“

I think we need a public health infrastructure that’s ready…because ours was really too frail.

…

We certainly need a public health [workforce] that is as diverse as the communities we serve.

We [need to do more than] just scale up the workforce.

We need to make sure that [the public health] workforce feels valued. We need to make sure it’s a revered place to be. We need to make sure there is longitudinal funding.

”

- Rochelle P. Walensky, MD
  Director of the Centers for Disease Control and Prevention
  March 2, 2022 in St. Louis, Missouri
  Weekly Grand Rounds
  at Washington University in St. Louis School of Medicine

Strengthening U.S. Public Health Infrastructure, Workforce, and Data Systems

Missouri Department of Health and Senior Services (DHSS)
Response to CDC-RFA-OE22-2203

A. BACKGROUND

COVID-19 emphasized the need for a robust public health system. The coronavirus pandemic (COVID-19) continues to shine light on the weaknesses of the United States (U.S.) public health system. Since the first case of COVID-19 was reported in the U.S. in 2020, more than one million Americans have lost their lives to the disease.[1] The pandemic has exposed and exacerbated underlying inequities and disparities in health and healthcare among low-income communities and communities of color in the U.S..[2,3,4] Evidence continues to accrue around the health inequities and disparities across socioeconomic and racial groups, emphasizing the critical need for interventions prioritizing health equity.[3,4] However, as the need for a more robust public health infrastructure grows, investment in public health remains low.**Error! Bookmark not defined.** This is especially the case in the state of Missouri.[5,6]

Public health in Missouri. Missouri's public health system funding is consistently among the lowest in the country, and has been for decades.[5,6] In 2021, Missouri had the lowest state public health funding in the U.S. at $7 per person,[7] compared to the District of Columbia at $372 and New Mexico at $159 per person. In addition, the funding is fragmented – associated with specific services or programs – and varies by county.[5,6] Throughout the pandemic, Missouri state and local public health agencies (LPHAs) have worked tirelessly under the strain of chronic underinvestment, understaffing, variations in staff training, lack of resources for accreditation, outdated systems, and widening resource gaps to combat COVID-19[8,6] while providing the essential public health service (EPHS) to their communities.[9,8] Since the start of the pandemic, more than 20,000 Missourians have lost their lives to COVID-19.[9] Investment in strengthening

[1] Centers for Disease Control and Prevention (CDC). COVID Data Tracker. July 21, 2022. Accessed July 27, 2022. https://covid.cdc.gov/covid-data-tracker/#datatracker-home
[2] COVID-19: Hospitalization and Death by Race/Ethnicity. June 24, 2022. Accessed July 27, 2022. https://www.cdc.gov/coronavirus/2019-ncov/covid-data/investigations-discovery/hospitalization-death-by-race-ethnicity.html
[3] Khanijahani A, Iezadi S, Gholipour K, Azami-Aghdash S, Na ghibi D. A systematic review of racial/ethnic and socioeconomic disparities in COVID-19. Int J Equity Health. 2021 Nov 24;20(1):248. doi: 10.1186/s12939-021-01582-4. PMID: 34819081; PMCID: PMC8611382.
[4] Benjamin GC. Reflecting on the lessons of the pandemic. March 11 2022. Accessed July 27 2022. https://www.apha.org/News-and-Media/News-Releases/APHA-News-Releases/2022/pandemic-anniversary
[5] Hughes B. A Tale of Two Systems – The shortchanging of public health. July 22, 2020. Accessed July 27, 2022. https://mffh.org/news/a-tale-of-two-systems-the-shortchanging-of-public-health/#:~:text=In%20Missouri%2C%20public%20health%20system,alphabet%20soup%20of%20categorical%20programs.
[6] Milken Institute School of Public Health and Missouri Foundation for Health. Missouri's Public Health Response to COVID-19: Key Findings and Recommendations for State Action and Investment. September 2021. Accessed July 28 2022. https://mffh.org/wp-content/uploads/2021/09/GW-Missouris-Public-Health-Response-to-COVID-issuebrief-web.pdf
[7] The State Health Access Data Assistance Center (SHADAC). University of Minnesota. Analysis of Per Person State Public Health Funding, State Health Compare. Accessed July 29, 2022. http://statehealthcompare.shadac.org/
[8] Missouri Health Assessment. Missouri Department of Health and Senior Services. November 22, 2021. Accessed July 28. 2022. https://health.mo.gov/accreditation/pdf/state-health-assessment.pdf
[9] Missouri Department of Health and Senior Services. Public Health. July 22, 2022. Accessed July 28, 2022. https://health.mo.gov/living/healthcondiseases/communicable/novel-coronavirus/data/public-health/

and reinforcing the public health workforce is critical to ensuring the health of all Missourians, and the activities in Strategy A1: Workforce are designed around creating the necessary robust workforce urgently needed in Missouri.

Health disparities in Missouri. COVID-19 has affected nearly every aspect of healthcare and public health, and exposed disparities and gaps in certain conditions while worsening others. In Missouri, approximately 30% of all confirmed cases of COVID-19 as of 2021 occurred in people from a racial minority group (among cases in which race was identifiable);[10] this is significantly higher than the expected rate given that only 16% of the state's population belongs to a racial minority group. This also demonstrates the exacerbation of disparities and the critical need for public health investments to be grounded in achieving more equitable outcomes. Missourians in certain racial and ethnic minority groups and people living in low income or rural communities experience additional barriers to accessing testing, treatment, and vaccination against COVID-19, which continues to contribute to increasing rates of hospitalization and death. To date, only 58% of Missourians are vaccinated against COVID-19.[11]

The pandemic has caused Missouri's public health workforce to shift away from preexisting health issues that were already disproportionately impacting low-income communities and communities of color.[8] For example, the prevalence of adult obesity in Missouri increased from 30% in 2011 to 35% in 2016 and is highest among adults living in rural Southeast Missouri (39%), those who are American Indian or Alaskan Native (54%), Hispanic (50.8%), and those with household income less than $50,000 (66%).[8] Heart disease is the leading cause of death in Missouri and accounts for over 15,000 deaths annually.[8] The prevalence of hypertension in Black or African American adults (34.2%) is higher than in white adults (31.2%) and adults with lower levels of education and income.[8] Overwhelming disparities exist between Black or African American and white adults in chronic disease mortality.[8]The prevalence of diabetes is higher in adults with lower education (17.2%) and income (17.6%), as well as in minorities such as Multiracial adults (15.3%) and Black or African American adults (11.9%) when compared to white adults (10.1%). Overall, the Southeast Region of Missouri continues to have the poorest health outcomes and the highest mortality rate and lowest life expectancy in the state.[8]

Challenges facing Missouri's public health workforce. The pandemic has taken a toll on public health professionals – especially those in state and local government – and voluntary resignations are rapidly increasing. Within the Missouri Department of Health and Senior Services (DHSS) specifically, voluntary resignations have doubled in the last 18 months. Findings from the 2021 PH WINS[12], in which DHSS is a regular participant, emphasized stress and burnout among the public health workforce. The report revealed that 1 in 4 public health professionals are considering leaving their organization within the next year – and looking ahead, 44% are considering leaving in the next five years. This would contribute to a considerable loss

[10] Missouri DHSS Department of Health and Senior Services. COVID-19 Outbreak. Accessed August 2, 2022. https://health.mo.gov/living/healthcondiseases/communicable/novel-coronavirus/
[11] Johns Hopkins University of Medicine Coronavirus Resource Center. Missouri.
[12] Hare Bork R, Robins M, Schaffer K, Leider JP, Castrucci BC. Workplace Perceptions and Experiences Related to COVID-19 Response Efforts Among Public Health Workers — Public Health Workforce Interests and Needs Survey, United States, September 2021–January 2022. MMWR Morb Mortal Wkly Rep 2022;71:920–924. DOI: http://dx.doi.org/10.15585/mmwr.mm7129a3

of institutional knowledge in the field, coupled with the lack of resources to support the pipeline for new public health professionals. The findings emphasized recruitment and retention that promotes diversity and workers with public health experience will be critical as the workforce rebuilds as the pandemic evolves.

