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The impact of the Population Health Research Network on linked data research capacity in Australia

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Objectives

In 2009 Australian governments and academic institutions made a substantial investment to establish the Population Health Research Network (PHRN), a distributed research infrastructure network which provides Australian researchers with state-of-the-art data linkage facilities and services. The infrastructure operates on a collaborative, national, non-exclusive basis and enables Australian researchers to address key national and global challenges.

We have conducted a review of the PHRN's progress over the last 6 years in achieving its objectives of:

1. Increasing the data linkage research capacity in Australia
2. Enabling research in national priority areas

Approach

Progress with achieving the first objective was measured by comparing the data linkage facilities and services available in Australia in 2008-09 with those available in 2014-15. The following categories of services and facilities were used in the analysis:

- Linkage facilities
- Application, access and storage facilities
- Information, training and education

Changes in usage of the data linkage infrastructure over the period 2008-09 to 2014-15 were measured.

The second objective was achieved by using bibliometrics to assess academic impact, in the form of citations, of peer-reviewed publications which arose from use of the PHRN infrastructure. The topics of all of the publications were compared to health priority areas to determine the extent to which the infrastructure has been used to inform national priorities.

Results

There has been a significant expansion of the data linkage facilities from a small number of jurisdictional data linkage units to a distributed network of data linkage units servicing researchers in every state and territory. A cross-jurisdictional data linkage capability has also been established as well as a national online data application system, a secure remote access laboratory and a secure file transfer system. A variety of information, training and education has been provided to stakeholders. The expansion of the facilities and services has seen usage of data linkage units triple since 2011-12.

The number of peer-reviewed publications resulting from the use of the PHRN infrastructure has increased every year since 2011-12. There were 111 publications in 2014-15. Areas of high burden of disease in Australia, cancer, cardiovascular and endocrine diseases are highly represented in the publications.

Conclusion

There has been a significant increase in data linkage research infrastructure in Australia from 2008-09 to 2014-15. This has resulted in an increase in both the number of research projects conducted using linked data and the number of related peer-reviewed publications.

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