



Data Report Card prepared for CUSTOMER by Atropos Health

July 2024

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01. Introduction

About Us

Atropos Health is the developer of GENEVA OS™ (Generative Evidence Acceleration Operating System), the operating system for rapid healthcare evidence across a robust network of real-world data (RWD). Healthcare and life science organizations work with Atropos Health to close evidence gaps from bench to bedside, improve individual patient outcomes with data-driven care, expedite research that advances the field of medicine, and more. We aim to transform healthcare with timely, relevant, real-world evidence (RWE).

Overview of Real World Data Score™ and Real World Fitness Score™

The rise of networks linking many RWD sources from multiple providers is creating new paradigms for healthcare research and drug safety surveillance. RWDS™ and RWFS™ present the advantage of transparency as the metrics and weights used to calculate each score can be available along with the final scores themselves. This capability now comes native with the installation of Atropos Health's GENEVA OS, a cloud-based federated technology that can be installed atop existing healthcare data lakes. Across the growing Atropos Evidence™ Network, users can now evaluate which dataset may be most appropriate for their given query. By making the data grading process clear and reproducible, Atropos Health takes the guesswork out of selecting appropriate healthcare data for clinical or research inquiries or even for training predictive AI models.

Real World Data Score™ and Real World Fitness Score™ set the standard for data grading, enabling the precise, transparent evaluations of the quality for evidence generation and use in predictive modeling

it is critical for clinicians and researchers to understand the quality, appropriateness and bias that may exist in the underlying data used. The grading and quality evaluation of data must be context specific to the question being asked or event being predicted.



[Read More](#)

02. Your Scores

**Real World Data
Score
RWDS
87.4
(0-100 scale)**

**Real World Fitness
Score
RWFS
75.2
(mean)
(0-100 scale)**

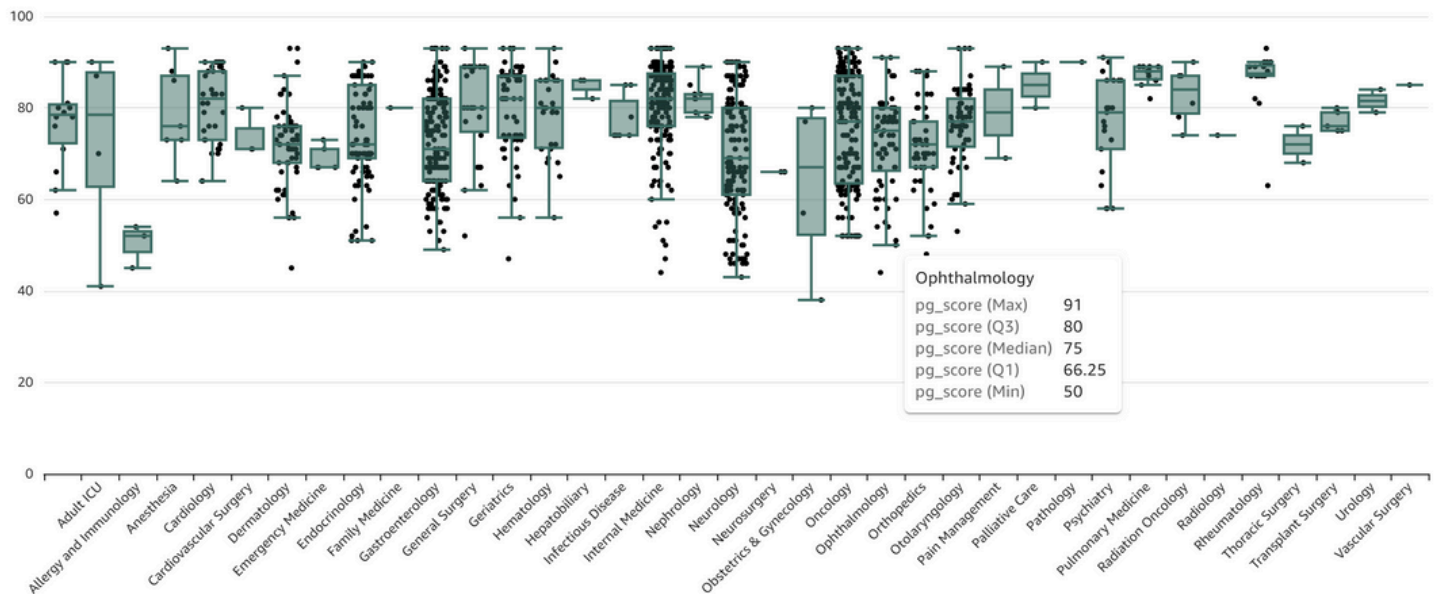
Data Evaluation Summary:

Strengths:

Data Density of Patients
Longitudinality / richness of the data
High Average RWFS and RWDS

Weaknesses:

No mortality data
Small size (66M) compared to leading RWD



Report Date: July 2, 2024
Test Date: June 2024

Data Set: _CUSTOMER_____
Run By: _PB_____

Data Summary

- This dataset contained ~XX million patients in the United States
- Atropos Health implemented our Clinical and Cost Common Data Model (CDM) on the data
- Two types of Data Grades were calculated. Grading at the consult level Real World Fitness Score (RWFS) and across the entire dataset Real World Data Score (RWDS).
- **The RWDS for this CUSTOMER dataset is 87.4 which represents a strong performance.** The mean RWDS on the Atropos Evidence Network is less than 80
- To calculate the RWFS, **1,357 existing Prognostograms from Alexandria™** (fka Atropos Evidence™ Library) were successfully re-run on the CUSTOMER data out of 3,959 attempted, which translates to a **success rate of 34.3% - an acceptable level**
 - Reasons for re-run failure included calling on features not available in the CUSTOMER data, cohorts that were too small for propensity score matching
- The median combined cohort size of the completed studies was **17,325 patients**, which suggests strong density and availability of relevant data.
- **The average (mean) CUSTOMER RWFS is 75.2 (SD11.31) which compares favorably to the Atropos Evidence Network of 69.6 (SD 11.69)** - which is approximately .5 of a standard deviation above the mean

Suggested Improvement(s) and Potential Impact

- Add tokenized mortality data
 - This has the potential to raise the mean RWFS 6-8 points across the board and allow hundreds more consultants to be run successfully
 - This has the potential to raise the RWDS to 95.2, which is comparable to the leading commercial RWD products used by life science organizations, and far above average

03. RWDS Detail

Real World Data Score Detail

The dataset-wide scoring using Atropos Health's Real World Data Score, which compares attributes of the CUSTOMER data against "ideal" attributes and proportions, shows a very favorable outcome- 87.4. Another commonly used national dataset that is comparable in size and usage to CUSTOMER and used by many life sciences companies commercially scored 84, for example.

If CUSTOMER added tokenized matched death data from a commercial provider, the RWDS would increase to 95, making it comparable to the highest quality, largest RWD data sets that we have scored historically.

RWDS Components (Partial List)

