



Implementation of a Genetic and Wellness Assessment Initiative (GWA) Across a Community Health System

Genomic Medicine XI: Research Directions in Genomic
Medicine Implementation Objectives

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Disclosure

- Up-to Date Author: “Principles and clinical applications of next-generation DNA sequencing”
- I will not discuss off label use or investigational use in my presentation.



NorthShore University HealthSystem

- Medical Group
 - 950+ medical group physicians
 - 100+ offices
 - 4 hospitals
- 42,000 admissions/year
- 120,000 ER visits/year
- Center for Medical Genetics
 - 3 MDs / 5 GCs
- How do we scale genetic services?



Realities at NorthShore

- Local patient demand for genomic services
- Center for Medical Genetics
 - Built-in infrastructure for efficiently handling many challenges
 - Opportunity to develop specific workflows
 - **Limited capacity...**
 - ...*but* ...model for expanding into other specialty clinics
- ***Vision: Bring genomics to the frontlines of care***
 - Specialty clinics as launch for broader system-wide initiative
 - Creation of the Center for Personalized Medicine
 - Development of seamless workflows for frontline providers and patients
 - Educational programming consistent, across entire system



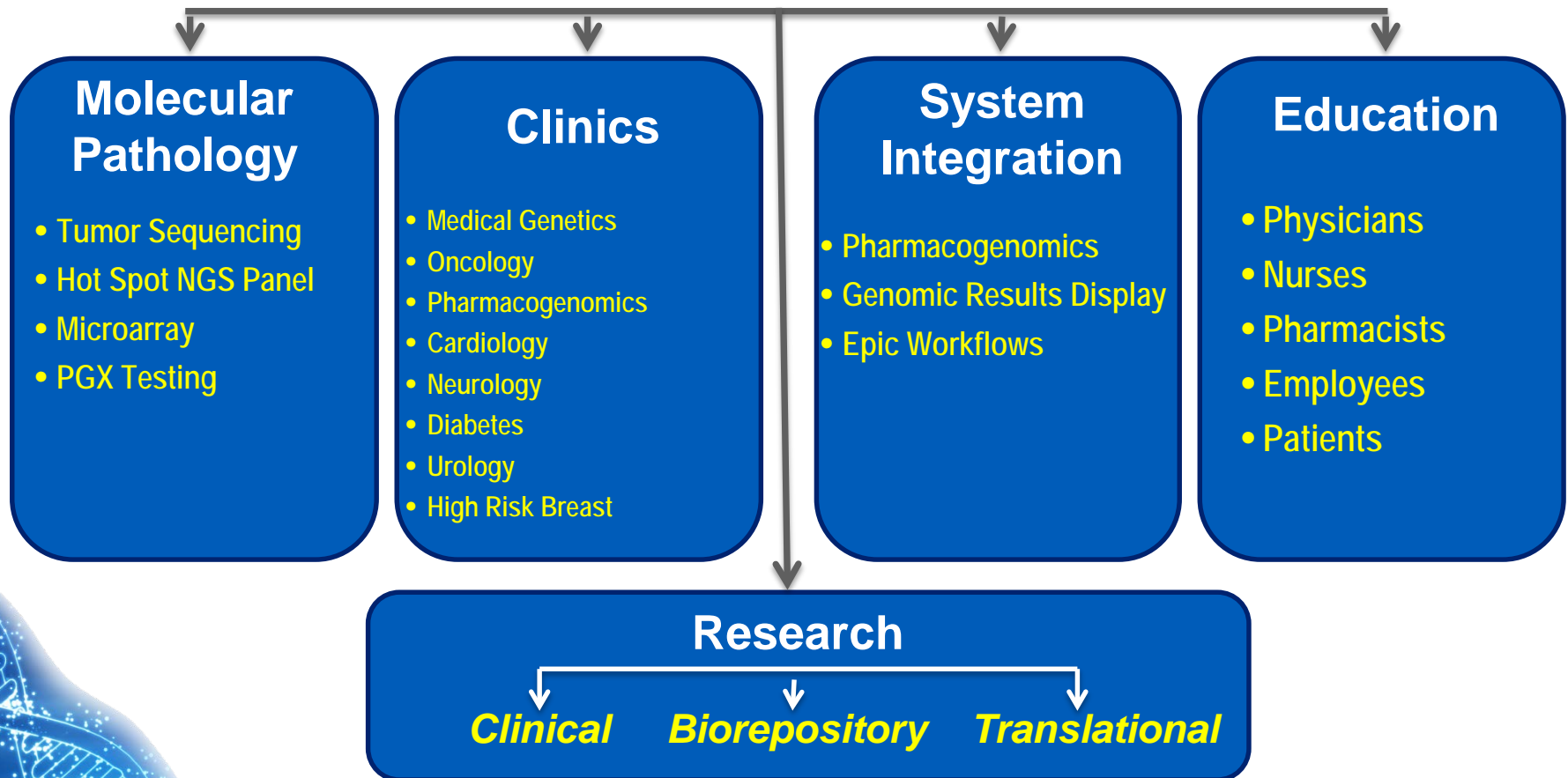
Implementation Challenges

- Time constraints
 - Physician education
 - Appointment length
- Competing guidelines/initiatives
- Reality vs. myths
 - Cost of testing / insurance reimbursement
 - GINA
- EMR integration



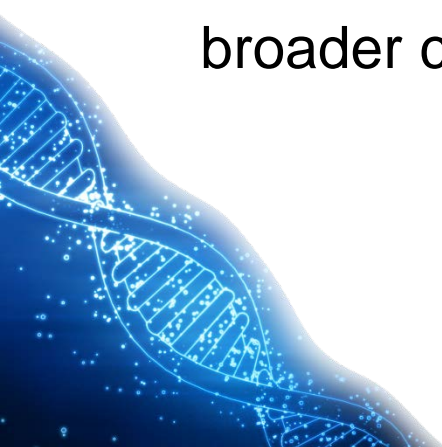
Center for Personalized Medicine

Coordinates predictive/diagnostic and therapeutic services
along with education & research



Genetic and Wellness Assessment (GWA) Tool

- 2017 Late Spring Pilot
 - Genomic checklist sent to all patients ***before annual physical*** via NSConnect
 - ~30 questions tied to actionable recommendations for provider
 - Follow-up Genetic Testing
 - Referral to Personalized Medicine Consult Clinic
- Integrates within existing workflows
- Platform for educational initiatives “in the moment” and broader curriculum for clinicians *and* patients




GWA Triggered Panels

- Reactive:
 - NCCN Guidelines Based Cancer Panels
 - Breast Focused
 - Breast and Gynecologic Cancer
 - Cardiomyopathy
