21ST CENTURY HEALTHCARE: MOBILE HEALTH

Sept 2016 HL7 WGM @ Baltimore, MD, USA

Presented by:
Gora Datta goracal2cal.com

✓ 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
WALK DOWN THE 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 PLATFORM in 2016

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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Source: Gartner
OUR CHALLENGE

- 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)

▶ THE GOLD RUSH……
MOBILE HEALTH MARKET SIZE

- 2016 projection: > $13B
- By 2017, it is estimated, the market for Mobile Health apps, will be...
  - $26 billion
- By 2020:
  - > $50B
MOBILE HEALTH STAKEHOLDERS

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

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.
Mobile Health Scenarios

- **Patient empowerment**
  - Patient involvement in care process across a wide range of lifestyles, including: support for long term conditions
- **Moving around a hospital**
  - EHR System services follow providers around a hospital
- **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
- **Public/Population Health**
  - Disaster Management to PH outreach
MOBILE HEALTH MARKET TREND

1. Main driver: Ever increasing global smartphone users
2. Young Customers driving the market
3. MH apps leveraging features of smartphones or tablets
   - Location service
   - IM
   - Picture, Video
   - Gyroscope
   - Micro payment service
4. MH apps native rather than web-based
5. Birth of MH app stores
6. MH will push/expand/broaden the health business model
7. MH apps will bridge the global health divide
8. Evolving HL7 MH standards
KEY MOBILE HEALTH AREAS in 2016-20

- 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
- Gene to genes: from Star-Trek (Gene Roddenberry) to Genetic Health – personalized medicine
- Space – The Final Frontier: “Healthy” flights
- Back to the Future: longitudinal Health Record
- Live long & prosper: from provenance to preservation
- Emerging Areas: IoT (HoT), Big DATA, Open Data
- Global Village: Urban, Rural, Remote, Underserved
- “l'addition s'il vous plaît”: Mobile micro-payments
- Take care: CyberSecurity

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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!

- HEALTHCARE IN 21st CENTURY
  - Mobile Health Enterprise
THANK YOU

gora@cal2cal.com