

Linking practice to implementation science

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Current Status of PGx Implementation

- Implementation mainly in urban, academic institutions
- Disparate implementation strategies
- Barriers:
 - Institutional PGx expertise, education, and multidisciplinary support
 - Information technology infrastructure / EHR integration / CDS
 - PGx lab selection
 - Reimbursement models and demonstrating outcomes
- Need for practical implementation models

What is Implementation Science (IS)?

- Implementation science = the study and application of strategies that promote the systematic uptake of evidence-based interventions into routine practice, thereby improving the quality and effectiveness of health services (Eccles & Mittman, 2006)

Benefits of Using Implementation Science

- Accelerates healthcare change
 - ✓ 14% use of interventions after 17-20 years vs. 80% use after 3 years with implementation science¹⁻⁴
- Drives intervention effectiveness through monitoring of implementation quality
 - ✓ Well-implemented evidence-informed interventions yields significantly better outcomes than those that have been poorly implemented⁵
 - ✓ Implementation needs to be examined to understand why interventions aren't being adopted or used
- Prepares for replication, sustainability, and scale up

1. Ogden T, Fixsen DL. *Z Psychol* 2014;222(1):4–11.

2. Fixsen DL, Blase KA, Timbers GD, Wolf MM. *Behav Anal Today* 2007;8(1):96–110.

3. Balas EA, Boren SA. In: Bommel, J, McCray, A, eds. *Yearbook of medical informatics 2000: patient-centered systems*. Stuttgart, Germany: Schattauer; 2000:65-70.

4. Green LA, Seifert CM. *J Am Board Fam Pr* 2005;18 (6):541–5.

5. Durlak JA, Domitrovich CE, Weissberg RP, Gullotta TP, eds. *Handbook of social and emotional learning: research and practice*. New York, NY: The Guilford Press, 2015:395–405.

A collaborative learning experience designed to catalyze the implementation of clinical PGx in health systems



The PGx Accelerator offers access to networking opportunities, and professional development with the technical expertise and resources to successfully implement PGx through monthly webinars, learning events, and development coaches

PGx Accelerator

A national pharmacogenomics implementation collaborative through which pharmacy leads adoption and implementation of pharmacogenomics services in health systems across the U.S.

A University of Minnesota College of Pharmacy and ASHP Partnership

PGx Accelerator: Learners and activity streams



PGx Accelerator Goals and Participants

Goals:

- Catalyze pharmacy leadership in PGx service development
- Accelerate the design and implementation of comprehensive PGx services that demonstrate value to stakeholders (patients, health systems leaders, payers)
- Create an environment that supports shared learning and celebrates successes of leading-edge organizations investing in PGx services

