RWD82

Expediting Oncology Evidence Generation by Leveraging EMR-enabled Clinically-rich Real-World Data at Scale

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OBJECTIVES

- Clinically valuable real-world evidence (RWE) in oncology usually requires granular, up-to-date data at a scale that facilitates exploration of diverse and specific patient sub-groups.
- For such RWE generation to be commercially sustainable, reliability, agility and efficiency in data sourcing is a key advantage.
- This research describes an electronic medical record (EMR)-enabled site-based approach that addresses common RWE barriers such as the extended timelines required for the identification and abstraction of large cohorts of patients.

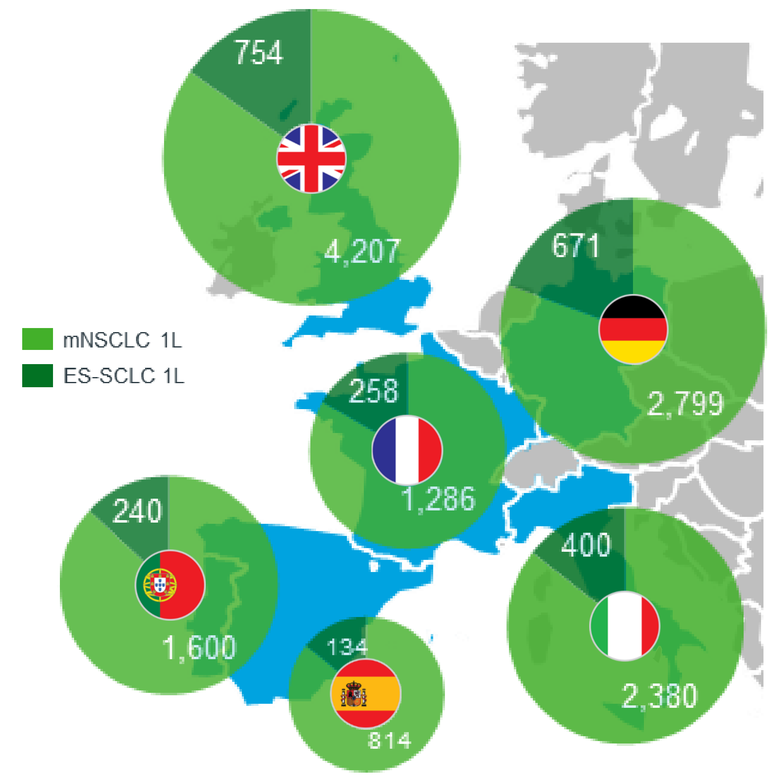
METHODS

- IQVIA's Oncology Evidence Network (OEN) includes over 50 strategic partners amongst leading hospitals and cancer networks engaged in delivering high-quality Real-World Data (RWD) within commercially competitive timelines (over 20 lung cancer studies completed).
- Partners are systematically characterized based on their (self-assessed) comprehensive infrastructure, including data availability, integration capacity and longitudinal follow-up.
- For this analysis, we focused on RWE on advanced lung cancer at 1st line of therapy (1L), a key oncology indication of interest.

RESULTS

- We assessed 14 OEN Core Partner sites across 6 European countries, including 13,086 patients treated for metastatic non-small cell lung cancer (mNSCLC) and 2,457 patients treated for extensive stage small cell lung cancer (ES-SCLC).
- Cohort sizes varied by site and country across the network (Figure 1), with average patient numbers ranging between 474 per site (Spain) and 1240 per site (UK) over 5 years.
- Of the detailed patient variables sought to generate real-world oncology endpoints (Table 1), almost all are captured in longitudinal patient records in the sites assessed (Figure 2) across all geographies. The proportion of these variables in a 'research-ready' structured format for extraction varied by geography.
- Of the 14 sites assessed, almost all (13) reported that information on most of the key lung cancer biomarkers was available for treated patients through the use of gene panels (Figure 3). Within these 13, biomarkers were usually available for the full cohort .

