REGIONAL VISION: DRIVING THE NEW HEALTHCARE INNOVATION ECONOMY

At a time when society is facing multiple interwoven challenges to our health and economic well-being, we are proposing an inclusive end-to-end healthcare innovation ecosystem that achieves new wealth creation opportunities across broad social, demographic, and economic groups and geographies. Our proposal—Driving the New Healthcare Innovation Economy—represents opportunities for economic growth by capitalizing on the rapid shift in healthcare from disjointed care across traditional hospitals and clinical settings, toward seamless continuity of care in home and community settings. This technology-enabled shift is collapsing the longstanding walls between technology, retail, community, and clinical care organizations, and spurring multiplicative wealth generation across firm sizes, industries, occupations, and income groups. Our vision is advanced by an 18-member Healthcare Innovation Coalition (the Coalition), with support from more than 40 partner organizations (see Supplementary Appendix A: List of Coalition Members and Partners and Appendix 2: Industry Leadership). With a Phase 1 technical assistance grant, the Coalition will execute a robust growth cluster strategy dedicated to building a more resilient and inclusive economy. Greater Phoenix’s rapid population growth has enabled it to outpace the nation in real GDP growth since 2000 (2.6% vs. 2.0%), but the region continues to meaningfully lag the nation in real GDP growth per capita (0.4% vs. 1.2%).

In parallel, Hispanic households, which represent nearly 1 in 3 Greater Phoenix residents, earn $18,000 less on average than White households, a $2,000 larger gap than the national average. As a result, our proposal includes a strong equity plan focused on leveraging the New Healthcare Innovation Economy to bring our region’s prosperity, and its distribution of opportunity and income, more in line with the nation.

Technology advances are revolutionizing the healthcare industry and giving rise to a New Healthcare Innovation Economy. Consumer electronics retailers are now entering the home healthcare market, and local retail stores are becoming community health hubs, both of which require a new community-based workforce supported by technology and manufacturing. In the emerging New Healthcare Innovation Economy, entrepreneurs will compete to create viable hardware and software products, as well as the technology-enabled services to deliver them. Enterprise and venture capital will invest in, deploy, and scale these products, which will be sold to a vastly expanded market of clinical purchasers, businesses, community organizations, and direct consumers. A skilled, increasingly decentralized clinical and non-clinical workforce will be required to interface with many of these products, helping an expanded set of healthcare consumers effectively use them. And a diverse set of firms—business-facing and consumer-facing, from semiconductor packagers to HIPAA compliance specialists to data security experts to repair shops—will agglomerate around hotspots of healthcare innovation and tech activity. Greater Phoenix intends to be the leading hotspot in the country.

Our value proposition is aimed squarely at the future described above through the following five projects: we will build a Healthcare Venture Collaborative that matches capital with firms developing novel products in digital, remote, and virtual health. We will set up a Virtual Care Innovation Hub where these products are piloted and validated by healthcare providers and insurance companies. If the products need to be manufactured, such as biometric sensors or home diagnostics, we will manufacture them in-region with the help of an agile Manufacturing Innovation Center and our region’s battle-tested manufacturing supply chains. We will then
deploy relevant products to a dispersed but crucial community and home-based healthcare workforce, some of whose lower-earning ranks have been upskilled at newly created Community Health Workforce Centers throughout the region. To ensure that these new models of care and technologies are accessible to all, we will build the Consumer Engagement and Access Platform, a robust data and consumer engagement platform that is powered by a wide network of data organizations.

HEALTHCARE INNOVATION ECONOMIC OPPORTUNITY

The runaway cost of healthcare, an aging population, and technology advances compel the formation of a New Healthcare Innovation Economy. The segments of this new economy such as telemedicine, remote-monitoring and smart devices, and digital health are projected to grow rapidly—between 15% - 26% over the next 5 to 10 years—transforming the composition of a nearly $4 trillion national healthcare industry.

Innovation infrastructure (R&D, lab space, broadband), a talented workforce, university and clinical partnerships, and manufacturing capacity are the building blocks of the New Healthcare Innovation Economy, the transition to which is already underway in Greater Phoenix on the strengths of its critical assets and advantages. It is the 10th largest metro region in the U.S. and since 2010 it has been the 5th fastest growing among metros with populations over 1 million. Greater Phoenix is the linchpin of Arizona’s economy, accounting for over 72% of the state’s GDP and 71% of its soon to be minority-majority population. More than 38,000 businesses in industries that compose the emerging New Healthcare Innovation Economy employ more than 500,000 workers and contribute $67 billion in economic output to the regional economy. The total productivity rate for these industries, an indicator of innovation-driven growth, is projected to grow 32% by 2030. The region’s strong existing assets in this space—including national health systems and payors, world class translational and bioscience research centers, medical device and technology manufactures, medical schools, and digital health companies—will propel Greater Phoenix to be a leading national and global center in the New Healthcare Innovation Economy (see Appendix 1: Regional Assets).