Missouri's public health infrastructure. As the state of Missouri continues to bolster its public health infrastructure, it is critical to think of both the short-term needs and also strengthen the public health system for the long-term.[5] In Missouri, there are currently critical needs in public health infrastructure and data management systems. Surveillance, accounting, and data management systems are not interoperable and do not exchange data, leading to inefficiencies and delays in public health actions. Systems do not meet federal data collection, security, and transmission requirements. Funding has not been adequate in normal annual funding cycles to upgrade these systems. DHSS has incurred significant federal funding decreases due to the inability to maintain data collection, security, and transmission requirements. Inability to seamlessly track data from all Foundational Public Health Service areas across the state contribute to health inequities, as lower income or more rural areas may not have the ability to collect, maintain, and analyze information as well as more affluent areas. The current OE22-2203 funding opportunity is the best opportunity to make upgrades that will bolster and sustain critical public health services, reduce health inequities, improve the timeliness and completeness of current processes, and reduce costs in the long-term.

DHSS is accredited through the Public Health Accreditation Board (PHAB), a national, non-profit organization providing oversight for accreditation processes for public health agencies.[13] To receive accreditation, the DHSS underwent a rigorous, multi-faceted, peer-reviewed assessment confirming it meets or exceeds the determined standards.[13] PHAB accreditation is especially important because it confirms DHSS has met the standards of accountability and credibility to the public, its funders, and partner organizations.[13] DHSS first attained PHAB accreditation in 2016 and worked to attain reaccreditation in 2020, amidst the COVID-19 pandemic.[8] Two components critical to the DHSS attaining reaccreditation are the State Health Assessment (SHA) and the State Health Improvement Plan (SHIP). The SHA helped identify key priority issues that formed the basis of the SHIP[8]: Public Health System Building (PHSB), Infant & Maternal Health, Health Behaviors, Emerging Public Health Threat Preparedness, Social Determinants of Health, and Whole Person Health Access.[14] PHSB is especially relevant to Missouri's public health infrastructure as its goals are to 1) Integrate the Foundational Public Health Services model throughout the Missouri public health system; 2) Strengthen Missouri's public health systems by increasing the number of accredited LPHAs in Missouri; and 3) Improve the Missouri public health data system.[14] The PHSB goals will continue to guide the development and implementation of the activities for Strategy A2: Foundational Capabilities and A3: Data Modernization.

[13] Missouri Department of Health and Senior Services. Public Health Accreditation. Accessed July 28, 2022. https://health.mo.gov/accreditation/

[14] Missouri DHSS Department of Health and Senior Services. Missouri Health Improvement Plan. 2021. Accessed July 27, 2022. https://health.mo.gov/accreditation/pdf/improvement-plan.pdf

B. APPROACH

i. Purpose

The purpose of the current project is to improve and modernize Missouri's public health infrastructure to better meet the health needs of citizens, by increasing and bolstering the public health workforce, strengthening foundational capabilities such as systems and policies, and modernizing data systems. The Missouri Department of Health and Senior Services (DHSS) has designed activities and partnerships that are guided by three principles: modernizing data and evidence; increasing diversity and addressing health inequities; and strengthening partnerships between DHSS, local public health agencies, and other partners.

ii. Outcomes

DHSS will adhere to the outcomes and logic model as outlined in the OE22-2203 funding opportunity. Strategy A1 will focus on increasing hiring of public health staff, both at DHSS and Local Public Health Agencies (LPHAs), as well as creating environments to foster staff well-being and retention – from professional development opportunities to employee mental wellness and a focus on diversity and equity in hiring and retention. Few LPHAs are currently accredited and Strategy A2 activities will give emphasis to supporting accreditation efforts throughout the state. A3 activities seek to modernize data systems within DHSS and its partners, such as entrenching infrastructure created for COVID-19 and making existing systems more interoperable.

iii. Strategies & Activities

STRATEGY A1: WORKFORCE

The proposed key activities for A1 enable the expansion of the public health workforce in Missouri. They satisfy NOFO requirements for recruiting/hiring (#A1.1), retaining (#A1.2), supporting/sustaining (#A1.3), and training (#A1.4) staff, with most of the funding allocated to LPHAs to strengthen the workforce at the local level. A few projects plan and implement new systems (#A1.5) that standardize training and drive efficiencies (to reduce administrative burden and costs), and in turn, expand the capacity of the current workforce. DHSS is focused on shaping the public health system with staff who are from the communities and populations served. DHSS is promoting diversity, equity, inclusion, and accessibility in all aspects of workforce development.

Table A1.1. *Summary of A1 activities (> indicates corresponding NOFO activity)*

Section	Title > NOFO Activity Code	Brief Summary
A1.i.	Strengthening Local Public Health Workforce Capacity > #A1.1, #A1.2	~$25 Million (or 55% of A1 funds) available for LPHAs to respond to workforce needs
A1.ii.	Missouri Public Health Association Section of Public Health Nursing > #A1.3	Community of practice to support public health nurses across Missouri

A1.iii.	*Workforce Development via Academic Partnerships*	
A1.iii.1	Public Health Workforce Commission > #A1.5	Advisory group chartered by State to inform decision-making by Governor and DHSS
A1.iii.2	Leadership Academy > #A1.1, #A1.3, #A1.4	Cohort model training for current and emerging leaders at DHSS and LPHAs
A1.iii.3	Internship Program > #A1.2, #A1.4, #A1.5	Builds workforce pipeline via paid internships for early-career professionals
A1.iii.4	Missouri Health Care Workforce Project > #A1.1, #A1.5	Public health workforce data aligns with an established approach for clinical healthcare
A1.iv.	Learning and Development Redesign > #A1.2, #A1.4	Training modules for leadership and other management skills, deployed via LinkedIn
A1.v.	Mental Wellness > #A1.3	Tools to combat employee burnout and cultivate inclusive cultures of wellness
A1.vi.	Electronic Inspection and Data Management System > #A1.4, #A1.5	New technology unifies LPHAs around inspections, an essential and frequent task
A1.vii.	Strengthen Support for Implementation of this Grant > #A1.6	Overview of DHSS hiring to support A1 as well as A2 and A3 strategies

Section A1.i. Strengthening Local Public Health Workforce Capacity

> aligns with NOFO activity #A1.1 (recruit/hire) and #A1.2 (retain staff)

- Approximately 55% of A1 funding (or ~$25 million) is allocated for LPHAs to invest in positions that meet local needs -- fill vacancies, create new positions with benefits, increase job flexibility, adjust salary levels to attract skilled workers in the competitive job market, and update facilities to provide more efficient and safe workplaces. These local needs have been unachievable due to the strict requirements made by other grants.
- All of the funding will be available to LPHAs during Year 1; LPHAs will determine their own plans to spend allocated funds over the grant period.

~$25 Million (or 55% of A1 funding) available to LPHAs for immediate investment in recruitment, hiring, and retention of public health staff.

- The DHSS will approve and reimburse spending by LPHAs to assure alignment with OE22-2203 goals and compliance with any CDC restrictions on the use of funds. The DHSS Workforce Director (funded via OE22-2203) and DHSS Director of the Center for Local Public Health Services will oversee the disbursement of funds to LPHAs, with administrative support from an accountant exclusively dedicated to this project. The DHSS will host weekly webinars and provide one-on-one technical assistance to support LPHA administrators with the development and implementation of spending plans that strengthen workforce capacity.
- The Evaluation Team, as described in Section C, will track and report on changes in workforce capacity related to recruitment/hiring and retention of public health staff by

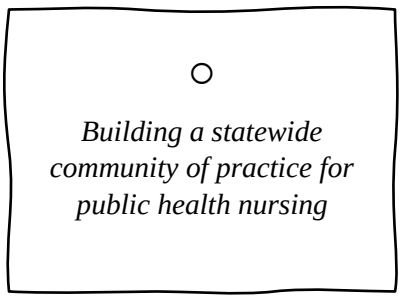
LPHAs. The Evaluation Team will develop data collection and management systems that minimize the burden on LPHA administrators while still allowing accurate reporting of the CDC-required performance measures.

