



# Safeguarding Human Rights in the Use of Digital Technologies: Insights & Perspectives from the U.S. Government

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Administration for Community Living/U.S. Department of Health and Human Services

**Ageing in the Digital Era: UNECE Policy Seminar on Ageing**

**November 24, 2021**



# Today's agenda

- **The U.S. Administration for Community Living (ACL)**
  - Overview + Mission/Vision
  - Beneficiaries of ACL Programs, Services, and Supports
- **Supporting older adults & their families**
  - **Fostering innovation for older adult populations**
    - *Emerging Technologies to Support an Aging Population Roadmap*
    - Increasing access and utilization of emerging technologies
- **Closing Thoughts**

# Administration for Community Living (ACL)

ACL – an operating division of the U.S. Department of Health and Human Services – was initially established in April 2012 by bringing together the Administration on Aging, the Office on Disability and the Administration on Developmental Disabilities. ACL is responsible for increasing access to community supports, while focusing attention and resources on the unique needs of older Americans and people with disabilities across the lifespan.

## Mission

Maximize the independence, well-being, and health of older adults, people with disabilities across the lifespan, and their families and caregivers.

## Vision

For all people, regardless of age and disability, to live with dignity, make their own choices, and participate fully in society.

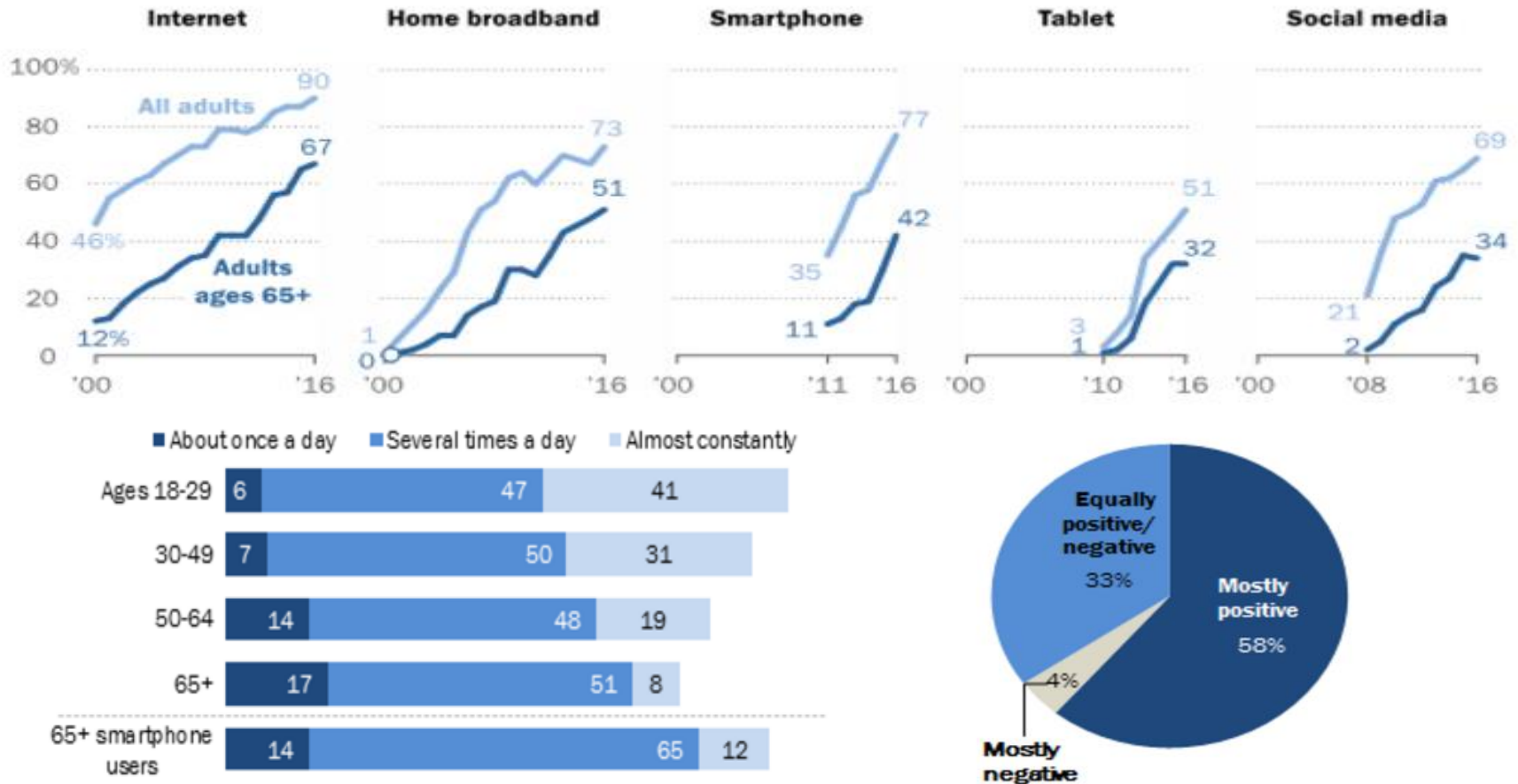
# Who We Serve

- **Poor and Near Poor** (*below 150% Poverty*)
- **Frail and Vulnerable**
  - Lives Alone; Diabetes; Heart Condition; Minority; Rural
- **At Risk for ER visits & Hospitalization**
  - Over 92% of OAA Clients have Multiple Chronic Conditions
    - Compared to 73% of general older adult population (age = 65+)
  - 69% of Case Management Clients take 5 or more medications daily.
- **At Risk for Nursing Home Admission**
  - 40% of Home-Delivered Nutrition Clients have 3+ Activities of Daily Living (ADL) Impairments.
  - 72% of Home-Delivered Nutrition Clients have 3+ Instrumental Activities of Daily Living (IADL) Impairments.

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# Trends in older adult use of internet, social media, and electronic devices





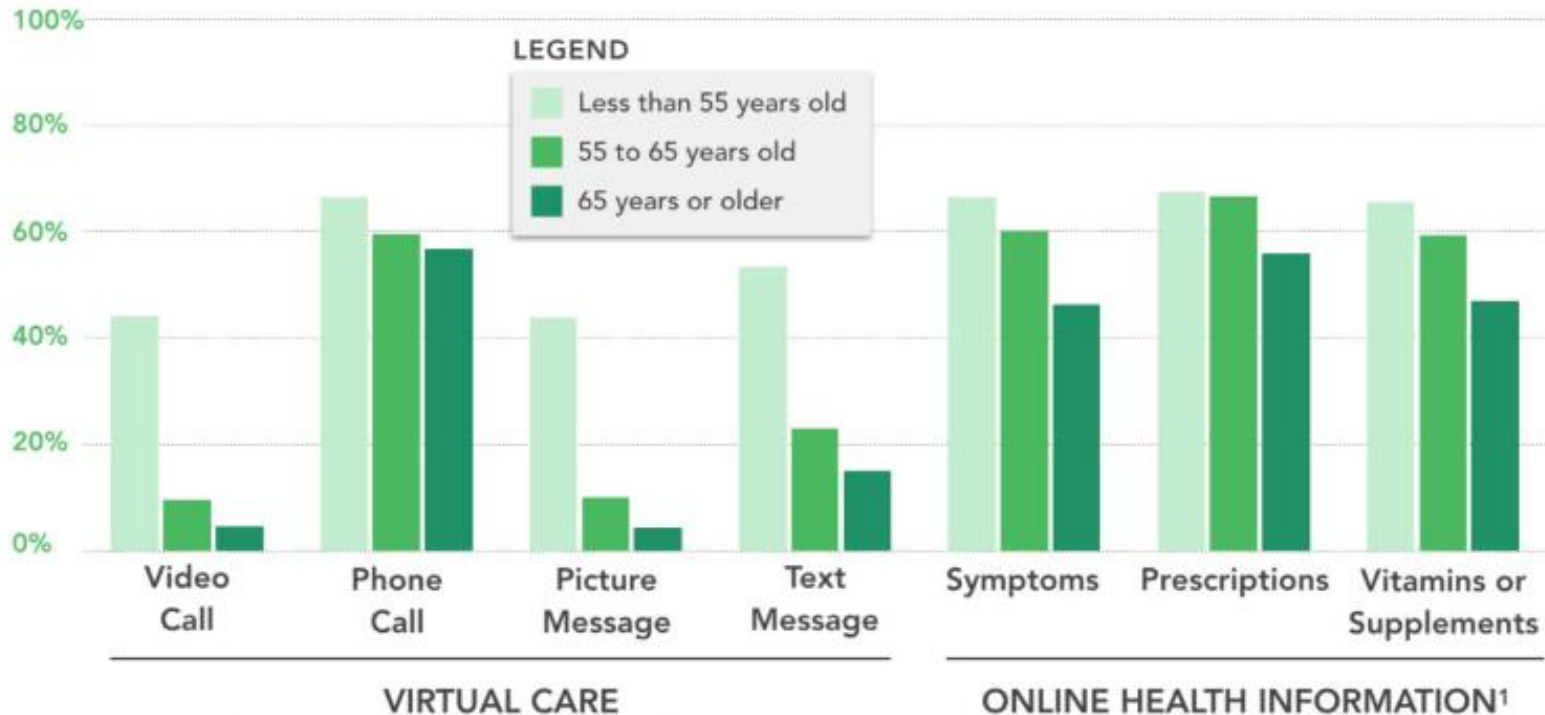
# How do Older Adults Engage with Digital Health Tools?

