



Continua
HEALTH ALLIANCE

Panel III:

Gaps in the System: Where device standardization and interoperability of equipment are essential

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The Continua Health Alliance

A non-profit, open industry alliance of the finest healthcare and technology companies in the world joining together in collaboration to improve the quality of personal healthcare



The Challenge & The Opportunity

- Worldwide today:
 - 1 billion adults overweight
 - 860 million chronic disease patients
 - 600 million elders age 60 or older
-
- 75-85% of healthcare spending is on chronic disease management
 - 200K hospitals, 18M hospital beds



The Continua Health Alliance Mission

“Our Mission is to establish an eco-system of interoperable personal health systems that empower people & organizations to better manage their health and wellness”



The Continua Health Alliance Vision

“We believe that through the efforts of a collaborative industry organization, we can enable a personal health eco-system where many diverse vendors can combine their products into new value propositions with significant health benefits for people worldwide.”



GE Healthcare





Contributors (19)

BDNA Corporation

Bridge Technology Holdings

Card Guard Ltd.

Cardionet

Carematix, Inc.

EarlySense

FitSense Technology

Fullpower Technologies

Healthsense

LG Electronics

MCR Group

Proskauer Rose LLP

Rauland Borg

Silicon and Software Systems

Timex Corporation

Training Peaks, LLC

Tyco Electronics

Wipro

Your Choice Living

Over 60 companies are now part of Continua!



The Continuum of Care

Infant



Amateur Athlete



Diet/Fitness Focused



Worried Well



Chronic Patient



Acute Recovery



Elderly Living Independently



CONTINUUM of LIFE

The Continua Health Alliance will enable a personal health eco-system that empowers individuals & families to better manage their own health and wellness across the continuum of life and care methods.

CONTINUUM of CARE GIVERS

New Parents



Fitness Wellness Coach



The Family



Home Nursing Professional

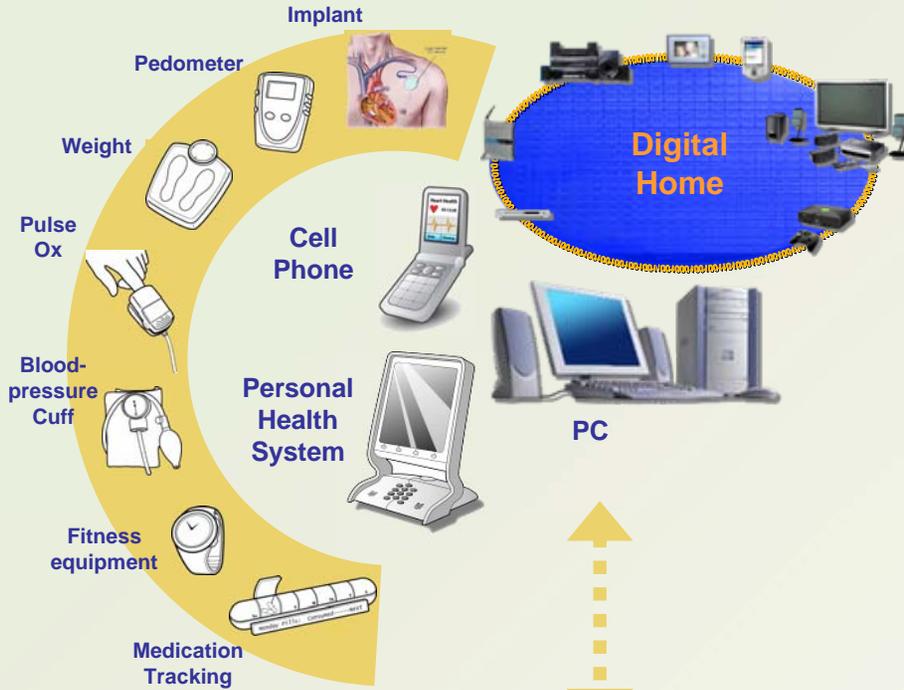


Doctor/NP/Nurse





- Chronic disease
- Post trauma
- Pre-op



Disease Management

- Vital sign monitoring (RPM)
- Medication reminders and compliance
- Utilize home network to locate devices in logical places:
 - Scale in bathroom
 - Pill minder in kitchen
 - BP cuff in living room
- Trend analysis and alerts
- Email, chat, video
- Appointment scheduling



