



Continua<sup>SM</sup>  
HEALTH ALLIANCE

# Beyond the Four Walls: Personal Connected Health

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



# Executive Summary

In this new era of changing healthcare models and the potential for governments to further institute reimbursement change, where are the new opportunities? How do we reach new consumers and engage them?

An opportunity exists with personal connected health. Continua Health Alliance is a not-for-profit (501c6) association focused on the development of interoperability standards for personal connected health devices. Continua also works as a trade association to enable adoption and knowledge sharing within providers, policy/regulatory bodies, payers, vendors and consumers. The discussion will cover the questions of new business models, workflow changes, consumer engagement models, business partner opportunities and new revenue streams.





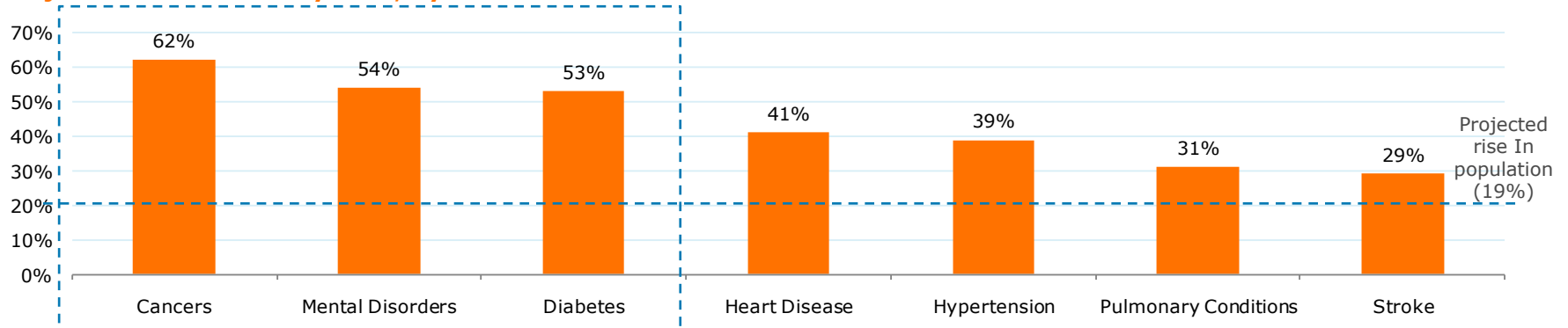
# About Continua Health Alliance:

- Continua Health Alliance is an international not-for-profit industry organization dedicated to establishing guidelines for combining and applying existing standards to personal connected health products and services.
- Continua makes a transition from the personal connected health marketplace to a marketplace of interoperable devices that facilitate better care, empower consumers, improve outcomes and lower overall healthcare costs possible. With more than 240 member companies around the world, Continua is comprised of technology, medical device and healthcare industry leaders as well as service providers dedicated to making personal connected health a reality. .



# Cancers, mental disorders and diabetes are projected to grow the fastest, even though they are currently not the highest in prevalence

Projected Rise in Cases by 2023, by Chronic Disease

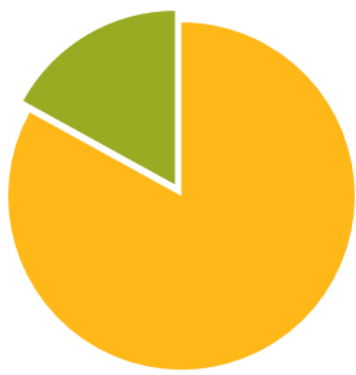


Source: Milken Institute



# The Goal: Improve Lifestyle Choices, Health

### 83% Heart Disease



### Goal



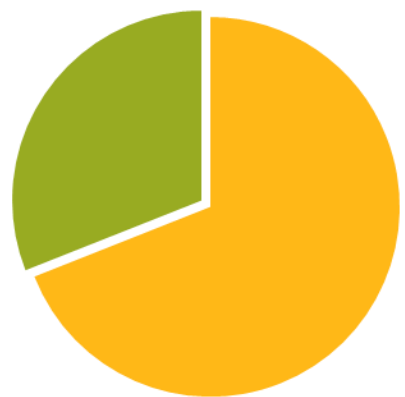
### Actual





### 91% Diabetes



### 69% Cancer



 = Non Modifiable Contributors to Disease

 = Modifiable Contributors to Disease

Hu et al. Diet, lifestyle and the risk of type 2 Diabetes in women. NEJM 2001 Sep 13;345(11):790-7.  
Stampfer MJ, Hu FB, Manson JE, Rimm EB, Willett WC. Primary prevention of coronary heart disease in women through diet and lifestyle. N Engl J Med. 2000; 343: 16-22



# A Solution: Personal Connected Healthcare

There is increasing evidence to support the value of remote monitoring for individuals with chronic conditions, including:

- **35-56% reduction in mortality;**
- **47% reduction** in risk of hospitalization;
- **6 days reduction** in length of hospital admission and
- **65% reduction in office visits;**
- **40-64% reduction** in physician time for checks and
- **63% reduction** in transport costs

*(Cleland et al 2005; Lee R, Goldberg et al, 2003; Scalvini S et al., 2001; Elsner et al, 2006; Van Ginneken et al 2006)*



# Already Complete: Interfaces & Standards

## Personal Device

- Thermometer 
- Pulse Oximeter 
- Pulse / Blood Pressure 
- Weight Scale 
- Glucose Meter 
- Cardio / Strength 
- Independent Living Activity 
- Peak Flow 
- Medication Adherence 
- Physical Activity 

