

TTP DATA QUALITY REPORT

DATA SOURCE

DATA SUPPLIER:	Health and Social Care Business Services Organisation
DESCRIPTION:	All people registered for primary Care Health Services in Northern Ireland since 1999.
COVERAGE:	Northern Ireland
NUMBER OF RECORDS:	Ranging from 1,7694,00 in October 1999 to 1,948,268 in October 2015. See Total Number of Patients Registered with a Northern Ireland GP (from 1985) for further breakdown ¹ . ¹ Overall counts are available from 1985; however record level information is only available from 1999 to present.

DATA BACKGROUND

The Health Card Registration system is managed by the Health and Social Care Business Services Organisation (formerly the Central Services Agency) and is a database of all people currently and previously registered for primary care health services in Northern Ireland. It also contains data on people from outside of the UK who have registered/deregistered for primary care services in Northern Ireland or people who have moved to/from the rest of the UK and registered in a new Health Authority. The information is collected via links to the GP registration systems present in all NHS General Medical Practices in Northern Ireland – only demographic information is collected; no information is available relating to treatments or medical notes. The data warehouse in BSO currently contains demographic information from October 1999 to January 2016.

When compared to the official population estimates for Northern Ireland the size of the registered list of patients recorded in the Health Care System is slightly inflated. This is due to a number of factors, which include people not being removed from the registration system when they have left the country or have died; fraudulent registrations, where a person is not entitled to access NHS services or duplicate registrations. The 2001 Census published figure of the NI population is 1,685,267. This is 83,206 lower than the 1,768,473 patients registered on the health card system in May 2001, representing an overall list inflation rate of 4.7%. The equivalent 2011 figure for Census is 1,810,863 and 1,896,953 patients registered in 2011 giving a list inflation rate of 4.5%.

The transfer of data between the Business Services Organisation and NISRA is governed by The Statistics and Registration Service Act 2007 (Disclosure of Patient Registration Information) Regulations (Northern Ireland) 2015.

DEMOGRAPHIC INFORMATION

Information available to the TTP for linkage purposes -

- Name - Forename(s), Midname(s) and Surname (previous name information available from historical datasets)
- Address – unspecified address fields plus postcode (previous address information available from historical datasets)
- Gender
- Date of birth
- Date of death

DATA QUALITY & PRE-PROCESSING

Record linkage is highly dependent on the quality of the data being linked. Many key variables can be presented quite differently between datasets as the information has been collected and recorded using different methods. This can greatly complicate record linkage unless understood ahead of time. Pre-processing can be used to standardise these variables into a consistent format prior to linkage.

The figures quoted below are taken from the latest health download received by NILS in October 2015 and is comprised of all live, deceased and emigrated individuals within Northern Ireland who are registered for Primary Care Health Services.

NAME INFORMATION- Name information is available for 100% of records. Midname is populated where applicable.

- Punctuation and characters which do not appear in the English alphabet (e.g. Á , % , \$...) can appear in the name information. A function can be used to replace these with usable characters;

ADDRESS INFORMATION- House number, street name and town of the current address is unavailable for <0.1% of records. Postcode information has improved over time, from 93% (May 2000) to 99% (January 2016) of records having a valid Northern Ireland Postcode. Previous Address and Postcode information is also recorded where applicable.

- Address and Postcode information is standardised prior to linkage.

GENDER- Information relating to the gender of the individual is available for all records.

- Gender information should be standardised prior to linkage.

DATE OF BIRTH- Information is unavailable for a small number of records (<0.0001%).

- Date of birth can be parsed into its constituent parts (day, month and year) prior to linkage

DATE OF DEATH- For individuals who are registered as deceased, date of death is unavailable for <0.001% of cases.

MATCHING METHODS

Using the demographic information provided the following matching can be undertaken-

- Person matching
- Address matching
- Associative matching of other household members

PREVIOUS LINKAGE MATCH RATES

Patient registration information has previously been linked to Births, Deaths, Marriages, Census 2001 and Census 2011 as part of the Northern Ireland Longitudinal Study (NILS). This typically produces a raw match rate between 90% and 99%. More information can be found on the [NILS Metadata](#).

EVALUATION

The patient registration information is generally of excellent quality and can be used for record linkage easily and without extensive pre-processing.