

## Overarching Narrative Driving the New Healthcare Innovation Economy

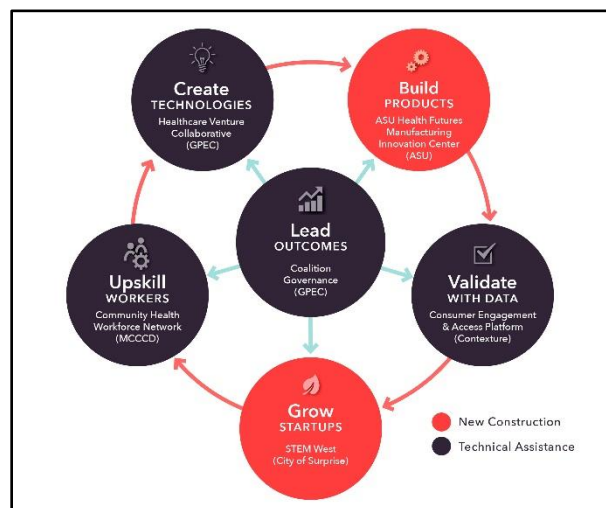
### Synopsis

The 18-member ‘New Healthcare Innovation Economy (NHIE)’ coalition led by the Greater Phoenix Economic Council (GPEC) will implement six component projects that constitute the foundation for an inclusive end-to-end healthcare innovation ecosystem to achieve wealth creation opportunities across geographies and broad social, demographic, and economic groups.

**Emerging Healthcare Technology Cluster:** The NHIE proposal focuses on growing the emerging healthcare technology cluster as a major economic engine in Greater Phoenix. Telehealth, remote monitoring, and other digital technologies enable access to care outside of hospitals to in home and community settings. The coalition will build on the region’s healthcare industry and technological capabilities in information technology, medical device manufacturing, and semiconductor industries. In 2021, the combined strength of these industries constituted 25% of the regional economy and 30% of jobs (Emsi). EDA’s investment in the NHIE proposal presents a unique opportunity for the region to leverage more than \$4 billion of planned private investments over next five to 10 years in the Phoenix Biomedical Campus, Mayo Clinic expansion and Discovery Oasis biotechnology corridor, as well as recent investments in the semiconductor and electronics industry by TSMC, Intel and supply chain companies. Building on this momentum, the NHIE coalition is proposing a series of strategic economic development projects creating high-quality jobs and promoting health and economic equity.

**Challenges:** Greater Phoenix’s population of 4.8 million is projected to increase to 5.7 million by 2030. This population growth is fueling the need for scalable and accessible healthcare technology solutions to meet demand, particularly for 1 in 10 regional residents living outside urban areas and 1 in 4 living in disadvantaged communities (census tracts with 25% poverty rate or higher). The transformation of Greater Phoenix into a demographic majority-minority region by 2050, the 48% growth among 65 and older demographic since 2010, and one-third of the population Medicaid eligible require different approaches to meet healthcare needs and address economic inequalities.

**Vision:** The NHIE coalition’s vision is to foster stronger connections between healthcare and technology companies, education and training providers, entrepreneurs, and investors to grow an equitable, competitive, and productive healthcare technology cluster. This cluster will position Greater Phoenix as a national and global hub in the new healthcare innovation economy. The coalition’s mission is to activate cross-sector collaborations to create conditions for the emergence of new technologies, the growth of businesses and jobs, new private investments, and for sustaining equitable growth.



