

Research IT Information & Exchange Series

**Data Driven Resources to Assess
Project Feasibility**

March 10, 2017

Research IT Information & Exchange Series

- **Goal:** To educate pediatric researchers on the Research IT and Informatics resources and expertise available to facilitate their research and to identify areas where we can enhance IT methods to better support research.
- **Format:** One hour sessions led by subject matter experts to present information on the current services and expertise available.
- **Intended audience:** Researchers with an interest in capitalizing on Research IT tools to make their research better. Also, researchers who are interested in using Big Data and Healthcare Analytic approaches in their research.

Research IT Information & Exchange Series: *Topics to be covered today*

- i2b2=Informatics for Integrating Biology and the Bedside
- Pop Disco=Children's Population Discovery tool for Epic
- OHDSI=Observational Health Data Science and Informatics collaboration

Research IT Information & Exchange Series

Our presenters today

- Blair Boyd, LITS IT Product Manager, PMP, Emory University

- blair.boyd@emory.edu



- Todd Sharp, MSci, MBA, ITIL, MCP, Research Technology & Enterprise Intelligence Programs, Manager, IS&T, Children's Healthcare of Atlanta

- Todd.sharp@choa.org



- Richard Starr, Research Scientist, Institute for People and Technology (IPaT) at Georgia Tech

- rstarr7@gatech.edu





EMORY
LIBRARIES &
INFORMATION
TECHNOLOGY



I2b2 Product Team

Andrew Post

Miao Ai

Blair Boyd

Patrick Maloney

I2b2 Roles and Responsibilities

- Andrew Post – MD, PHD Biomedical Informatics
 - Product Owner: Consult with researchers on building queries and troubleshooting complex queries
- Miao Ai – MS, Systems Software Engineer
 - Support: Troubleshooting technical and data issues
- Blair Boyd – Product Manager
 - Product Manager: 1st Tier support, demos, consultations

What is I2b2?

- Emory i2b2 lets you query Emory Healthcare electronic health record data for patient counts and aggregate information free of charge.
- It is operated and funded by Emory's Clinical and Translational Science Award (CTSA) program in partnership with Library and Information Technology Services (LITS) and the Department of Biomedical Informatics.
- It is an open source technology created by Partners Healthcare and is used by academic medical centers around the world.

What is i2b2 for?

- For determining study feasibility. Have an idea for a study and want to know if there are enough patients to conduct that study.
- Accelerates the pre-research process.
- Getting counts for grants for IRB protocols.
- Way for investigators to interact with the data in the clinical data warehouse in an interactive and self-service fashion.
- Accelerates the use of electronic health record data for use in research.
- To map electronic health record data to standards for data sharing.

i2b2 Data Types and Where They Come From:

- All visits at EUH, EUHM, TEC, EJCH and ESJH from 2011 - present (2 day time lag):*
 - Demographics (age at query, gender, race, ethnicity, vital status)
 - Visit details (age at visit, length of stay, type)
 - ICD-9 and ICD-10 diagnosis codes (type, priority)
 - ICD-9 and ICD-10 procedure codes
 - Medication orders (inpatient vs. ambulatory)
 - 204 selected laboratory tests (laboratory vs. point of care)
 - *Data from the Emory Clinical Data Warehouse

Pricing

- I2b2 accounts and queries are free of charge.
- Product Management and The Informatics Core will work with new users if they have questions about how to build queries and for orientation to the product.
- If someone wants a data set, we will hand off the researcher to the data solutions team to work with them to pull that data set for a fee.

Best Practices

- You may use either your Emory University login or your Emory Healthcare login, if you have both, but i2b2 will keep these accounts and associated information separate. In effect, you will have two accounts.

Navigate Terms Find

- ACT Demographics
 - 0.5 Version
 - Age
 - Hispanic
 - Race
 - Sex
 - Vital Status
- ACT Diagnoses
 - 0.5 Version
 - Diseases and injuries
 - Supplementary classification of external causes of injury and poisoning
 - Supplementary classification of factors influencing health status and contact with health services
- ACT Laboratory Tests
- ACT Medications

Workplace

- SHARED
- bboyd8

Previous Queries Find

- 18-34-Essenti@10:58:36 [3-8-2017] [bboyd8]
- Acute m-> 10 da@13:00:59 [2-21-2017] [bboyd8]
- 18--Rheum-Predn@12:27:56 [2-21-2017] [bboyd8]
- 18-34-Rheumat@12:17:47 [2-21-2017] [bboyd8]
- 18-34 years o@12:12:33 [2-21-2017] [bboyd8]
- transp-Emergen@10:59:15 [2-17-2017] [bboyd8]

Query Tool

Query Name: 18-34-Essenti@10:58:36

Temporal Constraint: Treat all groups independently

Group 1			Group 2			Group 3		
Dates	Occurs > 0x	Exclude	Dates	Occurs > 0x	Exclude	Dates	Occurs > 0x	Exclude
Treat Independently			Treat Independently			Treat Independently		
<ul style="list-style-type: none"> 18-34 years old 35-44 years old 			<ul style="list-style-type: none"> Essential (primary) hypertension Benign essential hypertension 					
one or more of these			AND			one or more of these		
			AND			drop a term on here		

Run Query Clear Print Query 2 Groups

Show Query Status Graph Results

Number of patients

23946±3

For Query " 18-34-Essenti@10:58:36"

Who can use i2b2?

Anyone with an Emory NetId or Emory Healthcare login, after agreeing to a User Agreement.

- You can log into i2b2 via:

<https://i2b2.emory.edu>

- Users do not need an IRB Protocol because there is no access to patient level data provided by i2b2 at present.

Questions?

Please submit questions or requests to
i2b2.help@emory.edu

Research Technology Team

Children's Tools Overview

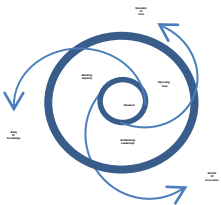
Building Capacity, Establishing Leadership



Research Technology Objectives

Research Technology Team objectives as endorsed by the Research & Academics Guiding Team:

1. **Support and Enhance** the research technology needs of Children's Research Enterprise and its partners through the design, development, selection, acquisition, testing, training, implementation and support of appropriate technologies.
2. **Innovate and Inform**, through direct and indirect pediatric technology research, the pediatric body of knowledge and standard of care for pediatric medicine.
3. **Continually Redefine** Research Informatics and related technologies as a core pediatric differentiator for Children's Research Enterprise and its partners throughout the future



