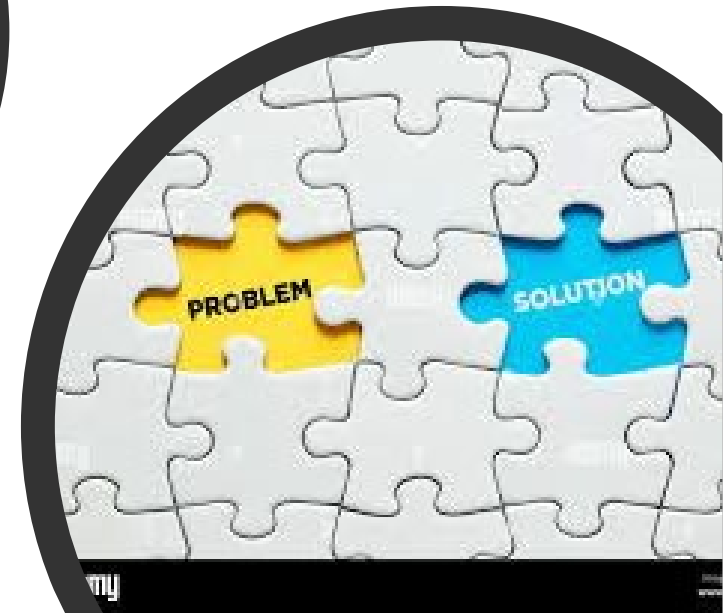


# **Enhancing Patient Care: Hospital- EHR Collaborations in Pharmacogenomics**

Cyrine-Eliana Haidar, Pharm.D., St. Jude Children's Research Hospital

Phil Empey, Pharm.D., University of Pittsburgh Medical Center

**Implementers  
faced with the  
same problems but  
had to come up  
with solutions for  
their EHR**





Create a forum  
where  
implementers  
can discuss  
similar problems  
and come up with  
solutions  
together

# Need for two-way communication between healthcare institutions and electronic health record (EHR) vendors



# Pharmacogenomics Brain Trust

Create robust and standardized support for pharmacogenomics in Epic and across organizations

# Tasked Goals of the Pharmacogenomic Brain Trust

- Drawing from the expertise of implementers and Epic experiences, the Brain Trustees will:
  - Review foundation system build
  - Improve implementation strategies
  - Share how they have successfully used Epic in their precision medicine programs




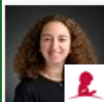




# Pharmacogenomic Brain Trust Meeting Format








- Monthly one-hour meetings starting October 2022
- Rotation of topics
  - Foundation system and documentation
    - Epic staff seeking input from users
  - Current developments
    - Both Epic and users
  - Community implementation
    - Epic institutions discussing and sharing unique pharmacogenomic implementation aspects at their site

# Pharmacogenomics Brain Trust Clinician Representation\*

Co-leaders of the Pharmacogenomics Brain Trust

Members

-  Amanda K. Massmann, PHARM D  
Sanford Health
-  Amanda L. Elchynski, PharmD  
Arkansas Children's
-  Amy Pasternak  
Michigan Medicine
-  **Cyrine Haidar, Pharm.D.**  
St Jude Children's Research Hospital
-  Glenda Hoffecker, PharmD  
Penn Medicine
-  Henry (Mark) Dunnenberger, PHARM D  
NorthShore University HealthSystem
-  Howard P Levy, MD, PhD  
University of Maryland Medical System
-  James M. Hoffman, PharmD  
St Jude Children's Research Hospital

-  James Stevenson  
Johns Hopkins Medicine
-  Jeremy Woods, MD  
Valley Children's Hospital
-  Khoa Nguyen  
University of Florida
-  Maria Blazo, MD, FACMG  
Baylor Scott & White Health
-  Michelle Liu, PharmD  
Vanderbilt University Medical Center
-  **Philip E. Empey, PharmD, PhD**  
University of Pittsburgh Medical Center
-  Ryley Uber, RPH  
Geisinger

