

Health Equity Module

Start Tool Kit

V2: 2023



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Introducing the Health Equity Module



Purpose

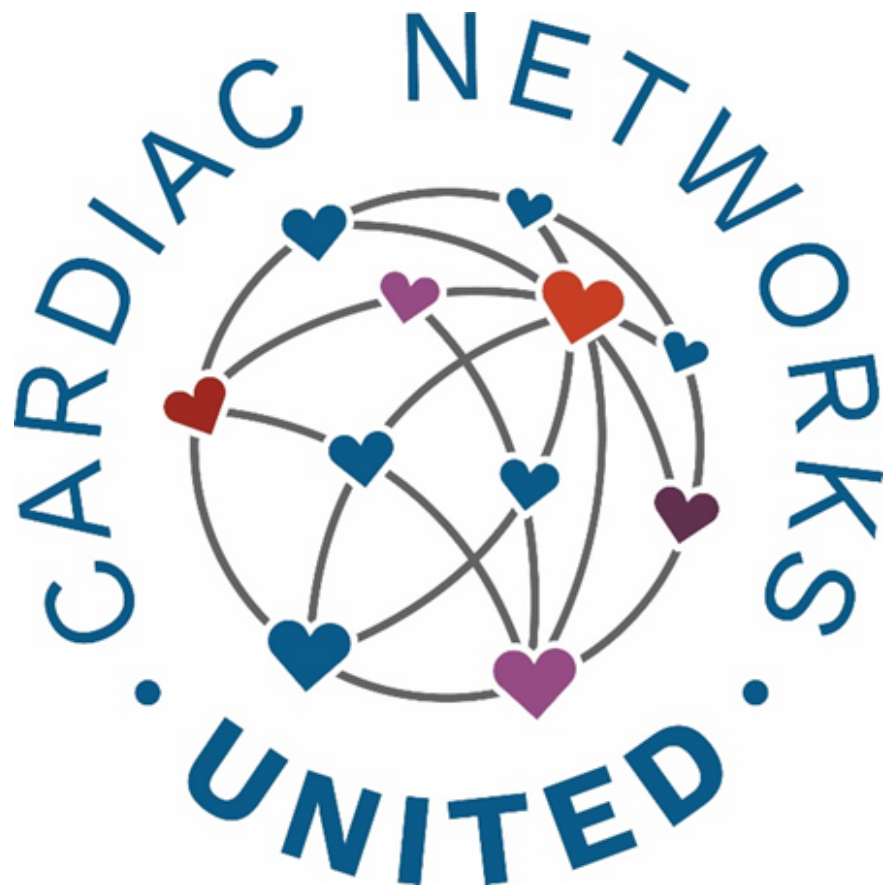
Test the feasibility and knowledge gained from adding equity focused data points to the PAC₃ data registry to delineate disparities in outcomes among our pediatric cardiology population and identify specific areas of improvement

Getting Started

1. Email pac3@childrens.com to be added to Health Equity center roster
2. Go to <https://pac3quality.org/health-equity-module/> for How To videos and forms to use the Health Equity Module
3. On SharePoint, refer to the October 14th, 2022 DeGAUSS presentation for a full live demo on the ArborMetrix and DeGAUSS portions of the Health Equity Module
4. If issues downloading/installing Docker, please email pac3@childrens.com and gavin.durman@cchmc.org
5. All DeGAUSS specific questions can be directed to degauss.org or emailed to brittney.hills@utsouthwestern.edu or pac3@childrens.com
6. After your first DeGAUSS tool upload, please email help@arbormetrix.com with the name of the file you submitted to confirm receipt.
7. Check the Health Equity Module Status Report 24 hours post upload to ensure matching



Sponsored by:  **Pediatric Heart Network**



**Data Definitions Manual
Health Equity Module**

All sites in PC4, PAC3, and CNOC will have the option to submit Health Equity data. The data collected regarding patient's primary language and need for an interpreter is an extension of the Demographics section in PC4/PAC3 and will synchronize with the patient ID. The primary insurance question and DeGAUSS responses will be collected on a hospitalization level and will synchronize with the hospitalization ID.

Health Equity Module

Primary Language

Required for case closure: Yes

Description: Primary language listed in the clinical information tab regarding a patient. Will assume primary language listed to be parent or guardians until patient is 18 years of age.