The proposal includes the following six component projects (2 combination construction/technical assistance and 4 technical assistance applications):

1. **Healthcare Venture Collaborative (HVC):** GPEC, leading this technical assistance project, will form a collaborative of healthcare and technology stakeholders, located in the heart of Phoenix's biomedical district, near major healthcare providers, medical schools, and research centers. Over three years HVC will organize 36 reverse pitch events focused on desired product and process innovations to generate 36 project teams and expedite the development of viable solutions across a range of technologies. Of these 36 projects, at least 12 new minimal viable products will advance to commercialization and go to market through new startups, joint-ventures, and incumbents. Particular focus will be paid to involving and integrating entrepreneurs of color and marginalized backgrounds. HVC will leverage and utilize capabilities of NHIE's other component projects (rapid prototyping, data analytics, startups resources and space, workforce) to successfully graduate at least 4 companies that will achieve \$10 million in revenue.
2. **Consumer Engagement and Access Platform (CEAP):** This technical assistance project is led by Contexture, which operates Arizona's Health Information Exchange and holds medical records of 1.4 million Medicaid patients in Maricopa County. CEAP will build medical and social determinants of health data that are integrated across health services and social programs by a unique consumer ID. CEAP data and analytics infrastructure will power and inform various stages of product development within the component projects, ensuring that consumer needs in underserved communities are met and validated with data.
3. **ASU Health Futures Manufacturing Innovation Center (HFMIC):** This combined construction and technical assistance project led by Arizona State University (ASU) will construct a new 100,000 sq. ft. facility equipped with specialized machinery, tools, and production capacity to fill a gap in the market for rapid prototyping and small batch manufacturing for products ranging from in-home diagnostic kits to wearable sensors. Designed to operate with agility and speed, HFMIC will assist HVC's and other companies that are developing innovative products to provide quality healthcare accessible to consumer and patients in underserved communities. To that end, technological innovations will be informed by CEAP data and built on universal design principles to increase accessibility, ease of use, and cost-feasibility. The work at the HFMIC will be overseen by a community-led Equity Standards and Review Committee.
4. **STEM West Innovation and Career Hub (STEM West):** This combined construction and technical assistance project of a new 40,000 sq. ft. incubator is led by the city of Surprise. It will be located in the fast-growing western part of the Greater Phoenix region, currently home to over one-third of the region's population. STEM West will create space to serve more than 200 startups a year and successfully graduate 20-25 high-growth companies. In partnership with Hispanic-serving Ottawa University in Surprise, local hospitals such as Banner Del Webb and Sun Health, career technical training provider West-MEC, STEM West will train 1,500 workers and place them in health tech jobs. STEM West catalyzes economic growth opportunity in underserved communities as a key component of the coalition's vision and mission.
5. **Community Health Workforce Network (CHWN):** This technical assistance, workforce training project, is led by the Maricopa County Community College District (MCCCD). CHWN will train, reskill, and upskill at least 900 community health workers from

underrepresented and diverse backgrounds to deliver culturally competent care. CHWN will partner with Pipeline AZ and Chicano Por La Causa to raise healthcare career awareness among high school students and adults thereby increasing the number of new entrants into healthcare education and career pathways. CHWN interfaces with all component projects to track emerging skill needs of technology-enabled care.

6. **Coalition Governance:** This technical assistance project is led by GPEC to oversee the governance structure of the NHIE coalition; assess feasibility for projects’ sustainability; engage regional and national partners and employers; and communicate with a broad range of stakeholders to galvanize support and financial commitment. The Difference Engine, an ASU Center on the Future of Equality, will work with GPEC to oversee, assess, and advance the coalition’s equity and inclusion priorities.

