Implementing SMART on FHIR at Duke Health

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SMART/FHIR at Duke

Apps
- Legacy app with thin FHIR wedge
- HTML5 app with SMART JS client library
- Native iOS app with Swift-SMART library
- Native Android app (future)

API Manager
- Rate-Limit Per IP or IP/App/API
- Authorization (OAuth 2.0/OpenID Connect)
- Audit
- Log Unified & High Availability
- Statistics

FHIR Resources
- Patient
- Observation
- Medication Order
- Family Member History
- Condition (future)
The Need

Provider-Centric

Patient-Centric
Provider-Centric
Provider-Centric
Provider-Centric
Provider-Centric
Provider-Centric
Demo
Patient-Centric
White House Champions of Change

*Precision Medicine*

- **MeTree family history app** developed under the direction of Geoff Ginsburg, MD (Director, Duke Center for Personalized and Precision Medicine) and Lori Orlando, MD

- Recognized as an example for how this technology can be used by patients to personalize our understanding of disease
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Precision Medicine

- Family history is the most effective “genomic test”
  - One 1st-degree relative with CAD age < 50 doubles Framingham risk score
  - One 1st-degree relative with DM2 triples risk
  - Only way to identify many hereditary cancer and cardiovascular syndromes

- There is limited uptake of evidence-based risk stratified guidelines for disease prevention and early detection
  - <4% of charts reviewed had even 1 relative fully documented

- Studies show that 40-80% of general population are at risk for at least one condition
White House Champions of Change

Precision Medicine
Demo
Summary

- Implemented SMART & FHIR server on Epic 2014
- Enable provider-facing apps via desktop EHR
- Enable patient-facing apps via patient portal
- Enable write support
One more thing ...
Questions?

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