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

Molecular Pathology
- Tumor Sequencing
- Hot Spot NGS Panel
- Microarray
- PGX Testing

Clinics
- Medical Genetics
- Oncology
- Pharmacogenomics
- Cardiology
- Neurology
- Diabetes
- Urology
- High Risk Breast

System Integration
- Pharmacogenomics
- Genomic Results Display
- Epic Workflows

Education
- Physicians
- Nurses
- Pharmacists
- Employees
- Patients

Research
Clinical Biorepository Translational

NorthShore University HealthSystem
Center for Personalized Medicine
Geneic 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
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?

Yes  No

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Mobile NorthShore Connect . . .

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

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Answer questionnaires

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

Yes  No  Unknown

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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
- Triages patient based on clinical decision support
- Recommended orders pre-loaded → requires only a simple click
Early data on uptake of the GWA tool

- 77.7% patients completed the tool
- 51.2% patients had responses to the tool which triggered interruptive alerts
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
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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