Family care givers



Disease management service



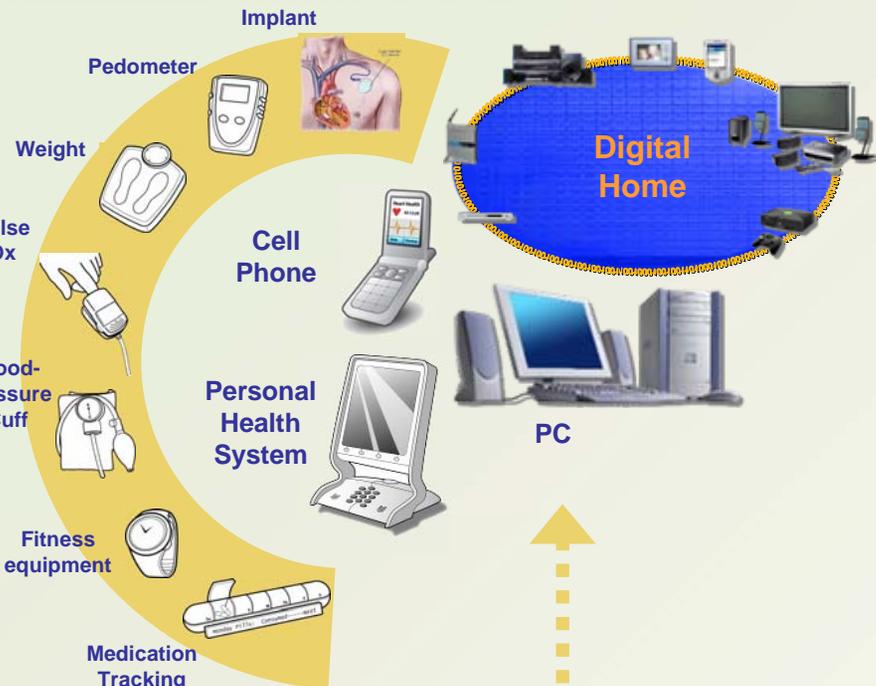
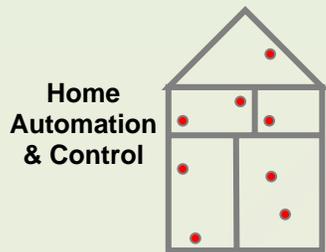
Healthcare provider



