



Epidemiology: Database Research

*Answering your
epidemiology and drug
safety questions with
database research.*

Experts in Database Research

With deep experience in automated health care database research, we implement scientifically rigorous safety studies. We understand both the opportunities and limitations associated with using databases for health research. We help our clients determine if it is feasible and effective to use databases to answer their epidemiology and drug safety questions. We routinely conduct database research to gain insight on:

- The relative safety profile of medications, vaccines, and other treatments
- Disease prevalence and public health impact
- Background event rates
- Patient characteristics
- Treatment patterns and drug utilization

- Medication adherence and persistence
- Comparative effectiveness and value of alternative treatments

Select and Access the Best Source of Data

We can help you identify and access the database(s) most appropriate for each study. We have experience with North American and European cross-sectional and longitudinal databases, but we do not have a proprietary position on, nor a contractual commitment to, using any specific database. Our status as a not-for-profit, independent research company allows us to conduct research in a wide range of data sources and to collaborate with other organizations.

We have experience with many cross-sectional and longitudinal data sources, including:

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| General Practice Research Database (GPRD) (UK) | National Death Index |
| The Health Improvement Network (THIN) (UK) | National Health and Nutrition Examination Surveys (NHANES) |
| Saskatchewan Health (Canada) | National Health Interview Survey (NHIS) |
| i3 Innovus Lab Rx | National Hospital Discharge Survey (NHDS) |
| Danish Health databases | National Ambulatory Medical Care Survey |
| Friuli-Venezia-Giulia databases (Italy) | National Medical Expenditure Survey (NMES) |
| Henry Ford Health Care System | National Nursing Home Survey (NNHS) |
| IMS Health | Organ Procurement & Transplantation Network |
| PharMetrics | United Network for Organ Sharing |
| Medstat Commercial Claims and Encounters (CCAЕ) | Drug Abuse Warning Network |
| Health Survey of England (HSE) | Premier Perspective Rx Database |
| Medstat Health and Productivity Management (HPM) | Protocare Sciences |
| Integrated Health Care Information Systems (IHCIS) | Surveillance, Epidemiology and End Results (SEER) cancer registries |
| Medicare and Medicaid claims data | SEER-Medicare |
| Healthcare Cost & Utilization Project | US Renal Data System |
| National Comorbidity Survey (NCS) | Veterans Affairs claims data |

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Epidemiological Methods

We conduct expert data analyses using appropriate analytical methods, including case control, cohort, and other designs. As part of our process, we:

- Access, process, and store data files
- Extract requisite data for each study objective
- Apply appropriate linkage techniques when multiple data sources are used
- Prepare detailed analysis plans

When appropriate, we also:

- De-identify data to comply with IRB, HIPAA, and other applicable regulations
- Apply sampling statistics to allow for robust inferences

- Use a variety of advanced statistical techniques to control for bias and confounding
- Use external sources to validate study outcomes

Custom Reports

We deliver the results of your study in the format of your choice, including:

- Detailed reports and regulatory deliverables
- Technical posters
- Quality-assured data files
- Presentations at professional meetings
- Peer-reviewed journal articles

See How We've Helped Others

Our experts in database research include:

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Each of these staff has led database studies and collaborated on publishing results of the studies in peer-reviewed journals.

Examples of studies include:

- Using the UK General Practice Research Database, we compared the risk of suicide in adults using the antidepressant venlafaxine compared with citalopram, fluoxetine, and dothiepin. The study results were published in the *British Medical Journal*, 2007;334(7587):242-5.
- Using the Health Improvement Network database, we implemented a retrospective cohort study to estimate the time to insulin initiation in patients with type 2 diabetes inadequately controlled on oral glucose-lowering agents. The study results were published

in *Diabetic Medicine*, 2007;24(12):1412-8.

- In collaboration with the German Registry for Serious Cutaneous Reactions and using Mediplus database (IMS Health) Germany, we estimated the risk of Stevens-Johnson syndrome and toxic epidermal necrolysis associated with some antiepileptic drugs. The study results were published in *Neurology*, 2003;64(7):1134-8.

Let RTI-HS Help You

To learn more about our capabilities, please visit us online at www.rtihs.org, email us at rtihealthsolutions@rti.org, or contact one of our experts.