Values	English	Marathi
	Spanish	Nepalese
	Cantonese	Polish
	Mandarin	Portuguese
	Tagalog	Russian
	Arabic	Somali
	French	Tamil
	German	Telugu
	Greek	Ukrainian
	Haitian Creole	Vietnamese
	Japanese	Yiddish
	Kannada	Other _____
	Korean	

Interpreter Needed

Required for case closure: Yes

Displayed if: Language other than English is selected for Primary Language

Description: Determined by clinical information or demographic information section for patient.

Values Yes
No

Insurance Type
Required for case closure: Yes

Description:

Indicate the primary insurance type at the beginning of this hospitalization.

Values

Code

Text

1

Public

Includes Medicare, Medicaid, Military Health Care (e.g., TriCare), State-Specific Plan, and Indian Health Service.

2

Private

Includes all indemnity (fee-for-service) carriers, Preferred Provider Organizations (PPOs), and Health Maintenance Organizations (HMOs).

3

Non-U.S. insurance

Includes all non-U.S. insurance

4

None / Self

No insurance was used by the patient to pay for this admission.

Primary type of public insurance

Displayed if:

Public is selected for insurance type
Required for case closure: No

Description:

Optional field for any public insurance type. ****Identify differentiation by billing or social worker at individual center**

Values

Medicare
Medicaid
Military Health
Indian Health Service
Correctional Facility
State Specific Plan
Other Government Insurance
Unknown

Health Equity Module Data Entry Process

This does not require changes to IRBs or DUAs because no PHI is being sent!

Note: Docker only needs to be downloaded once, not each time DeGAUSS is run.

STEP 1

Enter patient hospitalizations into the CNU registry

You will need the PAC³/PC⁴ patient and hospitalization IDs generated by your data entry platform (e.g. CardioAccess or LUMEDX) or the CNOc patient and clinic visit ID generated by ArborMetrix during the next steps.

STEP 2

Input Patient Information into ArborMetrix

In ArborMetrix, navigate to the **Health Equity** data input section.

Fill in the **patient's information**.

STEP 3

Batch Upload DeGAUSS Tool Metrics

Download **Docker** in order to run the DeGAUSS containers on your desktop.

To secure protected health information (PHI), data is not shared until the last step.

Set up a **spreadsheet (.csv)** file for DeGAUSS

Run DeGAUSS to output the **Deprivation Index & Distance to center** spreadsheets for all patients desired.

Remove all columns with PHI from spreadsheets and **upload your spreadsheet** to ArborMetrix.


As a safeguard, ArborMetrix will flag (and not accept) files that have PHI column headers.



CSV File Headings

id
fraction_assisted_income
fraction_high_school_edu
median_income
fraction_no_health_ins
fraction_poverty
fraction_vacant_housing
dep_index
drive_time
distance

Quick Start Coding for DeGAUSS Compatible with Windows/PC Users:

Everyone, including Mac users, please read the original directions for how to geocode for PAC³ here: <https://degauss.org/pac3.html> 

