GM6: International efforts and opportunities in Genomic Medicine

- Total attendance > 250
- > 30 countries

Why this topic?

- Genomic medicine is global
- Genome ‘hubs’: US, India, China, Japan, Korea, Canada
- There is currently no global forum for genomic medicine
- Opportunities to lead and advance the genome sciences as a global agenda and to impact global health

Some GM Activities Across the Globe

- Genome Canada - 2012 Large Scale Applied Research Projects in Genomics and Personalized Health
- Europe Science Foundation - Personalized Medicine and the European Citizen
- UK Human Genomics Strategy Group - Genomic Technology in Health Care
- The Israel National Inst for Health Policy Research - Personalized Medicine The Future is Here (But are we ready for it)?
- WEF - Global Agenda Council and Precision and Personalized Medicine

Genome Canada and CIHR

- Genome Canada: To harness the transformative power of genomics to deliver benefits to Canadians
- “Genomics and Personalized Health” RFA
  - to support projects that will demonstrate how genomics-based research can contribute to a more evidence-based approach to health and improving the cost-effectiveness of the health-care system.
- $67.5 million available
  - $40 million through Genome Canada
  - $22.5 million through CIHR
  - $5 million from the Cancer Stem Cell Consortium
- At least 50% of funding through co-funding
- 17 projects funded in 2013

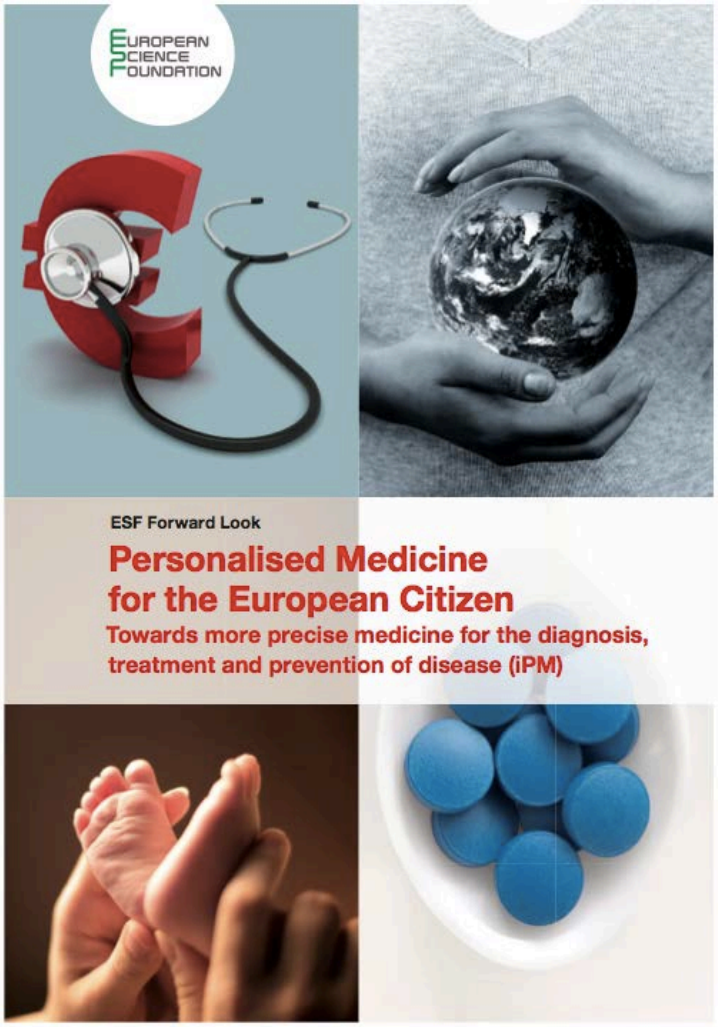
The Israel National Institute for Health Research Policy

- International workshop Sept 2012
  - Assessment of genomic medicine technologies
  - GM and Health Economics
  - Bioethical and Legal Aspects of GM
  - Barriers in Implemention
- Output recommendations
  - Address the knowledge gap in health professionals
  - Data sharing and national data bank
  - Encourage collaborations
  - Ministry of Health to define priorities
  - Take advantage of Israeli heath service structure (full coverage for all) and populations o promote proof of concept studies and evaluate outcomes

UK Human Genomics Strategy Group January 2012

- A strategic vision for how the healthcare system in the UK can benefit from the mainstream adoption of genomic technology
- Successful translation of laboratory and academic research into quality-assured care pathways
- Developing a “service delivery infrastructure” that will enable equitable and affordable access to high quality genomic and genetic testing services
- Establishing the bioinformatics platform needed to underpin genomic and genetic testing and facilitate ongoing research
- Training the NHS and public health workforce of today and tomorrow
- Developing the policy agenda for the use of genomic data, and developing appropriate safeguards and processes to protect individuals
- Raise public awareness of genomic technology and how it can be used to benefit the care of patients across the NHS

European Science Foundation



The World Economic Forum

- Global Agenda Committee on Personalized and Precision Health – 2012
  - USA, India, Germany, Switzerland, UK, Singapore
- **Addressing the Economic Burden of Disease with PPH**
- **Accelerating the Science and Practice of Data Sharing for PPH**
- **Best practices in regulatory and reimbursement strategies for implementation of PPH**

GM 6 Invitees

- USA
- UK
- Thailand
- Singapore
- Norway
- Netherlands
- Japan
- Israel
- Hungary
- Germany
- China
- Canada
- Belgium
- Africa ?
- Australia?
- South America?

GM6 Draft Goals

- Identity common barriers, synergies and redundancy
- Identify common opportunities for implementation
- Identify common policy agenda
- Identify unique systems where it might be easier to get results (city state, single payer)
- Public private partnerships
- Economic analyses

Some possible outcomes

- Develop an international convening organization
- International pilot projects
- Development of global standards (data capture, outcomes)
- International educational and workforce planning initiatives

Components of GM Implementation Strategies	UK	Canada	Italy	ESF	CAP	IOM	AMA
Service delivery infrastructure for requesting and receiving genomic results	X		X	X	X		
Provider- and patient friendly, model genomic interpretive test reports and patient consultations					X		
Bioinformatics infrastructure for relating clinical characteristics to variants	X	X	X	X	X	X	X
Data sharing in accessible research databases	X			X	X		X
Standardized phenotypic, patient, variant, and reference information	X			X	X	X	X
Assessment of health economics and cost-effectiveness	X	X	X		X	X	X
Evidence of clinical validity and utility	X	X	X	X	X	X	X
Consent model	X			X			X
Training/workforce development	X		X	X	X		
Ethical and legal framework to protect against potential abuses	X	X			X		X
Engaging public and building awareness	X	X	X	X			
Genomics-based risk stratification and communication		X	X				
Genomics-based drug development, selection, and repurposing		X	X			X	
Genetic test regulation or registration			X		X		X
Regulatory frameworks adapted to changes in disease taxonomy and new diagnostic categories				X			
Use of patented medical information and conflict of interest in medical innovation					X	X	X
Reimbursement for genomic testing, interpretations and consultations					X		X

Where?

When? : September 2013