Mobile Health & Interoperability
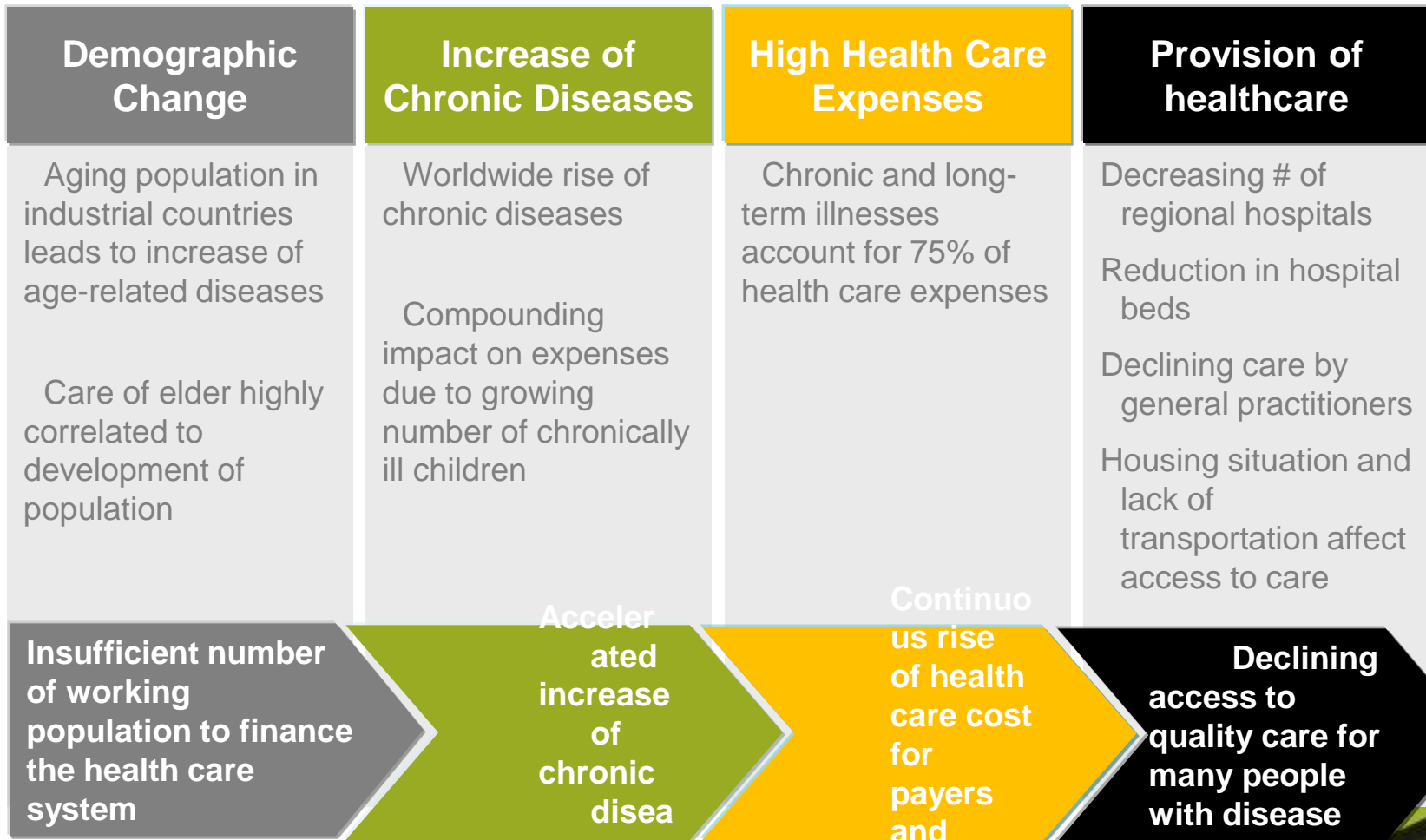
Where is the Market Going Today

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HEALTH ALLIANCE

What is mHealth?

- Communications & health devices deployed or enabled by healthcare organizations to collect/share individual patient physiologic & Quality of Life (QOL) data

- Unlike telehealth, allows providers & patients to employ data & communications independently, at their convenience

- Examples of PCH: Remote home monitoring programs in chronic disease or independent aging

- PCH allows providers <u>and patients</u> to:

  – Use technology to collect data conveniently and securely

  – Communicate more frequently with little manual intervention

  – Effectively monitor and better understand personal health data

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Drivers for Personal Connected Health
Pressure on Healthcare Require New Models of Care

Demographic Change	Increase of Chronic Diseases	High Health Care Expenses	Provision of healthcare
Aging population in industrial countries leads to increase of age-related diseases	Worldwide rise of chronic diseases	Chronic and long-term illnesses account for 75% of health care expenses	Decreasing # of regional hospitals
			Reduction in hospital beds
Care of elder highly correlated to development of population	Compounding impact on expenses due to growing number of chronically ill children		Declining care by general practitioners
			Housing situation and lack of transportation affect access to care

Insufficient number of working population to finance the health care system	**Accelerated increase of chronic disea**	**Continuous rise of health care cost for payers and**	**Declining access to quality care for many people with disease**

Source: DB Research 2010

mHealth

mHeatlh is spread across four distinct areas that utilize same technologies.

