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Response of the MITRE Corporation to OSTP's RFI on Strengthening Community Health Through Technology

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The technologies and capabilities referred to collectively as “digital health” can be the cornerstone for timely, effective preventive health services, as well as virtual and in-person clinical and behavioral health services, to address social determinants of health and public health. However, there is a risk that aggressive proliferation of digital health will worsen conditions for those who are already behind in terms of connectivity, digital literacy, and access to care. Any focus on advancing the capabilities and utilization of digital health technologies needs to be done within, and in support of, a comprehensive national strategy for digital health.ⁱⁱ MITRE’s prior analysis led us to conclude that such a comprehensive strategy must systemically link activities at three levels: national, community, and individual/family. We crafted a strategic frameworkⁱⁱⁱ comprising six priorities: **Form a connected health ecosystem** defined by timely, secure data exchange; **Empower individuals** with stronger rights to data ownership and digital literacy resources; **Grow digital equity to achieve health equity**, with affordable access and integration of equity throughout the solutions development cycle; **Strengthen community health** by institutionalizing timely sharing of integrated data; **Build a workforce** with technology skills and that represents the evolution of care delivery; **Establish artificial intelligence** as a trusted cornerstone of digital health. We answer a subset of the RFI’s questions (due to the RFI’s page limit for responses) from this national digital health strategy perspective. We believe that doing so will be helpful to OSTP, as it has similarly stated that the RFI is itself a subcomponent of a broader “Community Connected Health” initiative.

Question 1: Innovative examples of community health providers using digital health technology to deliver healthcare, enable healthier lifestyles, or reduce health disparities.

Digital health technology is enabling the delivery of care to people at the point of need, wherever and whenever it fits into their lives. Active partnership among patients, providers, and community health workers is key to success. A team-based approach empowers everyone involved and leads to better outcomes, as demonstrated by the Accountability, Coordination, and Telehealth in the Valley to Achieve Transformation and Equity (**ACTIVATE**) program. ACTIVATE is helping community health centers and their patients in rural California communities improve access to care by leveraging the use of remote patient monitoring (RPM) devices for hypertension and diabetes to share data back to healthcare providers. The RPM data and technology impact are enhanced by empowering patients with health coaching (from medical assistants and community health workers) to encourage self-management of chronic conditions with the support of technology and collaboration with their providers. ACTIVATE further supports the integration of technology into health center workflows with the use of video virtual visits, tablets, connectivity, and digital and health literacy tools. ACTIVATE appears to be a model worth scaling up; it has demonstrated better clinical outcomes, patient engagement, provider enthusiasm, and equity.^{iv}

Many digital health innovations are aimed at ensuring there is capacity to flex under an emergency and extend to deliver care in austere circumstances. **NETCCN**, a cloud-based health information management system that enables care delivery from “anywhere to anywhere,” was developed by the U.S. Army to support local, non-critical care trained clinicians with remote critical care expertise in emergency and/or austere circumstances.^{v,vi} **VA ATLAS** Telemedicine Pods/virtual care stations ensure local provision of care where access would not exist otherwise.^{vii}

The nation must grow a healthcare and public health workforce with the appropriate mix of skills to ensure that the relationships between caregiver, patient, and community health worker are dynamic and self-reinforcing. The pandemic forced a greater reliance on non-traditional care providers, such as community navigators and unpaid family members and friends. Promising areas of digital health to support the formal and informal care team include mobile applications to organize administration of medications, remote patient monitoring, facilitation of communication and coordination among care providers, and sharing of documentation of palliative and end-of-life care preferences and decisions.^{viii} An example of an innovative approach to building community-based skills is serious games^{ix} such as **Now We're Talking**, which is designed to prevent veteran suicide and homelessness by engaging veterans and their families in a game of building emotional intelligence and communication skills.^x

Question 3: How has the use of digital health technologies changed over the course of the pandemic, including impressions of what is likely to continue, or not?

