

Precision Medicine for all Oklahomans: Leveraging Artificial Intelligence and Health Information Exchange

AI: Friend or Foe?

Disclosures

David C. Kendrick, MD, MPH

- Founder & CEO, MyHealth Access Network, Oklahoma's 501c3 State Designated Entity for HIE/HDU
- Founder & Chair, Department of Informatics, OU School of Community Medicine
- Associate Vice-Provost for Strategic Planning, OU Health Sciences Center
- Technical Assistance Consultant for ONC
- Founder of MedUnison and developer of Doc2Doc
- Board, National Committee for Quality Assurance (NCQA)
- Board, CIVITAS Networks for Health
- Board, Patient Centered Data Home

Agenda

- What is AI?
- Can AI help me?
- Can AI replace me?
- Where should I invest?
- How do we leverage AI in Oklahoma?

Precision Medicine

TRADITIONAL MEDICINE **vs.** **PRECISION MEDICINE**

Traditionally, radiation, chemotherapy, and surgery were the only means by which doctors could treat cancer. With precision medicine, doctors use a patient's genes to uncover clues for treating the disease.

RADIATION

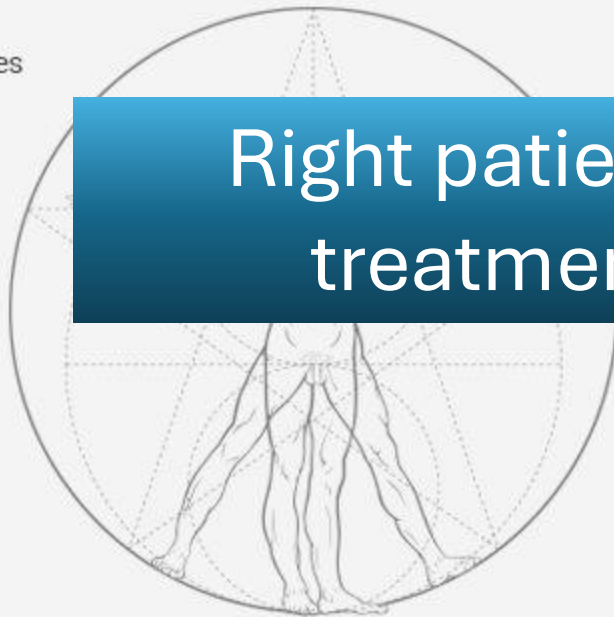
- High-energy particles damage or destroy cancer cells

CHEMOTHERAPY

- Chemicals attack cancer

SURGERY

- Operate on part of the body to diagnose or treat cancer



Right patient, right testing, right treatment at the right time.

Advanced
Personalized
Treatment



GENETICS

- Gene sequencing
- Locate cancer-causing genes

IMMUNOTHERAPY

- Identify ways to customize treatment
- Find ways to turn immune system on
- Personalize treatment with immune-activating drugs

TARGETED THERAPIES

- Drugs turn specific genes on or off

+ TRADITIONAL THERAPIES

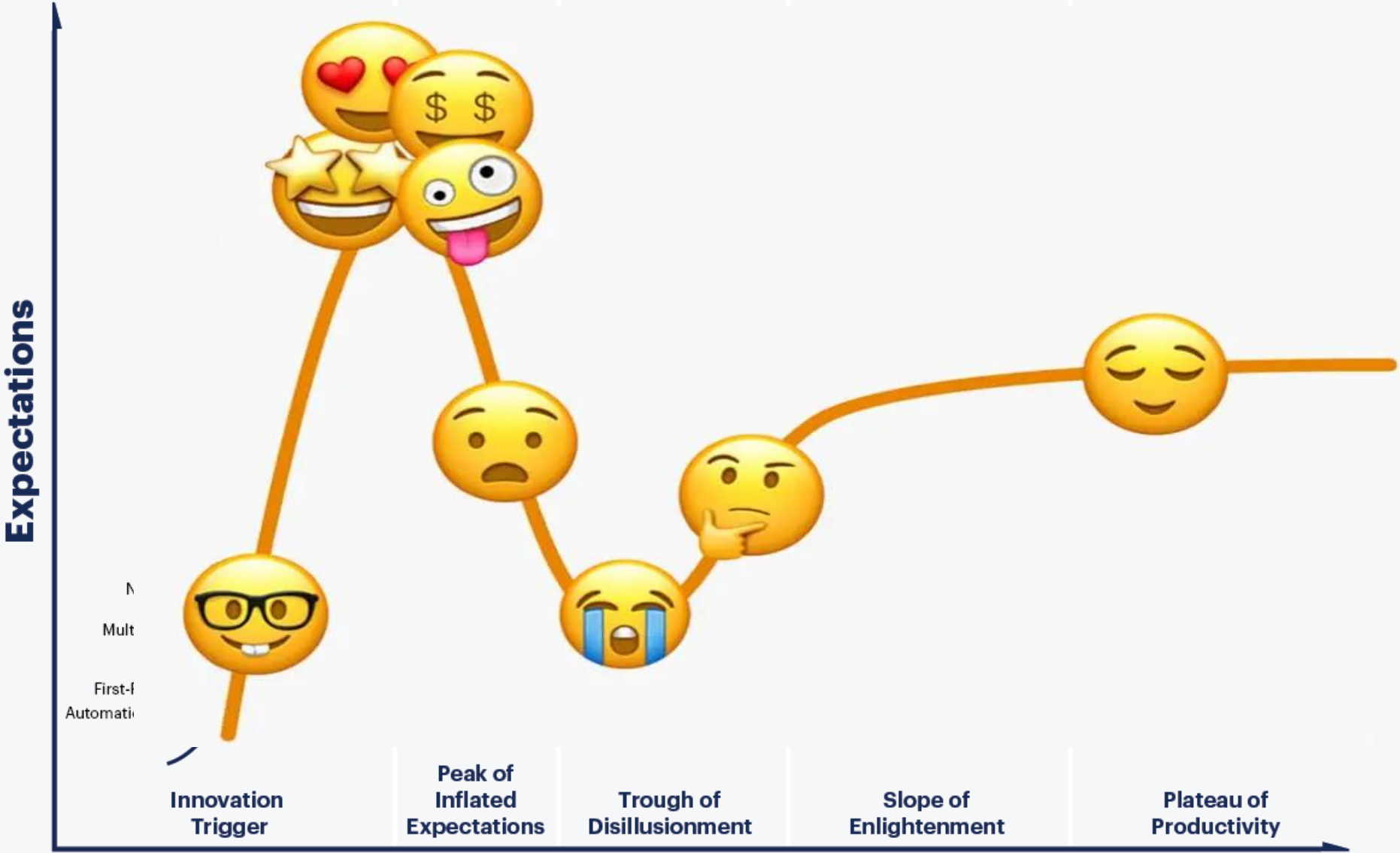
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To be useful AI should improve health and quality of life for all through . . .




- Earlier and more accurate detection of disease
 - Cancer, CV, complex diseases as yet unknown
- Earlier and more accurate detection of dis-ease
 - Mental health, social needs, human interactions
- Better treatments
 - Effective, fewer side effects, cost effective
- Reductions in the cost of care and services & Improvement in Access
 - Democratization not just of information but of interpretation of information
- Reductions in provider burden
 - Documentation, proving performance, coordination and communication
- Improve policy-making and policy-un-making
 - Evidence-based policy-making

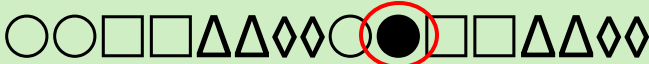

Hype Cycle for Artificial Intelligence, 2023



Time

Basic Science

Artificial Intelligence (AI):  \geq   1950's

Machine Learning (ML):   1980's

Deep Learning (DL): Neural Networks   2010's

Foundation Models (FM): Generative AI  2020's

Large Language Models (LLM): ChatGPT, Claude, Gemini

Image/Video Generating Models: DALL-E, MidJourney

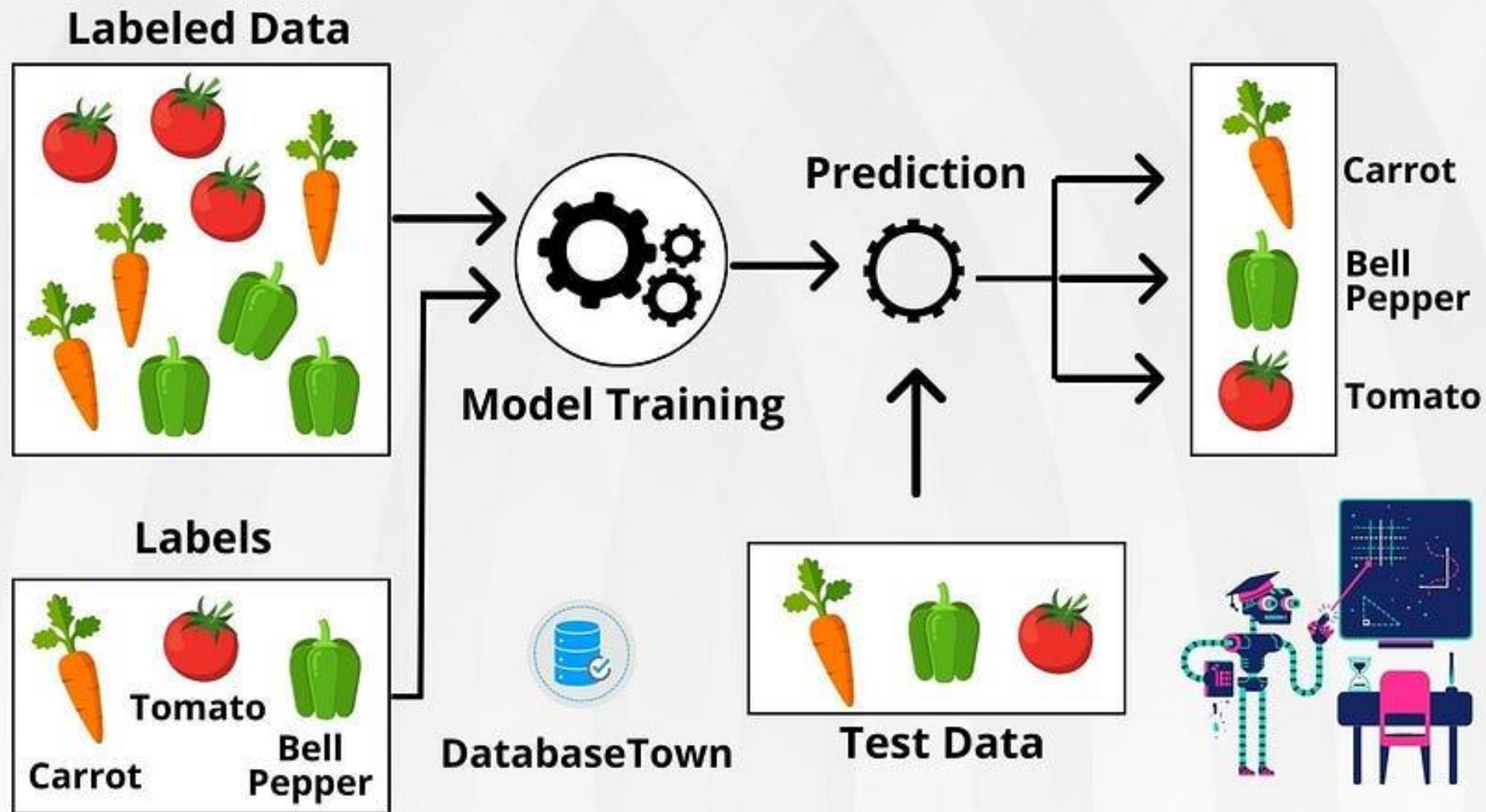
Audio Generating Models: Translations, Podcast

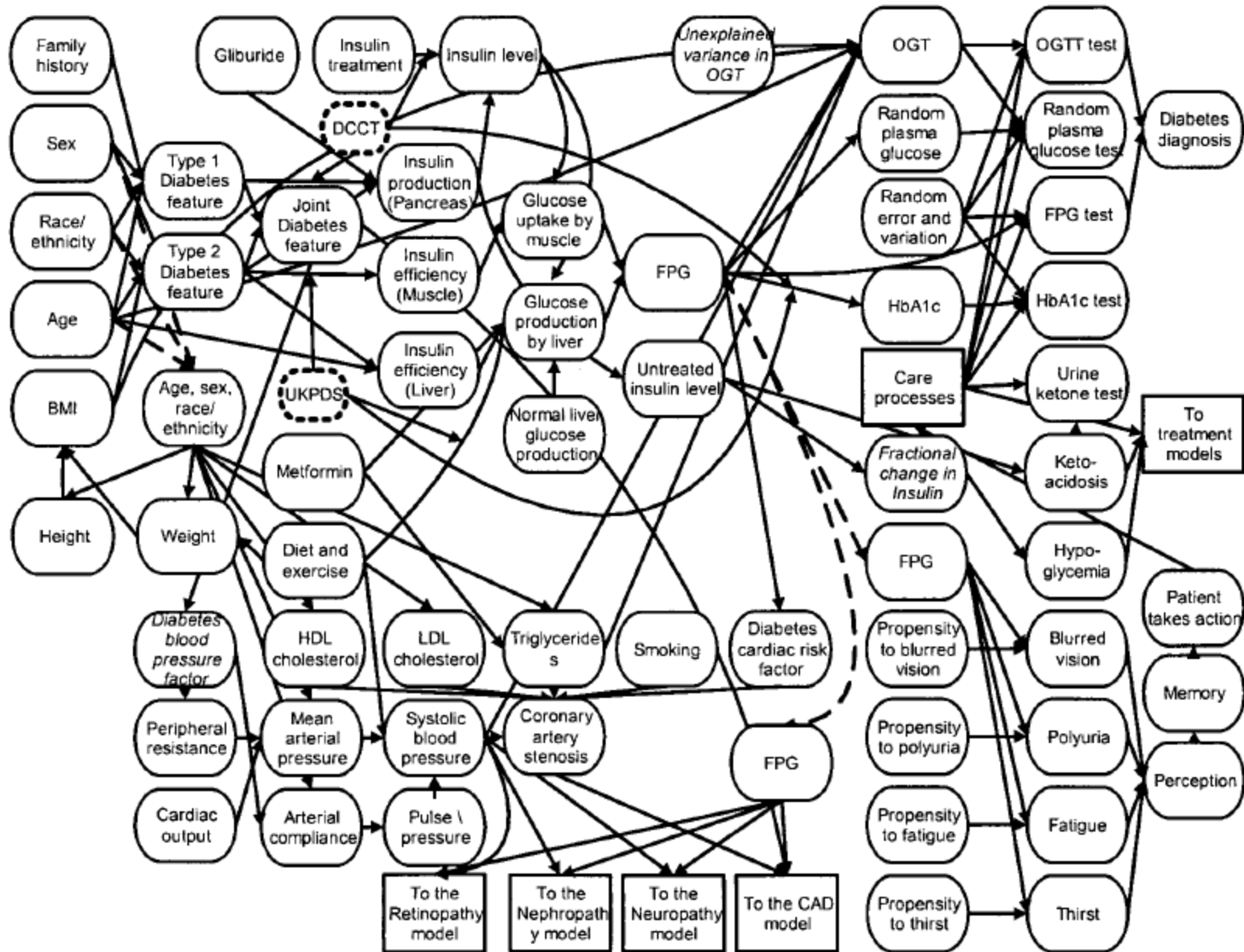
DEEP
FAKE



SUPERVISED LEARNING

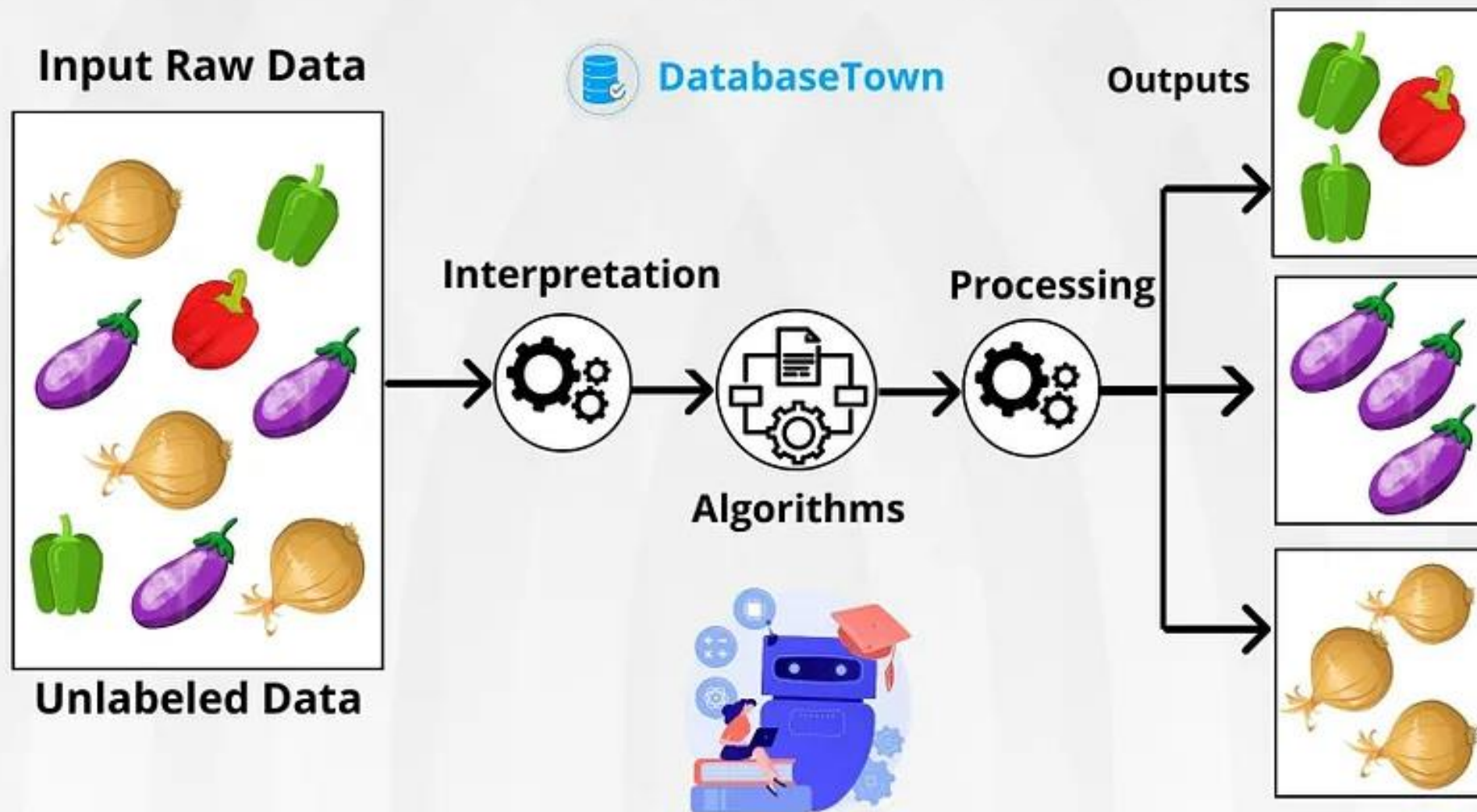
Supervised machine learning is a branch of artificial intelligence that focuses on training models to make predictions or decisions based on labeled training data.



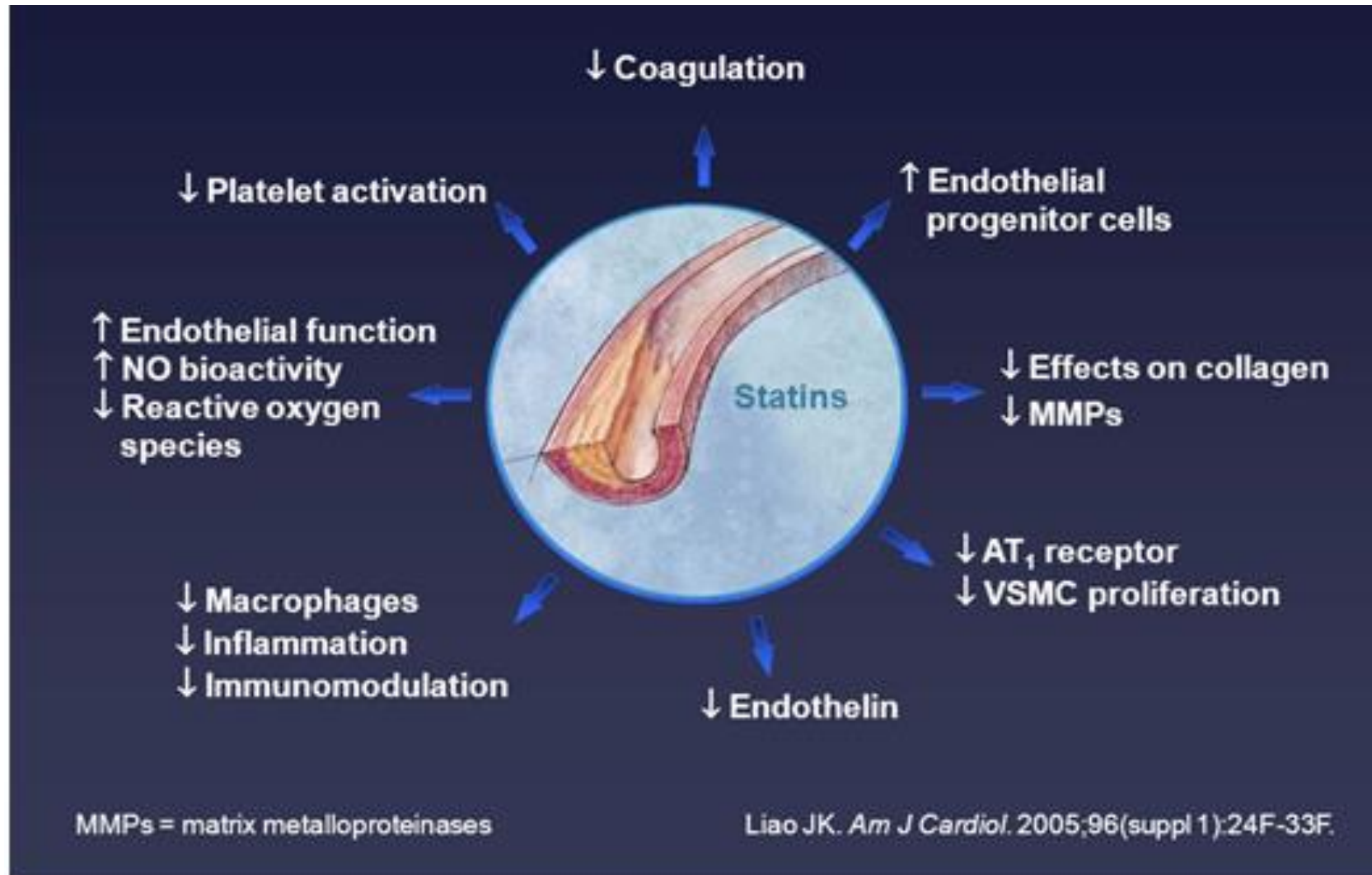


UNSUPERVISED LEARNING

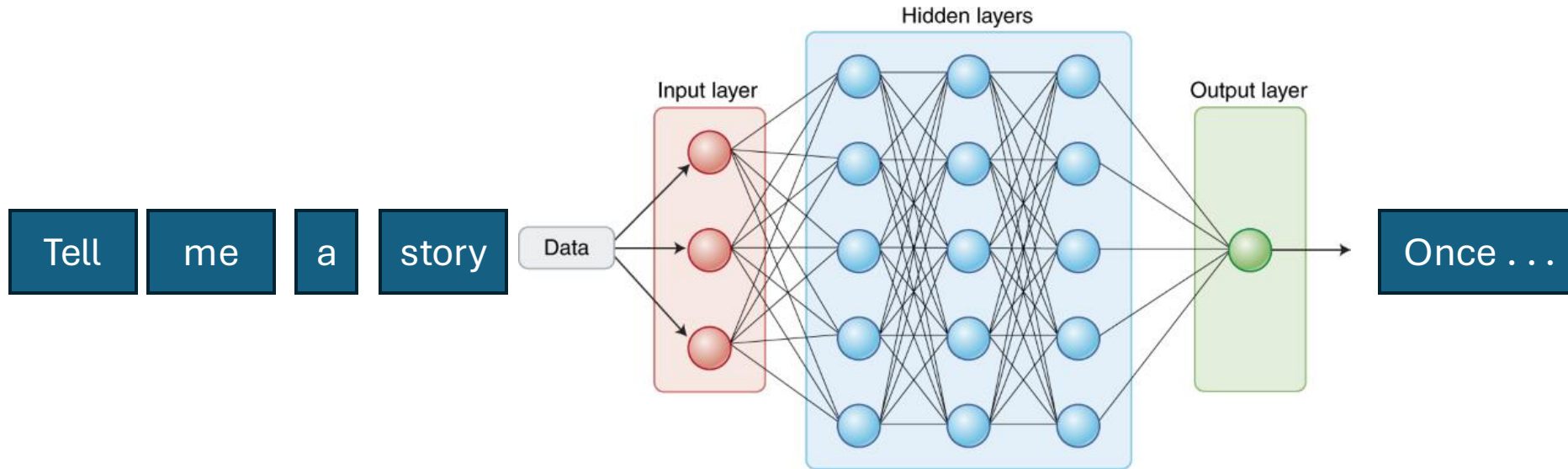
Unsupervised learning is a type of machine learning where the algorithm learns from unlabeled data without any predefined outputs or target variables.

