The role of Real-World Data and Real-World Evidence in Australia, EU4 and UK

RWD14

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Background and Objectives.

Evidence from randomized clinical trials (RCTs) remains the global standard for assessing treatment efficacy. However, Real-World Data (RWD) and Real-World Evidence (RWE) can complement RCTs, especially when RCT data alone is insufficient for guiding healthcare decisions. RWD/RWE can support both pre-authorisation and post-approval assessments by regulatory authorities, scientific committees and national competent authorities. Despite this potential, more efforts are needed to increase RWD/RWE collection to ensure timely access for regulators [1]. In post-market activities, such as pharmacovigilance, the use of routinely collected patient health data from various sources beyond RCTs has become a benchmark. However, the use of RWE is less established in the early stages of drug development.

In Europe, projects involving RWD have been initiated in recent years. Notably, the European Medicines Agency (EMA), together with the European Medicines Regulatory Network (EMRN), is working to integrate RWD into regulatory decision-making [2]. Under the oversight of the EMA-HMA Big Data Steering Group, these organizations are developing a sustainable framework to support the use of RWE throughout the entire product lifecycle [1]. However, the collection and application of this data vary significantly across European countries.

In Australia, while state and territory hospital systems have mechanisms for collecting health outcomes data, there is no national coordination. As a result, this data is not readily available for evaluating health technologies under Australia's funding schemes, nor is it consistently collected in a way that addresses clinical and cost-effectiveness questions. The Reference Committee for Australia's ongoing HTA Review has identified the lack of data infrastructure and standards as a key barrier to utilizing RWE for assessing clinical and cost-effectiveness.

This research explores variations in RWD collection and RWE uses in the health technology assessment (HTA) of Australia, EU4 (France, Germany, Italy, Spain) and the UK.

Methods.

Information on RWD collection and RWE usage for Australia, EU4 (France, Germany, Italy, Spain) and the UK were gathered from published HTA documents, official HTA websites and relevant literature.

The research was centrally coordinated by ProductLife Group global, with local research conducted by PLG's Market Access teams in each country to ensure region-specific insights and accuracy.

Conclusion.

The collection and use of this RWD and RWE vary significantly across countries. France and the UK benefit from national databases that record population-level medical information, while Italy, Spain, and Germany primarily rely on registries for highly specialized drugs (312 drugs monitored by Italy, 83 by Spain, and only 7 by Germany). Australia utilizes both databases and registries. In European countries, RWE is not extensively used in regulatory decision-making, as the European Medicines Agency (EMA) focuses on a risk-benefit ratio. However, RWE supports post-marketing evaluations, except in Germany, where RCT data remains the gold standard. In Australia, RWD and RWE play an increasingly significant role in decision-making, including during the approval process. The UK is also enhancing RWD collection with the launch of its Real-World Evidence Framework in June 2022.

In conclusion, while the value of RWE is becoming more recognized, the global landscape remains fragmented. There is a need for more focused leadership and collaboration across countries and institutions. European countries have recorded increased appreciation for RWD and RWE, but their use remains limited. Although Australia places greater emphasis on RWD/RWE, all countries analyzed lack a centralized, well-established framework to support health technology assessments (HTAs) with shared guidelines across nations.

Results.

The HTA authorities in the countries analyzed lack a transparent and well-organized framework for data collection. Systems for RWD collection and utilization are inconsistent, varying significantly between countries, with no centralized or standardized approach to gathering and using this data for health technology assessments.

AUSTRALIA

Key sources of RWD in Australia that may inform HTA include electronic health records, hospital episode data, claims data and patient registry data (both product and disease specific), chart reviews, clinical audits, and observational cohorts. RWD and RWE have played an increasingly significant role in supporting decision-making across the health technology pipeline, including:

HTA (Reimbursement Approval)

- To estimate the real-world comparative (cost) effectiveness of health technologies relative to standard of care or existing treatments.
- To generate inputs for (cost) effectiveness analyses by providing insights into real-world resource use and associated costs.

HTA (Post Reimbursement-Listing)

- To contribute to clinical practice guidelines, comparing guideline-recommended care to actual real-world practices.
- To support continuous assessment of real-world use, safety, (cost) effectiveness and the economic impact of health technologies in diverse populations and complex healthcare settings. This includes performance monitoring for health technologies subsidised under provisional arrangements (e.g. managed entry or pay-for performance) and post-market review for newly listed therapies.
- To evaluate the impact of subsidy changes on real-world use and outcomes for specific health technologies.
- To empower patients by providing outcomes of treatments for patients with similar characteristics, enabling more informed treatment choices.

While RWE is accepted in HTA submissions in Australia, the degree to which it influences decision-making varies. RWE has been successfully incorporated into treatment pattern analyses, estimates of patient population size, financial impact assessments, and the development of real-world comparator data. However, in some cases, the role of RWE is less defined, and its acceptance remains inconsistent [3].

