FHIRframe
Mobile Data Interoperability
Introduction

• Identify
  – Current Healthcare Device APIs
  – Current EHR/PHR APIs
  – Support multiple mobile platforms
  – Data Interface interoperability gap

• Can common APIs combined with FHIR resources simplify data exchange?
Current State Mobile Health APIs

Many Device Interface APIs
- Glucose Meter
- Ultrasound Device
- EKG Monitor
- Insulin Pump

Many Mobile Platforms
- Transport Layer
  - Mobile Application
  - Smart Device
  - Mobile Application
  - Mobile Application

Proprietary EHR/PHR APIs
- EHR
- PHR
Device Translation Sublayer Interfaces

Illustrating a Medical Infusion Pump application interfacing over a proprietary interface connected to a Medical Infusion Pump machine over a USB connection.
Device APIs Across Platforms

- **Device Type Layer**
- **Interface Type Layer (HL7, Continua, proprietary)**
- **Transport Type Layer (Bluetooth, WiFi, Ethernet, etc)**

iOS
- Microsoft
- Android
- Future Platform
Use Cases

• Health Application
• Medical Device
• Wearable Device
• Server Side Medical Data Repository
API Concepts

• Functional Calls
  – API calls
  – Call back functions
  – Transactions

• Layered Architecture
  – Layering facilitates loose coupling from proprietary technology
FHIR Argonaut Project

The purpose of the Argonaut Project is to develop a first-generation API and Core Data Services specification to enable expanded information sharing for electronic health records, documents, and other health information based on the FHIR specification.
Conclusion

• Identify current data APIs and gaps in data interoperability between healthcare devices, mobile application development and EHR/PHR systems.
• Consider new HL7 FHIR resources to promote standardize APIs for mobile application development.