

# HMO Research Network's Virtual Data Warehouse

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### What is the HMORN VDW?

The HMO Research Network (HMORN) Virtual Data Warehouse (VDW) is a public, non-proprietary data model designed for health care research and analytics. Implementing the VDW removes duplicative work within an institution by maintaining a single extract, transform, load (ETL) process that creates commonly used tables and variables.

### Implementation

VDW specifications are defined by data concepts rather than by the source systems that feed the model. For example, the VDW Pharmacy table contains one record per dispensing transaction per patient per drug per day regardless of which and how GH data systems capture the transaction.



- Extract Transform Load**
- Remove duplicates w/in and across systems
  - Remove returned to shelf dispensings
  - Remove reversed claims
  - Rename, reformat, revalue, translate variables and values
  - Collapse dispensings to VDW row definition

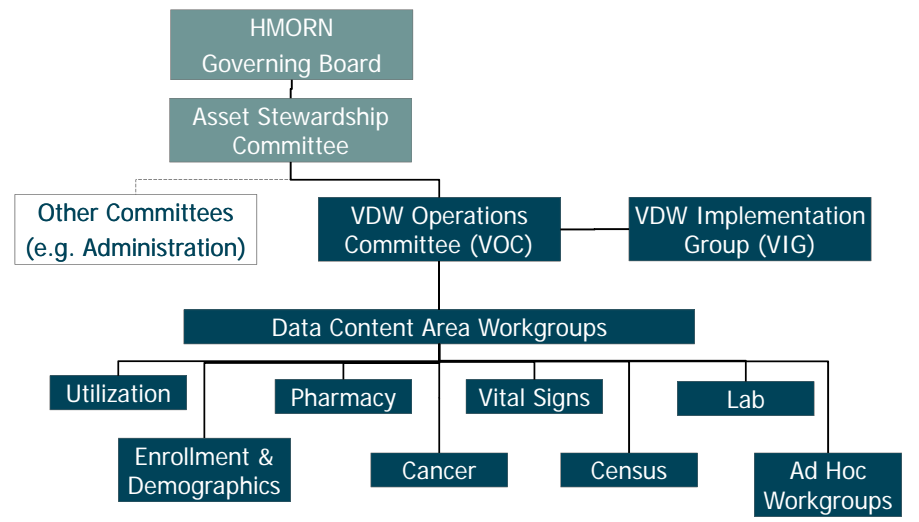
VDW Pharmacy Table Definition			
Variable	Definition	Values	Comments
MRN	Identifier unique to an individual	Character, unique to each HMO	Foreign key to other VDW Demographics table
RxDate	Date of dispensing	numeric(4)	
NDC	National Drug Code	char(11)	Expunge any place holders (e.g. hyphens or extra digits)
RxSup	Days supplied	numeric(4)	
RxAmt	Amount dispensed	numeric(4)	Number of units (pills, tablets) dispensed. Net amount per day per NDC.
RxMD	Prescribing MD	Character, unique to each HMO	Foreign key to VDW Provider table

### VDW in Use

The Group Health Research Institute (GHRI) makes use of the VDW for virtually all of the research projects that use Group Health data. Similarly, nearly all HMORN research data activities use the VDW for their analysis. Evaluations of GHRI initiatives such as the Medical Home, Predictive Modeling, and Content of Care have also made use of the VDW in their analytics.

### Governance

The VDW Operations Committee (VOC) is chiefly responsible for the governance of the VDW overseeing the VDW Implementation Group and multiple content-specific workgroups. This entire group meets in-person twice per year over multiple days and each committee meets once per month via phone.



### Distributed Querying Capabilities

The VDW has been implemented at 17 HMO Network organizations including Group Health, 7 regional Kaiser Permanente entities, Health Partners, and Geisenger. Because these organizations have adopted this common data model, analytics performed at one entity may be easily replicated at all other institutions enabling the aggregation or benchmarking of data and analytics.

