

The Value of Integrated Health Databases



Integrated health databases offer significant advantages for examining real-world evidence or conducting health economics, outcomes, and services research. A key strength of these databases is the ability to link administrative claims data with medical records, laboratory results, patient or provider survey results, and other publicly available and proprietary data sources. Additionally, these databases allow for research on large populations with multi-year records of utilization, diagnoses, procedures, and prescriptions across a full range of real-world healthcare settings.

Humana Healthcare Research database

Humana Healthcare Research (HHR) partners with a variety of research entities to provide access to our database, which is comprised of more than 13 million unique Medicare Advantage beneficiaries nationwide, of which 6 million are actively enrolled. The database covers more than 53 million person-years, with average continuous enrollment of approximately 5 years. Administrative claims data are integrated with laboratory results and health-related social needs data.

We supplement our claims data using surveys and targeted focus groups to gain a patient perspective on treatment, symptoms, health-related social needs, and quality of life. We use beneficiary and provider contact information to facilitate interventional and educational investigations and utilize medical records retrieval to obtain additional clinical variables not frequently available in claims data. We reliably link different data sources with a unique identifier for each beneficiary.



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Features of our integrated health database



Beneficiary characteristics

Available information on beneficiary characteristics includes:

- Demographics
- Benefit and plan type
- Comorbidities and Elixhauser Comorbidity Index, Charlson Comorbidity Index, RxRisk-V score
- Geographic location of residence
- Dual eligibility for Medicare and Medicaid
- CMS low-income subsidy

Well-populated race/ethnicity data sourced from CMS



Healthcare resource utilization and spending

Comprehensive information on healthcare utilization across inpatient and outpatient settings is available. Examples include:

- Inpatient admissions and length of stay
- Outpatient, emergency department, and physician office visits
- Outpatient pharmacy prescriptions
- Skilled nursing facility admissions
- Home health utilization



Laboratory results

In addition to administrative claims data, we have lab values available based on Logical Observation Identifier Names and Codes (LOINC), for 10 million individuals or 75% of beneficiaries. Examples of laboratory results include:

- Diagnostic tests
- Urinalysis
- Blood tests
- Other data per client's request depending on study objectives and feasibility



Supplemental data sources

In addition to administrative claims data, we have lab values available based on Logical Observation Identifier Names and Codes (LOINC), for 10 million individuals or 75% of beneficiaries. Examples of laboratory results include:

- Mortality information
- Medical records retrieval
- Population level social determinants of health
- Individual level health-related social needs and quality of life (e.g., Healthy Days)
- Qualitative surveys and focus groups

Humana Medicare Advantage beneficiary data (2007-2024) by claims type include:

13 million

Beneficiaries with
medical claims

12 million

Beneficiaries with
prescription claims

10 million

Beneficiaries with
laboratory results

10 million

Beneficiaries with
prescription and
medical claims
and lab results

Compliance with data privacy regulations

HHR maintains and uses data in compliance with the HIPAA Privacy Rule (45 CFR Part 160 and Subparts A and E of Part 164). When possible, the team will create either a deidentified dataset or a limited dataset with unique study identifiers rather than Personal Health Identifiers. If identifiers are necessary to accomplish the study goals, the team will obtain a specific waiver of the HIPAA authorization requirements from an Institutional Review Board (IRB) or will seek IRB approval for the conduct of the study. The team works with Datavant to link external sources of data, such as vaccine registry data or program data, to create limited datasets in a secure manner.

Humana Healthcare Research capabilities

HHR is a health services and outcomes research subsidiary of Humana Inc. HHR focuses on research topics in treatment effectiveness, drug safety, adherence, medical and pharmacy benefit design, pragmatic trials and recruitment, health-related social needs, and many others. The capabilities within HHR include retrospective database analysis, prospective research, decision analysis, survey development and implementation, and distributed research collaborations. HHR research staff includes PhD-trained researchers, statistical analysts, and clinicians. Team members have many years of experience in outcomes and health economic research and managed care, as well as Humana-specific business knowledge. This includes detailed knowledge of changing pharmacy benefit designs and disease management programs. HHR researchers have published extensively in peer-reviewed journals and presented papers and posters at national and international conferences on a variety of disease conditions and study methodologies.

Future data landscape

As HHR's data landscape matures, we continue to focus on integration of new data sources into our database. Examples of future opportunities include:

- EMR data from subsidiary organizations such as our 300 CenterWell™ clinics, which care for approximately 300,000 seniors
- Other EMR data from physician groups and hospital systems Humana contracts with
- Vaccine registry data
- Traditional Medicare claims data



About Humana Healthcare Research

Humana Healthcare Research delivers scientific research and real-world evidence of critical healthcare issues for the purpose of improving industry-wide quality of care and population health. Through the publication of peer-reviewed research, our work is used to help guide business decisions, inform the scientific community, and contribute to the body of knowledge for society at large.

Learn more about this or other Humana Healthcare Research studies at research.humana.com.



For inquiries about data licensing,
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