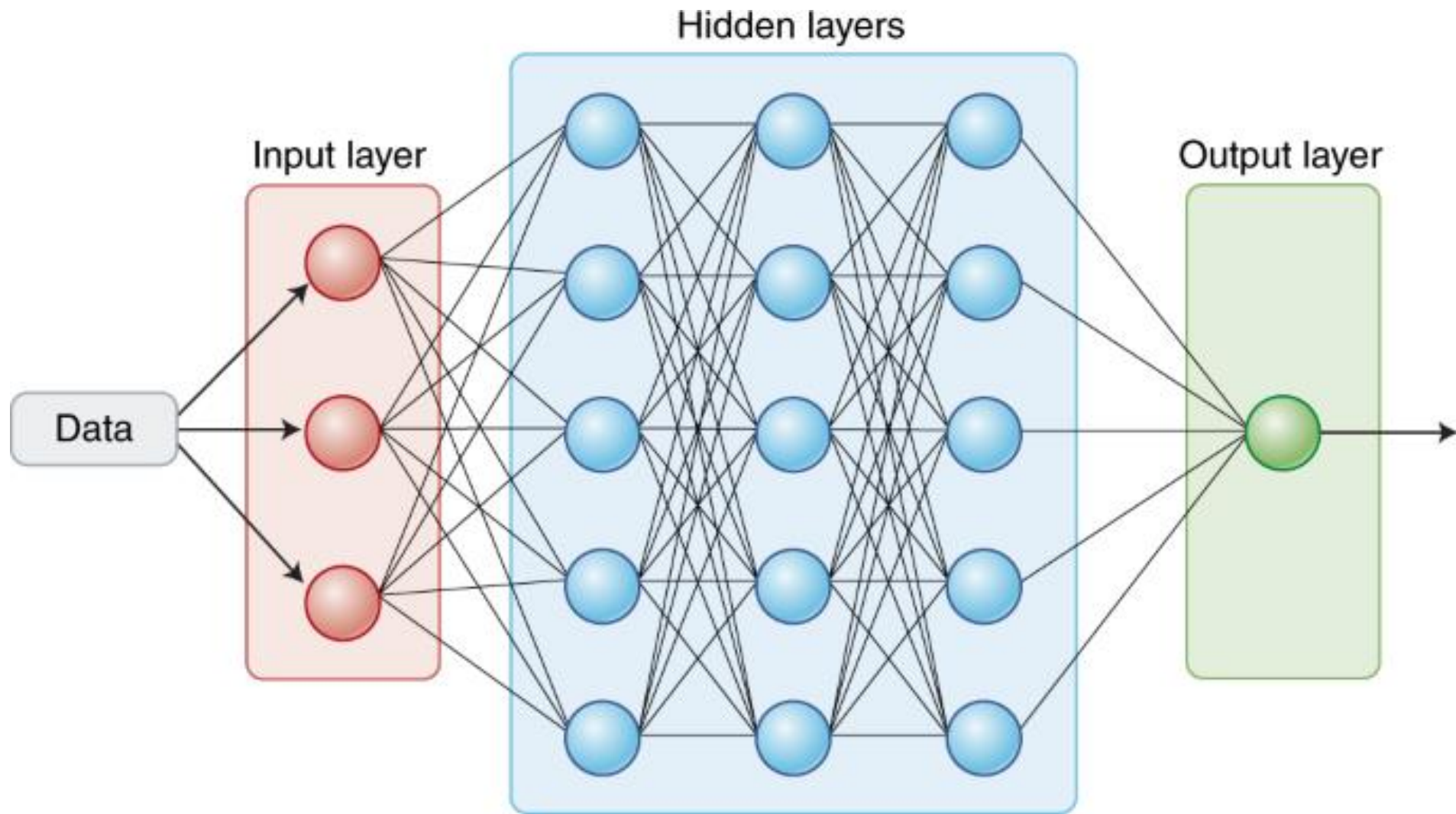


Pleiotropic effect of statins- beyond cholesterol



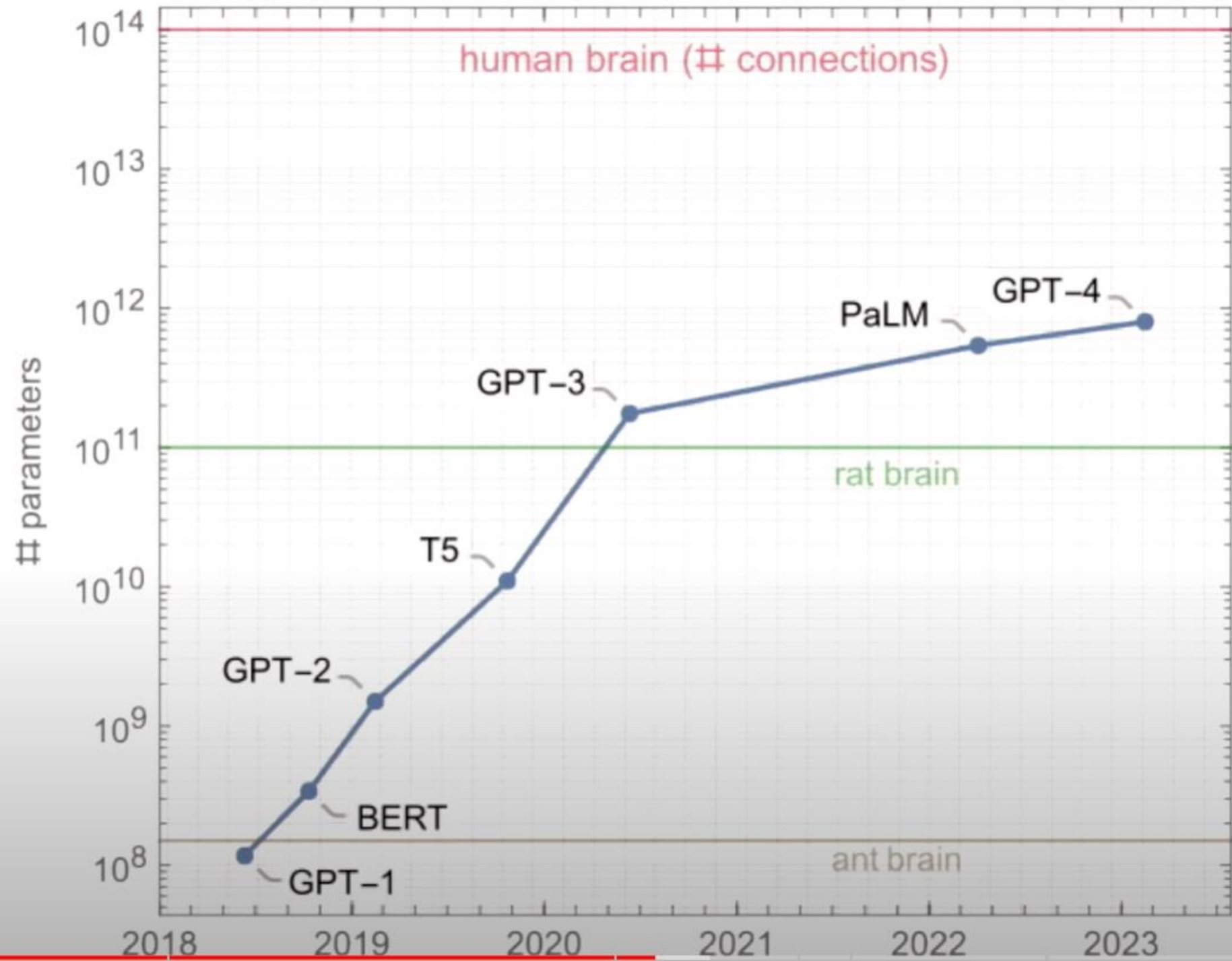
How do LLM's work?



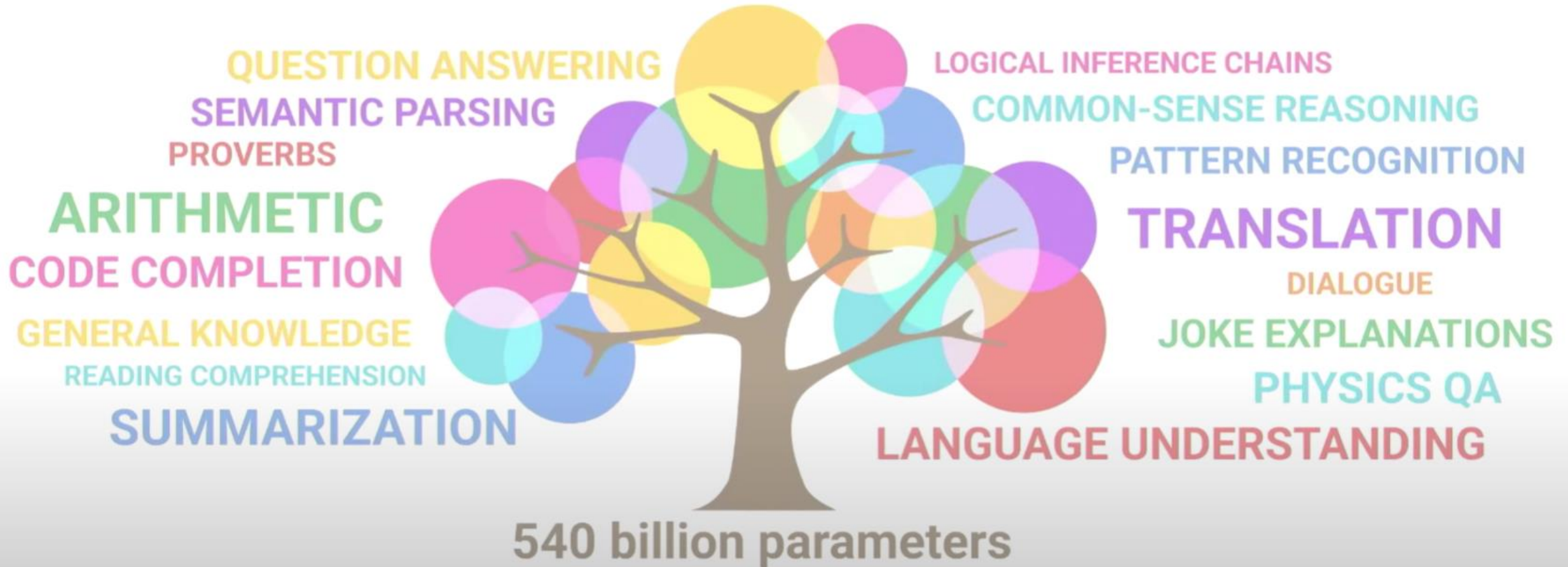


$$3 \times 4 + 4 + 4 \times 4 + 4 + 4 \times 4 + 4 + 4 \times 1 + 1 = \mathbf{61}$$

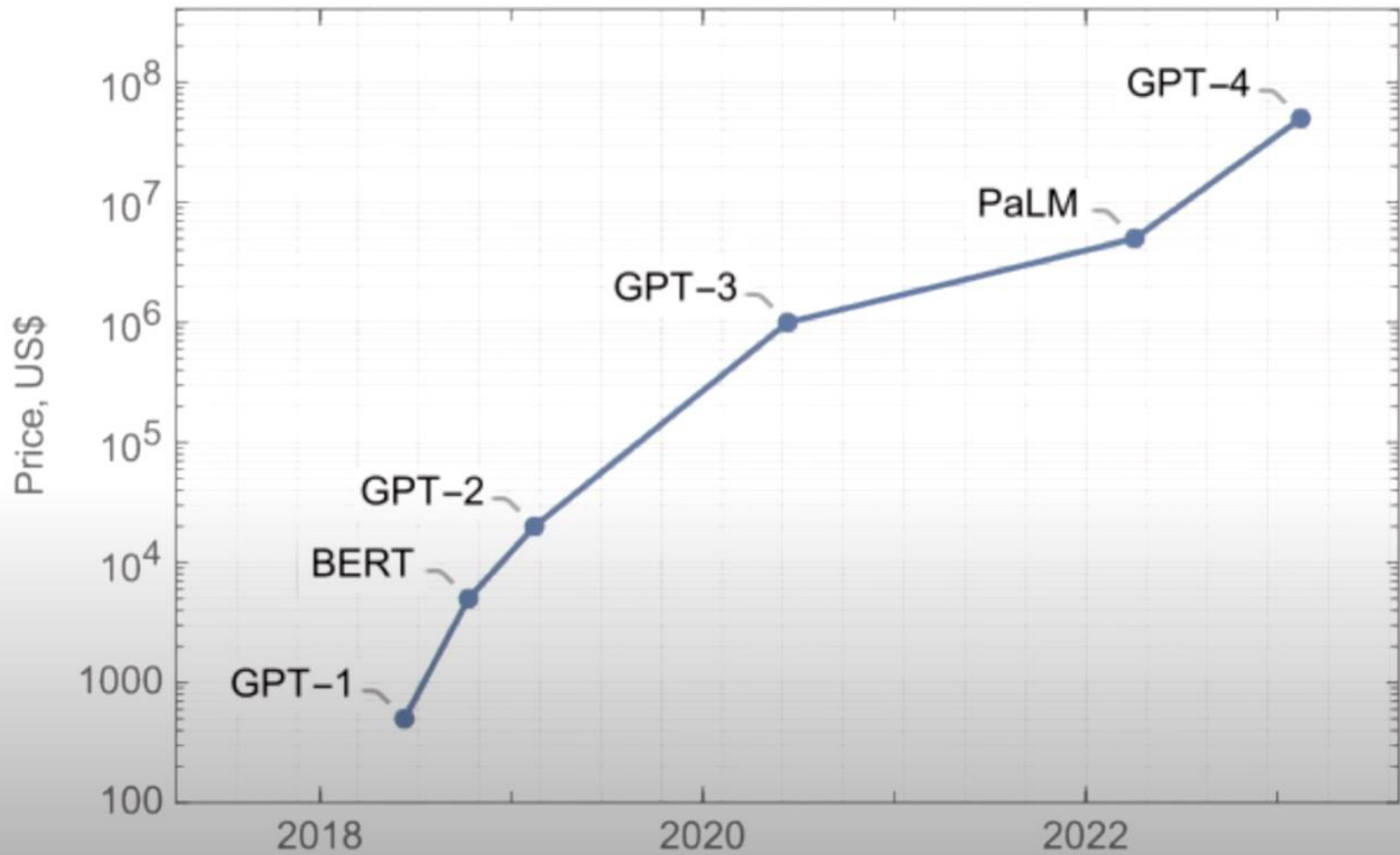
trainable parameters



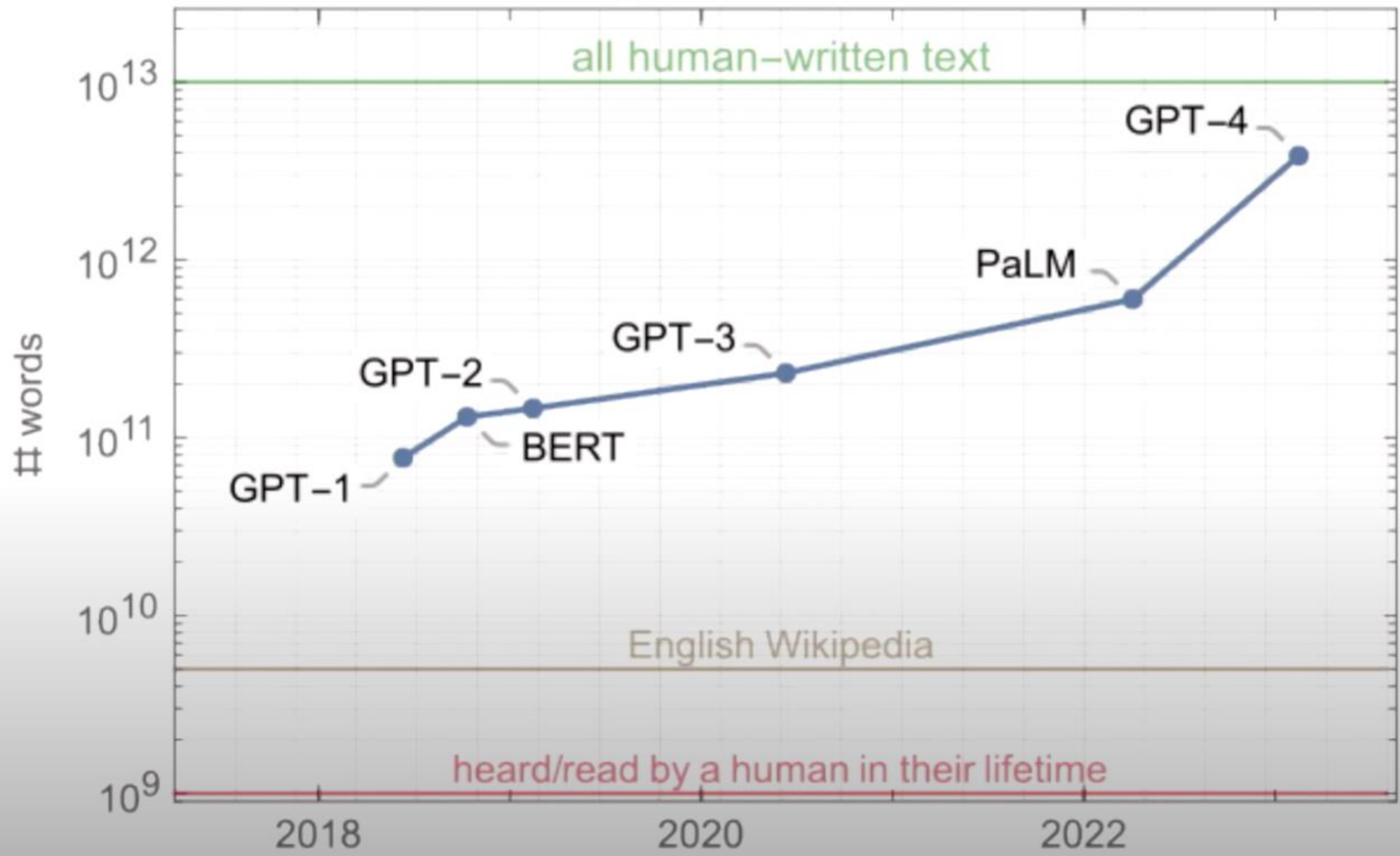
Model Capabilities



LLM training prices (at the time of their creation)



Number of words processed by LLMs during their training





Agentic AI & workflows

- Multiple AI models working together
- Each Agent has its own strengths (and limitations)
 - Text (LLM)
 - Math
 - Image interpretation
 - Empathy . . .
- Agents' efforts are orchestrated, perhaps by an Orchestration Agent (team leader)

Agent Hospital: A Simulacrum of Hospital with Evolvable Medical Agents



JUNKAI LI^{†#}, SIYU WANG[†], MENG ZHANG[†], WEITAO LI^{†#}, YUNGHWEI LAI[†],
XINHUI KANG^{†#}, WEIZHI MA[†], and YANG LIU^{#†}

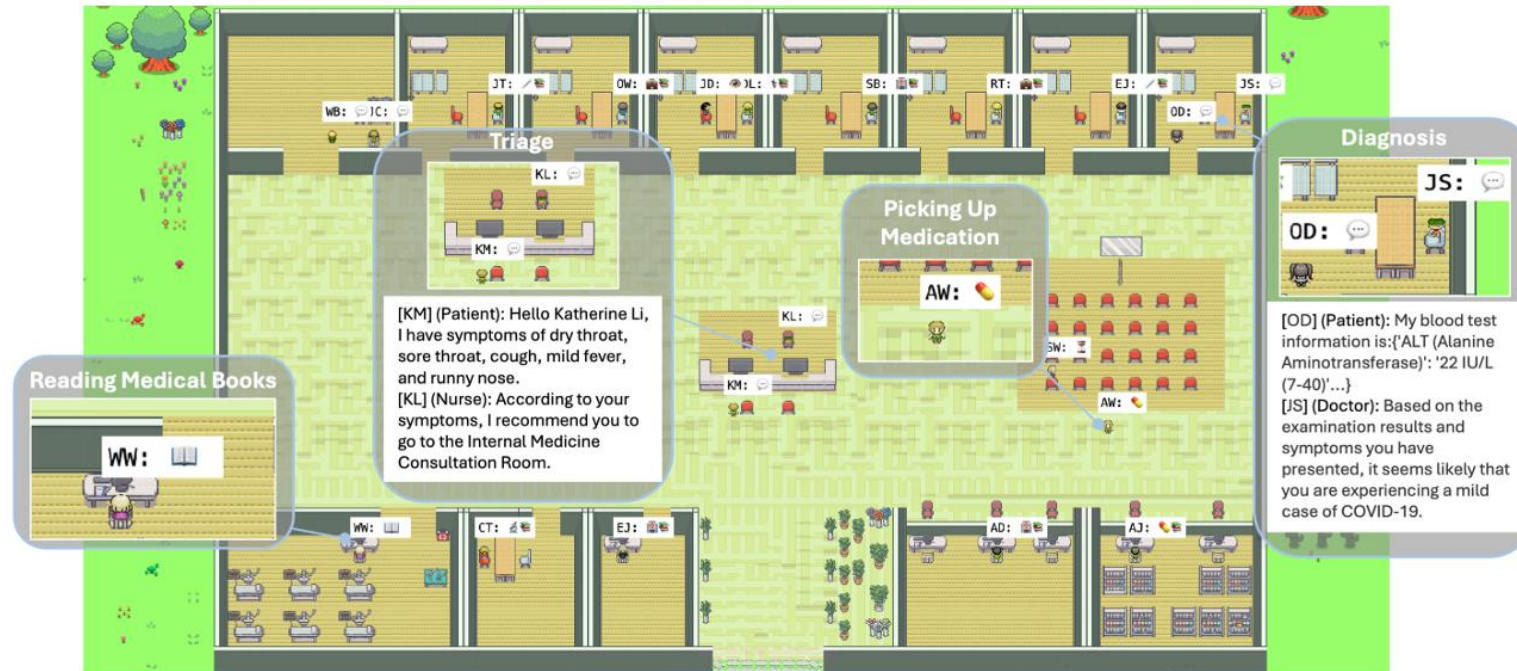


Fig. 1. An overview of Agent Hospital. It is a simulacrum of hospital in which patients, nurses, and doctors are autonomous agents powered by large language models. Agent Hospital simulates the whole closed cycle of treating a patient's illness: disease onset, triage, registration, consultation, medical examination, diagnosis, medicine dispensary, convalescence, and post-hospital follow-up visit. An interesting finding is that the doctor agents can keep improving treatment performance over time without manually labeled data, both in simulation and real-world evaluations.

