The State of Mobile Health

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HL7 Mobile Health Working Group

Gora Datta /

Presented by Matthew Graham
Gora Datta

✓ HL7 International Ambassador (2009 – current)
  ▪ Member HL7 Technical Steering Committee (TSC) - 2016
  ▪ Co-Chair Structure & Semantic Design Steering Division - 2016
  ▪ Founding Co-Chair HL7 Mobile Health Work Group (2011 – current)
  ▪ HL7 2009 Volunteer of the Year Award Winner
✓ HL7, IEEE, HIMSS Speaker
✓ HL7 Meaningful Use Tutor/Speaker
✓ Chair IEEE OC (Region 6 – USA) (2016 – current)
✓ Co-Chair IEEE OC CyberSecurity SIG (2015 – current)
✓ HIMSS Connected Health Committee Member (2015 - 2016)
✓ ICT Expert - World Bank, Asian Development Bank
✓ Senior Member: IEEE, ACM
A Walk Down Memory Lane

- British Royal Army Medical Corps carries out the first successful blood transfusion using blood that had been stored and cooled
- World War I continues
- BMW is born
- Toggle light switch is invented
- Pacific Aero Products (later renamed Boeing) is born

Source: https://en.wikipedia.org/wiki/1916
Mobile Revolution

- Mobile phone market
  - first billion mobile phones: 20 years
  - second billion phones: 4 years
  - third billion: 2 years
  - Fourth & fifth billion: 1 year – in 2013
  - 2014: nearly One Billion “smart” mobile phones sold globally
  - 2015 – Over 1.2 Billion smart phones sold

- 80+% of the world’s population lives within range of a cellular network, (40% in 2000).
Mobile OS Market Share

The Smartphone Platform War Is Over
Worldwide smartphone operating system market share (based on unit sales)

- **Android**
- **iOS**
- **Windows**
- **BlackBerry**
- **Symbian**
- **Others**

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<th>Year</th>
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Mobile OS Market Share 2016

Worldwide Smartphone OS Market Share
(Share in Unit Shipments)

Source: IDC, Nov 2016

Android
iOS
Windows Phone
Others
Mobile Convergence

- 99% of mobile OS sales 2016
  - Android  87%
  - IOS      12%

- Targeting native mobile application development has become simpler.

- Smart on FHIR provides interoperability for Mobile Health Applications across multiple EHR Vendors.
MH Challenges/Opportunities

- There are over 165,000 mobile health apps
  - RIME OF THE MODERN TECHNOLOGIST - “mobile, mobile everywhere….none talk to anyone”
  - 12% of mHealth apps account for more than 90% of all consumer downloads
  - with nearly half of all downloads generated by just 36 apps

- By 2017, 50% of smartphone user will have downloaded mobile health apps

- 90% of MH (and financial) apps are vulnerable to critical security risks

- Mobile Health app are projected to become a regular part of our care (over the next 5 years)
Mobile Health Market

- 2016 projection: > $13B

- By 2017, it is estimated, the market for Mobile Health apps, will be...
  - $26 billion

- By 2020:
  - > $50B
Stakeholders

Mobile Health Dimensions & Stakeholders

Technology
- Health IT
- Devices/Mobiles
- Telemedicine
- Security

Policy
- Gov(federal-local)
- Advocacy-Lobbies
- Prof. Associations
- Standard Dev Orgs

Science
- Universities
- Informatics
- Engineering
- Health/Bio

Business
- Providers
- Payers
- Vendors
- Telecom/Health

Society-Culture
- Consumers
- Patients
- Foundations
- Media-News-Arts

Source: HL7 Mobile Health Newsletter V1Is1
HL7 Mobile Health WG Mission

- The HL7 Mobile Health Work Group creates and promotes health information technology standards and frameworks for mobile health.
HL7 Mobile Health WG Charter

- Identify (and develop, as applicable) data standards and functional requirements that are specific to the mobile health environment.
- Identify and promote mobile health concepts for interoperability as adopted and adapted for use in the mobile environment.
- Coordinate and cooperate with other groups interested in using mobile health to promote health, wellness, public health, clinical, social media, and other settings.
- Provide a forum where HL7 members and stakeholders collaborate in standardizing to enable the secure exchange, storage, analysis, and transmission of data and information for mobile applications and/or mobile devices.
HL7 Mobile Health Resources

- Working Group Web Site:

- Wiki Page

- Mobile Health Friday’s
  - Weekly Friday at 11am EST
Scope of Mobile Health

- Not a vertical domain
- But a horizontal framework that cuts across and impacts all health care domains
- A channel for innovation and engagement
- Ubiquitous shift in the point of access for patient care and engagement
MH Consumer Scenarios

- Patient empowerment
  - Patient involvement in care process across a wide range of lifestyles, including: support for long term conditions

- Independent living
  - Assisted living drawing on a range of mobile services

- Behavioural health
  - Behavioural health support anytime, anywhere

- Messaging (ranging from unsecure to secure)
  - Bridging the health divide
MH Clinical Scenarios

- Moving around a hospital
  - EHR System services follow providers around a hospital

- Clinical Messaging Alerts
  - Code Yellow Alert
  - Inbox – New Results Ready for Review
  - Departmental Status Boards (Census and Acuity)

- Flexible Workflows - Access Patient Chart

- TeleHealth
Mobile Health Market Trends

- Main driver: Ever increasing global smartphone users
- Young Customers driving the market
- MH apps leveraging features of smartphones or tablets
  - Location service
  - Text Messaging
  - Picture, Video
  - Gyroscope
  - Micro payment service
- MH apps native rather than web-based
- Birth of MH app stores
- MH will push/expand/broaden the health business model
- MH apps will bridge the global health divide
- Evolving HL7 MH standards
Key Mobile Health Areas by 2020

- Wearable & Smart Diagnostics
- Healthier Living (Wellness programs)
- TeleHealth
- Personalized Medicine
- Secure Health Apps
Healthcare in the 21st Century

- Next generation: “iPAD” kids
- Blurred Lines: Impact of Social Media
- Are we there yet: I want it NOW
- Take Charge: Consumer Health
- Genetic Health – personalized medicine
- Longitudinal Health Record
- Emerging Areas: IoT (HoT), Big DATA, Open Data
- Global Village: Urban, Rural, Remote, Underserved
- Mobile micro-payments
Summary

- MOBILE HEALTH
  - Not a vertical domain
  - But a horizontal framework that cuts across and impacts all health care domains

- As we transition to a digital record framework; use of Mobile Health leads the way (in access, capture and dissemination of health information)

- As Mobile Devices become more and more ubiquitous, accessing our Health Information is only a few tap/swipe away!
THANK YOU

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