



FOUNDED BY BRIGHAM AND WOMEN'S HOSPITAL  
AND MASSACHUSETTS GENERAL HOSPITAL

## Connected Health Programs & Platform

Joseph C. Kvedar, MD  
Director

Center for Connected Health  
Partners HealthCare



Our world is  
being turned  
upside down



## HOW TO CREATE ACCOUNTABLE CARE ORGANIZATIONS

Harold D. Miller

[www.CHOFR.org](http://www.CHOFR.org)



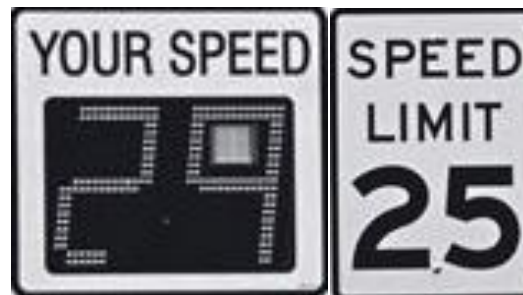
We Must  
Keep Our  
Eye on the  
Ball



# Harnessing the Power of Feedback Loops

## 1. Evidence

The radar-equipped sign flashes a car's current speed.



## 2. Relevance

The sign also displays the legal speed limit—most people don't want to be seen as bad drivers.

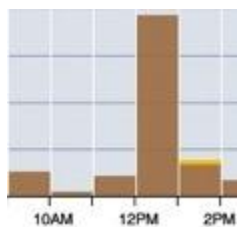
## 3. Consequences

People are reminded of the downside of speeding, including traffic tickets and the risk of accidents.

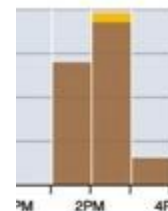
## 4. Action

Drivers slow an average of 10 percent—usually for several miles.