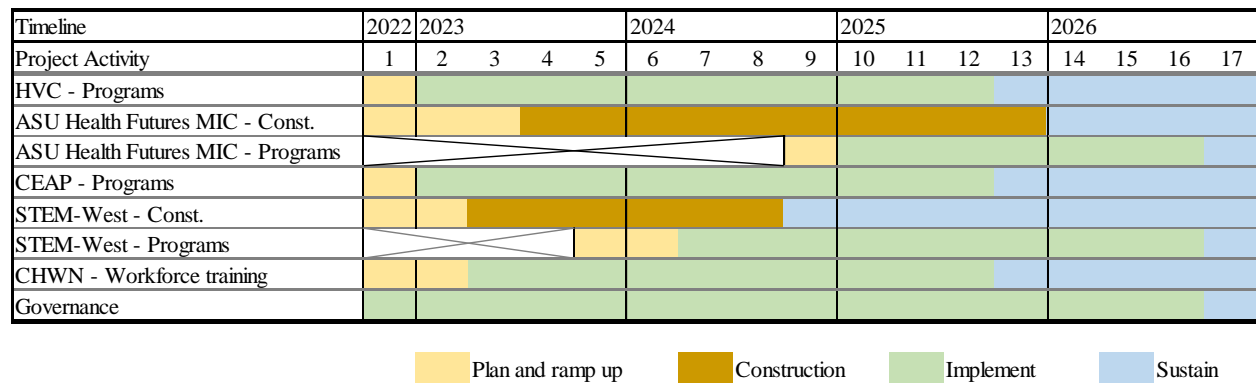
**Alignment with EDA and CEDS:** The six proposed projects align with EDA’s investment priorities: Equity (NHIE coalition prioritizes economic opportunity for historically underrepresented groups in tech, startup and healthcare industries such as women, founders of color and the differently-abled); Recovery & Resilience (together, the six component projects support long-term growth and recovery of healthcare industry enabled by technological innovation); Workforce Development (CHWN upskills community health workers to achieve economic mobility and higher earnings); Manufacturing (HFMIC provides domestic production of healthcare technologies); and Technology-Based Economic Development (HVC leads commercialization of healthcare technology innovations by overcoming traditional information gap and limited collaborations between healthcare professionals and technology providers). Regionally, NHIE aligns with GPEC’s FY23-25 Strategic Plan (alternate CEDS) goals: 1) Lead an ambitious vision for the region’s economic future by advancing policy priorities that enhance innovation economy such as infrastructure, education and workforce development, smart and agile land use, and a capital-friendly environment; 2) Enhance the foundation of the future economy through support for regional entrepreneurship in equity, capital strategies and innovation and in collaboration with regional partners. NHIE also aligns with the Arizona Bioscience Roadmap, led by the Flinn Foundation. The Roadmap is a 20-year bioscience strategy for talent development, expanded venture investment, and entrepreneurship.

**Outcomes and Economic Impact:** Catalyzed by EDA and regional investments, the NHIE coalition will reduce health and economic disparities and create exponential and lasting opportunities for growth of jobs, creating specialized talent, private sector investment, and technological innovations in Greater Phoenix. These outcomes have an economic impact as defined by the success metrics below:

Quality Job Creation	Achieve 7,862 direct job creation across Arizona by year ten with at least 50% of new jobs held by underrepresented demographics; additional ~10,246 jobs through indirect and induced impacts (supply chain, businesses, employees)
GDP Impact	Generate \$21 billion in new economic output over ten years, with about 20% generated in under-invested communities;
Underemployment	Reduce underemployment rate by 12 percent
Private Investment	Double healthcare and med-tech’s share of venture investment in Arizona by 2026 (an infusion of \$500 million in new capital)

The coalition will leverage complementary investments that include the ARPA’s significant \$1.7 billion funding for home- and community-based services in the state, federal workforce funding managed by Arizona@Work partners, Medicaid-enhanced funding managed by Arizona Health Care Cost Containment System, and community-based philanthropic organizations. Sustainability of NHIE beyond the grant period will be achieved through a combination of 1) self-sustained component projects; 2) regional investments, and 3) private sector investments.

**Timeline:** Construction of ASU Health Futures Manufacturing Innovation Center (HFMIC) will be completed end of 2025 and programming will run for two years through Q3 2026. Construction of STEM-West incubator will be completed by end of Q3 2024, and programming will run for three years through Q3 2026. Other four non-construction projects will be implemented over three years ending in Q3 2025, except Coalition Governance project which will run through end of 2026 in parallel with HFMIC and STEM-West timelines. All six component projects will continue and sustained beyond the grant performance period.



**Description of Geographical Region(s) Served**

The Greater Phoenix region consists of Maricopa (FIPS 04013) and Pinal (FIPS 04021) counties, spans 14,599 sq. miles, and has 4.8 million residents. The region is experiencing rapid growth: between 2010 and 2020 it added about 855,000 residents, a 20.4% growth rate which was 5th-highest in the nation among large metros with more than one million residents. The region is currently majority White with a substantial and fast-growing Hispanic minority (31 % in 2019) that is projected to be the majority by 2050. The region contains 37 cities and towns. The region abuts several Native American communities: the Gila River Indian Community, the Ak-Chin Indian Community, the Salt River Pima–Maricopa Indian Community, and the Tohono O’odham Nation.

