International Journal of Population Data Science

Journal Website: www.ijpds.org

Profile Matching of Brazilian Birth and Mortality Records where microcephaly is recorded.

Stevens, Antony^{1*}, Maria Leite Costa, Roberta¹, and de Lyra Rabello Neto, Dacio¹

¹Ministry of Health, Brazil

Objectives

In Profile Matching the term “Profile” means that the information available about an individual could be the same as that available for some other individuals.

Reduced versions of birth and mortality records are made publicly available by the Brazilian Ministry of Health and this study covers the years 1996 to 2013. Date of birth, sex and municipality of residence are available in both types of record, so their combination could be studied as a pseudo-identifier. The municipality could be different at the two events so the results outlined here must be seen as a first cut.

Approach

The ICD 10 code for microcephaly is Q02. Among the mortality records where Q02 was recorded either as a basic cause or in one of the other lines there were 1676 combinations of the three variables. All but three of them were unique and the remaining three each occurred with only two records. For 1324 of these records the year of birth was between 1996 and 2013 so that we could reasonably expect these combinations of values among the birth records. However, there were only 204 birth records with combinations that matched and where Q02 was recorded. Possible reasons for the difference could include i) underreporting of births, ii) the failure to detect microcephaly at birth registration and iii) the possibility that microcephaly can only be securely identified sometime after a birth would normally be registered.

Results

Among the birth records there were 2349 combinations where Q02 was mentioned as a birth anomaly. All but seven of them were unique and the remaining seven each occurred with only two records. Corresponding to these combinations there were 1416 combinations found among the mortality records. These

were found in 2149 records. However in only 541 of the mortality records was there a mention of Q02. It appears as the basic cause of death in 204 of these 541 records. It could be that such a small number of deaths attributed to Q02 is consistent with best medical opinion.

Conclusion

It is easy to dismiss these apparent discrepancies as poor recording. Some of it may be, but it could be that doctors were faithful to what they observed. The next step is have a clear picture of what was recorded, like other types of birth defect, when Q02 was not observed in both records of a match.

*Corresponding Author:

Email Address: antony.stevens@gmail.com (A. Stevens)