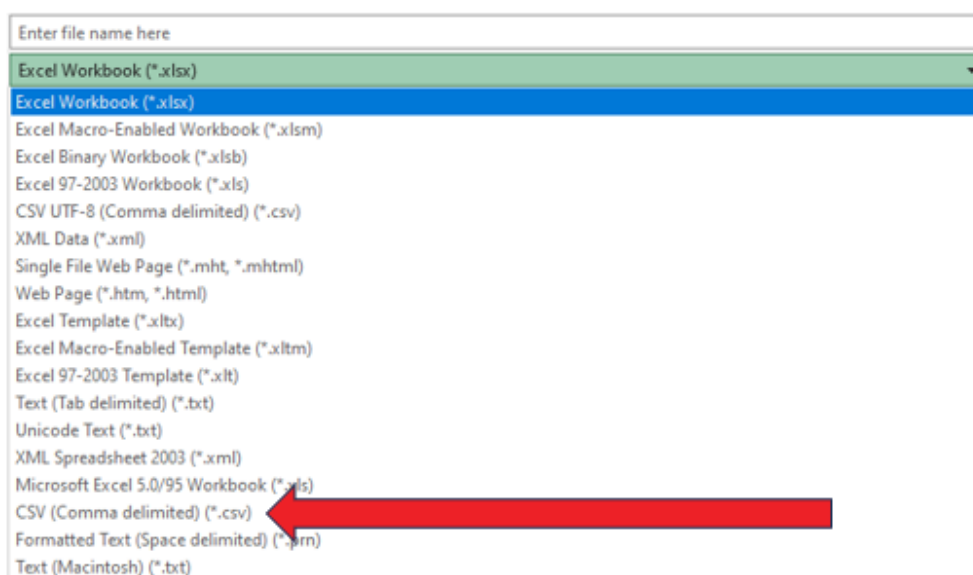
1. Set up your CSV file

Open Excel and create a worksheet with two headers **id** and **address**

	A	B
1	id	address
2		
3		

Enter the **HOSPITALIZATION ID** under **id** and the patient's address under **address**

After entering the necessary data for your DeGAUSS run save the file as a .csv



2. First run your csv file through the geocoder image

Enter the address of **YOUR C drive** (mine personally is C:\Users\brhill but yours will be different). In this example, my csv file is just called "**test.csv**".

Note: the files must not have spaces and must include ".csv" when running the image. Docker must be open when running any code. **The name of the file in red must be changed to the name you assigned your file for each code.**

```
C:\Users\brhill>docker run --rm -v "%cd%":/tmp ghcr.io/degauss-org/geocoder:3.0.2 test.csv
```


The output of this will be a csv file with a different name. **In my case, it was `test_geocoded_v3.0.2.csv`**, so this is what we will plug into the code in the command prompt for other images like `drivetime` and `dep_index`.

Example below:

	A	B	C	D	E	F	G	H	I	J	K	L
1	id	address	matched	matched	matched	matched	lat	lon	score	precision	geocode_result	

2. Code for running the csv file to get information from `dep_index` and `drivetime`.

Deprivation Index code

```
C:\Users\brhill>docker run --rm -v "%cd%":/tmp ghcr.io/degauss-org/dep_index:0.1
test_geocoded_v3.0.2.csv
```

Note for `drivetime`, you need to put your institution name after the csv file name so the `drivetime` image knows from which geographic point to subtract distance from a patient's home. You can find the abbreviation for each center in the `drivetime` in DeGAUSS [here](#) and copied below. In my example, the abbreviation for Children's Medical Center Dallas is `dallas`:

Drivetime

```
C:\Users\brhill> docker run --rm -v "%cd%":/tmp ghcr.io/degauss-org/drivetime:1.0
test_geocoded_v3.0.2_dep_index_v0.1.csv dallas
```

Example below:

	A	B	C	D	E	F	G	H	I	J
1	id	drive_time	distance	fraction_a	fraction_h	median_ir	fraction_n	fraction_p	fraction_v	dep_index
2	12234	> 60	989349	0.066385	0.945165	91441	0.045981	0.055708	0.098563	0.23547
3	12567	> 60	361601.5	0.37014	0.837302	27786	0.027139	0.418771	0.057875	0.51437

Please refer to <https://pac3quality.org/health-equity-module/> for additional information

