IGNITE & Beyond Workshop Summary

Chanita Hughes-Halbert
NACHGR member

May 8, 2017

IGNITE
Implementing GeNomics In pracTicE

IGNITE & Beyond Workshop

- Identify and prioritize scientific opportunities to fill evidence gaps in genomic medicine implementation

- Make recommendations for future research in genomic medicine implementation
- Evaluate the key contributions of IGNITE

IGNITE Goals

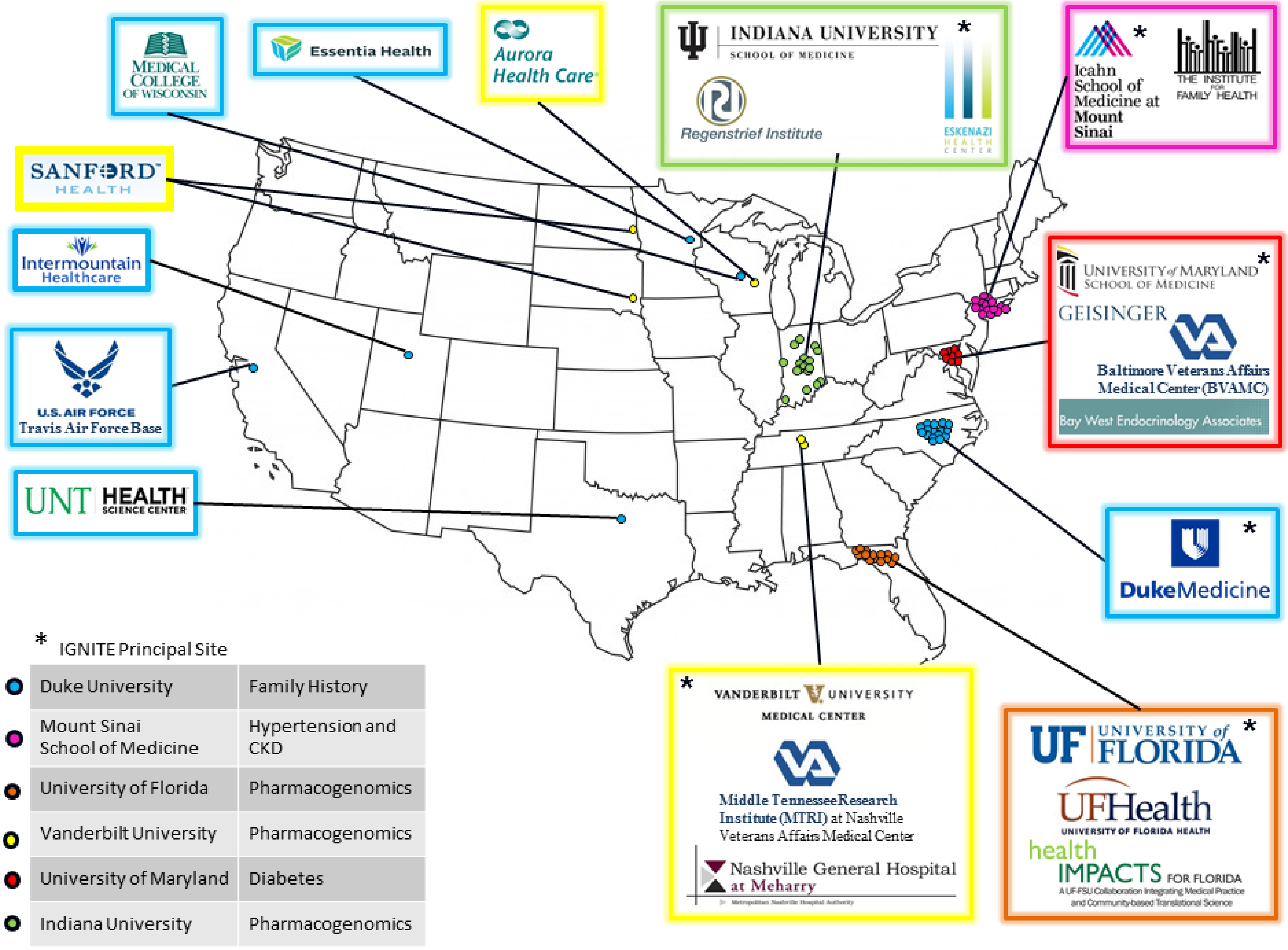
- Develop new collaborations in diverse settings and populations
- Expand and link existing genomic medicine efforts
- Contribute to evidence base of outcomes to support using genomic information in clinical settings
- Incorporate genomic information into EHR systems; new CDS strategies

IGNITE Goals (cont.)