# Active Reflection



276 kcal



400 kcal

# About the Center for Connected Health

**Mission** is to facilitate the adoption of Connected Health

**Technology** is an enabler to provide care remotely

**Benefits** include improved engagement, outcomes, and efficiencies



# Connected Health Benefits

1 Improved  
self-care

2 Just-in-time  
care

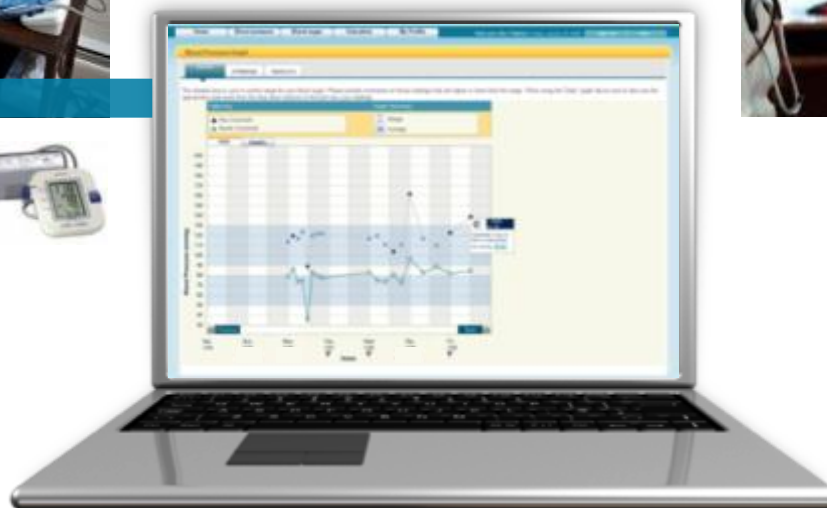


# Connected Health Platform Overview

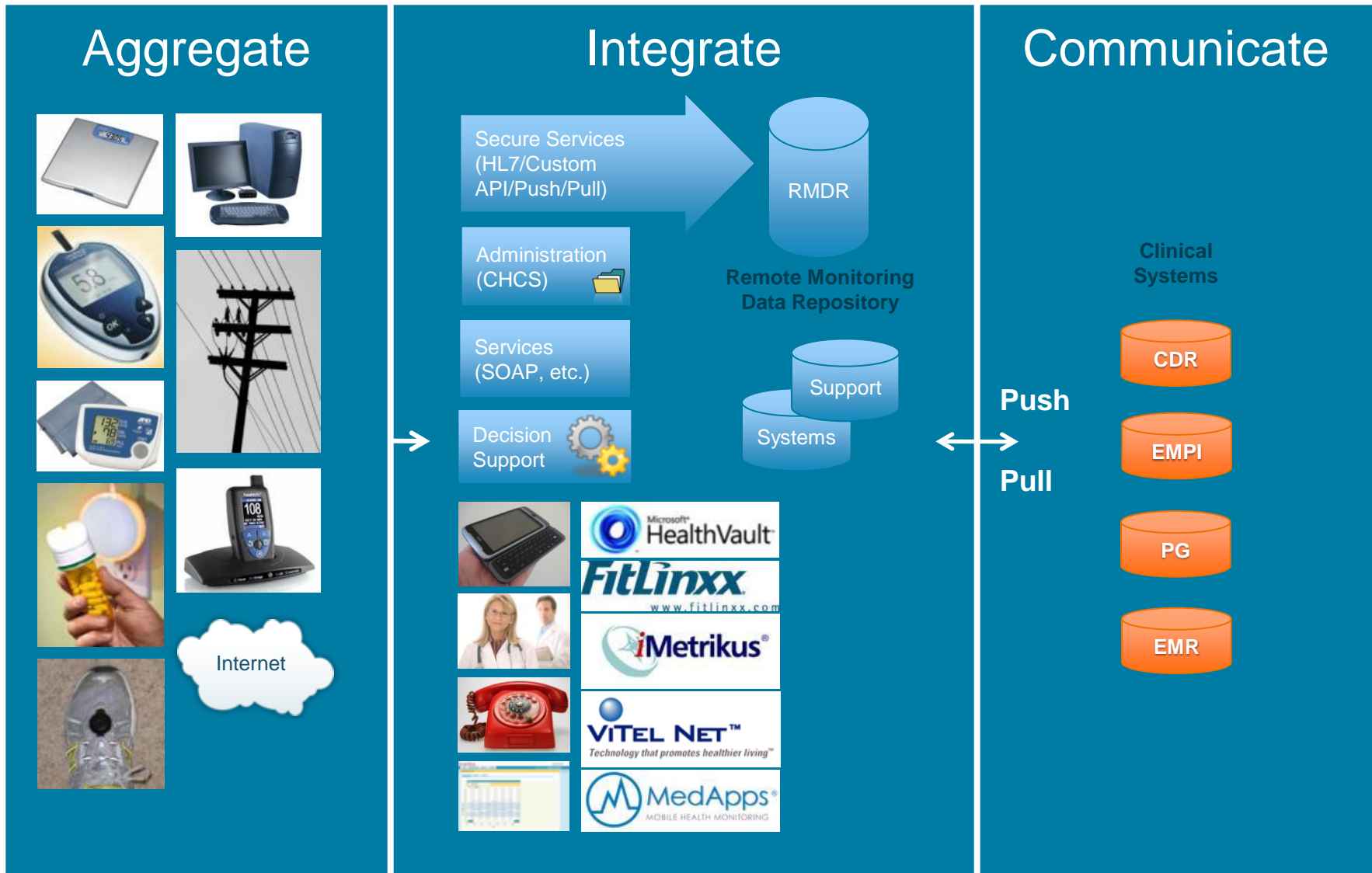
**Patient** sends blood pressure, blood glucose, step counts or weight readings to a secure website.

Patients provide contextual information.

**Providers** access data and information to manage patient's care. Automated rules and alerts also help patients understand their health.



