

## Digital Health Sandbox Challenge #1 Innovations to Support Healthy Aging

The Massachusetts eHealth Institute seeks startups and entrepreneurs who are developing and validating digital health-based solutions that support healthy aging to compete in the first [Massachusetts Digital Health Sandbox Challenge](#). This Challenge is focused on finding digital health solutions that help older adults with various issues related to aging, including behavioral and cognitive health, physical activity, disease control, medication management, nutrition, and community connections. Challenge finalists will compete for \$200,000 in grant funding that must be used to fund validation projects at one of MeHI's [Digital Health Sandboxes](#).

The UN recently announced that the world population reached 8 billion – an increase driven largely by people living a higher quality of life for longer. In 2021, there were 55.8 million people aged 65+ in the United States; by 2030, the number is expected to rise to 72 million.<sup>1</sup> In Massachusetts, there are more residents over the age of 60 than under the age of 20.<sup>2</sup> With a longer life comes a number of opportunities and challenges. An AARP survey in 2021 found that 77 percent of adults 50 and older want to remain in their homes for the long term.<sup>3</sup> Additionally, the Centers for Medicare and Medicaid Services' Acute Hospital Care at Home (HaH) waiver in 2020 led to a huge increase in interest in, and uptake of, HaH models, which provide hospital-level care in patients' homes instead of in acute care settings.<sup>4</sup> And while nearly one-third of Medicare recipients living in the community reported a limitation in activities of daily living, we have a growing shortage of paid caregivers for older adults.<sup>5</sup> Older Americans are also hitting retirement age at a rate of 10,000 people per day.<sup>6</sup> By 2030, nearly 10% of the civilian labor force will be older than 65, and many are considering staying – or returning to – the workforce as inflation and worsening market conditions deplete retirement savings.

But healthy aging is not limited to physical and medical support. It's also about an individual's mental, behavioral, cognitive, social, and educational well-being. Loneliness and social isolation are common risk factors for mental health issues, and 25% of adults aged 65+ reported anxiety or depression in 2020, up from 10% in 2018.<sup>7</sup> Additionally, an estimated 5.7 million adults aged 50+ will require treatment for a substance use disorder in 2022.<sup>8</sup>

The inequities prevalent in our society and health system are also clearly present in the elderly population. People of color are at increased risk of chronic health conditions, shorter life expectancy, and lower quality care while aging. While life expectancy in the United States has increased over the past century, the gains are not distributed equally, with an average life expectancy of 79.1 years for white Americans and only 75.5 years for African Americans. The biggest disparity can be seen between white women (81.2 years) and Black men (71.9), a stunning gap of nearly 10 years.<sup>9</sup> Additionally, people of color are more likely to experience discrimination when seeking healthcare, with one in four Black and Latinx/Hispanic adults age 60+ reporting that they have been treated unfairly or neglected because of their racial or ethnic background.<sup>10</sup>

Digital health innovations have the opportunity to address many of these challenges and can improve life for older adults and their families. MeHI launched this Challenge to discover and spotlight digital health solutions that can help older adults live as well and independently as possible by supporting their physical, mental, and social health while addressing the unique needs of underserved, underrepresented, and undertreated populations. We take a broad definition of digital health and are looking for solutions at the intersection of healthcare and technology. Applicants must propose a new solution that is not yet widely commercially available.

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<sup>1</sup> <https://www.census.gov/content/dam/Census/library/publications/2020/demo/p25-1144.pdf>

<sup>2</sup> <https://www.mass.gov/service-details/age-friendly-massachusetts>

<sup>3</sup> <https://www.aarp.org/home-family/your-home/info-2021/home-and-community-preferences-survey.html>

<sup>4</sup> <https://www.healthaffairs.org/doi/10.1377/forefront.20220623.684203/>

<sup>5</sup> <https://www.cdc.gov/aging/pdf/healthy-aging-in-action508.pdf>

<sup>6</sup> <https://www.census.gov/library/stories/2019/12/by-2030-all-baby-boomers-will-be-age-65-or-older.html>

<sup>7</sup> <https://www.kff.org/medicare/issue-brief/one-in-four-older-adults-report-anxiety-or-depression-amid-the-covid-19-pandemic/>

<sup>8</sup> <https://www.ncoa.org/article/how-to-improve-access-to-mental-health-and-substance-use-care-for-older-adults>

<sup>9</sup> <https://www.jsi.com/racial-disparities-in-aging/>

<sup>10</sup> <https://www.commonwealthfund.org/publications/issue-briefs/2022/apr/how-discrimination-in-health-care-affects-older-americans>

## Challenge Areas and Solutions Sought

The following are examples of challenges that we believe can be addressed by digital health solutions. This is not an exhaustive list, and any applicants with ideas that improve the lives of older adults are encouraged to apply.

All applicants should consider how their solution is targeting and supporting the unique needs of underserved populations, including addressing racial inequities, geographic limitations, accessibility concerns, broadband access, and digital literacy, among others. Applications that effectively address these considerations will be prioritized.