As the nation learned in the pandemic, we can expect an increasing frequency of large-scale infectious disease outbreaks, particularly of respiratory viruses, with costly impacts on mortality, the workforce, the economy, and the mental well-being of our nation. To be prepared for this “new normal,” we need a true, dynamic learning health system. Data is the fuel for a learning health system, starting at the community level and rapidly consolidated and shared to inform proactive public health. Innovations that emerged in response to COVID-19 provide building blocks for a learning health system. Tools like **Sara Alert** generate timely data needed by public health agencies and reduce the burden of data collection.^{xi} The volume and velocity of data require a robust system of networks to enhance data capacity for public health surveillance and research. **The Clinical and Community Data Initiative (CODI)** provides a framework for local and national stakeholders to collaboratively develop a distributed health data network infrastructure.^{xii} CODI demonstrates innovation in several key challenge areas: (1) privacy-preserving record linkage, (2) distributed clinical-community longitudinal queries, and (3) governance for data sharing across sectors and information systems.^{xiii} Data that drives the learning health system has impact when it is converted to public information. The speed, volume, and variation of information will continue to grow sharply, as will the incidence of mis- and disinformation. A learning health system must be architected with appropriate mechanisms to ensure the reliability of information that is widely distributed. The development of resources to help the public respond to mis/disinformation is critically important. MITRE's **Health Information Persuasion Exploration** framework and health communication playbook, which specifically targeted COVID-19 vaccine hesitancy, were developed in response to the pandemic.^{xiv} Finally, the pandemic underlined the importance of supporting technological innovations with standards for semantic interoperability; policies to support the rapid sharing of

data between clinical and public health settings; and innovative partnerships, such as the **COVID-19 Healthcare Coalition**, to convene public and private organizations, conduct distributed research, and rapidly analyze data and collaboratively problem solve in the face of uncertainty.^{xv}

Question 7: Use of digital health technologies in community-based settings to reduce disparities or achieve equity?

Robust, affordable broadband is widely accepted as a social determinant of health (SDoH) and a pre-requisite for an equitable health system.^{xvi} Yet notable disparities persist.^{xvii} The **FCC Connect2Health Task Force** is supporting research to advance understanding of broadband connectivity (i.e., access, adoption, and use) as an SDoH and thereby accelerate the emergence of a “systems approach to health” that addresses SDoHs and connectivity together.^{xviii}

To achieve and sustain health equity, the nation needs routine, reliable collection of standardized data to support timely, community-level decision making. Data requirements include demographics, social needs, and adequacy of network and services access. The collection of SDoH data must be the norm and similarly standardized for healthcare providers.^{xix} For cancer, **mCODE™**, or Minimum Common Oncology Data Elements, establishes a common language for cancer through a core set of data elements that are computable, clinically applicable, and aimed to be available and accessible in every electronic health record for patients with a cancer diagnosis.^{xx} As a pilot for **mCODE™**, **ICAREdata®**, or Integrating Clinical Trials and Real-World Endpoints, is enabling clinical oncology research by prospectively gathering high-quality real-world data, understanding the efficacy and safety of approved therapeutic agents in underrepresented and minority populations, and accumulating a large number of patients and data required to achieve success in personalized medicine.^{xxi}

Current initiatives are strengthening community-level capacity and generating valuable data at all levels—individual, community, and national. The **Service Area Needs Assessment Methodology** was developed by MITRE for the Health Resources and Services Administration (HRSA) to provide a consistent and transparent approach for assessing community-level need using publicly available data.^{xxii} The **HRSA Optimizing Virtual Care program**, an evidence-informed practices and strategies program for virtual care implementation among 29 high-functioning community health centers, includes a feasibility assessment of scaling best practices across all health centers in the future. This MITRE-supported effort will increase access to optimized in-person and virtual care at health centers, with a specific focus on technology access, digital health literacy, and engagement for patients who are medically underserved and at disproportionate risk of the negative effects of health disparities. The **Mental Wellness Index (MWI)** enables local, state, and federal entities to understand mental wellness at the community level and address social, economic, and health inequities.^{xxiii} The MWI aggregates 28 factors into a single ranking at the ZIP code level, available for the entire nation to use.

Digital health tools and technologies are changing the landscape of health equity and require a fundamental paradigm shift. The federal government should provide guidance and resources to support collaborative design and evaluation of digital health tools, such that the user is involved from the beginning. MITRE's **Framework for Assessing Equity in Federal Programs and Policy** offers an approach and methods for federal agencies to examine programs and policies from the perspective of underserved communities as required by Executive Order 13985.^{xxiv}

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