# Going Beyond Claims: Unleashing the Power of Diverse Healthcare Datasets in Clinical and HEOR Assessments

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## INTRODUCTION

- Retrospective medical claims data are a cornerstone in health economics and outcomes research (HEOR) and support evidence-based decision making by providing visibility into different aspects of patient care across the US
- Traditional HEOR models are reliant on claims data given accessibility, cost, and breadth of capture; however, the development of drugs for nuanced, clinically sophisticated patient populations, has driven the development of a multi-data source model that provides specificity, variety, and veracity by leveraging a broader ecosystem of data offerings
- This study highlights specific use-cases best enabled by the intersection of different data sources and provides a framework for HEOR leaders to evaluate their data acquisition needs

## OBJECTIVES

- To evaluate real-world data sources collected from a diversity of healthcare nodes, highlight key differences in the breadth & depth of data capture, map data types to common HEOR use-cases, and develop a framework to define, identify, and acquire data assets with sufficient level of capture & specificity for HEOR analyses

## DISCUSSION

- Assessments of common but complex HEOR use cases indicated a requirement for data assets beyond traditional healthcare claims, including:
  - *Burden of Illness & Inpatient Treatment Journey – evidence generation requiring visibility into inpatient hospital events and associated management cost to support the launch of an acute care rescue treatment, enabled by analysis of hospital chargemaster and validated & scaled with closed claims*
  - *Patient Finding for Rare Disease – identifying and classifying patients diagnosed with a rare condition (without a specific ICD-10 code) required laboratory test results (i.e., genetic testing); linking these with open claims allowed for creation of a predictive model to identify potentially undiagnosed patients*
  - *Epidemiology & Patient Journey – closed claims data with continuous enrollment details was selected to provide a denominator for disease prevalence projections, and was supplemented with EHR data for additional details into treatments that occur within a mixed care setting*
  - *KOL Identification & Influence Mapping for Value & Access Assessment – a linked dataset consisting of open claims to analyze provider-level metrics, affiliations data for mapping of practice-level referral patterns, and KOL metrics from Compile were selected to assess HCP influence within a treatment network*
- Several considerations impact data selection to unlock HEOR research questions - often demanding the careful consideration of different types of data (linked and unlinked with claims)
- Data source selection for complex research studies (e.g., rare genetic disease, acute inpatient managed indications) is nuanced and requires a strong understanding of data representation, capture, schema functionality, and limitations
- The decision framework provides a starting point for the assessment of data assets and should be leveraged alongside expertise from industry partners when designing studies to ensure research objectives are achieved at the right level of clinical specificity

## METHODS

- A review of different RWE sources, including claims, hospital chargemaster, electronic medical records (EMR), and laboratory data was conducted to assess factors such as data granularity, data completeness, and capture of clinical and economic metrics for specific HEOR use cases
- Dataset review was paired with a targeted literature review of published material on data sources, product catalogs, and data dictionaries for United States based data products
- A decision-making framework for the selection of different types of data was then developed based on common HEOR use cases

## CONCLUSION

- Real world evidence (RWE) is a powerful tool when leveraged correctly using expertise to design and perform analyses for data-driven HEOR studies
- The data ecosystem is complex and rapidly evolving, with a need to understand the schema, ability to build linkages, and a nuanced understanding of different datasets (e.g., claims, hospital chargemaster data, etc.) to effectively address research questions
- Our framework provides a preliminary overview of the data selection process and highlights the role of experts with a data/vendor-agnostic mindset to recommend tailored solutions and liberate the full potential of secondary data analytics in life sciences

## RESULTS

### Data Source Overview

| Characteristics | Closed Claims | Open Claims | EHR | Hospital Chargemaster | Lab Data/Genomics |
|---|---|---|---|---|---|
| ***Data Source*** | *Payer-Direct/ Employer* | *Clearinghouses (Claims Processing Intermediaries)* | *EHR Software Vendors or Provider Groups* | *Hospital Discharge Records (Hospital Setting Only)* | *Lab Testing Companies* |
| ***Vendors Evaluated*** | *Merative MarketScan, Komodo, IQVIA* | *Komodo, Forian, Compile, Symphony Health, IQVIA* | *Explorys, Cerner, OptumHealth, IQVIA Oncology EMR* | *Premier, TruvenHealth, IQVIA* | *LabCorp, Quest Diagnostics* |
| Population Capture (Sample Volume) | Low | High | Low | Low | Low |
| Longitudinal Capture | High | Medium | Medium | Medium | Low |
| Diagnosis/ Procedure Detail | High | Medium | Medium | High | High |
| Treatment Detail* | High | Medium | Medium | High | Low |
| Site of Care Detail | High | Medium | Low | Low | Low |
| Healthcare Cost Detail | High | Medium | Low | High | Low |
| Lab/ Diagnostic Test Results | Low | Low | High | Low | High |