- Develop novel patient and provider educational models to promote genomic literacy
- Engage patients, clinicians, researchers, and payers to demonstrate the value of using genomic information through genotyping, sequencing, and family history
- Define, share, and disseminate best practices of implementation, diffusion, and sustainability

IGNITE Network

- 6 demonstration projects, hub and spoke design
- Focus on real-world health care delivery
- Coordinating Center
  - Logistics planning
  - Support and coordinate network activities
  - Cultivate communication and collaboration with external groups implementing genomic medicine
  - Increase visibility of IGNITE



* IGNITE Principal Site

🔵	Duke University	Family History
🟣	Mount Sinai School of Medicine	Hypertension and CKD
🟠	University of Florida	Pharmacogenomics
🟡	Vanderbilt University	Pharmacogenomics
🔴	University of Maryland	Diabetes
🟢	Indiana University	Pharmacogenomics

IGNITE Project Sites

Duke University Geoff Ginsburg, Lori Orlando	• Family health history risk data collection via web-based platform • Variety of practice environments and populations • Generate high quality risk information for patients
Indiana University Todd Skaar, Paul Dexter	• Pharmacogenomic panel for 24 drugs • 26% of participants have a clinically actionable PGx variants • Rapid implementation across state system

IGNITE Project Sites

Mount Sinai Carol Horowitz	• APOL1 testing for adults with hypertension and self-reported African ancestry • High levels of interest in genomics research • Limited concern regarding testing in patients
University of Florida Julie Johnson	• CYP2C19 PGx testing for clopidogrel post-PCI • Improved patient outcome via guided approach • Creation of professional education and training programs

IGNITE Project Sites	
University of Maryland Toni Pollin	• Genotyping for 40 genes associated with highly penetrant form of diabetes • Improved accuracy of diagnosis, reduces unnecessary testing • Improves overall patient care, limits diagnostic odyssey
Vanderbilt University Josh Denny, Mia Levy	• Routine tumor gene mutation testing • Prospective germline PGx testing for antiplatelet therapy • Reduce adverse drug side effects

