PurpleLab™
HEALTHCARE ANALYTICS

Meet your new [best friend] in healthcare analytics.

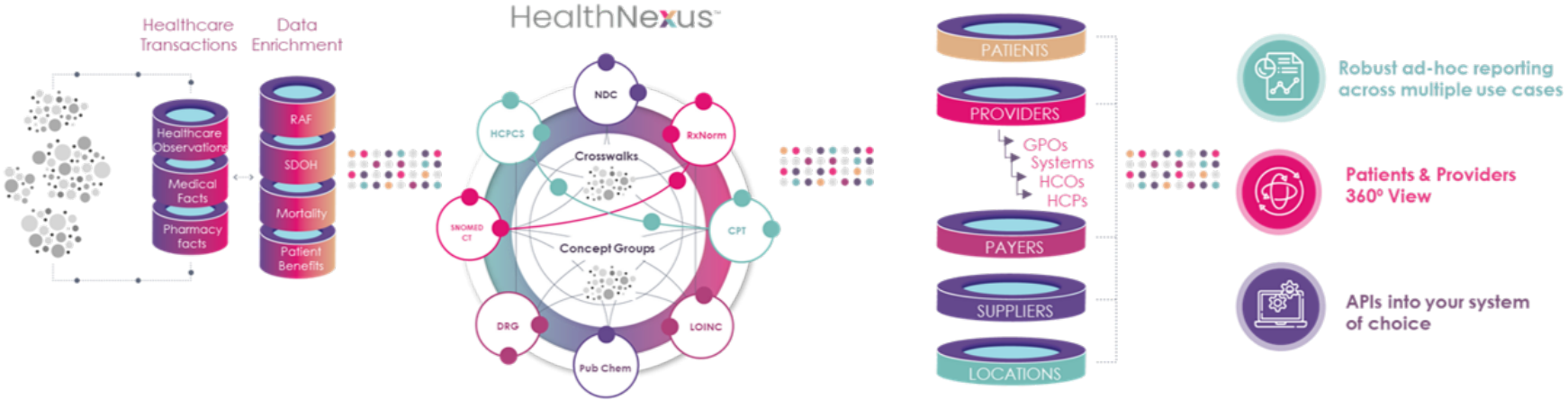
What did you discover today?

PurpleLab
HEALTHCARE ANALYTICS

Overview | Data Coverage

HealthNexus Trailblazing Healthcare Analytics

STRUCTURALLY HARMONIZE → **SEMANTICALLY HARMONIZE** → **AGGREGATE TO REPORTING DIMENSIONS** → **ACCESS INSIGHTS INSTANTLY**



We map and load disparate healthcare observations into a common data warehouse on a daily, weekly and monthly basis

We map disparate vocabularies into single sources of truth. Our clinically relevant concept groups enables users to never miss a healthcare observation

We build and continuously maintain exhaustive masterfiles of common reporting dimensions

We develop API first platforms that provide a variety of custom, ad-hoc as well as off-the-shelf query and report tools.

350M+	5.1B+	2.3M	500K+	750	2K+	10B+	98%
Patient Lives	Annual Claims	HCPs	HCOs	Payers	Health Systems	Affiliations	Payer Data

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Who is PurpleLab?

data and report access in days, not months

Data Coverage

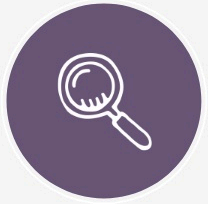
US Mx and Rx

Data Mastering at Scale

PurpleLab Claims provide a significant increase in overlap across other Real World Data… so you'll have more data across a patient's medical and pharmacy patient journey.

Insights

NOT JUST DATA



Vocabulary Management

We'll manage the data wrangling and harmonization, 780+ vocabularies are seamlessly managed within our platform … so you can focus on insights that drive better outcomes for your patients

Usability

USER-DRIVEN PERSONALIZATION

Persona Driven Tech

Our No Code SaaS solution allows democratization of insights to non-technical users, direct data Ingestion into existing IT infrastructure and extensible APIs for modern front-end integration …

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HealthNexus

SDOH

PurpleLab is curating SDOH data from 4 distinct PII files that are de-identified and linked back to our HIPAA compliant patient data warehouse

SDOH Source Details

- For consideration, the PurpleLab SDOH data set **is reflective of the US 2021 population census**, and depending upon the geo-location and other factors results should be interpreted accordingly.
- **Our proprietary* consumer PII files track SDOH attributes for patients 18 years or older**. *0-17 years of age make up roughly 21% of the US Population*
- 79% of the US population is eligible for an SDOH attribute. Of that, **we capture an SDOH attribute on approximately 50% of our population.**
- Roughly 20M lives are unaccounted for as they do not have insurance.