Drivetime Codes

Name	abbreviation
Children's Hospital of Philadelphia	chop
Riley Hospital for Children, Indiana University	riley
Seattle Children's Hospital	<u>seattle</u>
Children's Mercy Hospital	mercy
Emory University	<u>emory</u>
Johns Hopkins University	<u>jh</u>
Cleveland Clinic	cc
Levine Children's	<u>levine</u>
St. Louis Children's Hospital	<u>stl</u>
Oregon Health and Science University	<u>ohsu</u>
University of Michigan Health System	<u>umich</u>
Children's Hospital of Alabama	al
Cincinnati Children's Hospital Medical Center - Main Campus	<u>cchmc</u>
Cincinnati Children's Hospital Medical Center - Liberty Campus	liberty
Nationwide Children's Hospital	<u>nat</u>
University of California, Los Angeles	<u>ucla</u>
Boston Children's Hospital	bch
Medical College of Wisconsin	<u>mcw</u>
St. Jude's Children's Hospital	<u>stj</u>
Martha Eliot Health Center	<u>mehc</u>
Northwestern / Ann & Lurie Children's Northwestern	<u>nwu</u>
Lurie Children's Outpatient Center in Northbrook	<u>lcclp</u>
Lurie Children's Outpatient Center in Lincoln Park	<u>lcclp</u>
Lurie Children's Outpatient Center in Uptown	<u>lccu</u>
Dr. Lio's and Dr. Aggarwal's clinics	lac
Recruited from Eczema Expo 2018	expo
University of California San Francisco Benioff Children's Hospital	<u>ucsf</u>
Nicklaus Children's Hospital	<u>nicklaus</u>
Medical University of South Carolina Children's Hospital	<u>musc</u>
Children's National Medical Center	<u>cnmc</u>
Children's Hospital of Pittsburgh of UPMC	<u>upmc</u>
Methodist LeBonheur Children's Hospital	methodist
Texas Children's Hospital	<u>texas</u>
Arkansas Children's Hospital	<u>arkansas</u>
Primary Children's Medical Center	primary
Children's Healthcare of Atlanta	<u>atlanta</u>
Children's Medical Center of Dallas	<u>dallas</u>
Lucile Packard Children's Hospital Stanford	<u>packard</u>
Toronto Hospital for Sick Children	<u>toronto</u>
Cook Children's Medical Center	cook
Children's Hospital & Medical Center - Omaha	<u>omaha</u>
Children's Hospital Colorado	<u>colorado</u>
Arnold Palmer Hospital for Children	palmer
Children's Hospital & Clinics of Minnesota	<u>minn</u>
University of Virginia Hospital	uva
Joe Dimaggio Children's Hospital	<u>dimaggio</u>
Cohen Children's Medical Center of New York at Northwell Health	<u>cohen</u>
Dell Children's Medical Center of Central Texas	dell
A.I. duPont Hospital for Children	<u>dupont</u>
Rainbow Babies and Children's Hospital	rainbow
UNC Hospitals Children's Specialty Clinic	<u>unc</u>
Barbara Bush Children's Hospital at Maine Medical	<u>maine</u>
Children's Hospital of New Orleans	<u>chnola</u>
Rady Children's Hospital	<u>rady</u>
Children's Hospital Los Angeles	<u>chla</u>
Monroe Carell Jr. Children's Hospital at Vanderbilt	<u>vandy</u>

Accessing the Health Equity Module



The dashboard shows the following menu categories:

- Data Management**
 - ACCU Encounters
 - ACCU Hospitalization List**
 - DeGauss Upload
- Volume**
 - Total Volume Reports
 - Volume Trends
- Dashboard**
 - Summary
 - Distributions
 - Trends
- Surgical**
 - Surgical Volume
 - Surgical Volume Trends
 - Summary
 - Distributions
 - Trends
 - Postop Complications
 - STAT Category
- Utilization and Therapies**
 - Summary
 - Distributions
 - Trends

Accessing the Health Equity Module



Select Patient From List

ACCU Hospitalization List

Hospita ID	Patient ID	MRN	First Name	Last Name	Hospital Admission Date	Hospital Discharge Date	Fundamental Diagnosis	Admission Type	Creation Date	Last Updated Date	Health Equity Status	Site Id
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Enter Data Here

Health Equity

Visit Type *

Hospitalization

Neurodevelopment Visit

ID (Hospitalization ID or ND Visit ID) *

ID (Hospitalization ID or ND Visit ID)

What is the patient's primary language? *

Primary insurance type for this patient? *

Enter Data Here

Note: Email pac3@childrens.com if you will be entering this data. We will need to update your ArborMetrix account





Abstraction

Public Status: ✓ Patient Summary Health Equity

> General

What is the patient's primary language? *
Select

Primary insurance type for this patient *
Public

Please specific primary type of public insurance
Select

If you select public for insurance type



Abstraction

Health Equity Edit Row Unsaved Changes Delete Row Save as Draft Save

ID	Type
...	Hospitalization

Please specific primary type of public insurance
Select

- Medicare
- Medicaid
- Military Health
- Indian Health Service
- Correctional Facility
- State Specific Plan
- Other Government Insurance
- Unknown

Optional Field

Preparing DeGAUSS File for Upload into ArborMetrix



STEP 1:

Create a file with hospitalization "id" and "address" as headers. These have to be precise and lowercase to avoid file rejection

STEP 2:

Save the file as a .csv

STEP 3:

Make sure you have run both the deprivation index and drivetime. Delete all PHI including address, matched, lat, and lon