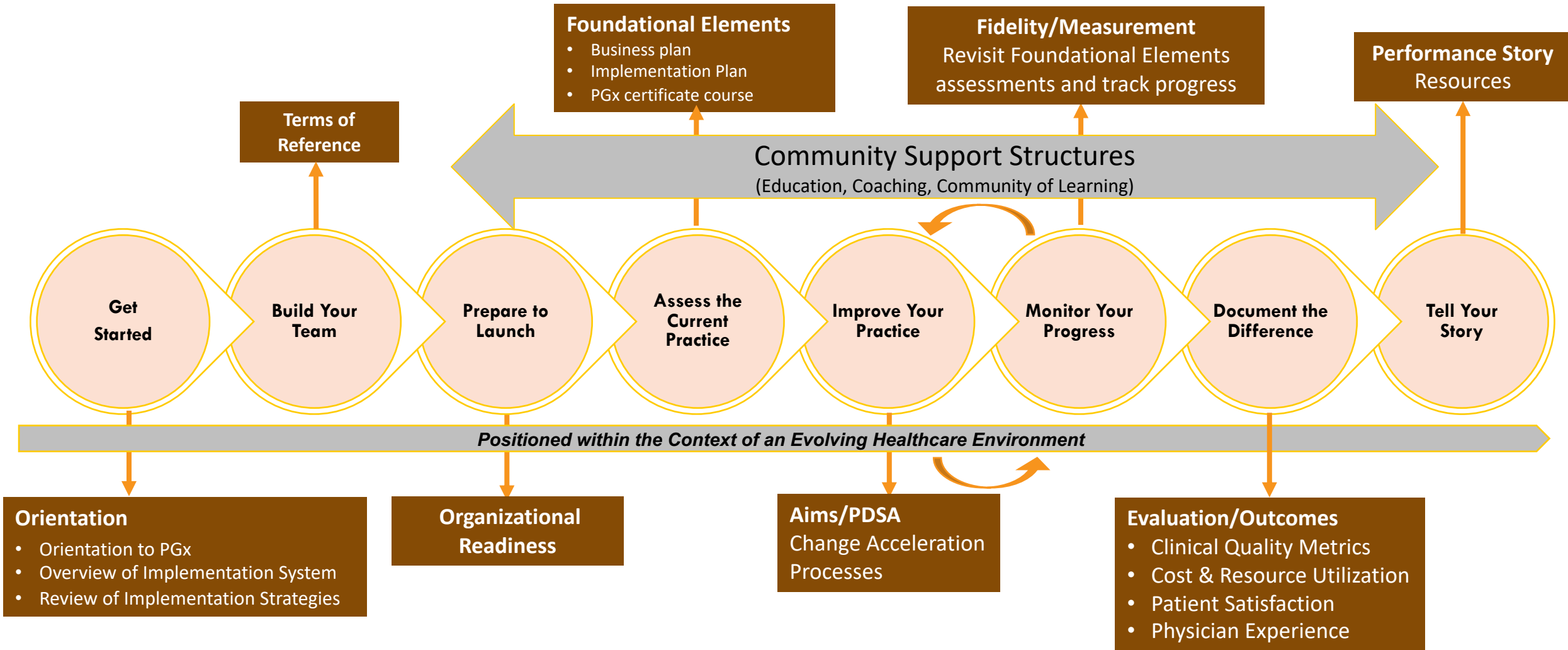
Participants:

- Hospitals, clinics, health systems, pharmacies seeking to implement or grow PGx services
- Pathways within the program will support two groups of participants:
 - Program leaders or clinical practitioners assuming responsibility for PGx program implementation
 - Clinical practitioners seeking to enhance baseline clinical skills



Implementation Science, Clinical Program Development, and Value

Implementation System for Pharmacogenomics



Value of the PGx Accelerator

- Collaboration with peers working through similar processes
 - Creates a collaborative space to share PGx resources
- Integration with PGx community
 - Access to PGx and implementation experts and collaborative coaches
- Increases implementation efficiency
 - Organized, targeted implementation
 - Provides accountability
 - PGx specific implementation tools (business plan, implementation plan)









PGx Accelerator Implementation Supports

Document	Team Building Guide	Implementation Workbook: Exploration	PGx Practice Management Assessment	Performance Story Guide	Business Plan (optional)
Purpose	(1) Identify team role and stakeholders (2) Create the team's way of working	(1) Describes what organization is implementing, (2) understand how the initiative fits within the organization and how feasible it is to implement and (3) understand the organization's readiness to implement the initiative	Aids in PGx practice/program assessment, development, evolution and maintenance	Simple, but comprehensive description of a team's capacity to generate results to be adapted and shared with relevant stakeholders.	Supports the development of organization specific business plan
Timeline	Early Collaborative	Beginning of collaborative	Sections correlate to specific pacing events	Developed throughout collaborative / practice midpoint and share final story at the conclusion	As needed based on organizational needs