### **Mental Health:**

Older adults face challenges impacting their mental health that can be supported with digital health solutions. Key challenge areas include:

- The impact of the COVID-19 pandemic on the mental health of older adults;
- The risk of suicide among older adults, particularly among males age 75+;
- The increasing rate of substance use disorders in older adults;
- Support for older adults with cognitive impairment, including the 6.5 million Americans with Alzheimer's disease; and
- The significant shortage of professionals with licenses and training to provide care for seniors' mental and behavioral health challenges.

### **Physical Health:**

Key opportunities to support older adults' physical health and enable them to age in the place of their choice include:

- Disease management for the 85% of older adults with 1+ chronic conditions;
- Support for the nearly 1/3 of Medicare recipients living in the community with a limitation in activities of daily living;
- Medication management and adherence solutions for the nearly 90% of older adults who are currently taking any prescription medicine;
- Solutions for the 40% of older adults who report trouble with mobility; and
- Preventing falls, which cost \$50 billion in medical expenses annually.

### **Social Health:**

Digital health solutions can help address the social determinants of health that impact the well-being of older adults. Key areas of opportunity include:

- Addressing issues of loneliness and social isolation;
- Providing opportunities for lifelong learning and continuing education to support cognitive health
- Addressing the transportation, housing, and food security barriers that impact older adults' health and access to care; and
- Addressing the shifting nature in where care is being provided from hospital settings to the home and community.

Solutions to these challenge areas may include the following, but all applicants with relevant solutions are encouraged to apply:

- Remote monitoring devices
- Wearable tech solutions
- Ambient intelligence
- Mental and behavioral health platforms
- Simplified telehealth solutions
- Care coordination tools
- Assistive technology devices
- VR / AR tools
- Mobile applications
- Virtual programming and services

## Program Overview

The [Massachusetts Digital Health Sandbox Challenge Program](#) is designed to accelerate digital health solutions that address key healthcare challenges in Massachusetts. The program is funded and administered by the [Massachusetts eHealth Institute \(MeHI\)](#) at the [Massachusetts Technology Collaborative](#).

Twice a year, MeHI will put out a call for applications to source, support, and validate solutions in defined areas. The first Challenge, the [Healthy Aging Challenge](#), seeks solutions that address the physical, mental, and social health challenges facing older adults. This initiative will provide an opportunity for innovators in the digital health space from across the nation to access cutting-edge research institutions, industry leaders, and funding opportunities.

A group of external expert reviewers will evaluate applicants and recommend up to 8 companies to participate in the program. Reviewers will consider applications on the proposed solution's uniqueness in the market, potential commercial viability, and ability to support healthy aging. Selected companies will take part in a virtual, two-month Introduction to the Massachusetts Digital Health Ecosystem program sponsored by MeHI. The introduction will include a speaker series featuring prominent voices from across the ecosystem, including venture capitalists, successful digital health innovators, and leading researchers.

During the introduction to the ecosystem, participants will be matched with Sandboxes - cutting-edge research and development organizations - from the [Massachusetts Digital Health Sandbox Network](#). The Sandboxes will assist participants in scoping projects to test and validate their solutions to bring them to market faster. MeHI will support participants in preparing detailed project plans outlining how the award funding would be used to complete the scoped Sandbox project.

The program will culminate in a judged competition where participants will pitch both their product and their proposed Sandbox project. Expert judges will select four winners to receive **\$50,000** in funding to complete their validation project. The funding must be used to cover the Sandbox partner's fees. This level of funding can typically cover user experience testing, access to cutting-edge lab facilities and subject matter experts, or a small pilot in a healthcare setting.

## Benefits to Participants

While only the top four solutions in this Challenge will receive grant funding to complete their Sandbox projects, all participants will benefit from the program. Benefits include:

- Connect with key partners in the Massachusetts digital health ecosystem through the Introduction to the Massachusetts Ecosystem Speaker Series
  - Understand the digital health funding landscape in MA
  - Learn about and connect with leaders in related, key industries in MA
  - Hear from experts about how to navigate and work with health systems and payers
  - Gain an understanding of other programs and resources in MA that are aimed at supporting digital health startups
- Accelerate time from R&D to production
  - Benefit from cohort learning
  - Work with experts to assess your testing needs
  - Meet with Sandboxes to understand the research and testing opportunities
  - Partner with a Sandbox to scope a detailed validation project
- Gain Funding Access
  - \$50,000 in Sandbox funding each for the top four companies
  - Everyone will be prepared for investor meetings

## Timeline

RFA Release: Monday, December 19, 2022

Information Session: Tuesday, January 17, 2023

Early Application deadline: Friday, January 27, 2023

Final Application deadline: Friday, February 24, 2023

Finalists selected: Friday, March 24, 2023

Kickoff meeting: Friday, April 7, 2023

Speaker Series: April - May 2023

Pitch Prep: June 2023

Final Pitch Event: Thursday, June 22, 2023 (date subject to change)

The kickoff meeting and speaker series will be virtual events hosted over Zoom. The final pitch event is being planned as an in-person event in Massachusetts. All finalists must be prepared to attend the event in person.

