mHealth Patient engagement

Mike Hoaglin
Practice Fusion
Vital signs
Quiet engagement
Photograph of a Complete Electrocardiograph, Showing the Manner in which the Electrodes are Attached to the Patient, In this Case the Hands and One Foot Being Immersed in Jars of Salt Solution
AliveECG
Engage
My Records

Lab Tests and Results  Diagnoses  Medications  Immunizations  Allergies  Procedures  Care Plans
Want us to help you manage your patients?

75% of Type 2 Diabetes patients without current HbA1c lab data
28% of type 2 diabetes patients not at HbA1c goal

My patient population

- 75% % patients without HbA1c data
- 72% of Type diabetics with HbA1c <7%
- 88% patients with type 2 diabetes on therapy
- 45% patients with HbA1c > 7% on combination therapy

All general practitioners

- 82% % patients without HbA1c data
- 81% of Type diabetics with HbA1c <7%
- 84% patients with type 2 diabetes on therapy
- 21% patients with HbA1c > 7% on combination therapy
Connected devices + The Quantified Self

What problem are you solving for?

I want to control my own well-being.
Engaging the Patient Today

Mike Hoaglin
Practice Fusion
Enhancing the Physician Experience

- Enhancing the physician experience will enhance the physician-patient relationship.

- Reimbursement is tied to efficiency and effectiveness – new methodologies and technologies will drive these gains.

- Relieving the burdens of care providers will allow those providers to focus on patients.

- Solve the problems of the practice to solve the problems of the relationship.
Instant Communication

Redefining Physician to Physician Interaction
Enhancing Physician Patient Interaction

Enhancing Physician Capabilities
Where is this all going?
Engagement Beyond the Encounter

- Convenience – apply efficiencies from other industries to health care
  - ZocDoc

- Face to Face when you’re not face to face
  - American Well

- On Demand Care
Technology should support our engagement strategies.

Our strategies should be able to exist without technology first, then be enhanced by technology.

Example:

A person is a patient 1% of their lives, but a person 100%. How should we engage and support the person (not the patient). When we determine exactly how to do it, the technology can be built around the solution. Looking to the technology as THE SOLUTION will lead to failure.
Are mobile medical devices and apps just gadgets, or can they disrupt healthcare?
### 2013: The Year of Digital Health

**Scanadu Scout breaks Indiegogo record with $1.37M for ‘medical tricorder’**

**90 digital health companies each raised $2M+ in 2013**
Trailblazer WellDoc To Sell First Mobile Prescription Therapy

WellDoc, which sells a type 2 diabetes management program on a mobile device, scored another milestone yesterday. It launched BlueStar, a prescription version of its Diabetes Manager program which received clearance from the Food and Drug Administration in 2010. Like any medical device, WellDoc had to demonstrate that its device is safe and effective. BlueStar is the first disease therapy to be prescribed through an app, where a combination of algorithms and drugs could alter the way medicine is practiced in the future.

“This is the first effective use of a mobile health application where there’s a positive feedback loop; the technology learns from what the patient is doing, and patients can then improve their self-care,” says Jerome Fiseher, an endocrinologist at the Diabetes & Glandular Disease Clinic in San Antonio, Texas.
Application I: Screening


Screening Education
Fibrillation to prevent
(SEARCH-AF stroke prevention
and treatment of Atrial
Fibrillation protocol.

Lowres N, Freedman SB, Reddy
Department of Cardiology, Concord

Schauman A, Neubeck L.

www.quantifiedcare.com
Application II: Telemedicine

www.quantifiedcare.com
Application III: Global Health
Application IV: Education
Application V: Patient Engagement

Let me know if you want to know why I am here.
Patient Engagement: Continued

Fogg Behavior Model

\[ B = \text{mat} \]

at the same moment

www.quantifiedcare.com

Fogg: www.behaviormodel.org
Technology Adoption Life Cycle Model

Mainstream Market

Early Market

Visionaries (Early Adopters)  Pragmatists (Early Majority)  Conservatives (Late Majority)  Skeptics (Laggards)

Chasm
How do digital health technologies transition from toys to tools?
### The CARE Model

<table>
<thead>
<tr>
<th>C</th>
<th>A</th>
<th>R</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compliance</td>
<td>Accessibility</td>
<td>Reimbursement</td>
<td>Evidence</td>
</tr>
<tr>
<td>HIPAA</td>
<td>Cost / Devices</td>
<td>Billing Codes?</td>
<td>Studies</td>
</tr>
</tbody>
</table>

www.quantifiedcare.com
Pending Questions

• Who will curate these apps/devices?