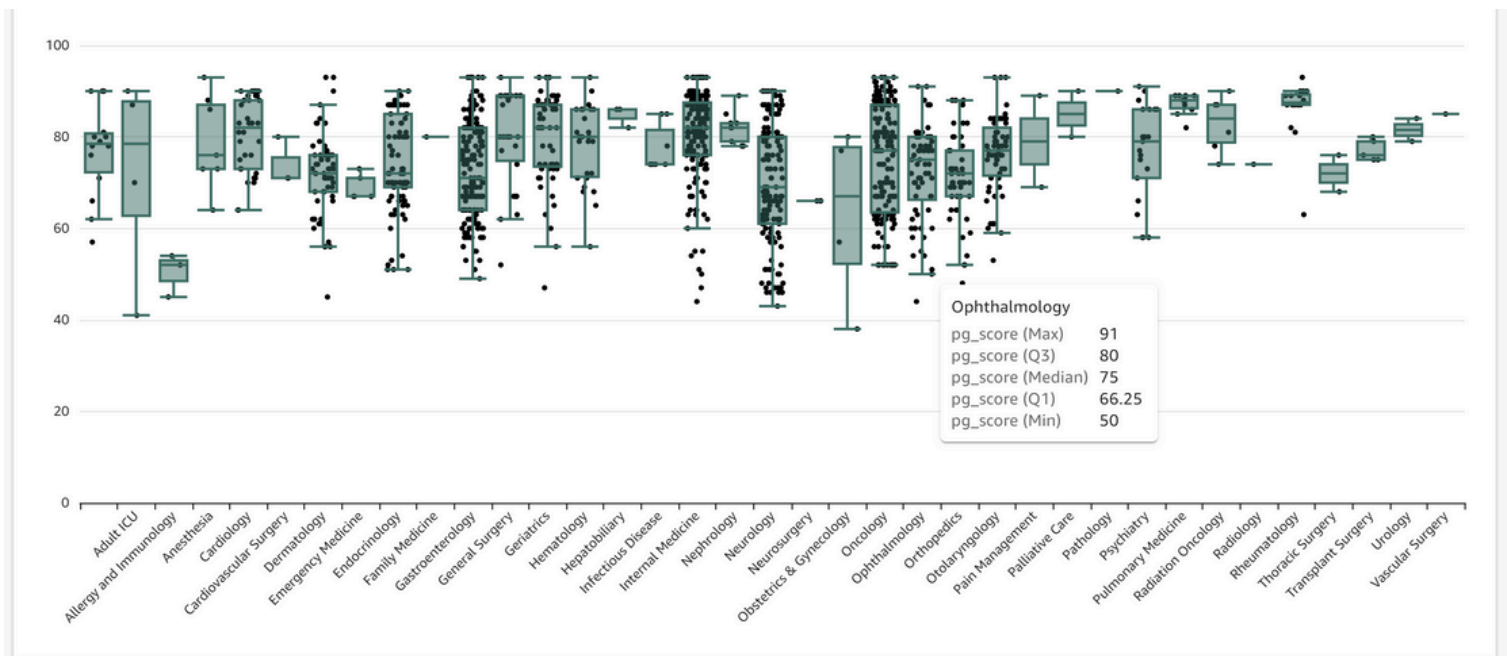
Description	Count	% of Ideal
Total patient count	66,410,331	N/A
Count of patients with any utilization	1,877,080	28.26%
Complex patients: Patients with 1+ years between first & last Dx with 10+ events	26,043,872	130.72%
Longitudinal patients: Patients with 5+ years between first and last events	31,025,887	93.44%
Patients with 2+ events in or after 2018	39,971,499	120.38%
Patients with 2+ events in or after 2015	44,624,543	111.99%
Patients Aged 0-17 with 1+ years between first & last Dx with 10+ events	251,192	37.82%
Patients with Dx for Cardiovascular Diseases	15,770,771	118.74%
Patients with Dx for Conditions originating in the perinatal period	2,067,623	155.67%
Patients with Dx for Congenital or Chromosomal abnormalities	3,488,013	175.07%
Patients with Dx for COVID-19	5,020,942	756.05%
Patients with Dx for Dermatological Diseases	17,563,725	264.47%
Patients with Dx for Digestive System Diseases	19,003,826	143.08%
Patients with Dx for Endocrine or Metabolic Disorders	22,094,672	166.35%
Patients with Dx for Genitourinary System Diseases	18,096,550	136.25%
Patients with Dx for Diseases of the blood and blood-forming organs	8,316,059	125.22%
Patients with Dx for Infectious Diseases	14,087,933	212.13%
Patients with Dx for Mental or Behavioral Disorders	17,603,123	132.53%
Patients with Dx for Musculoskeletal or Connective Tissue Diseases	23,181,026	116.35%
Patients with Dx for Nervous System Diseases	14,625,850	220.23%
Patients with Dx for Ophthalmological Diseases	18,096,079	27.25%
Patients with Dx for Pregnancy or Childbirth-related Indications	2,282,984	114.59%
Patients with Dx for Respiratory System Diseases	23,843,009	179.51%

04. RWFS Detail

Real World Fitness Score Detail

This graph shows boxplots of the RWFS by Therapeutic Area of the consult that was run to produce the RWFS, highlighting particularly strong areas where CUSTOMER data can be utilized.