SDOH Attributes

PurpleLab is currently curating 6 SDOH attributes to enable multi-variant analysis including:

Race, Ethnicity, Education, Occupation, Income per occupant, Marital Status

These attributes are mapped to additional patient demographic data points:

Age, Gender, Zip3, State

PurpleLab is actively pursuing additional data sources to ensure the most robust SDOH dataset linked to our expanding Medical and Pharmacy claims dataset.

**Note: Due to the proprietary nature of our PII files we are prohibited from sharing distinct attribution counts outside of a specified cohort.*

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Use Cases

PurpleLab Use Case Overview

Examples of Outcomes Leveraging PurpleLab Data & Reports

Clinical Support:

Clinical | Study Feasibility

- Identify Target Patient Populations
- Analyze Longitudinal Patient Level Data Inclusive of SDOH, Geography, Demographics, Disease Characteristics
- Site Feasibility & Site Selection Based on HCP/HCO Characteristics
- Profile & Target Investigators & Sites
- Validate Investigators and Generate a National View/List of Optimal Sites

Commercial Support:

Clinical Patient Journey | Market Access

Clinical Patient Journey

- Treatment and Referral Patterns; Sites of Care; Concomitant Use
- Time to Dx; Length or Line of Therapy/Progression (LOT)
- Adherence; Co-morbidities

Market Access

- Access analysis-Medical and Rx products (understand reject and reversal rates with SDOH variables)
- Payer Influence (regional and HCP-level channel mix analysis)
- Patient Out Of Pocket burden (Submit/Remit)

HEOR Support:

Cost of Care | Outcomes

- **Reimbursement decisions** helping payers decide whether or not to reimburse a particular treatment
- **Clinical guideline development** can be used to help develop clinical guidelines that recommend the best treatments for specific conditions
- **Patient decision-making** used to help patients make informed decisions about their treatment options

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Use Case 1:

Clinical | Feasibility

HealthNexus™ Clinical Trial Data Support Solutions

Use Case: 5 Steps to Optimize Clinical Trial Execution

Step 1

Patient Landscape

Identify Target Patient Populations

Patient Cohort Reporting Platform

Step 2

Protocol Assessment

Analyze Longitudinal Patient level Data, inclusive of SDOH, Geography, Demographics and more

Patient Cohort Reporting Platform

Step 3

Site Feasibility & Site Selection

Profile by Practice Characteristics, Volumetrics & Clinical Trial Participation

HCP | HCO | Sites Profile & Targeting

Step 4

Apply Patient & Practice Diversity

Practice SDOH & Payer Mix, Disease Burden (RAF), (commercial vs. Medicaid...)

HCP | HCO | Sites Profile & Targeting

Step 5

Finalize Patient Eligibility | Selection Criteria

Eligibility Determination for Optimal Patient Recruitment

Investigator Experience & Site Selection Extract

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Patient Cohort Report

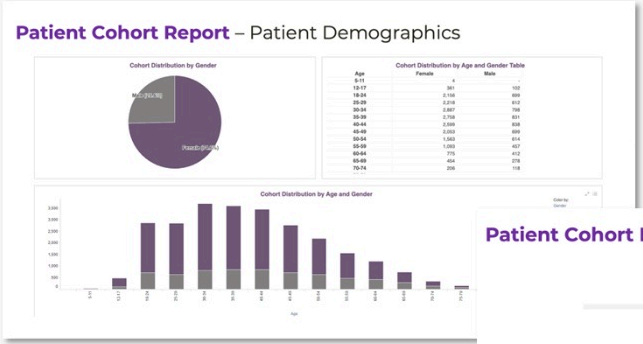
Evaluating patient populations

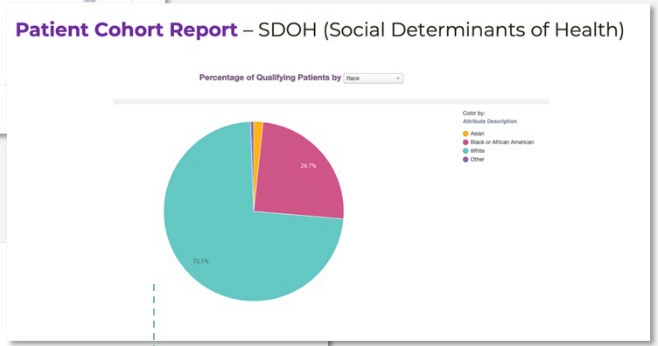
Dive deep on patients to start to understand more about who they are.