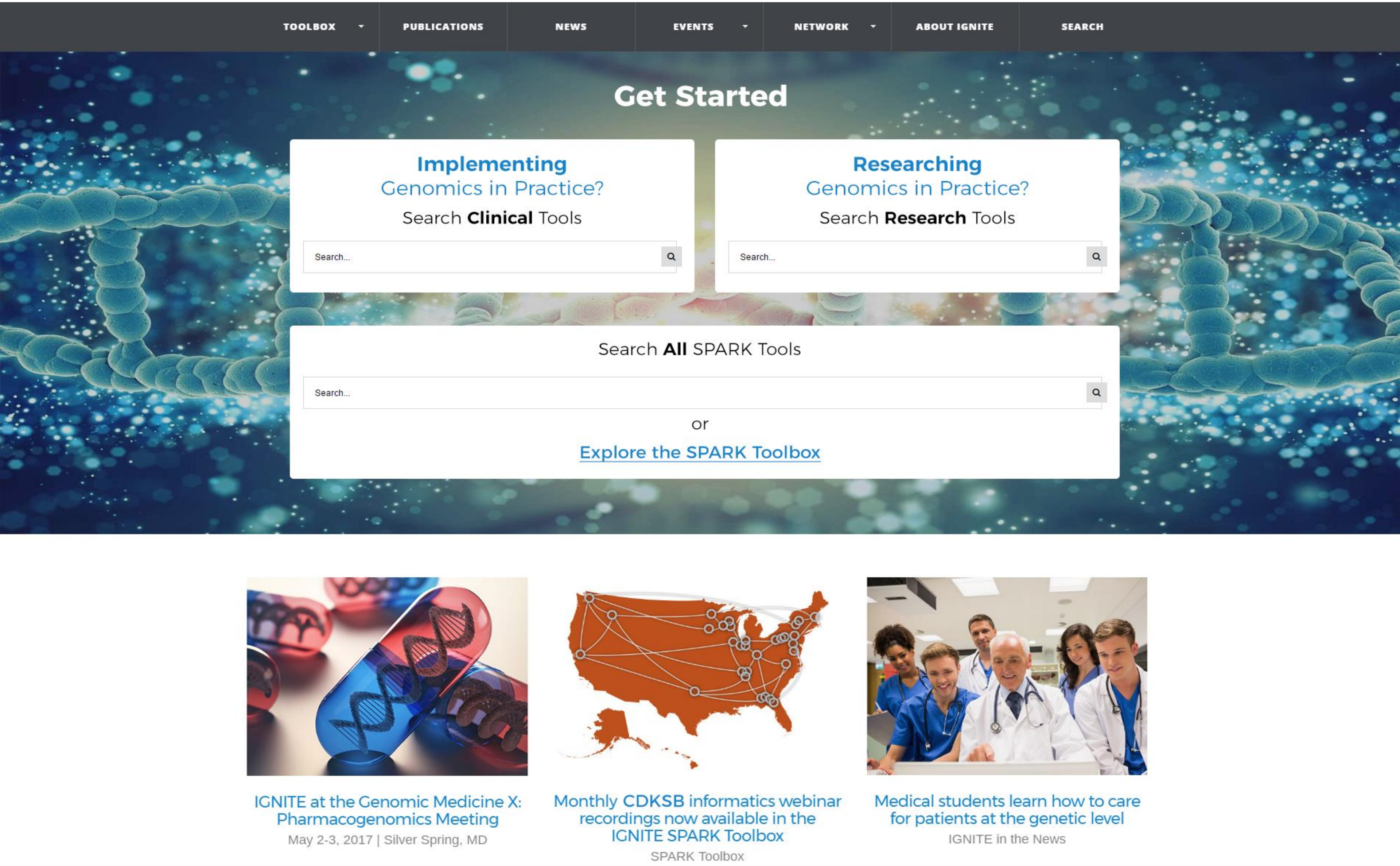
Diversity in ancestry

72,147 IGNITE participants		
Race/ethnicity	N	%
White, non-Hispanic	54,698	75
Black or African American	13,004	18
Hispanic/Latino	3,268	4
Asian	1,149	2
American Indian/Alaskan Native	15	0.02
Native Hawaiian/Pacific Islander	13	0.02

IGNITE contributions to genomic medicine

- Informatics:
  - Variant to phenotype translation; using CDS to provide reliable information and interpretations
  - Developing CDS rules for different EMR systems; CDS-KB
- Reimbursement: Inform coverage decisions
  - Pharmacogenomics:
    - CYP2C19 testing and clopidogrel
- Education:
  - Developed guidelines for clinicians to communicate information about lower-risk testing to patients (e.g. PGx, family history)

IGNITE SPARK Toolbox



Get Started

Implementing
Genomics in Practice?
Search **Clinical** Tools

Researching
Genomics in Practice?
Search **Research** Tools

Search **All** SPARK Tools

or

Explore the SPARK Toolbox

IGNITE at the Genomic Medicine X: Pharmacogenomics Meeting
May 2-3, 2017 | Silver Spring, MD

Monthly **CDKSB** informatics webinar recordings now available in the IGNITE SPARK Toolbox
SPARK Toolbox

Medical students learn how to care for patients at the genetic level
IGNITE in the News

https://ignite-genomics.org/

IGNITE & Beyond Workshop Objectives

- Evaluate the key contributions of IGNITE
- Identify and prioritize scientific opportunities to fill evidence gaps in genomic medicine implementation
- Make recommendations for future research in genomic medicine implementation

How do we make genomic medicine part of routine clinical care?

Outstanding barriers and challenges to uptake?

Workshop Format

<u>Four sessions</u>

- Implementation
- Clinical informatics
- Clinical evidence
- Economic considerations

<u>Focus topics</u>

- State of the science and gaps
- IGNITE highlights and opportunities
- Recommendations

<u>Attendees</u>

- IGNITE Network investigators
- IGNITE External Scientific Panel members
- IGNITE Affiliate members
- Scientists engaged in genomic medicine implementation research

Total 86 attendees including 6 Council members

Key Recommendations: Implementation

- Foster robust **collaborations**: academic + community centers
- Prioritize inclusion of **underrepresented populations** and diverse researchers and clinicians to reduce disparities
  - Focus on linguistic diversity, rural populations, smaller clinics, economic diversity
- Create **genomic medicine resource center**; educational materials

Key Recommendations: Clinical informatics

- Promote **harmonization** and consolidation of information standards across various EHR/CDS network
- Focus on **CDS interfaces** at different levels (patient, provider, etc.)
- Ensure that **new advances** in genomic medicine or CDS are made available to the community
- Collate CDS rules into **a public repository** using existing resources

Key Recommendations: Clinical evidence

- Conduct **larger, network-wide studies**
  - Address important clinical issues; **specific outcomes**
  - Generate **evidence**
- Involve representatives from **health insurance companies**
- Utilize **cost effectiveness** information of different treatments
- Communicate **utility of genomic medicine** to different types of clinicians (nurses, residents, etc.)
- Foster systematic collection, creation, evaluation and evidence synthesis of genomic studies made **publically available**

Key Recommendations: Economics

- Develop measures of **societal and personal utility** for genomic testing
  - Need to validate these measures
- Communicate with **stakeholders** during study development
- Establish **economic data source standards**
- Explore **economic downstream value** of genomic medicine

Prioritization and Implementation of Recommendations

Acknowledgements

IGNITE NHGRI Program Staff

Colette Fletcher-Hoppe
Heather Junkins
Nicole Lockhart
Ebony Madden
Teri Manolio
Jeff Struewing
Simona Volpi

IGNITE and Beyond Planning Committee

Lon Cardon
Chris Chute
Katrina Goddard
Howard McLeod
Casey Overby

IGNITE and Beyond workshop speakers, discussants, moderators, and other participants