 - Aortopathy
 - Arrhythmia (e.g. LQT/Brugada)
- Proactive (self-pay):
 - Healthy Gene Panel
 - Pharmacogenomics





NorthShoreConnect (NSC)

Patient View





Welcome, Cheryl Genetic | Account ▾ | Log Out

Cheryl


 Message Center ▾ | Visits ▾ | My Health Record ▾ | Billing ▾ | Preferences ▾ | Other Information ▾ 

You Might Want To...

 Read your messages. You have 5 new messages.

 View instructions for you questionnaires before coming.

Express Check-In



Save time at your appointment by updating some of your information now.

CHECK IN ONLINE


Questionnaires

Save time at the doctor's office by filling out the following questionnaires:



Questionnaire	Status
<input type="radio"/> Guarantor Questionnaire	Not Started
<input type="radio"/> Electronic Agreements and Authorizations Form	Not Started
<input type="radio"/> Health Assessment	Not Started

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NSC Patient View

Welcome, Cheryl Genetic | [Account](#) | [Log Out](#)

Cheryl

 [Message Center](#) | [Visits](#) | [My Health Record](#) | [Billing](#) | [Preferences](#) | [Other Information](#) 

Health Assessment

Your physician has asked that you complete this questionnaire. Your answers to the questions below will help your physician understand how your family history may influence screening and treatment in the future. Some answers may have been pre-populated based on your existing medical history. Your physician will use this information to determine if further action is required. You may discuss any questions with your physician at your visit.

**Indicates a required field.*

*Would you like to complete the Genetic Health Assessment?

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Mobile NorthShoreConnect . . .

AT&T 6:26 AM 100%

eCheck-In Finish Later

Questionnaires Medications Allergies

Answer questionnaires

Your physician has asked that you complete this questionnaire. Your answers to the questions below will help your physician understand how your family history may influence screening and treatment in the future. Some answers may have been pre-populated based on your existing medical history. Your physician will use this information to determine if further action is required. You may discuss any questions with your physician at your visit.