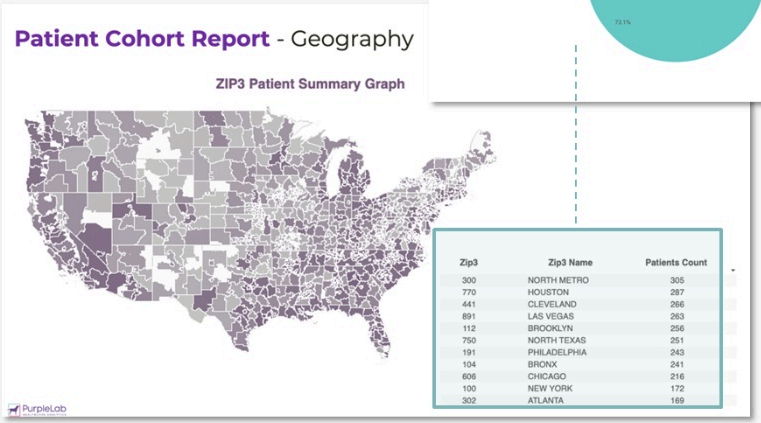
Here a user can see the detail of patient demographics, including geography (Zip 3), SDOH attributes and more.

Before the user extracts the underlying longitudinal patient data (if they desire to do more analysis), additional refinement can be done to expand or narrow the criteria

Patient Cohort Report – Patient Demographics, Geography & SDOH







See unique patient counts by Zip 3

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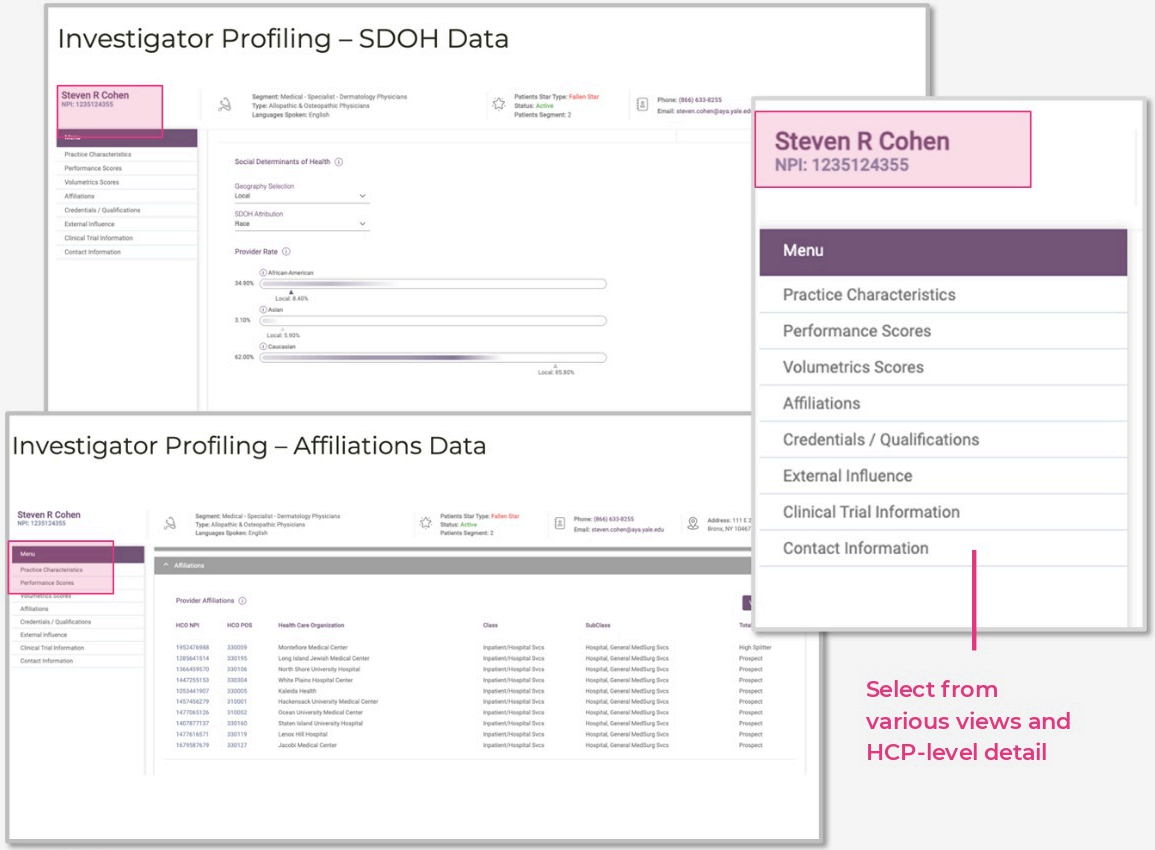
Investigator/Site
Profiling & Targeting

Investigator/HCP Profiling Details

Investigator/HCP Level detail provides detail o n their practice, affiliations, referral network , volumetrics, external influences (Sunshine Act reporting data), clinical trial experience and more.