- The DHSS is currently collaborating with leaders from the public health association and other partners to refine a fund distribution plan that is transparent, equitable, and easy to implement. The key partners include DHSS Center for Local Public Health, Missouri Association of Local Public Health Agencies, Missouri Public Health Association, Missouri Center for Public Health Excellence, Missouri Foundation for Health, and Saint Louis University College for Public Health and Social Justice. The DHSS Acting Director will review guidance from the advisory group to oversee the communication of funding amounts to LPHAs. Ongoing oversight of the implementation of this activity will be provided by the Public Health and Healthcare Workforce Commission, a new statewide advisory organization responsible for the planning and administration of strategies to recruit, train, and retain skilled people who are dedicated to public health and healthcare services. Information about the Commission is provided later in this section.
- The DHSS is using its established contracts (via standard amendment procedure) with LPHAs as the mechanism to distribute OE22-2203 funds immediately to LPHAs. This approach assures no extra administrative burdens are placed upon LPHAs, and that funds are made available quickly for use by LPHAs.

Section A1.ii. Missouri Public Health Association Section of Public Health Nursing

> aligns with NOFO activity #A1.3 (training) and #A1.4 (planning)

Overview. Nurses have a great impact on public health as a whole and leveraging the full scope of public health nursing is crucial to fully achieve the health reform necessary to create a health system that prevents disease and promotes health rather than focusing on acuity and illness treatment/cure. Public health nursing is the largest professional group of public health workers in the U.S., working in a wide range of settings including state and local health departments. The practice of public health nursing includes advocacy, policy development, and planning, and addresses issues of health equity and social justice. The public health demands of the future will require public health nurses with knowledge of evidenced-based interventions and new paradigms to address new challenges and the competence to plan and provide public health services within multiple settings, conduct research, evaluate programs, and advocate for public health policy and funding. There is a critical need for strong public health nursing support in Missouri. In the past, Missouri had a robust Public Health Nursing Council supported by DHSS that had the capacity to develop training, deliver professional development on competencies, mentor new nurses, and more. Over the years, these resources have waned, and the Council has not had the ability to carry out these activities. DHSS will contract with the Missouri Public Health Association (MPHA) to rebuild the Section for Public Health Nursing (SPHN) and provide



leadership in the ongoing development of the full scope of public health nursing practice, which would improve retention, dissemination of best practices, addressing equity gaps, and covering foundational services.

Program Description. This activity will support the development of a statewide community of public health nursing practice with regional learning communities, based on best practices from the American Nurses Association and the Quad Council of Public Health Nursing Organizations' *Core Competencies for Public Health Nurses*. Communities of nursing practice provide a useful framework for fostering shared learning, encouraging collaboration, offering an opportunity for creative problem solving and innovation, and promoting engagement with partners and other professional groups. This activity will also equip the MPHA SPHN to provide leadership in the ongoing development of the full scope of public health nursing practice and provide mechanisms for supporting policy, advocacy, education, and interdisciplinary collaboration.

A statewide community of public health nurses will position DHSS, LPHAs, and their partners to benefit in a variety of ways. DHSS will be better equipped to:

- Lead and support efforts to create innovative models for public health nursing practice
- Identify and support the emerging roles of public health nurses
- Support the development of leadership skills for public health nurses at all levels
- Foster open culture, transparency, and collaboration between DHSS and SPHN
- Ensure SPHN goals are aligned with the DHSS State Health Improvement Plan (SHIP) and performance improvement objectives
- Improve the health of Missourians through excellence in public health nursing education/professional development, practice, leadership, and research.

LPHAs will be better equipped to:

- Improve the health of local communities through excellence in public health nursing education/professional development, practice, leadership, policy, and research
- Help nurses stay up to date on emerging public health issues and make the most informed treatment decisions
- Respond directly to public health crises, from outbreaks of disease to natural disasters
- Focus on quality and accountability through national accreditation and attainment of public health standards, as public health nurses help lead efforts related to accreditation, community assessment, health improvement, planning, quality improvement, performance management, and strategic planning.

Year 1 goals will focus on building a Core Team, designating its role(s), and determining the mission and goals of the statewide community. Once this is accomplished, DHSS and the SPHN will focus efforts on building the statewide communities as well as regional learning communities. SPHN will be the convener and hub of the regional learning communities, who will be brought together to discuss common issues, barriers, and opportunities for their regions. For more details on how these goals will be achieved, refer to the attached work plan.

Focus on Equity. Nurses are well positioned to play a major role in addressing the underlying causes of poor health by understanding and recognizing the wide range of factors that influence how well and long people live, helping to create individual- and community-targeted solutions and facilitating multisector teams to implement interdisciplinary solutions. Public health nurses have broad knowledge of health issues and the associated social determinants of health, needs and resources at the community level. Embedded within the community, public health nurses are respected among community leaders, well positioned to build community trust, and serve as a provider of health-related resources among community partners to help reach under-resourced populations. A statewide community of public health nursing practice with regional learning communities will promote evidence-based solutions, integration of research and practice, multisectoral collaboration and approaches, and sharing of resources to advance health equity.

Role of Partnerships. The primary partners in this activity are DHSS, the MPHA SPHN, Public Health Nurses statewide, and Local Public Health Agencies (LPHAs). DHSS, in collaboration with MPHA SPHN, will develop SPHN's mission and goals; execute a formal Letter of Agreement between the DHSS and the MPHA SPHN to implement a statewide community of public health nursing practice with regional learning communities; and provide initial financial support, system-level leadership and support, and assurance of system-level conditions for success. Public health nurses at LPHAs will help plan, advertise and facilitate the community of practice regional meetings, share relevant content and best practices, and support the core leadership team in accomplishing the mission and goals.

Potential Barriers & Mitigation Strategies. There have been barriers to the maintenance of a statewide community of public health nursing in Missouri due to a lack of a statewide framework and backbone support. Funding from OE22-2203 will support the development and implementation of a statewide framework and provide backbone support for the MPHA SPHN. Risks to the success of this activity are external; namely, staff vacancies due to a public health emergency (e.g., pandemic, natural disaster) or labor market forces could result in a shortage of public health nurses available to participate. MPHA SPHN is making the size and composition of the community of practice large and diverse enough to mitigate this risk.

Section A1.iii. Workforce Development via Academic Partnerships

> aligns with NOFO activity #A1.1 (recruit/hire), #A1.2 (retain staff), #A1.3 (support/sustain), #A1.4 (training), #A1.5 (planning/systems)

The 2017 PH-WINS survey identified significant workforce capacity needs for Missouri. The newly released report brief (July 2022) pointed to stress and burnout of the public health workforce, noting that 1 in 3 public health employees say they are considering leaving their organization within the next year. Over the past year, DHSS has experienced significant challenges filling vacant positions with qualified candidates; LPHAs report similar difficulties. The public health system in Missouri lacks an organized approach to developing and recruiting a skilled, diverse workforce interested in technical and professional jobs.

Universities in Missouri are deeply invested in public health – research, service, and education.

Five offer MPH programs accredited by Council on Education for Public Health.

Fortunately, universities in Missouri have invested in public health programs – graduate and undergraduate – to provide training and education in epidemiology, behavioral science, management, biostatistics, environmental health, communicable diseases, management, and other disciplines. There are 5 universities in Missouri that offer MPH programs accredited by Council on Education for Public Health, including one accredited school of public health (Saint Louis University College of Public Health and Social Justice, established 1991). As promoted by the Public Health Foundation, academic partnerships help to strengthen the links between public health practice and academia and to lessen the separation between the education of public health professionals and the practice of public health. Today, there is one formal academic health department in the State of Missouri (Saint Louis University College of Public Health and Social Justice + City of St. Louis + Saint Louis County).