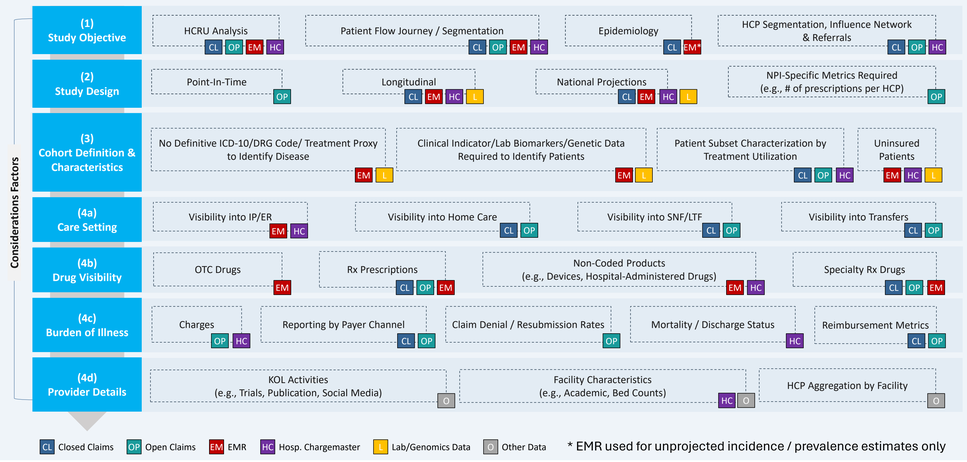
Capture Legend: High Medium Low

* Treatment Detail evaluated as treatment capture within the data source care setting

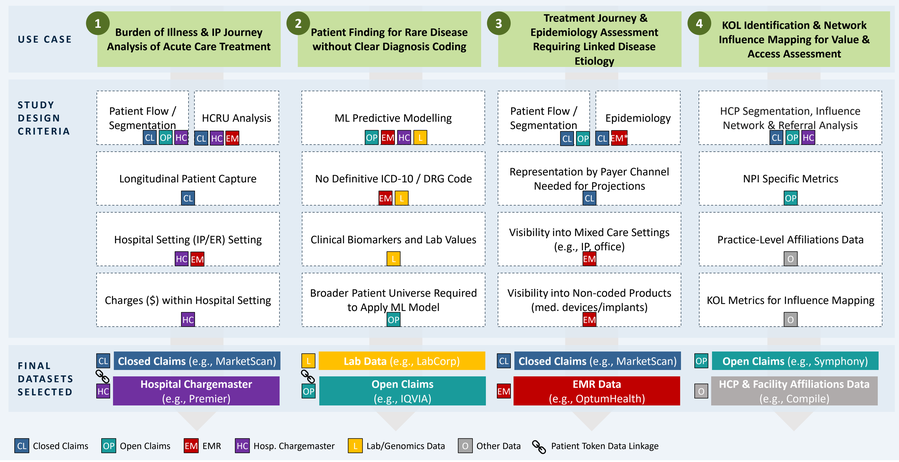
### Additional Data Sources

| Type | Description | Examples |
|---|---|---|
| **Provider & Affiliations Data** | • Provides physician metrics such as practice location, KOL/publication status, institution-level insights (e.g., parent networks affiliated with practice, facility size by bed count, academic status)<br>• Applicable for use cases where additional physician metrics, or facility characteristics are required | Definitive Healthcare, Compile, Veeva |
| **Hospital-Level Survey** | • Provides survey-based dataset that offers visibility into hospital facility infrastructure insights | American Hospital Association |
| **Registries** | • Provides patient and physician information systematically collected from nationwide medical services and EHR data | AllStripes, Inovalon |
| **Drug Distribution Data** | • Provides visibility into granular sales trends of drugs/ products within facility types and specialties, with the ability to examine at individual facility or IDN/ GPO level<br>• Note that drug utilization/ degree of wastage is not captured through this data type | IQVIA Drug Distribution Data |
| **National Sales Data** | • Provides dollar and unit sales for pharmaceutical products across multiple distribution channels, including retail, mail, and non-retail<br>• Data is collected from a panel of wholesalers, distributors and pharmaceutical manufacturers and projected to a national total | IQVIA National Sales Perspectives, Symphony Metys |

### Data Source Selection Decision Making Framework




### Sample Use Cases Applied to Decision Framework

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## LIMITATIONS

- Overview of common RWE data sources and comparison of data vendors are not comprehensive, instead this offers a snapshot of the most leveraged data products across the life sciences / biopharma industry to enable publication-grade HEOR studies
- Rapid evolution, expansion of product offerings in the RWE data ecosystem will likely shift the qualitative scoring of data sources covered in this poster

## REFERENCES

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Trinity Past Work (2020-2023)

## ACRONYMS

EHR: Electronic Health Record; ER: Emergency Room; DRG: Diagnosis-Related Group; HEOR: Health economic and outcomes research; HCRU: Healthcare Cost and Resource Utilization; HCP: Healthcare Practitioner; ICD-10: International Classification of Disease 10th Revision; IP: Inpatient; KOL: Key Opinion Leader; NPI: National Provider Identifier; OTC: Over-The-Counter; Rx: Pharmacy; Tx: Treatment

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