Patient Engagement & Technology

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Director
Center for Connected Health
Partners HealthCare
About the Center for Connected Health

Division of Partners HealthCare IS organization

Our interest is in the use of technology to deliver care remotely

Benefits include improved engagement/outcomes/communications
Engagement = Better Outcomes

- Patient uploads and views
- Uploads, viewing and coaching
- Uploads, viewing and provider engaged

GOOD

BETTER

BEST!
Engagement = Better Outcomes
“When the familiar pen-and-paper methods of self-analysis are enhanced by sensors that monitor our behavior automatically, the process of self-tracking becomes both more alluring and more meaningful.

Automated sensors do more than give us facts; they also remind us that our ordinary behavior contains obscure quantitative signals that can be used to inform our behavior.”

- Gary Wolf, April 26, 2010

The New York Times
Medication Adherence

Personal Reminders
1. GlowCaps flash and play a ring-tone so you don’t forget. They even call your home phone.

Social Network Support
2. GlowCaps send a weekly email update to a friend or family member that you select.

Pharmacy Coordination
3. GlowCaps order refills from your pharmacy.

Doctor Accountability
4. Each month, GlowCaps send you and your doctor a printed report with incentives if you exceed compliance goals.

Center for Connected Health
Glowcaps - 3 Month data analysis

Mean Adherence

Month

Control
Intervention
Intervention + Financial Incentive
SmartBeat

- **Population**: Newly diagnosed or difficult to control hypertensives
- **Technology**: bp cuff, gateway, web interface
- **Coaching**: automated messages
- **Goal**: improved control
- **Business justification**
  - Decreased downstream complications
Decreases in Blood Pressure from Self Monitoring

Proportion with 10mmHg or greater drop in SBP

Proportion with 5mmHg or greater drop in DBP

P<0.05
Connected Personalized Health

A New Company launched by
The Center for Connected Health

wellbeing

Heal! thrageous™
Supporting every day decisions about my health . . .
Engagement = Better Outcomes

Patient uploads and views

Uploa ds, viewing and coaching

GOOD

BETTER
You've done a great job this week! Let's review the calories you've burned.

1. Wearable monitor records subject’s activity levels

2. Activity data sent wirelessly to central server

3. Personalized coaching to improve adherence to activity regime

I'm sorry you've found it tough to meet your targets this week. Let's try and work out a solution.

Percent Change in Average Daily Steps Per Quarter

You've done a great job this week! Let's review the calories you've burned.

I'm sorry you've found it tough to meet your targets this week. Let's try and work out a solution.
The Impact of Social Networks

manage your (own) health
so you can feel better, faster.

Check Your Symptoms
Easily enter data. See which conditions best match your symptoms. Explore what might be making your symptoms worse. Find out what makes you different.

Choose Treatments
See everything people are using to treat your condition. Discover which treatments are most popular, and which work best for people like you.

Track Your Progress
Learn how to run experiments on yourself. See exactly what effect new treatments or dietary changes are having on your body. Optimize your health with better data.

Connect With Peers
Find people who share similar conditions with you. Learn from those who have been there. Leverage the experience of others to make better decisions for yourself.

It’s anonymous and free.
To join, just enter your email: [Enter email].

9950 members have joined

Find Patients Just Like You
Do you have a life-changing condition? Learn from the real-world experiences of other patients like you.

Join Now! (It’s free)

See how PatientsLikeMe can help you take control of your health:

- Share your health profile
- Find patients like you
- Learn from others

“I use all to go to PatientsLikeMe.”
—ALS Motor Neuron Disease Community Member

ConnectedHealth
Engagement = Better Outcomes

Uploads, viewing and coaching

Patient uploads and views

Uploads, viewing and provider engaged

GOOD

BETTER

BEST!
Connected Cardiac Care

Heart Failure Monitoring

- **Population:** CHF
- **Technology:** Blood pressure, oximeter, weight, touch screen device
- **Coaching:** telemonitoring nurse
- **Goal:** decreased readmissions
- **Business Justification:**
  - Better bed management
  - Lower cost of care
Impact of CCCP On Average Number of HF Hospitalizations Per Patient

Patients enrolled in the CCCP program had significantly fewer HF Hospitalizations after the program than before.

Annualized average number of HF hospitalizations per person

Prior to CCCP enrollment: 0.92
Following CCCP disenrollment: 0.48

N=97
Point estimate and 95% C.I.
Diabetes Connect

• **Population:** A1c>8, requiring relatively frequent glucose testing

• **Technology:** glucometer, gateway, web interface

• **Coaching:** diabetes educator or nurse **in the practice**

• **Goal:** improved control

• **Business justification:**
  – Meet P4P targets
  – Decreased downstream complications
Diabetes Connect – Engagement in Two Dimensions

Updated 6.10: 91 patients

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<tr>
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<th>Practice 1</th>
<th>Practice 2</th>
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<tr>
<td>Avg. change A1c - total</td>
<td>-0.80</td>
<td>-1.5</td>
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<tr>
<td>Avg. change A1c – active patients only</td>
<td>-0.7</td>
<td>-1.8</td>
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<tr>
<td>Avg. change A1c - Non-active patients only</td>
<td>-0.9</td>
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Provider logins/month

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Change in A1c based on data before (up to 2 months before) enrollment and 3-6 months after enrollment start date. Not all enrolled patients had recent A1c data in their records.
Engagement = Better Outcomes

- Patient uploads and views (GOOD)
- Uploads, viewing and coaching (BETTER)
- Uploads, viewing and provider engaged (BEST!)

Patient uploads and views
Uploads, viewing and coaching
Uploads, viewing and provider engaged

Engagement = Better Outcomes

Center for Connected Health
A forum where fresh ideas get analyzed . . .

2010 Connected Health Symposium
October 21-22, 2010
Park Plaza Hotel & Towers, Boston, MA

The Way Forward: Reform's New Focus on Health and Wellness, Independent Aging, Chronic Condition Self-Care and the Tools That Support Them

At this year's Connected Health Symposium, we map the way forward. As gridlock threatens elsewhere, the responsibility for driving change falls directly to us -- the patients, payers, physicians, hospital leaders, entrepreneurs and IT execs who experience healthcare every day. Please join us in Boston in October. Together we'll discuss and debate the means of moving care beyond the hospital and clinic and into the day-to-day lives of those who need our help.
Ways to ‘Connect’

- **www.connected-health.org** - 760 visits/day

- Monthly Newsletter - 30,000 contacts

- LinkedIn Group (Connected Health Community) – 3,300

- Contact Me – jkvedar@partners.org

*The cHealth Blog*
chealthblog.connected-health.org