Personal Health Record



- Independent living
- Chronic disease



Family care givers



Elderly monitoring service



Diet & wellness services



Disease management service, healthcare provider

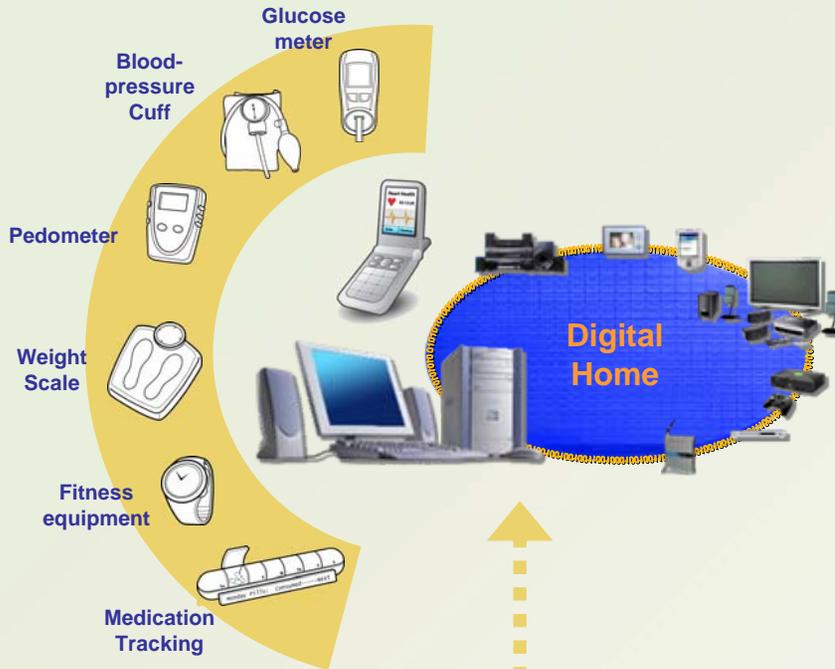


Aging Independently

- An adult child helping their elderly parents age gracefully in their own home.
- Basic life monitoring as appropriate (ADL):
 - Bed pressure (sleep)
 - Bathroom sensor
 - Gas / water sensor
 - Emergency sensor
- Vital sign monitoring (RPM)
- Medication reminders and compliance
- Trend analysis and alerts
- Email, chat, video
- Appointment scheduling



Healthy family



Internet



Weight loss and fitness coaching



Healthcare Professionals



Personal Health Record

Health & Wellness

- Weight loss
- Fitness
- “Worried Well” vital sign monitoring:
 - Weight
 - Blood pressure
 - Glucose
 - Cholesterol
 - Activity level
- Personal Health Records

In the future...

- Extension of healthcare system into the home
- Initial triage of conditions
 - Vital signs
 - Images
 - Email / chat / video
- Appointment scheduling



SENSORS

Home sensing & control



Weight Scale



Blood-pressure



Bed / Chair Sensors



Glucose Meter



Implant Monitors



Pulse Oximeter



Baby Monitors



Spirometer



PERS



Medication Tracking



Consumer Electronics



Pedometer



Fitness equipment



CONNECTIVITY



MICS / MEDS

Ethernet



AGGREGATION COMPUTATION



PC

Personal Health System



Cell Phone



Set Top Box



Aggregator

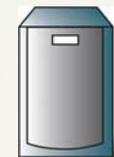
NETWORK (POTS, Cellular, BB)

SERVICES

Healthcare Provider Service



Disease Management Service



Diet or Fitness Service



Personal Health Record Service



Implant Monitoring Service





Guidelines → Certification → Logo

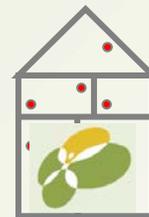
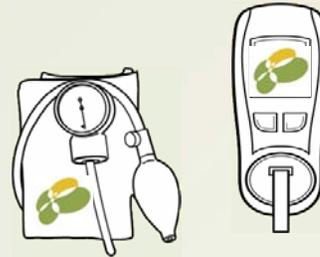


- **GUIDELINES:**

Continua member companies will select connectivity standards and publish Guidelines for strict interoperability.

- **CERTIFICATION & LOGO:**

Continua will establish a certification program with a consumer recognizable logo signifying the promise of interoperability with other certified products.