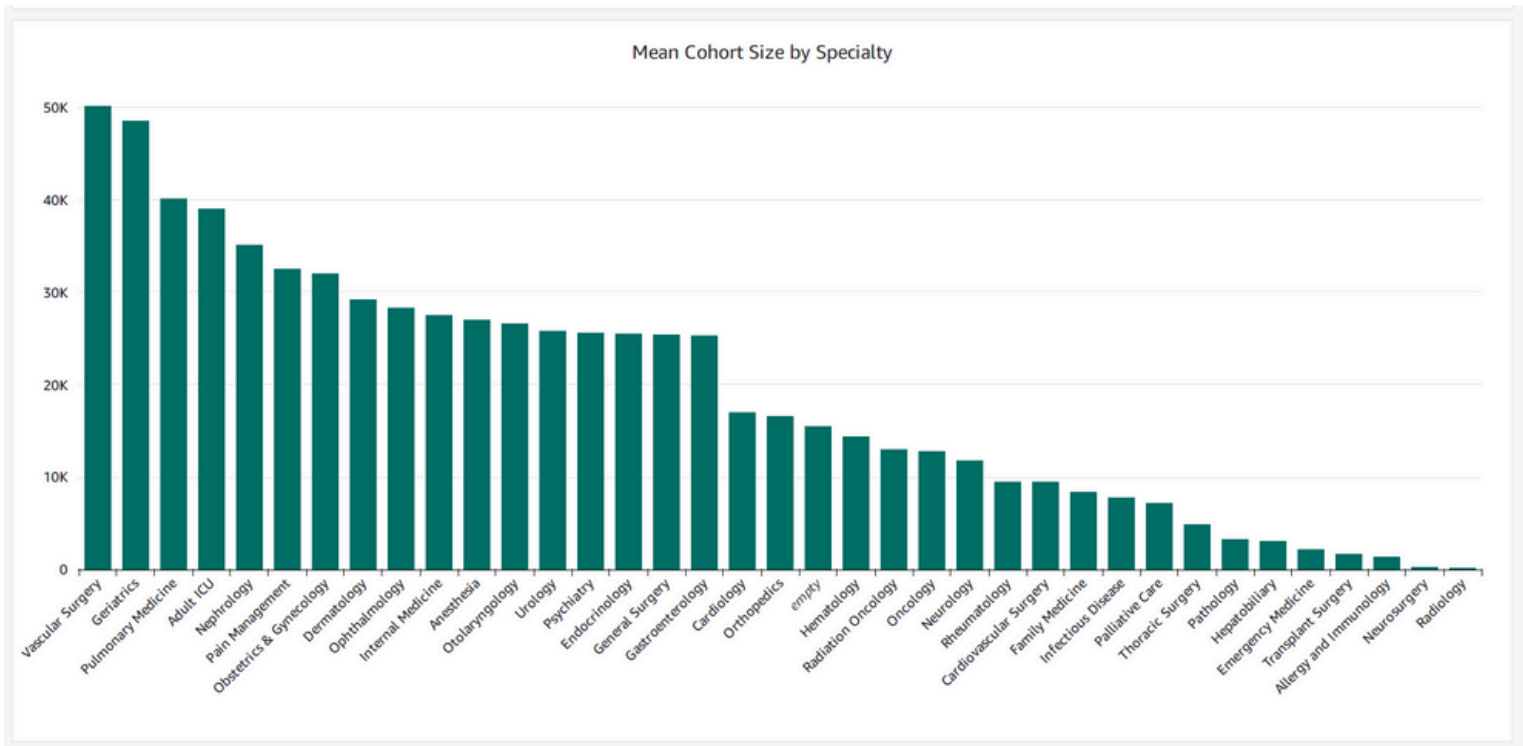
PG Total	Mean PG Score	Max PG Score	Mean Cohort Size	Max Cohort Size
1,299	75	93	22,278	744,668