SDOH data is integrated at the patient, provider and practice level.

Provider Practice SDOH Data



Select from various views and HCP-level detail

Affiliations Data

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Final Selection- List Investigator/Site Profiling & Targeting

Finalizing Investigator/HCP List for Extraction

Upon final selection, target lists can be extracted and downloaded for implementation and activation.

Comprehensive National View of Optimal Investigators and Sites

id	npi	prov_ttax_cd	state_cd	cbsa_cd	patients	hcp_soon_qt	hcp_soon_at	hcp_soon_at	hcp_soon_at	national_soc	national_soc	national_soc	state_soon_	state_soon_	state_soon_	state_soon_	local_soon_	local_soon_	lo
61606127	1063412294	207X00000X	22	35380	1160	156	OCCUPATION	2	103	0.66	0.656	1.01	AT NORMAT	46.05	0.62	1.07	AT NORMAT	34.26	0.641	1.03	AT
6511904	1063412294	207X00000X	22	35380	1160	541	INCOME	7	79	0.146	0.196	0.75	LOWER THAI	65.98	0.141	1.04	AT NORMAT	37.35	0.163	0.9	AT
63827517	1316176647	207V00000X	22	10780	2922	931	INCOME	7	54	0.058	0.181	0.32	SIGNIFICANT	85.79	0.123	0.47	SIGNIFICANT	79.32	0.093	0.62	SI
88671984	1710942651	207V00000X	22	36660	2825	1333	INCOME	5	79	0.059	0.108	0.55	SIGNIFICANT	79.36	0.088	0.67	SIGNIFICANT	73.34	0.061	0.98	AT
91364797	1710148085	207X00000X	22	35060	420	143	EDUCATION	4	16	0.112	0.153	0.73	LOWER THAI	59.03	0.121	0.93	AT NORMAT	44.44	0.099	1.13	AT
18068007	1417952102	207V00000X	22	35060	1631	1631	AGE_RANGE	20-24 Years	303	0.186	0.087	2.14	SIGNIFICANT	5.44	0.107	1.74	SIGNIFICANT	8.4	0.187	0.99	HI
94151408	1558563320	207V00000X	22	36660	2213	285	OCCUPATION	3	40	0.14	0.119	1.18	HIGHER THA	25.96	0.139	1.01	AT NORMAT	39.26	0.143	0.98	AT
10375882	1952543811	207XX0005X	22	35380	2115	2115	AGE_RANGE	50-54 Years	217	0.103	0.082	1.25	HIGHER THA	18.89	0.08	1.29	HIGHER THA	21.21	0.073	1.4	SI
59123061	1710148085	207X00000X	22	35060	420	420	AGE_RANGE	10-14 Years	3	0.007	0.02	0.35	SIGNIFICANT	37.07	0.018	0.41	SIGNIFICANT	40.12	0.017	0.41	SI
73465679	1063412294	207X00000X	22	35380	1160	1160	AGE_RANGE	5-9 Years	0	0	0.011	0	SIGNIFICANT	100	0.01	0	SIGNIFICANT	100	0.011	0	SI
116397493	1366766388	207V00000X	22	36660	1017	242	EDUCATION	1	8	0.033	0.026	1.26	AT NORMAT	29.19	0.024	1.37	HIGHER THA	28.43	0.023	1.47	SI
97359715	1043447196	207V00000X	22	29180	1852	708	RACE	2	194	0.274	0.144	1.91	SIGNIFICANT	16.92	0.29	0.95	LOWER THAI	48.47	0.2	1.37	HI
8925425	1548444904	207X00000X	22	35380	2466	1543	INCOME	8	69	0.045	0.081	0.55	SIGNIFICANT	63.68	0.052	0.85	AT NORMAT	47.53	0.063	0.71	AT
33190526	1417124736	207V00000X	22	35380	5024	5022	AGE_RANGE	55-59 Years	183	0.036	0.048	0.76	LOWER THAI	47.69	0.052	0.7	SIGNIFICANT	58.32	0.054	0.68	SI