# The Connected Health Care Suite — A Platform



# Home Monitoring

# Diabetes and Blood Pressure Connect



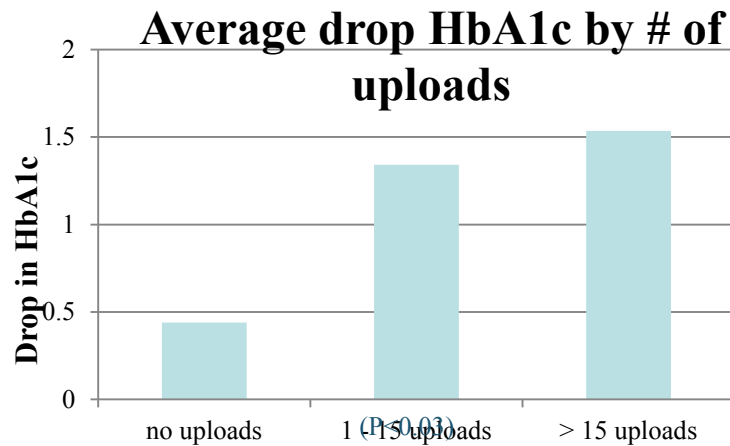
Average drop of HbA1c: 1.5

69% achieved a drop in BP



# Greater engagement is associated with greater pre-post HbA1c change

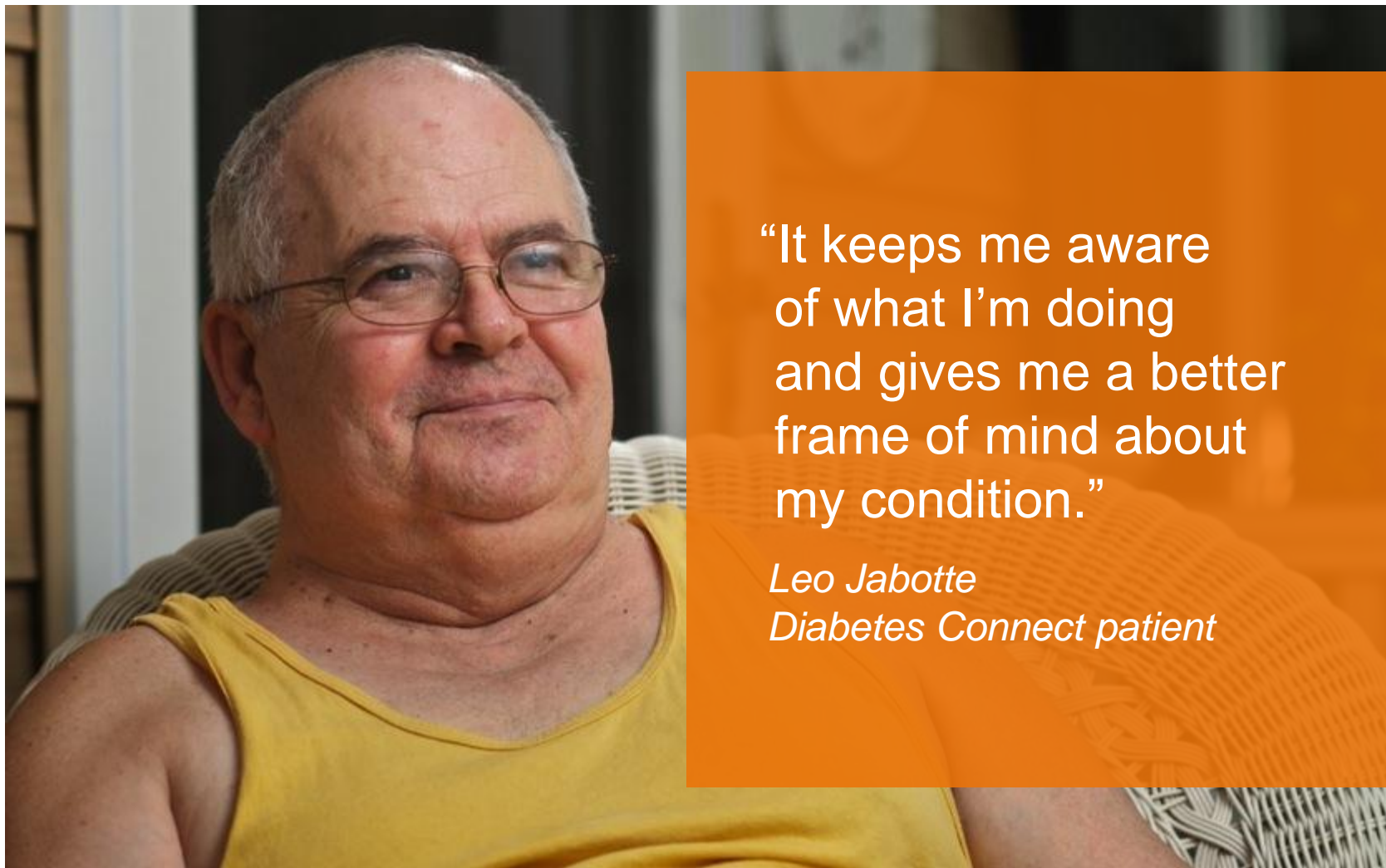
- Patients with greater than 15 uploads had average 1.5 pre-post HbA1c change
- $P < 0.03$  between no uploads and uploads groups