• How will Patient-Generated Health Data be viewed by clinicians, and integrated into the electronic health record?

• What is the liability associated with Patient-Generated Health Data through apps?
Contact Information

shiv.gaglani@medgadget.com

@ShivGaglani
The Smartphone Physical

www.quantifiedcare.com  www.smartphonephysical.org
The Smartphone Physical
The Smartphone Physical
Disruptive Potential

Lower cost  Broader Access

Big Data  Free Data

www.quantifiedcare.com
Potential Pitfalls

**Disrupted Clinical Communication**
- Audio Distortion
- Faulty Monologues
- Fumbled Messages
- Missive Avalanches

**Failures of Technology**
- Unanticipated Loss
- Myth of Dependability

**Social Disengagement**
- Mindless Checking
- Surrounding Neglect

**Direct Patient Harm**
- Nosocomial Infections
- Breached Confidentiality
The CARE Model

<table>
<thead>
<tr>
<th>C</th>
<th>A</th>
<th>R</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compliance</td>
<td>Accessibility</td>
<td>Reimbursement</td>
<td>Evidence</td>
</tr>
<tr>
<td>HIPAA</td>
<td>Cost / Devices</td>
<td>Billing Codes?</td>
<td>Studies</td>
</tr>
</tbody>
</table>

www.quantifiedcare.com
The Smartphone Physical v2.0

www.quantifiedcare.com
Contact Information

shiv.gaglani@medgadget.com

@ShivGaglani
Appendix
Ideation – Key Questions

• What clinical problem are you solving?
  – Reference/Educational, e.g. Epocrates
  – Data Entry/Tracking, e.g. Beambrush/med calculators
  – Diagnostics, e.g. Mobisante

• Will you need a hardware component?

• Where will the data go?

• How will you be regulated?

• Who is your end-user, and who will pay you?
  – Patients, e.g. iBG Star Glucose Tracking
  – Clinicians, e.g. Welch Allyn iExaminer
  – Payers, e.g. WellDoc BlueStar
### The three classes

<table>
<thead>
<tr>
<th>Class</th>
<th>Premarket</th>
<th>Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CLASS I</strong></td>
<td>Does not support or sustain human life and has a significant history of safety and effectiveness</td>
<td>Most exempt from 510(k) clearance</td>
</tr>
<tr>
<td><strong>CLASS II</strong></td>
<td>Has a similar intended use and a safety and effectiveness profile of a device already on the market; risk requires special controls</td>
<td>Most require 510(k) clearance</td>
</tr>
<tr>
<td><strong>CLASS III</strong></td>
<td>Supports or sustains life or high risk of injury; typically requires clinical studies demonstrating safety and effectiveness</td>
<td>Nearly all require premarket approval (PMA)</td>
</tr>
</tbody>
</table>

RISK TO PATIENT:
- **low**
- **high**

Source: FDA

Presentation © 2013 Rock Health
Fundraising

- Incubators
- VCs
  - Medical Devices
  - Healthcare IT
  - Consumer health
- Corporate Venture Arms

www.osmosis.org
DIGITAL HEALTH FUNDING IS UP 12% IN THE FIRST HALF OF 2013; HOWEVER, GROWTH IS SLOWING OVERALL

Cumulative funding in millions through June 30, 2013

25% more deals in 2013 versus 2012
TRADITIONAL VENTURE FUNDING OF HEALTHCARE CONTINUES TO DECLINE

Change in Q1 2013 funding versus prior year quarter

All sectors: -0.6%

TECH

Software: +38%

Digital health: +12%

Biotechnology: -2%

Medical devices: -29%

HEALTHCARE

Source: PwC Money Tree; based on Q1 2013 (latest data available)