Research Technology Service Catalog – 2015-18

Catalog Number	Catalog Description	Service Status		
		2015-16	2016-17	2017-18
<i>RT1</i>	<i>Solutions</i>			
RT1.1	Epic Research			
RT1.1.1	<i>Epic Research Ambulatory with PB</i>			
RT1.1.2	<i>Epic Research Inpatient with HB</i>			
RT1.1.2.1	<i>Epic Research Inpatient Ordersets</i>			
RT1.1.3	<i>Epic Research Haiku/Canto for Mobile Access</i>			
RT1.1.4	<i>Epic Research MyChart with Questionnaires</i>			
RT1.2	SAS (Statistical Analysis System)			
RT1.3	Redcap (Research Electronic Data Capture)			
RT1.4	Clinical Trials Management System (CTMS)			
RT1.5	Grants Management Tracking System			
RT1.6	i2b2 (Informatics for Integrating Biology & the Bedside)			
<i>RT2</i>	<i>Services</i>			
RT2.1	Research Pre-award Consulting and Setup			
RT2.2	Reporting (incl. approved research Pop Disco)			
RT2.3	Data Services (interfaces, ETL)			
RT2.4	Warehousing & Extracts			
RT2.5	Big Data (Hadoop)			
RT2.6	Research Enterprise Clinical Decision Support			
RT2.7	Predictive Analytics			
<i>RT3</i>	<i>IT Research</i>			
RT3.1	Solution Analysis			
RT3.2	Vendor Selection Support			
RT3.3	Pilots & Testing			
RT3.4	IT Research Services			
<i>RT4</i>	<i>Customs</i>			
RT4.1	Services solutions based on need and/or ability to fund with affirmative guidance from Children’s Research and Academic Guiding Team, the Vice-President of BI and the Head of RT			
<i>Key</i>	<i>Catalog Status Description Key</i>			
	Service Catalog Entry is currently offered or anticipated to be offered when indicated to the Research Enterprise			
	Service Catalog Entry is approved for limited offer or anticipated to be in limited offer when indicated to the Research Enterprise			
	Service Catalog Entry <u>not</u> currently offered, but being discussed or explored for potential offer			

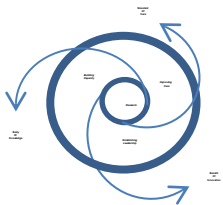
- 4 Service Categories
 - Solutions
 - Services
 - InfoTech Research
 - Custom

- 18 Service Catalog Entries
 - Mixture of Solutions and Services meeting Research Enterprise Needs

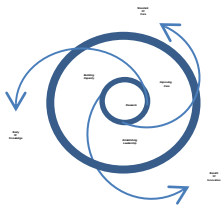
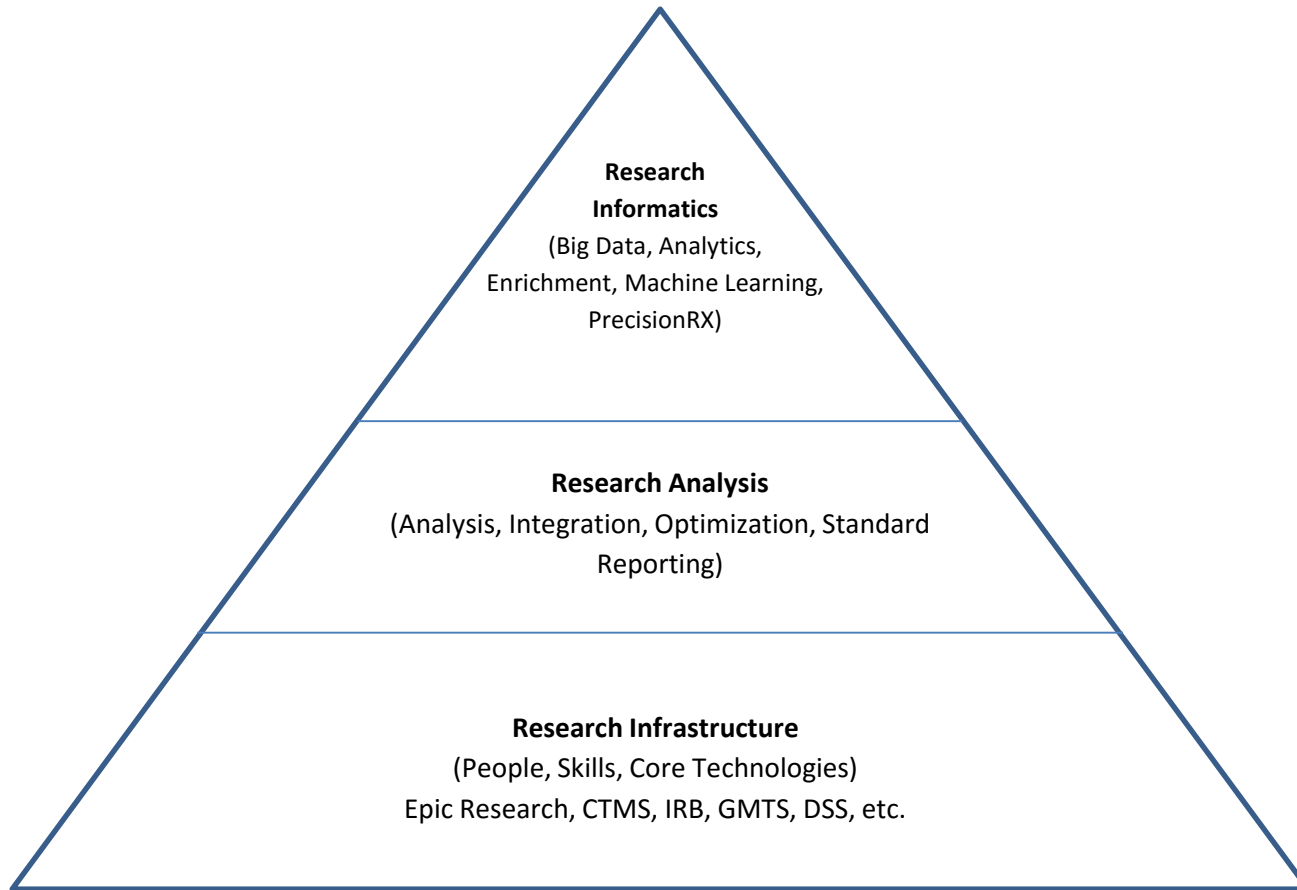
- Service Levels

- Service Commitment

- Service Contribution Structures



Children's Research Technology Support Structure



Children's Tools – Pop Disco

- What it is
- What it isn't
- What we can do today

Visits

Procedures

Microbiology

Diagnosis

Medications

Respiratory Pathogens

Chief Complaints

Admin/Discharge/Transfer

NonMed/Lab Orders

Demographics

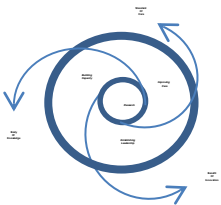
Labs

Patient Detail

Payor

Pathology

- What is likely tomorrow (Pop Disco ---> i2B2 --> Shrine)