Would you like to complete the Genetic Assessment? *

Yes No

CONTINUE

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eCheck-In Finish Later

Questionnaires Medications Allergies

Answer questionnaires

Do you have, or is there someone in your family who has/had cancer? *

Yes No

Unknown

Do you have, or is there someone in your family who has/had heart disease? *

Yes No

Unknown

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Best Practice Alert

- During normal workflow for physician
- Triage patient based on clinical decision support
- Recommended orders pre-loaded → requires only a simple click

2) **Order the genetic panel for genes link to breast cancer** if you are comfortable having an initial discussion about the risks and results with the patient. Instructions for your patient on how to complete the test will be in their AVS. Referral to Personalized Medicine Clinics after results are available is always a follow-up option.

How much will this cost the patient if referral to clinic?

Personalized Medicine – High-Risk Breast Clinic visits are generally covered at the cost of any other specialist's office visit.



How much will this cost the patient if order lab?

Insurance may cover some of the cost for genetic testing. Our lab partner will contact your patient if their charge will be over \$100.

Reference Materials:

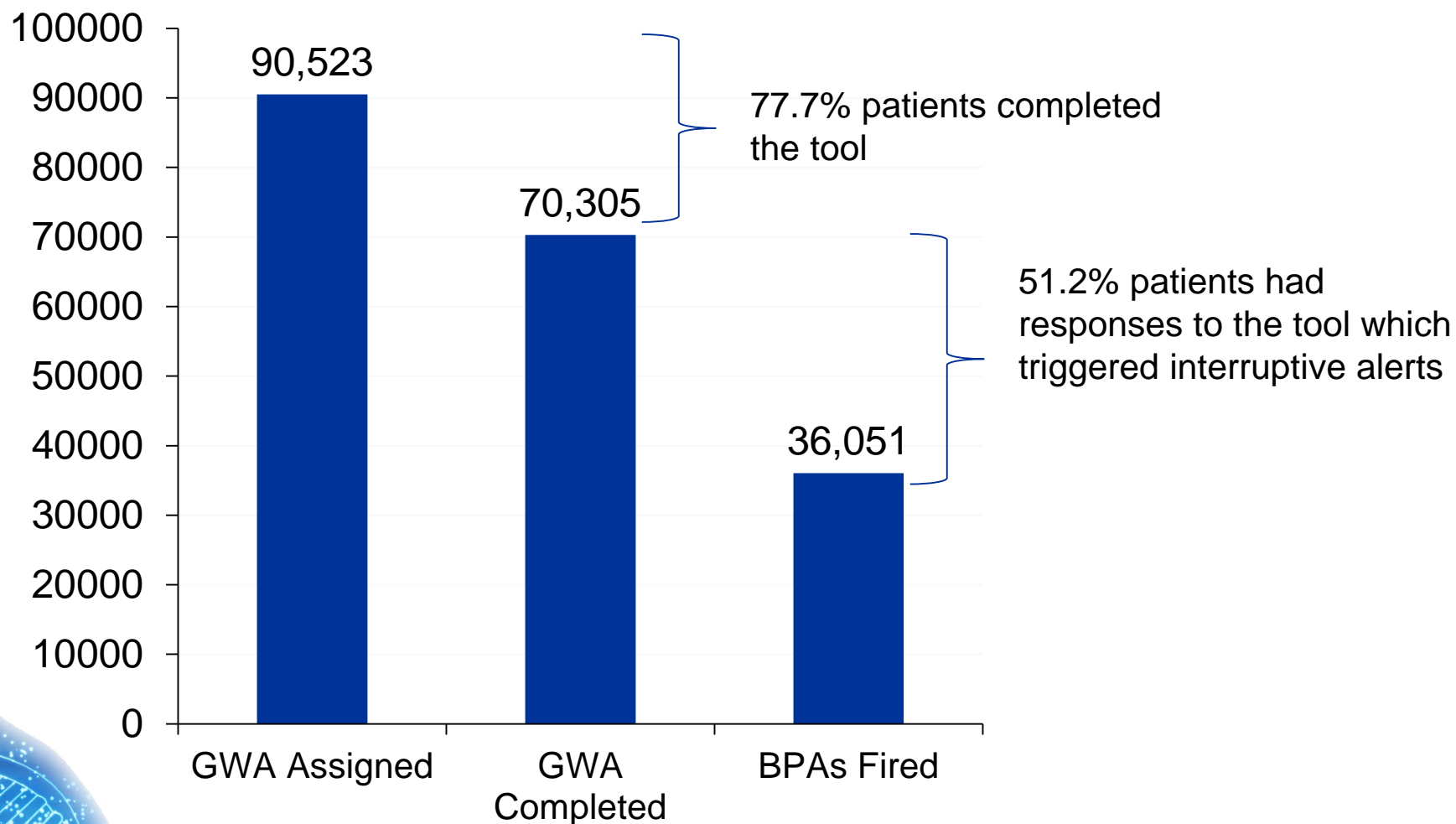
[Breast Cancer Guidelines Based Panel](#)