FRANCE

The French National Health Data System (SNDS) is the largest claims database in Europe and a significant advancement in analyzing and improving population health. Managed by the National Health Insurance Fund for Salaried Workers (CNAMTS), the SNDS integrates multiple data sources, including:.

- Health Insurance data (SNIIRAM database)
- Hospital data (PMSI database)
- Medical causes of death (Inserm CépiDC database)
- Disability- related data (from MDPH - CNSA data)

A sample of data from Supplementary Health Insurance organizations.

In 2019, the «Organisation and Transformation of the Health System» law expanded the SNDS from a single database into a broader system of interconnected databases. The same year, the Health Data Hub was established, authorized to provide access to data from the expanded SNDS [4].

In France, Real-World Evidence (RWE) is not typically used in regulatory decision-making but plays a critical role in post-marketing evaluations. This is particularly true for innovative drugs, where a five-year re-evaluation of pricing and reimbursement often includes RWE to address data gaps. RWE also plays a role in Early Access Programs, where payers expect companies to design RWE solutions that address efficacy, effectiveness, and comparative value versus new treatments. Additionally, RWE is used to validate intermediate endpoints with clinical outcomes in these programs.

GERMANY

In Germany, RCT data are the primary evidence used before marketing authorization and are the main determinant for decisions regarding pricing, reimbursement, and market access. During evaluations, the Institute for Quality and Efficiency in Healthcare (IQWiG) assesses the additional benefits of a new drug compared to the standard of care. Real-World Evidence (RWE) can be used to help define this standard of care. Companies can include RWE studies in Module 3 of their value dossiers to estimate disease prevalence, incidence, and to quantify target populations. However, there are significant obstacles to both the generation and use of RWE in Germany, primarily related to data quality and privacy concerns. Despite these challenges, interest in RWE has grown, particularly following the 2015 legislation that promoted healthcare research and supported the collection of Real-World Data (RWD) [5].

ITALY

In Italy, the collection of Real-World Data (RWD) is not standardized. The only structured system is the AIFA (Italian Medicines Agency) monitoring registry, an IT system that allows uniform access to treatments across the country by monitoring prescriptive appropriateness. Co-managed with the Regions, this system also helps plan and manage the use of medicinal products subject to monitoring, as well as control related expenditures. Medicines and new therapeutic indications, especially high-cost drugs such as biologics, are frequently monitored through these registries. Many of these medicines have undergone centralized (often accelerated or conditional) approval processes, and their risk-benefit ratio may evolve based on evidence collected during real-world use. Currently, there are approximately 300 active registries in Italy [6].

Additionally, the new guidelines (Ministerial Decree of 2 August 2019) for compiling dossiers to support reimbursement and pricing applications acknowledge the importance of an RWE-based approach. In section B, regarding the clinical condition, the guidelines explicitly allow the use of RWD, preferably from the Italian context, to estimate the prevalence and incidence of diseases and to define the eligible population for the treatment [7].

SPAIN

In Spain, Real-World Data (RWD) is collected through a national registry called Valtermed, which focuses on medicines with high social and economic impact that are reimbursed by the healthcare system. Managed by the Ministry of Health, the purpose of Valtermed is to provide the necessary information to support price and reimbursement decisions throughout a product's lifecycle. Selected physicians and hospital pharmacists within the public healthcare system are authorized to input data into the registry. The information gathered is crucial for shaping price and reimbursement conditions for high-impact medicines [8].

UK

In the UK, RWE is used to complement RCT data, particularly in cases of ongoing evidence collection. RWE is generally not used as a substitute for RCT data unless there is a clear reason why RCTs are impractical, such as therapeutic areas where conducting randomised trials is difficult. RWE plays a more significant role in the post-regulatory context, especially in supporting economic agreements.

The UK has the Clinical Practice Research Datalink (CPRD), a real-world research service supporting retrospective and prospective public health studies as well as interventional research. It operates in collaboration with the UK Department of Health and is financed by the National Institute for Health and Care Research (NIHR) and the Medicines and Healthcare products Regulatory Agency (MHRA). CPRD works closely with primary care providers, research networks, and NHS Digital.

In June 2022, NICE (National Institute for Health and Care Excellence) launched a Real-World Evidence Framework aimed at optimizing data collection. This initiative is part of the NICE Strategy 2021-2026, a five-year plan focused on leveraging RWE to address evidence gaps, improve decision-making, and increase patient access to innovative health technologies. The framework is designed to identify the need for RWE in reducing uncertainties and advancing clinical guidelines [9].

Country	Actual impact of RWD/RWE in decision making	Future value of RWD/RWE in HTA
Australia	50%	70%
France	30%	70%
Germany	20%	40%
Italy	20%	50%
Spain	40%	70%
UK	60%	80%

Figure 1: Role of RWD/RWE across countries

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