Implementing SMART on FHIR at Duke Health

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DukeHealth

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Duke Apps Supporting SMART/FHIR

- 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
Demo
Patient-Centric

Provider-Centric

Patient-Centric
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
• 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
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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