**Target Participants**

The 18-member coalition consists of: Greater Phoenix Economic Council (coalition lead), Arizona State University, University of Arizona Health Sciences, Maricopa County Community College District, ASU Difference Engine, Chicanos Por La Causa, Center for Entrepreneurial Innovation, StartupAZ Foundation, City of Phoenix, City of Surprise, City of Mesa, Maricopa County, Pinal County, Phoenix Industrial Development Authority, Maricopa County Industrial Development Authority, Partnership for Economic Innovation. The coalition engaged more than 100 public and private-sector organizations, nonprofits, educational institutions, philanthropic

foundations, and civic and business associations. Nearly all 100 organizations have expressed support (received more than 70 letters of support with specific commitments).

- **Healthcare Providers and Health Plans:** Executives, clinicians and practitioners will participate in reverse pitches as selection committee members, and as mentors and clinical partners to companies. Dignity Health and HonorHealth are committing more than \$1.2 million to HVC where there is strong alignment with their “virtual campus” concept and innovation strategy. Healthcare providers will recruit community health workers trained to perform in technologically integrative care environments.
- **Large Technology Companies:** W.L. Gore, Medtronic, BD, Cox, Intel and others will benefit from opportunities to test and validate new business and product lines through partnerships with hospitals and de-identified data provided by CEAP. Tech companies will participate as mentors and advisors to high-growth startups. The enhanced innovation ecosystem will motivate tech companies to reinvest in the region and create jobs.
- **Entrepreneurs and Startups:** Serial entrepreneurs and startups will respond to technology solutions demanded by industry. These innovators will collaborate with world-class clinicians and healthcare executives from Dignity, Banner Health, Mayo, Phoenix Children's Hospital, HonorHealth and others to address gaps in the virtual care modalities. STEM-West will support entrepreneurs and startups with access to mentors, capital, and other resources. Healthcare tech startups will grow through increase in venture capital in the region.
- **Investors:** Angels and venture capitalists will participate as mentors and investors, accelerating the create-build-grow development cycle, sourcing deals, and potentially doubling venture investment in health tech companies in Arizona.
- **Consumers:** Consumers and patients, especially those residing in remote areas and underserved communities, will have access to more cost-effective and usable solutions developed at HVC, HFMIC, as well as services provided through the CEAP’s resource referral network.
- **Workers:** Incumbents in unrelated jobs, underemployed and early-career community health workers will be trained by CHWN for better paying jobs and more rewarding careers. CHWN partners will connect workers with career exploration opportunities like internships and job-shadowing.
- **Government Agencies:** Currently fragmented medical and social determinants of data will be integrated by Contexture, enabling government agencies to better serve disadvantaged families and individuals.
- **Community Service Providers:** Nonprofits such as food banks, houses of worship, housing advocacy organizations, and community development organizations will have access to enhanced resources their clients need to fully participate in the healthcare labor market and take advantage of training opportunities.
- **Philanthropic Foundations:** Grant providing organizations such as Flinn Foundation and Vitalyst Health Foundation will be engaged by the coalition through the governance project and contribute to capacity building and advancing equity.

### **Detailed Overview of Private-Sector Engagement**

Support for the Phase 2 application has been extensive. NHIE coalition engages organizations, municipalities, and private sector companies that support the overall vision of the proposal and its sustainability. The coalition will continue to build a stronger and larger network of stakeholders through phase 1 and phase 2 implementation.

Healthcare Venture Collaborative (HVC): Private sector organizations from across healthcare, technology and investment sectors will participate in HVC reverse pitch events and will work with development teams to create solutions. These organizations have committed in-kind matching contributions and active participation by executive and innovation leaders and experts. These organizations include: Dignity Health - CommonSpirit (One of the largest hospital systems in the country), Adelante Healthcare (Large Community Health Center founded to serve migrant farm workers), Mercy Care (Arizona's largest Managed Care Organization), W.L. Gore (global medical device company), SSB Solutions (private equity).