The DHSS concurs with the CDC Division of Scientific Education and Professional Development's 2021 identification of 4 major factors affecting the public health workforce: (1) composition and number of workers, (2) competency of workers, (3) contextual environment, and (4) work environment. The four proposed activities, supported by academic partnerships, in this section address many drivers that contribute to Missouri's "lack of the right number of people with the right skills in the right place at the right time."

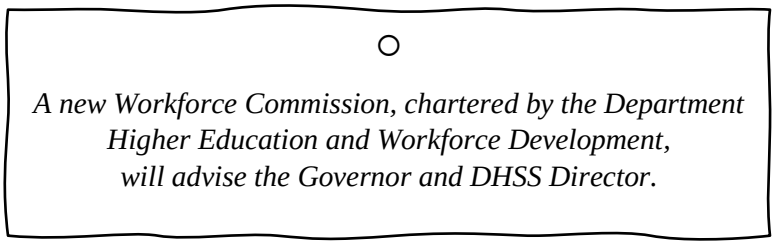
Table A1.iii.1. *Summary of activities for workforce development via academic partnerships*

Activity	Title	NOFO Activity Code
A1.iii.1	Public Health Workforce Commission	#A1.5
A1.iii.2	Leadership Academy	#A1.2, #A1.3, #A1.4
A1.iii.3	Internship Program	#A1.1, #A1.4, #A1.5
A1.iii.4	Missouri Health Care Workforce Project	#A1.1, #A1.5

Activity A1.iii.1. Public Health Workforce Commission

> aligns with NOFO activity #A1.5 (planning/systems)

Overview. The DHSS is establishing the Public Health and Healthcare Workforce Commission as a statewide advisory organization responsible for the planning and administration of strategies to recruit, train, and retain skilled people who are dedicated to public health and healthcare services. The Commission's public health subsection will be composed of a statewide group of senior leaders across multiple sectors, including public health, health care, education, employment, labor, and government. The Commission shall be appointed by and operate under the auspices of the Missouri Department of Higher Education and Workforce Development (DWEHD) with the support and assistance of the DHSS. Current plans call for membership of about 15 people, to be chaired by DHSS Acting Director Nickelson. After its initial development period in Year 1, the Commission will meet quarterly to advise DHSS Acting Director Nickelson and Governor Parson on its tasks: (1) prepare a workforce readiness assessment, (2) identify employment gaps in the healthcare and public health workforce, (3) prepare an academic environmental scan, and (4) inform policy for workforce needs. Commission operations (e.g., meetings, communications) are the responsibility of the DHSS Workforce Director (a new position funded by OE22-2203) with support services from a university's graduate program. The Workforce Director serves as the primary liaison between DHSS and DWEHD. During Year 1, the Workforce Director will develop a communications plan to raise awareness and disseminate information about the Commission's discussions and recommendations.



Role of Partnerships. Missouri's leading health philanthropies and public health associations will serve a critical role in guiding member selection and operating principles, such as the Missouri Foundation for Health, Health Forward Foundation, Missouri Public Health Association, Missouri Association of Local Public Health Agencies, and Missouri Center for Public Health Excellence. LPHAs will be well-represented on the Commission. The Commission will be linked to a public Missouri-based university with expertise in public health administration for workforce data analysis to support the Commissioners' discussion.

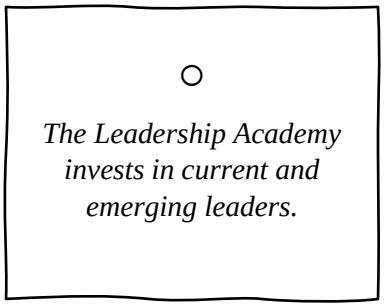
Supporting Evidence. The establishment of the Public Health and Healthcare Workforce Commission was recommended by a multi-stakeholder ad hoc committee convened by DHSS and partners in 2021 to assess opportunities for investing ARPA funds to strengthen the public health infrastructure and respond to COVID-19. The Commission will focus on key actions, in particular shifting workforce development emphasis to strategic skills, as described in *Building Skills for a More Strategic Public Health Workforce: A Call to Action* by the National Consortium for Public Health Workforce Development.

Potential Barriers & Mitigation Strategies. Project management and political polarization are the most significant risks to the Commission. The DHSS is allocating staff dedicated to this activity and providing them with support from a university public health program. This team-based approach reduces failure risk attributable to personnel turnover or competing priorities. To minimize political factors (e.g., urban vs. rural needs), the DHSS proposes to co-chair the Commission with two respected, independent public health experts who have strong leadership and group facilitation skills. Furthermore, the influence of academic partners assists with keeping discussion and guidance grounded with data and best practices of public health planning and management.

Activity A1.iii.2. Leadership Academy

> aligns with NOFO activity #A1.2 (retain), #A1.3 (support/sustain) and #A1.4 (training)

Overview. The DHSS is reviving a dormant Missouri Public Health Leadership Academy (Leadership Academy) to strengthen the management and leadership skills of public health professionals across Missouri. Working in collaboration with an academic partner, up to 40 people (20 DHSS, 20 LHPA) will join a cohort-based program annually to (a) improve capacities to use continuous quality improvement methods/tools, (b) guide organizational change, (c) implement evidence-based practices, and (d) assemble people from multiple sectors including health, housing, education, transportation, and law enforcement to transform communities, improve health, and advance equity. Participants will meet in-person and online for approximately 1 year and support one another with the implementation of a quality improvement project (aka, capstone). Building upon the principles of the plan-do-study-act model with the supportive attributes of a learning community, the Leadership Academy helps participants address a wide range of public health challenges and create lasting change. Coordination of the Leadership Academy is the responsibility of the DHSS Workforce Director (a new position funded by OE22-2203) with support services from a university graduate program and other experts.



Role of Partnerships. A university will be selected to provide general project management, create training materials, and facilitate groups. The academic partnership helps DHSS and LPHAs deepen connectedness to academic partners which may have many dividends, as noted by the Public Health Foundation which promotes the academic health department model.

Supporting Evidence. National and state assessments have indicated that leadership development of current staff is a substantial need. The Leadership Academy model, in a variety of formats, has demonstrated success (e.g., employee retention, organizational capacity), as reported by organizations such as Saint Louis University College for Public Health and Social Justice, Public Health Institute's Center for Health Leadership and Practice, and Leadership Academy for the Public's Health.

Potential Barriers & Mitigation Strategies. Participant recruitment and project management are the most significant risks to the Leadership Academy. Like the Commission, the DHSS is dedicating staff to this activity and providing them with support and expertise from a university. To minimize risks related to participant recruitment, DHSS will leverage its partnerships with statewide associations to identify and enroll DHSS and LPHA staff.

Activity A1.iii.3. Internship Program

> *aligns with NOFO activity #A1.1 (recruit/hire), #A1.4 (training), #A1.5 (planning/systems)*

Overview. Beyond traditional advertising and job boards (e.g., https://mocareers.mo.gov) The DHSS currently lacks a comprehensive, equitable, and innovative way of attracting the next generation of public health workers to public service. The Internship Program engages academic partners to provide "in-the-field" work experience for qualified students from diverse backgrounds *and* builds a pipeline of prepared, diverse early-career professionals to work across Missouri. By setting a standard that governmental internships should be paid opportunities, the Internship Program contributes to equitable opportunities for marginalized, low-income groups who may not be able to forgo a paycheck for the summer.

Building a pipeline of prepared, diverse early-career professionals to work all across Missouri – LPHAs and DHSS.

