



# Developing Cloud-Based mHealth Apps for Patient-Doctor Collaboration

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Robert Stern, CEO, @PointofCare360 Richard Mendis, CMO, AnyPresence

#### **Speaker Introductions**

#### **Richard Mendis**

## **CMO** and **Co-Founder**, **AnyPresence**

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An enterprise mobile development platform and solutions for the healthcare and other industries

20+ years in enterprise software industry:

- Speaker on enterprise mobility
- VP of Solution Mgmt at SAP
- Co-Founder, Clear Standards
- VP of Marketing, Current Analysis
- Product Line Manager, Siebel Systems

#### Robert Stern

#### CEO, @PointofCare360 CEO, Projects in Knowledge

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@PointofCare360 is a clinical decision platform for 11 therapeutic areas, including a companion patient app to monitor outcomes

Executive, founder, and board member to healthcare information and technology companies:

- Founder, MedPage Today
- Advisory Board, Everyday Health
- 100 Most Inspiring People,
   Pharma Voice Magazine 2009

#### mHealth Stats

142<sub>million</sub>

mHealth apps will have been downloaded by the 2016

13,600

consumer health and fitness iOS apps were available in 2012

6,000

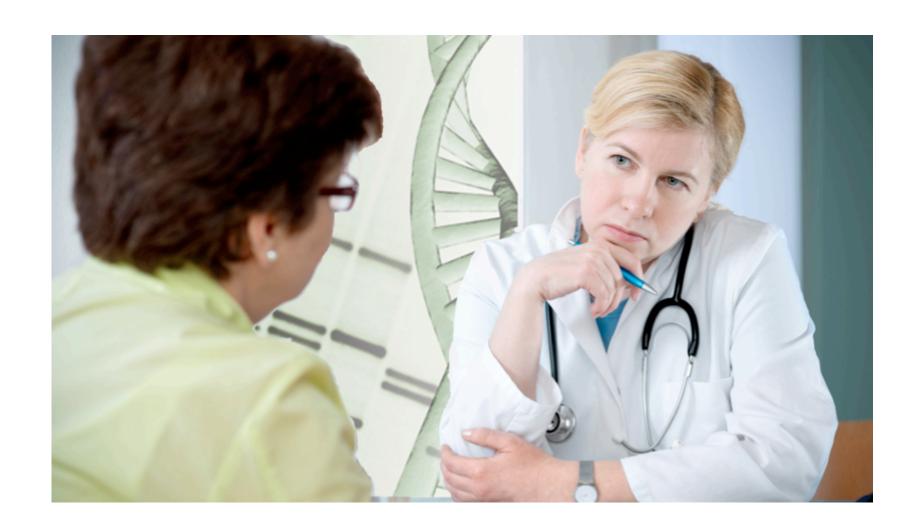
clinical-type iOS apps available for physicians in 2012

84%

of physicians using tablets (74% iPad, 10% other)