## Aggregation Manager



## Telehealth Service Center

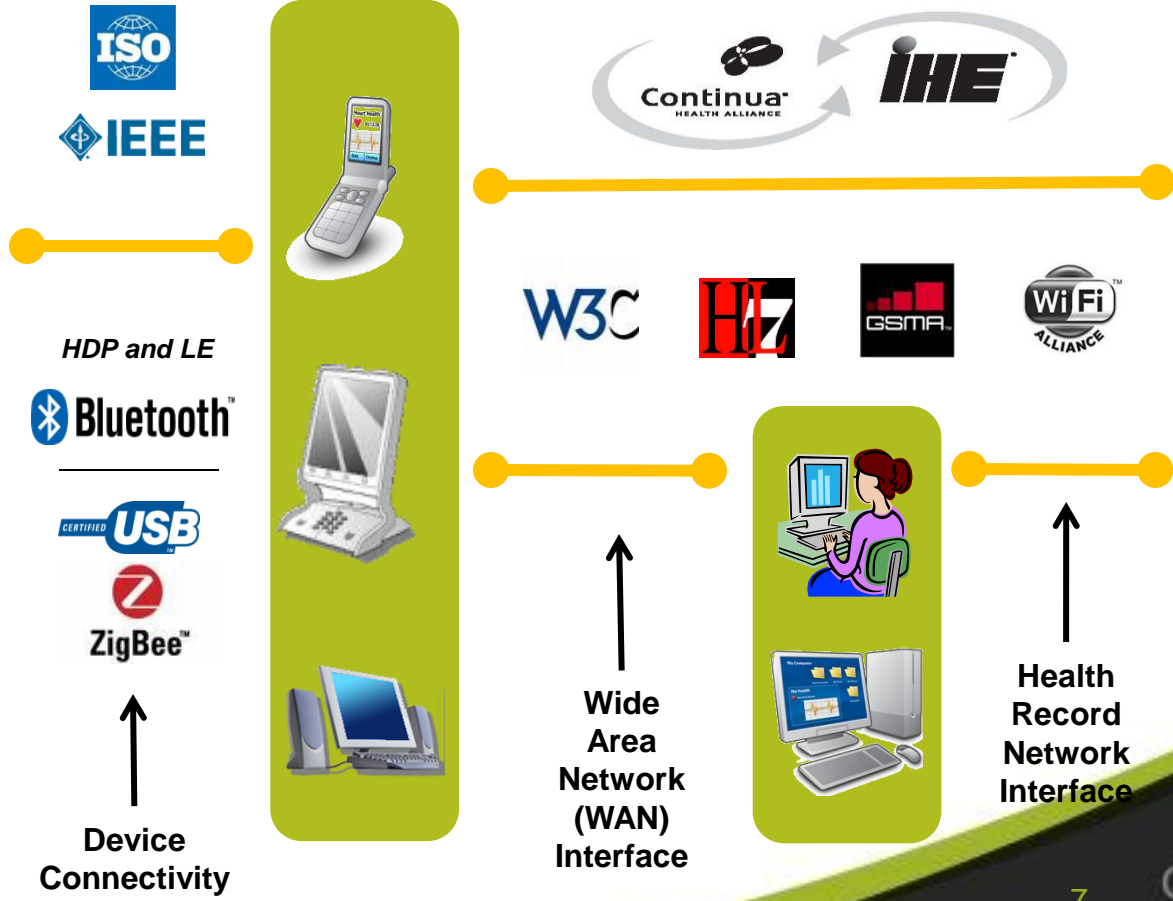


## Health Records

CCD  
PCD 01



EHR  
HIE  
PHR  
NHIN



# Examples of Solutions implemented:

## Japan Earthquake/Tsunami:



- Personal Health Records
  - Allows data to be shared quickly as residents are transferred/moved
  - Provides an easy way to acquire data in single location
- Devices
  - Japan has required devices to have standardized interfaces to allow easy implementation
  - Can carry devices from different manufacturers and still acquire data
- *Standardization and Personal Health Record allows transfers of displaced to have records follow them.*



# Examples of Solutions implemented:

Aging Independently – Garfield Center:  
(Zigbee enabled living center)

- Chronic Condition
  - Oxygen level, Heart rate, Weight, Blood pressure
- Activity Monitors
  - Ensure appropriate levels of activity
- Gait monitor
  - Ensure proper orientation and early stroke warning
- *Devices are wired for entire center. Individuals can move about the entire facility.*



# Examples of Solutions implemented:

Veterans Administration: (45,000+ end users of technology)

- Fixed system for deployment to chronic population
  - Largest deployment in the world
- Health conditions
  - Diabetes
  - Heart Failure
  - Hypertension
  - COPD and Asthma



*Published reports show savings of 53 to 85% over existing practice and treatments.*

# Examples of Solutions in development:

## Diagnostic Gaming:

- Provide advanced platforms that:
  - Can measure health of individual
  - Recovery of individual
  - Provide rehabilitative assistance
  - Determine early signs of cognitive issues
  - Can measure a whole facility



- *Devices can be fit on individuals and can be re-used. Architecture allows standardized acquisition.*

# Key Points

- The certified technology provides a standard based approach to collecting device data rather than having to manually input data.
  - Common tools for representing data
  - Many devices specializations defined
  - Can integrate technology into systems in an ad hoc manner
  - Technology can be repurposed quickly
  - Can be integrated into health records or set up for quick single issue management
  - Highly portable



# Thank you!

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