## DIGITAL HEALTH TOOL USAGE BY AGE

2019, Rock Health Consumer Adoption Survey



### PERCENTAGE OF USER ADOPTION



<sup>1</sup>: In response to question, "When, if ever, have you searched for any of the following using a website or mobile app? Information about prescription drugs or side effects, information about vitamins or supplements, treatment options based on your diagnosis." Source: 2019 Rock Health Consumer Adoption Survey

# A demographic imperative yields an opportunity...



## REPORT TO THE PRESIDENT Independence, Technology, and Connection in Older Age

Executive Office of the President  
President's Council of Advisors on  
Science and Technology

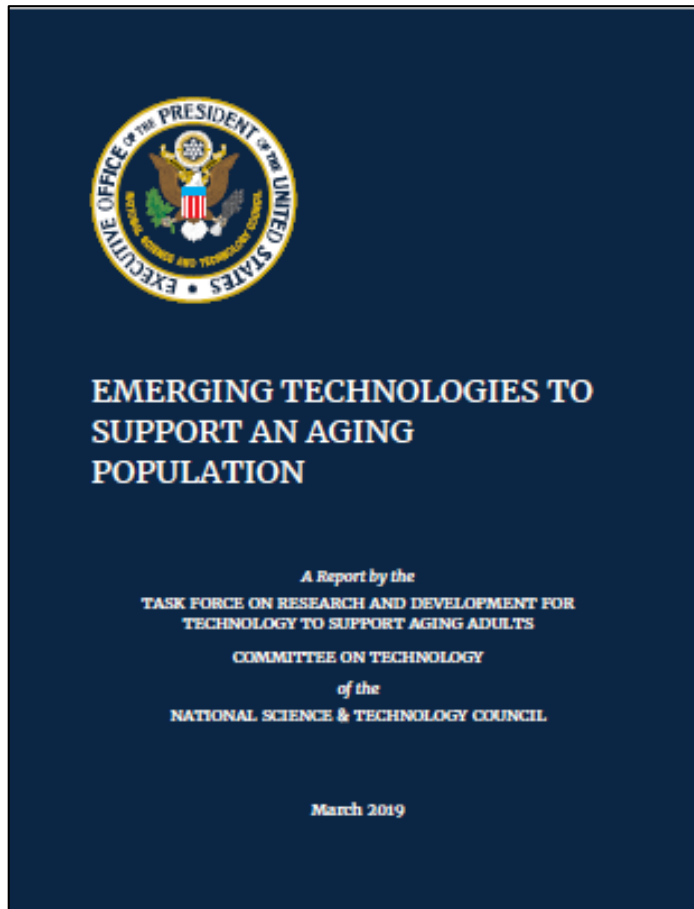
March 2016



- One of two reports dedicated to exploring ways in which technology can support functional needs of older adults.
- 2016 report covered areas of hearing loss, loss of social engagement and connectivity, cognitive change and physical change.
- One cross-cutting recommendation broadly called for “**coordinated action**” at the federal level.