05. Additional detail

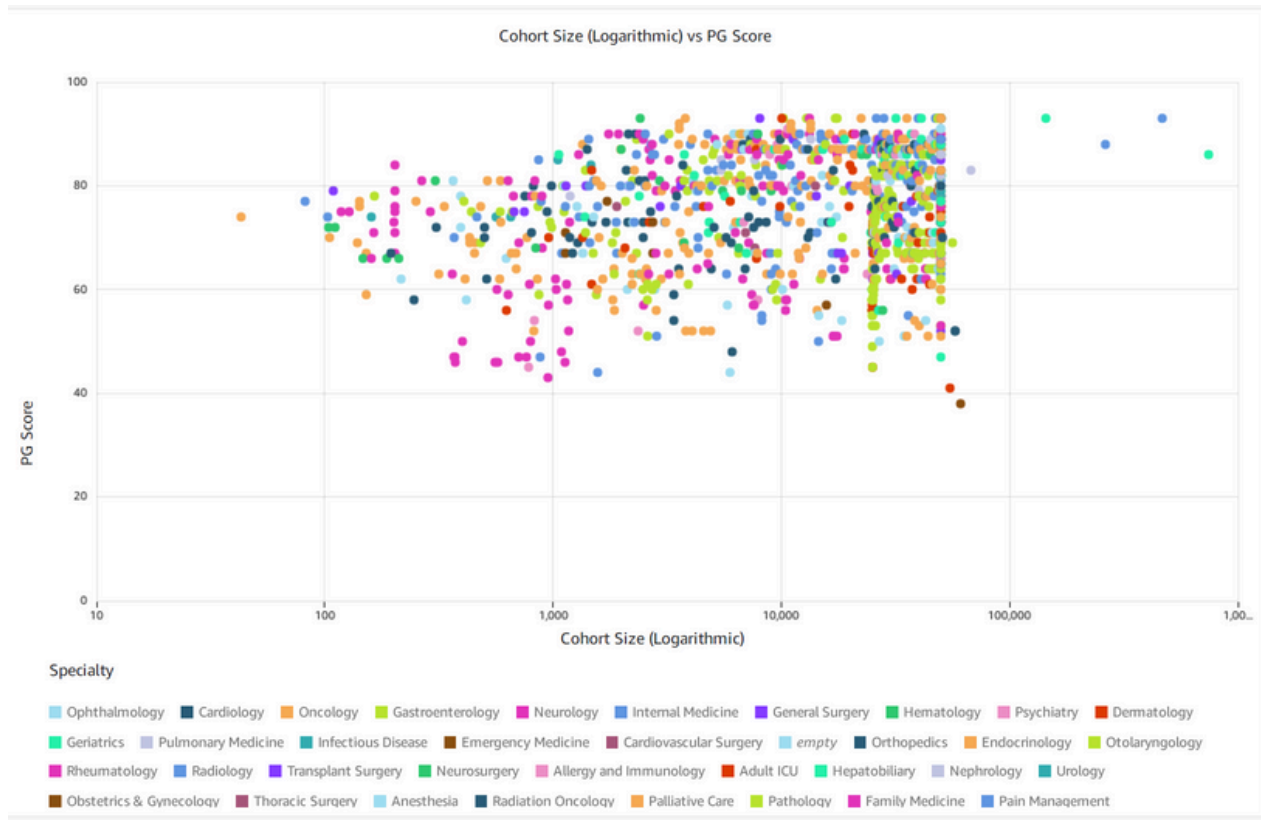
Likely Use Cases

This graph shows likely use cases for your data. Anything over 10,000 is considered sufficient however, TAs to the right of Gastro may see some tapering off.



Patterns

This scatter plot shows patterns in your data. Patterns are more pronounced at 10,000. Smaller cohort sizes generally score under 80.



Data Score Report Card

July 2024