[Genetic and Wellness Assessment-Physician QRG](#)

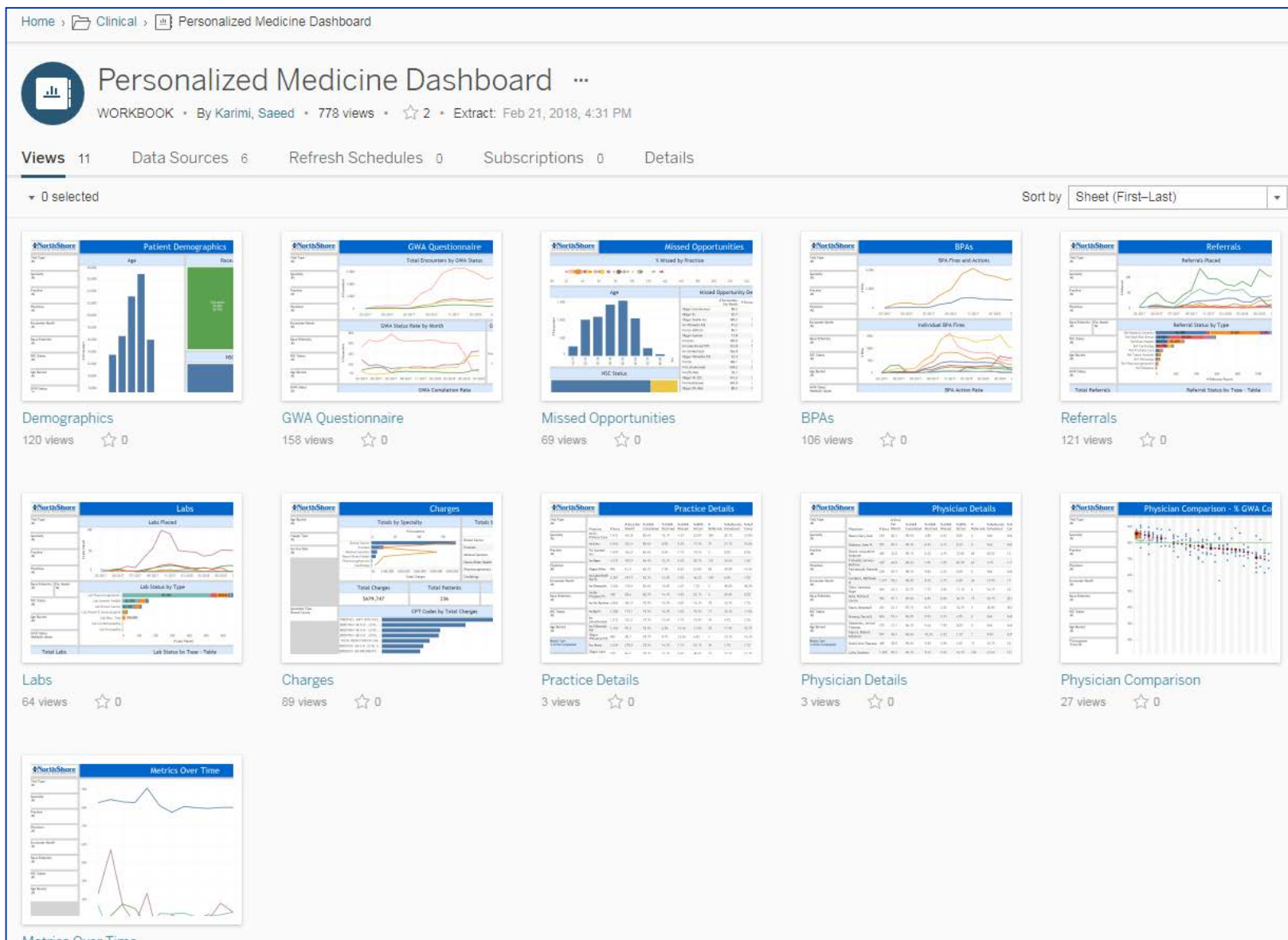
Open SmartSet	Do Not Open	GENETIC LAB ORDERS AND DX Preview
Order	Do Not Order	 REFERRAL - PERSONALIZED MEDICINE HIGH RISK BREAST CLINIC
Update Patient / Family History 		
Acknowledge Reason <input type="text"/>		
<input type="button" value="Prior testing/consultation"/>	<input type="button" value="Patient Declined"/>	<input type="button" value="Other (comment)"/>