- Practice engagement correlates strongly with better patient outcomes

Analysis based on program participants

# Diabetes Connect Patient Perspective

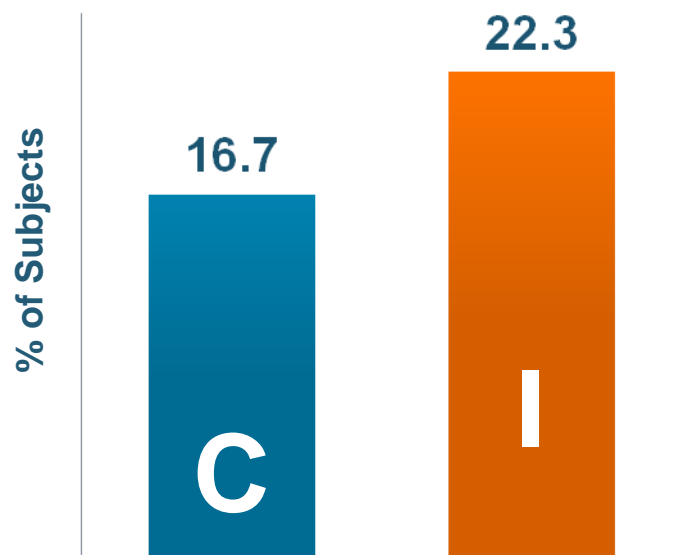


“It keeps me aware of what I’m doing and gives me a better frame of mind about my condition.”

*Leo Jabotte  
Diabetes Connect patient*

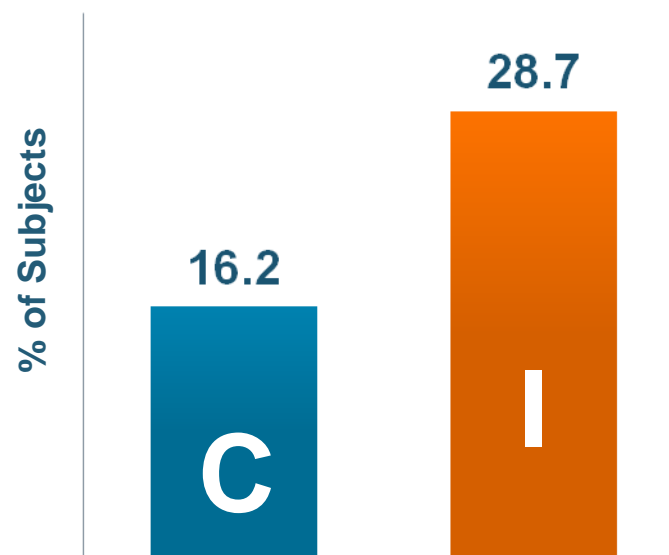
# Decreases in Blood Pressure from Self Monitoring

## Proportion with 10mmHg or greater drop in SBP



$P < 0.05$

## Proportion with 5mmHg or greater drop in DBP



$P < 0.05$

# Blood Pressure Connect Provider Perspective

“The program is a gem. Our patients don’t have to travel in to the office to have their blood pressure monitored, and the equipment is easy to use.”