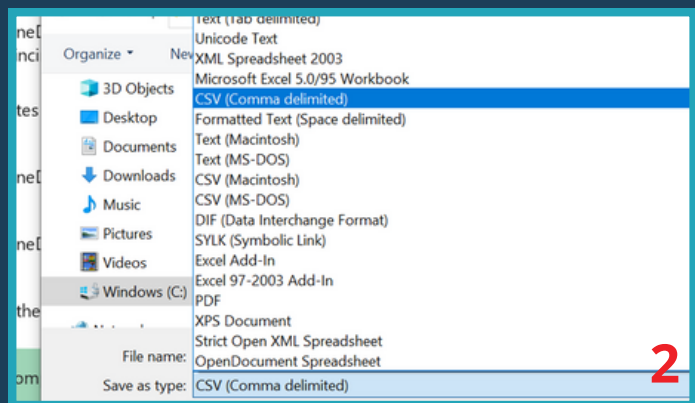
STEP 4:

For all hospitalizations that do not produce a geocode check DeGAUSS unavailable on abstraction form

STEP 5:

Each file uploaded to ArborMetrix will need to include 10 columns with exact headings (case sensitive) -->

	A	B	C	D	E	F
1	id	address				
2	12234	[REDACTED]				
3	12567	[REDACTED]				



	A	B	C	D	E	F	G	H	I	J	K	L
1	id	address	matched	matched	matched	matched	lat	lon	score	precision	geocode	drive_t
2	12234	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	> 60
3	12567	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	> 60
4												
5												

id
fraction_assisted_income
fraction_high_school_edu
median_income
fraction_no_health_ins
fraction_poverty
fraction_vacant_housing
dep_index
drive_time
distance

5

Uploading DeGAUSS file in ArborMetrix



Data Management	Volume	Dashboard	Surgical	Utilization and Therapies
ACCU Encounters	Total Volume Reports	Summary	Surgical Volume	Summary
ACCU Hospitalization List	Volume Trends	Distributions	Surgical Volume Trends	Distributions
DeGauss Upload		Trends	Summary	Trends
			Distributions	
			Trends	
			Postop Complications	
			STAT Category	
Case Mix	ACCU Complication	Data Quality	ACCU Feeding	Patient Escalation
Summary	Complications	Summary	Feeding Dashboard	Summary
Distributions	Acquired Complications		Tube Feeding Detail	Trends
Trends	Alternative Comp Measures		Type of Feeding Detail	Distribution
			Caloric Density Detail	
			Mainourishment	



Select Hospital, Hospitalization



Site Data Management // Upload

Select Hospital → Drag file(s) to drop area to upload

Hospital *
Cincinnati Children's Hospital Medical Center

ID Type *
Hospitalization
Hospitalization
Neurodevelopment Visit

Load file/s

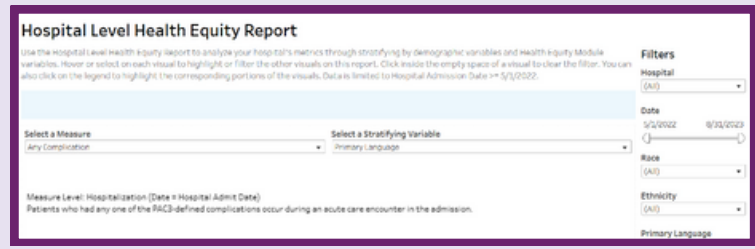


Health Equity Module Visualization



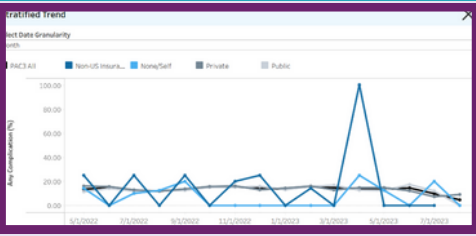
- 1 Select a Measure
Ex: length of stay, complications
- 2 Select a Stratifying Variable
Ex: race or language
- 3 Select your filters*
It is best to only select 4
comparisons at a time to reduce
graph noise

Purpose: Ease the process of evaluating differences in outcome measures by new health equity module variables (Health Equity Reports).