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Early data on uptake of the GWA tool

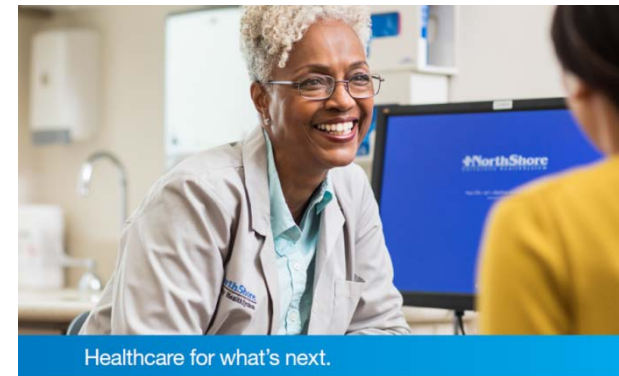


Identifying Opportunities for Improvement and Education



Benefits to Patients and NorthShore

- Scalable approach to achieve system-wide integration of genomics
- Identifies patients at risk who are unaware of possible carrier status
 - More-tailored screening /diagnostics
 - Knowledge to inform other family members
- Integration of proactive screening
 - Healthy Gene Panel, PGX testing
- Differentiator for Primary Care



The best overall care starts
with advanced primary care.

At NorthShore, we're personalizing your care on a whole new level, by integrating genetics as part of each patient's care plan. Our primary care physicians now have the most advanced genetic screenings, and can use patients' own DNA to identify risk factors and help detect the onset of diseases at their earliest, most treatable stages. And they're creating more precise treatments based on patients' genetic profiles. From an annual physical to adjusting medication to addressing a serious challenge, we work with you to personalize your care.

To learn more, call (847) 570-GENE or visit northshore.org/advancedprimarycare

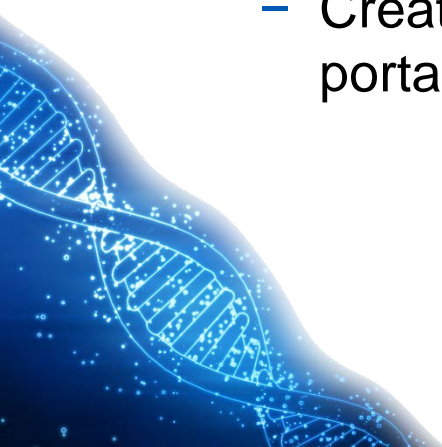
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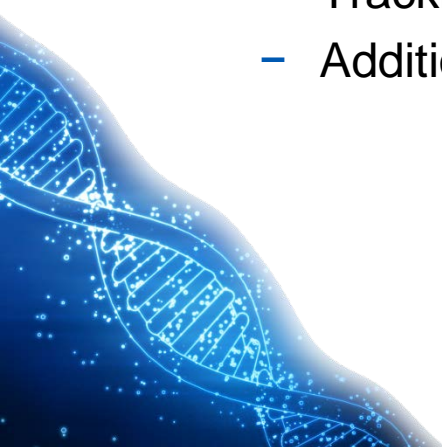
Challenges and Opportunities

- Continued education of entire medical team and patients
 - Development of novel educational methods and resources
- Improve patient *and* clinical team follow-through on recommendations at each step of process
 - Development of genomics guided care pathways
- Integration of GWA like tools to community/affiliated physicians and other medical care stakeholders
 - Create infrastructure and pathway for data sharing and portability of data



Year 2 GWA Goals and Next Steps

- Conduct research studies to assess key stakeholder barriers and facilitators to GWA implementation
 - Primary care and patient qualitative interviews
 - Identify areas for improvement and implement solutions based on stakeholder feedback
- Return to PCP sites for further support and *continued* education
- Improve GWA/BPA pull through statistics
 - Tracking of referrals materializing
 - Additional patient facing resources



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