Children's Tools – Pop Disco

Demographics Visit Stop Year **2017** CPG EG HS MAC SR UC

1 2 3 4 5 6 7 8 9 10 11 12
 YYYY-MM Date

Current Selections
 Visit Stop Year 2017

Total Visits
188,753

Total Patients
113,109

Gender

Gender	Visits	Patients
M	100,631	59,146
F	88,050	53,891
U	72	72

Deceased

Deceased

Deceased Visit

Interpreter

Interpreter Needed	Visits	Patients
N	169,731	101,449
Y	19,022	11,660

Language

Language	Visits	Patients
English	88.21%	87.44%
Spanish	10.38%	11.11%
Other	0.29%	0.32%
Vietnamese	0.15%	0.15%
Arabic	0.12%	0.11%
Burmese	0.10%	0.11%

Race

Race	Visits	Patients
White	46.17%	44.40%
Black or African American	37.45%	39.42%
Other	11.83%	11.73%
Asian	3.68%	3.50%
American Indian or Alaska Native	0.52%	0.53%
Native Hawaiian or Other Pacific Islander	0.26%	0.29%
Not Available	0.08%	0.12%

Ethnic Group

Ethnic Group	Visits	Patients
Non Hispanic or Latino	82.20%	81.18%
Hispanic or Latino	16.91%	17.90%
Declined	0.68%	0.66%
Unknown	0.14%	0.14%
Not Available	0.06%	0.11%
Parent Not Present	0.01%	0.01%
Patient Not Present	0.00%	0.00%

Patient Age Lookup

Days	We...	Mon...	Ye...
0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5

State

State	Visits	Patients
GA	186,934	112,076
AL	459	242
TN	260	98
FL	206	121
SC	150	92
NC	114	76
Not Available	114	103
MS	97	19
TX	37	31
CA	35	31
AR	35	3
NV	30	28
NJ	23	12
VA	22	19
WA	21	7
IL	19	15

City

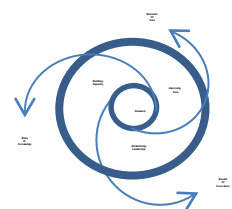
City	Visits	Patients
NO PHI kids_pat_...	0.03%	0.00%
NO PHI kids_pat_...	0.03%	0.00%
NO PHI kids_pat_...	0.03%	0.00%
NO PHI kids_pat_...	0.03%	0.00%
NO PHI kids_pat_...	0.03%	0.00%
NO PHI kids_pat_...	0.02%	0.00%
NO PHI kids_pat_...	0.02%	0.00%
NO PHI kids_pat_...	0.02%	0.00%
NO PHI kids_pat_...	0.02%	0.00%
NO PHI kids_pat_...	0.02%	0.00%
NO PHI kids_pat_...	0.02%	0.00%
NO PHI kids_pat_...	0.02%	0.00%
NO PHI kids_pat_...	0.02%	0.00%
NO PHI kids_pat_...	0.02%	0.00%
NO PHI kids_pat_...	0.02%	0.00%
NO PHI kids_pat_...	0.02%	0.00%

Zip Code

Zip	Visits	Patients
30040	1.80%	1.84%
30044	1.67%	1.72%
30041	1.57%	1.48%
30349	1.50%	1.66%
30331	1.45%	1.63%
30022	1.38%	1.31%
30281	1.34%	1.36%
30093	1.26%	1.43%
30004	1.24%	1.16%
30315	1.24%	1.42%
30032	1.21%	1.35%
30083	1.20%	1.29%
30318	1.20%	1.31%
30024	1.18%	1.07%
30096	1.16%	1.19%
30311	1.15%	1.25%

County

County	Visits	Patients
Fulton	42,010	25,983
Dekalb	30,510	18,572
Gwinnett	24,863	14,955
Cobb	18,779	10,759
Clayton	9,455	6,116
Cherokee	9,075	5,777
Forsyth	7,436	4,384
Henry	7,309	4,333
Douglas	2,419	1,380
Newton	2,259	1,332
Walton	2,230	1,263
Hall	2,229	1,304
Fayette	2,057	965
Paulding	2,013	1,114
Coweta	1,996	1,020
Rockdale	1,897	1,058



Children's Tools – Pop Disco

Home Visits **Diagnosis** Chief Complaints Demographics Payor Procedures Medications Admit/Discharge/Transfer Labs Pathology Microbiology Respiratory Pathology

Diagnosis Visit Stop Year **2017** CPG EG HS MAC SR UC

1 2 3 4 5 6 7 8 9 10 11 12
YYYY-MM Date

Current Selections
Visit Stop Year

Total Visits
188,753

Total Patients
113,109

Reminder: ICD-10 coding went into effect Oct. 2015. If your query includes ICD-9 that date, make sure to include both ICD-9 and ICD-10 codes

Diagnosis Rank
Primary
Secondary
Tertiary

Diagnosis Type
Coded Admit
Coded Ext Injury
Coded Final
Coded Initial
Coded Other

APR-DRG
1
2
3
4
5
20

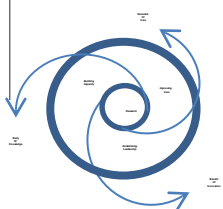
APR-DRG Description
ABDOMINAL PAIN
ACUTE ANXIETY & DELIRIUM STATES
Acute Kidney Injury
ACUTE LEUKEMIA
ACUTE MAJOR EYE INFECTIONS

APR-DRG Filters
Asthma
Diabetes
Sickle Cell
Vent Shunts
Chemo
Rehab

All Diagnosis		
DX Code	DX Name	Visits / Patients
Z51.89	Encounter for other specified aftercare	20,494 / 4,026
R50.9	Fever, unspecified	18,025 / 16,485
J06.9	Acute upper respiratory infection, unspecified	13,886 / 13,050
Y99.8	Other external cause status	11,278 / 10,736
M62.81	Muscle weakness (generalized)	11,179 / 2,377
R05	Cough	11,024 / 10,234
J02.9	Acute pharyngitis, unspecified	7,152 / 6,763
J45.909	Unspecified asthma, uncomplicated	6,945 / 6,138
F84.0	Autistic disorder	6,623 / 2,221
Z79.899	Other long term (current) drug therapy	6,366 / 5,186
R11.10	Vomiting, unspecified	5,972 / 5,583
B97.89	Other viral agents as the cause of diseases classified elsew...	4,878 / 4,736
K21.9	Gastro-esophageal reflux disease without esophagitis	4,704 / 3,535
Z23	Encounter for immunization	3,854 / 3,641
J02.0	Streptococcal pharyngitis	3,846 / 3,662
X58.XXXA	Exposure to other specified factors, initial encounter	3,262 / 2,819
R63.3	Feeding difficulties	3,204 / 1,653
R09.81	Nasal congestion	3,123 / 2,986
B34.9	Viral infection, unspecified	2,992 / 2,899
R62.50	Unspecified lack of expected normal physiological develop...	2,917 / 1,780
R51	Headache	2,821 / 2,566
K59.00	Constipation, unspecified	2,666 / 2,393
R10.9	Unspecified abdominal pain	2,613 / 2,428
R19.7	Diarrhea, unspecified	2,527 / 2,319
Z79.1	Long term (current) use of non-steroidal anti-inflammatori...	2,493 / 2,391
J45.40	Moderate persistent asthma, uncomplicated	2,492 / 2,200
Z00.129	Encounter for routine child health examination without abn...	2,407 / 2,277
R21	Rash and other nonspecific skin eruption	2,365 / 2,228