Home
Automation
& Control



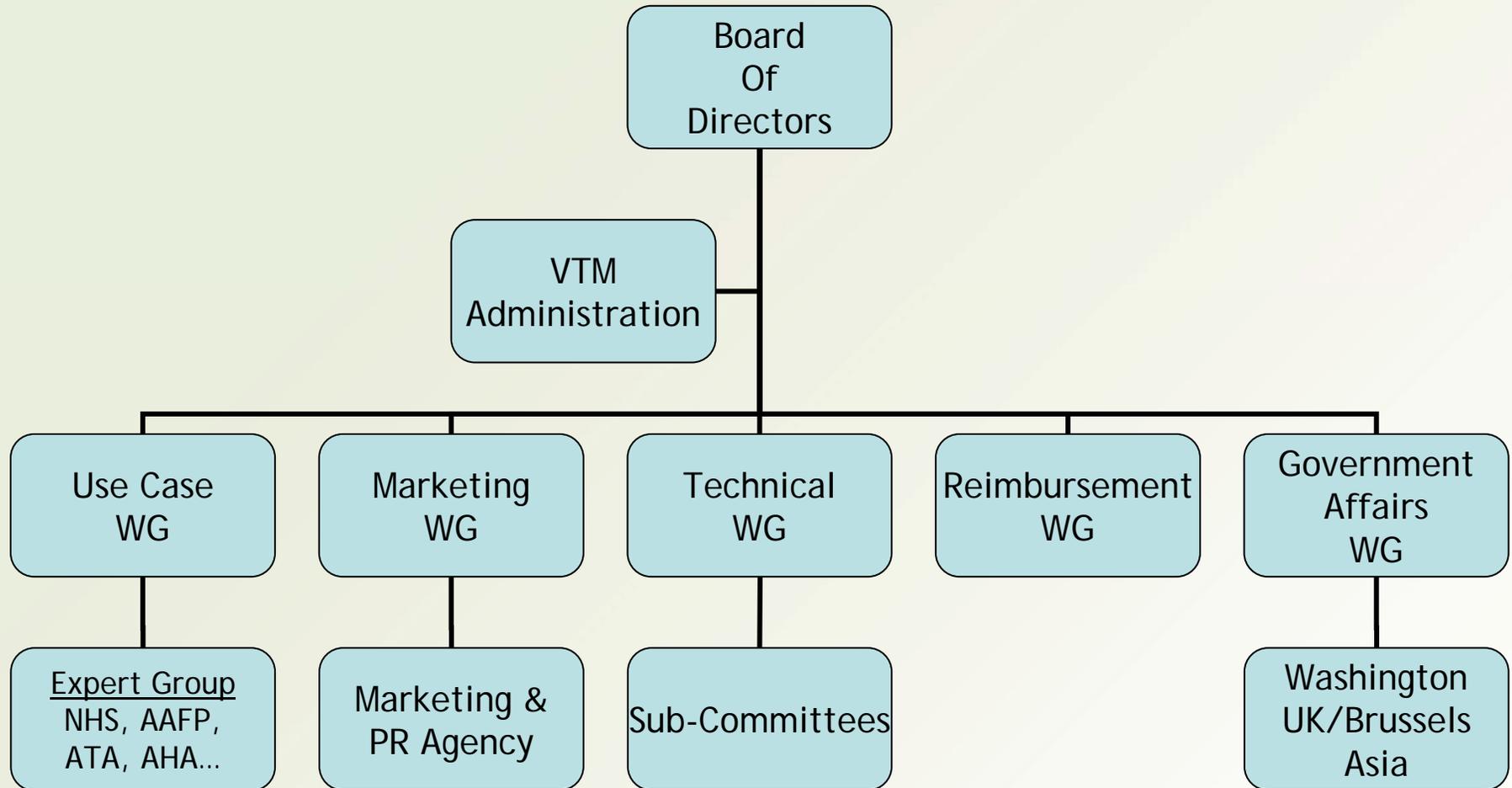


The Continua Health Alliance Objectives

- **GUIDELINES**: Developing design guidelines that will provide vendors with the information needed to build interoperable sensors, home networks, health compute platforms, and health & wellness services.
- **CERTIFICATION & LOGO**: Establishing a product certification program with a consumer recognizable logo signifying the promise of interoperability with other certified products.
- **FDA & EU REGULATIONS**: Collaborating with government regulatory agencies to provide methods for safely and effectively managing diverse vendor solutions.
- **REIMBURSEMENT**: Working with leaders in the healthcare industries to develop new ways of addressing the costs of providing personal health systems.

