BACKGROUND

The scope of epidemiology research can be enhanced by linking different health & population datasets to allow broader analyses of diverse characteristics. It is therefore important to be aware of the variety of data linkages that can occur.

OBJECTIVE

To determine the types of database (DB) linkages possible within or among various healthcare databases.

METHODS

B.R.I.D.G.E TO DATA® (www.bridgetodata.org), an online resource with 184 population healthcare DB profiles worldwide (as of August 2, 2012), was utilized to identify DBs with data linkage capabilities.

RESULTS – Part 1

- The set of 109 DBs had the following non-exclusive characteristics: 81 (74%) DBs directly linked to another DB (Figure 2A), 19 (17%) had indirect linkage capabilities (Figure 2B), and 38 (35%) were formed through DB linkages (Figure 2C).

RESULTS – Part 2

- Primary linkage methods were use of unique ID or probabilistic matching. Data elements obtainable via linkage varied, but frequently included data on vital status, cancer, hospitalizations, and prescriptions.

LIMITATIONS: This analysis was done using registries currently profiled within B.R.I.D.G.E TO DATA®. More profiles of data sources are continually being added to this resource.

Each of the 75 data fields used in structured profiles in B.R.I.D.G.E can be compared side-by-side to identify DBs with the most appropriate data elements captured within a DB or via linkage capabilities (Table 1).

Table 1. Excerpt from B.R.I.D.G.E TO DATA® Comparing Data Elements in 3 Selected Databases with Linkage Capabilities

CONCLUSIONS

Through the use of a schematic notation system for mapping database linkages, this study highlights a growing number of databases with data linkage capabilities. Specifically, 56% (109/184) of the DBs described on www.bridgetodata.org describe data linkages. While many linkages exist, the most frequent are to regional or health services DBs; common data elements obtained are vital status, cancer diagnoses, hospitalizations, and prescriptions.
Assessing Healthcare Data Linkage Capabilities
Using an Online Database Resource

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