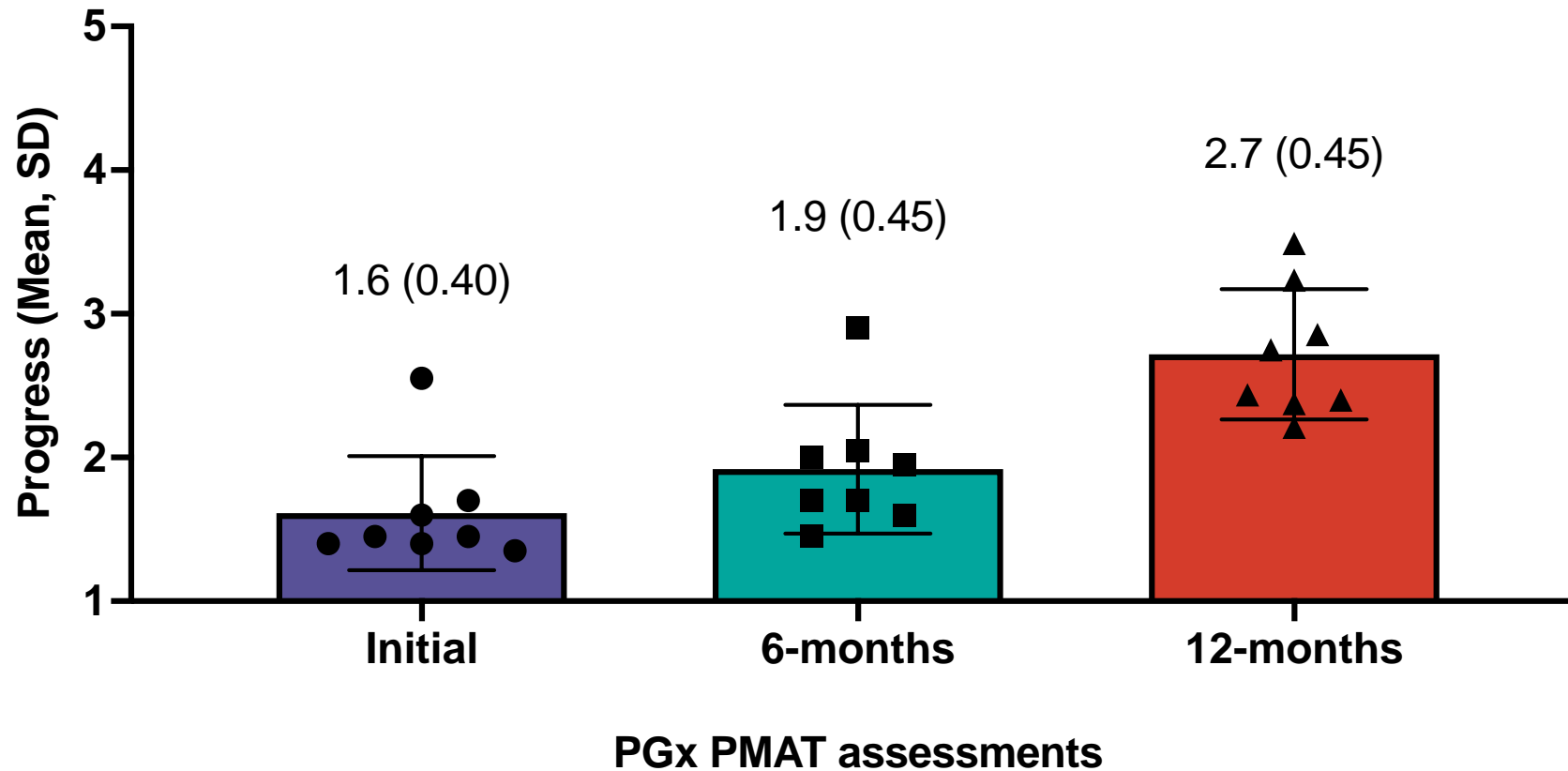
PGx Practice Management Assessment Tool (PMAT)

Domain	Essential Components	Items
Organizational Support	Leadership support	10
	Ownership and hierarchy of PGx program	2
	Billing, funding and revenue	3
	Space requirements	6
Care Delivery Processes	Clinical PGx development	6
	Identifying PGx patients	5
	Scheduling PGx services	7
	ELSI	4
	PGx Services documentation	11
	Outreach/marketing	3
PGx Testing	Current practices	3
	Assay	6
	Commercial testing	6
PGx Informatics	EHR integration	4
	CDS/BPAs	7
	Patient facing	2
Education	PGx pharmacist	2
	General pharmacists, providers, and lab	3
	Support staff	1
	Patient	5
	System-wide	1
Care Team Engagement	Interprofessional collaboration	8
	Presence and scope of CPAs	2
	Engagement of support staff	5
Evaluating PGx Services	Measuring PGx data	10
	Reporting PGx data and outcomes	6
Consistent and Quality Care	Practitioner training	5
	QA processes	5