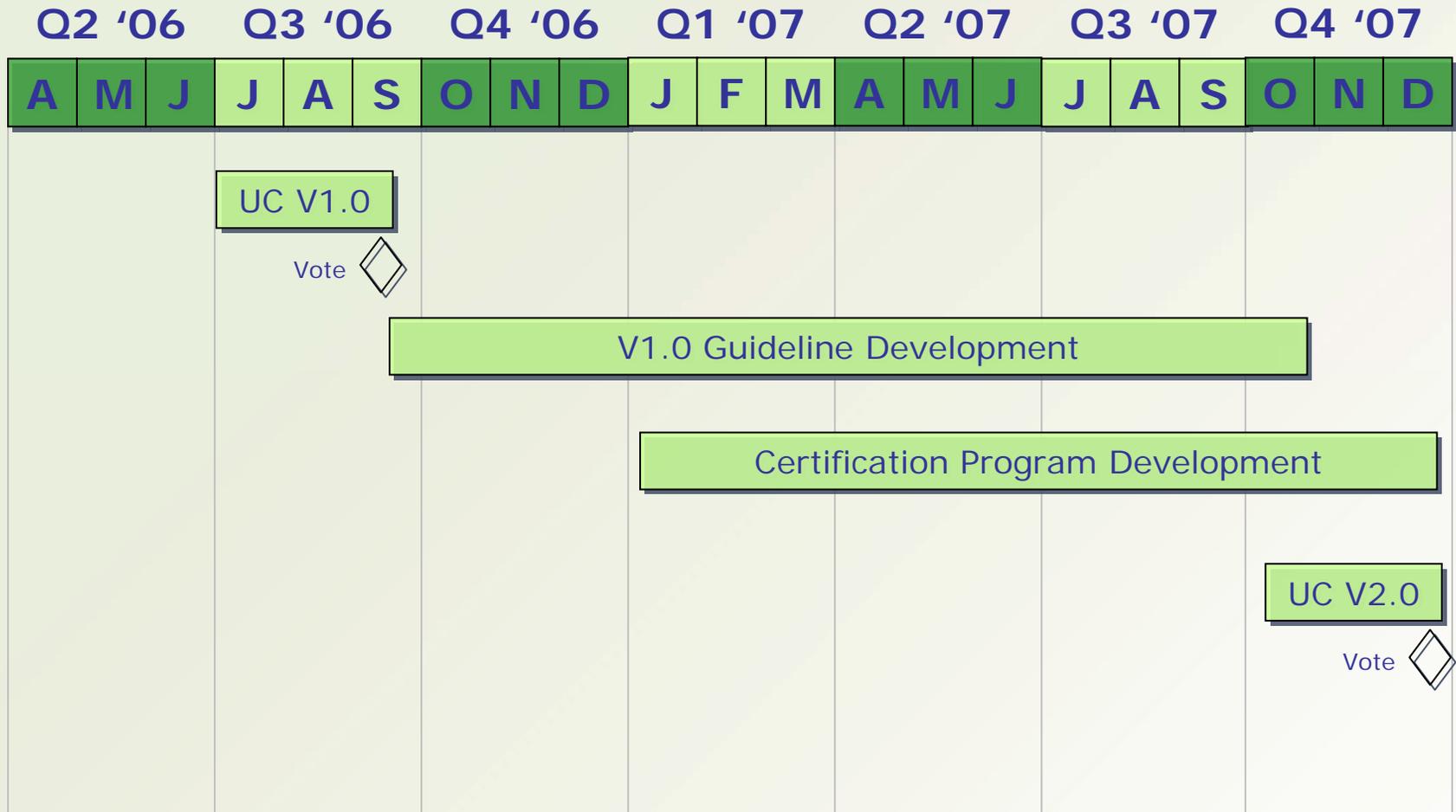


Working Group Structure





Continua v1.0 Timeline





Fall Summit 2006

Harvard Medical School





On to the panel...



Joseph L. Ternullo, CPA, JD

Associate Director, Partners Telemedicine

Vice President & Board Director
Continua Health Alliance





Bridging the combined strengths of:

FOUNDING MEMBERS



Brigham and Women's Hospital



Massachusetts General Hospital[†]

OTHER MEMBERS



Faulkner Hospital



McLean Hospital[†]



Newton-Wellesley Hospital



North Shore Medical Center



Partners Community HealthCare



Spaulding Rehabilitation Hospital
Network

TEACHING AFFILIATES OF



Harvard Medical School

Major Teaching Hospitals

Massachusetts General Hospital
Brigham and Women's/Faulkners Hospital

Community Hospitals

North Shore Medical Center
Newton-Wellesley Hospital

Mental Health and Continuing Care

McLean Hospital
Spaulding Rehabilitation Hospital and others
Partners Home Care (27 VNA's)
Multiple Skilled Nursing Facilities

Physician Practices and Network

Partners Community HealthCare, Inc.