Questions received about the program will be added to a Q&A document that will be posted on the website and updated as questions come in. Potential applicants are advised to check this document periodically.

**Early Application Opportunity**: Applications submitted by January 27, 2023 will be reviewed by MassTech staff and will receive initial feedback by February 10, 2023. Early applicants may incorporate the feedback and resubmit their application by the final deadline of February 24, 2023. **Please note this opportunity is applicable only to applications received by January 27th. Those received after January 27th will be reviewed through the normal application process.**

## Eligibility

- Applicants must propose a new solution that is not yet widely commercially available.
- Applicants do not need to meet a minimum requirement of revenue or investment to participate in the program, however this program is aimed at companies that have at least a minimum viable product that is ready to be validated with a Sandbox organization. Companies that have participated in an accelerator program will receive preference.
- Applicants may be located anywhere in the US. MeHI has set a goal of 50% of the participating companies having a presence in Massachusetts.
- The Introduction to the Massachusetts Ecosystem speaker series will be virtual, however, participants must be willing to participate in a live pitch event at the end of the program. The pitch event will take place in June 2023 and is currently being planned as an in-person event in Massachusetts.
- Participants must agree to participate in annual follow-up surveys after the end of the program. The survey will ask about company metrics, including:
  - Number of jobs created at your company
  - Number of new customers gained
  - Number of new patents, copyrights, or trademarks obtained
  - Diversity of your board members and/or executive team

## How to Apply

Click [here](#) to apply

For more information visit: <https://massdigitalhealth.org/challenge-1-innovations-support-healthy-aging>  
Contact: Ben Stevens, Program Associate: [stevens@masstech.org](mailto:stevens@masstech.org); 612.819.4457

## Terms

Applicants are cautioned to read this application carefully and to conform to its requirements. Failure to comply with the requirements may serve as grounds for rejection of an application.

Any and all responses, applications, data, materials, information and documentation submitted to MassTech in response to this application shall become MassTech's property and shall be subject to public disclosure. As a public entity, MassTech is subject to the Massachusetts Public Records Law (set forth at Massachusetts General Laws Chapter 66). There are very limited and narrow exceptions to disclosure under the Public Records Law. If an applicant wishes to have MassTech treat certain information or documentation as confidential, the applicant must submit a written request to MassTech's General Counsel before submitting the materials. The request must precisely identify the information and/or documentation that is the subject of the request and provide a detailed explanation supporting the application of the statutory exemption(s) from the public records cited by the Respondent. If the General Counsel approves the request, the applicant shall clearly label the relevant information and/or documentation as "CONFIDENTIAL" in the application. Any statements in an application reserving any confidentiality or privacy rights that is inconsistent with these requirements and procedures will be disregarded.

This application, as may be amended from time to time by MassTech, does not commit MassTech to select any applicant, award any contracts, or pay any costs incurred in submitting this application. MassTech reserves the right, in its sole discretion, to withdraw the application, to engage in preliminary discussions with prospective applicants, to accept or reject any or all applications received, to request supplemental or clarifying information, to negotiate with any or all qualified applicants, and to request modifications to applications in accordance with negotiations.

MassTech may provide reasonable accommodations, including the provision of materials in an alternative format, for applicants with disabilities or other hardships. Applicants requiring accommodations shall submit requests in writing, with supporting documentation justifying the accommodations, to the Program Associate. MassTech reserves the right to grant or reject any request for accommodations.

## About the Massachusetts eHealth Institute at the Massachusetts Technology Collaborative

The [MassTech Collaborative](#) is an economic development agency that strengthens the competitiveness of the tech and innovation economy by driving strategic investments, partnerships, and insights that harness the talent of Massachusetts. MeHI is a division of MassTech and the Commonwealth's entity for healthcare innovation, technology, and competitiveness. MeHI partners with industry, government, and healthcare organizations to support the Massachusetts Digital Health Initiative. MeHI also helps all the Commonwealth's providers harness the benefits of electronic health records and the Mass HIway, the statewide health information exchange. For more information, please visit <https://mehi.masstech.org> and follow @MassEHealth. Learn more about the Massachusetts Digital Health Initiative at [www.massdigitalhealth.org](http://www.massdigitalhealth.org).

## About the Massachusetts Digital Health Sandbox Network

The [Digital Health Sandbox Network and Grant Program](#) was launched in 2019 and is administered by the Massachusetts eHealth Institute at MassTech. The program is designed to support digital health companies in their product development and expand the user base for cutting-edge research and development facilities. There are currently twelve Sandboxes in the Network offering a variety of real-world and simulated environments, state-of-the-art equipment, subject matter expertise, and consulting services to digital health companies to support their clinical, technical, and user product validation.