APR-DRG		
APR-DRG	APR-DRG Description	Visits / Patients
138	BRONCHIOLITIS & RSV PNEUMONIA	367 / 339
133	PULMONARY EDEMA & RESPIRATORY FAILURE	359 / 335
662	SICKLE CELL ANEMIA CRISIS	292 / 205
141	ASTHMA	272 / 263
53	SEIZURE	227 / 208
951	MODERATELY EXTENSIVE PROCEDURE UNRE...	219 / 206
113	INFECTIONS OF UPPER RESPIRATORY TRACT	192 / 182
249	NON-BACTERIAL GASTROENTERITIS, NAUSEA...	191 / 178
225	APPENDECTOMY	189 / 185
139	OTHER PNEUMONIA	180 / 170
696	Other Chemotherapy	161 / 72
97	TONSIL & ADENOID PROCEDURES	160 / 134
420	DIABETES	157 / 149
303	DORSAL & LUMBAR FUSION PROC FOR CURV...	120 / 66
254	OTHER DIGESTIVE SYSTEM DIAGNOSES	119 / 111
309	HIP & FEMUR PROCEDURES FOR NON-TRAU...	93 / 64
663	OTHER ANEMIA & DISORDERS OF BLOOD & B...	92 / 82
421	MALNUTRITION, FAILURE TO THRIVE & OTH...	86 / 74
660	MAJOR HEMATOLOGIC/IMMUNOLOGIC DIAG ...	84 / 58
383	CELLULITIS & OTHER BACTERIAL SKIN INFEC...	83 / 81
463	KIDNEY & URINARY TRACT INFECTIONS	78 / 68
21	CRANIOTOMY EXCEPT FOR TRAUMA	78 / 59
167	OTHER CARDIOTHORACIC PROCEDURES	75 / 48
695	Chemotherapy for acute leukemia	74 / 31
58	OTHER DISORDERS OF NERVOUS SYSTEM	69 / 65
422	HYPVOLEMIA & RELATED ELECTROLYTE DI...	69 / 65
346	CONNECTIVE TISSUE DISORDERS	69 / 53
54	MIGRAINE & OTHER HEADACHES	63 / 57

Clear All



Children's Tools – Pop Disco

Home Visits Diagnosis Chief Complaints Demographics Payor Procedures Medications Admit/Discharge/Transfer Labs Pathology Microbiology Respiratory Pathology



Visits

Visit Stop Year 2017

1 2 3 4 5 6 7 8 9 10 11 12

YYYY-MM Date

CPG EG HS MAC SR UC

Search

Current Selections

Visit Stop Year 2017

Total Visits
188,753

Total Patients
113,109

Visit Type		
Visit Type	Facility	Visits
Outpatient	CPG	21,433
	EG	68,411
	HS	18,987
	SR	71,726
Inpatient	EG	3,543
	HS	330
	SR	4,303

Populations	
ED	<input type="checkbox"/>
ICU	<input type="checkbox"/>
UC	<input type="checkbox"/>
CICU	<input type="checkbox"/>
NICU	<input type="checkbox"/>
PICU	<input type="checkbox"/>
Observation	<input type="checkbox"/>
Neurosurgery	<input type="checkbox"/>
Patient Class	<input type="checkbox"/>
Asthma DM	<input type="checkbox"/>
Diabetes DM	<input type="checkbox"/>
Medically Complex DM	<input type="checkbox"/>
MSDRG Master Service Line	<input type="checkbox"/>
MSDRG Service Line	<input type="checkbox"/>
MSDRG Sub Service Line	<input type="checkbox"/>
Sickle Cell Registry YN	<input type="checkbox"/>
Sickle Cell Genotype	<input type="checkbox"/>
Oncology Registry YN	<input type="checkbox"/>
Class	<input type="checkbox"/>
Sequence of Primary	<input type="checkbox"/>
Cancer Type	<input type="checkbox"/>
Date of Diagnosis	<input type="checkbox"/>
First Contact Date	<input type="checkbox"/>

Visit Department	
SR EMERGENCY DEPT	19,879
EG EMERGENCY DEPT	15,711
HS EMERGENCY DEPT	12,664
SATELLITE BLVD UC	7,541
SR RAD RADIOGRAPHY	7,474
HUDSON BRIDGE UC	7,149
EG RAD RADIOGRAPHY	5,766
TOWN CENTER UC	5,392
FORSYTH UC	4,707
HS PRIMARY CARE	4,253
NORTHPOINT UC	4,157
CHEROKEE UC	3,783
CPG PRIM CARE CHAMBLEE	3,711
SR AFLAC CENTER	3,027
CPG PULM LAKE HEARN	2,950
EG AFLAC OP CENTER	2,718
EG LAB	2,514
MAC SKILL ACQUISITION	2,427
ZOPT-SR PACU	2,417
SR OR	2,224
MM AMB SURG CTR	2,210
ZOPT-SR PREOP	2,114
CPG ENDO SR MERI MARK	2,082
ZOPT-SR INTRAOP	2,012
SR RAD ULTRASOUND	1,909
EG OR	1,884
EG RAD ULTRASOUND	1,826
ZOPT-EG PACU	1,820

Case Management	
Case Mgt Adm Past 12 Months	<input type="checkbox"/>
Case Mgt Adm Past 30 Days	<input type="checkbox"/>
Case Mgt Adm Planned	<input type="checkbox"/>
Case Mgt ED Visit Past 72 Hours	<input type="checkbox"/>

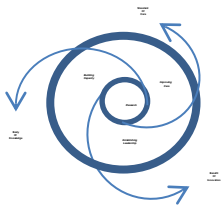
Hospital Service	
Emergency Medicine	48,271
Urgent Care	32,730
Surgery	6,180
Hematology/Oncology	3,426
Pediatrics	3,284
Cardiology	1,138
Critical Care	1,134
Pediatric Surgery	744
Otolaryngology	627
Gastroenterology	508
Endocrinology	497
Orthopedic Surgery	401
Hematology	390

Visit Type	
1:1 DIRECT SERVICE CLINIC	794
3 MONTH CATH	4
ABPM	5
ABR NON-SEDATED	50
ABR SEDATED	19
ACL EVALUATION	18
ADD ON	1
ADHD EVALUATION	3
ADJ HELMET	412
ADJ ORTHOSIS	355
ADJ SCOLIOSIS ORTHOSIS	204
ADMIT BMT	2
ADMIT HEM ONC	233