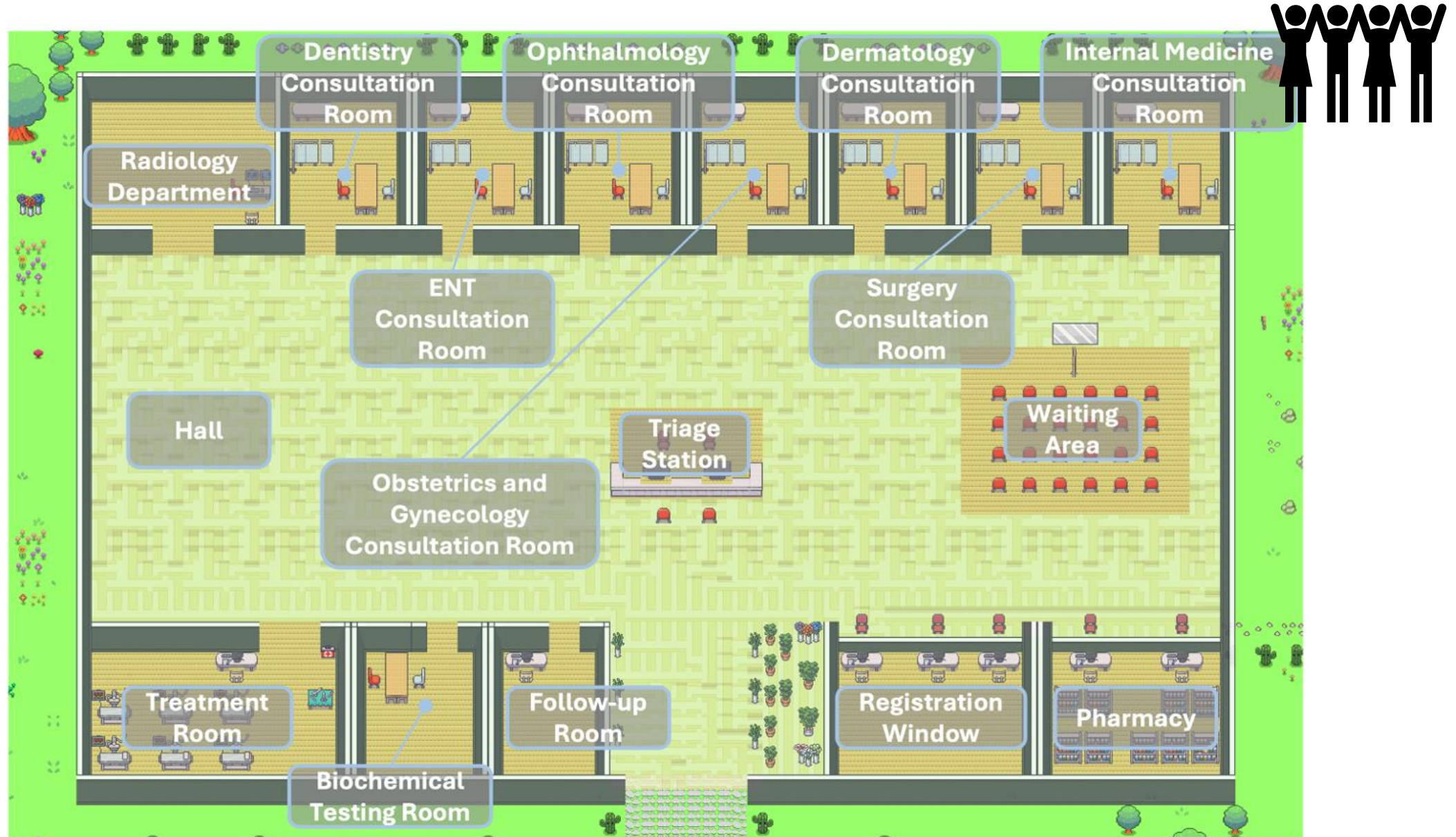
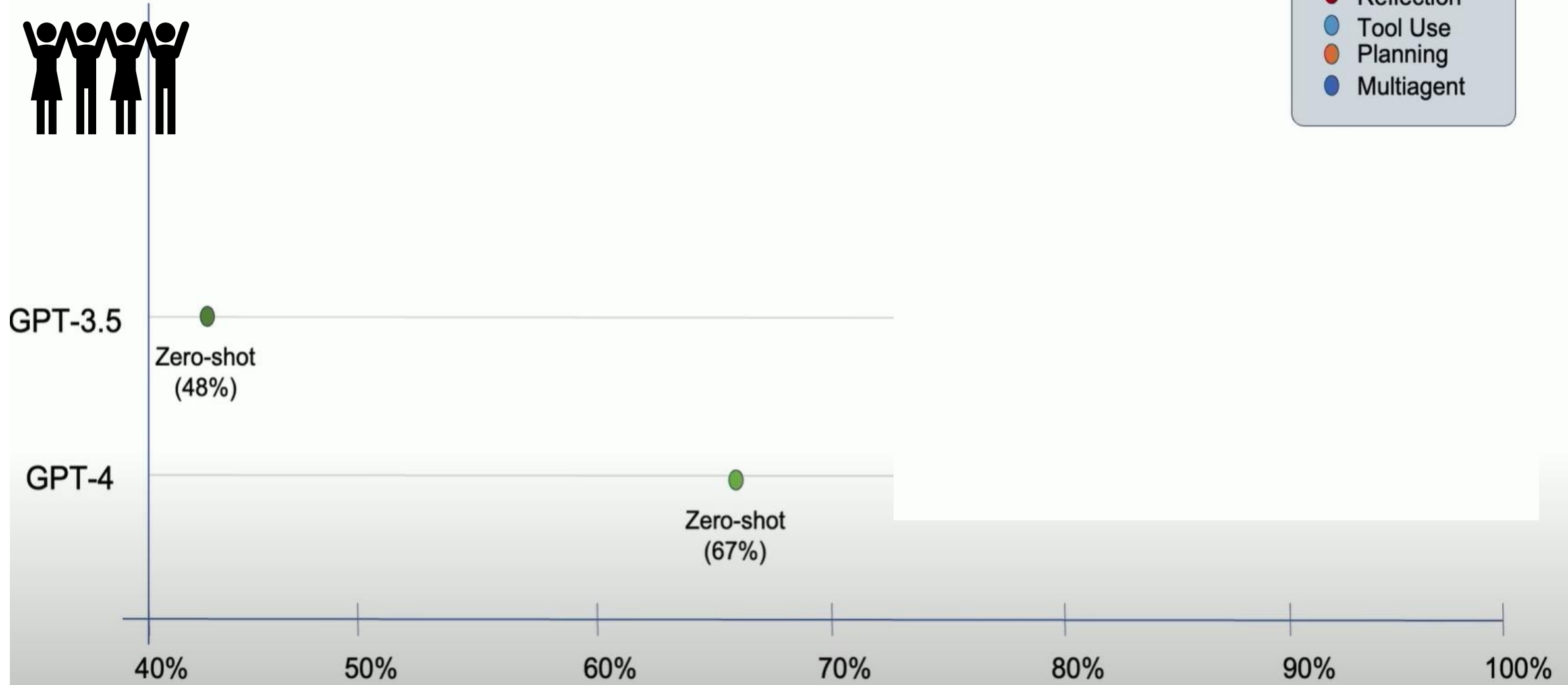


Fig. 2. The distribution of various areas within Agent Hospital.

Coding benchmark (HumanEval)



- Zero-shot
- Reflection
- Tool Use
- Planning
- Multiagent



Agenda

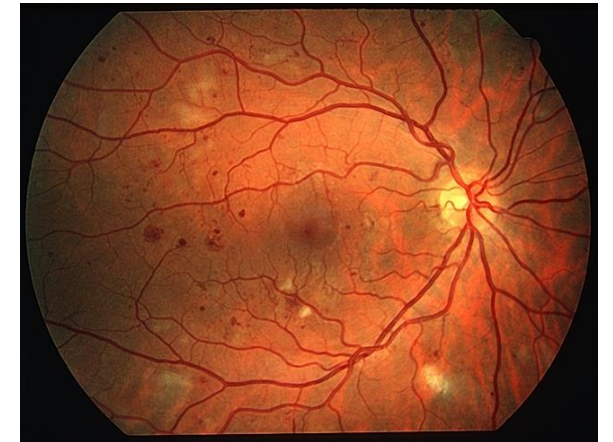
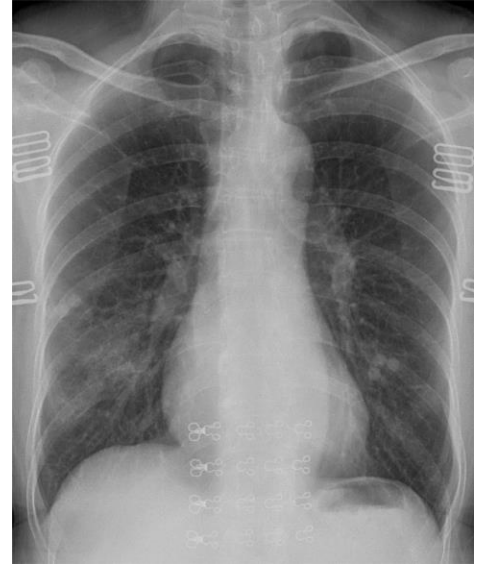
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How can AI help me?

- Documentation support
 - Prior authorizations
 - Dictations/Scribe
 - Patient messaging
 - Informed Consent
- Decision support
- Translation services

Predictive AI in Research

- Image interpretation (Rajpurkar, 2023)
 - Radiology: Chest X-rays for pneumonia, tuberculosis
 - Ophthalmology: diabetic retinopathy
 - Dermatology: skin cancer diagnosis
 - Pathology: breast cancer slides to predict mets



Predictive AI in research

- Adverse events during hospitalizations from EHR data (Rajkomar, 2018)
- Protein folding from amino acid sequences (Jumper, 2021)
- Predict future diagnoses based on past labs and diagnoses (Mukherjee, 2023)
- Semantic reconstruction of continuous language from fMRI brain recordings (Tang, 2023)
- Odor perception mapped to chemicals (Lee, 2023)
- Predict Alzheimer's Disease from EHR data 7 years early (Tang, 2024)
- Voice as a biomarker of Parkinson's, Alzheimer's, cognitive impairment, COVID-19, etc. (Idrisoglu, 2023, Bensoussan, 2024)

AI exceeding human detection skills

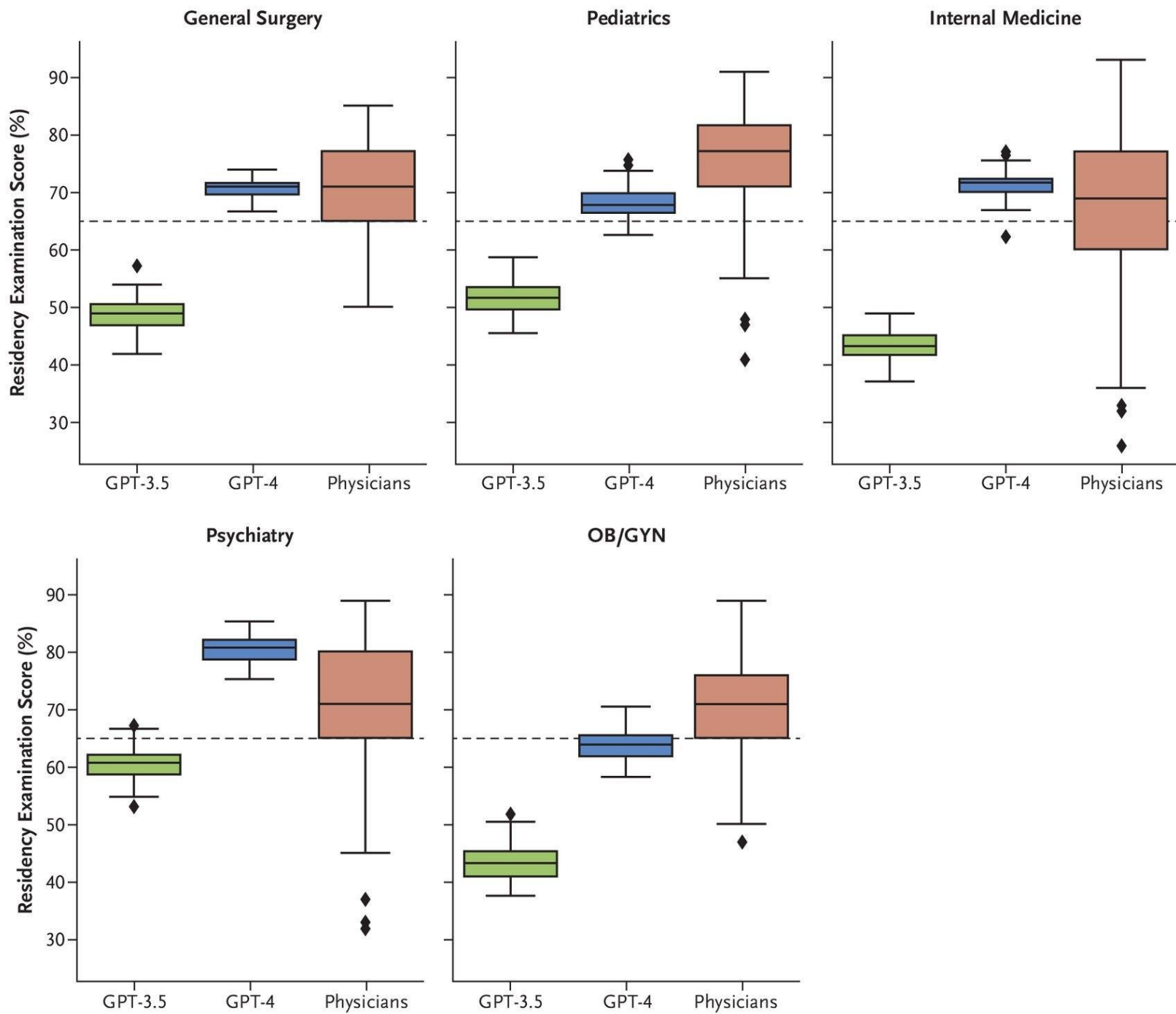
- Retinal images
 - Age, biological sex, cardiovascular risk determination (Poplin, 2018)
 - Race (Coyner, 2023)
- Electrocardiograms
 - Age, biological sex (Attia, 2019)
 - Chronic kidney disease (Holmstrom, 2023)
- Chest x-rays
 - Race (Gichoya, 2022)
 - Cardiac function and valvular disease (Ueda, 2023)
 - Diabetes (Pyrros, 2023)
 - Correlation with chronological age in healthy cohorts and for chronic diseases, difference between estimated age and chronological age (Mitsuyama, 2023)
 - Cardiac risk prediction as accurately as ASCVD (Weiss, 2024)
- CT Scans
 - Detection of Pancreatic CA 475 days early with AUROC = 0.97 (Korfiatis, 2023)

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Will AI replace me?

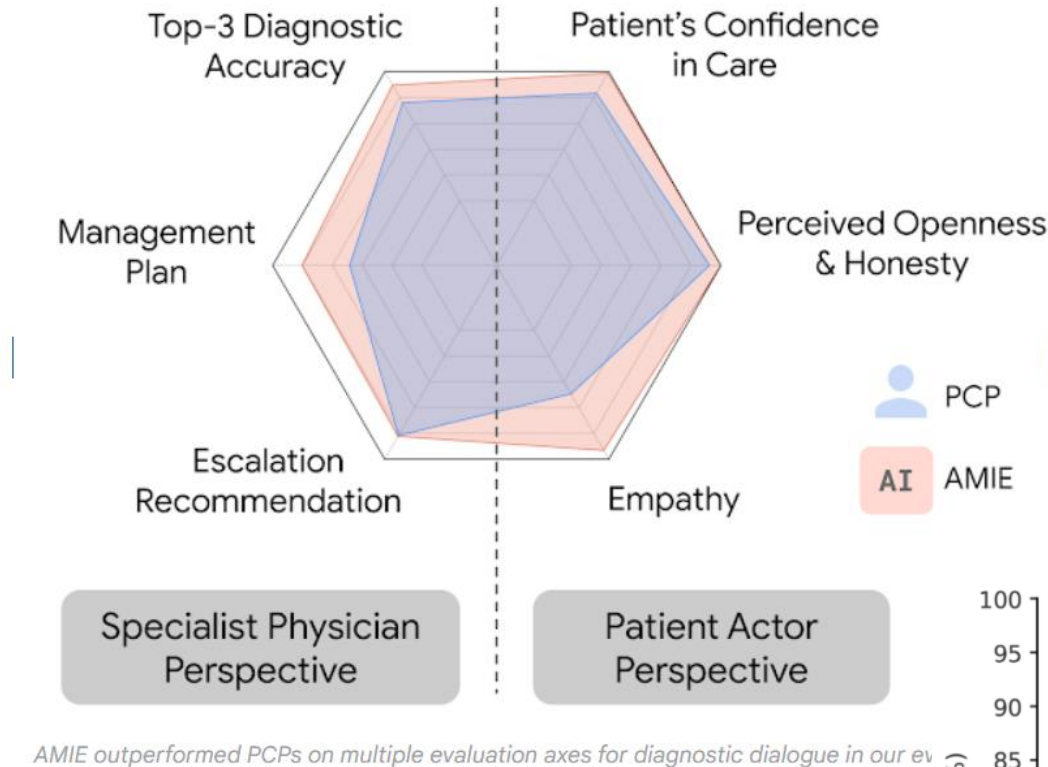




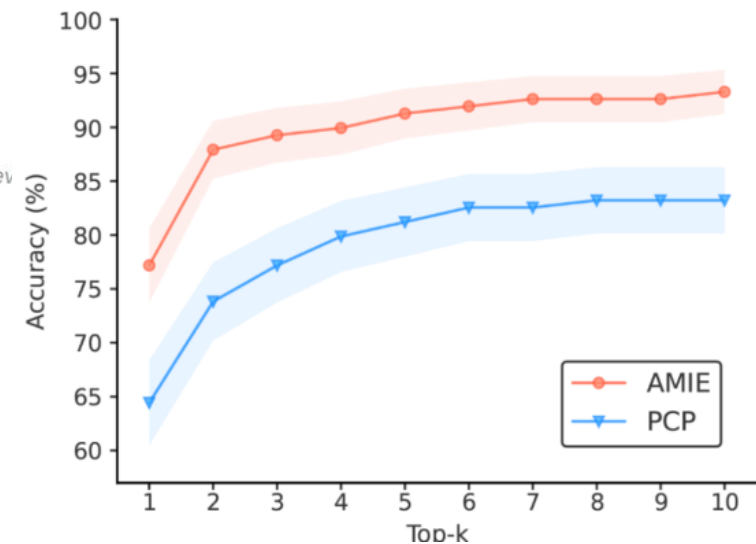
We'll always have empathy, won't we?

- Randomized, double-blind crossover study*
- Simulated patients with 149 case scenarios (OSCE format)
 - 20 PCPs vs.
 - LLM trained for diagnosis and conversation
- Blinded, chat-based
- Patients surveyed on performance

*not yet peer-reviewed

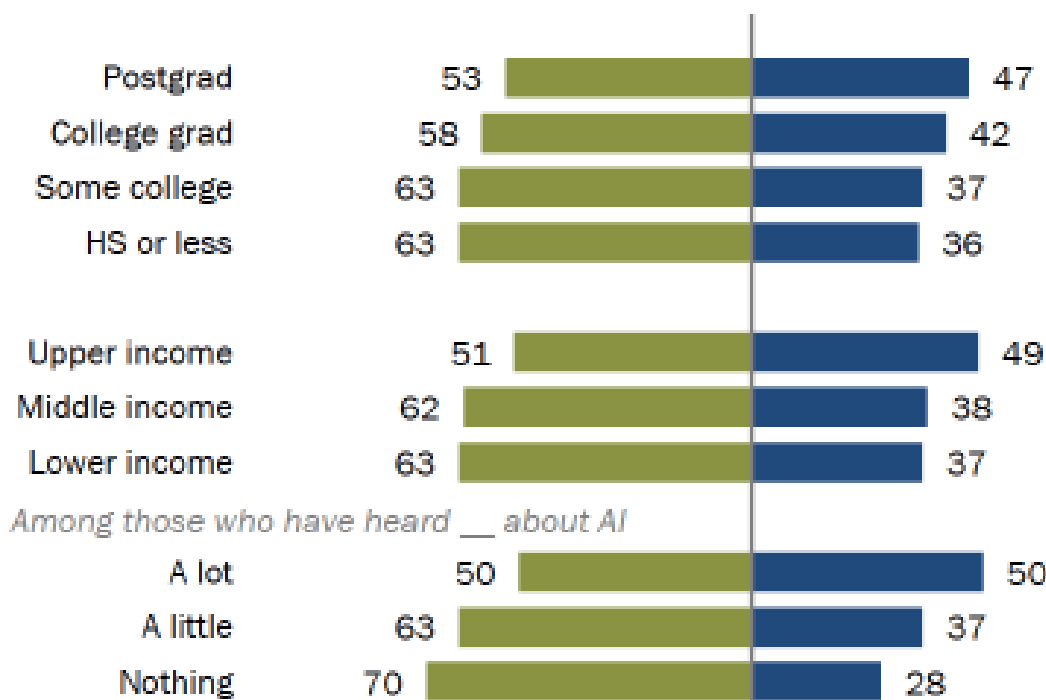
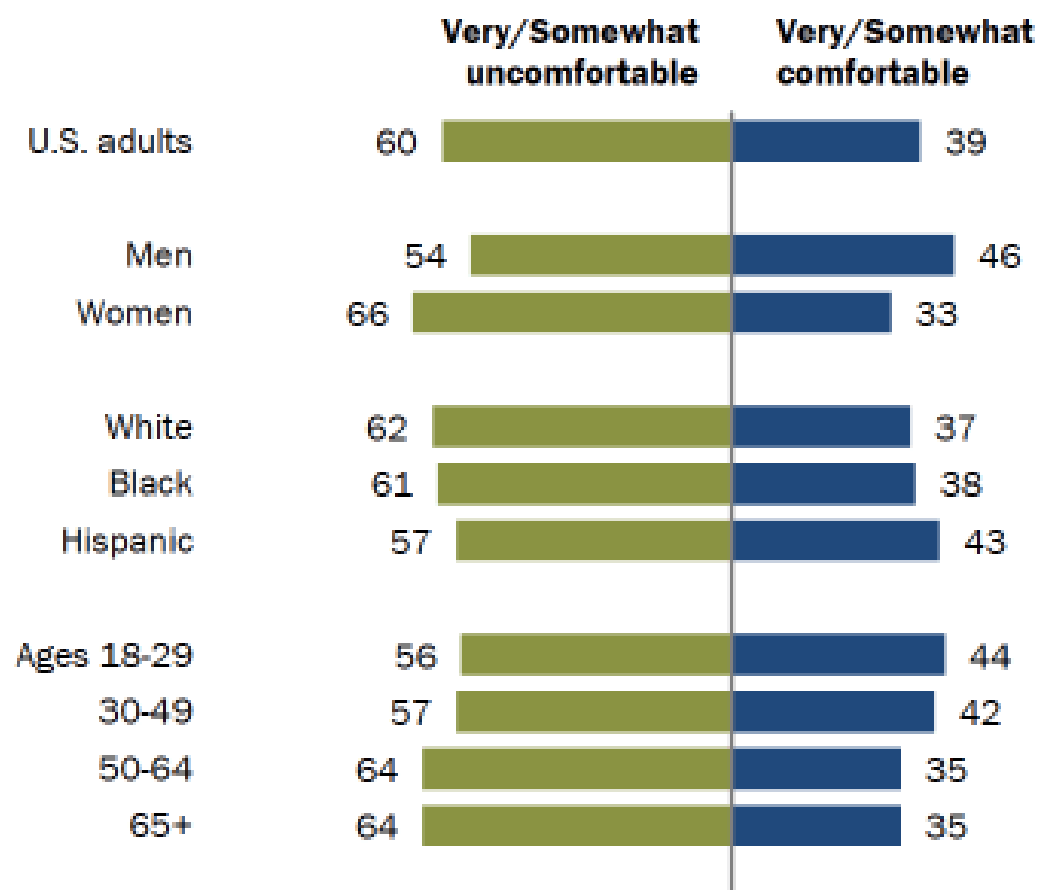


AMIE outperformed PCPs on multiple evaluation axes for diagnostic dialogue in our ev



Majority of U.S. adults would be uncomfortable if their health care provider relied on artificial intelligence

% of U.S. adults who say that they would feel ___ if their health care provider relied on artificial intelligence to do things like diagnose disease and recommend treatments



Note: Respondents who did not give an answer are not shown. White and Black adults include those who report being only one race and are not Hispanic. Hispanics are of any race. Family income tiers are based on adjusted 2021 earnings.