# Task Force on R&D for Technology to Support Aging Adults

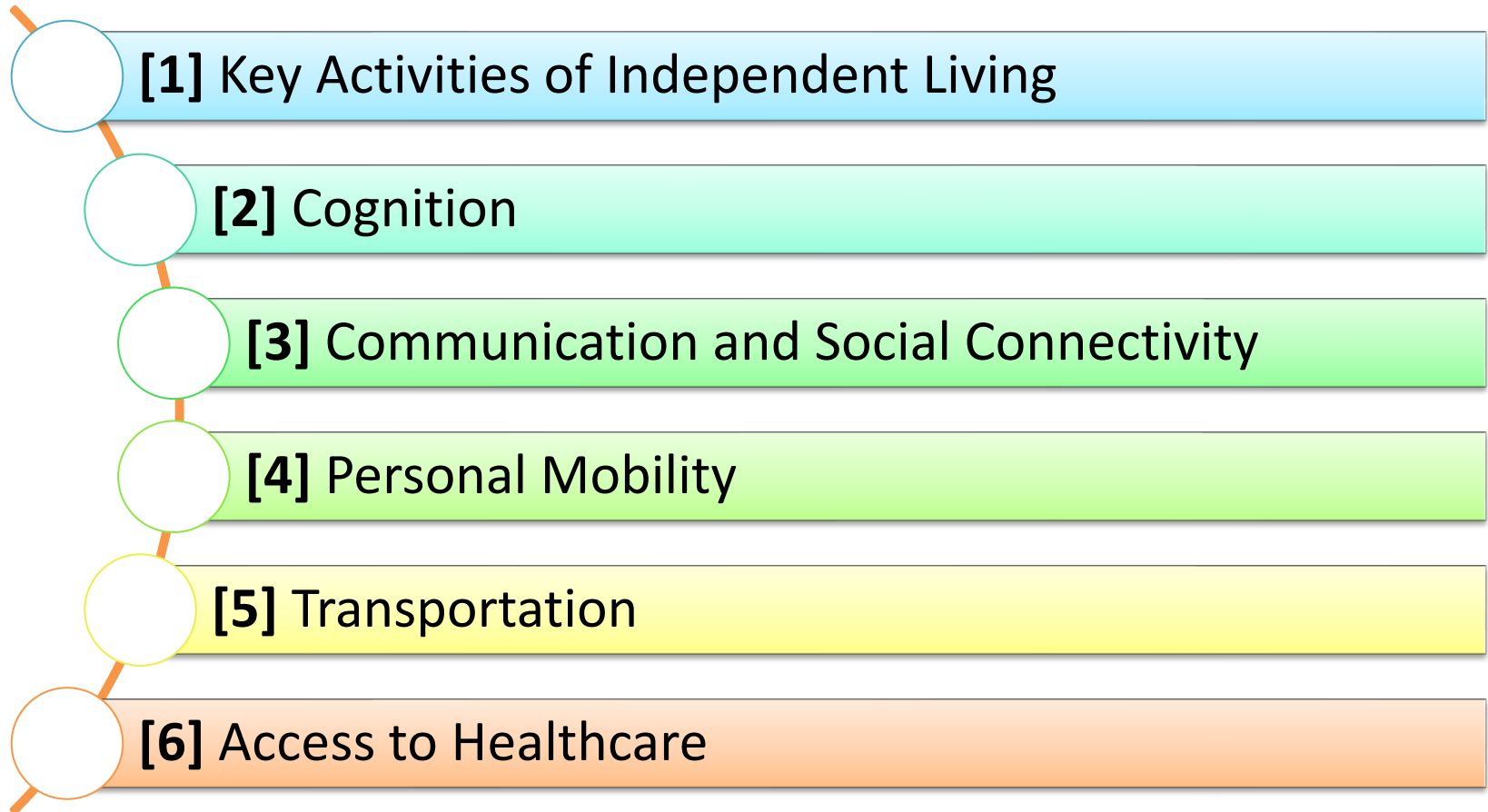


EMERGING TECHNOLOGIES TO SUPPORT AN AGING POPULATION	
NATIONAL SCIENCE & TECHNOLOGY COUNCIL	
<u>Chair</u>	<u>Staff</u>
<b>Kelvin Droegemeier</b> , Director, OSTP	<b>Chloé Kontos</b> , Executive Director, NSTC
COMMITTEE ON TECHNOLOGY	
<u>Co-Chairs</u>	<u>Staff</u>
<b>Walter Copan</b> , Under Secretary of Commerce for Standards and Technology, and Director of NIST, DOC	<b>Lloyd Whitman</b> , Principal Assistant Director for Physical Sciences and Engineering, OSTP
<b>Paul Dabbar</b> , Under Secretary for Science, DOE	
<b>Michael Kratsios</b> , Deputy Assistant to the President, OSTP	
TASK FORCE ON RESEARCH AND DEVELOPMENT FOR TECHNOLOGY TO SUPPORT AGING ADULTS	
<u>Co-Chairs</u>	<u>Executive Secretary</u>
<b>Michele J. Grimm</b> , NSF	<b>Vijeth Iyengar</b> , ACL
<b>Nina Silverberg</b> , NIH	<u>OSTP Liaison</u>
	<b>Lloyd Whitman</b> , OSTP
	<u>Members*</u>
<b>John Allen</b> , NASA	<b>Beth Linas</b> , NSF
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<b>Partha Bhattacharyya</b> , NIH	<b>Roger Miller</b> , NIH
<b>Arlene Bierman</b> , AHRQ	<b>Wendy Nilsen</b> , NSF
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<b>Deniz Erten-Lyons</b> , VA	<b>Lisa Simone</b> , FDA
<b>Jackie Haven</b> , USDA	<b>David Stout</b> , NSF
<b>Erin Iturriaga</b> , NIH	<b>Erika Tarver</b> , NIH