Consumer Engagement and Access Platform (CEAP): Private sector organizations are committed to utilizing the data platforms to inform decisions about market demand, provider referrals, and supply data that contribute to social determinants of health gaps. Organizations include: Banner Health, HonorHealth, Molina Healthcare, Aetna-Banner.

ASU Health Futures Manufacturing Innovation Center (HFMIC): Start-up and incumbent medical device companies, hospital systems, healthcare providers will work with MIC to manufacture healthcare solutions. They will develop prototypes manufacture small batches of devices and equipment and develop manufacturing strategies. Private sector companies include: Medtronic, Mayo Clinic, Becton-Dickinson, Intel.

STEM West Incubator and Career Hub (STEM West): Private sector organizations will support start-up companies through education, mentorship, ideation, investment and collaboration. Local healthcare providers have committed to hiring career program graduates. These organizations include: Banner Del E. Webb Hospital, ReSuture (high growth startup), Abrazo Surprise Hospital, Plug and Play (corporate incubator).

Community Health Workforce Network (CHWN): All healthcare organizations and companies are expected to benefit from the expanded healthcare workforce provided by CHWN. Major beneficiaries include: Banner Health, Mayo Clinic, HonorHealth, Phoenix Children's Hospital, Sun Health, Abrazos Health.

Coalition Governance: The NHIE coalition will engage GPEC's network of more than 190 private-sector organizations to expand partnerships and garner private investments. Major companies include: Cox Communications, JP Morgan Chase, Arizona Public Service, Mortenson Construction, Intel, and TSMC.

### **Detailed Plan for Regional Growth Cluster Sustainability**

The Coalition has defined sustainability principles, goals and objectives as follows.

***Growth cluster sustainability principles***: Cluster stability is achieved by institutional integration, cooperation, and commitment to equity and inclusion, and active engagement of diverse stakeholders as well as by sustained growth through public and private commitments. Agility and adaptability is achieved by strengthening relationships between diverse organizations, small to large firms, and enhancing regional industry specializations from healthcare delivery, device manufacturing, to software and data analytics. These networks of economic relationships enable regional clusters to respond to changing marketplace demand, regional priorities, emerging

healthcare needs, and technological solutions. Capacity is achieved by expanding access to capital, building workforce and infrastructure, forming new public-private partnerships, and engaging expertise required for innovations to move quickly to market.

***Sustainability goals and objectives:*** By 2030, Greater Phoenix will be a major hub of the New Healthcare Innovation Economy. Sustainability objectives: 1) Achieve self-sustaining component projects by 2026. 2) Secure investments for new initiatives and programs. 3) Retain and attract strategic partners.

Self-sustaining component projects: STEM-West and ASU Health Futures Manufacturing Innovation Center will generate membership, lease and fee revenues which, by 2026, will cover 100% of their operation costs. Healthcare Venture Collaborative will cover operation costs through sponsorships, philanthropic and private sector contributions, and licensing fees. Community Healthcare Workforce Network will cover programmatic costs with workforce training dollars and sponsorships and grants from private sector companies. Consumer Engagement and Access Platform will cover operation costs through membership fees and data licensing.

Secure investments for new initiatives and programs beyond 2026: By end of 2026, the coalition will have readied the plan for securing investment beyond the grant period with mechanisms and sources of public and private investments. The first three-year goal of the fund is to reach \$10-15 million. Funding will leverage projects and partnerships created by the BBRC grant.

Retain and attract strategic partners: By end of 2026, the coalition will have double the number of strategic partners involved in component projects, reaching about 140 organizations.