<https://www.epicearth.com/AdvisoryBoards/Contributions/11098>

\*Select members



# Pharmacogenomics EHR Member Brain Trust Representation

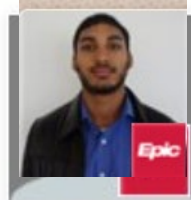
## Epic staff



Brian Davis  
Epic



Elizabeth Sweet  
Epic



Vikas Biliyar  
Epic



Lindsay Lin  
Epic

# Pharmacogenomic Foundation System Build

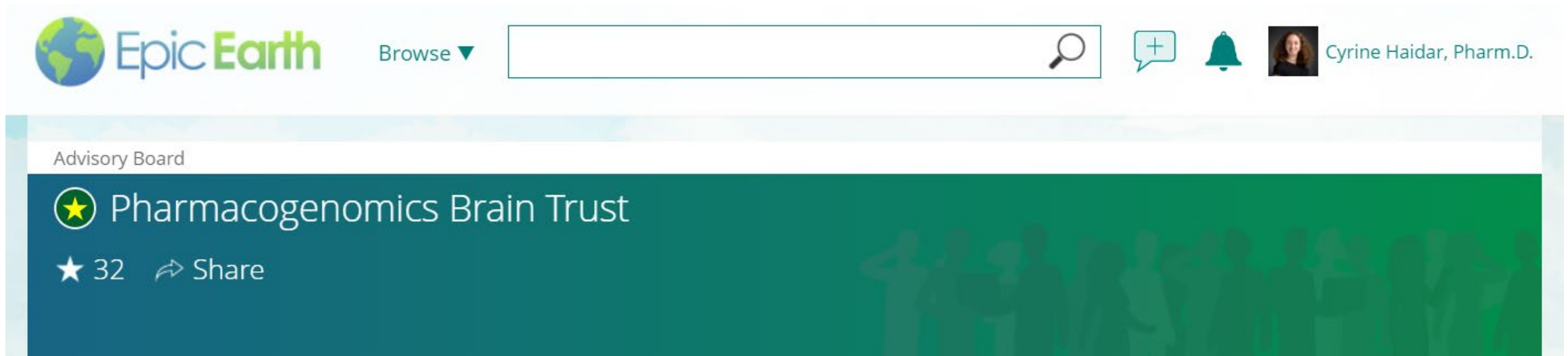
- Incorporation of CPIC level A guidelines
  - Genomic Indicators
  - Genotype to Phenotype Mappings
  - Pre-test alerts
  - Post-test alerts and in-line notifications

# Key Successes to Date

# Key Successes to Date

- Genomics indicators will not be shared from one institution to another
  - Variant results will be shared
- Integration of activity score into a discrete format within the EHR
- Review of Pharmacogenomic Workbook template for Epic Foundation System builds
- Standardization of malignant hyperthermia notification workflow within the EHR for anesthesia and pharmacogenomics
- Feedback on design and development ideas


# Pharmacogenomics Brain Trust Accessible Through Epic Earth



The screenshot displays the Epic Earth website interface. At the top left is the Epic Earth logo, featuring a globe icon and the text "Epic Earth". To the right of the logo is a "Browse" dropdown menu, a search bar with a magnifying glass icon, and icons for a plus sign, a bell, and a user profile. The user profile is identified as "Cyrine Haidar, Pharm.D.". Below the navigation bar, the "Advisory Board" section is visible, featuring a green header with a yellow star icon and the text "Pharmacogenomics Brain Trust". Below the header, there is a star icon followed by the number "32" and a "Share" button with a right-pointing arrow.

<https://www.epicearth.com/>


# Recordings of Previous Meetings Accessible for Review







 Pharmacogenomics Brain Trust

★ 32 [Share](#)

[Contributions](#) 16 [Discussions](#) 2 [Works in progress](#) 0





View content created by this Advisory Board

 Meeting Recordings (9 items)

-  [October 2022 Meeting](#)  
Overview of the Brain Trust, our implementation tools, and copy number variant formatting.
-  [November 2022 Meeting](#)  
PGx BPA Review and UPMC's PGx implementation overview.
-  [December 2022 Meeting](#)  
Overview of future development for Activity Scores.
-  [January 2023 Meeting](#)  
Overview of St. Jude's PGx implementation.
-  [February 2023 Meeting](#)  
Overview of future development for Activity Score displays within Genomic Indicators.
-  [March 2023 Meeting](#)  
Overview of Vanderbilt's PGx program.

The Pharmacogenomics Brain Trust is working create robust and standardized support for pharmacogenomics in Epic and across organizations. Drawing from their expertise and Epic experiences, the Brain Trustees will review foundation system build, improve implementation strategies, and share how they have successfully used Epic in their precision medicine programs.

### Members

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Sanford Health
-  Amanda L. Elchynski, PharmD  
Arkansas Children's
-  Amy Pasternak  
Michigan Medicine
-  Cyrine Haidar, Pharm.D.



# Post Questions on the Discussion Board

## ★ Pharmacogenomics Brain Trust


★ 32 ↗ Share

**Contributions** 16   Discussions 2   Works in progress 0

DISCUSSION   Posted 2 months ago

### User Web question on integrating PGx data into Genomics module

👁 20   ★ 1



**Howard P Levy, MD, PhD** 🛠️👥  
University of Maryland Medical System


Please see <https://userweb.epic.com/Thread/123471/In-house-PGx-integration-with-Genomics-module/> for questions about integrating PGx data off a sequencer into the Genomics module. Hopefully those of you who are up and running can be of assistance to these folks.

★ Clinical Decision Support   ★ Genetics   ★ Pharmacist   ☆ Ambulatory   ☆ Efficiency

☆ Executive   ☆ HIM   ☆ Internal Medicine   ☆ Physician   ☆ Problem-Oriented Charting





☆ Quality

★ Follow   ↗ Share



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-  Cyrine Haidar, Pharm.D.



# This group could potentially be replicated for all EHR systems

- Start a pharmacogenomics specialty group for institutions using the same EHR as you
- Contact your EHR vendor representatives, or information services at your institution



# Interested in joining the Pharmacogenomics Brain Trust?

- Prerequisites:
  - EHR vendor: Epic
  - Installed the genomics module
- Contact:
  - Cyrine Haidar: [cyrine.Haidar@stjude.org](mailto:cyrine.Haidar@stjude.org)
  - Philip Empey: [pempey@pitt.edu](mailto:pempey@pitt.edu)



Questions