<b>Shelly Jackson</b> , DOJ	<b>Jane Tilly</b> , ACL
<b>Lyndon Joseph</b> , NIH	<b>Leigh Van Rij</b> , HUD
<b>Naomi Karp</b> , CFPB	<b>Mohammed Yousuf</b> , DOT
<b>Amy Kind</b> , VA	
<b>Naomi Lefkowitz</b> , NIST	
* As affiliated at the time each member contributed to this report.	
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# Factors Driving Content and Direction of Report

- **Improve** the quality of life
- **Enhance** individual choice
- **Reduce the financial and emotional burden** of care to individuals and their families
- **Reduce the cost** of the provision of care on the U.S. Government healthcare infrastructure

# Primary Functional Capabilities Featured

- 
- [1] Key Activities of Independent Living
  - [2] Cognition
  - [3] Communication and Social Connectivity
  - [4] Personal Mobility
  - [5] Transportation
  - [6] Access to Healthcare

# Cross-cutting Themes from the Report

Technical Factors

## System Needs

Data storage, transfer management & integrity

## Data and Algorithms

Appropriate validation of sensor-derived data

## Safety & Perform. Needs

Battery life limitations; power and communications interruptions

## Privacy & Security

HIPAA-compliant encryption & secure transmission of patient health information

User Experience

## Functionality

Boost performance characteristics to scale (e.g., financial management)