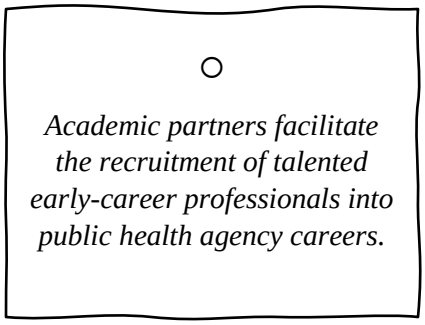
Design. Working in collaboration with universities and LPHAs, DHSS is creating (1) a central system for matching students to internships with public health agencies and (2) a program for them to earn stipends. A new website (codename: PHintern.com) will allow LPHAs (and other public health partners) to post internship openings and students to search and apply. By interfacing with digital media platforms, such as LinkedIn and Instagram, PHintern opportunities are promoted in digital spaces where students are located. Functioning like a dating app, student-users create profiles that look for matches with posted internships, based on location, task, specialty area (e.g., epidemiology, health education), and more. DHSS and LPHAs can select candidates, schedule interviews, and make offers through the system. Up to 50 interns can be funded by OE22-2203 annually at an average stipend of $6,400. Over time, PHintern.com may evolve as a destination for students to access training, professional networking, micro-credentials, scholarships, and full-time job postings.

Interns employed by DHSS will enter a cohort-style of learning to fulfill requirements established by the Council for Education for Public Health and follow best practices, such as assigned mentors, cross-divisional projects, cohort group work, training/orientation sessions, flexible work schedules, project management software, and structured feedback. By Year 5, DHSS aims for the Internship Program to provide: (1) competitive internship positions at DHSS, (2) a positive impact on the culture and climate at DHSS, (3) an expanded number of internship applicants, and (4) increase of experienced hires to DHSS job.

Coordination of the Internship Program is the responsibility of the DHSS Workforce Director (a new position funded by OE22-2203) with administrative support from an Internship Coordinator, technical assistance from DHSS web technology experts, and marketing support

from DHSS communications experts. The DHSS Office of Performance Management will assist with the development of the Internship Program and select a contractor for general administrative services. As part of its commitment to continuous quality improvement, DHSS will conduct an annual survey to assess the experiences of students, mentors, and academic partners who participated in the Internship Program.

Role of Partnerships. While all colleges and universities in Missouri will be invited to connect their students to PHintern, the 5 universities with accredited public health programs – undergraduate and graduate – are likely to drive most of the student-user activity initially. The university partners are AT Still University, Missouri State University, Saint Louis University College for Public Health and Social Justice, University of Missouri, and Washington University in St. Louis. DHSS will work with the Missouri Public Health Association, Missouri Association of Local Public Health Agencies, and Missouri Center for Public Health Excellence to promote the hiring of interns through the system as part of a broader workforce development strategy to expand the applicant pool for full-time public health jobs.



Supporting Evidence. The Internship Program is designed to be a steppingstone for the next generation of public health professionals. Intended to be a learning, recruitment, and capacity-building tool, this Internship Program fulfills a critical need to expand the number of qualified candidates for public health system jobs, especially for DHSS in Jefferson City. As noted by the PH-WIN survey, retirements and burnout are opening many jobs at the same time additional jobs are being created via local, state, and federal infrastructure investments in the public health system, such as OE22-2203.

Potential Barriers & Mitigation Strategies. The recruitment of mentors (and related internship project opportunities) at LPHAs and DHSS is a barrier to Internship Program success. This is mitigated by the executive sponsorship from DHSS Acting Director Nickelson, involvement of public health association board members, and marketing/outreach activities to LPHAs. The availability of funds to pay interns squarely addresses the most common barrier cited by LPHA and DHSS for the recruitment of mentors as well as students. Website development is a modest risk to the successful launch and management of the Internship Program. DHSS has identified personnel and processes to establish a simple system for launch; capabilities will be enhanced over time to align with user demand and feedback.

Activity A1.iii.4. Missouri Health Care Workforce Project

> aligns with NOFO activity #A1.1 (recruit/hire) and #A1.5 (planning/systems)

Overview. The DHSS will collaborate with one of its key academic partners, University of Missouri (MU), to create the Missouri Health Care Workforce Project. This project will collect and integrate data on Missouri's public health workforce, as well as continue currently ongoing work that collects, analyzes, and reports on Missouri's health care workforce. The

Missouri Health Care Workforce Project, an initiative started in 2007, enables stakeholders to make data-driven decisions and advocate for a robust health care workforce in Missouri. The OE22-2203 funding will allow easy access to information in one location for both Missouri's public health workforce and health care workforce (e.g., licensed professions such as nurses, physicians and mental/behavioral health providers). Data and analysis will be easily available to state agencies, local public health agencies, educational institutions, health systems and other health care employers, and the general public, with the goal to improve Missouri's ability to address Missouri's population health needs and health care and public health workforce development. This activity will work towards the objectives of the OE22-2203 funding through a focus on infrastructure development, prioritizing equity, accreditation and workforce development for LPHAs, and building towards sustainability.

Program Description. The Missouri Health Care Workforce Project will work to transform the infrastructure of public health in Missouri through efforts in four domains: (1) infrastructure development, (2) emerging practices, (3) public health preparedness and collaboration, and (4) analysis. Activities were developed based on recommendations from the September 2021 report from the Milken Institute of Public Health and Missouri Foundation for Health, *Missouri's Public Health Response to COVID-19: Key Findings and Recommendations for State Action and Investment*. Key activities for Year 1 are:

The Missouri Health Care Workforce Project (est. 2007) is expanding to collect and integrate data about the public health workforce.

- Assessing LPHA needs by conducting analyses, including integrating existing assessments and through direct activities
- Working with DHSS and LPHAs to foster and ensure local buy-in
- Provide technical assistance and expertise toward LPHA accreditation efforts
- Create an ECHO to support LPHAs seeking accreditation
- Working to increase equity through the integration of the State Cooperative Extension's *2021 National Framework for Health Equity and Well-Being* into all activities

Role of Partnerships. The partnership between DHSS, MU, and LPHAs will be key to the success of this activity. MU is positioned to collaborate with and facilitate efforts to effectively integrate public health best practices, community engagement, workforce development, education and training, and data analysis and evaluation. MU has experience working with a network of community and statewide partners to address public health needs. The project will be housed in the Office of Health Outreach, Policy and Education (HOPE), a division organized in 2020 by the MU School of Medicine and the MU Office of Extension and Engagement to coordinate telehealth, rural health, policy, and community health improvement. Whenever possible, the Evaluation Team will leverage the systems and resources of the Missouri Health Care Workforce Project to collect data required per its *Evaluation and Performance Management Plan*. This partnership will prevent duplication of effort and minimize the burden on the LPHAs.

Potential Barriers & Mitigation Strategies. No significant barriers have been identified for this project. The project will be monitored for timely progress by the DHSS Workforce Director.

Section A1.iv. Learning and Development Redesign

> aligns with NOFO activity #A1.4 (training)

Overview. The "Great Resignation" is impacting the workforce globally. The field of public health is no exception, as evidenced by the recent loss of public health leadership nationwide. Within DHSS, voluntary resignations have doubled in the last 18 months, and LPHAs have experienced similar employment difficulties. Human resource experts report the leading causes of resignation are toxic work cultures and poor management. Many supervisors do not receive supervisory training until eight years after they take on the role, as noted in *The Leadership Challenge* by Kouzes & Posner (2017). The proposed project addresses a critical need – equipping public health professionals with teamwork and management skills at or before the time they take on supervisory roles.

Program Design. Working through its Center for Local Public Health Services (CLPHS), DHSS will create an online learning platform and leadership development training module (aka, Learning and Development Redesign, LDR) for LPHAs. LDR will develop core public health leadership skills with a common language and curriculum that (1) develops critical leadership skills of public health managers, (2) strengthens supervisor confidence, (3) increases the commitment of public health team members, and (4) enhances the service of public health delivery. Leadership capacity is especially important for LPHAs, as learning and professional development opportunities are limited in their small organizations. The LDR will include specific learning paths to address cultural competence and health equity topics and drive toward more effective programming and inclusive workplaces. The online platform will link to and promote LinkedIn Learning so DHSS and LPHA employees can access hundreds of trainings on a variety of topics. The centerpiece of LDR will be a new Leadership Development Program that taps into Missouri's subject matter experts at DHSS, LPHAs, and academic partners to create modular content customized for public health workers across the state. The Workforce Director is responsible for identifying and recruiting subject matter experts for the Leadership Development Program; the Workforce Director also oversees the development of learning paths, schedules, and events; facilitates curriculum development, and manages user support services (e.g., help desk).

