HEVA

Health Economics and Value Assessment

What is HEVA?

➢ **HEVA: Health Economics and Value Assessment**

- **Health economics** is the application of economic principles and methods to the production, distribution, and consumption of health and healthcare, with the aim of improving efficiency, equity, and value in health systems. It examines how scarce resources can be allocated to maximize health outcomes.

- **Value assessment** is a systematic evaluation of the benefits, costs, and trade-offs of healthcare interventions (e.g., drugs, devices, programs) to determine their relative worth, often incorporating dimensions such as clinical effectiveness, cost-effectiveness, equity, and patient preferences.

- Together, **health economics and value assessment** provide an evidence-based framework for deciding *which interventions should be funded, how they should be priced, and who should have access to them* under resource constraints.

Workgroup Overview

- **Mission:** To empower the OHDSI community to improve health by collaboratively generating reliable evidence on comparative value and economic impact. The workgroup will develop and promote open-source tools and standardized methods that meet the requirement of HTA bodies and payers
- **Core Objectives:** advance data standards (e.g., the evolution of the OMOP CDM for cost data), develop open-source analytics (e.g., the CostUtilization package), generate high-impact clinical evidence on value, and foster multi-stakeholder collaboration

Real World Use Cases

Past (evidence-based)

Hepatitis C antivirals (e.g., sofosbuvir)

- *Patient impact:* Cure of chronic infection; avoided cirrhosis, transplant, premature death
- *Economic evaluation:* Cost–effectiveness showed high upfront price offset by avoided downstream costs and QALY gains
- *Value:* Improved survival, quality of life, and justified broader patient access

Future (planning)

Gene therapies for rare pediatric diseases (e.g., spinal muscular atrophy)

- *Patient impact:* Potential to transform prognosis; independent mobility and extended survival for children
- *Economic evaluation:* Weighs multimillion-dollar cost vs. lifetime health gains, reduced care needs, caregiver productivity
- *Value:* Captures patient + family quality of life, equity of access, and supports new payment models

Imperative of Standardized Health Economics

- **Beyond Clinical Trials**
  - *Efficacy*: performance under ideal RCT conditions
  - *Effectiveness*: performance in real-world practice
- **The Value Imperative**
  - Medical interventions must demonstrate *value* (effectiveness vs. cost)
  - HEOR using RWE as the tool for this demonstration
- **Market & Policy Requirements**
  - HTA bodies (e.g., NICE, ICER) and payers mandate value evidence for reimbursement and access
- **The Challenge**
  - Skepticism due to:
    - Data provenance concerns
    - Methodological opacity
    - Limited reproducibility
- **→ Therefore: Standardized health economics is critical for credibility, comparability, and trust.**

Challenges in Real-World Financial Data

Challenge	Explanation
Data heterogeneity and semantic ambiguity	RWD sources (EHRs, Claims) exist in disparate formats, the semantic meaning of financial terms vary by system and geographic region (e.g., 'Cost', 'Charge', 'Payment' are defined different among US fee-for-service environments and European tariff-based systems).
Methodological opacity and bias	Reliance on ad-hoc study designs and non-standardized methods elevates the risk of bias. Approaches to cost standardization for inflation and geography are rarely shared transparently, preventing external replication.
Infrastructural inefficiency	Organizations frequently develop custom solutions for common analytical tasks, resulting in inconsistency, redundancy, high execution costs, and prolonged times for evidence generation.

The OHDSI solution and the HEVA workgroup

- The OHDSI ecosystem addresses these challenges by adopting an open-science framework built upon three interconnected pillars of standardization

Pillar 1: Standardized Data Representation (The OMOP CDM)	Provides a framework for harmonizing disparate data sources, ensuring both structural consistency (the format) and semantic consistency (the meaning) of economic data.
Pillar 2: Standardized Analytical Methods	The adoption of scientifically validated, pre-specified analytical methods, including standardized approaches to neutralize exogenous price variation (inflation, geography, contractual differences).
Pillar 3: Standardized Software and Infrastructure	Utilization of a shared, open-source software stack ensures that methods are implemented consistently and transparently, enabling large-scale, reproducible evidence generation.

Conclusion: building trust through open science

- The analysis of healthcare costs using real-world data requires rigorous standardization to yield valid, credible insights for HEOR. This standardization operates on two levels: data representation and analytical methodology.
- The modernized OMOP CDM (version 5.5+) provides the necessary architecture through normalization, ensuring semantic accuracy and clear provenance. Adherence to THEMIS/HEVA ETL conventions is mandatory.
- During analysis, methodological standardization is required to neutralize exogenous price variation. The development of open-source tools like the CostUtilization package facilitates the consistent application of these methods.
- The HEVA workgroup invites the global HEOR community to adopt these standards and collaborate in the generation of reliable evidence on value, accelerating patient access within a sustainable healthcare ecosystem.

2025 OHDSI Global Symposium

- Oct. 7-9
- The HEVA workgroup leaders want to meet with all interested people here
- ✓ If you have real-world cost data and have always wanted to do HEOR research using the OHDSI framework for pharma internal decision making or publications, this your opportunity.

Workgroup Logistics

How to Sign Up:

- Navigate to the OHDSI website: OHDSI – Observational Health Data Sciences and Informatics
- Click on 'Workgroups' -> 'Join our workgroups'
- Fill out the google form and find HEVA under the section that says 'Select the workgroups you want to join (you can refer to the OHDSI workgroups page to learn more about each group, including objectives, accomplishments and upcoming goals):'

Workgroup Frequency: Once a Month

Upcoming meetings:

-we will meet twice this September (09/2025) to discuss CDM changes and Themis conventions

-we will meet once more before the global symposium to discuss the specific CostUtilization package

Workgroup leadership:

-Gowtham Rao (rao@ohdsi.org)

-Gaurav Dravida (Dravida@ohdsi.org)

-Lana Shubinsky (shubinsky@ohdsi.org)