Example PMAT domain/criteria: PGx Testing and current practices

			Assessment Point 1		Assessment Point 2		Assessment Point 3	
			State (x, 1-	Progress	State (x, 1-	Progress	State (x, 1-	Progress
Essential components	Items	Item description	x= n/a; 1= not considered; 2= initial action; 3= building/waiting from initial action; 4= finalizing action; 5= completed					
Current practices	Evaluation	There is a method to evaluate and track current health system PGx practices including identifying commercial PGx test use and specialty areas with high use and/or interest	2		3		4	
	Exploration	There is a process in place to explore and evaluate PGx testing options available including internal and external options AND there is a defined goal for PGx testing for current practices, at 1 year and at 5 years	1		2		3	
	Ideal PGx assay	The ideal PGx assay is defined for the health system's needs including volume, population, SNPs, NGS etc AND compared to current testing practices	x	x	1		2	

PGx Practice Management Assessments: mean composite scores



1 = not considered; 2 = initial action; 3 = building; 4 = finalizing action; 5 = complete

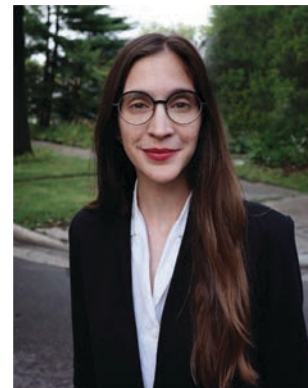
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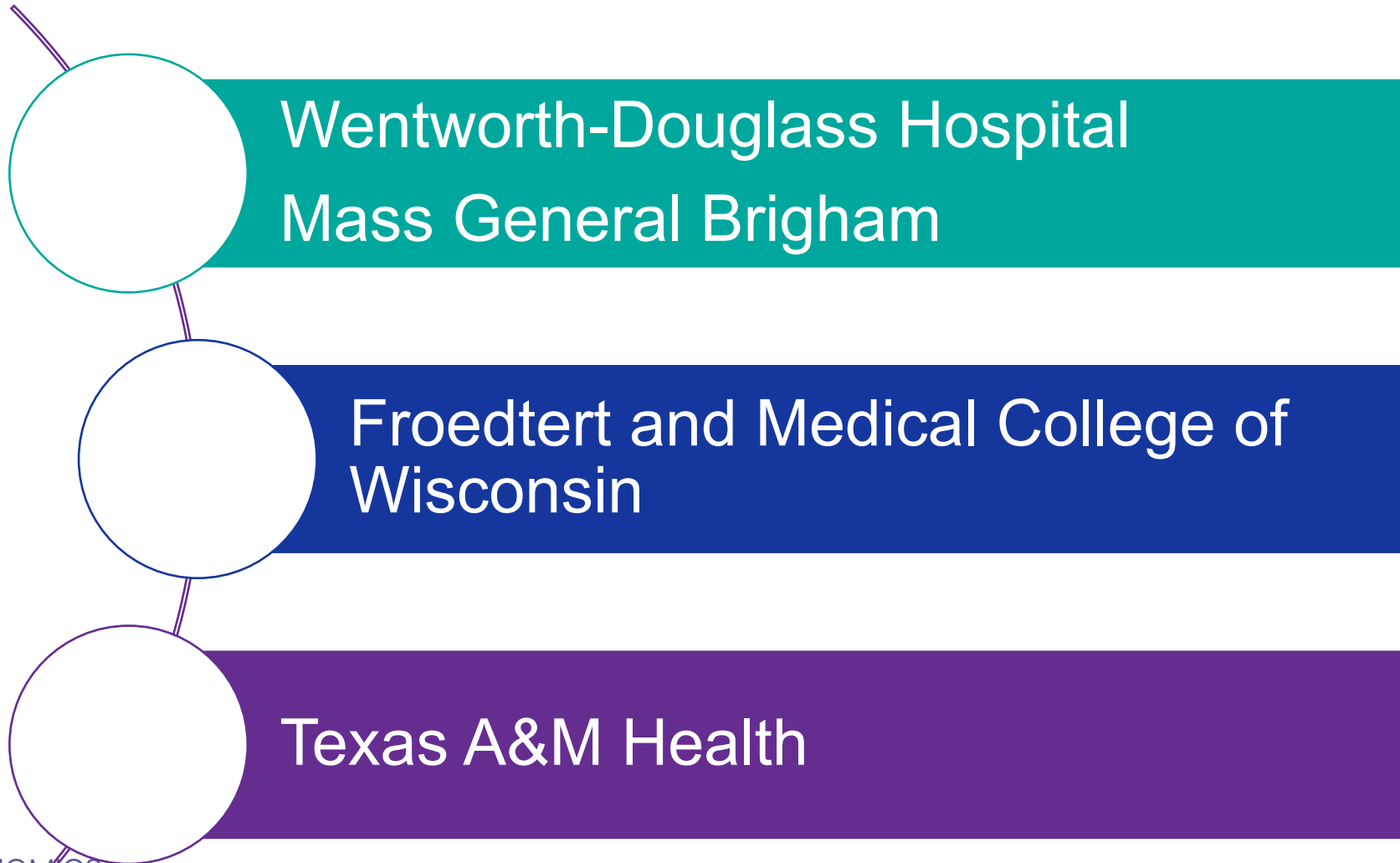