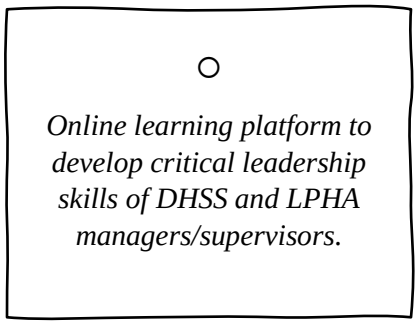


Table A1.iv.1. *Year 1 and Year 5 goals for the Learning and Development Redesign project*

Year 1	Year 5
• Expand license agreement with LinkedIn Learning	LDR is an important contributing factor to: • Reducing voluntary turnover

• Develop and deploy Leadership Development Curriculum for use by LPHAs • Development of structured learning paths through collaboration with subject matter experts • Communicating learning and development opportunities and various courses to LPHA partners	• Increasing organizational health and team morale within DHSS • Offering consistent learning and professional development opportunities for employees across the public health system • Strengthening partnerships and relationships between DHSS and LPHAs • Enhancing collaboration among the key partners

Role of Partnerships. The partnership between CLPHS and LPHAs serves as a source for subject matter expertise, custom content creation, and communication coordination. DHSS will leverage its current licensing agreement with LinkedIn Learning to expand access for LPHAs. The DHSS Office of Performance Management is involved to assist with assessing changes in organizational health scores as measured by its quarterly staff pulse survey.

Potential Barriers & Mitigation Strategies. In the past, a lack of funding and cohesion between interested parties have been the main barriers to DHSS implementing the LDR. DHSS is addressing these barriers by: (1) collaborating with public health agencies across the state to develop the LDR, (2) ensuring the online learning platform is accessible to all public health team members in the state, (3) providing certification for training facilitators, (4) creating a sustainable training curriculum for the future, and (5) providing continuing education and development of all public health team members, especially supervisors. The risks to successful implementation are mitigated by cultivating buy-in among DHSS and LPHAs, integrating LDR into new staff orientation (and existing staff re-orientation), and encouraging DHSS personnel to choose LDR modules as part of annual reviews and professional development plans.

Section A1.v. Mental Wellness

> aligns with NOFO activity #A1.3 (support/sustain)

Background. LPHAs provide essential core public health and preventive services to communities. Similar to health care providers, the public health professionals across the country are facing unprecedented stresses and challenges. Multiple stressors are involved, such as regulatory mandates, technology innovations, complex networks of stakeholders, substance use crisis, COVID-19 pandemic, and emerging infectious diseases (e.g., monkey pox). Public health professionals are having to redirect and increase expenditures from insufficient budgets and rapidly adapt while maintaining continuity of operations. Unfortunately, many LPHA staff are experiencing or at risk for illness, anxiety, depression, grief, trauma, and burnout.

Program Description. Building upon the American Hospital Association's Well-Being Playbook 2.0 to address employee burnout, DHSS is adapting the model as part of a broad strategy to create a culture of well-being for LPHAs and DHSS as well. With expertise and project management support from the Missouri Department of Mental Health, DHSS plans to create a *Missouri Public Health Well-Being Playbook* which will guide LPHA administrators through the fundamentals of employee wellness, such as creating an infrastructure for well-being, engaging teams, measuring well-being, designing interventions, evaluating impact, and sustaining an inclusive culture. During Year 1, DHSS will focus on the development of the leadership team, media/marketing campaign, and launch of a text-based micro learning system for LPHA staff. The communication campaign will be coordinated by Learfield, a sole source contractor for DHSS that is working on a similar project for hospital employees. The Mental Wellness project will also incorporate peer support resources, trauma-informed principles and tools such as Critical Incident Stress Management and Attitudes Related to Trauma-Informed Care (ARTIC) Scale. DHSS and LPHA staff will be trained on the importance of and how to manage debriefings after critical events. They will also be taught the fundamentals of, and a specific protocol for, individual crisis intervention using an evidence-based curriculum and certified trainers affiliated with the International Critical Stress Foundation.

○

Develop and implement evidence-based tools and communications to combat employee burnout
... and cultivate inclusive cultures of wellness at LPHAs and DHSS too.

The Mental Wellness project embraces the model of trauma-informed care and seeks to promote organizational change through a trauma-informed lens and community. Under the leadership of the Workforce Director, DHSS will recruit public health professionals to become master trainers of the Sanctuary Model, an evidence-based approach adopted by the Department of Mental Health. DHSS seeks to establish this standard approach to educating public health professionals about principles of trauma-informed practice to improve the workplace (e.g., management skills, co-worker conflicts, performance assessment/feedback). In addition, DHSS sees many potential benefits to achieving widespread adoption of trauma-informed management practices for developing better approaches to providing essential public health services across Missouri, especially to communities that have been disproportionately impacted by COVID-19 or have experienced trauma related to race/ethnicity, poverty, gender or other social determinants of health.

During Year 1, DHSS will focus on writing the *Missouri Public Health Well-Being Playbook*, offering new training sessions for staff, gathering input from LPHAs, and promoting the micro learning system. By year 5, DHSS expects the Mental Wellness project to deliver measurable changes in the organizational culture (related to employee wellness), employee satisfaction, job retention, use of employee assistance resources and support (for behavioral and mental health), and burnout.

Role of Partnerships. Key partners include, but are not limited to DHSS, the Missouri Department of Mental Health, LPHAs, and federal agencies such as CDC. In addition, resources from national partners such as the American Hospital Association, the National Association of County and City Health Officials, and others will be used to guide and support the project. The Missouri Association of Local Public Health Agencies and Missouri Center for Public Health Excellence will assist with the promotion and recruitment of LPHAs to participate in training sessions, adopt the *Missouri Public Health Well-Being Playbook,* and amplify the communications campaign. Academic partners, including the Saint Louis University College for Public Health and Social Justice, which provide educational and training programs will cross-promote resources offered through the Mental Wellness project.

Potential Barriers & Mitigation Strategies. Stigma and bias related to mental health is present. There may be some hesitancy towards new resources focused on mental health wellness, but DHSS knows many public health leaders are asking for the resources to be offered by the Mental Wellness project. They seek to build organizational cultures that can retain and sustain employees. Training, feedback, testimonials, and reporting on impacts will help mitigate the risk of low participation by LPHA staff. In addition, endorsements by leading public health associations and academic partners will increase the comfort level and awareness of some leaders and organizations.

Section A1.vi. Electronic Inspection and Data Management System (EIDMS)

> aligns with NOFO #A1.4 (training) and #A1.5 (planning/systems)

Background. The modernization of our health, safety, and sanitation inspection operations is critical to the growth of the DHSS and its ability to protect public health. Therefore, DHSS is partnering with LPHAs to design an Electronic Inspection and Data Management System (EIDMS). The primary focus of the EIDMS is to modernize inspection operations and grant DHSS and LPHAs the ability to obtain, manage, and analyze field data. The EIDMS will promote the modernization of health, safety, and sanitation inspections using a software system that will be employed by state and local health agencies. The ability to document inspections through the software system is critical; it will provide a clear reporting mechanism that allows data from the inspections to be collected in an effective manner. Having these data properly managed to track trends and provide timely preventive actions is essential to having a well-operated environmental health program. In addition, it will provide DHSS and LPHAs with the necessary information to act in preventing further issues arising within the industry or the community it serves. For example, the EIDMS will capture violation data such as handwashing violations. An increase in these violations may prompt the LPHA to focus education and training

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A statewide sanitation inspection system can unify the public health system around an essential and frequent task, drive efficiency … and save money for LPHAs.

efforts on that subject, or to help determine if the increase in handwashing violations has led to an increase in Hepatitis A cases in the area.

