



Whole-Genome Sequencing- Implications for Clinical Care

Overview Framing and Some Philosophy

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Session Co-Chair

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Health & Medicine Transformation

Need to Transform Health & Medicine in the 21st Century

20 th Century Medicine	21 st Century Medicine
Treat disease when symptoms appear and normal function is lost	Intervene before symptoms appear and preserve normal function for as long as possible
Did not understand the molecular and cellular events that lead to disease	Understanding preclinical molecular events and ability to detect patients at risk
Expensive in financial and disability costs	Order of magnitude more effective

Elias A. Zerhouni, M.D

September 13, 2006

Need to Transform Health and Medicine in the 21st Century

Top Nine Health Industry Issues in 2009

PricewaterhouseCooper's Health Research Institute

- The economic downturn requires a back to basics approach for health organizations
- Underinsured surpassing uninsured as providers' headache
- Big Pharma turns to M&A to build the drug pipeline
- From vaccines to regulation, prevention is on the rise
- **Genetic testing reaching price point for the masses**
- **Technology is a powerful health extender**
- Hospitals must perform to get paid
- Payers and employers move the needle on healthy living through incentives
- I see the future in ICD-10

Top Nine Health Industry Issues in 2010

PricewaterhouseCooper's Health Research Institute

- Medicare and the Drug Plan
- Care and Coverage of the Uninsured
- Rise of the Healthcare Consumer
- Focus on Prevention
- Calls for Patient Safety to Drive HealthCare IT Investments
- Diminishing Drug Pipeline
- Pay for Performance
- Technology Backbone
- Labor Shortages

Gaps to Fill Before Full Benefits of Utilizing any Genomics

- Scientific
 - Research
 - **Outcomes data (Bringing Clinical Context to Genomic Content)**
- Organizational
 - Genetics workforce
 - Integration into primary care
 - Health care costs
- Individual and Societal Needs
 - Privacy protections
 - Education
 - Support



Challenges & Opportunities Whole Genome Sequencing

Validated Genetics and Genetic
Counseling in Clinical Practice



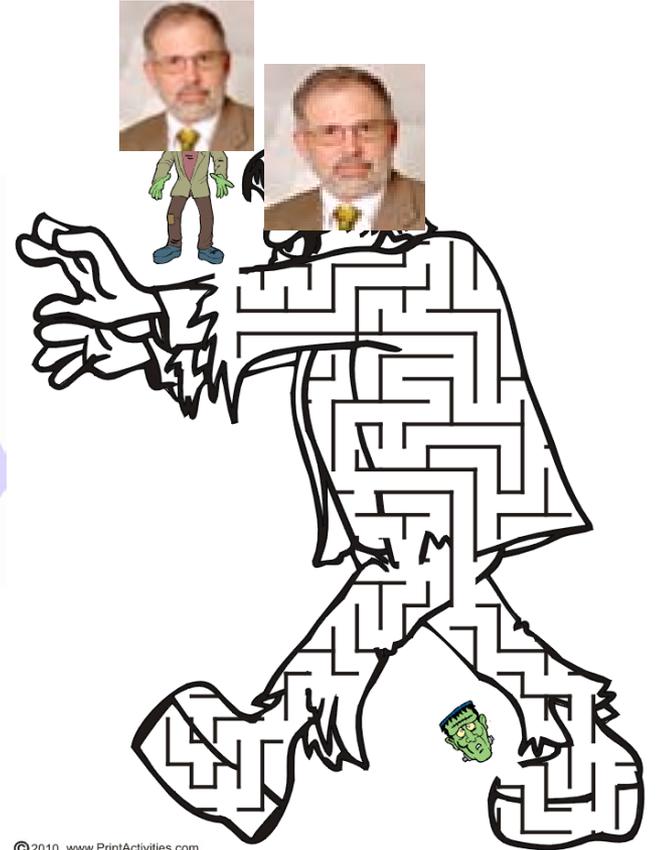
Good Scientific Base for Genomics
Clinical Context Imperfect

Ugly Duckling Stage

Nirvana: Complete Integration
Of Validated, Actionable
Genomics into all
Healthcare and Wellness



“Brevity is the Soul of Wit,
Therefore, [Thou] Shalt be Brief” – Shakespeare’s Falstaff



Twin Session Co-Chairs

What Do We Want & What Do We Fear?

But Mousie, thou art no' thy-lane,
In proving foresight may be vane;
The best laid schemes o' Mice an' Men,
Gang aft' agley,
An' lea'e us nought but grief an' pain,
For promis'd joy!

Still, thou art blest, compar'd wi' me
The present only toucheth thee;
But Och! I backward cast my e'e,
On prospects dear!
An' forward, tho' I canna see,
I guess an' fear!