74100685	1750311478	207V00000X	22		1537	356	EDUCATION	1	25	0.07	0.026	2.67	SIGNIFICANT	11.46	0.024	2.91	SIGNIFICANT	5.01			
40230901	1366766388	207V00000X	22	36660	1017	208	MARITAL_ST	S	96	0.462	0.503	0.92	LOWER THAI	63.88	0.502	0.92	LOWER THAI	64.94	0.463	1	AT
55255675	1043447196	207V00000X	22	29180	1852	1852	AGE_RANGE	5-9 Years	0	0	0.001	0	SIGNIFICANT	100	0.001	0	SIGNIFICANT	100	0	0	SI
17970184	1043447196	207V00000X	22	29180	1852	119	OCCUPATION	2	85	0.714	0.789	0.91	AT NORMAT	71.17	0.756	0.95	AT NORMAT	65.59	0.765	0.93	AT
112826098	1548444904	207X00000X	22	35380	2466	946	EDUCATION	3	238	0.252	0.288	0.87	AT NORMAT	57.69	0.259	0.97	AT NORMAT	45.68	0.275	0.92	AT
75416802	1952543811	207XX0005X	22	35380	2115	1059	INCOME	4	128	0.121	0.114	1.06	AT NORMAT	37.42	0.127	0.96	AT NORMAT	56.06	0.122	0.99	AT
86904152	1710148085	207X00000X	22	35060	420	221	ETHNICITY	1	204	0.923	0.868	1.06	AT NORMAT	43.19	0.912	1.01	AT NORMAT	39.51	0.93	0.99	AT
70227371	1265484539	207X00000X	22	29340	2740	1701	INCOME	4	237	0.139	0.118	1.18	HIGHER THA	19.38	0.125	1.12	HIGHER THA	16.05	0.132	1.06	SI
43979884	1417952102	207V00000X	22	35060	1631	119	OCCUPATION	1	17	0.143	0.092	1.55	SIGNIFICANT	19.78	0.105	1.36	SIGNIFICANT	19.22	0.142	1.01	AT
9923235	1043447196	207V00000X	22	29180	1852	714	INCOME	8	14	0.02	0.068	0.29	SIGNIFICANT	76.59	0.046	0.42	SIGNIFICANT	71.73	0.043	0.46	SI
32096765	1710148085	207X00000X	22	35060	420	420	AGE_RANGE	75-79 Years	50	0.119	0.097	1.23	HIGHER THA	30.66	0.097	1.23	HIGHER THA	32.72	0.086	1.39	HI
101768821	1710148085	207X00000X	22	35060	420	420	AGE_RANGE	15-19 Years	6	0.014	0.04	0.36	SIGNIFICANT	49.68	0.04	0.36	SIGNIFICANT	47.22	0.03	0.47	SI
85700225	1174886733	207XS0114X	22	12940	1267	601	RACE	1	294	0.489	0.883	0.55	SIGNIFICANT	96.85	0.757	0.65	SIGNIFICANT	100	0.489	1	AT
103337267	1558563320	207V00000X	22	36660	2213	2213	AGE_RANGE	10-14 Years	2	0.001	0.002	0.53	SIGNIFICANT	16.36	0.001	0.82	HIGHER THA	19.55	0.001	1.5	SI
1706720	1043262348	207X00000X	22	35380	1469	177	OCCUPATION	1	32	0.181	0.093	1.94	SIGNIFICANT	8.87	0.106	1.71	SIGNIFICANT	7.41	0.085	2.12	SI
96757211	1043447196	207V00000X	22	29180	1852	119	OCCUPATION	1	15	0.126	0.092	1.37	HIGHER THA	24.57	0.105	1.2	HIGHER THA	26.17	0.111	1.13	HI
23031463	1750311478	207V00000X	22		1537	1535	AGE_RANGE	70-74 Years	29	0.019	0.024	0.79	SIGNIFICANT	39.56	0.027	0.7	SIGNIFICANT	48.63			
21687575	1750311478	207V00000X	22		1537	1535	AGE_RANGE	0-4 Years	0	0	0.014	0	SIGNIFICANT	100	0.015	0	SIGNIFICANT	100			
7187374	1033153564	207X00000X	22	25220	1911	1231	INCOME	8	44	0.036	0.081	0.44	SIGNIFICANT	70.55	0.052	0.68	LOWER THAI	61.73	0.035	1.03	HI

