Increasing utility of integrated real-world data throughout the product lifecycle to support healthcare reimbursement

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Background

Regulatory agencies and health systems are increasingly formalizing the expectations for integration of real-world data (RWD) within market access and Health Technology Assessment (HTA) submissions. While randomized control trials (RCTs) remain the standard for providing efficacy and safety data, their restrictive eligibility criteria and controlled settings often result in populations and comparators misaligned with real-world practice.[1-3]

The Food and Drug Administration (FDA)'s 2023 guidance recognizes the increasing utility of RWD in and emphasizes that RWD can be used to support clinical investigation design, inform comparator selection, and provide evidence for regulatory decisions. The FDA acknowledges that RWD sources can generate evidence complementary to traditional clinical trials (particularly valuable in rare diseases, pediatric populations) where RCTs are challenging or infeasible. However, the guidance does caution that organizations must implement robust quality assurance processes when using RWD to ensure compliance with standards of credibility and scientific rigor.[4]

For HTA, RWD utility is expected to become even more impactful as health systems balance innovation with financial sustainability. Traditional HTA frameworks rely on trial-derived efficacy, modeled effectiveness, and cost-effectiveness analyses that may not always reflect actual treatment patterns and outcomes in practice. RWD directly captures real-world effectiveness, treatment persistence, healthcare utilization, and patient outcomes, data which is increasingly relevant in allowing HTA bodies to make informed recommendations. Additionally, RWD characterizes how therapies perform in populations that will actually receive treatment, including elderly patients or those with comorbidities, populations often excluded from trials but constituting the majority of real-world recipients.

This literature review examines how organizations are strategically embedding RWD into evidence planning to anticipate HTA requirements, strengthen value propositions, and optimize reimbursement negotiations across diverse health systems.

Objectives

This review aimed to characterize evolving regulatory expectations and HTA body positioning on RWD integration, identify industry approaches to embedding RWD within product development and launch strategy, and assess how emerging technologies and methodological advances are enabling more efficient and robust RWD applications. We sought to provide actionable insights on developing integrated evidence plans that align RWD generation with specific HTA requirements while optimizing timelines for regulatory approval and favorable reimbursement outcomes.

Methods

We completed a structured literature review of recent publications and regulatory guidance published 2022–2025 addressing RWD applications in HTA, including FDA's 2025 RWD guidance for drug development, EMA's guidance on RWD generation, and industry position papers.[4-9]

Conclusion

Integration of well-designed and timely RWD studies into health economics and outcomes research planning is increasingly important for achieving favorable reimbursement outcomes and faster access pathways, especially in rare diseases. Organizations will benefit from developing integrated evidence plans that encompass transparent and robust RWD within their product development and launch strategy, aligned to the broader HTA and regulatory requirements. Proactive RWD embedding at early development stages enables organizations to anticipate jurisdiction-specific evidence needs and position evidence packages for expedited review.

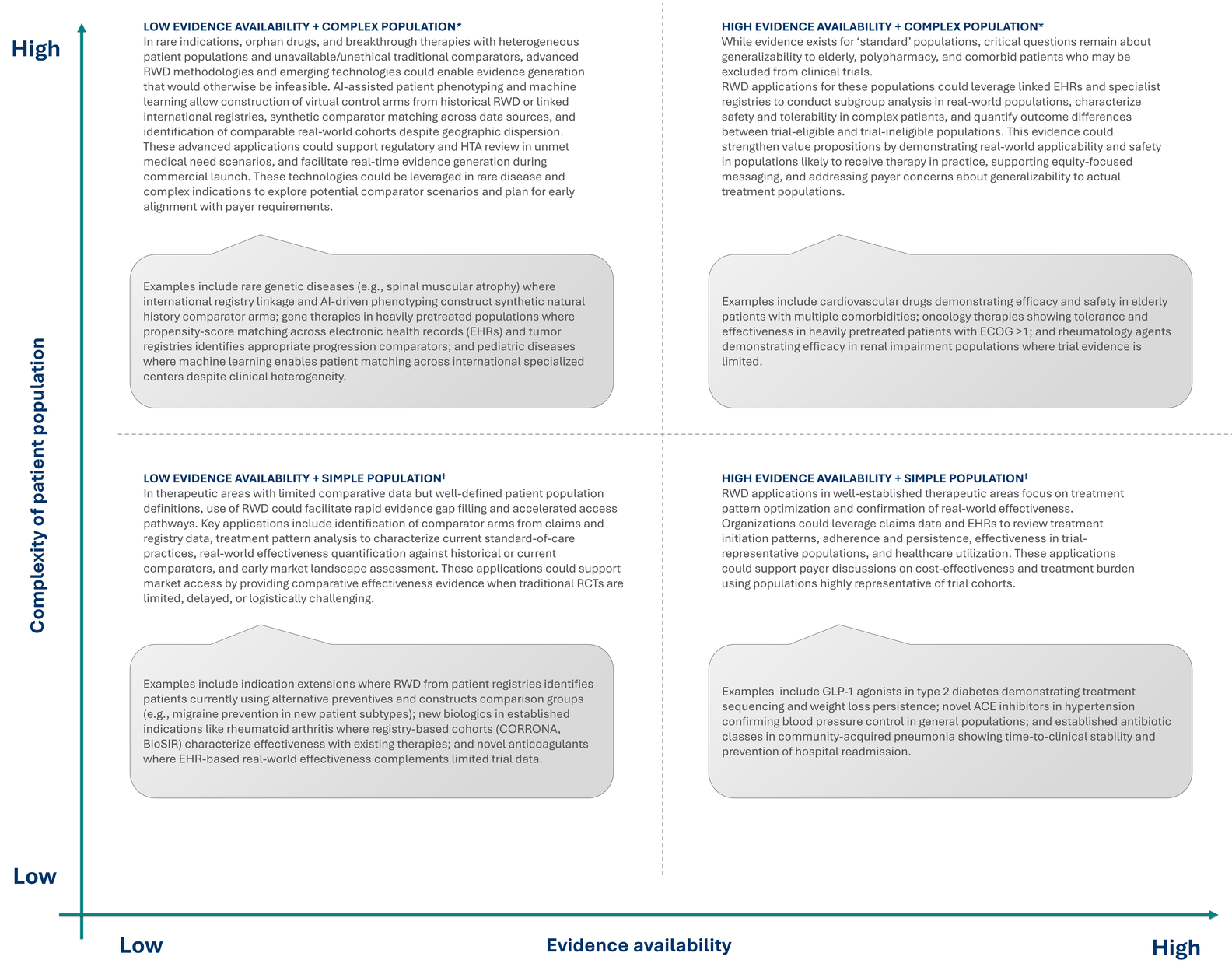
Adopting a lifecycle approach that integrates RWD planning alongside clinical trial design, rather than treating RWD as post-launch surveillance, strengthens competitive positioning and optimizes evidence efficiency. Leveraging real-time data capabilities and emerging technologies including machine learning and synthetic control arms enables organizations to plan prospectively for payer questions and support outcomes-based contracting discussions. Maintaining methodological transparency across all RWD applications is essential for regulatory credibility and payer confidence.

