Technology & Aging: Overview & Discussion

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Together We
ENGAGE
Master Plan for Aging

Technology Agenda for the Master Plan on Aging

2020-2030

Goals

Technology can offer a rapid, efficient, cost-effective means of improving the health, well-being and quality of life of older adults, persons with disabilities, and other vulnerable populations in California. Given the rapid changes and capabilities of technology that are expected over the coming decade, technology will enable older adults to better manage their own well-being and improve their ability to thrive. In addition, technology can improve the means in which providers and family caregivers alike can support and protect older adults.

Technology is not an end in itself, but when applied to the areas of focus of the California Master Plan for Aging, technology-enabled solutions can significantly benefit older adults, persons with disabilities, persons with dementia, caregivers and the aging and long-term care workforce; remedy inequities; and help reach considerably more older Californians then is currently possible. The following recommendations are intended as a lens to determine how to most effectively apply technology-enabled solutions to all areas addressed by the Master Plan for Aging to better achieve comprehensive, sustainable, system-wide changes to improve the lives of older adults and people with disabilities.

Guiding Principles

Recognizing that California's older adults, persons with dementia, and persons with disabilities are socio-economically diverse and have a range of capabilities and needs, these recommendations for applying technology-enabled solutions are guided by several key principles:

- Promote <u>equitable access to technology-enabled solutions</u>, specifically addressing the needs of low-income, racially and ethnically diverse,   at-risk individuals to reduce the digital divide, ensuring that "no one is left behind."

- Address the <u>wide variation of need, resources, and capacity of California's diverse population</u>.

- Promote options that are <u>evidence-based and can be efficiently and cost effectively implemented</u>.

- <u>Maximize public/private collaboration</u> to ensure the widest impact possible (PUC, FCC, ACL)

- <u>Build on existing resources, infrastructure and programs</u> wherever possible before advancing solutions that must be developed de novo.

Selection of Technology-Enabled Solutions

Central tenets in selecting impactful technology-enabled solutions for consideration for the Master Plan for Aging are that they **improve accessibility and affordability** of technology for the most at-risk older adults and persons with disabilities (e.g., low-income, limited English speaking, persons with dementia, etc.). In light of variations in accessibility and affordability to broadband, devices and training across the state, we recommend **actionable, proactive** technology-enabled solutions that:

1) have the <u>greatest impact and benefit,</u>

2) focus on the <u>most vulnerable, under represented, under-served and under resourced segments of the older adult and disability communities,</u>

3) are <u>actionable, replicable and rapidly scalable</u>, and

4) can be <u>sustained and serve as a platform for long-term support</u> for older adults and persons with disabilities.

Technologies for Older Adults

Technologies that are used by older adults continue to expand, covering a vast array of technology-enabled solutions that range from "low-tech" to those considered "high-tech". Technologies that currently benefit older adults and persons with disabilities include, but are not limited to, the following:

- Low-tech (telephones, canes, etc.)
- Communication, social networking, and smart phones
- Engagement, games, fitness and legacy technologies
- Assistive technologies
- Vision, hearing and voice first
- Medication management
- Falls prevention and detection
- Cognitive technologies
- Digital health
- Telehealth and remote monitoring
- Sensors, wearables and smart home (IoT)
- Robotics and machine learning
- Transportation
- Virtual reality/Augmented reality
- Financial technology and fraud detection
- Data analytics and machine intelligence (AI and predictive analytics)

Technology Solutions for LTSS

Technologies for older adults address multiple goals of long term supportive services (LTSS) by providing new opportunities for socialization, engagement, and education; assisting in self-management of chronic diseases; and expanding access to healthcare, preventive services, and wellness activities. Ultimately these technology solutions lead to an improvement of quality of life, ensuring safety and security, and maintaining or reducing costs to individuals and society. Technology-enabled solutions support LTSS solutions that ultimately support older adults being able to reside independently and interdependently in communities.

Short-term Priorities
- Technologies that support services such as care management, communications, ride sharing, access to food and other essential goods, remote caregiving
- Technologies that support engagement to reduce social isolation
- Technologies that promote connectivity, health education, financial education, digital literacy, access to programs and services, including support for communications, training, and technology maintenance

Mid- to Long-Term Priorities
- Support broadband as a statewide utility to provide universal internet access.
- Advanced technology solutions such as autonomous vehicles, smart homes

Housing and Congregate Setting Technologies

Housing remains a critical issue for older adults and persons with disabilities in California, particularly when compounded by socio-economic and health challenges experienced by many older adults. Given housings central role for older adults we recommend technology-enabled solutions that:

1) Enhance Independent Living, Affordable Housing, Assisted Living, and Skilled Nursing Facilities to support persons at the least restrictive level

2) Support the development of Smart Homes, home design, and home re-design to increase independence

Short-term Priorities

- Technologies that support engagement to reduce social isolation, enhanced communications, improved mobility and accessibility, caregiver physical assistance

Mid- to Long-Term Priorities

- Streamline and strengthen regulations and payment policies that govern home accessibility standards in order to promote uniform standards allowing efficient use and changes in technological support systems.
- Develop integrated systems, enhanced mobility systems, robotics, advanced batteries, voice-first, and other technologies for smart homes

Health Care and Digital Health Technology

Technology plays a major role in older adults health and mental health, whether it is used to empower older adults to manage their own health and well-being; provides better access to health care and health care providers; or it offers health care providers new tools to diagnose, treat and manage older adults and persons with disabilities. Health care and digital health technologies will play an increasing role in active and passive management of older adults health. We recommend technology-enabled solutions that focus on:

1) Personal digital health technologies

2) Health technology solutions for providers

3) Expanded Telehealth availability and reimbursement

Short-term Priorities
- Expanded telehealth and remote monitoring, care management, translation, medication management, cognitive training, falls prevention and tracking, end-of-life planning and directives

Mid- to Long-Term Priorities
- Predictive diagnostics; disease prevention; connected Electronic Health Records; personal health management and monitoring; vision, hearing and assistive device innovation; nutrition management; behavioral health innovation; universal broadband access.
- Expand Health and Community Information Exchanges to connect data needed by seniors.