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FDA Guidance for Clinical Trial Diversity

The Framework

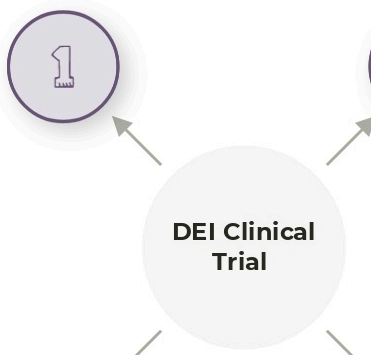
- **Developing a Race and Ethnicity Diversity Plan to accelerate diversity and inclusion in clinical trials**
  - For drug development, the **Race and Ethnicity Diversity Plan should be shared no later than when the Sponsor is seeking feedback regarding clinical trial plans, which is often during the end of Phase 2 (EOP2)** meeting.
  - Sponsor organizations can request FDA feedback on their plan by including questions in a formal milestone meeting request.

- **The FDA provided five recommended elements of the plan to boost diversity and inclusion in clinical trials**
  - Provide an overview of the disease using available data to demonstrate the pathophysiology of the disease in underrepresented racial or ethnic populations.
  - Describe the planned study or trials, including how the trial may address the inclusion of underrepresented racial and ethnic populations.
  - Define and provide justification for plans to enroll participants from underrepresented racial and ethnic populations.
  - Define, in detail, the trial operations that will be implemented to enroll and retain underrepresented racial and ethnic participants, specific trial enrollment and retention strategies, plans for collection of race and ethnicity data in clinical trials, metrics to ensure enrollment goals are met, and actions to be implemented if enrollment goals are not met.
  - Discuss the status of meeting enrollment goals and making updates to the diversity plan as needed throughout the trial.

Race and Ethnicity Diversity Plan should be shared no later than when the Sponsor is seeking feedback regarding clinical trial plans, which is often during the end of Phase 2 (EOP2) meeting.

How PurpleLab Data is Supporting FDA DEI

A Continual Evaluation Throughout the Clinical Trial



Trial Planning & Protocol Development

Develop participant-centric protocol

Broaden trial eligibility criteria

Confirm the demographic distribution of the the patient population

Seek input from advocacy organizations

Develop trial endpoints based on HEOR | RWE & medical affairs teams

Trial Start-Up

Select sites in areas with diversity aligned with demographic target goals

Provide DEI training to site personnel

Collaborate with advocacy organizations for outreach

Consider cultural differences within community

Establish a demographic target goal tracking mechanism

Trial Maintenance | Rescue

Continue strategies established during previous stages

Maintain relationships with advocacy groups

Offer refresher DEI training to address staff turnover

Continue monitoring demographic targeting goals and study retention

Trial Closeout

Evaluate demographic characteristics relative to target goals

Solicit and review feedback from sites and CRO's regarding training and recruitment strategies

Continue advocacy engagement to maintain relationships

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Use Case 2:

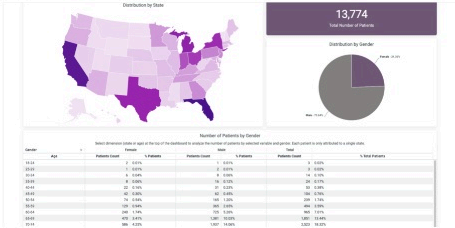
Market Access | Patient Journey

Understanding the Patient and Treatment Journey

PurpleLab's Data Provides Analytical Support to Drive Enhanced Patient Journey Insights

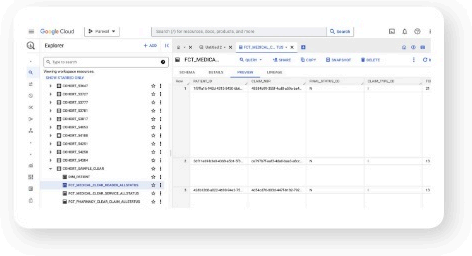
Top-line patient and market access insights through on-demand Cohort Report

Iterate and Identify the patient study population



Further, analyze the underlying patient data in the PurpleLab BigQuery environment

Underlying patient and Provider-level data enables extensive clinical and access analysis to include therapy and market access level analysis over time



New CLEAR Claims tables and Methodologies accelerate data processing and speed to insights

Enhanced CLEAR Claims tables provide enhanced views and proprietary methodologies to provide insights of cost of care, patient burden, and encounters.