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2022-2023 PGx Accelerator Participants



2023-2024 PGx Accelerator Participants

WellSpan Health

- Integrated health system located in South-Central Pennsylvania and parts of northern Maryland with 220 patient care locations

Allegheny Health Network

- 14-hospital academic medical system with 250+ locations of care in Western Pennsylvania and Western New York

Cambridge Health Alliance

- Health system with over 140,000 patients in Boston's metro-north region, 2 hospitals, child and adolescent inpatient psychiatric services, and 12 primary care practices and 4 Teen Health Centers

Henry Ford Health

- Academic medical center with 250+ locations in Michigan including 5 hospitals, 2 facilities for cancer and orthopedics/sports medicine, 3 behavioral health facilities, primary care and urgent care centers

Accelerator Calendar for 2022-2023

Pacing Events	Event Focus	Deliverables
September	Get to know the PGx Accelerator Collaborative!	<ul style="list-style-type: none"> • Team introductions • If there were no limitations what would PGx look like at your site
October	Getting started with implementation and assessing foundations	<ul style="list-style-type: none"> • Implementation Workbook: Exploration; Team Building Guide; Site pre-survey • Defining your implementation and how it will demonstrate value
November	Connecting Stakeholder Priorities and Population management	<ul style="list-style-type: none"> • PGx Practice Management Assessment Tool (baseline) • Stakeholder informed population management strategy
December	Identify changes for improvement	<ul style="list-style-type: none"> • Describing and overcoming challenges
January	Intro to performance story and 1-3 things to accomplish by 2023	<ul style="list-style-type: none"> • Top 1-3 thing you plan to accomplish in 2023 • Breakthroughs • Where do you want to go next
February	Build a measurement strategy	<ul style="list-style-type: none"> • Sharing population focus and connection to stakeholder priorities • Measurements to show progress
March	Performance story workshop	<ul style="list-style-type: none"> • First draft of team's performance story • Practice Management Assessment Tool (midpoint) and midpoint survey
April	Practice MGMT roundtable on CDS	<ul style="list-style-type: none"> • Plan for EHR integration and CDS
May	Practice MGMT roundtable on documentation	<ul style="list-style-type: none"> • Plan for documentation and template feedback
June	Practice MGMT roundtable on measurement strategy	<ul style="list-style-type: none"> • Current measurement strategy
July	Practice MGMT roundtable on reimbursement	<ul style="list-style-type: none"> • Plan for reimbursement
August	Celebrating - Share Success	<ul style="list-style-type: none"> • Updated performance story • Practice Management Assessment Tool (endpoint) and final site survey

Key Takeaways

- Implementation science employs strategies promoting the systematic uptake of evidence-based interventions into routine practice
- The PGx Accelerator fosters a collaborative community promoting efficient implementation and integration within the PGx community
- Participating sites have launched new PGx programs within their institutions that are directly tied to their organization's mission, values, and strategic plans and are measuring outcomes to demonstrate impact and value

Questions?

- For more information or referral to the program:
 - Website:
 - <https://www.ashp.org/innovation/pharmacogenomics-accelerator>
 - Email:
 - ashpinnovationcenter@ashp.org or stene032@d.umn.edu