*Donna Leone, RN  
Mass General’s Everett Family Care*



# Connected Cardiac Care

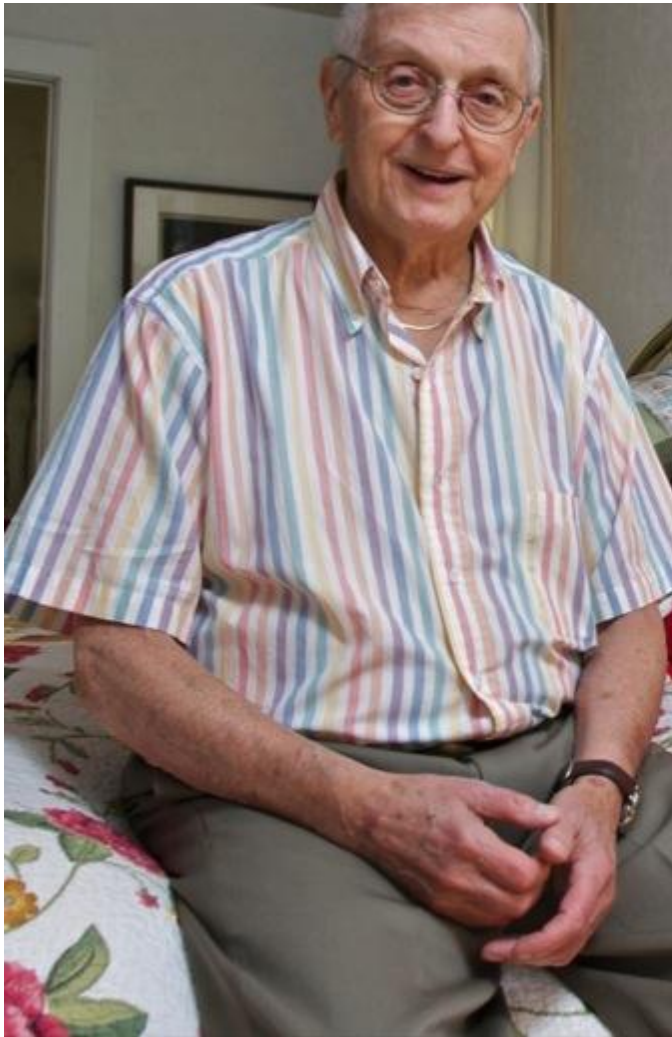
## Heart Failure Monitoring



**50%**  
Drop in  
Readmissions



# CCCP Patient Perspective



“This program gave me a great sense of support and comfort. It taught me discipline to watch my weight and my blood pressure, and to make changes before I end up in the hospital.”

*George Ruboy  
CCCP Patient*

# Medication Adherence

# Medication Adherence

**68%**  
improved  
adherence



Vitality  
GlowCaps  
WEEKLY EMAIL

Hi Dr. Joseph Kvedar,  
Greetings from Vitality,  
Vitality has been tracking your Generic Medication in the white bottle.

 **Generic Medication**  
in the white bottle

Here are last week's results:

S	Su	M	T	W	Th	F
✓	✓	✓	✓	✓	✓	✓

You took your medicine every day last week!

Your Generic Medication adherence in March has been 100%, over this month's goal of 80%. Keep it up.

# Mobile Technology Supports Diverse Patient Populations

## Suboxone Treatment:

- 88% — Helped to remember their medical appointments
- 75% — Felt supported by their nurse

## Prenatal Care for at-risk pregnant women:

- 74% — Helped to learn to take care of themselves and their babies
- 85% — Felt supported by the OB team



# Virtual Visits

# Taking Video Communication Directly to the Patient

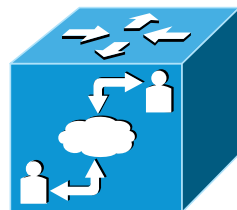


- **Pilot program for college students who are depressed**
- **Consumer-friendly software**
- **Direct to patient solutions must meet HIPAA guidelines**

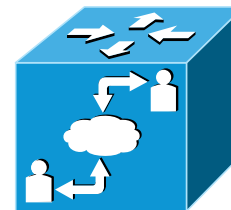
## Partners Network Environment



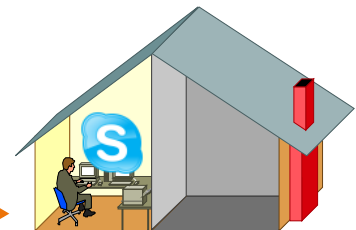
Physician Laptop



PHS Video Bridge



BlueJeans Network Video Bridge with Skype gateway



Patient at home with Skype

# Ways to “Connect”

**The cHealth Blog:**  
[chealthblog.connected-health.org](http://chealthblog.connected-health.org)

[www.connected-health.org](http://www.connected-health.org)

**Annual Symposium:**  
Oct 2012; Boston

**LinkedIn Group:**  
**Connected Health Community**

**Twitter:**  
[@connectedhealth](https://twitter.com/connectedhealth)  
[@jkvedar](https://twitter.com/jkvedar)



**Contact Me:**  
[jkvedar@partners.org](mailto:jkvedar@partners.org)