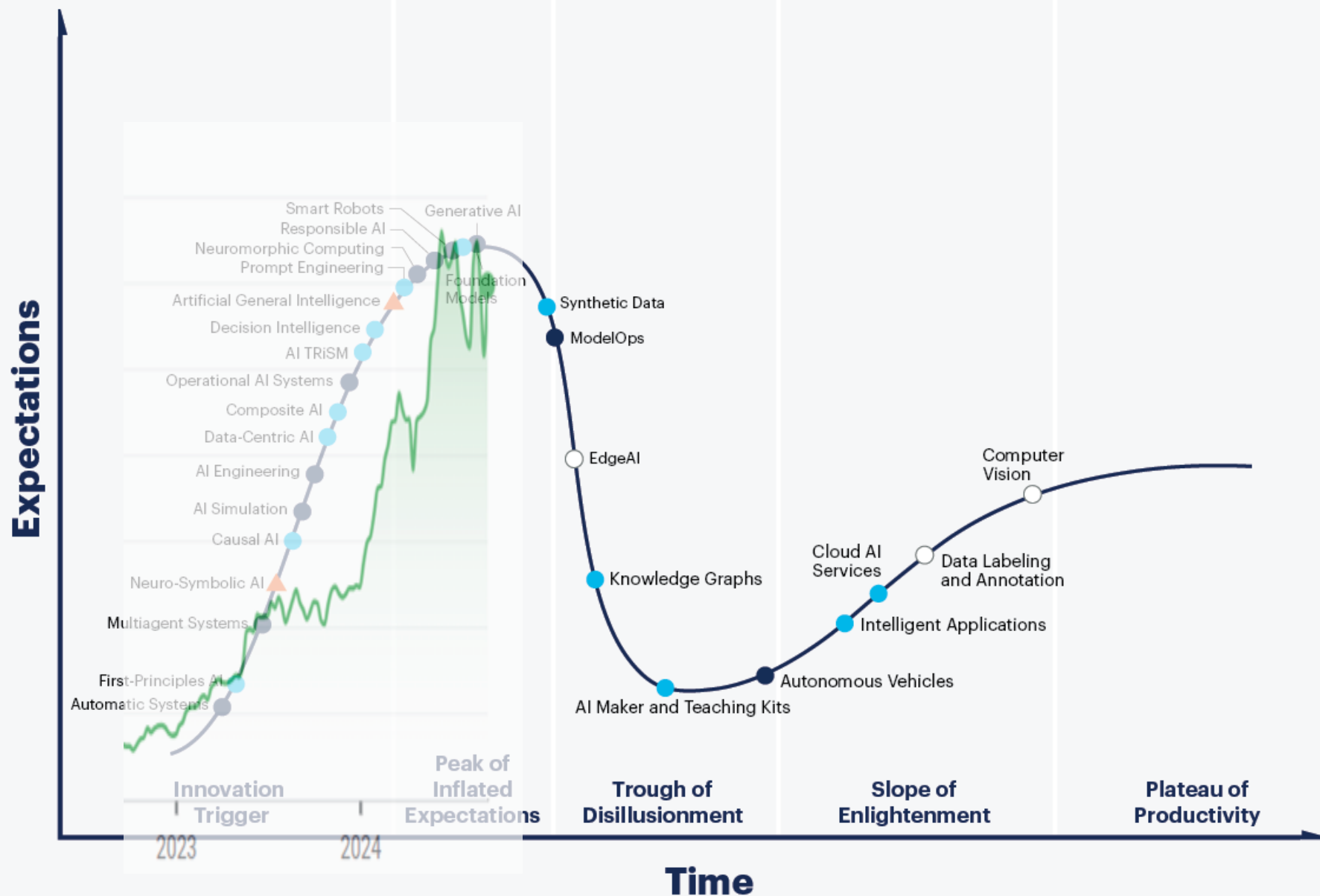
Source: Survey conducted Dec. 12-18, 2022.

"60% of Americans Would Be Uncomfortable With Provider Relying on AI in Their Own Health Care"

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Hype Cycle for Artificial Intelligence, 2023



Plateau will be reached.

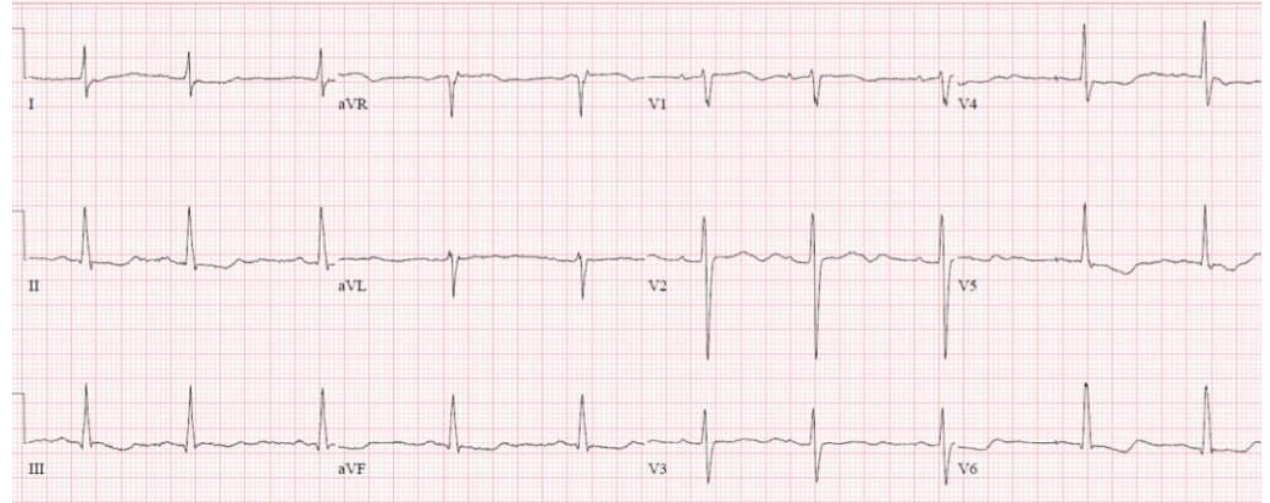
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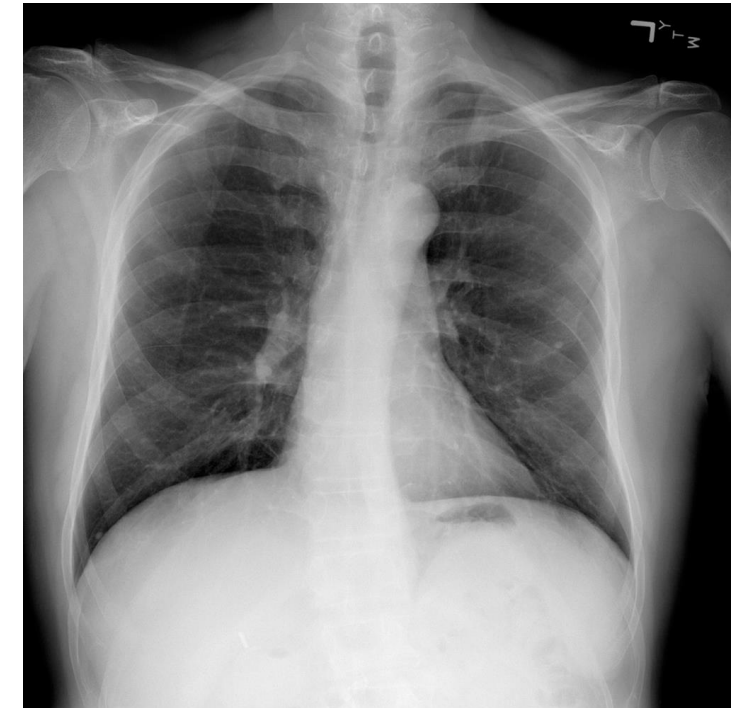
Risks of AI

Vent. rate	60	BPM
PR interval	178	ms
QRS duration	108	ms
QT/QTc	616/616	ms
P-R-T axes	89 83	-28

Sinus rhythm with instance of atrial pacing.
ST and T wave abnormality
Abnormal ECG



- Deskillng/Reskillng
- Automation Complacency
- GIGO: Bad/Incomplete data
 - Bias
 - Bad recommendations
 - Hallucinations



Demystifying the White House Executive Order on AI

What enterprise leaders need to know

COMPETITION AND COMPLIANCE

SUPPORTING WORKERS

EQUITY AND CIVIL RIGHTS

SECURITY STANDARDS

CONSUMER PRIVACY





Policy Impact of DSI Certification Criterion

Improve Transparency



Regarding how a Predictive DSI is designed, developed, trained, evaluated, and should be used

Enhance Trustworthiness



Through transparency on how certified health IT developers manage potential risks and govern predictive DSIs that are supplied by the health IT developer as part of its Health IT Module

Foster an information ecosystem



Necessary to help healthcare organizations and users of these tools better determine whether their Predictive DSIs are fair, appropriate, valid, effective, and safe (FAVES)

Advance Health Equity by Design



By addressing bias and health disparities, potentially propagated by predictive DSIs, to expand the use of these technologies in safer, more appropriate, and more equitable ways for patients and individuals



Validation of Archimedes diabetes model

Table 1—Comparison of model and trial results: trials that include people with diabetes

Name of trial	Population	Outcome	Years	Initial size	Treatment group	Result (%)	
						Model	Trial
UKPDS	Newly diagnosed type 2 diabetes	Myocardial infarction	12	1,138	Conventional	19.6	19
				2,729	Intensive*	15.4	16
		Albuminuria	12	1,138	Conventional	33.8	34
				2,729	Intensive	21.3	23
		Proteinuria	12	1,138	Conventional	9.8	10.3
				2,729	Intensive	7.6	6.8
		Retinopathy	12	1,138	Conventional	50	49
				2,729	Intensive	39	39
DPP†	Impaired glucose tolerance, Impaired fasting glucose and Overweight	Progression to diabetes	4	1,082	Control	38	37
				1,073	Metformin	31	28
					1,079	Lifestyle	21
HPS†	High risk for CAD events‡	Major coronary events	5	10,267	Placebo	11.7	11.8
				10,269	Simvastatin	8	8.8
		CHD death	5	10,267	Placebo	6.2	6.9
				10,269	Simvastatin	5	5.5
HOPE	High CAD risk§	Myocardial infarction	4.5	4,652	Placebo	11.3	11.3
				4,645	Ramipril	8.9	9
MICRO-HOPE†	High CAD risk, type 2 diabetes	Myocardial infarction	4	1,808	Placebo	13	12.9
				1,769	Ramipril	9	10.2
CARE	Recent myocardial infarction, average cholesterol	Myocardial infarction	5	2,078	Placebo	12.3	13.2
				2,081	Simvastatin	9.3	10.2
		CHD death	5	2,078	Placebo	6.2	5.7
				2,081	Simvastatin	4.4	4.6
Lewis	Type 1 diabetes, nephropathy	Doubling of creatinine	4	202	Placebo	37	33
				207	Captopril	19	22
IRMA-2	Type 2 diabetes, micro-albuminuria	Nephropathy	1.8	201	Placebo	17.4	15
				195	Irbesartan 150	9.5	9
				194	Irbesartan 300	5.3	4.5
DCCT primary	Type 1 diabetes without retinopathy	Retinopathy	8	378	Loose control	34	38
				348	Tight control	9.3	10
		Albuminuria	8	378	Loose control	29	28
				348	Tight control	17	15
		Proteinuria	9	378	Loose control	32	25
				348	Tight control	15	18
DCCT secondary	Type 1 diabetes with retinopathy	Retinopathy	8	352	Loose control	52	48
				363	Tight control	22	21
		Albuminuria	8	352	Loose control	33	35
				363	Tight control	22	22
		Proteinuria	9	352	Loose control	9	11
				363	Tight control	5	6
IDNT	Type 2 diabetes, nephropathy	Doubling of creatinine	4	579	Placebo	35	37
				569	Irbesartan	26	28

*Sulphonylurea, Metformin, or insulin; †not used to build physiology model; ‡CAD, occlusive arterial disease or diabetes; §CAD or diabetes plus at least one CVD risk factor; ||eight additional validation exercises were done for the under-60 and over-60 age-groups. No model results were significantly different from trial results.

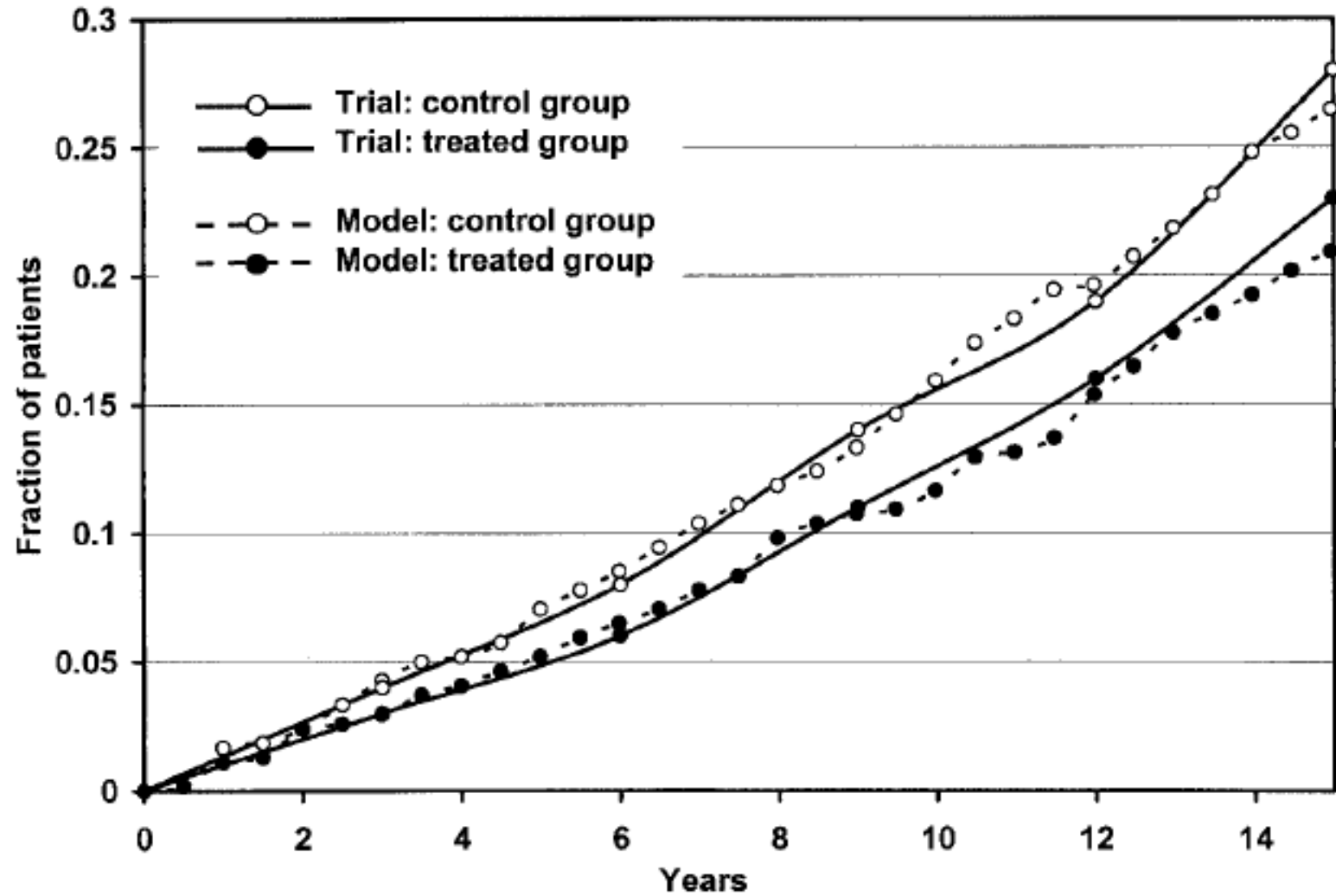


Figure 1—Comparison of model and trial: fraction of patients having myocardial infarctions in the UKPDS.

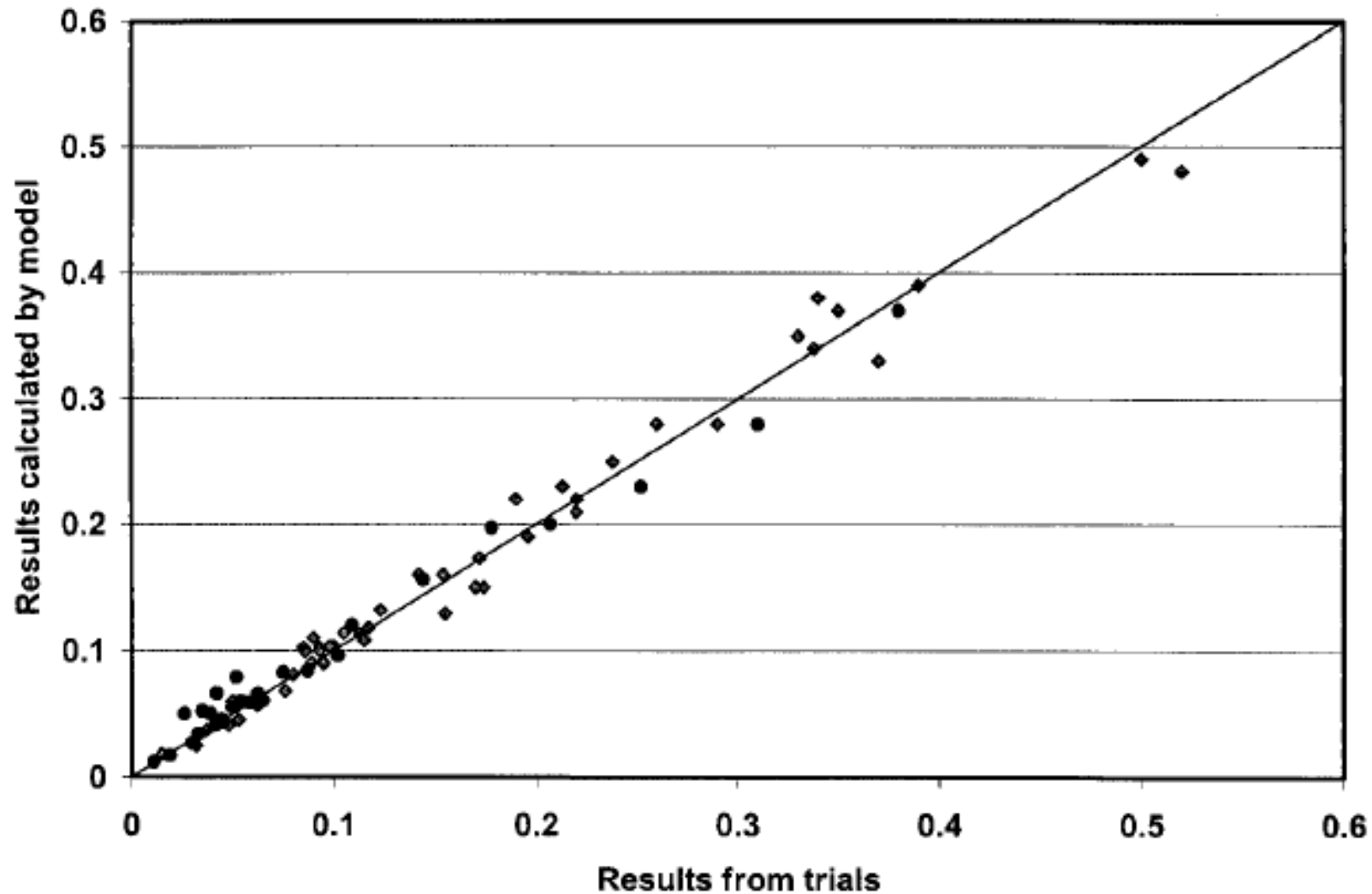
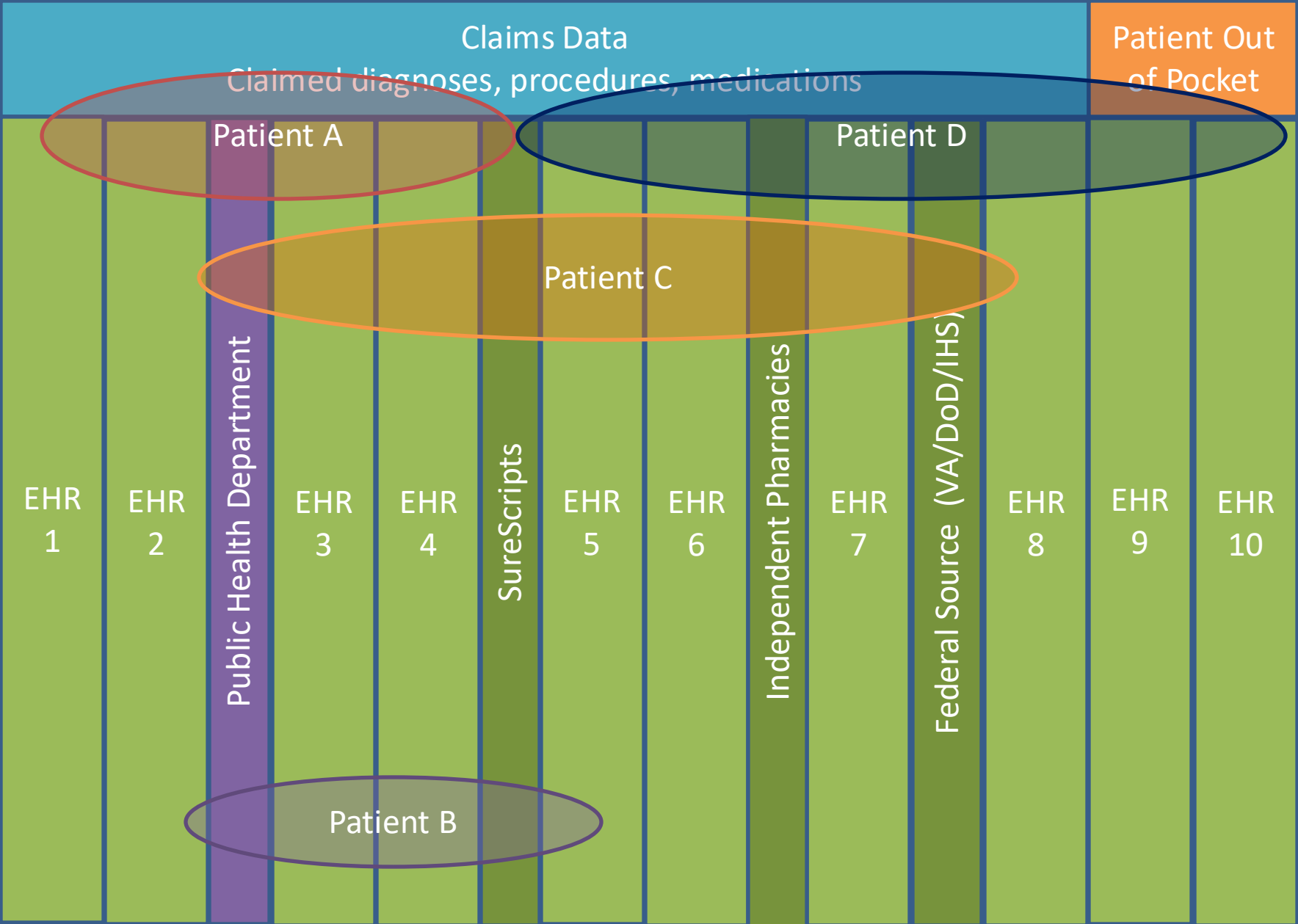
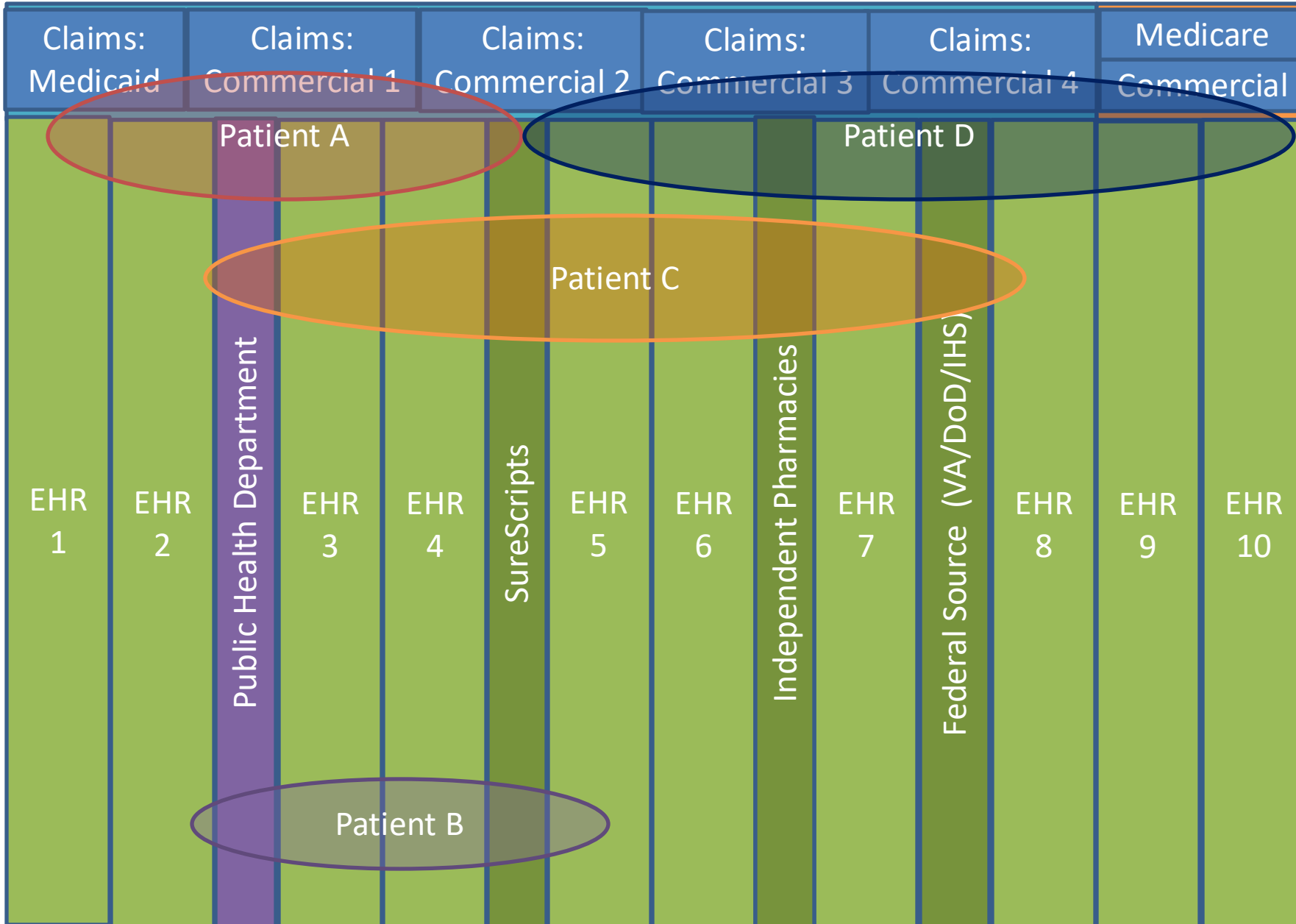
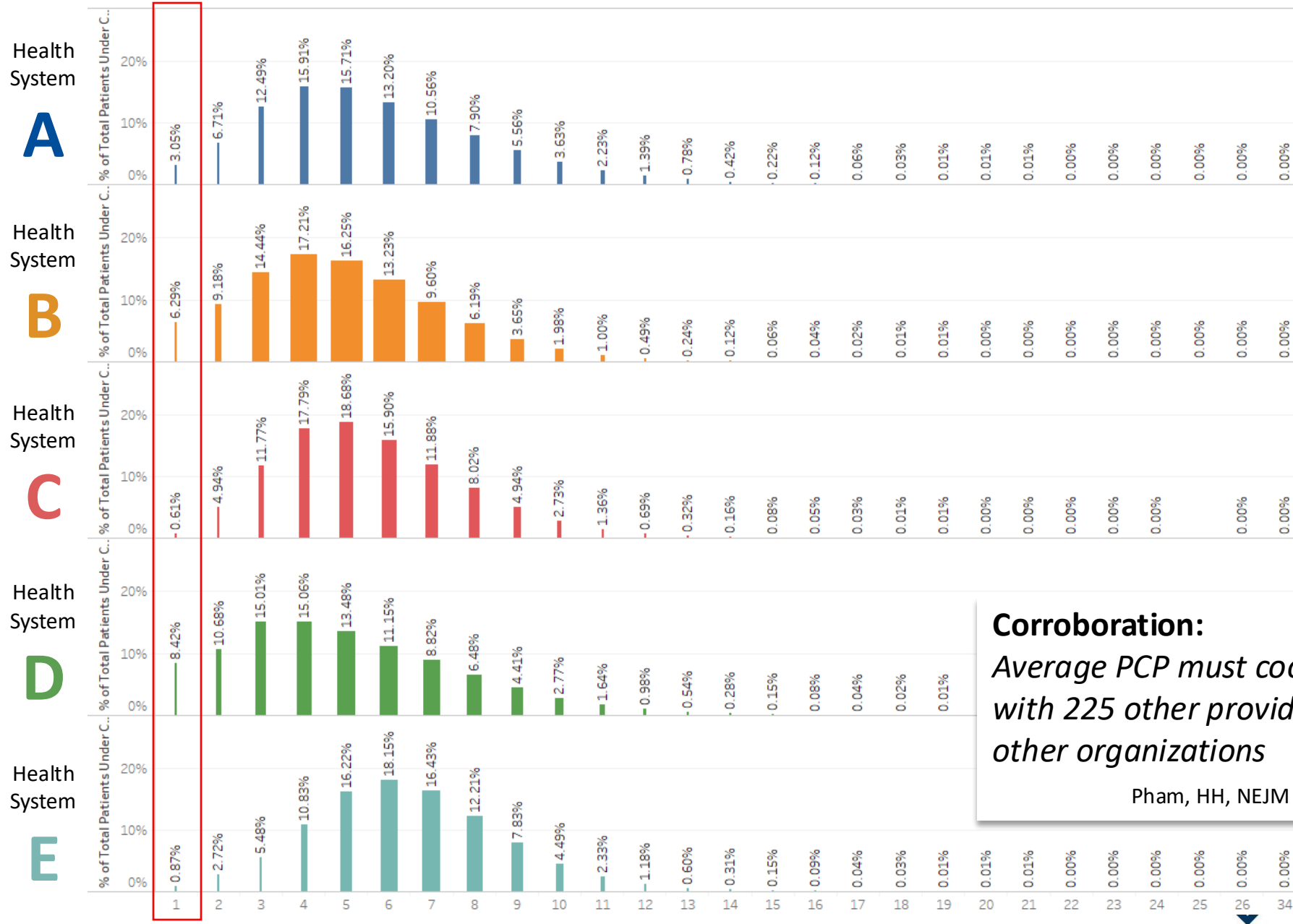