Greater Phoenix has a demonstrated history of coordinated economic planning—a key to steady-state regional resilience—as well as dynamic competitive cooperation across communities, a history in which the Greater Phoenix Economic Council (GPEC) has played a decisive leading role. After the Great Recession devastated Greater Phoenix’s economy, the region purposefully and successfully expanded its innovation sectors to bolster resiliency. It cultivated the semiconductor manufacturing, aerospace and defense, autonomous/electric vehicles, and advanced business services industries to become less reliant on the historically prevalent real estate and consumer services sectors. Though there is much work still to be done, this intentionality has begun to pay off: in 2016, the region’s median wage, a broad but robust indicator of economic wellbeing, surpassed that of the nation and has continued to distance itself.

GREATER PHOENIX HEALTHCARE INNOVATION COALITION

The 18-member Coalition brings a breadth of experience in executing strategic regional visions through collaboration. It will be directed by the Regional Competitiveness Officer (employed by the lead institution, GPEC), who will lead the coalition’s efforts in Phase 1 to develop individual
component projects, establish organizational and management structure for implementation in Phase 2, and convene and engage coalition partners. Coalition members are as follows:
- Lead institution: Greater Phoenix Economic Council
- Higher education: Arizona State University, University of Arizona Health Sciences, Maricopa County Community College District, ASU Difference Engine
- Workforce Development: Arizona@Work, Chicanos Por La Causa
- Nonprofit/Entrepreneurship: Center for Entrepreneurial Innovation, StartupAZ Foundation
- Local Government: City of Phoenix, City of Surprise, City of Mesa, Maricopa County, Pinal County
- Economic Development Organizations: Phoenix Industrial Development Authority, Maricopa County Industrial Development Authority, Partnership for Economic Innovation

The Coalition will align with ongoing strategic economic growth plans, including GPEC’s 2020-2022 Strategic Plan, which focuses on driving an equitable economy through a regional collaboration. The Coalition will also address Pinal County’s Comprehensive Economic Development Strategy (CEDS) and support its focus on increasing the number of healthcare jobs and investing in telemedicine infrastructure in rural communities. The alignment with strategies in the Arizona Bioscience Roadmap will further expand and deepen engagement with stakeholders from statewide biotech industries.

Matching Funds for Phase 2: Our robust Coalition members and partners have committed in principle to matching funds of 20% for the proposed projects if the proposal is awarded by the EDA. As we worked to put together our core Coalition we found broad support for the proposal from an extensive cross section of the healthcare ecosystem and we expect the coalition to expand significantly. The City of Surprise, located in the west of the region, is also committing to build a satellite business incubator and a workforce program in partnership with Ottawa University and West-MEC.

Sustainability: The Coalition envisions each proposed project to be self-sustaining by years 3-5. We have also proposed developing impact funds in partnerships with corporate, philanthropy, and community development organizations to fund ongoing and new projects (See Appendix 3: Sustainability Plan).

PROPOSED PROJECTS
The Coalition has identified five interrelated projects that support the vision of Greater Phoenix’s Healthcare Innovation Economy. These projects will launch and coordinate across a range of satellite sites in the region that will meet local needs, as well as align with localized cluster capabilities and geographic footprints.

1) New and Small Business Creation: Before the pandemic, 9 out of 10 firms in Greater Phoenix was a small business with under 50 employees, and 1 out of every 5 employees worked at one. The Healthcare Venture Collaborative (HVC) project will galvanize small business resiliency by partnering with regional healthcare leaders (e.g., health systems, payors, technology firms) to identify health tech innovation opportunities, coalesce small businesses and startups to advance those opportunities, and accelerate the launch of new businesses through support services. In this environment, small businesses can create connections and build networks that
can help address pain points or access resources at critical points of expansion. HVC will serve as the generator for new businesses leveraging the Virtual Care Innovation Hub (see below).

2) Entrepreneur Support and Business Incubator: Currently, the entrepreneurial ecosystem for healthcare innovation in Greater Phoenix is highly fragmented. The Virtual Care Innovation Hub (VCIH) will create a nexus for entrepreneurs, engineers, and investors to design and scale technology businesses enabling the future of “hospital at home”. Through a 30,000 sq. ft. incubator facility that includes a mix of lab, work, and meeting space, high-growth small businesses will receive investment, mentoring, business model design support, low-cost technology licensing, and pilot opportunities from investors and regional healthcare leaders. In addition to a central facility, VCIH will include connected ‘satellite sites’ embedded in different communities to engage a diverse group of entrepreneurs and will leverage the Manufacturing Innovation Center’s (see below) testing, prototyping, and shipping capabilities for device or diagnostic companies.

