Patient-Centered Precision Care
Patient-Centered Precision Care Program (PC2-Z)
AFMS comprehensive effort to prepare infrastructure for genome-informed personalized medicine and collaborate with academia, industry, and federal partners.
To facilitate the translation of genomic medicine research into efficient and effective healthcare

Long-term Goals
- Enhance Military Readiness
- Improve MHS Healthcare
- Mitigate Additional Costs
AF/SG Vision: Personalized Medicine

- Galvanize MHS medical genetics research with AFMS seed funding and model collaboration, to create a strategic body of clinical knowledge
- Translate ‘omics into clinical practice
- Anticipate translation of rapidly advancing field of genomics/’omics into evidence-based, state-of-the-art care for our beneficiaries
- Complement the Patient-Centered Medical Home (PCMH) program by customizing prevention, detection, and treatment of diseases using ‘omics
- Leverage sister service support and collaborative partnerships to integrate genome-informed medicine across the MHS
- Utilize unique capability to demonstrate clinically actionable ‘omics by leveraging MHS EHR and beneficiary population (“the next Framingham”)”
- Link informatics with ‘omics to accelerate the translation of medical knowledge, avoid duplicative testing, and support prevention workflow
AFMSA Personalized Medicine Research Portfolio (FY13)

- Coriell Personalized Medicine Collaborative Clinical Utility Study (JHU/APL, Coriell Institute)
- Epigenetic biomarkers of stress at high altitude conditions (USUHS)
- GENERating Change: Genetic Risk Testing and Health Coaching (Duke Univ, Travis AFB)
- Genetically-Guided Statin Therapy (Duke Univ, Travis AFB)
- Cellular Sentinels Toxicity Platform (Sanford-Burnham)
- Identification of Associations Between Genetic Factors and Asthma that are Modified by Obesity (Yale Univ)
- Comprehensive Clinical Phenotyping and Genetic Mapping for the Discovery of Autism Susceptibility Genes (Nationwide & Dayton Children’s Hospitals, WPAFB)
- Pending: A Rapid Learning System for Delivery of Personalized Healthcare (Duke Univ); Implementation, Adoption, and Utility of Family History in Diverse Care Settings (Duke Univ, Travis AFB)
Obstacles

- Regulatory constraints: FDA, laboratory-developed tests
- National security concerns about biobanking, data sharing
- Information assurance: data storage/transfer
- Sequestration and priorities
- Operational vs. clinical ‘omics
- Methods to leverage external expertise (contracting, partnerships)
- Ethical implications
- Privacy concerns and lack of coverage under GINA
GINA: Genetic Information Nondiscrimination Act (2008)

- Protects individuals from discrimination by health insurers or employers based on genetic information
- GINA does not apply to
  - Members of the U. S. military seeking care via TRICARE/MHS
  - Veterans obtaining health care through the VA
  - Persons using the Indian Health Service
“The first civil rights bill of the new century of the life sciences”
(Sen Ted Kennedy)

Non-disclosure vs. Non-discrimination

Fear factor decreases research participation and may make patients reluctant to disclose clinically-relevant genetic data

Special concerns for Service members
- Lines blurred between employer, insurer, and healthcare team
- Readiness and operational concerns trump confidentiality
Precision Care Advisory Panel (PCAP)

- Envisioned to provide service-specific operational and policy guidance to PC2-Z, and convened at the invitation of AF/DSG (Jul 2012)

- Core composition
  - Air Force, Army, Navy
  - HHS/PHS
  - VA
  - HA/TMA

- Clinical Proponency Steering Committee, chaired by DASD/C&PP, currently reviewing draft PCAP charter to task PCAP as work group to frame issues, gather data and develop MHS/DHA recommendations for genome-informed personalized medicine
Proposed Objectives:

- Gather evidence to evaluate the translation of genomic-based personalized medicine into clinical workflow in the MHS/DHA
- Provide policy, scientific, and operational recommendations and approaches to support clinical genetic screening, counseling, and health care services for Service members and other MHS beneficiaries

Proposed Deliverables:

- Draft genetic information non-discrimination policy for DoD
- Create awareness of genomics/’omics within the MHS/DHA for the healthcare team and our beneficiaries
- Review existing constraints and deliver recommendations WRT genomic-based personalized medicine implementation in the clinical setting
Strategic Partnerships

- eMERGE Network – launched by National Human Genome Research Institute to integrate electronic medical records and genomics
- Institute of Medicine Genomics Roundtable
- Johns Hopkins University Applied Physics Laboratory – provides PC2-Z program integration and facilitates outreach with academia and industry as a University-Affiliated Research Center (UARC)
- Coriell Institute for Medical Research – research partner executing a longitudinal, prospective study to evaluate clinical utility of ‘omics
- Duke University Center for Personalized Medicine – leader in translating evidence-based ‘omics research into clinical practice
- National Coalition for Health Professional Education in Genetics
- Precision Care Advisory Panel – work group to frame issues, gather data, and develop MHS recommendations regarding clinical ‘omics
Opportunities

- Million Veterans Program
- Defense Health Agency
- Joint Program Committees (JPCs)
- “The barter system”
- Thank you, NHGRI!
QUESTIONS?
## PC2-Z Program Priorities & Proposed Future Efforts

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**SYSTEMS ENGINEERING – PROGRAM INTEGRATION**