Implementing mHealth in Long-term Care Settings: Best Practices for Reaching Older Adults

mHealth Summit
December 5, 2012 Washington DC

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www.techandaging.org
The Center for Technology and Aging

- Center for Technology and Aging’s mission:
  To accelerate diffusion of proven technologies (“ADOPT”)

- National resource center on health technologies that promote better care, better outcomes, and lower costs for chronic disease management and the independence of older adults

- Conducted technology demonstration projects with over 100 US health care and aging services organizations

- Professional services, research and evaluation, information dissemination, and public policy
CTA Technology Demonstration Grants 2010-2012

- Medication Monitoring and Adherence
- Remote Patient Monitoring
- Technologies for Improving Post Acute Care Transitions

**Mobile Health Solutions**

- Improve efficiency of care delivery
- Improve health outcomes
- Reduce the cost of care
- Improve chronic disease management
- Increase the rate of adoption
CTA mHealth Diffusion Grants Program

Front Porch Center for Technology Innovation and Wellbeing
- Continuing Care Retirement Center, Los Angeles, CA
- Cell phone texting
- Addressing medication adherence among active, independent older adults using a mHealth medication texting solution

Sharp HealthCare
- Integrated Health Care Delivery System, Los Angeles, CA
- mHealth remote patient monitoring
- Improving care management for Medicare, Medicaid and self-pay patients with COPD
CTA mHealth Diffusion Grants Program

CalOptima
- County Organized Health System, Orange County, CA
- mHealth remote patient monitoring
- Preventing or delaying transitions of Medicare patients with congestive heart failure to higher levels of care

Family Services Agency of San Francisco
- Regional Social Service Agency, San Francisco, CA
- Tablet-based touchscreen assessment and care planning tool using a cloud-based electronic health record
- Improving assessment, service coordination and evaluation of frail and isolated, low-income seniors
CTA mHealth Diffusion Grants Program

HealthInsight
- Regional Health Care System and Community Clinics, Salt Lake City, Utah – ONC Beacon Community
- SMS-based mobile program
- Improving diabetes education and care management in older adults

McKesson Foundation Mobilizing for Health Program

Family Health Centers of San Diego
- Community Health Center and Clinic, San Diego, CA
- SMS-based mobile program
- Improving diabetes education and behavior change
Care4Life Programs
HealthInsight / Family Health Centers of San Diego

Draws on concepts and experience from 2 systems deployed in Mexico (DiabeDiario and DiebeNet)

Based in science and follows national standards:
- Behavior change theories
- ADA guidelines for diabetes management
- National Diabetes Education Program
- AADE 7-step program

Multi-channel approach
- Two-way interactive SMS (text messaging)
- Personal web portal (optional for participant; provider can use to review progress)
Care4Life | Increase Blood Glucose Monitoring

a) User can set glucose reminders according to their doctor’s recommendations (e.g., before breakfast daily)
b) System sends glucose reminders & provides immediate feedback
c) User can track all glucose recordings on web portal
d) System sends education messages & tips

Glucose reminder

System feedback

Glucose recordings graph on web portal
Personal Web Portal

- Glucose Readings
- Exercise Progress
- Manage Subscriptions
- Medication Reminders
- Weight Loss Progress
- Medication Adherence
- Appointment Reminders
Blood Glucose Trends – Two Power Patients

![Graph showing blood glucose readings over time with ideal range indicated.](image-url)
Care4Life Programs

**Lessons Learned:**

- Successful population based management of diabetes
- Effective for safety net programs (health centers and clinics)
- Patient driven: patient engagement – the holy grail
- Provider efficiencies critical: Minimal cost to provider; No new work
- Challenge: To determine scalability in clinics
- Other: Attention to patient privacy; linkage to EMRs
Goal: Reduce 30-day readmissions by 30% from 22% to 15%

Patient Population: Underserved (Medi-Cal, Unfunded, County Medical Services) or Medicare Fee for Service patients at Sharp Grossmont Hospital (SGH) with primary or secondary diagnosis of COPD.

Intervention: Mobile health device used daily to measure pulse oximetry and functional status via yes/no questions coupled with nurse education and health coaching which included at least two home visits.
Sharp HealthCare mHealth Program

30-Day All Cause Readmission Rate

- SGH Baseline FY11 (Underserved): 22%
- National Average (All patients): 17%
- All mHealth patients who completed 30 days (n=99): 15.1%

Goal
Lessons Learned:

- **Time invested in recruitment of staff resources is time well spent**
  
  *The model requires coordinator to do marketing, patient recruitment and patient care – not every RN wants to wear all of these hats*

- **Program can’t help every patient**

  *Patient selection criteria has to be very specific (inclusion and exclusion criteria) and strictly adhered to for effectiveness*

- **Mobile solution leads to significant increases in patient satisfaction**

  *Patients reported increased confidence, knowledge and convenience; program significantly improved patient activation*
Front Porch mHealth Program

Demonstrating Senior Medication Adherence with Cell Phone Texting Reminders

**Goal:** Improve medication adherence among active, independent older adults in need of mobile solution using a medication mHealth solution.

**Outcomes:**
- Demonstrate that mobile alerts and monitoring lead to improved medication adherence.
- Create a replicable model that combines education, training, and other resources.
Front Porch mHealth Program

**Lessons Learned:**

- Variation in consumer utilization of the SMS program
- Consumer champions are key
- Embrace feedback & engage in dialogue
- Personalize discussions to consumers and organizations
- Have a Plan B
- Plan for success - make sure it will scale
- Push for integration and interoperability
ROI of RPM Calculator Do-it-Yourself Tool

ADOPT Toolkit
Technology is 10% of the Issue

90% of technology deployment and adoption is:

- Organizational leadership - Champion
- Organizational familiarity with change management
- Staff engagement and buy-in
- Patient selection and engagement
- Work flow processes
- Technology deployment strategy
- Communication and staff/patient training