### **Detailed Plan for Engaging Specific Organizations**

The coalition will engage community-based organizations that serve diverse and disadvantaged communities through its partnership with the Black Chamber, Chicano Por La Causa, Partnership for Healthy Communities, Vitalyst Health Foundation, and Flinn Foundation. In the construction phase, HFMIC's procurement will include a targeted hiring clause to ensure EDA and match funds spent on construction support employment from underserved populations. ASU will identify economically distressed zip codes and require that 30% of construction labor hours are completed by individuals in those zip codes. We will require that 20% of subcontracts are with certified firms, prioritizing women-owned, American Indian-owned, and minority-owned firms. STEM-West's construction project is governed by the Arizona Revised Statutes Title 34. The selection process will put significant weight on the offeror's ability to engage community-based organizations and their commitment to ensuring strong labor standards. Within the request for qualifications for prospective contractors, the city will require the offeror to include a detailed plan for achieving the community engagement, union labor, and ensuring prevailing wages. As part of the construction contractor selection process, the city of Surprise encourages soliciting to small, minority, disadvantaged, and women-owned enterprises.

### **Detailed Plan on Engaging Equitably**

The NHIE coalition is committed to equity and accessibility for all. This commitment is reflected in all parts of the proposal – from “Equity Standards and Review Committees” that increase

participation by underrepresented communities in various stages of each project proposal to the integration of universal design and accessibility principles in construction proposals. Moreover, a “continuous improvement” approach integrates multiple feedback mechanisms such as through data collection, monitoring, and analysis; community engagement; and program design, review, and evaluation.

In order to advance these principles, GPEC will continue to work with The Difference Engine (TDE), an ASU Center for the Future of Equality, as a sub-awardee in the governance project. TDE will be an advisory member to all component projects, serve as an advisory member to the coalition, and as a voting member of the Executive Board of the coalition. TDE will be a resource for coalition collaboration, provide leadership in community engagement, and act as liaison with and between different stakeholders to build long-term trust with those who have been historically harmed or excluded by healthcare institutions and systems. In addition, TDE will focus its efforts in three specific functional areas:

First, TDE will provide processes of transparency and accountability for the coalition through the creation of a data portal. This portal and digital community engagement platform will share equity-related outcomes with those who benefit from or are impacted by NHIE projects. The portal will provide an opportunity for the region’s residents to engage with each other and the project leaders on areas of concern. The data portal will measure job growth and retention, measurements of community well-being like graduation rates and rent burden, among other important social determinants of health. Robust and transparent data collection policies will allow TDE to track the coordination of services and effects on the community writ large. Evaluation standards will evolve according to community needs. TDE will work with other ASU components as well as community partners such as the Arizona Partnership for Healthy Communities. TDE will seek additional funding to conduct a longitudinal study of equity metrics in the region to evaluate the overall success of the Coalition initiative.

Second, TDE will conduct community engagement roundtables and dialogues in the physical spaces the projects create as part of an ongoing impact assessment and feedback integration program. TDE’s considerable experience launching and scaling community engagement programs for the U.S. government will serve as a solid foundation for this part of the equity plan. TDE will coordinate with coalition members and community organizers to close gaps in communication that digital-only tools cannot.

Finally, TDE will oversee and coordinate the work of the "Standards and Review Committees" (SRCs) or other oversight or decision bodies housed in each of the projects. SRCs are designed to integrate equity principles into the fabric of each component project and serve as ongoing infrastructure to ensure the needs of marginalized communities are not ignored. The purpose of TDE’s review and coordination will ensure SRCs continue to function and be staffed appropriately and their recommendations are integrated into the ongoing work of each project.

### **Detailed Overview on Expected Outcomes**

The NHIE coalition will implement six interlocking component projects that are expected to create 18,108 new jobs (125,711 job-years) in Arizona by the end of the first decade. These will



be high-quality, high-wage jobs with long-lasting careers and benefits. The anticipated 10-year impact to Arizona economy is more than \$21 billion (Rounds Consulting, 2022).

