

Retrospective Research

Measure the effects of interventions in real world scenarios to demonstrate value with real world database research

Retrospective research, a component of health economics and outcomes research (HEOR), is needed throughout the product lifecycle to determine, demonstrate, and subsequently communicate the value of a product.

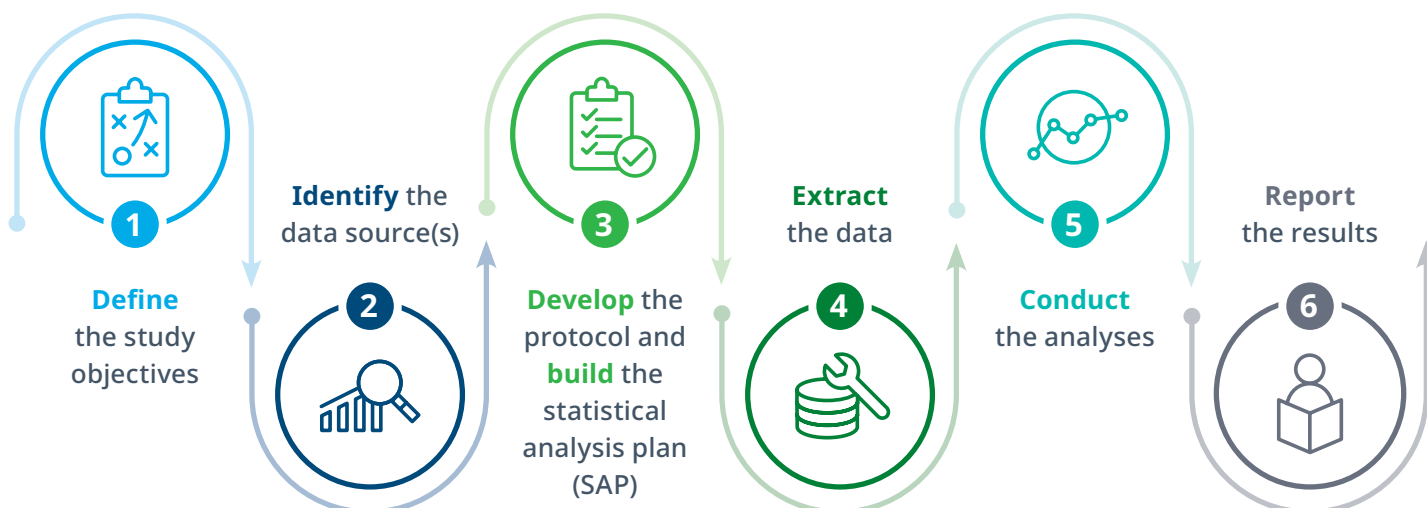
Retrospective research is useful during phases I-III and post launch, and can be used to describe

- Burden of illness (clinical and economic)
- Drug utilization and patient profiling
- Real world effectiveness
- Real world healthcare resource utilization and costs
- Treatment patterns (e.g., adherence, persistence, switch)
- Comparative effectiveness research
- Unmet needs



CRITICAL STEPS WHEN CONDUCTING SCIENTIFICALLY RIGOROUS RETROSPECTIVE RESEARCH

Knowing where to start is often the most challenging part of any research initiative. Once you determine that retrospective research is the proper study design, employing the optimal approach will result in actionable results to determine, demonstrate, and communicate the clinical and economic value of products and services.



1. **Define the study objectives.** Understand the rationale for conducting the study and why the research is needed. Having sufficient details in the objectives will lead to sufficient methodology for a strong overall strategy.
2. **Identify the data source(s).** Before confirming the database to be used, ensure it contains the right data elements to meet the study objectives. You may determine that supplemental real world data is needed to meet your objectives.
3. **Develop the protocol/Build the statistical analysis plan (SAP).** Think of the protocol as setting the scientific blueprint for the study which should be based on formal epidemiological principles. At this time, create both an SAP by an experienced statistician and a data preparation plan so there is a clear set of instructions to operationalize the study objectives.
4. **Extract the data.** Data extraction should be performed by a database expert and there should be clear expectations and adherence to timelines.
5. **Conduct the analyses.** The time it takes for conducting analyses can range from a few weeks to a few months. It's important to have a team with the right experience, education, and training.

Advantages of retrospective research

Real world database research has its benefits, especially if time and budget are top of mind.



Measure the effects of treatment in the real world versus a controlled environment.



Uncover rare exposures.



Assess the economic burden in a real world setting with access to administrative claims, electronic medical records, lab results, hospital data, and pharmacy data.



Gain efficiency when compared to cohort studies.



Supplement randomized clinical trials (RCTs).

CONSIDERATIONS WHEN CONDUCTING RESTROSPECTIVE RESEARCH

All study designs have limitations; however, knowing what those are can help you prepare accordingly to design a scientifically rigorous study.

- Ensure that a structured and scientific approach sets the foundation prior to starting the study.
- Employ strong epidemiologic design and proven analytic methods.
- Apply standard operating procedures (SOPs) to maintain consistency.
- Build the right team, including a principal, medical experts, statisticians, programmers, and project managers.
- Consider where enrichment may add value to supplement existing data by coupling prospective data collection with retrospective database research.

RETROSPECTIVE RESEARCH WITH IQVIA

Bringing together a unique and proven blend of deep therapeutic area domain expertise, scientific rigor, operational excellence, and access to unparalleled data assets, IQVIA can deliver real evidence with real confidence. Meet your clinical, economic, and regulatory needs by tapping into *Connected Intelligence™*.

SOME RELATED SCIENTIFIC PUBLICATIONS UTILIZING RETROSPECTIVE RESEARCH

- **Divino V**, Ramasamy A, Anupindi VR, Eriksen KT, Olsen AH, **DeKoven M**, Meincke HH. Complication-specific direct medical costs by body mass index for 13 obesity-related complications: a retrospective database study. J Manag Care Spec Pharm. 2021 Feb;27(2):210-222. [Full text](#)
- **Divino V**, Wang Y, Beggs C, **DeKoven M**. Characteristics of patients diagnosed with COVID-19 in the US: A descriptive claims-based study from a national perspective. ISPOR Europe 2020; November 16-19, 2020; Virtual Conference. Certificate of Recognition: Top 10%. [Full text](#)
- Most J, Ambrose C, Chung Y, Kreindler J, **Near A**, Brunston S, **Cao Y**, **Huang H**, **Zhao X**, Real-World Assessment of Asthma Specialist Visits Among U.S. Patients with Severe Asthma, The Journal of Allergy and Clinical Immunology: In Practice, 2021. [Full text](#)
- **Near A**, **Tse J**, Young-Xu Y, Hong DK, Reyes CM. 86. Health Resource Burden of Influenza Among the Elderly with Underlying Conditions in the United States. Open Forum Infect Dis. 2020;7(Suppl 1):S174-S175. Published 2020 Dec 31. doi:10.1093/ofid/ofaa439.396. [Full text](#)

Note: Names bolded above are IQVIA employees as of July 2021.

Want to measure the effects of treatments in real world scenarios using retrospective database research?

Learn how IQVIA's real world expertise can help.

Get in touch with an expert today.



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