The modernization of the inspection operations will give LPHAs across the state access to timely public health data to guide practices and procedures, which can lead to interventions and actions to address health equity issues in their region. Currently, only those agencies who can afford these systems have access to these types of data, meaning that poorer communities may have gaps in their knowledge of critical health and safety measures. Having consistent, reliable data across the state will reveal patterns of inequity. Increased efficiency of the system will free up capacity that can be used to address these gaps and better position DHSS to provide assurance to all areas of the state that their communities are being properly monitored to support public health.

Design. Public health actions are guided by data and environmental health is no different. DHSS currently cannot gather and manage health, safety, and sanitation data in an effective manner, impeding the ability to demonstrate trends in environmental health. A cloud-based software system will provide the LPHAs with the needed capacity to improve Missouri's communities and industries based on the data from inspection reports. DHSS will ensure the feasibility of the EIDMS implementation plan through the development of a workgroup, consisting of both DHSS and LPHA staff, to establish, monitor, and evaluate the implementation plan. DHSS will connect with other state and local agencies who have experience with implementing inspection software systems for guidance and assistance. Lastly, DHSS will establish a routine schedule for communicating with the software provider to ensure that proper execution of the software system is being accomplished. The effectiveness of the implementation will be monitored through a series of assessments, questionnaires, regular meetings, and establishing a procedure for communicating issues, ideas, and improvement strategies to be captured and reviewed. LPHAs will conduct most of the routine health, safety, and sanitation inspections for DHSS under contract or agreement. As such, they are the largest provider of inspections and largest contributor of data for analysis.

Role of Partnerships. As described above, DHSS will work closely with LPHAs in all phases of the EIDMS development and implementation to ensure the system works for all partners. In addition to the DHSS/LPHA EIDMS work group, partnerships will be established with state and local agencies who have implemented similar software systems to provide guidance to the work group.

Key Year 1 goals include the following:

- Form the EIDMS work group with LPHAs from across the state to develop an implementation and monitoring plan for the system
- Obtain a well-rounded, user-friendly software system that captures the needed health, safety, and sanitation information during the inspection.
- Develop a data management structure that provides leadership at both state and local levels with access to timely data to guide public health decisions and actions.
- State and local staff will begin performing electronic inspections on the software system.

By Year 5, DHSS aims for the EIDMS are for DHSS and LPHAs to have complete use of the software system to capture inspection data, issue licenses, and dispense public health data to leadership, industry, and the public.

Potential Barriers & Mitigation Strategies. In the past, the main barrier to implementing a software system has been funding. The OE22-2203 funding will allow DHSS to financially support the modernization of Missouri's health inspections system. Risks preventing the EIDMS from being successfully implemented will be mitigated by: (1) financial limitations: DHSS intends that the funding will enable the EIDMS to be provided to LPHAs at no cost, increasing their willingness to participate; and (2) platform limitations: DHSS has allocated sufficient funding for the purchase of a high-quality software platform that will perform all needed functions and tasks.

Section A1.vii. Strengthen Support for Implementation of this Grant

> aligns with NOFO #A1.6 (implementation)

In order to support the proposed activities across A1, A2, and A3 strategies, DHSS will be filling the following positions. Please see the budget and budget narrative for more detail.

Required positions

- Workforce Director (1 FTE): DHSS has selected John Thomas to serve as the Workforce Director. This position will be charged with leading many of the activities in Strategy A1 to ensure successful implementation. The Workforce Director will have sufficient authority to manage the various aspects of this funding opportunity and will report to the DHSS Acting Director Nickelson.
- Lead Evaluator (1 FTE): DHSS will hire a full-time employee for program evaluation and performance measures for all aspects of A1, A2, and A3. They will be tasked with progress reports, internal evaluation activities, and collaboration with CDC and Component B partners on evaluation assessments. Refer to Section C: Evaluation and Performance Management for a description of evaluation activities that are managed by the Lead Evaluator and the Evaluation Team.

Additional positions funded by OE22-2203

- Health Economist (1 FTE) serves as an advisor to various DHSS staff, including DHSS Acting Director Nickelson, on matters of policy and cost-effectiveness.
- Internship Coordinator (1 FTE) promotes, coordinates and oversees public health internships, fellowships and other experiential placements supported by the Internship Program.
- Policy Director (1 FTE) assists in moving most A2 projects forward and advises DHSS Acting Director Nickelson, on matters of policy, accreditation, and foundational public health services. This position also monitors and tracks the activities across the grant to ensure DHSS remains in good standing with CDC requirements and deliverables.

- Accountant (1 FTE) monitors and tracks the expenditures and funding for the Infrastructure grant. They will be the point of contact for LPHAs and CDC to reach out to with funding questions (e.g., encumberment) and assure invoices are processed swiftly.
- Senior Public Health Program Assistant (1 FTE) assists with monitoring and keeping the grant in good standing with CDC requirements and deliverables.

STRATEGY A2: FOUNDATIONAL CAPABILITIES

The DHSS and many of its stakeholders engaged in a multi-year planning and grass-roots engagement process called #HealthierMO, an initiative of the Missouri Public Health Association to convene public health agencies and partners to build "a stronger, more resilient public health system." In 2020 #HealthierMO released the final version of Missouri's Foundational Public Health Services Model (Missouri Model) which defines a minimum set of fundamental public health services and capabilities that must be available in every Missouri community to have a functional system. The model builds on the 10 Essential Services and Core Public Health Functions to achieve a simplified operational framework upon which public health agencies can explain the vital role of governmental public health in a thriving community, identify capacity gaps, determine the cost for assuring foundational public health capabilities and areas, and justify funding requests. Refer to the figure on right. The Missouri Model aligns with the national Public Health National Center for Innovations' (PHNCI) Foundational Public Health Services (FPHS). In November 2021 report, PHNCI applauded the Missouri Model for how it elevates health equity and social determinants of health, making them visible across all capabilities and areas.

Through the 3 key activities of this strategy, DHSS will strengthen its overall systems, processes, and policies to ensure a strong core infrastructure needed to protect health and pursue health equity across Missouri. The attached work plan and budget narrative include additional details about Year 1 tasks.

Section A2.i: Foundational Public Health Services Cost Analysis

> aligns with NOFO activity #A2.1 (accreditation)

Background. Today in Missouri there is no regular, accurate assessment of the quality and comprehensiveness of public health services offered within each jurisdiction (e.g., counties, cities). The proposed activity generates new data, including costs, which has broad application to strengthen Missouri's public health infrastructure.

Design. Building upon the consensus-based Missouri Model and a recent infrastructure assessment survey (outstanding 97% response rate by LPHAs), the DHSS seeks to better understand statewide, regional, and local expertise, capabilities, and capacity to assure the Missouri Model is available for all Missourians. The FPHS Cost Analysis project will answer a long-standing question from stakeholders and policy-makers – "What does public health need and how much will it cost?".

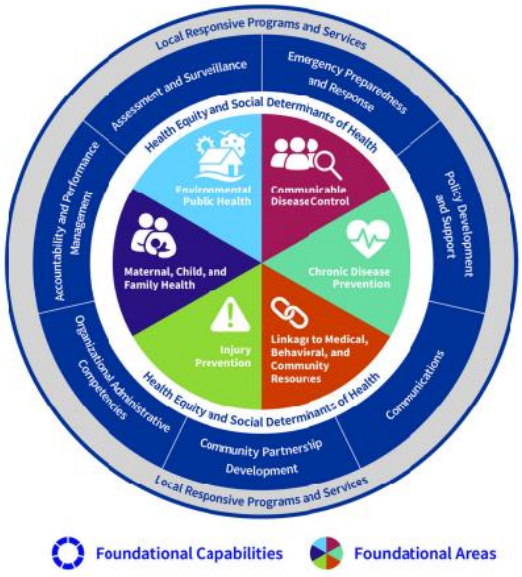


Figure 1. Missouri's Foundational Public Health Services Model

The FPHS Cost Analysis project is designed around a structure and methodology from the State of Ohio Department of Health. The Ohio Costing Tool is a user-friendly tool adapted from the University of Kentucky and intended for use by LPHAs as a mechanism for planning and advocacy. It was developed as a state/local partnership by a team of public health leaders from departments of all types and sizes; they used the RESOLVE model to assure compatibility and comparability with a national framework. Like the Ohio Costing Tool, DHSS will generate a per capita amount spent and estimation of full attainment met by LPHAs for each foundational area and capability of the FPHS model. The analytic methods will be informed by Ohio and research by Cezar et al (*Health Services Research*. Estimating the Cost of Providing Foundational Public Health Services, August 2018) as well as other studies in the literature. The DHSS will follow best practices to support a successful implementation, such as pilot testing, demonstration webinars for LPHAs (to standardize accounting practices), support services from a technical assistance team, online training manuals and videos, and data quality checks.