Component Project	Anticipated Outputs	Expected Outcomes (10-Year Impact)*
Healthcare Venture Collaborative (HVC)	36 reverse pitch events 36 projects 12 new ventures 4 high-growth ventures (\$10M+ rev.) 60 virtual entrepreneurship sessions 720 Participants (50% or more women and founders of color served)	2,898 new jobs by yr. ten 20,334 job-years. \$1.3B labor income \$3.4B economic output
STEM-West Innovation and Career Hub (STEM-West)	40,610 SF incubator 5,000 SF wet lab 4,500 SF dry/engineering labs 600 Startups served 60 new startups formed 500-600 new healthcare and engineering graduates 1,500 job placements	2,891 new jobs by yr. ten 23,562 job-years \$1.6B labor income \$4.0B economic output
ASU Health Futures Manufacturing Innovation Center (ASU HFMIC)	100,000 sq. ft. mfg. center 65 companies served 62 prototypes piloted 59 prototypes are validated 44 successful clinical trials 22 products commercialized	4,936 new jobs by yr. ten 35,163 job-years \$2.3B labor income \$5.9B economic output
Consumer Engagement and Access Platform (CEAP)	10 new business lines or businesses 100 private businesses assisted 66,000 unique services to underserved 45,000 unique consumers served	474 new jobs by yr. ten 3,055 job-years \$200M labor income \$511M economic output
Community Health Workforce Network (CHWN)	78,000 career exploration 75 trained for digital literacy 900 individuals trained Four education pathways	6,909 new jobs by yr. ten 43,597 job-years \$2.9B labor income \$7.3B economic output
Coalition Governance	18 coalition members 100+ inclusive partner organizations Sustainability fund	Awareness of healthcare needs and technology Promote policy for cluster competitiveness Inclusive healthcare ecosystem Securing \$10-15M for post-grant sustainability

\*10-Year Impact Analysis conducted by Rounds Consulting.

## **Overview of Work conducted in Phase 1**

Activities conducted between the time of the Phase I award and March 15 Phase II application submission is summarized below.

### Project Planning and Partner Engagement

GPEC secured commitments from Coalition members to lead six component projects. GPEC met with project teams weekly to support project architecture, development of component project applications, and partner engagement. ASU Difference Engine team assisted project leads as they formulated equity and inclusion into their project design and engaged stakeholders. GPEC and project leads participated in EDA organized meetings, webinars, TA support meetings, and met weekly with EDA's regional team.

### Development of Phase II proposal and component projects

Secured commitments from coalition members to component projects.

Hired a consultant to conduct an incubator feasibility study for STEM-West incubator project.

Hired a consultant to produce a preliminary engineering and architectural report for ASU Health Futures Manufacturing Innovation Center.

Hired a consultant to produce an economic impact analysis for six component projects.

Drafted and finalized component project narratives and applications.

### Partner engagement

Organized and convened NHIE coalition meetings.

Organized and convened partner organizations.

Conducted individual meetings with more than 100 organizations to stimulate interest, secure letters of commitment and support from more than 70. Tight timeline limited some organizations in providing a letter.

Organized a webinar featuring Phoenix mayor, Mayo Clinic executive, startup founder, and RECO

## **Detailed list of changes to the vision/proposal to Phase 1 Concept Proposal**

The changes from Phase 1 concept proposal are summarized below.

Coalition: Contexture, a nonprofit Health Information Exchange for Arizona and Colorado, joined the Coalition and committed to leading the Consumer Engagement and Access Platform component project.

Component Projects: Added STEM-West Innovation and Career Hub as a component project led by the City of Surprise. Located 30 miles northwest from central Phoenix, STEM-West will serve communities in the western region of nearly 2 million population. The Virtual Care Innovation Center and Incubator envisioned in Phase I as a component project was integrated with the component project – Healthcare Venture Collaborative. The Center for Entrepreneurial Innovation (CEI) will activate a regional incubator network to leverage existing healthcare and biomedical-focused incubators and resources. The Healthcare Venture Collaborative project will facilitate virtual care testing and demonstration projects with healthcare providers and technology companies, leveraging existing simulation labs and virtual care operations. Added Coalition Governance and Sustainability as a component project. Greater Phoenix Economic Council, lead coalition organization, is the applicant on this project.