- Aging Independently

- Chronic Disease

- Wellness

- Disaster Management

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Aging Independently

- Utilizing tools passively to capture data on individuals that are still living independently

- Veterans Administration in US has deployed to more than 85,000 individuals who have reached retirement age. It is their intent to roll out to nearly 1 million (all active Veterans)

- Examples include:

  – Monitored Homes

  – Home Automation

  – Long term care facilities

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Examples of Solutions implemented:

Veterans Administration: (75,000+ 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.*

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Chronic Disease

- Utilizing the devices to provide reminders and real-time feedback on an individuals disease

- Tools connect to back end systems that now have intelligence. Can link to healthcare or to family caregivers

- Many countries now moving to utilize technology at the point of the person.

  – Denmark

  – Abu Dhabi

  – Singapore

  – NHS (UK) 3 million Lives

  – Canada Health Infoway

  – Brussels to Barcelona Diabetes Bike Ride (fully monitored)

Whole System Demonstrator Programme

- 3,200 people with diabetes, chronic obstructive pulmonary disease, or heart failure

- Telemonitoring w/ biosensors

- Symptom questions and educational messages via telehealth unit or TV set top box

- Endpoints: impact on hospitalizations, mortality after one year

Whole System Demonstrator Programme

- 44.5% fewer mortalities in the intervention group

- Hospital admissions 10.8% lower

- Emergency Room visits 14.7% lower; ER admissions down 20.6%

- Hospital bed days 14.3% lower per head

- Estimated costs savings of 7.7% in telehealth group

Health and Wellness

- The ability to help a person maintain good health. Prevent and alert before issues become chronic or life threatening.

- Move away from Episodic care to a more cohesive model of lifestyle management

- Several companies have moved into this market.
  - NTT DoCoMo has a full program up and running with a Personal health Records in several Japanese cities
  - Orange has tested tools in Europe to provide alerting
  - China is deploying Healthy Cities – a model that has electronic monitoring as a focus
  - KT (Korea) has created a health lifestyles program that is deployed in Korea and US

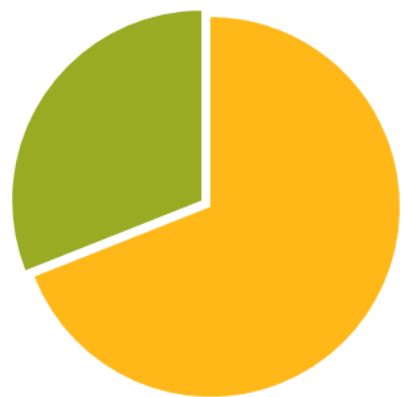# The Goal: Improve Lifestyle Choices, Health