## System Evaluation

Gauging efficacy & reliability of intervention

## Family Caregiver Needs

Tools to address education, training, and service provision needs

## User Adoption

Conduct usability analysis studies, application of universal design concepts

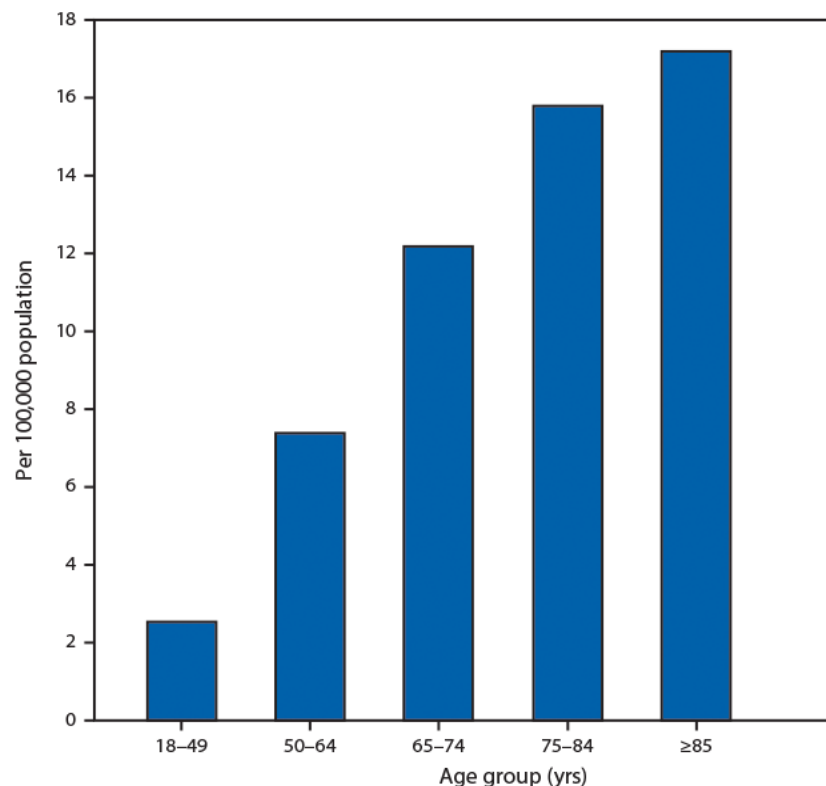
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# Older Adults Represent a Medically Vulnerable Population amid the COVID-19 Pandemic

## Key Datapoints:

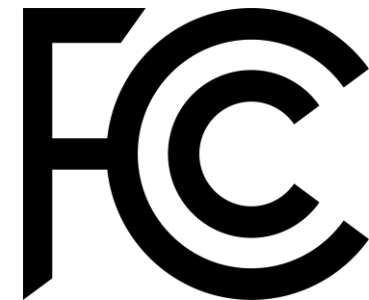
- Ages >65 at greatest risk from COVID-19 hospitalization and mortality
- Inequities exacerbated in rural compared to urban areas
- Rapid adoption of tech in health care delivery during COVID-19 response presents opportunities to develop/operationalize solutions



Laboratory-confirmed coronavirus disease 2019 (COVID-19)-associated hospitalization rates,\* by age group — March 1-28, 2020



# RFI Development: A Collaboration of Many U.S. Federal Agency Partners



# Emerging Themes from RFI Respondents

## I. Care Plan Models

Combining technology with home care support tailored to the individual

Can help drive patient performance outcomes through real-time data capture, analysis, and monitoring.

## II. Digital Health Literacy

Digital education for falls prevention, health management, and social connectedness.

46% reduction in healthcare resource utilization provided with a digital patient education tool

## III. Remote Health Delivery

Combining biometric monitoring with AI-driven real-time feedback and proactive delivery of telemedicine services.

Caregivers looking for more digital health solutions to improve care management.

## IV. Remote Health Monitoring

Behavioral (Vocal and facial patterns)

Medication reminders (poly-pharmacy monitoring)

Wearables (sleep; respiratory health; cardiovascular health)



Insights

Addressing Inequities in Older Adults' Health: A Role for Emerging Technologies

Mark C. Bicket, MD, PhD; Vijeth Iyengar, PhD; Leith States, MD, MPH

The COVID-19 pandemic has highlighted inequities in health care for many groups of people in the US, including adults aged 65 years or older, uninsured and underinsured individuals, and persons residing in rural communities.<sup>1,2</sup> Technology-enabled solutions have been used to bridge the access

Author affiliations and article information are listed at the end of this article.

**Design Principles**

- Managing Bias
- Cultivating Trust
- Safeguarding Privacy and Data Security

**Rollout Considerations**

- Community Inclusion
- Meeting Data Needs
- Technology Infrastructure and Literacy
- Collaboration/Partnerships

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# Closing Thoughts

- **Older adults** in the U.S. represent an **increasingly diverse and growing share** of the population.
- Convergent data reveals that **older adults indeed rely on and have positive perceptions of digital health tools.**
- **Technology-enabled solutions** have potential in improving health outcomes but **must be designed, developed, and deployed in an inclusive, intentional, and human-centered manner.**
- **We should ensure innovative solutions are accessible and affordable** to all members of society across the socioeconomic spectrum.



**Thank you + Feel free to get in touch!**  
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