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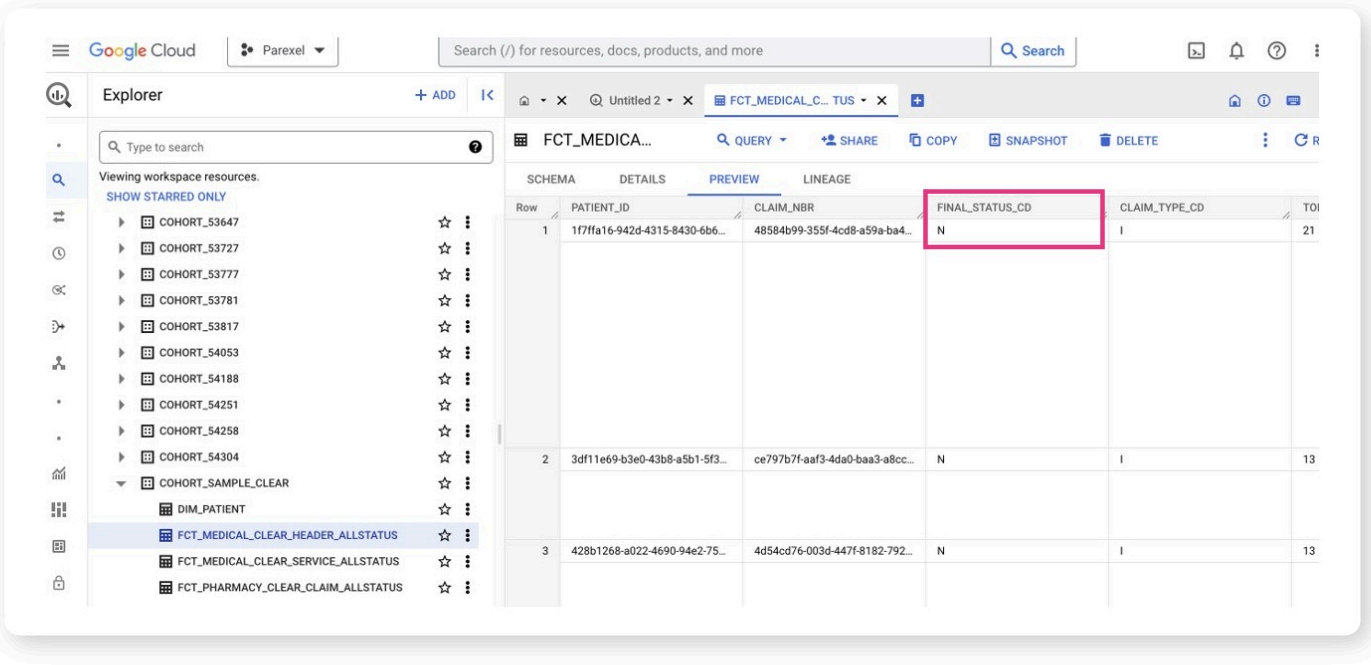
USE CASE #3

POC | Bladder Cancer |SDO Group

CLEAR CLAIMS - Cost of Care and Outcomes

Bladder Cancer Sample

Random sample of 6,400 Patients provided via access to CLEAR Claims tables and methodologies