3) Manufacturing Development and Leadership: Acquiring capital to build facilities and purchase specialized equipment is a barrier that impedes many startups from getting to market. The Manufacturing Innovation Center (MIC) addresses this gap directly, by hosting a ‘build-deploy-scale’ contract manufacturing facility to design and develop machine-readable diagnostic tests (e.g., for STDs, genetic tests) in the $300B+ home diagnostics market. This facility will serve as a 150,000 sq. ft. center with manufacturing equipment (e.g., laser processing, 3D printing, CNC grinding, injection molding) for healthcare researchers, entrepreneurs, and industry leaders to collaborate on design, prototyping, testing, manufacturing, packaging, and shipping novel remote diagnostic technologies. In doing so, the MIC will integrate the capabilities of regional organizations like the Mayo Clinic (healthcare), ASU Biodesign (research), Samsung, and Medtronic (devices, manufacturing, and supply chain) to address the cost and expertise barrier entrepreneurs face in testing and scaling high-growth healthcare diagnostic companies.

4) Workforce of the Future: Home health workers are presently the second most numerous occupation type in Greater Phoenix; around 62,000 jobs, 79% female, yet with median wages of $26,500 (well under the regional median). The Community Health Workforce Centers (CHWC) will provide hands-on training opportunities, support services such as broadband access, and job placement for these non-clinical and clinical workers in high-demand virtual or home healthcare roles, with the goal of upskilling and securing pay increases for this largest segment of the healthcare workforce. In partnership with West-MEC and community colleges, annual cohorts of as many as 1,000 workers over 5 years will be trained and another 10,000-14,000 workers will be connected with job opportunities via the Pipeline AZ job-matching platform. Even modest gains in wages for home health workers and similar roles would represent considerable added financial security for thousands of regional families. CHWC will collaborate closely with the Virtual Care Innovation Hub on anticipating and informing technology solutions needed by home caregivers.

5) Virtual Care Accessibility for All: Greater Phoenix is vast—bigger than Connecticut, Rhode Island, and Delaware combined, with many of its residents living in semi-rural or sparsely populated exurban communities. The Consumer Engagement and Access Platform (CEAP) will
build a scalable infrastructure for businesses to test new methods for communicating with, sharing data with, receiving data from, and monitoring patients outside of traditional care settings or in difficult-to-reach communities. CEAP will be a collaboration across regional health institutions and Health Current (Arizona’s Health Information Exchange) to explore providing regional small businesses with access to high-quality healthcare data, cybersecurity support, and consumer-facing piloting infrastructure. CEAP will be an enabler for addressing engagement and technology access barriers that are common across virtual care models and remote monitoring, and as such constitutes a vital feedback mechanism for rural, remote, and currently underserved communities.

ANTICIPATED OUTCOMES AND METRICS
The five projects at full build-out in year 5 are projected to: establish ~180,000 sq ft of new business incubation, engineering, prototyping, and manufacturing space; create ~7,500 direct jobs; and assist 10,000 to 15,000 personal aid workers into higher paying careers whose total personal incomes would increase by ~$69 million. The Coalition anticipates creating 36 new ventures and supporting 80 to 100 startups at the Virtual Care Innovation Hub by year 5, with approximately 30 of those startups projected to reach an average of $10 million in revenue. In addition to jobs and venture formation, we will also measure economic impact, induced private-sector investments, unemployment changes, and equity and inclusion outcomes to ensure financial sustainability and equitable distribution of opportunity.

BARRIERS TO IMPLEMENTATION AND MITIGATION STRATEGIES
Potential barriers to implementation include 1) construction delays due to ongoing supply chain challenges 2) the need to manage and balance industry’s short-term goals with the Coalition’s long-term ecosystem development objectives; 3) ability to customize project implementation to the needs of multiple cities and communities in the region; 4) uncertainty and complex dynamics around national and state policy changes in healthcare. We will mitigate potential barriers through a robust due diligence process and regular stakeholder engagement and communication. We will monitor regional construction activities and supply chain through GPEC’s network of construction and manufacturing firms with real-time market trend data. We will establish regular communication such that all stakeholders are informed and engaged on the progress of the projects.

IMPLEMENTATION TIMELINE
GPEC will begin the 12-month implementation plan as detailed in Supplementary Appendix B: Project Narrative and Implementation Plan immediately upon notice of the Phase 1 award. Our five projects will be ready to implement following extensive planning and due diligence. In Q3 and Q4 the Coalition members will work with the broader partner community to implement satellite sites and subcomponent projects.

Q1: Coalition Organization and Planning; Project Feasibility and Phase 2 Application
Q2: Project and Workgroup Organization and Planning
Q3: Detailed Project Implementation Planning
Q4: Technical Assistance and Launch Preparation

5