Figure 3—Comparison of the results calculated by model with the results of the actual trials for 74 validation exercises. Filled circles compare the results calculated by the trials (x-axis) and the results calculated by the model (y-axis) for independent or external validation exercises. Gray diamonds compare the results for dependent or internal validation exercises. The 45° line indicates perfect accuracy. The results will deviate from this line due to random factors as well as any inaccuracies in the model.





Data fragmentation by health system



Corroboration:
Average PCP must coordinate care with 225 other providers in 117 other organizations
 Pham, HH, NEJM 2007; 356: 1130-1139

Fragmentation by EHR Vendor

Athena

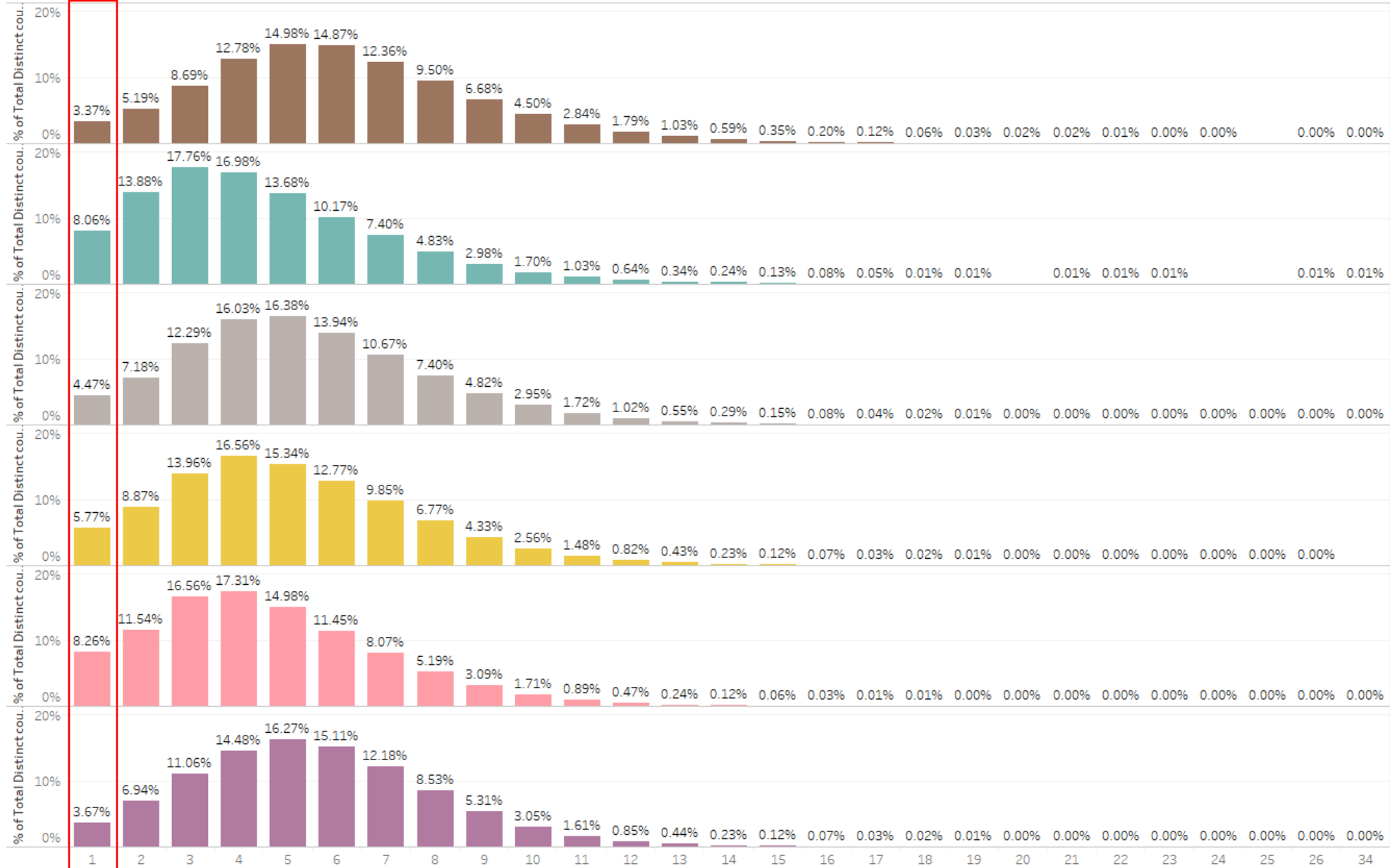
CPSI

Cerner

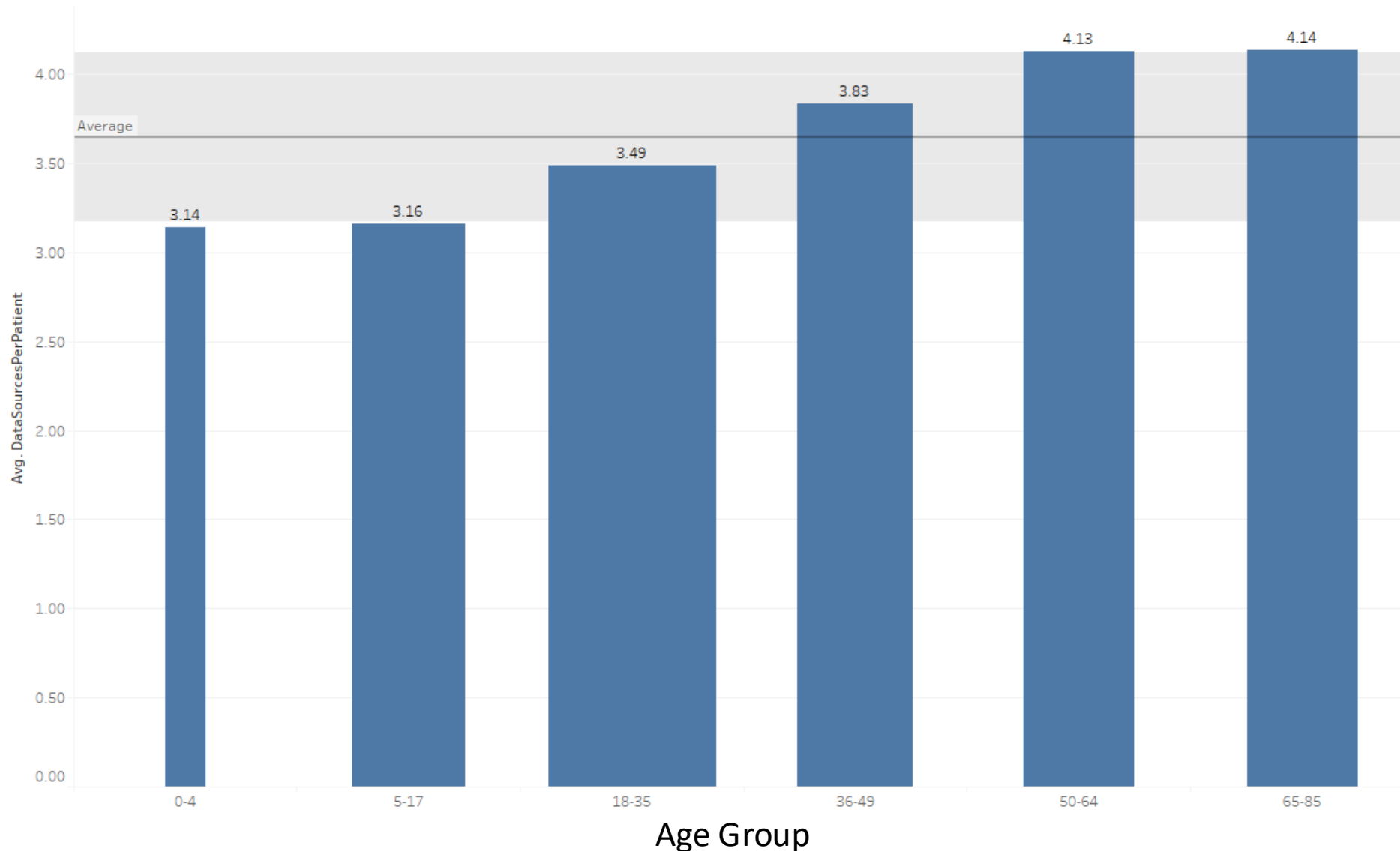
eCW

Epic

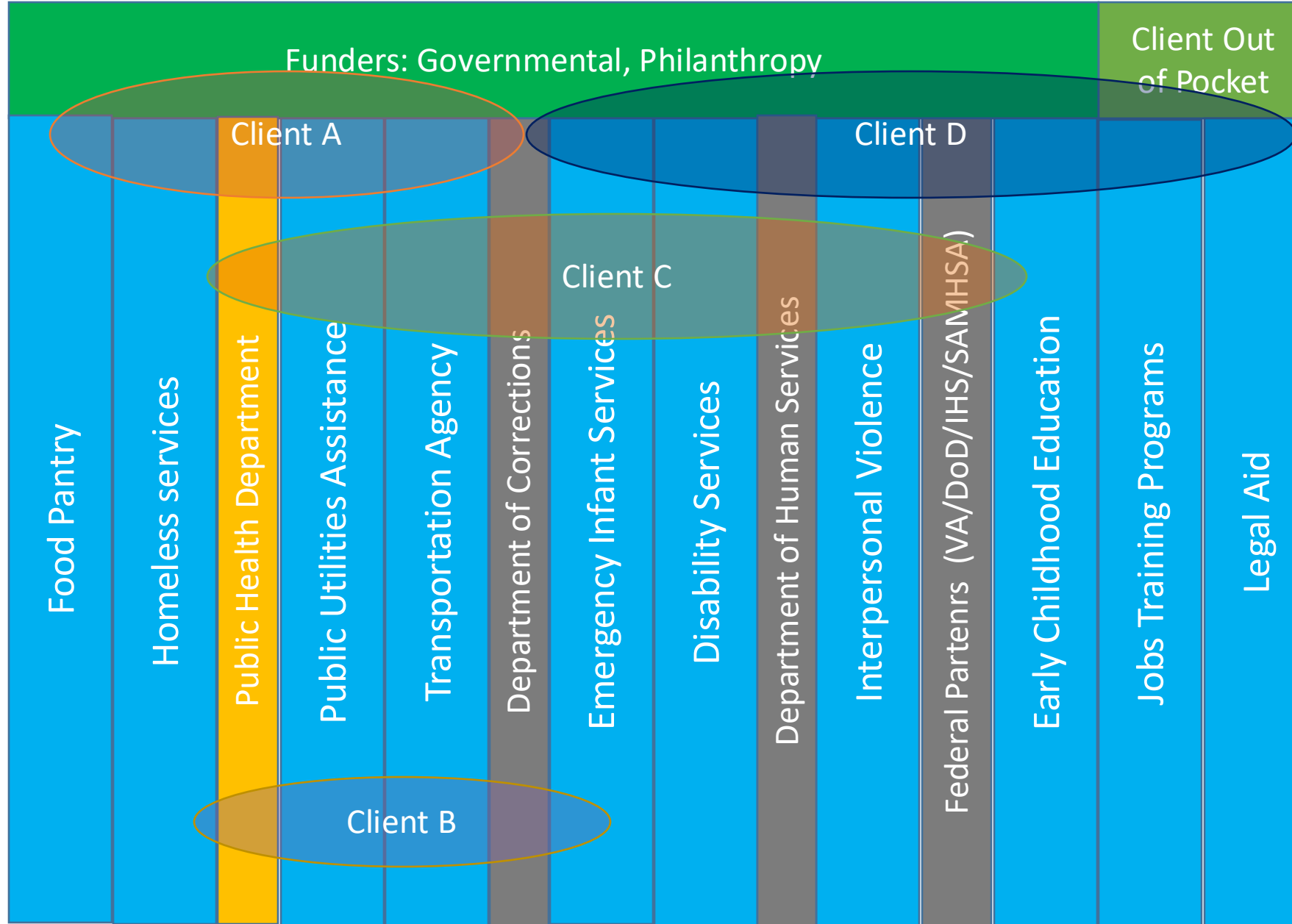
Meditech



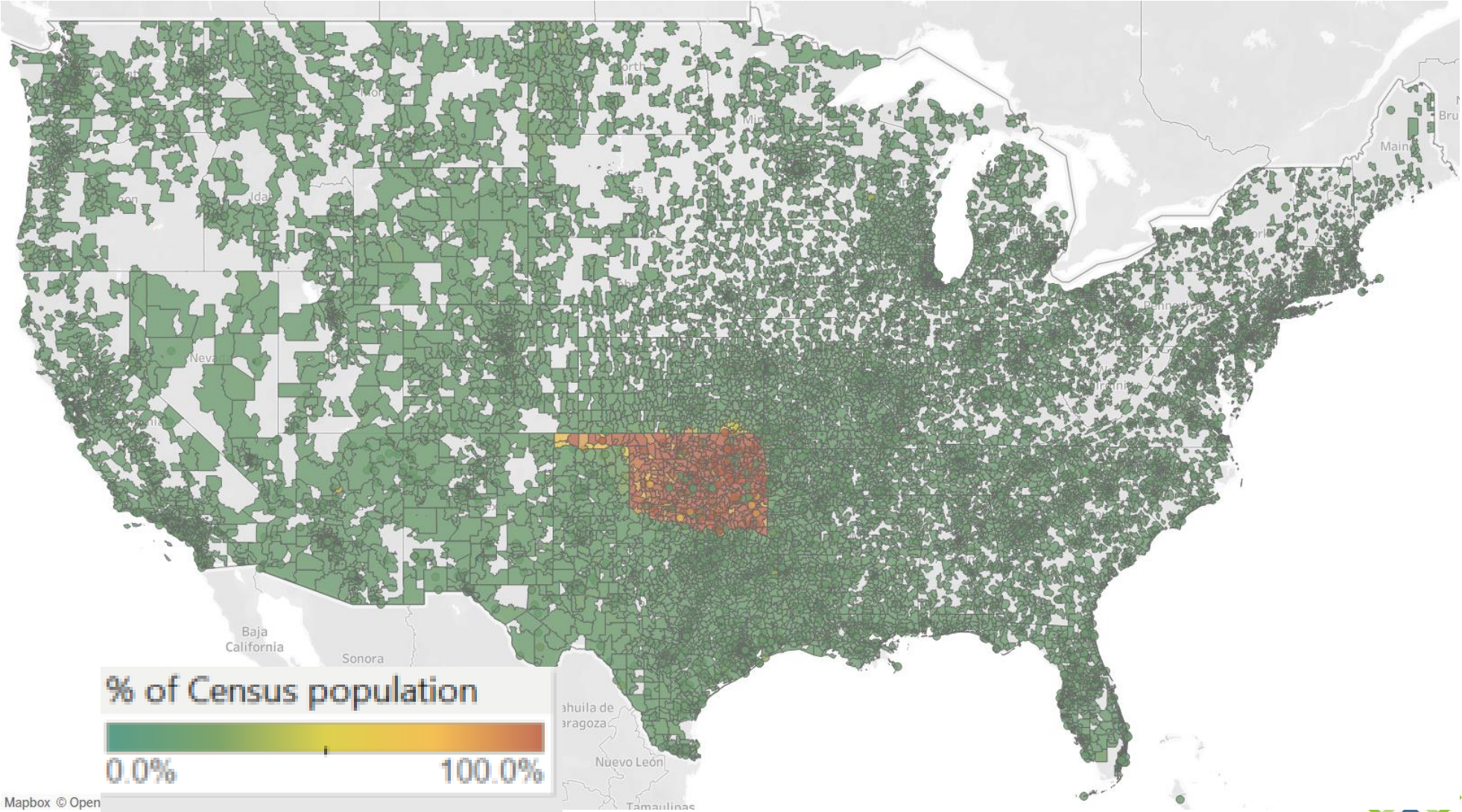
Number of Data Sources by Age Grouping

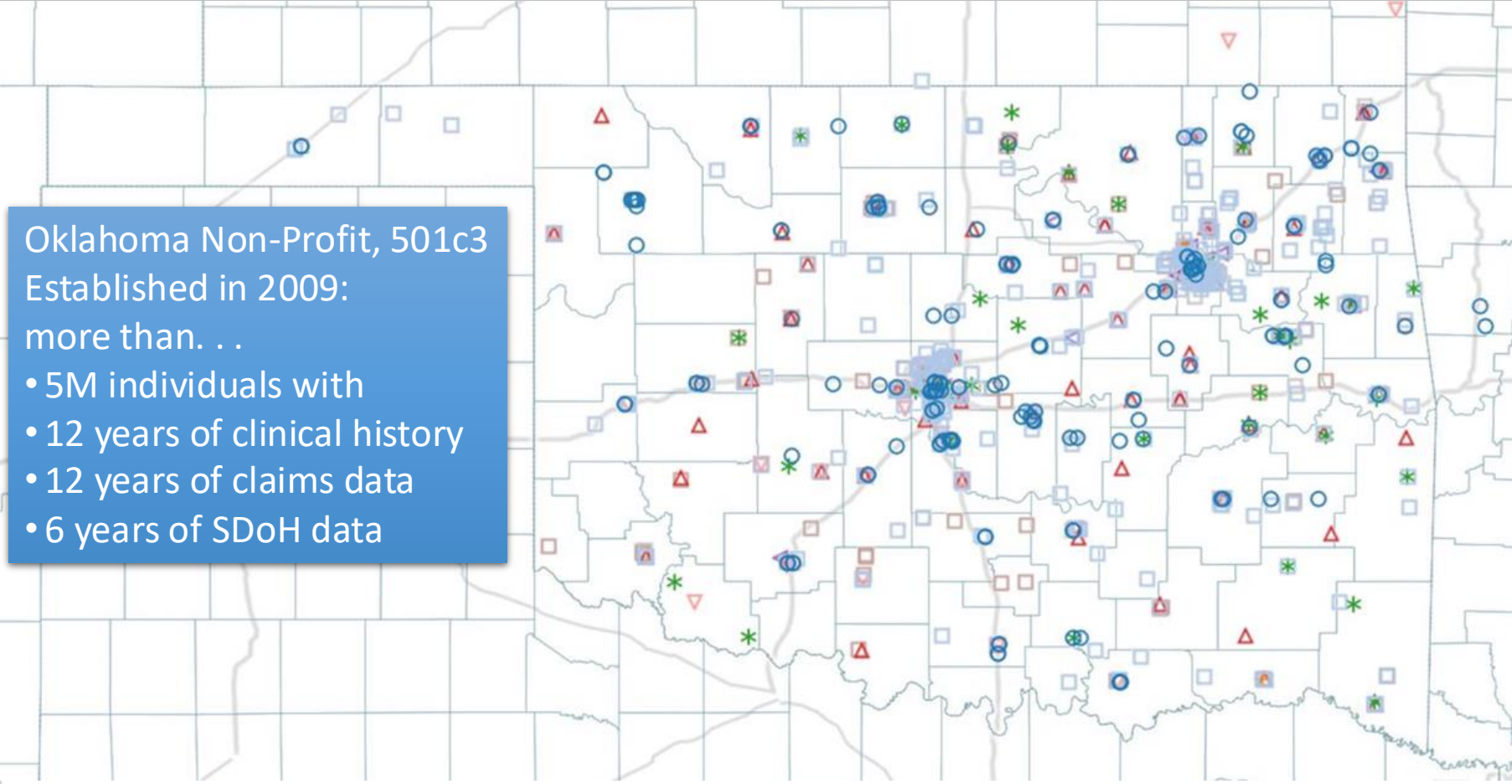


Social Determinants of Health



MyHealth Patient Population





Oklahoma Non-Profit, 501c3
 Established in 2009:
 more than . . .