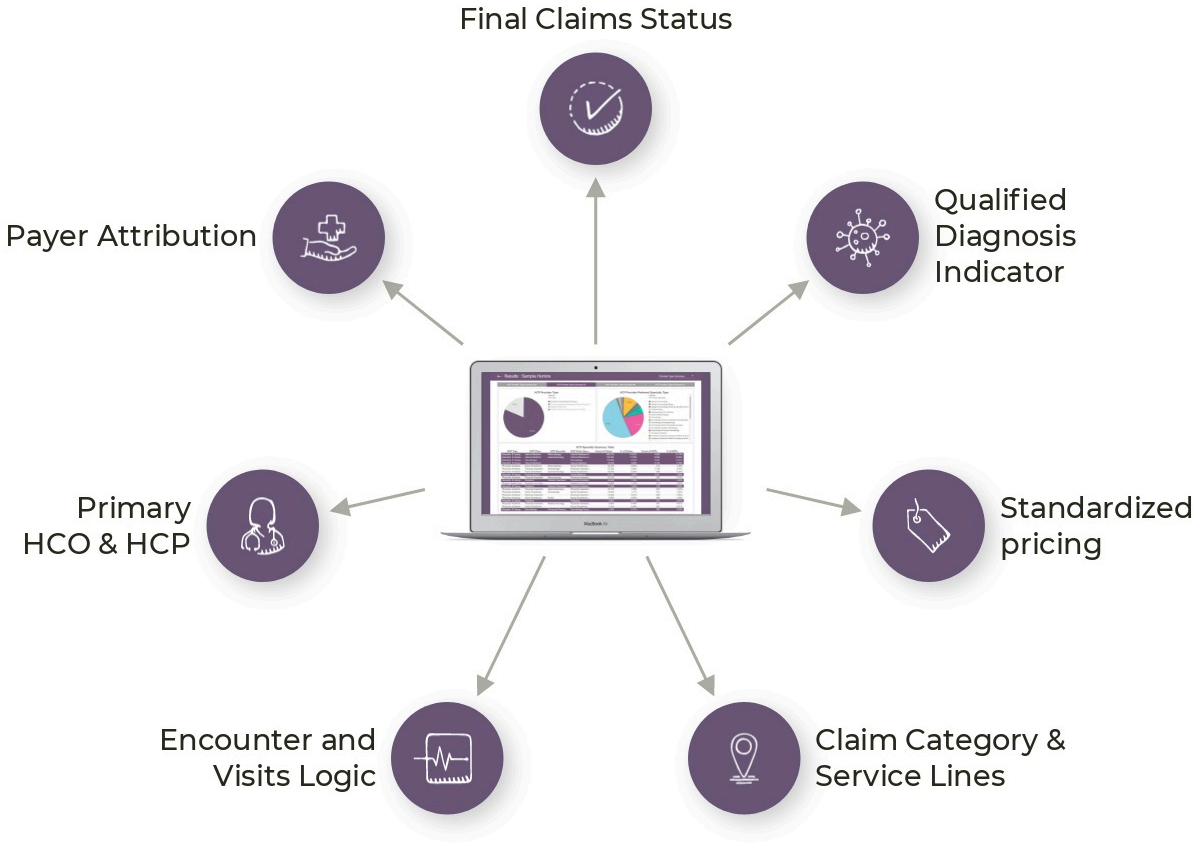


CLEAR Claims

Features

Purple Lab's Comprehensive Layout for Exploration & Research (CLEAR) claims enhances our claims data warehouse with valuable clinically approved methodologies.

CLEAR facilitates analysis and reduces the amount of data engineering needed to use claims data.



Bladder Cancer Sample CLEAR Outcomes Include:

Steps to generate data: in minutes

Create patient cohort with qualified Dx of malignant bladder cancer in 2021

Identify encounters with a clinical service line of cancer for 2020 to 2022

Breakdown of detail by:

- Top 20 admin service line
- HCO class
- HCP taxonomy

Oncology / Hematology - Bladder Cancer

admin_service_line	admin_subservice_line	encounters	standard $
Outpatient	Chemo/Nuclear	768,291	$ 998,218,648
Outpatient	Surgery	148,159	$ 468,122,597
Outpatient	E&M	1,188,314	$ 206,302,165
Outpatient	Procedure	397,235	$ 119,757,675
Ancillary	Pathology	452,808	$ 89,547,848
Inpatient	Acute	6,995	$ 88,320,045
Ancillary	Imaging	295,368	$ 79,781,057
Outpatient	ASC	108,290	$ 51,369,712
Ancillary	Lab	505,540	$ 41,528,457
Inpatient	SNF	4,063	$ 32,656,013
Inpatient	Other	101,278	$ 29,302,620
Ancillary	Anesthesia	106,095	$ 22,338,720
Ancillary	DME	85,343	$ 19,176,956
Inpatient	Hospice	244,488	$ 12,996,620
Emergent	ER	8,247	$ 8,960,175
Outpatient	Home Health	166,487	$ 5,894,514
Outpatient	Other	49,445	$ 4,667,641

hcp_taxonomy_desc	encounters	standard $
Urology	1,519,695	$ 706,813,647
Internal Medicine-Hematology & Oncolog	495,874	$ 553,405,687
Internal Medicine-Medical Oncology	165,395	$ 227,852,086
Internal Medicine	275,907	$ 108,244,761
Radiology-Radiation Oncology	273,038	$ 79,764,560
Specialist	102,380	$ 48,575,254
Radiology-Diagnostic Radiology	171,882	$ 41,882,142
Internal Medicine-Gastroenterology	31,440	$ 34,916,528
Pathology-Anatomic Pathology & Clinical	216,009	$ 34,540,623
Family Medicine	229,831	$ 30,287,264
Nurse Practitioner-Family	76,665	$ 22,360,568
Anesthesiology	78,382	$ 18,260,663
Nurse Practitioner	54,831	$ 17,648,309
Physician Assistant	56,360	$ 15,900,059
Hospitalist	18,521	$ 15,480,570
Pathology-Anatomic Pathology	51,648	$ 11,213,331
Surgery	18,773	$ 10,701,015

HEOR Cost of Care CLEAR Claims Sample

primary_hco_class_desc	encounters	standard $
General Acute Care Hospital	1,259,293	$ 960,030,060
Internal Medicine	500,272	$ 347,683,649
Urology	809,750	$ 226,750,499
Clinic/Center	366,497	$ 178,895,245
Specialist	148,558	$ 68,262,756
Clinical Medical Laboratory	244,506	$ 41,548,907
Radiology	128,403	$ 34,444,811
Special Hospital	69,185	$ 34,332,710
Skilled Nursing Facility	26,867	$ 30,753,095
Family Medicine	113,514	$ 23,118,677
Pharmacy	20,828	$ 20,183,495
Hospice Care, Community Based	291,552	$ 12,988,202
General Practice	32,035	$ 12,301,038
Pathology	74,798	$ 8,070,124
Surgery	33,394	$ 6,579,896
Dermatology	21,405	$ 4,592,928
Health Maintenance Organization	4,567	$ 4,344,928

THANK YOU

What did you discover today?

 purplelab.com

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