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## Maximizing the Value of Real-world Data in HEOR – **A Comparative Assessment of Claims and EMR Sources in Europe**

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### Introduction

- The European real-world data (RWD) landscape is heterogenous both regionally and by source. Current European Medicines Agency (EMA) cataloguing of realworld data sources centers on regionally and clinically confined datasets (e.g., oncology-specific registry data in Sweden) with limited utility in population-level health economics and outcomes research (HEOR) studies.
- **Evaluation of existing RWD sources with HEOR potential** (i.e., EMR and claims data) is thus required to unlock large-scale, generalizable studies while simplifying the

### **Objectives**

- Evaluated a group of available EMR and claims data sources in the EU, analyzing the advantages and limitations of each source across geographies and in the context of **HEOR use cases.**
- Outlined **HEOR use case examples** and associated RWD selection considerations in multiple EU geographic regions.

### Methods

- Developed a framework to identify potential European EMR and payer claims data sources and assess fit & utility in answering research questions, including epidemiology and HCRU.
- **Characterized two EMR data vendors in depth IQVIA and Cegedim** – based on patient and HCP coverage, geographical representation, therapy area (TA) specificity, and degree of usecase enablement.
- **Evaluated the availability of public payer claims datasets in EU5** countries and leveraged findings from this research to develop a map for dataset selection in sample HEOR studies.

### Results

- Few sources have comprehensively catalogued EMR data available across the European Union. Flatiron and TriNetX cover small oncology specific populations in Europe with variable capture of HCPs. TriNetX curates EMR data for oncology related indications across geographies on a case-by-case basis.
- IQVIA captures the broadest spectrum of indications through EMR systems, with over 23M active patients and 11K HCPs in the EU5. Cegedim covers a similar number of HCPs, but with a slightly smaller pan-indication patient population (~11M).
- While IQVIA and Cegedim provide TA-agnostic EMR records, some indications are less represented across regions as select geographies only offer EMR data from general practitioners (GPs). This is the case for IQVIA and Cegedim in Italy, the United Kingdom, and, in Cegedim's case, France.
- In terms of geographic capture, IQVIA derived most (~64%) of its active patients from Germany with a lower proportion of total coverage in France (~12%) and the UK (~15%). Alternatively, Cegedim derived most of its patient coverage from France (~42%) and the UK (~25%) with lower proportional capture in Germany (~15%).
- Unlike EMR data, which is sourced from individual healthcare organizations (HCOs), EU5 claims data is sourced largely from payer databases, which allow for large, TA-agnostic samples of patient data. Select private vendors, e.g., IQVIA, LOGEX, and H1, offer patient claims, however suitability for HEOR use cases is limited due to restrictions on the types of patient interactions captured. IQVIA only captures pharmacy claims in Europe and H1 only captures medical claims at an institutional level, thus limiting utility for HEOR studies.
- Public payer databases offer more robust, national level medical and pharmacy claims databases. Data in France is sourced from SNIIRAM through the French National Healthcare Data System (SNDS) and covers ~99% of the patient population. German claims data is sourced from statutory health insurance (SHI) sickness funds (e.g., DAK-Gesundheit, Barmer), which can cover large proportions of the publicly insured population, allowing for extensibility of the research.
- Claims data from both the Italian National Health Service (NHS) and Spanish National Health System (SNHS) follow a different model, due to the decentralized nature of each. Robust Italian claims datasets exist, but they capture data at the regional, local health unit (LHU) level without any aggregator offering a national perspective. Similarly, the Spanish structure maintains its own information systems at a regional branch level and RWE studies are thus heterogenous across the country. Trinity was unable to identify any public payer-based claims studies in the UK.
- Relative to EMR datasets, payer-based claims datasets displayed higher utility for HEOR studies due to larger sample sizes, range of capture across care settings, and ability to track

patients longitudinally. EMR data provided higher clinical specificity but was limited by lack of capture across geographies and care settings. Additionally, European claims data was limited by publication requirements and extensive timelines to data access.

#### **Vendor Comparison Table** Figure 1

	Pan-indication coverage		Oncology indications only	
	IQVIA (EMR)	Cegedim	Flatiron	TriNetX
Patient Coverage				
France	2.8M	4.5M	NA	NA
Germany	15M	1.6M	10K	14K
Italy	1.2M	900K	NA	NA
Spain	960 K	1M	NA	2К
United Kingdom	3.5M	2.6M	40K	NA
Total (across EU5)	23.5M	10.6M	50K	16K
HCP Coverage				
France	1.8K	3.0K	NA	NA
Germany	3.3K	1.2K	NA	NA
Italy	NA	0.7K	NA	NA
Spain	3.5K	4.4K	NA	NA
United Kingdom	2.5K	1.8K	NA	NA
Total (across EU5)	11.1K	11.1K	NA	NA
Therapy Area Agnostic (Y/N)	Y (DE, FR, SP), N (IT, UK)	Y (DE, SP), N (FR, IT, UK)	N (oncology)	N (oncology)
Example Use-Cases	Outpatient HCRU analysis based in Germany	Outpatient patient journey analysis based in France	Oncology-specific patient journey analysis based in the UK	Oncology-specific HCRU analysis based in Germany

#### Figure 2 **Scenario / Decision Mapping**



### Discussion

### Limitations

- EMR vendor assessment elucidated a high degree of variability in patient and HCP coverage across geographic regions in the EU and across specialties and therapy areas. For some regions (e.g., Germany) strong TA-agnostic EMR data exists. For other regions, however, EMR use is limited by GP-only sourcing or lower volumes of overall capture.
- With careful design considerations, EMR data can be leveraged to conduct HEOR studies for various indications, albeit results would likely be of lower confidence relative to studies leveraging claims, due to gaps in HCO coverage especially in regions covering only general practices.
- Neither the list of EMR vendors nor the countries considered for public payer claims data are exhaustive. Future studies can expand this research to a broader network of public and private RWD providers within the EU.
- EMR offers the advantage of more streamlined access due to being sourced from private vendors, whereas public claims access can extend timelines as life sciences companies will need to partner with public institutions in designing and extracting data.
- As part of data selection for a given HEOR study, life sciences organizations should consider whether longitudinal patient capture across care settings and geographies is relevant for the specific research needs.

### Conclusions

Myriad RWD is available for HEOR studies in Europe. Where substantial clinical or patient cohort specificity is required (e.g., TA-specific burden of illness), EMR data vendors with varying geographical and care setting coverage can meet this demand. For many other use-cases (e.g., epidemiology, HCRU quantification), payer claims data is preferred due to its capacity for longitudinal capture and breadth of coverage.

- The rapid evolution in the RWE landscape requires continuous **monitoring**, with new vendors entering the market, existing vendors expanding their access, and EU countries with public payer systems standardizing regional information systems.
- This study represents information acquired directly from vendors, and quantitative metrics are based on self-reported figures from these vendors.

### References

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