Inpatient LOS Days Statistics	
Average	5.33
Min	0
Max	441.66
Median	1.96


Inpatient LOS Days	
	0
	0.01
	0.02
	0.03

Clear All



Children's Tools – Pop Disco

[Home](#)
[Visits](#)
[Diagnosis](#)
[Chief Complaints](#)
[Demographics](#)
[Payor](#)
[Procedures](#)
[Medications](#)
[Admit/Discharge/Transfer](#)
[Labs](#)
[Pathology](#)
[Microbiology](#)
Respiratory Pathogens


Respiratory Pathogens

Visit Stop Year: 2017
CPG EG HS MAC SR UC
Search

1 2 3 4 5 6 7 8 9 10 11 12

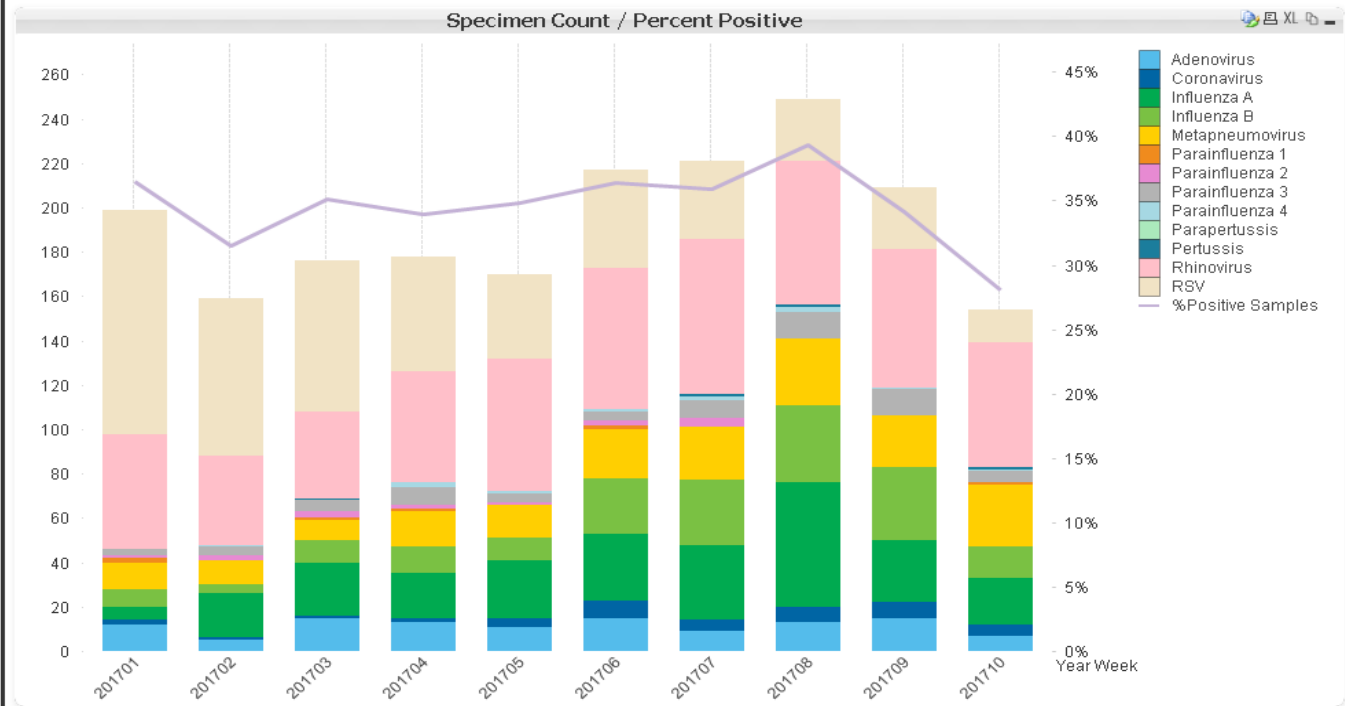
YYYY-MM Date

Current Selections
 Visit Stop Year: 2017

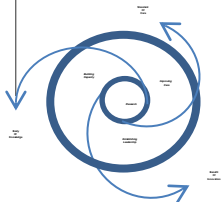
Total Visits
 188,753

Total Patients
 113,109

Number of Positive Specimens



Clear All



Research Technology Team Contact Points

1. Research Reporting/Data Requests:

On Children's Network - <http://apps/reportrequests/Pages/Home.aspx>

Off Children's Network – data@choa.org

2. IS&T Support Requests:

Solution Center has a 'Research Technology' queue.

Online at <http://careforceapps/solutioncenterrequest/> or

By Phone at x5-6767

3. Something else, capital, budgeting, how-to or uncertain:

todd.sharp@choa.org / 404.785.5870

Data Resources at Georgia Tech:

Children's Data Available

OMOP Common Data Model

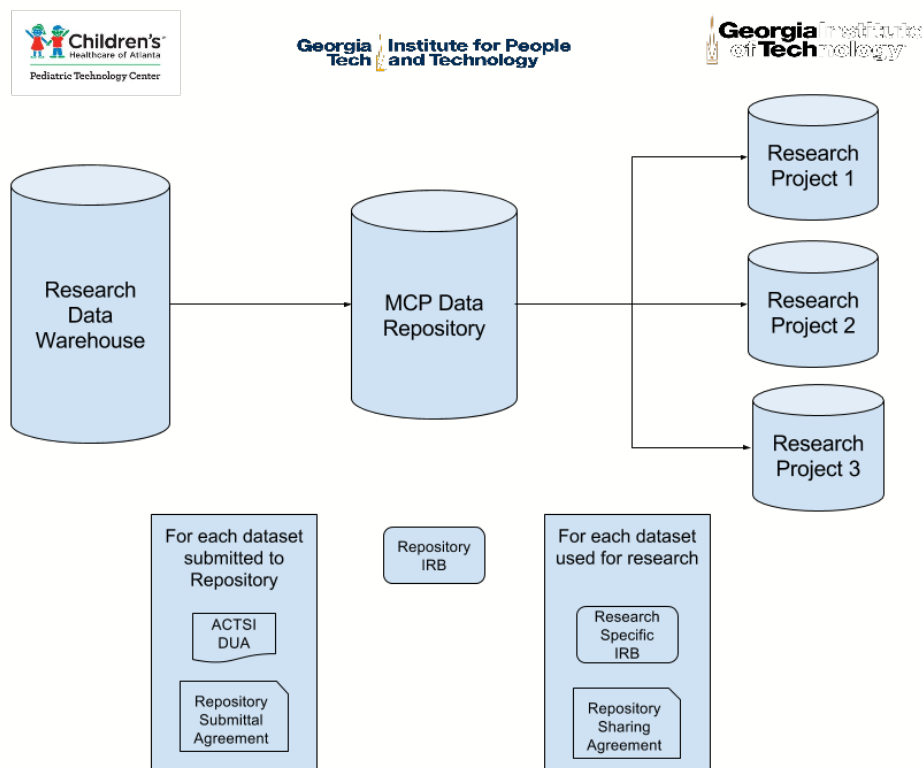
OHDSI Research Tools

CMS Medicaid Dataset

How to get access

Children's Healthcare of Atlanta and Georgia Tech Data Repository Process

- Data repository of LDS dataset using ACTSI DUA.
- Data shared using repository processes and agreements from data supplier
- Data custodian is SME for project cohort and data extraction, and ensures compliance for minimum necessary clause.
- IRB for Repository and each individual project



Children's Data Repository Description

The data repository is sourced from a “snapshot” of the Pop_Disco data warehouse.

