A time series of influenza-like illness incidence in the Netherlands

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This codebook describes the data in the file `ILI_NL_1970_2014.csv`.

The dataset contains a time series of weekly incidence of general practitioner (GP) consultation by patients with influenza-like illness (ILI) in the Netherlands. The data was retrieved from the NIVEL Primary Care Database, Sentinel Practices [1, 2]. The catchment population of the sentinel GP network is approximately 1% of the entire Dutch population. The time series spans a period of 45 years, from January 5, 1970, to June 16, 2014, and is stratified into 10 age classes. In addition to weekly ILI incidence, the total catchment population size per age class is given as well.

The data in used in our study about the estimation of age-specific susceptibility to influenza in the Netherlands, and its relation to loss of CD8+ T-cell memory. The scripts and programs developed for this study to analyse the data are available on GitHub [3].

Basic Specifications

The ILI data is stratified into 10 age classes. The first 5 consisting of 5 year intervals:

- 0-4 years
- 5-9 years
- 10-14 years
- 15-19 years
- 20-24 years

the next 4 consisting of 10 year intervals:

- 25-34 years
- 35-44 years
- 45-54 years
- 55-64 years

and the last class contains:

- 65+ years

The ILI data is aggregated in the age class

- 0+ years

enclosing all ages.

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Fields

The dataset is a time series with a resolution of 1 week. The fields describing time are:

— `season` – every week is assigned to an epidemic season counting from 1969/1970 (season 0)

— `day` – the day of data submission, counting from January 1 1970 (day 1)

— `date` – the date (dd-mm-yyyy) corresponding to the day number

The season is assigned as follows: Each season starts on week 30 of the calendar year[1], and season 0 starts in 1969.

The fields describing ILI are catchment population size (`g`) and the number of reported ILI cases (`f`). These are stratified by age:

age class	population size	ILI cases
0-4	g_0-4	f_0-4
5-9	g_5-9	f_5-9
10-14	g_10-14	f_10-14
15-19	g_15-19	f_15-19
20-24	g_20-24	f_20-24
25-34	g_25-34	f_25-34
35-44	g_35-44	f_35-44
45-54	g_45-54	f_45-54
55-64	g_55-64	f_55-64
65+	g_65+	f_65+
0+	g_0+	f_0+

Censoring

Not all observations are age-stratified. Furthermore, for the data that is not age-stratified, the population size is missing. Instead, ILI incidence per 10 000 is reported. The field `agestrat` describes whether the data is age-stratified (`true`) or not (`false`). If it is not, only the fields g_0+ and f_0+ are non-empty.

References

[1] F. Dijkstra, G. A. Donker, B. Wilbrink, A. B. Van Gageldonk-Lafeber, and M. A. Van Der Sande. Long time trends in influenza-like illness and associated determinants in The Netherlands. *Epidemiol. Infect.*, 137(4):473–479, Apr 2009.

[2] G. A. Donker. *NIVEL Primary Care Database - Sentinel Practices 2015*. NIVEL, Netherlands Institute for Health Services Research, Utrecht, 2016.

[3] C. H. van Dorp. A Gibbs sampler for estimating epidemiological parameters from influenza-like illness time series. `https://github.com/chvandorp/flu-sampler`, 2016.

[1] Notice that many studies take week 40 as the first week of the epidemic season