

# Critical Advances in Enabling Technologies: Today and On the Horizon

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**Center for Aging Services Technologies (CAST)**

Medicare Readmission Summit

June 1, 2009

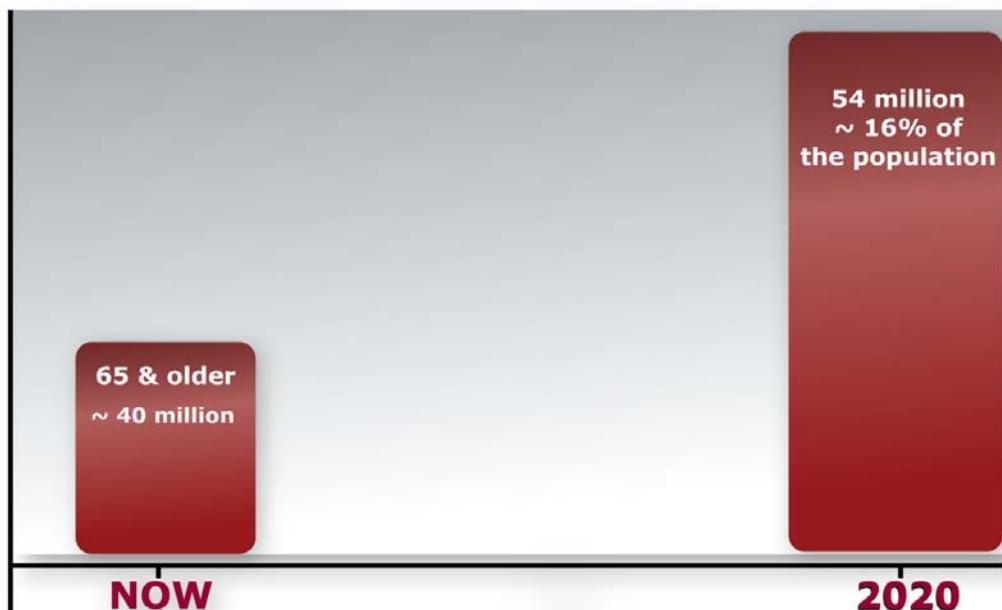
# The Trends

## NOW

**60%**  
Healthcare Costs  
from older adults

**16%**  
GDP

**millions**  
Uninsured



DOCTORS