Future HEOR and market access strategy should regard RWD generation as foundational infrastructure to support robust product value demonstration and improve patient access. Organizations that embed RWD as core evidence infrastructure will achieve faster reimbursement timelines, stronger negotiation positioning, and ultimately improved patient access to health technologies addressing unmet medical needs.

Results

Regulatory agencies and HTA bodies are increasingly formalizing RWD integration expectations,[2-11] though with notable heterogeneity by jurisdiction and indication. The potential application of RWD within evidence summaries is largely determined by the level of evidence available and the complexity of the patient population, which is illustrated in Figure 1.

Figure 1. Considerations for integration of real-world data in product development and launch strategy based on patient population complexity and evidence availability



*Complex populations were defined as those with heterogenous patient populations, subgroups widely excluded from clinical trials, and populations with complicated treatment considerations (e.g., polypharmacy, multimorbidity requiring management with contraindicating medications).

†Simple populations are those with well-defined disease characteristics and typically are common conditions.

References
1. Zoccali C, Tripepi G. Real-world evidence and observational studies: Methodological challenges in clinical research. Eur J Clin Invest. 2026;56:e70153. doi:10.1111/eci.70153
2. Capkun G, Corry S, Dowling O, et al. Can we use existing guidance to support the development of robust real-world evidence for health technology assessment/payer decision-making? International Journal of Technology Assessment in Health Care. 2022;38(1):e79. doi:10.1017/S0266462322000605
3. Alipour-Haris G, Liu X, Acha V, Winterstein AG, Burcu M. Real-world evidence to support regulatory submissions: A landscape review and assessment of use cases. Clin Transl Sci. 2024 Aug;17(8):e13903. doi: 10.1111/cts.13903. PMID: 39092896; PMCID: PMC11295294
4. Use of Real-World Evidence to Support Regulatory Decision-Making for Medical Devices. (2025 final version) https://www.fda.gov/regulatory-information/search-fda-guidance-documents/use-real-world-evidence-support-regulatory-decision-making-medical-devices
5. Guide on real-world evidence provided by EMA: support for regulatory decision-making (2024) https://www.ema.europa.eu/en/about-us/how-we-work/data-regulation-big-data-other-sources/real-world-evidence
6. Journey towards a roadmap for regulatory guidance on real-world evidence (2025). https://www.ema.europa.eu/en/about-us/how-we-work/data-regulation-big-data-other-sources/real-world-evidence
7. Real-world evidence framework to support EU regulatory decision-making 3rd report on the experience gained with regulator-led studies from February 2024 to February 2025. https://www.ema.europa.eu/en/documents/report/real-world-evidence-framework-support-eu-regulatory-decision-making-3rd-report-experience-gained-regulator-led-studies-february-2024-february-2025_en.pdf
8. Real-world evidence framework to support EU regulatory decision-making 2nd report on the experience gained with regulator-led studies from February 2023 to February 2024. https://www.ema.europa.eu/en/documents/report/real-world-evidence-framework-support-eu-regulatory-decision-making-2nd-report-experience-gained-regulator-led-studies-february-2023-february-2024_en.pdf
9. Real-world evidence framework to support EU regulatory decision-making Report on the experience gained with regulator-led studies from September 2021 to February 2023. https://www.ema.europa.eu/en/documents/report/real-world-evidence-framework-support-eu-regulatory-decision-making-report-experience-gained-regulator-led-studies-september-2021-february-2023_en.pdf
10. NICE real-world evidence framework 2022. https://www.nice.org.uk/corporate/ecd9/chapter/overview#real-world-data-and-its-role-in-nice-guidance
11. Integration of Heterogeneous Data and Evidence towards Regulatory and HTA Acceptance (IDERHA) Report on Global Regulatory Best Practices Analysis: A scoping review of HTA and Regulatory RWD/RWE policy documents 2024. https://www.iderha.org/public-consultation