Figure 1 Cohorts of patients treated over 5 years with at least one line (1L) of systematic anti-cancer therapy (SACT) for lung cancer available in OEN Partners assessed (n=14 sites), by country. (Overall cohorts: mNSCLC=13,086; ES-SCLC=2,457)



mNSCLC = metastatic non-small cell lung cancer; ES-SCLC = extensive stage small cell lung cancer

Table 1 Variables assessed in this research for a) availability and b) nature of variable storage (structured vs unstructured)

Data variables for which availability was assessed	
Demographics	Age at diagnosis; sex; country and region
Patient history	History of other primary malignancy; prior malignancy treatments; family history of malignancy
Data at diagnosis	First diagnosis date; external diagnosis records; disease stage first diagnosis; comorbidities; ECOG/Karnofsky score; tumour TNM score; metastasis sites; tumour histology; tumour grade; blood/pathology results
Treatment variables	ECOG/ Karnofsky score; drug/regimen name; drug/regimen date; drug/regimen dose; line of therapy; surgery; radiotherapy; clinical trial participation
Clinical outcomes	Progression event details; last follow up date; date of death; surgical outcomes; radiographic measurements; haematological adverse events; interstitial lung disease (ILD)

Figure 2 Availability of assessed variables by geography for each site (n=14), showing the proportion that are already structured for research use in the datasets

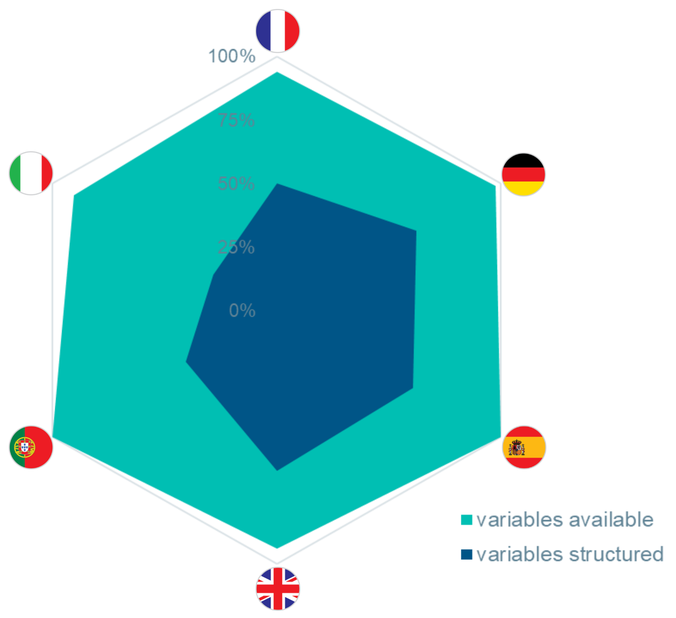
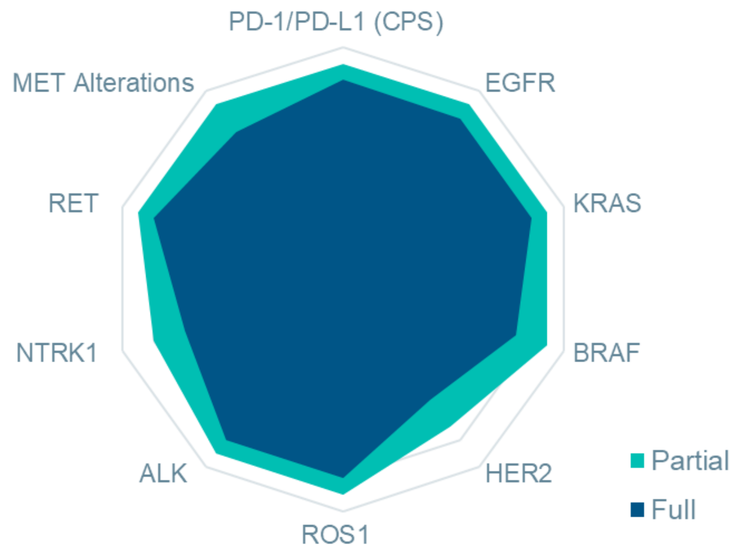


Figure 3 Availability of test data for key lung cancer biomarkers at each site assessed (n=14), showing the degree to which full cohort reporting was available



CONCLUSIONS

- **The IQVIA Oncology Evidence Network (OEN) has been developed to be a reliable single source of Europe-wide oncology data that is comprehensive, up to date, clinically rich and accessible for the efficient generation of RWE (typical data capture period across the network is 3 months).**
- **Although OEN seeks to partner with hospital sites with a high degree of structured variables for ease of extract, this analysis demonstrates the challenge of obtaining fully structured RWE-relevant variables in longitudinal data across health economies.**
- **The longitudinal nature and completeness of data capture from Partner Site EMR, including the availability of biomarker testing data, is of central importance in answering research questions on oncology treatment outcomes. Ready availability and consistency of clinical variable capture, along with strong data partnerships, allows efficient and expedited RWE generation.**

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