Comparing and Identifying Optimal Healthcare Databases for Comparative-Effectiveness of Breast Cancer Screening

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BACKGROUND

- Comparative effectiveness research (CER) involves a thorough understanding of optimal resources for evaluating and comparing health outcomes and clinical effectiveness of medical treatments or health services.
- This requires familiarity with epidemiology, patient populations in various settings, as well as treatment patterns.
- A powerful step in achieving quality CER is to know which healthcare databases are available and their strengths and limitations.

B. R. I. D. G. E. TO DATA® (B. R. I. D. G. E. : www.bridgetodata.org) is an international resource of database profiles, may serve as one resource for CER studies.

METHODS

Case Study: CER analysts must determine whether differences exist in those related to medication (n=12) and/or hospital (n=14) utilization.

- Of the final set of 22 databases, the most common cost data included although the type of cost information varied (e.g., billing, co-pay, reimbursement).

RESULTS – Part 1

A 100% match was identified either by (i) 100% relevancy ranking OR (ii) adjudication of profiles with an 83% match (5/8 criteria) using supplemental information.

Search results were further narrowed by excluding databases with no data on adults, mammograms, hospitalization, or death. Databases that have linkage capabilities to relevant data included were retrieved.

RESULTS – Part 2

These profiles can be compared side-by-side to identify the most appropriate database(s) for answering the proposed CER question (Table 1). Additional data for consideration may include collection of ethnicity/race data, data access, and validation of data.

<table>
<thead>
<tr>
<th>Database</th>
<th>Cancer Data</th>
<th>Drug Data</th>
<th>Cost Data</th>
<th>Death Recorded</th>
<th>Size (Range)</th>
<th>Resource Type</th>
<th>Restricted</th>
<th>Private Access</th>
<th>Clinical Information</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>B.R.I.D.G.E.</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>&gt; 65 years = 35% (6.6 Million)</td>
<td>Specific Disease Registry</td>
<td>Yes</td>
<td>Yes</td>
<td>Inpatient and Outpatient</td>
<td>Includes data on cancer sites, age, sex, and survival.</td>
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CONCLUSIONS

Within 185 databases profiled, 22 were eligible for this breast cancer screening study. Although this analysis was done using databases currently in B.R.I.D.G.E., it indicates that more databases should consider including cost & laboratory data to facilitate CER studies.

This case study demonstrates how B.R.I.D.G.E.:
- Supports decision-making for database selection in CER studies;
- Serves as a useful tool to identify and compare health database attributes;
- Can be used as a teaching tool for healthcare databases; and
- Serves as a template to augment databases with more useful healthcare data.

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Table 1 Excerpt from B.R.I.D.G.E. comparing data elements in 3 selected databases