83% Heart Disease
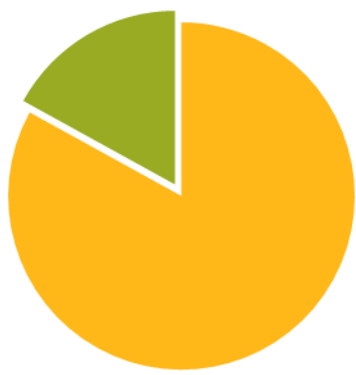
Goal   **Actual**

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

Disaster Management

- Utilizing monitoring and data capture tools post disaster

- Monitoring kits are small and can be deployed rapidly

- One-to-many relationship allows multiple users

- Can be utilized with or without connectivity
  - Japan Post Tsunami refugee camps
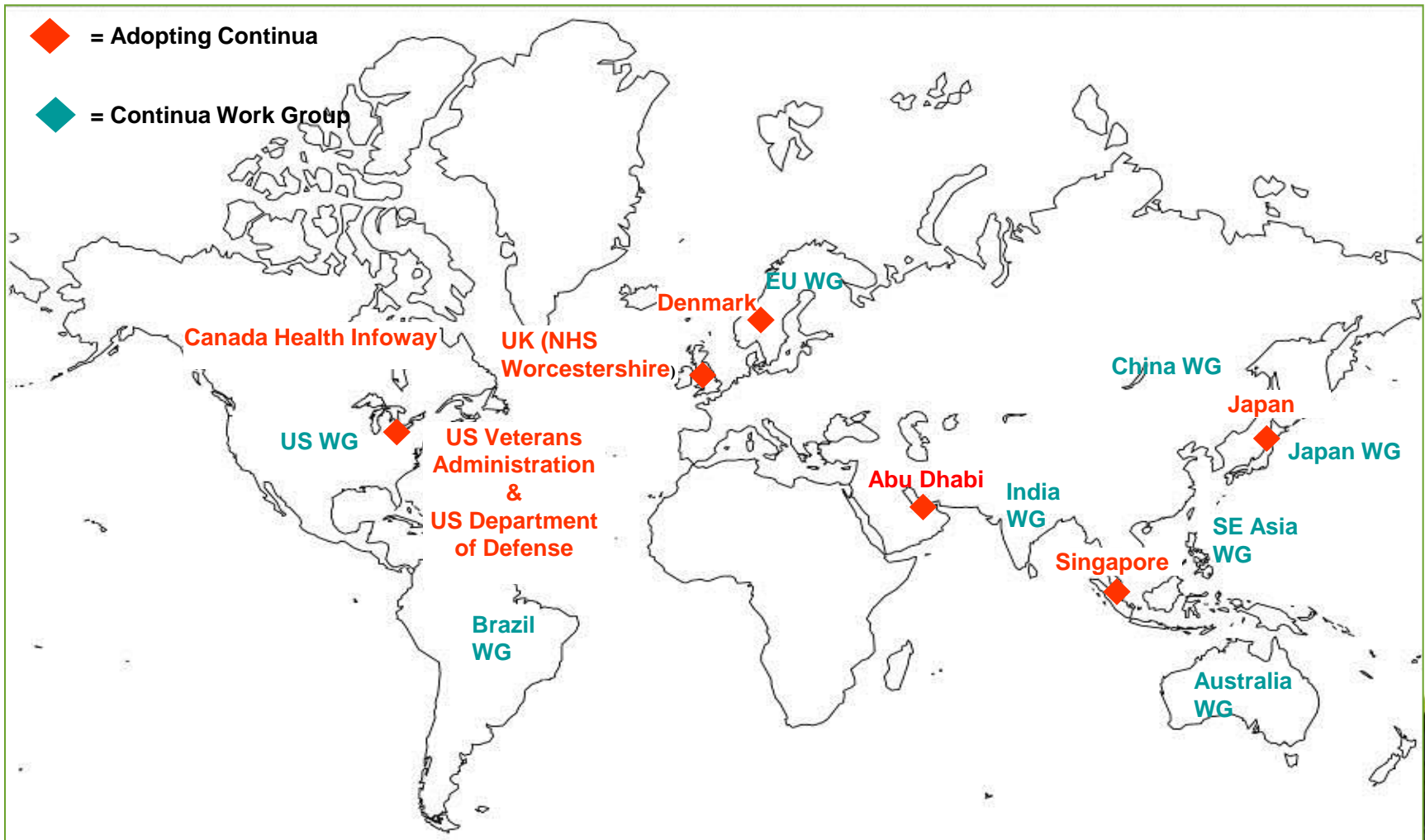 - Miners in Chile
  - Africa camps

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.*

International Activity Hubs:
Adoption and Active Working Groups

= Adopting Continua

= Continua Work Group

- EU WG
- Denmark
- Canada Health Infoway
- UK (NHS Worcestershire)
- China WG
- Japan
- Japan WG
- US WG
- US Veterans Administration & US Department of Defense
- Abu Dhabi
- India WG
- SE Asia WG
- Singapore
- Brazil WG
- Australia WG

PCH Program Success Relies Upon

- Easy to use technology
- Convenient, reliable & secure data exchange and consolidation
- Patient engagement
- Technology companies now in healthcare

…but is still expanding in many directions at once.

Continua Health Alliance
The Engine for a Plug-and-Play World

International non-profit industry organization enabling end-to-end, plug-and-play connectivity of personal health devices, systems and services in <u>Personal Connected Health</u>

200+ members: technology, medical device, telecom, health tech service & healthcare industry leaders

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Continua Design Guidelines on Track to Become Global Health Standard in the ITU

- The International Telecommunications Union (ITU) is the oldest United Nations organization
  - ITU-T is dedicated to produce timely, stable, worldwide standards
- The ITU-T is comprised of 200 national governments and 700 private companies and organizations
- Continua Design Guidelines accepted as ITU-T SG16 Work Item
  - Approval: start in Nov 2013 & complete in early 2014

Synergy with India

- Shared interests with regard to:
  - Regional and national adoption of health IT
  - Dedication to interoperability as a means to improved healthcare
  - Interest in policy and regulation to support market development
  - Commitment to open standards
  - Strategy to promote stakeholder collaboration

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