### Shared Decision Making





#### BRIDGING THE GAP



#### BRIDGING THE GAP: FULL 360°

CLINICIAN PERFORMANCE IMPROVEMENT

Clinician knowledge support

Health care organizations

Patients





Clinicians

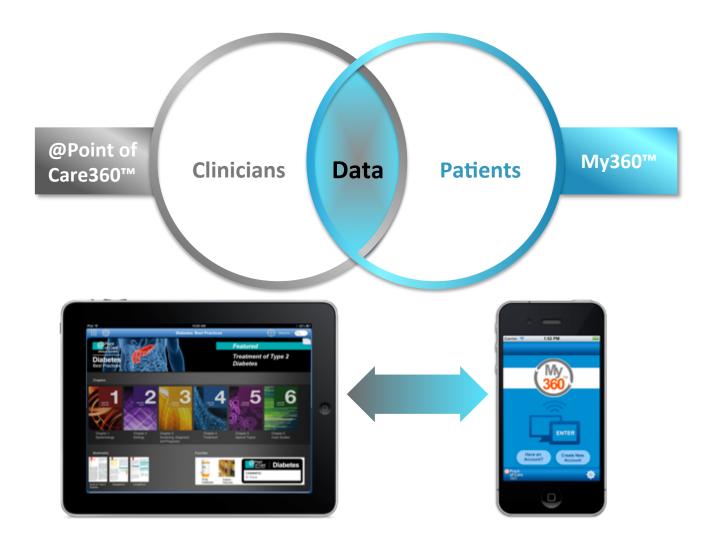
HIPAA compliant messaging

Self reported real-time data

MEASURING PATIENT OUTCOMES

#### BRIDGING THE GAP: FULL 360°

#### @POINT OF CARE360TM WITH MY360TM PATIENT COMPANION APP



#### SYNCING CLINICIAN WITH PATIENT DATA

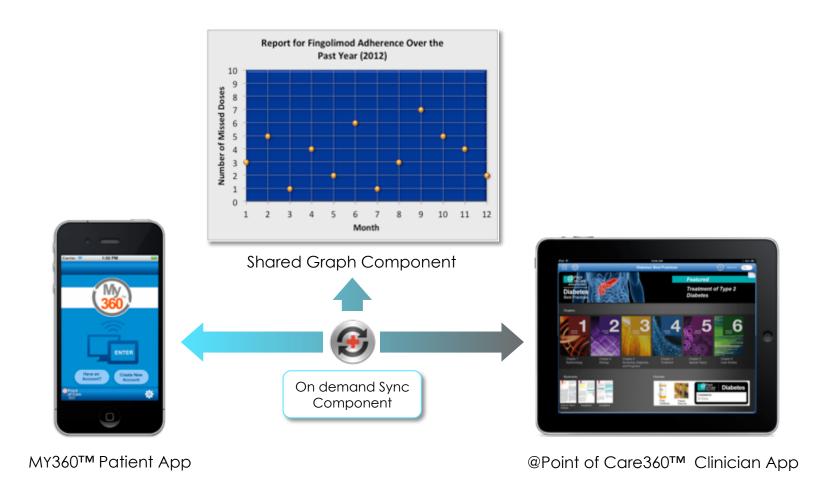


#### ENGAGEMENT DRIVES ADHERENCE

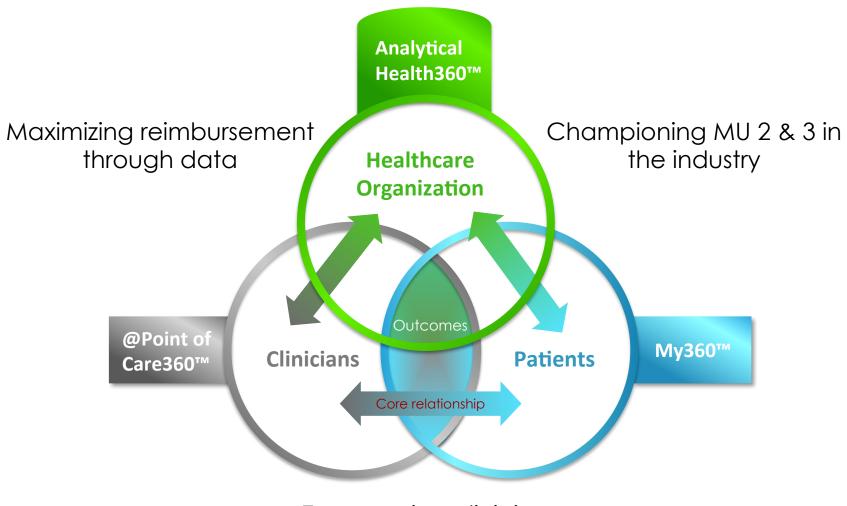
- •ACCOUNTABILITY FOR CLINICIANS
- •ACCOUNTABILITY FOR PATIENTS
- •ACCESS TO RELEVANT INFORMATION

#### SYNCING CLINICIAN WITH PATIENT DATA

#### PATIENT GRAPHS: SHARED DATA



#### BRIDGING THE GAP: FULL 360°



Empowering clinician & patient engagement

# **Brief Demonstration:**Patient-Facing App







# Behind the Scenes: Development Approach and Architecture

#### **Development Approach**

#### **DESIGN-TIME** ENVIRONMENT

(Design App Components)





Object Modeling and Business Logic

Mobile Services and Extensions

User Interface Starter Kits

Collaborative, Web-based Designer Compilation and Generation in Cloud

Environment and Deployment Management

Publish to Git Repository

UI Customization with Xcode or Android Dev Kit

#### **RUNTIME** COMPONENTS

(Generated Source Code)

Mobile SDKs, Apps, Docs, Tests



**PUBLISH** 

**PUBLISH** 

JS





**Dedicated Backend Server**Multiple Environments Per App



Authentication, Roles, User Management



Enterprise Connectivity, Business Logic



SMS, Push Notifications, Other Services

**Enterprise Source Applications and Data** 





#### **HIPAA Compliance Considerations**

Any company that deals with protected health information (PHI) must ensure that all the required physical, network, and process security measures are in place and followed.