Physician Organizations

Massachusetts General Physicians Organization
Brigham and Women's Physicians Organization

Community Health Centers (multiple)



Partners Clinical Portfolio:

- \$3.5B business per year
- 1.3 M patients receive care
- 3.8 M outpatient/office visits
- 140,000 inpatient admissions
- 530,000 home care visits
- Care to 21% of E. Massachusetts
- 44,000 employees, largest non-governmental employer in MA
- Consistently rated in the top 10

“U.S. News & World Report “

“The Model Marriage” ... in a story on hospital mergers, New York Times wrote that Partners HealthCare is “considered the model marriage of academic medicine.” (3/4/01)

Partners Research Portfolio:

- \$1.3B business per year
- Largest academic biomedical facility in the world
- # 1 in NIH funding over 10 years
- 2,200 investigators
- 1,000 active clinical trials
- Partners investment of \$50 million in Center for Genetics and Genomics
- Investigator access to Research Patient Data Registry-clinical data on 1.7 million patients (from 1993-present)



Deepak Ayyagari
PhD- Principal Scientist
Sharp Labs of America

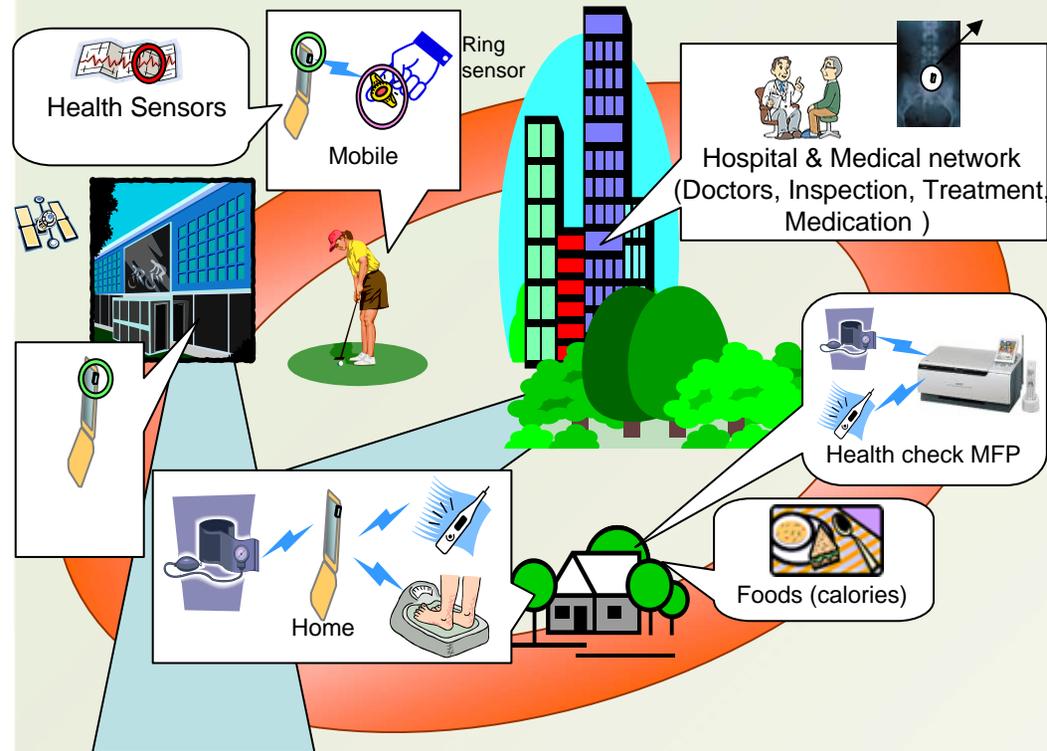
Secretary & Board Director, Continua Health Alliance

SHARP®



Deepak Ayyagari, PhD- Principal Scientist at Sharp Labs of America and Secretary of Continua
Representing Sharp Corporation on Continua BoD

Sharp Vision: Ubiquitous Health and Wellness



Why Continua ?

