Data Linkage Service User and Carer Advisory Group Newsletter

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News

CRIS Blog

Dr Anna Kolliakou has written a CRIS blog describing the new CRIS Natural Language Processing (NLP) service. The blog gives information on the development of NLP in CRIS and examples of the applications developed. These applications have now been made available to other researchers and mental health services via the new NLP service. You can read the blog post here.

Data Linkage Animation

At the last group meeting in March there was a presentation describing the creation of an animation with the aim of describing health data linkage for the purposes of research to patients and the public. The animation created by a multidisciplinary team, consisting of members of the SLaM CRIS team, researchers from King's College London and mental health service users, is now completed and available to view here. The video illustrates the process of data linkage and the benefits for researchers, we hope it will be a useful tool in Patient and Public Involvement and beneficial to other organisations conducting health linkages.

Research Spotlight

Impact of Matching Error on Linked Mortality Outcome in a Data Linkage of Secondary Mental Health Data with Hospital Episode Statistics and Mortality Records

Amelia Jewell, Matthew Broadbent, Richard D. Hayes, Ruth Gilbert, Robert Stewart and Johnny Downs

Previous research in the UK has found that individuals with mental health disorders have substantially lower life expectancy in comparison to those without mental health disorders. The UK government has been working to reduce this mortality gap by implementing policies aimed at improving the physical health of individuals with mental illness, however, to inform changes in health policy it is essential that we have good data available on health and mortality in order to understand the trends and underlying causes.

Data from CRIS linked to Hospital Episode Statistics (HES) and mortality data from the Office for National Statistics (ONS) have previously been used to provide evidence of the mental health mortality gap and investigate the potential underlying mechanisms. Data linkages such as that between CRIS, HES and mortality data are an important tool for increasing the use of existing data

resources to support research. However, the success of any data linkage and the quality of the subsequent linked dataset rely on multiple factors, including the data quality and linkage methodology. There are two main types of error that can occur during the data linkage process:

- False matches: where two records that belong to different people match when they shouldn't have.

- Missed matches: where two records that belong to the same person don't match when they should have.

Errors in data linkage can lead to bias in research, therefore we set out to explore the impact of missed matches in the linkage between CRIS, HES and mortality data. We did this by comparing the characteristics (e.g. gender, age, diagnosis) of the matched and missed match groups and then looking at the effect of these differences on the prediction of mortality.

Within the total CRIS group, 93.7% of records were successfully matched to HES and mortality data. We found a number of statistically significant differences between the matched and missed match groups, for example males, individuals of non-white ethnicity, and people who had not had contact with the Trust in the past two years were all significantly less likely to match.

Despite significant differences between people who matched and those who didn't, we found that this did not significantly impact the estimation of mortality. This provides some reassurance to researchers using the linked CRIS data to investigate mortality that linkage error caused by missed matches is not leading to bias in their results.

If you would like to read the article in full, it is available here.

Upcoming

Next Meeting

The next meeting will be held on **Thursday 17th September**, from **4-6pm**, location to be confirmed closer to the time.

Future Newsletters

We are still working remotely so if there is anything that you would like to see in future newsletters or if you would like more information about something mentioned in a newsletter, you can contact us via email: amelia.jewell@slam.nhs.uk / megan.pritchard@kcl.ac.uk.