Technology Agenda 2020-2030

FOR THE MASTER PLAN FOR AGING

CONTRIBUTORS: DAVID LINDEMAN • JEANNEE PARKER MARTIN •RIGO SABORIO

Goals

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-enabled solutions can significantly benefit older adults, persons with disabilities, caregivers and the aging and long-term care workforce; remedy inequities; and help reach considerably more older Californians then is currently possible*.

Guiding Principles

California's older adults 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 these key principles:

- Promote **equitable access to technology-enabled solutions**, specifically addressing needs of low-income, at-risk individuals to reduce the digital divide, ensuring that "no one is left behind"
- **Address** the **wide variation** of need, resources, and capacity
- Promote **options** that are evidence-based; that can be efficiently and cost effectively implemented
- **Maximize public/private collaboration** to ensure the widest impact possible
- **Build on existing resources, infrastructure and programs** wherever possible

Selection of Technology-Enabled Solutions

A central tenet in **selecting impactful technology-enabled solutions** are that they improve **accessibility and affordability** of technology for the most vulnerable older adults and persons with disabilities. In light of variations in accessibility and affordability to broadband, devices and training across the state, we recommend actionable, proactive technology-enabled solutions that:

- Have the greatest **impact and benefit**,
- Focus on the **most vulnerable, under represented, under-served and under resourced** segments of the older adult and disability communities,
- Are **actionable**, **replicable** and rapidly **scalable**, and
- Can be **sustained and serve as a platform for long-term support** 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
Long Term Services and Supports

Technologies for older adults and those with disabilities address multiple goals of long-term supports and services (LTSS) by:

1. Providing **new opportunities** for socialization, engagement, and education;
2. Assisting in self-management of chronic diseases; and
3. Expanding access to healthcare, preventive services, and wellness activities.

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 and people with disabilities to **reside independently.**

Technology Solutions
Housing and Congregate Settings

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 and home design** to increase independence

Technology Solutions
Housing and Congregate Settings

Short-term Priorities

1. Adopt technologies that **support engagement** to reduce social isolation, enhanced communications, improved mobility and accessibility, caregiver physical assistance

Mid- to Long-Term Priorities

1. **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
2. Develop **integrated systems**, enhanced mobility systems, robotics, advanced batteries, voice-first, and other technologies for smart homes

Technology Solutions

Health Care and Digital Health Technology

Technology plays a major role in older adults' and persons with disabilities' health and mental health, whether it is used to **empower** them to **manage their own health and well-being**; provides better **access to health care and health care providers**; and/or **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

Technology Solutions

Health Care and Digital Health Technology

Short-term Priorities

- Expand telehealth and remote monitoring, care management, 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

Technology Solutions

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, 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**

Technology Solutions
Safety and Emergency Response Technology

Short-term Priorities

1. Create Covid-19 testing/contact tracing, data maps, streamlined communication systems, interactive PERS
2. Automate emergency alert system, data tracking, and resilient communication technologies for emergencies
3. Develop reporting system to rapidly identify and mitigate elder abuse, abuse of people with disabilities, and fraud and scams

Mid- to Long-Term Priorities

1. Automate warning systems, data bases and predictive modeling for abuse and fraud; financial monitoring and warning systems
2. Create 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 Solutions
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 persons 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 Workforce
2. Support Older Adults entering or staying in the Workforce

Technology Solutions
To Improve the Workforce

Short-term Priorities

1. Technologies that enhance diagnostic, support, and training of aging and LTC workforce
2. Programs that provide digital literacy and technology maintenance and technical support

Mid- to Long-Term Priorities

1. 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.
2. 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.

Training on Technology

A key barrier to using technology is lack of training for both older adults as well as the workforce that supports them. California must **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.**

Training on Technology

Short-term Priorities

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

Mid- to Long-Term Priorities

1. Develop technologies for older adults that require minimal training and maintenance, and effectively learn from the older adult
2. Develop training methods and 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 computing, permeate and shape technologies that benefit older adults.** Given its importance as to how data supports older people and the aging and Long-term Care workforce, data must follow strict provenance guidelines.

Data and Data Analytics

Short-term Priorities

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

Mid- to Long-Term Priorities

1. Apply next generation data methodologies that can rapidly improve the well-being of older adults, family caregivers and the workforce
2. Proactively apply next-gen data management and data analytics to current and future aging programs, such as Quantum computing, cloud, 5G, etc.

CROSS CUTTING ISSUES

Protecting Privacy and Security

- With increased use of technology comes a concomitant need to **insure personal privacy and information security** for older adults and persons with disabilities. 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**. Public and private entities involved in the creation of innovative technologies for older adults need to employ 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:

1. All Californians should **have equitable access** to affordable technology solutions
2. Technology-enabled solutions are applied to **improving care and services** while maximizing the **independence** of the individual
3. 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 must **harness** its **cutting edge** private and public technology innovation ecosystem and serve as a national and international model of technology-enhanced life for older adults and persons with disabilities.