sure that the figures for the quarters add up to the total for the year, that the figures for Male and Female add up to the total for Both sexes, and that the correct population figures have been used in the calculation of rates.

The figures in all quarterly and annual tables are checked against the statistics which were published for previous periods to make sure that they are in line with those figures.

Where ICD-10 codes for causes of death appear in tables, they are checked to make sure they are within the appropriate range (e.g., all the codes that appear under the heading 'intestinal Infectious diseases' should be in the range 'A00' to 'A09').