**-10,000**

There will be a need for  
5.3m Healthcare workers  
**2020**

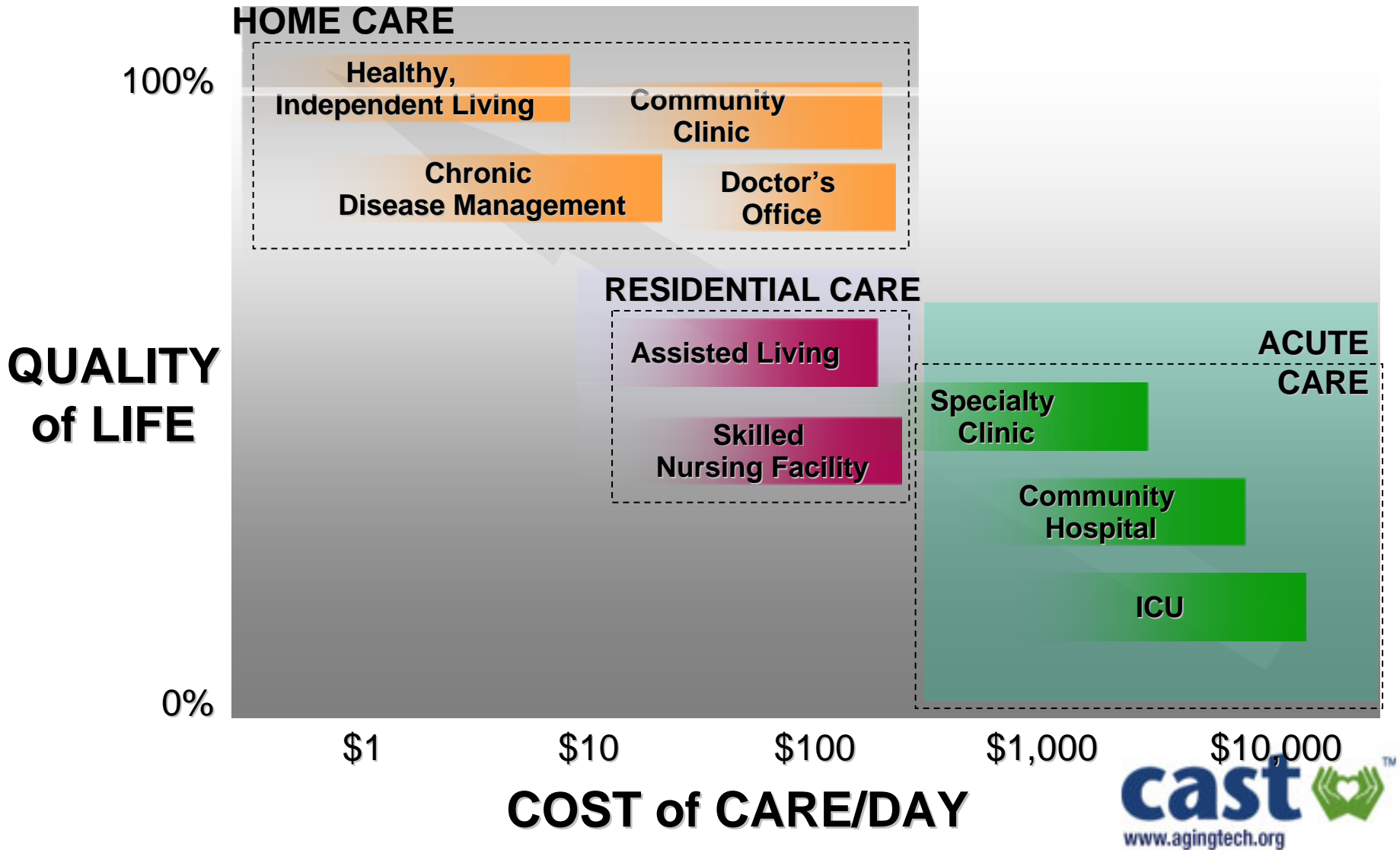
NURSES

**-126,000**

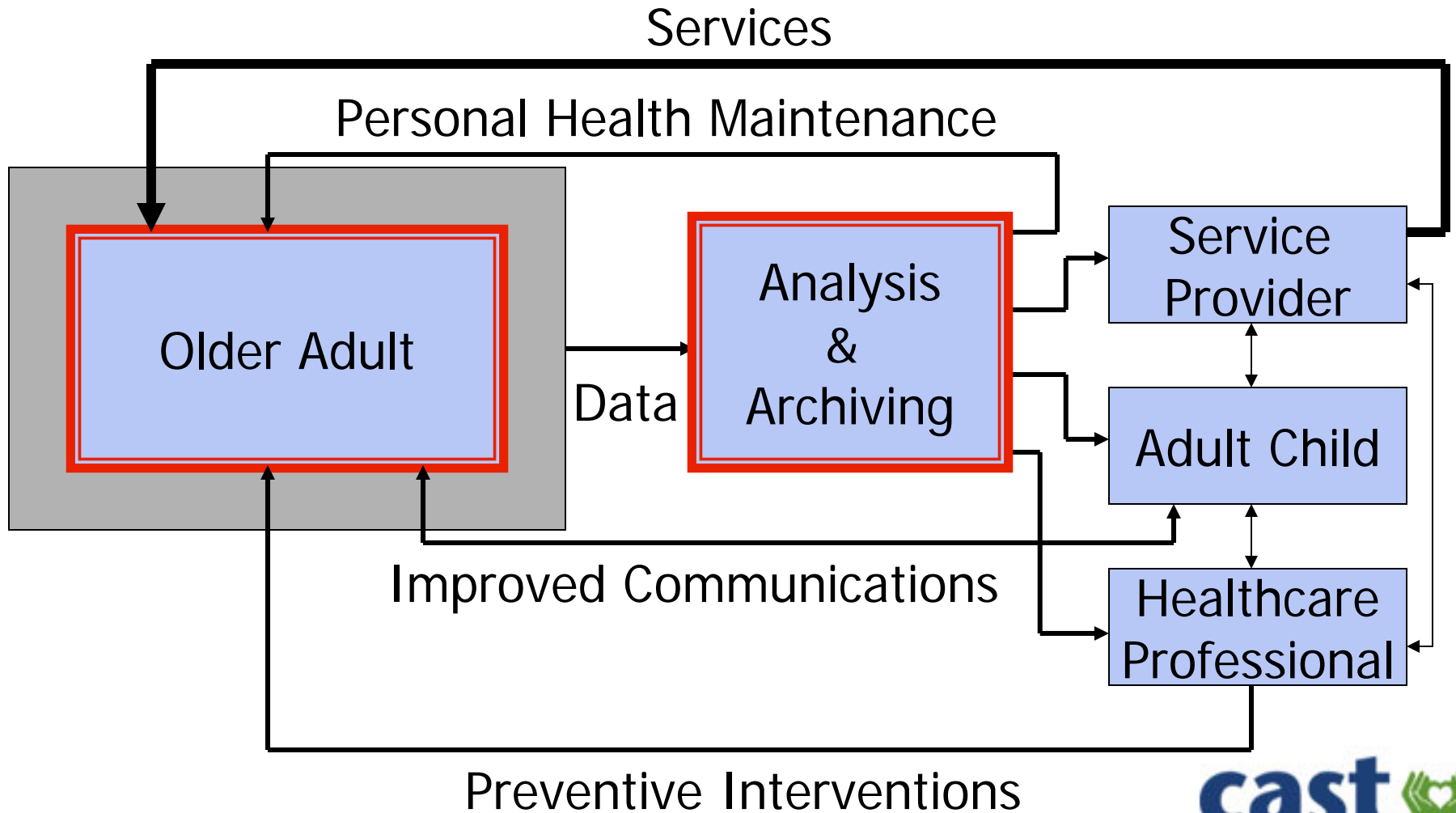
**200,000**

**1mil**

# "Shift Left" through Technology

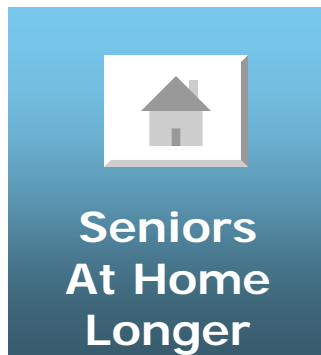


# Technology-Enabled Care



# Value

## Innovative care models with smart technology



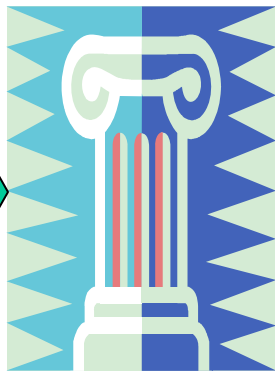
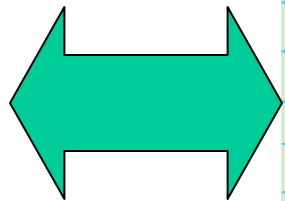
**...more efficient care with reduced care burden**

# State of Aging Services Technologies

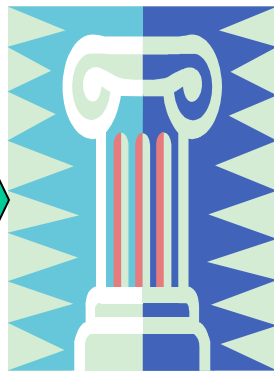
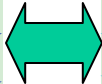
# Home for Life

Senior  
(Quality of Life)

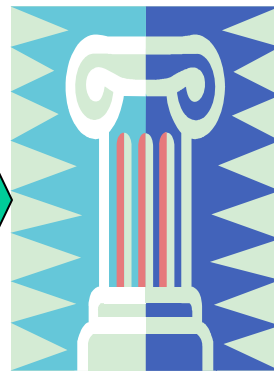
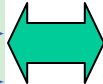
Supportive Services