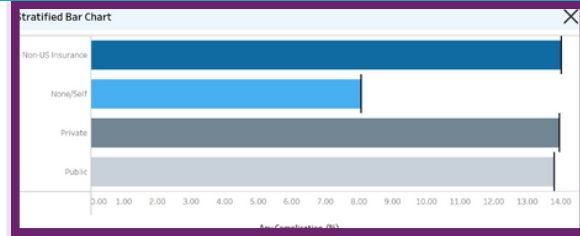
[Click Here to Practice Different Scenarios](#)
[Click Here to Watch Different Scenarios](#)

Stratified Trend Stratified Benchmark Exploratory Scatter Plot



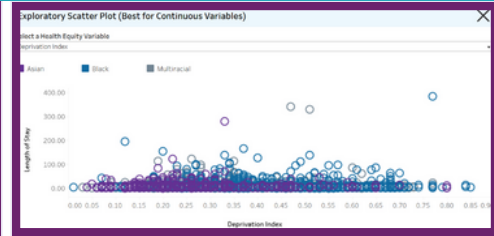
Use: This graph allows you to look over time and compare the selected stratified variables as well as view the PAC3 benchmark for the selected measure.

Features: Hover or click to isolate each variable



Use: This graph takes a focused snapshot of the data comparing the median or average of the total data available for any given measure and variable.

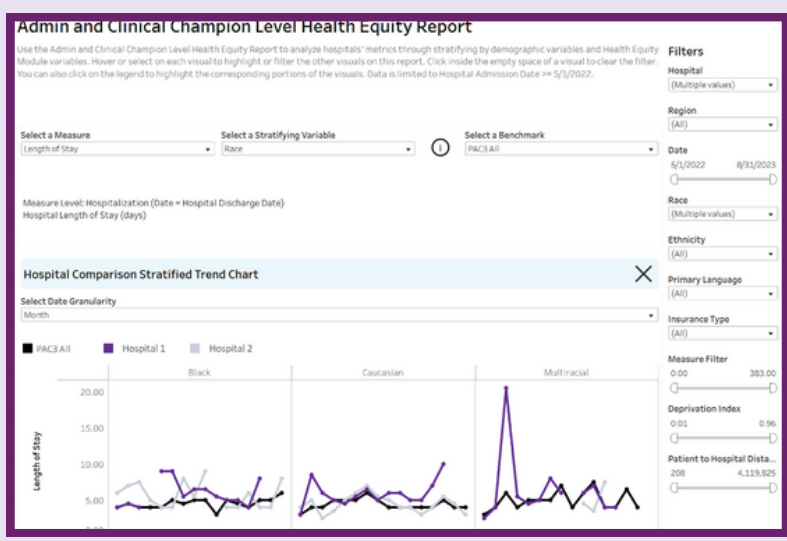
Features: Hover for the tool tip to evaluate the median, confidence interval as well as average deprivation index



Use: This scatter plot allows you to compare a variable by two measures. A standard measure and the other based on area-level circumstances (i.e. deprivation index).

Features: You can change which area-level measure to view at the top of the chart

Clinical Champion View



The clinical champion view will allow comparison between programs and even evaluate regional differences in addition to PAC3 benchmarks.

Quick Tips

1. You can only compare a program to a region within that region (ex. a program in California should only compare themselves to the West region)
2. You can still directly compare programs to each other



Validation of the Health Equity Module Recommendations

PAC3 Health Equity Module Status

Hover over the big numbers below for a description of each status. If the big numbers don't show, then there are zero cases for that status. Use the table below to view the status of your DeGauss submissions.

Matched and in List

500

Matched not in List

43

Not Matched

6

Filters

Site

(None) ▼

Processed Date

Submission Status

(None) ▼

- Remember the Health Equity Module operates on a hospitalization level, not encounter based. So make sure you are using the hospitalization id!
- After every DeGAUSS upload check the Health Equity Module Status Report to see if all DeGAUSS uploads are matched and in list. If there is a hospitalization id associated with an upload, but not in the ACCU hospitalization list it will show as matched not in list. (i.e. patient hospitalization not uploaded into ArborMetrix yet) If there is no hospitalization id affiliated with the upload it will show not matched. Please check your file to see if there are any errors and then reach out to help@arbormetrix.com if there is a concern.
- Please complete the Health Equity Module abstraction and DeGAUSS upload within 60 +7 days of the hospital discharge.
- Check out your centers data by looking at the Health Equity Module Visualizations and start making change!!! 😊

Support Options

Docker Support: Gavin Durman | gavin.durman@cchmc.org

DeGAUSS Support: Brittney Hills | brittney.hills@utsouthwestern.edu

General HE Module Questions: brittney.hills@utsouthwestern.edu
pac3@childrens.org

DeGAUSS Upload Concerns: brandtaj@med.umich.edu