Data is sourced from the Epic EHR system.

Available in both raw form and OMOP converted form.

- 2.2 million patients

- 4.5 million visits

- Visits range from May 1, 2009 through Sept 23, 2015 (working on an update)

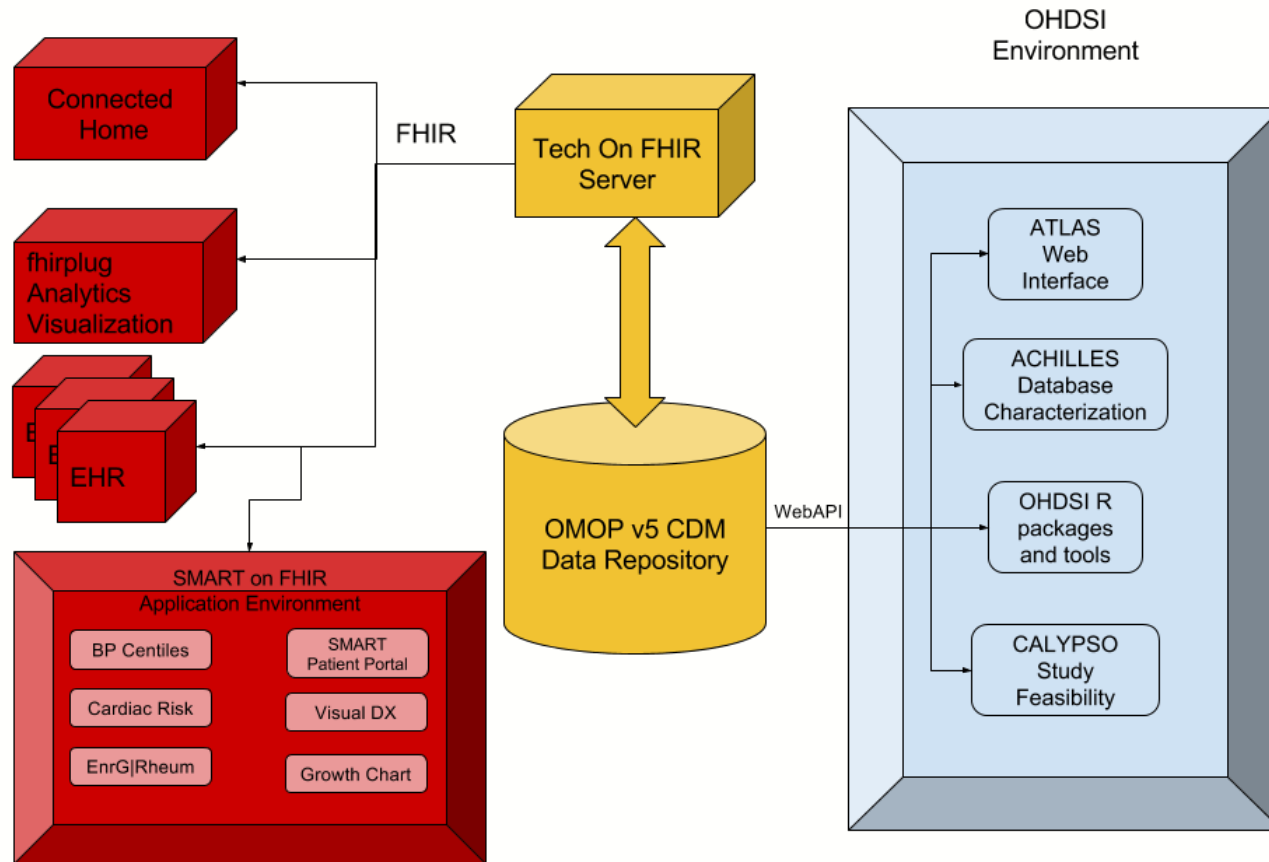
Contains information from most of the Pop_Disco tables

Patients	Visits	Hospital_account	Medications
Diagnosis	Procedures	Lab Results	Surgery
CRG	Demographics (except name and address)	Provider	Cost

OMOP CDM

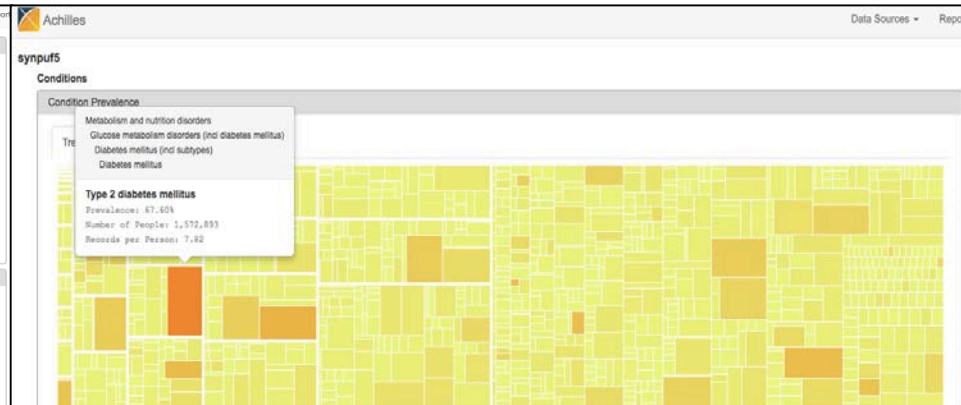
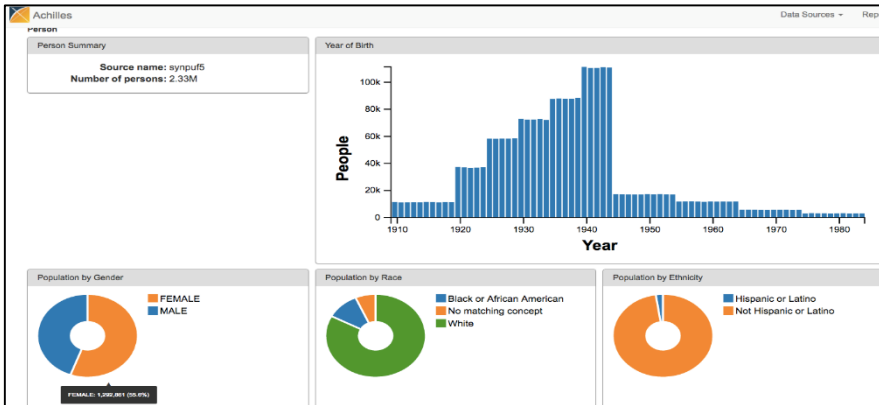
- OMOP Common Data Model
 - Supplies a data model that can be used across multiple institutions
 - Supplies mappings of terminology codesets to “concepts” that can be used across the terminologies
 - Works on many RDBMS (Postgres, Oracle, Microsoft SQL server and APS, Amazon RedShift and Impala (Hadoop))

FHIR Development Environment



OHDSI Tools

- OHDSI analytics and application framework
 - A RESTful interface and frontend for the OMOP CDM database.
 - Functionality to create cohorts of patients and run basic health analytic functions on the patient level data
 - A framework to publish analytic packages for use with any datasets converted to the OMOP CDM.