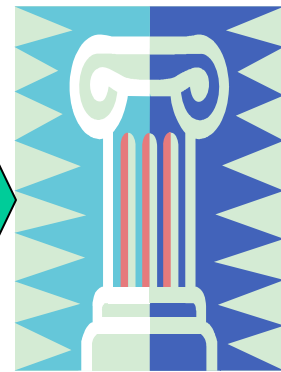
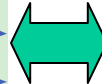
Safety



Wellness



Health



Socialization

Physical Environment

# Safety Technologies

- **Wearable devices** (PERS, automatic fall detectors, fall prevention patches)





# Safety Technologies

- **Environment/Passive** (motion-based sensor monitoring systems, embedded fall-detection systems, stove use detectors, temperature/smoke monitors, safe lighting technologies)



Grand Care Systems



# Physical & Mental Health/Wellbeing

- **Wearable devices**  
(activity monitors, cardio monitor, ambulatory blood pressure monitors)
- **Environment/Passive**  
(motion-based activity monitors, sleep/bed sensors)



# Physical & Mental Health/Wellbeing

- **Telemedicine/ Telehealth** (biometrics: pulse, BP, glucose, temperature, weight; daily wellness check; 2-way video health consultations care coordination; medication compliance)
- **Cognitive assessment/ orthotics/ reminder systems** (under research)



# Social Connectedness

- **Phones** (amplified phones, easy to use cell phones)
- **Two-way video conferencing phone**
- **Entertainment/Theraputainment** (cognitive and/or Physical exercise)



# EHRs & Point of Care Technologies

- EHRs
- Point of Care systems; Electronic clinical charting; Documentation systems; Shared care planning systems; e-Prescribing; e-MAR systems; Wound care applications.



# Results of Expert Interviews



## Barriers

- Perverse payment system
- Liability exposure for providers
- Shortage of workforce
- Lack of cross state licensure
  
- Shortage of funding
  
- Perceived intrusiveness-overemphasis on privacy
- Inverse relationship between the need for, and the ability to use, technology
- Lack of information systems' interoperability and device interconnectivity.

## Remedies

- Effective advocacy
  
- Evangelization of the vision
  
  
  
  
- Tapping into untraditional funding sources
  
  
- Better understanding of seniors attitudes towards technology
  
  
- Designing better technologies

# Critical Gaps

- Lack of Awareness
- Technical Uncertainty
- Limited Evidence of Value
- Absence of Business Models



# Business Model Realities

- Stuck in legacy reimbursement/ payment mechanisms
- Critical need for integrated socio, cultural, economic model of care; may evolve more quickly in other countries
- Promising aspects of current models (VA, Kaiser, PACE, P4P, etc.), exist but hard to generalize to other systems
- Medicaid related programs may evolve more quickly due to extreme pressure.

# What's Needed?

- Continue to identify legislative/ regulatory barriers and advocate to remove them
- Funding for large-scale demonstration projects (objective outcome evaluations)
- Payment mechanisms for efficacious and cost-effective technologies
- Continue to raise awareness.

# CAST Activities

- Introduced senate bill S.908, amendments to H.R. 6357, and provisions to the stimulus bill (ARRA)
- Participating in EHR standardization efforts on the national level
- Launched state technology policy initiative
- Launched pilots initiative to help providers objectively evaluate technologies, compile evidence to change reimbursement
- Creating knowledge and raising awareness: State of Technology reports
- Sharing provider stories, experiences and case studies.

# ARRA HIT Provisions

- Definition of Health Care Providers inclusive of LTC
- Broad definition of Health Information Technologies (HIT)
- Study of the need for payment incentives for LTC providers
- Grants to States/ State-designated entities
- Loans to care providers
- Study of Aging Services Technologies
- Sharing provider stories, experiences and case studies.

# Next Steps....

## Healthcare reform

Used two-way video to talk to her son and the grandchildren.

Wearable sensors transmit health vitals to healthcare professional.

Instrumented walker assesses gait and balance.



I will win today.

Electronic medication caddy notified son she took her medicine, so he did not have to nag her.

Her senior-friendly cell phone has a GPS chip, and an emergency alert button.

Telemedicine helped her send a picture of a scrape to her doctor, avoiding a trip to the office.

# Questions?

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