Covered entities (CE): anyone who provides treatment, typically a healthcare provider

Business associates (BA): anyone with access to patient information or support, typically a supplier

There are HIPAA-compliant hosting providers: OnlineTech



164.308(a)(6) - Security Incident Procedures

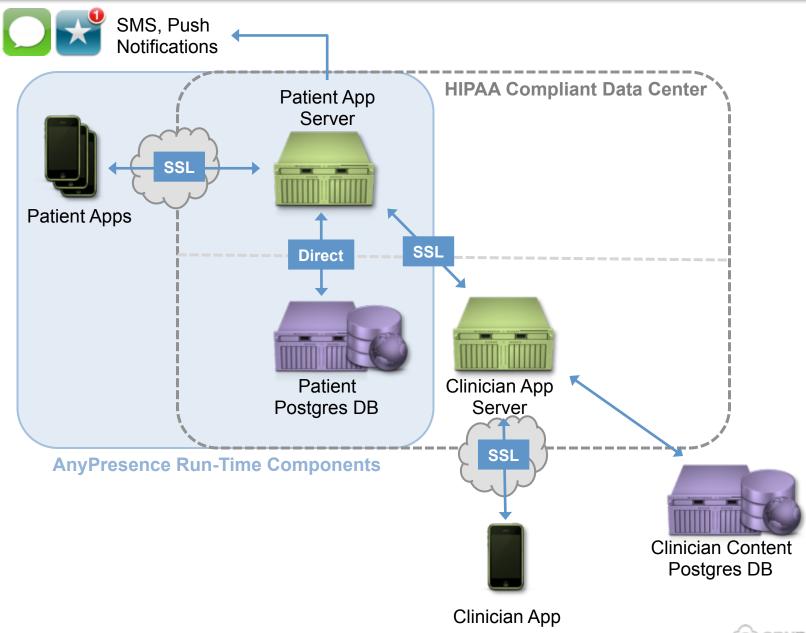
#### Physical Safeguard Citation & Standard

164.310(a)(1) - Facility Access Controls
164.310(a)(2) - Facility Security Plan
164.310(b) - Workstation Use
164.310(c) - Workstation Security
164.310(d) - Device and Media Controls

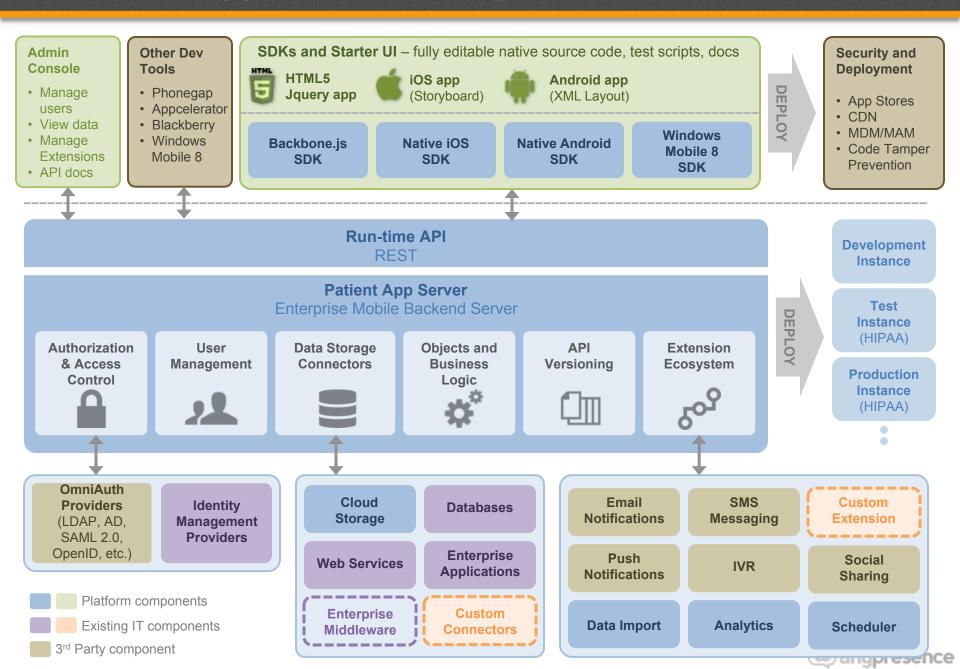
#### Technical Safeguard Citation & Standard

164.312(a) - Access Controls
164.312(b) - Audit Controls
164.312(c) - Integrity
164.312(d) - Person or Entity Authentication
164.312(e) - Transmission Security

#### **Deployment Architecture**



#### Server and App Run-Time Components



#### **AnyPresence Offers Best of Both Worlds**

AnyPresence

### Development Platform Advantages

- ✓ Lower TCO for development and maintenance
- ✓ Reusable mobile services with enterprise connectivity
- Cross-platform user interface starter kits

## Custom Development Advantages

- √ 100% nonproprietary, editable
  native code
- ✓ Unconstrained user interface flexibility
- ✓ No vendor lock-in or IP dependency
- ✓ Deploy anywhere



#### **Key Takeaways**

- There is a "perfect storm" of smartphone and web-based mobile app adoption, resulting in an explosion of mHealth apps
- @PointofCare360 is taking a mobile-first approach to patient-doctor collaboration and improving outcomes
- ✓ Best practice mHealth architecture: crossplatform SDKs and mobile backend server deployed to a HIPAA compliant environment
  - Significantly reduces development time and TCO (total cost of ownership) over time, especially with multiple mobile app projects and platforms to support

#### **Thank You!**



#### Questions?

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