- 5M individuals with
- 12 years of clinical history
- 12 years of claims data
- 6 years of SDoH data

Facility Type			Facility Type		
Null	Emergency Services	Lab	Pharmacy	Emergency Services	Lab
Behavioral Health...	FQHC	Long Term Care ...	Public Health	Behavioral Health...	FQHC
Clinic	Hospice	Ophthalmology/Op...	Urgent Care Facility	Clinic	Hospice
Community/Social...	Hospital	Payer		Community/Social...	Hospital
				Payer	Urgent Care Facility



PROVIDER PORTAL



Patient Charts

Mouse, Mickey (F, 71)
DOB: 10/02/1950

Address: 1000 WHITE HOUSE, BRIDGETON, MO 63044, USA
Mobile: +1-580-222-5555
Home: +1-314-777-9311

WC CCSI
WC CCSI
WC CCSI

Summary

Encounters

Encounter Type	Admit - Discharge Dates	Source
Ambulatory	03/03/2022 00:00 - 03/03/2022 00:00	SSM Health Care - Hospital
Ambulatory	01/11/2022 00:00 - 01/11/2022 00:00	SSM Health Care - Hospital
Ambulatory	01/10/2022 00:00 - 01/10/2022 00:00	SSM Health Care - Hospital
Ambulatory	01/04/2022 00:00 - 01/04/2022 00:00	SSM Health Care - Hospital
Ambulatory	11/30/2021 18:44 -	SSM Health Care - Hospital
Ambulatory	10/28/2021 10:40 - 10/28/2021 10:55	SSM Health Care - Hospital
Ambulatory	10/28/2021 10:36 -	SSM Health Care - Hospital
Ambulatory	10/28/2021 00:00 -	SSM Health Care - Hospital
Ambulatory	10/21/2021 00:00 - 10/21/2021 00:00	SSM Health Care - Hospital
Ambulatory	10/20/2021 00:00 - 10/20/2021 00:00	SSM Health Care - Hospital
O/p	10/12/2021 10:51 -	SSM Health Care - Hospital
O/p	10/12/2021 00:00 -	SSM Health Care - Hospital
Ambulatory	10/12/2021 00:00 - 10/12/2021 00:00	SSM Health Care - Hospital
O/p	09/28/2021 10:47 -	SSM Health Care - Hospital
O/p	09/28/2021 00:00 -	SSM Health Care - Hospital
Ambulatory	09/28/2021 00:00 - 09/28/2021 00:00	SSM Health Care - Hospital
Ambulatory	09/20/2021 00:00 - 09/20/2021 00:00	SSM Health Care - Hospital
Ambulatory	08/31/2021 00:00 - 08/31/2021 00:00	SSM Health Care - Hospital
Ambulatory	08/20/2021 00:00 - 08/20/2021 00:00	SSM Health Care - Hospital
Ambulatory	08/13/2021 13:43 - 08/13/2021 14:03	SSM Health Care - Hospital

Problems

Problem/Condition	Code	Onset Date	Status	Source
Displaced fracture of proximal phalanx of left index finger, initial encounter for closed fracture	ICD-10 S62.611A	10/28/2021	Active	SSM Health Care
Unspecified chronic conjunctivitis, unspecified eye	ICD-10 H10.409	10/28/2021	Active	SSM Health Care
Acute pharyngitis, unspecified	ICD-10 J02.9	10/28/2021	Active	SSM Health Care
Gastro-esophageal reflux disease without esophagitis	ICD-10 K21.9	10/12/2021	Active	SSM Health Care
Gastro-esophageal reflux disease without esophagitis	ICD-10 K21.9	09/28/2021	Active	SSM Health Care
Encounter for general adult medical examination without	ICD-10 Z00.00	08/13/2021	Active	SSM Health Care

Documents

Description	Created
Summary of Care Summarization of Episode Note	03/06/2022 14:09
Summary of Care Summarization of Episode Note	02/07/2022 10:07
Summary of Care Summarization of Episode Note	01/27/2022 14:20
Summary of Care Summarization of Episode Note	01/21/2022 19:02
Summary of Care Summarization of Episode Note	01/15/2022 19:03
Summary of Care Summarization of Episode Note	01/15/2022 19:02
Summary of Care Summarization of Episode Note	01/14/2022 09:48
Summary of Care Summarization of Episode Note	11/02/2021 09:28
Nation, Cary Douglas, PA-C - 10/30/2021 9:27 AM CDT Progress Note	10/30/2021 09:27
Summary of Care Summarization of Episode Note	10/26/2021 04:00
Summary of Care Summarization of Episode Note	10/26/2021 04:00
Summary of Care Summarization of Episode Note	10/24/2021 08:22
Summary of Care Summarization of Episode Note	10/23/2021 14:54
Summary of Care Summarization of Episode Note	10/15/2021 10:50
Summary of Care Summarization of Episode Note	10/09/2021 19:01
Summary of Care Summarization of Episode Note	09/23/2021 15:02
Summary of Care Summarization of Episode Note	09/11/2021 19:02
Summary of Care Summarization of Episode Note	08/23/2021 14:21
Summary of Care Summarization of Episode Note	08/20/2021 14:32
Summary of Care Summarization of Episode Note	08/20/2021 14:22

Immunizations

Immunization	Administered Date
FLU VACCINE IRV INC ANTIG PF IM	10/07/2020 00:00
FLU VACCINE QUAD IN4 PF ID	11/09/2018 00:00
FLU VACCINE QUAD IN4 SPLIT PF IM	11/09/2018 00:00

Labs (last 5 panels displayed, trendline displays last 5 results if available)

Panel	Test	Value	Interpret
IRBNA1VSC - POCT (B) MYOPEPTASIN	Comment	Notification	

https://provider.myhealthaccess.net

Value Proposition:


- Find the most complete records immediately.
- No need to read separate documents from every org.
- Close loops on referrals.



Health Data Utility: Rich Clinical, Claims, NMDoH Data

- Diagnoses
- Medications
- Allergies
- Vital signs
- Clinical documents
 - H&P
 - D/C summary
 - Operative/Procedure notes
 - Progress notes
 - POLST/MOLST
 - Advanced Directives/Powers of Atty
- Labs/Observations/Assessments
- Insurance
- Dispensed Medications
- Equipment Devices
- Related Persons
- Social History
- Family History
- Radiology
- Care Team
- Goals of treatment

MyHealth Provider Portal + FHIR API



Saint Francis Health System | Help | Butler Lance (mhlbutlertest) | Sign out

Patient Charts
Patient Results Query

Community data displayed
All sources

Wolf, Jesus D. (M, 88)
Address: 98 Trusel Ave., Oklahoma City, OK 73109, USA
DOB: 05/07/1932

Clinician Dashboard

Patient Charts

Summary
Graphs x
Enco... x
Allerg... x
Radio... x
Immu... x
Vitals x
Social... x
Medic... x
Proce... x
Probl... x
Dispe... x
Relat... x
Docu... x
Lab x
Famil... x
Equip... x
Insur... x

Encounters

Encounter Type	Admit - Discharge Dates	Source
Inpatient	07/19/2018 13:19 - 08/07/2018 18:57	[Redacted]

Medical conditions

Problem/Condition	Onset Date	Source
Dementia	07/19/2018	[Redacted]
Multiple wounds	07/19/2018	[Redacted]
UTI (urinary tract infection)	07/19/2018	[Redacted]

Medications


Medication	Source
amikacin 500 mg in sodium chloride 0.9 % 100 mL IVPB	[Redacted]
Hydrocodone-Acetaminophen 7.5-325 Mg/15ml Po Soln	[Redacted]
Magnesium Sulfate 2 Gm/50ml IV Soln	[Redacted]
Pantoprazole Sodium 40 Mg IV Solr	[Redacted]
amikacin (AMIKIN) 500 mg in sodium chloride (NS) 0.9 % 100 mL IVPB	[Redacted]
Docusate Sodium 50 Mg/5ml Po Liqd	[Redacted]
Potassium Chloride 20 Meq/15ml (10%) Po Soln	[Redacted]
Insulin Aspart 100 Unit/ML Sc Soln	[Redacted]
Insulin Aspart 100 Unit/ML Sc Soln	[Redacted]
dextrose 50 % injection 25 mL	[Redacted]
Vancomycin Hcl In Dextrose 1-5 Gm/200ml-% IV Soln	[Redacted]
cefTAZidime (FORTAZ) 500 mg in sodium chloride (NS) 0.9 % 50 mL IVPB	[Redacted]
Vancomycin 1250 Mg In 250 ML Ns Repackaging Formula	[Redacted]
Hydrocodone-Acetaminophen 7.5-325 Mg/15ml Po Soln	[Redacted]
Vancomycin Hcl In Dextrose 1-5 Gm/200ml-% IV Soln	[Redacted]
Metoprolol Tartrate 25 Mg Po Tabs	[Redacted]
Docusate Sodium 100 Mg Po Caps	[Redacted]
Piperacillin-Tazobactam In Dex 4-0.5 Gm/100ml IV Soln	[Redacted]
Sodium Chloride 0.9 % IV Soln	[Redacted]
Pantoprazole Sodium 40 Mg IV Solr	[Redacted]

[Show more results](#)

Labs (last 5 panels)

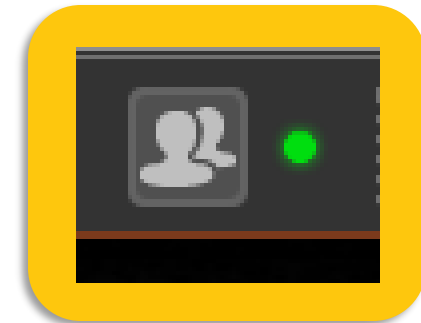
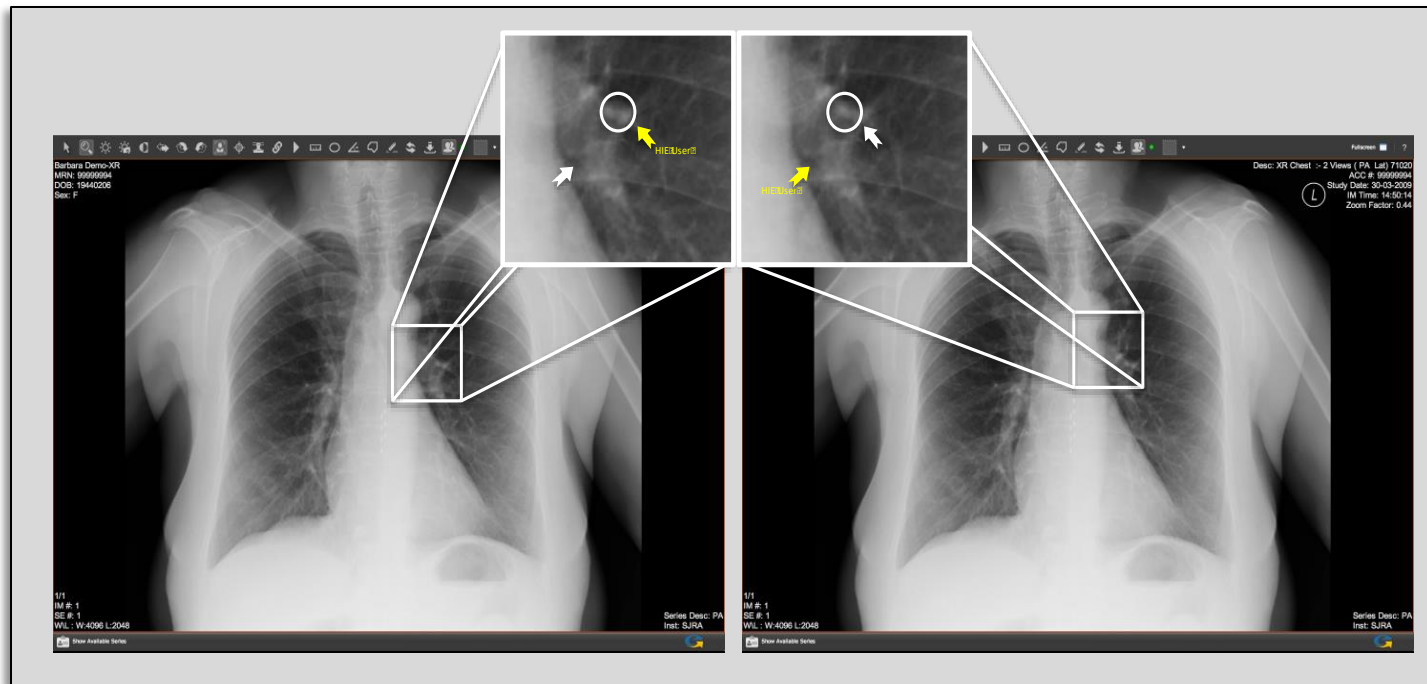
Panel	Test	Value	Interpretation	Elapsed Time
Glucose Level,Bedside by Glucometer	Lab Interpretation	Abnormal		1y 9m
	EID	E064493		
CBC	Gluc Bedside	171 H		1y 9m
	The following orders were created for panel order CBC; Procedure Abnormality Status; -----			
BMP	Lab Interpretation	Abnormal		1y 9m
	GFR, non-African-American	>=60		
	GFR, African-American	>=60		
	Ca	9.5		
	K	4		
	Na	141		
	Cl	108		
	CO2	26		
	Creat	0.87		
	BUN	21		
Magnesium Level	Lab Interpretation	Normal		1y 9m
	Mg	1.7		
CBC with Differential	Lab Interpretation	Abnormal		1y 9m
	Absolute Basophils	0.0 K/cmm		
	Absolute Eosinophils	0.6 K/cmm		
	Absolute Monocytes	0.6 K/cmm		
	Absolute Lymphocytes	1.3 K/cmm		
	Absolute Neutrophils	5.4 K/cmm		
Baso (%)	Baso (%)			
	Eos (%)	7 H		

Privacy Policy | Provider Portal 1.0.0 © 2020 Info World

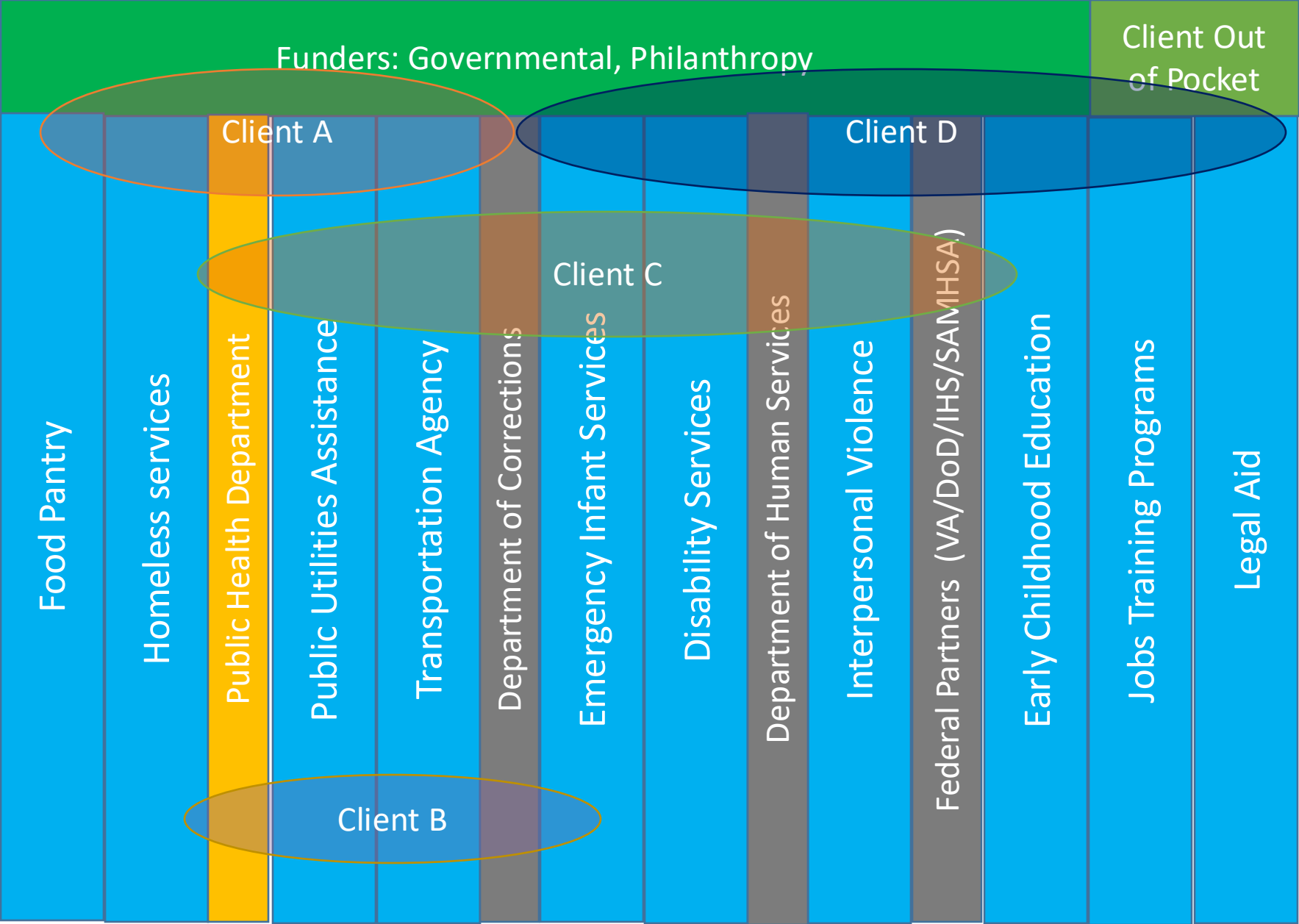


Proposed: Real-Time Image Exchange & Collaboration

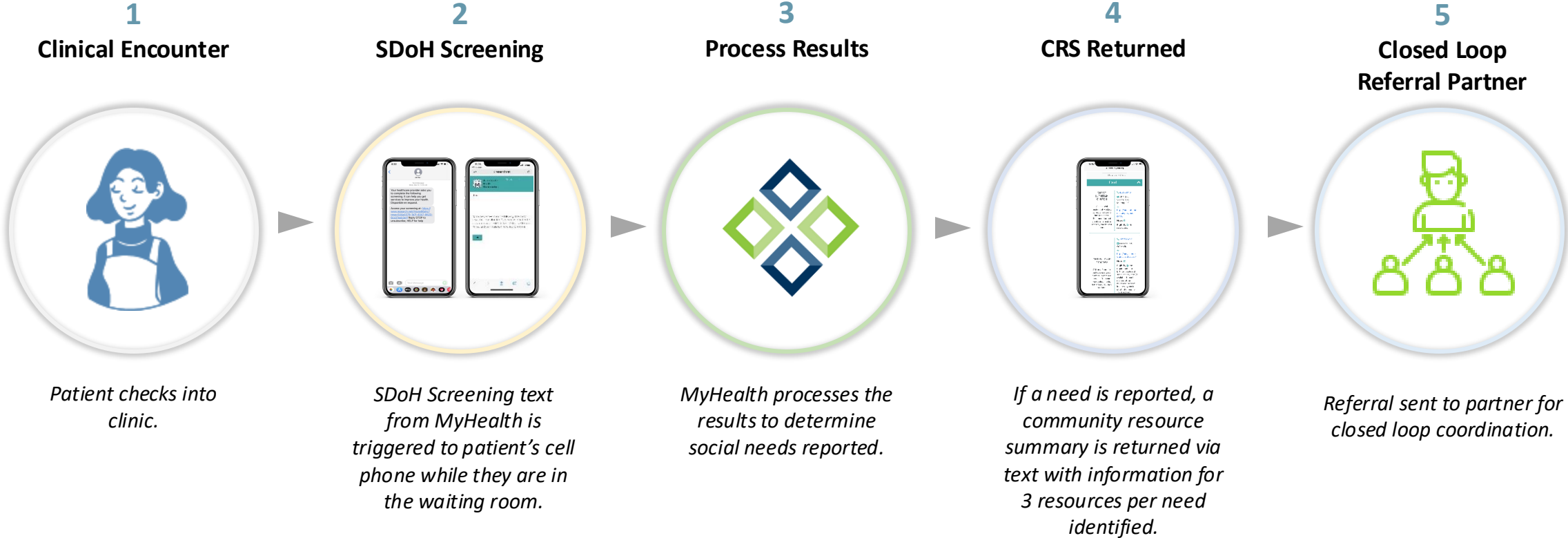
- Immediate consultations with any caregiver in the HIE community
- One-click to initiate a collaboration session
- Full access to real-time image manipulation for all collaborators
- Standard feature is accessible for all eHealthViewer® ZF users



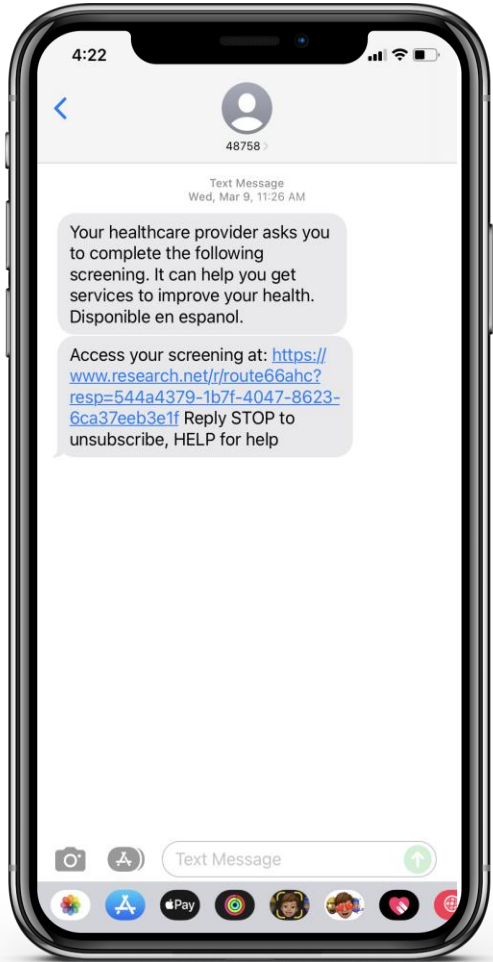
MyHealth now working with social needs and early childhood programs, where data is even more fragmented...




SDOH Mobile Screening & Referral



Mobile Screening



11:29
Messages
AA research.net

 Accountable Health Communities Screening Tool

Language

*1. Which of the following languages would you feel comfortable completing a survey in?

English
 Spanish

Click the link below if you would like to view the Privacy Act Notice for the Accountable Health Communities
Model: <https://myhealthaccess.net/MyHealth-Accountable-Health-Communities-Screening-Privacy-Notice-Final.pdf>


OK

7. Within the past 12 months, you worried that your food would run out before you got money to buy more.

- Often true
 Sometimes true
 Never true

9. In the past 12 months, has lack of reliable transportation kept you from medical appointments, meetings, work or from getting to things needed for daily living?

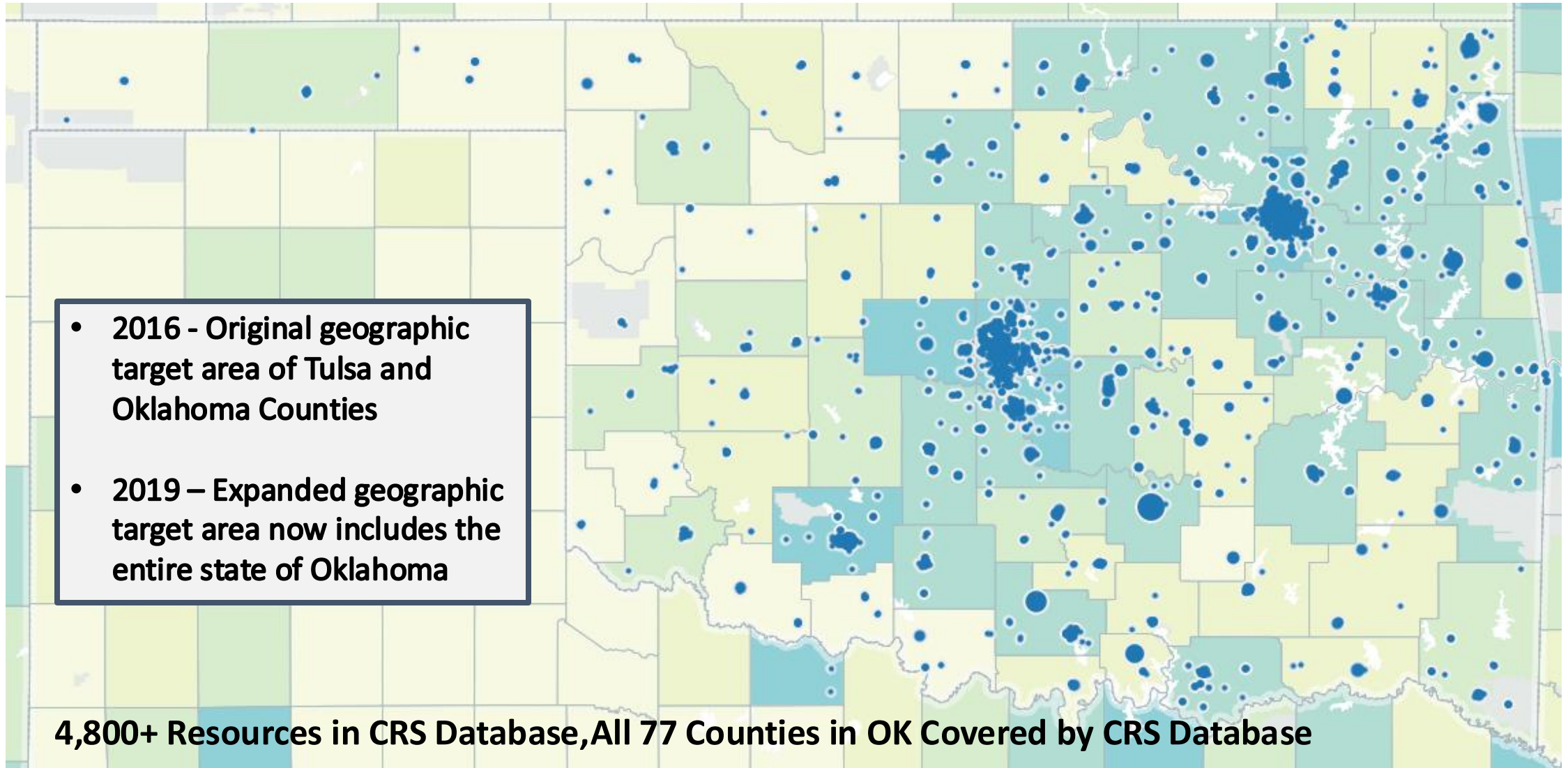
- Yes
 No

 Accountable Health Communities Screening Tool

Thank you for completing our survey! Based on your survey results you may receive an additional text message with a link to help connect you to services in your community that may improve your health. Many of these services are low cost or free of charge.