Safety and Emergency Response Technology

Given the dangers that have emerged due to the Covid-19 pandemic, the numerous natural disasters that continue to impact California, and the increasing level of elder abuse, and the growing number of persons with dementia and cognitive impairment, we recommend technology-enabled solutions that address:

1) Covid-19 and future health emergencies

2) Natural Disasters and Emergencies

3) Physical and Financial Safety and Security

Short-term Priorities

- Covid-19 testing/contact tracing, data maps, streamlined communication systems, interactive PERS
- Automated emergency alert system, data tracking, and resilient communication technologies for emergencies
- Reporting system to rapidly identify and mitigate elder abuse, abuse of people with disabilities, and fraud and scams

Mid- to Long-Term Priorities

- Automated warning systems, data bases and predictive modeling for abuse and fraud; financial monitoring and warning systems
- Interoperable and more effective emergency communications systems in which the needs and capabilities of older people are included for existing and future wireline and wireless voice, data, image, and video technologies

Technology to Improve the Workforce

Technology can both enhance the workforce that supports older adults as well as be a critical resource in supporting the meaningful and gainful employment for aging populations and individuals with disabilities, enabling a more inclusive and productive workforce. We recommend technology-enabled solutions that:

1) Support improving the skills of the Aging and Long-term Care (LTC) Workforce
2) Support Older Adults entering or staying in the Workforce, leading to improvement in economic development as well as asset building

Short-term Priorities
- Technologies that enhance diagnostic, support, and training of aging and LTC workforce.
- Programs that provide digital literacy and technology maintenance and technical support.

Mid- to Long-Term Priorities
- Providing technology innovations that enhance the skill sets of the Aging and Long-term Care Workforce, such as AR/VR, predictive analytics, and embedded sensors.
- Providing (re)skilling and training in technology tailored to the cognitive and physical attributes, needs, and skills of diverse individuals; facilitate more inclusive job discovery, selection, and access; and enhance and augment an individual's skills.

Technology Training

A key barrier to the use of technology is the lack of training for both older adults as well as the workforce that supports them. Thus, it is critical that California develop and expand training programs for older adults and persons with disabilities in the use of technology, to strive for universal digital literacy among older adults. Technology training should aim to achieve:

1) Digital literacy of older adults, particularly the most vulnerable, in particular the under-represented, under-served and under-recognized communities.
2) Digital literacy for family caregivers and aging providers

Short-term Priorities
- Implement digital health literacy training for all older adults and persons with disabilities.
- Provide ongoing training in technology-enabled interventions that could ultimately support and provide technical assistance to families and the entire aging and long-term care workforce.

Mid- to Long-Term Priorities
- Develop technologies for older adults that require minimal training and maintenance, and effectively learn from the older adult.
- Develop training methods and smart technologies that maximize technology skill sets.

Data and Data Analytics

Data and data analytics provide the underpinnings of all technologies that support older adults. Computing and data, including the management of data, data analytics, machine learning, artificial intelligence, and compute power, permeate and shape technologies that benefit older adults. Given its importance as to how data supports technologies for older people and the aging and Long-term Care workforce, data must follow strict provenance guidelines.

Short-term Priorities
- Improve data sources that will contribute to technologies that will enhance California's aging population.
- Support the use of data visualization and dashboards as part of the MPA.

Mid- to Long-Term Priorities
- Apply next generation data methodologies that can rapidly improve the well-being of older adults, family caregivers and the workforce (e.g., predictive analytics).
- Proactively apply next-gen data management and data analytic tools to current and future aging programs, such as Quantum computing, cloud, 5G, etc.

CROSS CUTTING ISSUES

Require Interoperability of Technology Platforms

Protecting Privacy and Security

With increased use of technology comes a concomitant need to insure personal privacy and information security for older adults. We recommend technology-enabled solutions that protect Personal data, Personal health information, and Financial information through protocols for data ownership, including standards for ownership, collection, access, control, and notices for use of data as well as intrusion detection and prevention.

Inclusive Design and Technology Innovation

As technology solutions are increasingly used by older adults it is incumbent upon the state and key stakeholders to insure that technology innovation involves the end users in order to improve adoption and efficacy. Innovative technology solutions developed by either public and private entities should be reviewed for inclusion of older adults in the design process as well as for employment of co-creation, human-centered design principles.

SUMMARY: TECHNOLOGY AND OLDER CALIFORNIANS

The MPA Stakeholder Advisory Committee assumes that technology will be a fundamental part of life for older adults and persons with disabilities over the coming decade. These recommendations are intended to insure that:

- All Californians should have equitable access to affordable technology solutions.
- Technology-enabled solutions are applied to improving care and services while maximizing the independence of the individual.
- Technology solutions lead to reducing costs and improving efficiencies, while empowering older adults and ultimately improving their well-being and quality of life.

Ultimately, California should harness its cutting edge private and public sector technology innovation ecosystem and serve as a national and international model of technology-enhanced life for older adults and persons with disabilities.