- Help define new paradigm in health/wellness
 - Focused on consumer
 - Home and Personal wellness/care
- Interoperability
- Learn from care provider/ end users
- Interface to regulatory agencies
- Speed standards development

Sharp and NEDO

- Consortium of leading CE and healthcare device companies in Japan
- Developed interoperable technologies for personal and home health monitoring devices/services
- 12 interoperable home healthcare devices



Michael Robkin

Principal Enterprise Architect in Care Delivery
Kaiser Permanente Information Technology

Treasurer & Board Director, Continua Health Alliance





Who is Kaiser Permanente?

- Nation's largest non-profit integrated health care provider.
 - \$25 billion annual revenue
 - 145,000 employees
 - Kaiser Foundation Health Plans:
 - 9 States
 - Kaiser Foundation Hospitals:
 - 30 Medical Centers
 - 430 Medical Offices
 - Permanente Medical Groups:
 - 12,000 Physicians
- We aspire to be the world leader in improving health through high-quality, affordable, integrated health care.
- We are distinguished by our strong social purpose, physician responsibility for clinical care, and enduring cooperation between our health plan and our medical groups.
- We're committed to the total health of our members. We help them live better by providing wellness programs, screenings and preventive services, and routine and acute care.



Vision of Kaiser Permanente

- Use evidence-based medicine to focus on health and prevention of illness
- Leverage the convergence of consumer electronics, computers, and medical devices to deliver better healthcare
- Extend care from our hospitals and medical offices into the home

QUALITY

CAPABILITY

CONVENIENCE



Continua
HEALTH ALLIANCE

Richard S. Bakalar, M.D.

Chief Medical Officer

IBM Healthcare and Life Sciences



President

American Telemedicine Association





Why IBM ?

Global IT Solution Integrator for Healthcare

- \$91 billion annual revenue in 2005
- 330,000 employees worldwide; founded in 1910
- **Large Self-Insured Global Employer:**
 - Business Offices in over 70 Countries in all geographies
 - Over \$3 Billion annual healthcare spend, \$1.7 B in US for 500,000 insured lives
- **IBM Information Technology Research:**
 - 2,941 U.S. patents in 2005, largest of any company for the 13th consecutive year
 - Eight (8) IBM Research Laboratories worldwide (US, Israel and India with Healthcare Interoperability focus)
- **Healthcare and Consumer Health Transformation Services:**
 - Business Thought Leadership
 - Vision 2010 (Targeted Personalized Healthcare) and 2015 (Patient-Centric Transformation)
 - Professional Leadership - HIMSS, CHIME, ATA, SIIM (formerly SCAR), NAHIT
 - Healthlink Division - over 400 healthcare professionals and ranked #1 in KLAS (Implementation Services)
 - Technical Interoperability
 - Leadership on International Technical Standards Boards & Committees (HL7, IHE, DICOM, IEEE, etc)
 - Healthcare Collaborative Network and SOA Frameworks for systems interoperability
 - Solution Integrator with Global Partners in the Health and Fitness Stakeholder Ecosystem
- **World-class Technical Infrastructure Solutions:**
 - Enterprise Workstations, Servers and Storage systems
 - Simplification of infrastructure through open system Virtualization and Automation

INNOVATION IS BACK
Powering the next wave of business growth

**Open
Collaborative
Global
Responsive**

“Innovation that matters in Patient Care”



American Telemedicine Association

Promoting the Use of Telemedicine and Telehealth for Consumers Worldwide

Increasing government and consumers awareness about telemedicine services

Serving as a clearinghouse for telemedicine information and services

Fostering professional networking and collaboration

Promoting applied research and end-user training

Facilitating telemedicine clinical guidelines, tech stds, policies and procedures

“A Clinical Healthcare Advisor to Continua Health Alliance”