DONE

Community Resources in Oklahoma



Community Resource Inventory



Route 66 Accountable Health Communities

Hello mhcholley!
Logout

Community Resources



Organization	Location City	Location Zip	Services Available	Areas Served	Actions
Search Organization	Search Location City	Search Location Zip	Choose a service	Search Areas Served	Reset Filters
2-1-1 HELPLINE DISASTER RESOURCES			Utilities		
2-1-1 HELPLINE DISASTER RESOURCES			Family Community Support, Utilities		
AARP OKLAHOMA	Ponca City	74601			
AARP OKLAHOMA	Oklahoma City	73132			
AARP OKLAHOMA	Oklahoma City	73120			
AARP OKLAHOMA	Oklahoma City	73139			
AARP OKLAHOMA	Oklahoma City	73111			
AARP OKLAHOMA	Oklahoma City	73142			
AARP OKLAHOMA	Oklahoma City	73102			

Showing 1 to 9 of 4,965 entries

Location Details

Food - FOOD RESOURCE CENTER

Food - PRIME TIMERS

Social Need: Food

Description: Provides free breakfast, lunch, and social activities to senior citizens 55 years and older.

App Process: Walk-ins accepted

Eligibility: Must be 55 years of age or older.

Phones:

- Type: voice
- Number: 4056322644
- Extension: None
- Department: None
- Note: None

Email: dingraham@skylineurbanministry.org

Website: -

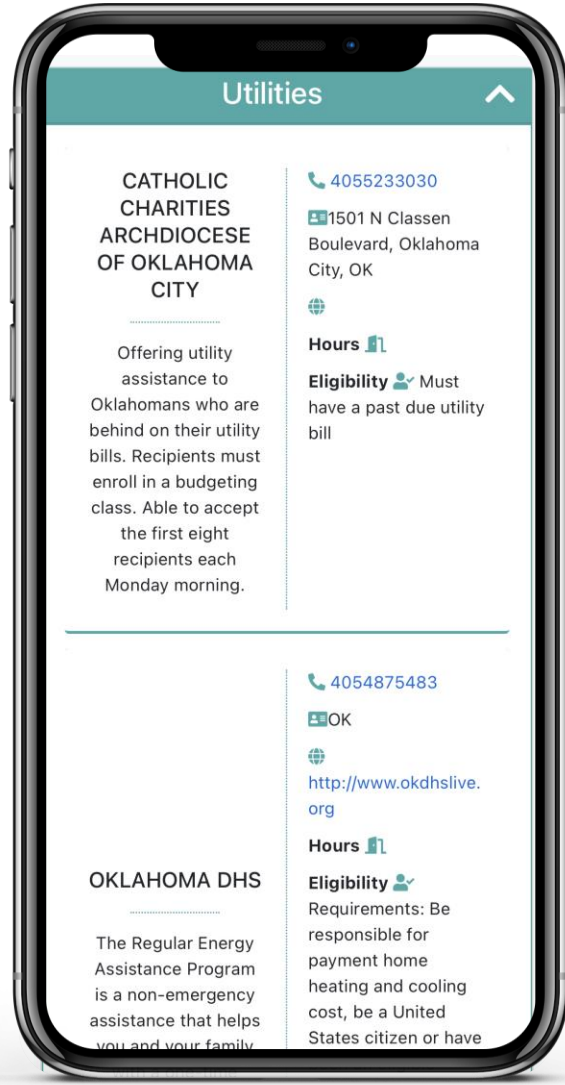
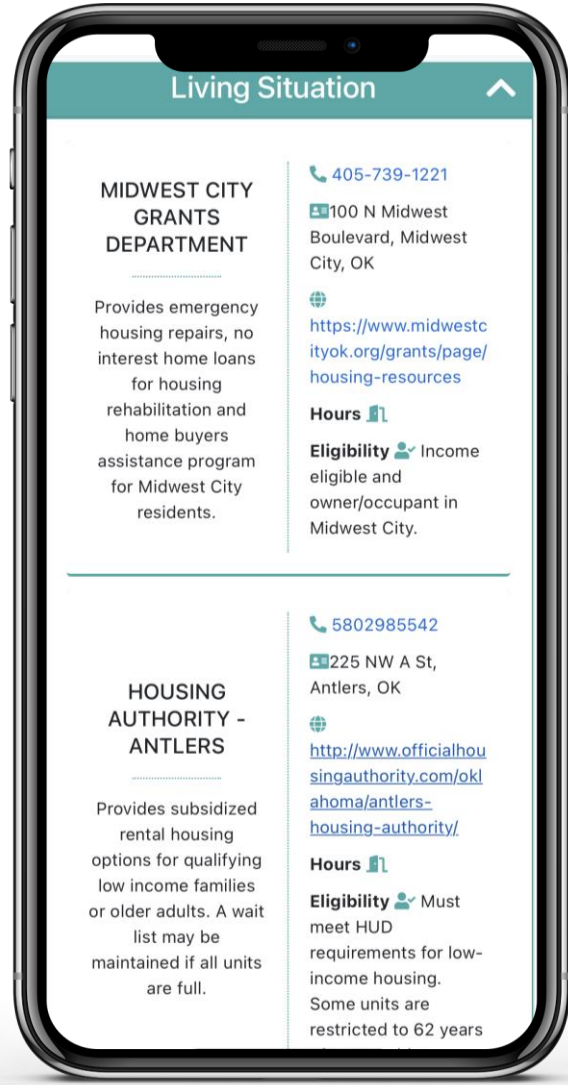
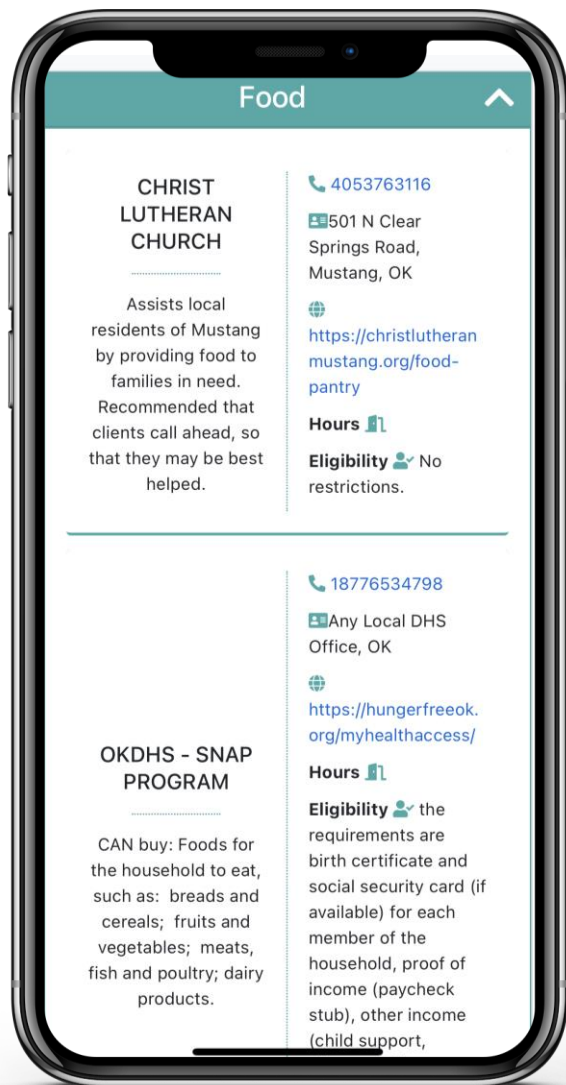
Service Areas: Oklahoma county

Fees: None

Hours: Mon, Wed, Fri 9am-11:30am; Breakfast at 9:00am; Lunch at 11:00am.

Documents: None





Community Resource Summary

Texted back to patient after completion of the screening



Every community resource summary includes information for 211

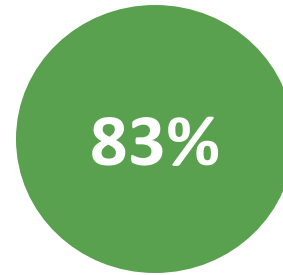
SDOH Program Metrics

August 2018–May 30, 2024

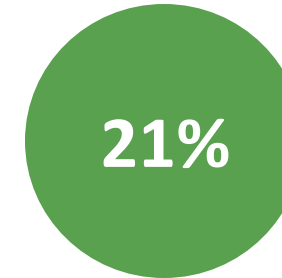
By the numbers:

- ✓ **4.6+** million offers to screen
- ✓ **900,000+** responses
- ✓ **300,000+** responses with needs
- ✓ **400,000+** individual needs reported & addressed

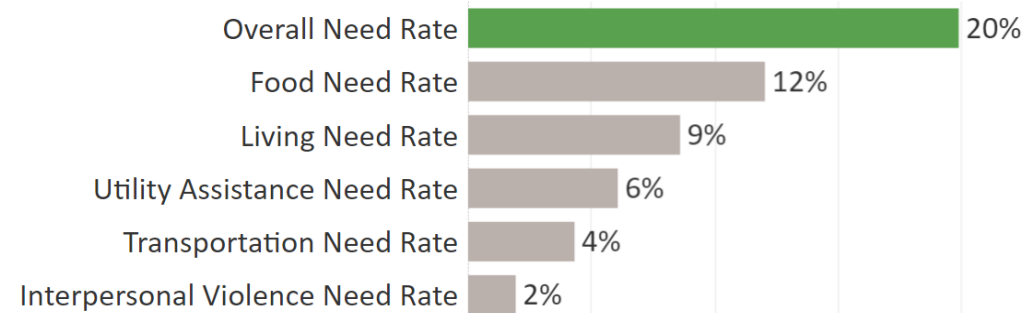
Screening Delivery Rate



Screening Response Rate



Need Rates for 5 Core Needs Screened for through MyHealth's SDoH Screening



24% of responses report 2+ needs

average of **1.7** needs are reported per need positive screening

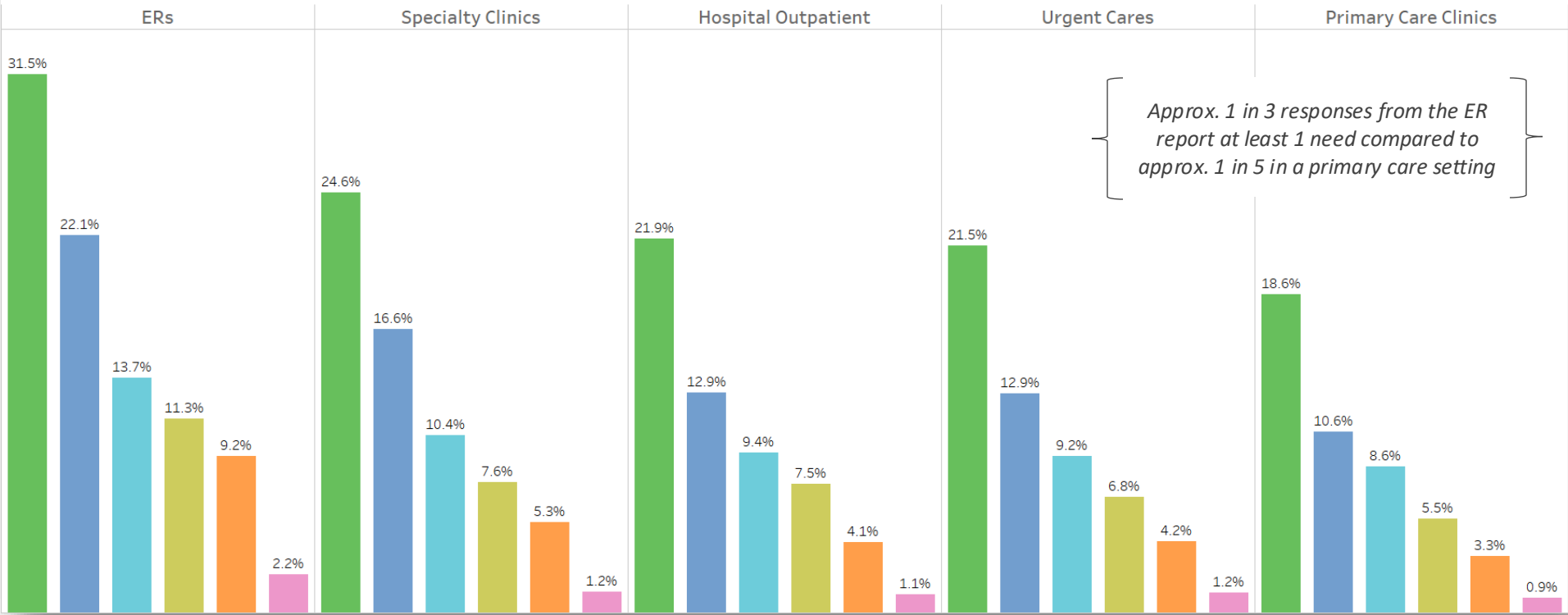
85% of responses with a living need is due to living conditions* rather than having a place to stay

*Living condition issues include lack of heating, lead paint or pipes, mold, oven or stove not working, pests, missing or not working smoke detectors, and water leaks

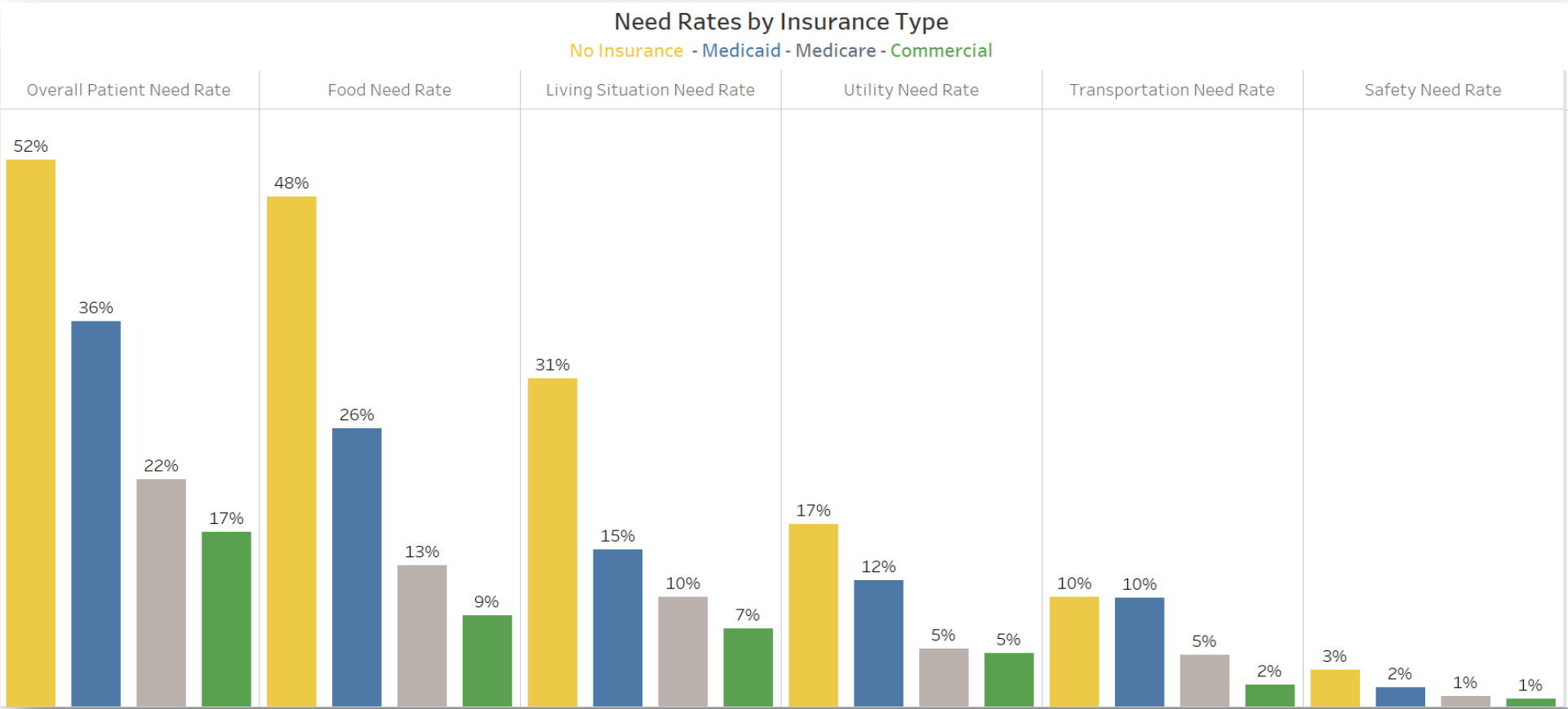
MyHealth AHC Need Rates by Clinical Site Type

Need Rates by Clinical Delivery Site Type

Overall - Food - Living - Utility - Transportation - Safety



MyHealth AHC Need Rates by Insurance Type



PRELIMINARY AHC OUTCOMES

Outcomes reported by CMS evaluation team



Medicaid Beneficiaries



Medicare Beneficiaries



TOTAL
EXPENDITURE



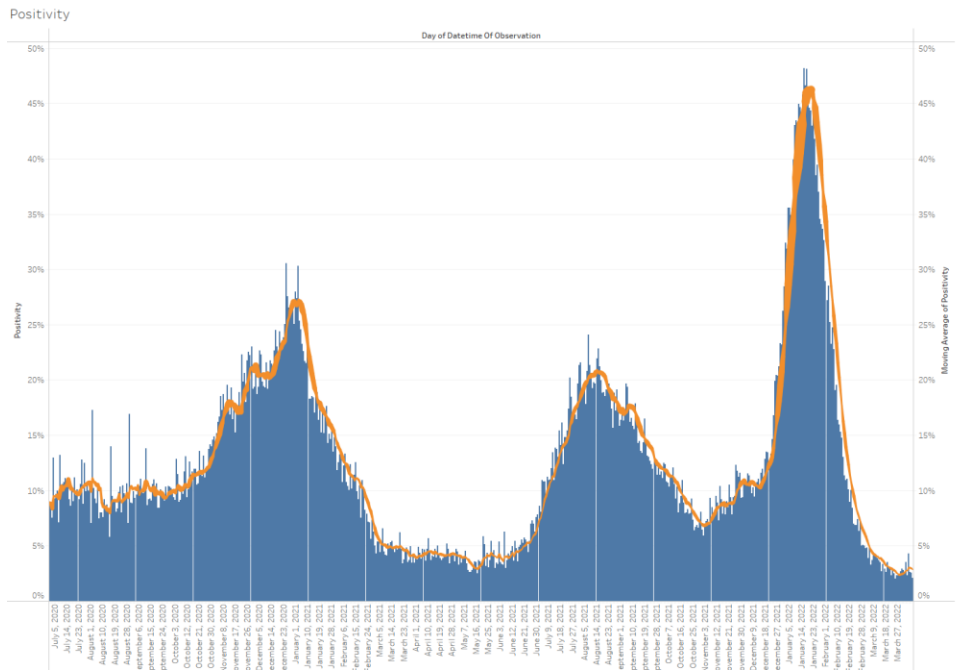
INPATIENT
ADMISSIONS



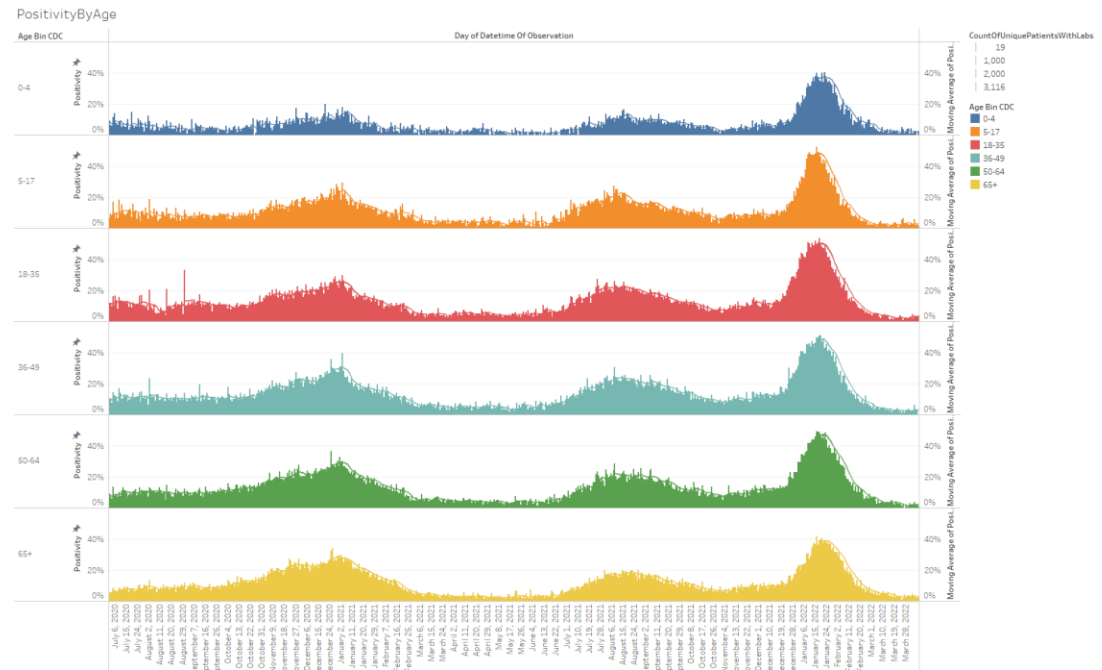
READMISSIONS



ED VISITS

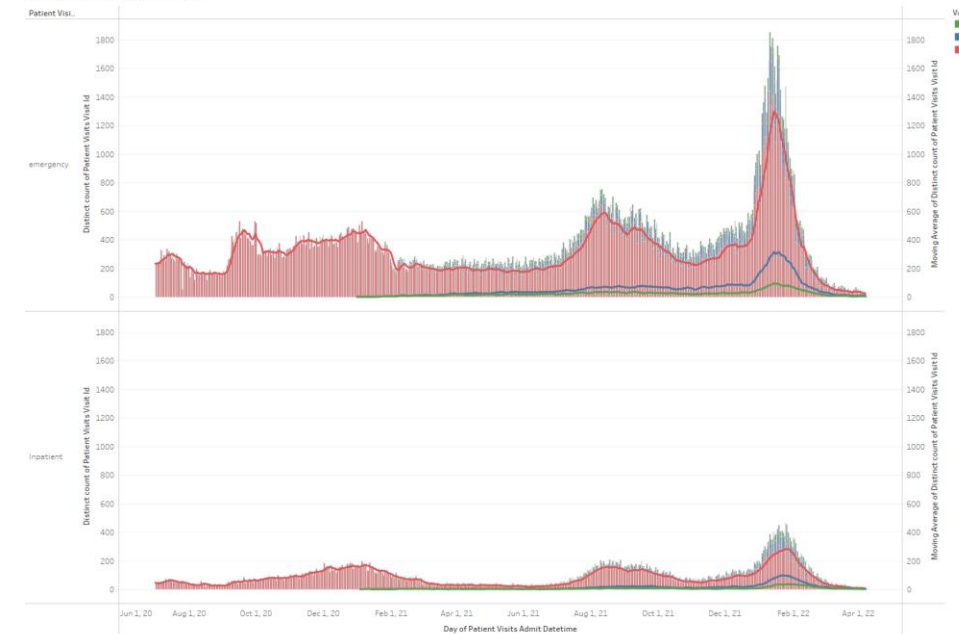


The trends of Positivity and 7-day moving avg of Positivity for Datetime Of Observation Day. Color shows details about Positivity and 7-day moving avg of Positivity. Size shows CountOfUniquePatientsWithLabs. The data is filtered on Lab Codes Clean, Lab Results Clean, Datetime Of Observation, City and County Names All, The Lab Codes Clean filter keeps COVID-19 Test, The Lab Results Clean filter keeps Negative and Positive, The Datetime Of Observation filter includes the last 22 months, The filter associated with this field ranges from 7/1/2020 to 4/30/2022. The City filter keeps 18,668 of 18,668 members, The County Names All filter keeps 8,938 of 8,938 members.