ATLAS | **Q Vocabulary**

Home | Data Sources | Vocabulary | Concept Sets | Cohorts | Profiles | Jobs | Configuration | Feedback

Search | Advanced | Results | Import

Search Results for Diclofenac

Show 15 entries | Filter: []

Showing 1 to 15 of 3,540 entries

Id	Code	Name	Class	RC	DRC	Domain	Vocabulary
1124300	3355	Diclofenac	Ingredient	244,211	493,615	Drug	RxNorm
40162359	855926	Diclofenac Sodium 75 MG Delayed Release Oral Tablet	Clinical Drug	45,531	52,287	Drug	RxNorm
40162346	855906	Diclofenac Sodium 50 MG Delayed Release Oral Tablet	Clinical Drug	40,353	44,803	Drug	RxNorm
40162401	855657	24 HR Diclofenac Sodium 100 MG Extended Release Oral Tablet	Quant Clinical Drug	26,467	27,744	Drug	RxNorm
40162307	855942	Diclofenac Potassium 50 MG Oral Tablet	Clinical Drug	24,519	28,782	Drug	RxNorm
40162312	855635	Diclofenac Sodium 0.01 MG/MG Topical Gel [Voltaren]	Branded Drug	17,883	17,883	Drug	RxNorm
40162322	854803	Diclofenac Sodium 1 MG/ML Ophthalmic Solution [Voltaren]	Branded Drug	15,386	15,386	Drug	RxNorm
40162316	855644	Diclofenac Sodium 0.03 MG/MG Topical Gel [Solaraze]	Branded Drug	13,455	13,455	Drug	RxNorm
42902225	1359107	Diclofenac Sodium 50 MG / Misoprostol 0.2 MG Oral Tablet [Arthrotec]	Branded Drug	13,247	13,247	Drug	RxNorm
42902226	1359109	Diclofenac Sodium 75 MG / Misoprostol 0.2 MG Oral Tablet [Arthrotec]	Branded Drug	12,938	12,938	Drug	RxNorm
40162321	854801	Diclofenac Sodium 1 MG/ML Ophthalmic Solution	Clinical Drug	7,359	22,745	Drug	RxNorm
40162360	855928	Diclofenac Sodium 75 MG Delayed Release Oral Tablet [Voltaren]	Branded Drug	6,756	6,756	Drug	RxNorm
40162335	855664	Diclofenac Sodium 25 MG Delayed Release Oral Tablet	Clinical Drug	5,122	6,080	Drug	RxNorm
40162347	855907	Diclofenac Sodium 50 MG Delayed Release Oral Tablet [Voltaren]	Branded Drug	4,450	4,450	Drug	RxNorm
40162308	855944	Diclofenac Potassium 50 MG Oral Tablet [Cataflam]	Branded Drug	4,263	4,263	Drug	RxNorm

How to get access

- Children's data repository at GT
 - Email phdi@gatech.edu or data@choa.org
 - Do initial preparatory to research steps to verify the data repository contains the required elements
 - Get required approvals (Children's approval, IRB, etc.)
 - Create environment for work (extract data, set up virtual environment, etc.)
- CMS Medicaid MAX dataset
 - Email phdi@gatech.edu
 - Data for 2005-2009 for 14 states and from 2010-2012 for all available states
 - Contains both child and adult records.
 - Only approved GT researchers have access to the patient level data elements. They can produce aggregated results to share externally.
 - More information will be presented at the March 24 session.

Georgia Tech Health Data Resources

Data Sources

Synthetic or Public sources

CMS SynPUF claims data (https://www.cms.gov/Research-Statistics-Data-and-Systems/Downloadable-Public-Use-Files/SynPUFs/DE_Syn_PUF.html)

MIMIC III – Hospital data from Boston (<https://mimic.physionet.org>)

ExactData – Synthetic dataset built for GT.

Research Data Sources (used for specific research)

CMS Medicaid dataset (2005-2012)

CHoA MCP data repository

IMS and Truven Claims data

Employers Like Me datasets – Healthcare records from Georgia companies

Environments

IPAT Protected Health Data

Health data projects that need secure environment

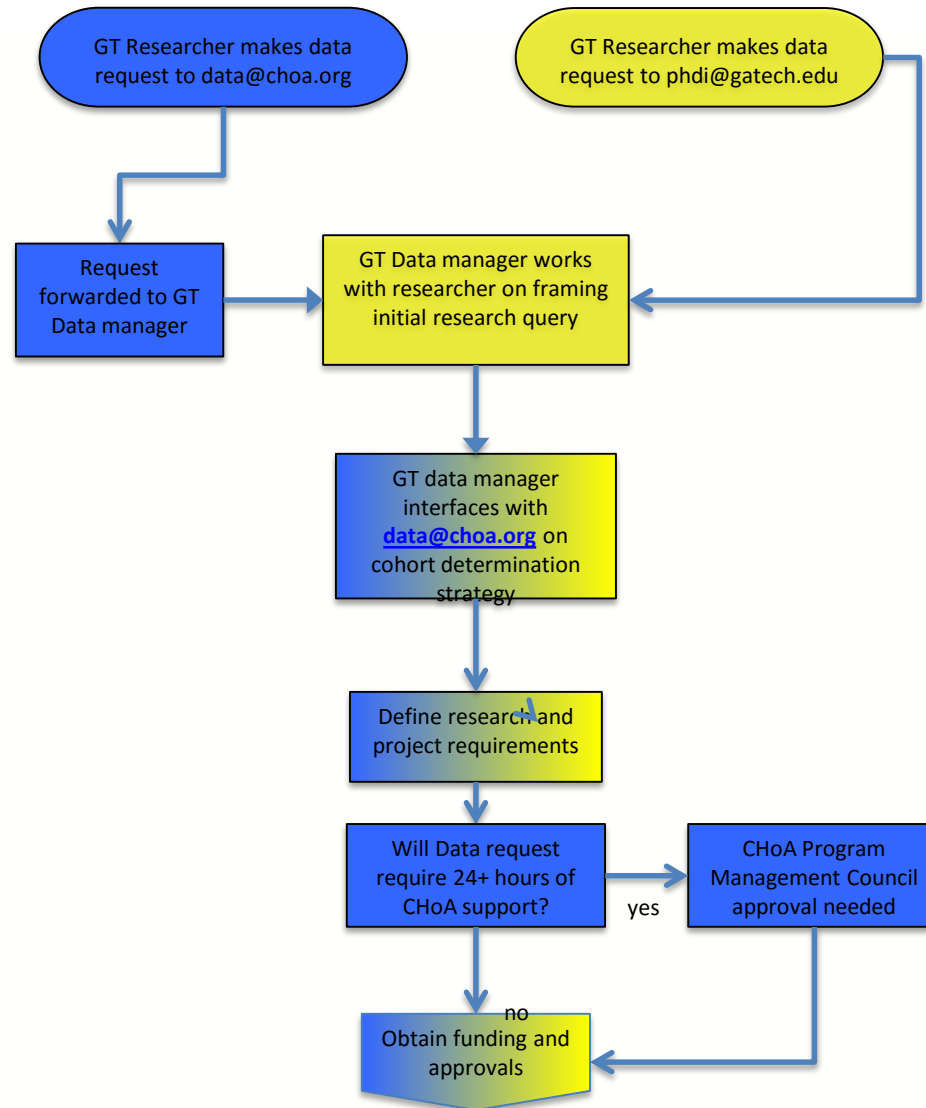
I3L/RNOC Synthetic Environment (Health Informatics classes and other support)