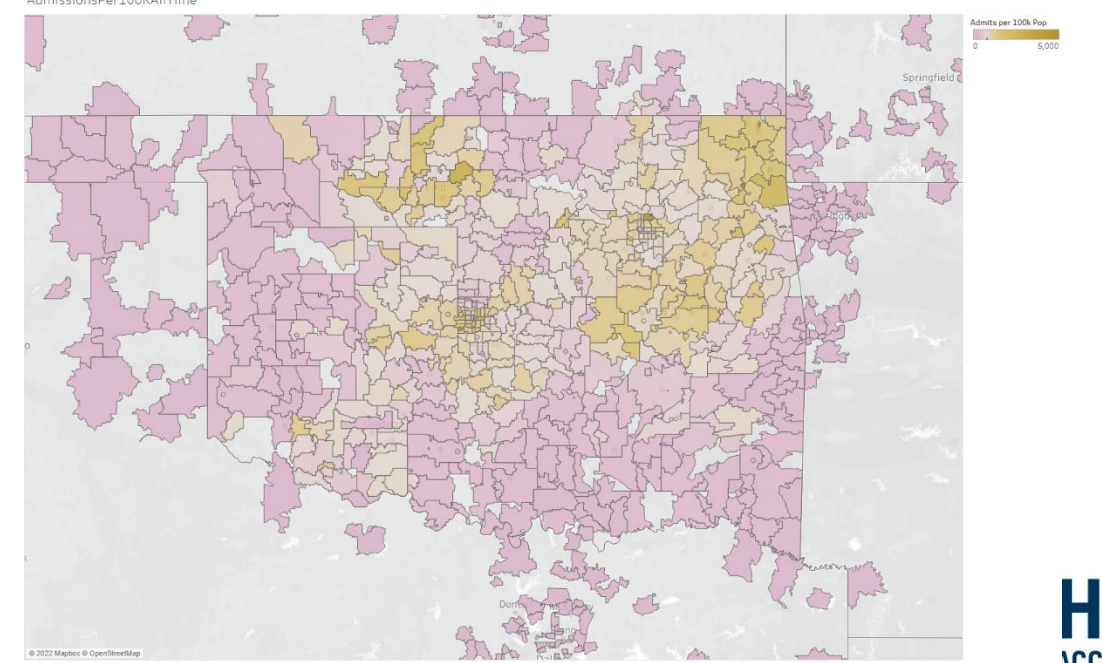
The trends of Positivity and Moving Average of Positivity for Datetime Of Observation Day broken down by Age Bin CDC. Color shows details about Age Bin CDC. Size shows CountOfUniquePatientsWithLabs. The data is filtered on Lab Codes Clean, Lab Results Clean and Datetime Of Observation. The Lab Codes Clean filter keeps COVID-19 Test, The Lab Results Clean filter keeps Negative and Positive, The Datetime Of Observation filter includes the last 22 months, The filter associated with this field ranges from 7/1/2020 to 4/30/2022.

AdmissionsByVaccineStatus2



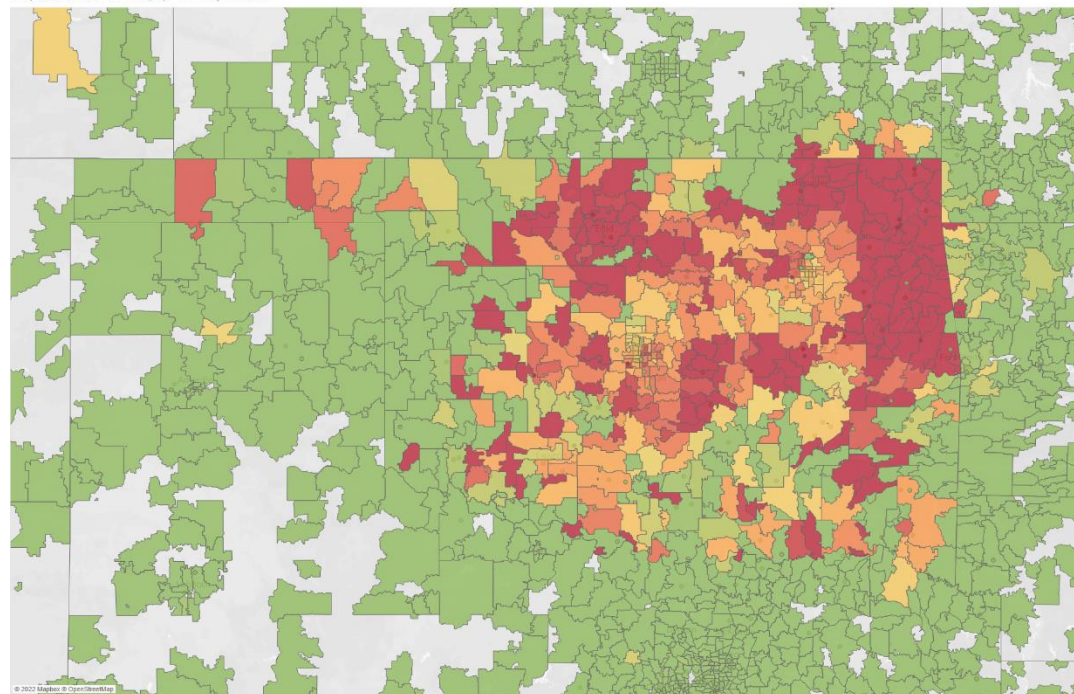
The trends of distinct count of Patient Visits Visit Id and Moving Average of Distinct count of Patient Visits Visit Id for Patient Visits Admit Datetime Day broken down by Patient Visits Patient Class. Color shows details about Vaccinated/Unvaccinated. The data is filtered on Lab Codes Clean, Lab Results Clean, Patient Visits Admit Datetime, ConditionRelatedAdmission, VaccinePriorToAdmission, VaccineDoseCategories, COVID-19 Test, The Lab Results Clean filter keeps Positive, The Patient Visits Admit Datetime filter includes the last 22 months, The filter associated with this field ranges from 7/1/2020 to 4/30/2022. The ConditionRelatedAdmission filter keeps Condition Related, The VaccinePriorToAdmission filter keeps No Vaccine, The VaccineDoseCategories filter keeps 0=None, 1=One Dose, 2=Two Doses and 3=Booster, The view is filtered on Patient Visits Patient Class and Patient Visits Admit Datetime Day, The Patient Visits Patient Class filter keeps emergency and inpatient, The Patient Visits Admit Datetime Day filter ranges from April 1, 2020 to April 7, 2022.

AdmissionsPer100KAllTime



Map based on longitude (generated) and latitude (generated). Color shows InpatientAdmissionsPer100kPop. Details are shown for Lab, 2025. The data is filtered on Lab Codes Clean, Datetime Of Observation, Patient Visits Admit Datetime Year, Lab Results Clean and ConditionRelatedAdmission. The Lab Codes Clean filter keeps COVID-19 Test, The Datetime Of Observation filter ranges from 4-1-2020 12:00:00 AM to 4-7-2022 5:35:00 PM, The Patient Visits Admit Datetime Year filter keeps 2021 and 2022, The Lab Results Clean filter keeps Positive, The ConditionRelatedAdmission filter keeps Condition Related, The view is filtered on CountInpatientAdmissions, which ranges from 1 to 1,451.

MapCOVIDcasesPer100Kpop - January 26, 2022

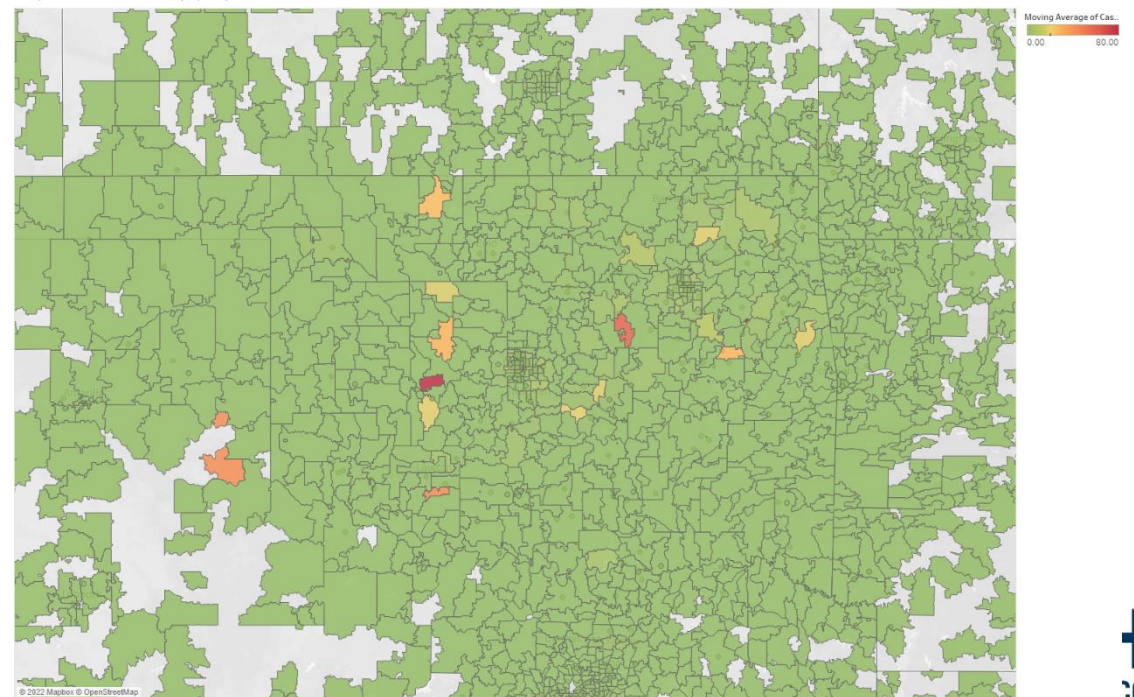


Map based on Longitude (generated) and Latitude (generated). Color shows Moving Average of CasesPer100kPop. Details are shown for Lab_zip5. The data is filtered on Lab Codes Clean and Datetime Of Observation. The Lab Codes Clean Filter keeps COVID-19 Test. The Datetime Of Observation filter ranges from 4/1/2020 12:00:00 AM to 4/23/2022 5:35:00 PM.

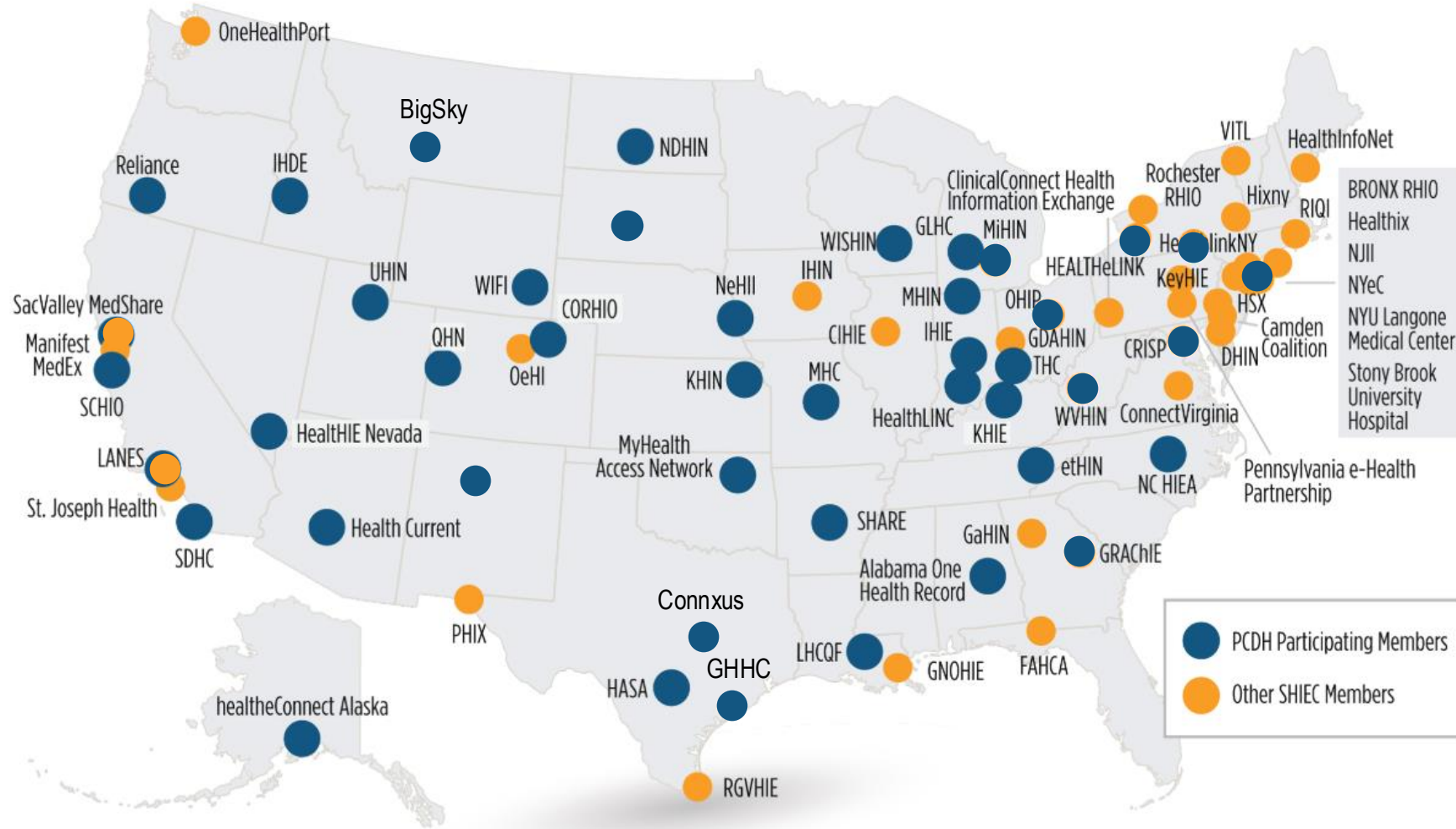
January, 2022

April, 2022

MapCOVIDcasesPer100Kpop - April 5, 2022

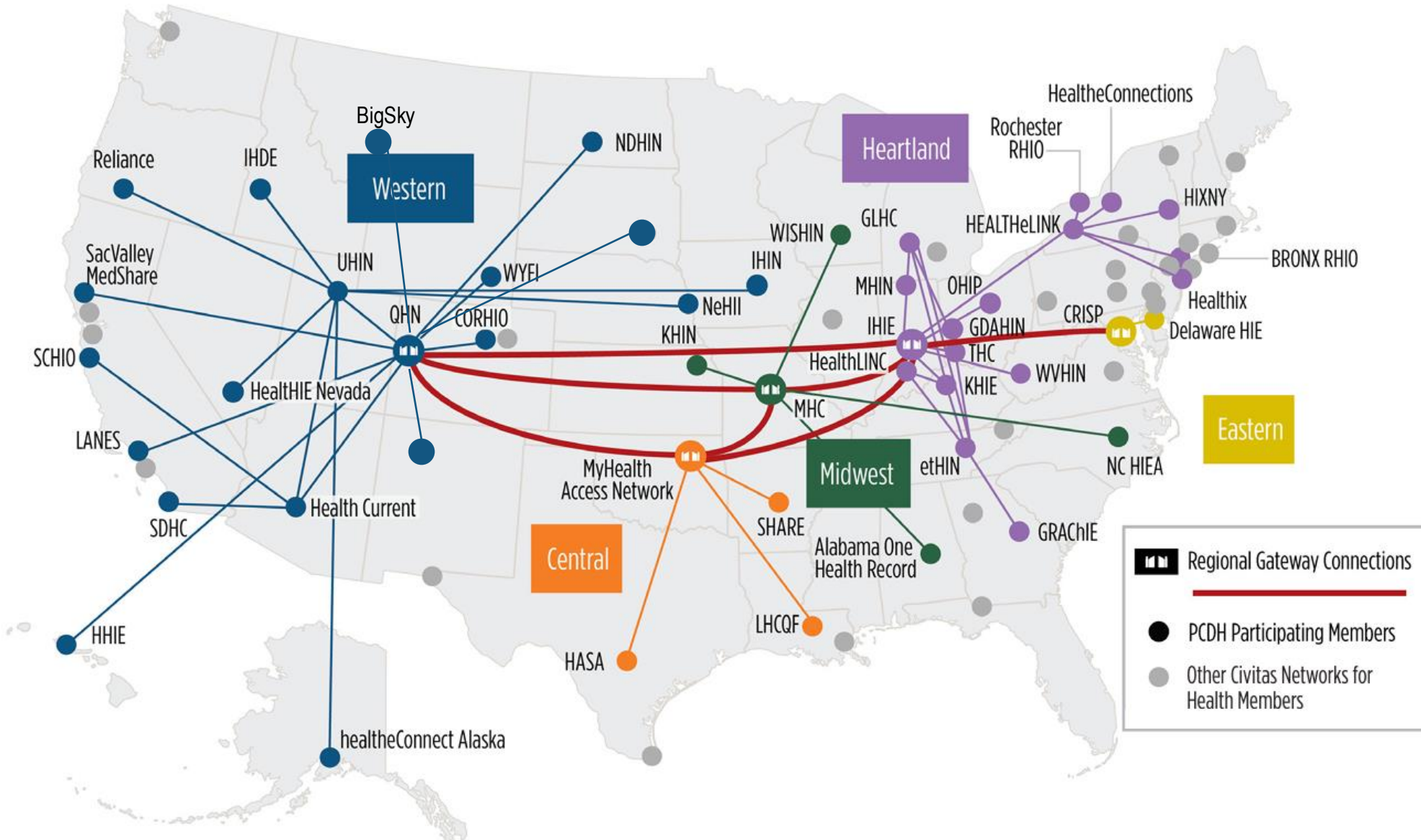


Map based on Longitude (generated) and Latitude (generated). Color shows Moving Average of CasesPer100kPop. Details are shown for Lab_zip5. The data is filtered on Lab Codes Clean and Datetime Of Observation. The Lab Codes Clean Filter keeps COVID-19 Test. The Datetime Of Observation filter ranges from 4/1/2020 12:00:00 AM to 4/7/2022 5:35:00 PM.

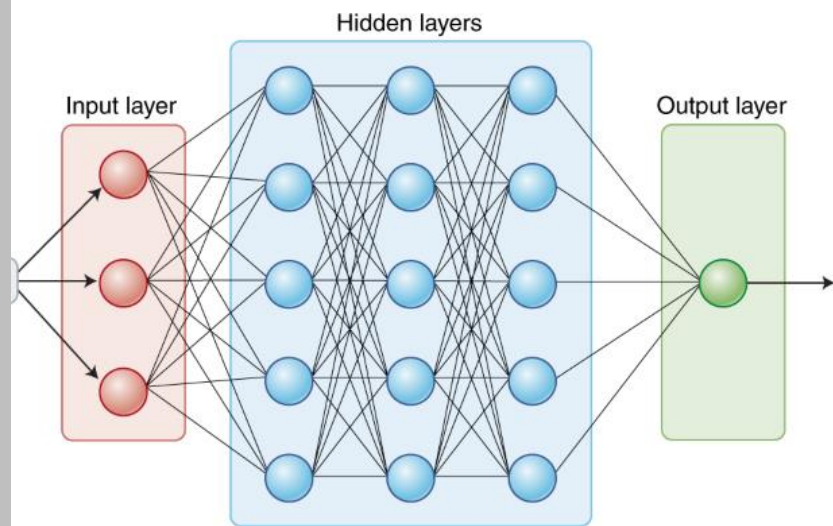
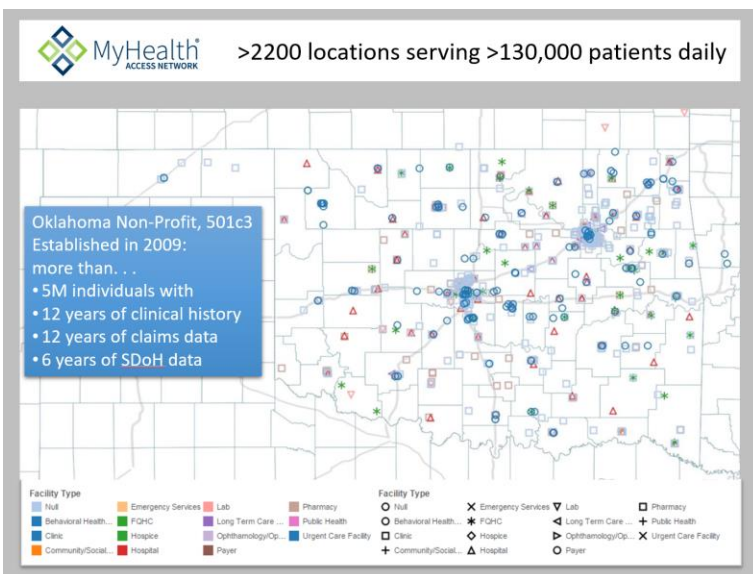


How does this model scale nationwide?

Patient Centered Data Home™ rapid growth

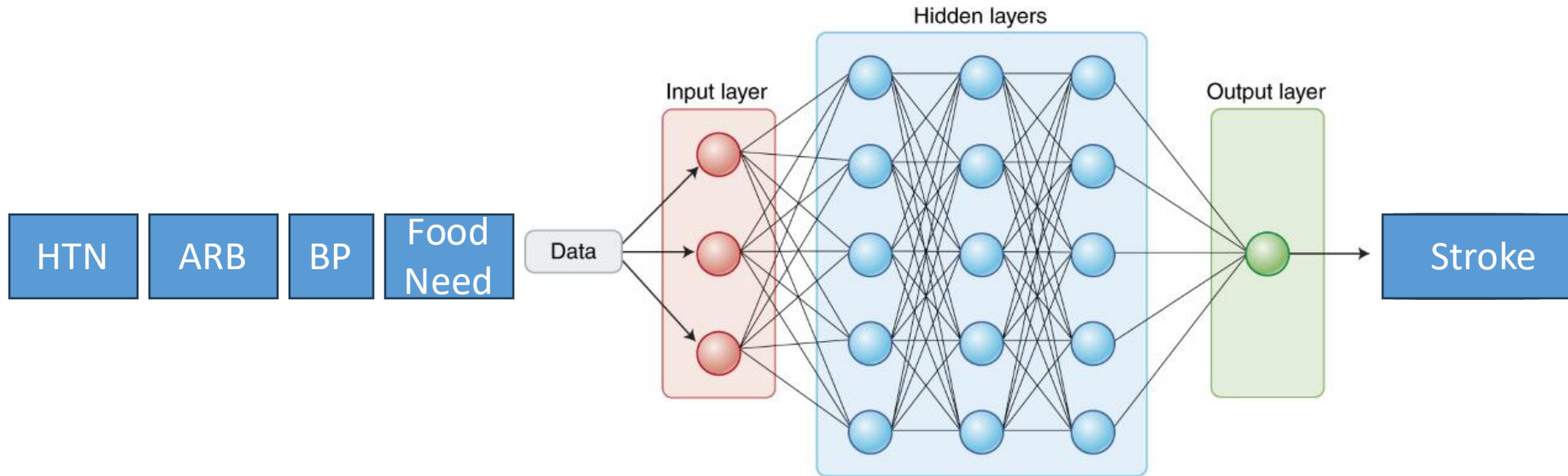


Our Opportunity



- Earlier and more accurate detection of disease
 - Cancer, CV, complex diseases as yet unknown
- Earlier and more accurate detection of disease
 - Mental health, social needs, human interactions
- Better treatments
 - Effective, fewer side effects, cost effective
- Reductions in the cost of care and services & Improvement in Access
 - Democratization not just of information but of interpretation of information
- Reductions in provider burden
 - Documentation, proving performance, coordination and communication
- Improve policy-making and policy-un-making
 - Evidence-based policy-making

Training on an entire population's data



Questions & Discussion

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David-Kendrick@ouhsc.edu