Hosts the CMS SynPUF and MIMIC III data in OMOP CDM

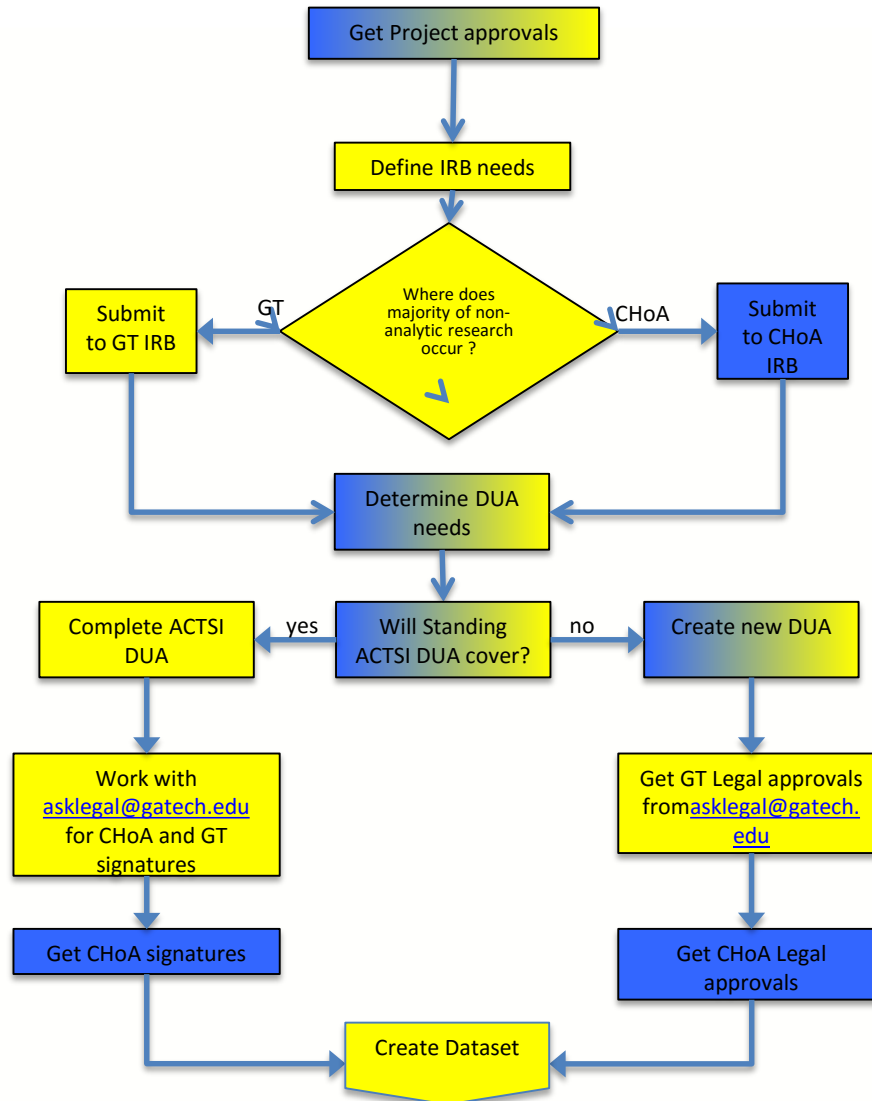
FHIR server with access to OMOP CDM

SMART on FHIR environment

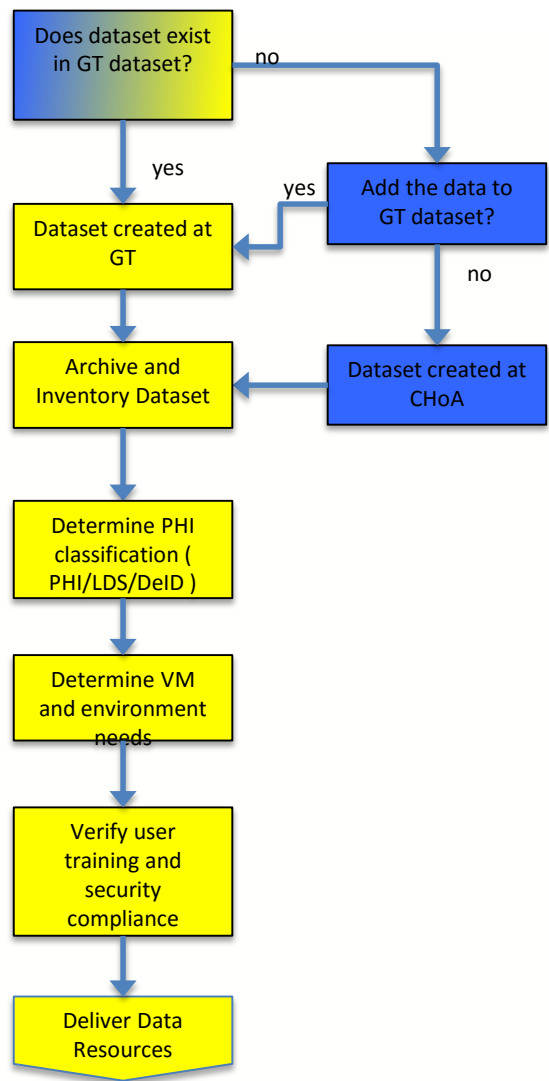
Process to access Children's Data Repository at GT



Process to access Children's Data Repository at GT



Process to access Children's Data Repository at GT



More Information

- Contact me:
 - Richard Starr - richard.starr@gatech.edu
 - GT PHDI Data team – phdi@gatech.edu
- OMOP/OHDSI - <http://www.ohdsi.org>
- HL7 – <http://www.hl7.org>
- FHIR - <https://www.hl7.org/fhir/>
- SMART on FHIR - <http://smarthealthit.org>