DHSS is answering a long-standing question from stakeholders and policymakers: "What does public health need and how much will it cost?"

The FPHS Cost Analysis project will provide an accurate assessment of public health services offered by LPHAs as well as DHSS, including per capita spending in seven foundational

capabilities and six foundational areas. This information will inform resource allocations and investments by DHSS and LPHAs to improve operations, expand services, and in some cases, achieve accreditation standards. Refer to Strategy A1 for a description of how DHSS is supporting LPHA accreditation via OE22-2203. In pursuit of sustainability, the FPHS Cost Analysis project establishes a system (i.e., technology, procedures, tools) for the DHSS Center for Local Public Health Services (CLPHS) to collect cost information annually for descriptive analysis (i.e., comparative, trend), forecasting/simulation, reporting, and community-driven planning for statewide, regional and local programs. At the local level, LPHAs are able to use data to advocate for increased or equalized funding for certain foundational capabilities and explore new partnerships. Detailed data will be made available to academic partners for further analysis, especially to support quality improvement priorities.

Coordination of the FPHS Cost Analysis is the responsibility of the DHSS Health Economist (a new position funded by OE22-2203) with technical assistance from an academic partner, public health association, DHSS Policy Director (also a new position funded by OE22-2203), and the DHSS communications team. With oversight from the Health Economist and an advisory group of LPHAs, the contracted academic partner will design and implement a costing tool, execute detailed data collection, and conduct analyses. An accountability plan, developed in collaboration with stakeholders, will be used to highlight and track performance measures that inform the association between public health services and community health status, especially indicators of health equity. FPHS Cost Analysis will provide insights about health equity by connecting health status and public health spending to community-level factors such as race, rural/urban, poverty, cost of living, and more.

Role of Partnerships. DHSS will work with the Missouri Public Health Association, Missouri Association of Local Public Health Agencies, and Missouri Center for Public Health Excellence to promote the project and collect data from LPHAs. A qualified team from an academic partner (to be selected via standard procurement procedures) will develop financial models, create visualizations that communicate results, and develop action plans to use data/reports. The key partners are building upon an established and shared commitment to the importance of knowing the current and required costs to implement the Missouri Model across the public health system over the next five years. The FPHS Cost Analysis project advances DHSS's efforts to increase long-term core funding for LPHAs, identify gaps in implementation for foundational capabilities and areas, and guide future investments in foundational capabilities and areas across all jurisdictions in the State of Missouri. Lastly, the FPHS Cost Analysis project will collaborate with the Internship Program (See Strategy A1) to provide job opportunities for students across Missouri who are interested in public health administration and policy.

By coordinating with the new Policy Director, the FPHS Cost Analysis project advances DHSS's efforts to increase long-term core funding for LPHAs.

Supporting Evidence. The FPHS Cost Analysis project addresses a gap in data for planning and implementing a comprehensive, evidence-based approach to strengthening the public health infrastructure. The need has been identified and described recently by DHSS as well as many partners, such as #HealthierMO, Missouri Public Health Association, George Washington University Milliken School of Public Health, and Missouri Foundation for Health. Other states, such as Ohio, Kansas, and Washington State, have used similar projects to advance efforts to increase long-term core funding for LPHAs.

Potential Barriers & Mitigation Strategies. LPHAs participation is one barrier mitigated through multi-year engagement in public health infrastructure planning via DHSS and the grass-roots movement (#HealthierMO). The DHSS is committed to resourcing the project with sufficient funding and expertise to assure the cost analysis is credible and delivered in a timely manner; appropriate funding reduces the risk of turnover by key personnel, such as the Health Economist and the academic partner's lead researcher(s). Risks related to delays or data collection failures by the academic partner are managed via contract monitoring and progress reports. DHSS leaders will be informed of potential issues and corrective actions, including alternative contracting options. Like all major activities funded by OE22-2203, the FPHS Cost Analysis project is tracked by the Senior Public Health Program Assistant with regular updates to the executive sponsor, Acting Director Paula Nickelson.

Section A2.ii: Accreditation for Local Public Health Agencies (LPHAs) and DHSS

> aligns with NOFO activity #A2.1 (accreditation)

Background. Pursuing accreditation as an LPHA provides a framework for health departments to identify performance improvement opportunities, demonstrate credibility, develop leadership, and improve relationships within the community. Accreditation serves as both an accountability and transparency mechanism with built-in steps leading to transformed public health practice based on industry-wide best practices. Accreditation also helps LPHAs make measurable progress towards the health equity principles of this funding initiative.

Currently, only 22 of the 114 LPHAs in Missouri have accreditation, due to a variety of factors including a lack of funds and workforce capacity to pursue accreditation. All LPHAs will be encouraged and supported to achieve accreditation, as all LPHAs will be eligible for initial accreditation or renewal of their accreditation status over the next 3 years. The process of accreditation, and funds to support its achievement, will strengthen LPHA infrastructure, increase workforce capacity through staff hires, establish electronic platforms and more. The DHSS embraces accreditation based on evidence from the Public Health Accreditation Board (PHAB) which shows that:

- 89% of public health departments that obtain accredited status see increased accountability and transparency within their health department.
- 89% improve their ability to identify and address gaps in public health services

The process of accreditation supports the transformation of Missouri's public health system – local, regional, and statewide.

- 80% report that accreditation activities helped their response to COVID-19 pandemic
- 78% see strengthened relationships with partners in key sectors
- 73% report accreditation helped them implement health equity
- 61% report greater collaboration with stakeholders

Design. This activity will support organizational transformation over the next years for DHSS and LPHAs. LPHAs will deliver increased use of evidence-based public health practice, improved processes, higher quality public health services, and improved service delivery for the citizens of Missouri. DHSS will develop a stronger support system for LPHAs and will see improved collaboration between stakeholders, partners, and local jurisdictions.

LPHAs will receive technical assistance, support, and funding for each step in the accreditation process. With funding from OE22-2203, the direct costs of accreditation, including the initial accreditation fee and annual maintenance fees, will be covered for LPHAs. LPHAs may choose to be accredited through either the Public Health Accreditation Board (PHAB) or the Missouri Institute for Community Health (MICH). Most LPHAs will begin the process through assessment and support services offered by the PHAB Pathways Recognition Program. This approach assesses LPHAs on 34 measures of the *Version 2022 Standards and Measures*. Each LPHA pursuing accreditation will be required to develop a *Community Health Assessment*, which will inform the goals defined in a *Community Health Improvement Plans*. The deliverables are created through a systematic approach to collecting and analyzing data and collaborating with stakeholders.

When a gap between current practices/resources and those necessary to achieve accreditation is identified by an LPHA, DHSS will assist them with OE22-2203 funding to close it. For example, LPHAs may request funding to hire personnel to assist with the community health assessment process. Two Accreditation Coordinators (2.0 FTE new hires with OE22-2203 funds) will oversee investments that assure LPHAs make progress toward achievement of accreditation, provide technical assistance, guide the development of community health assessments, facilitate reporting (i.e., reduce burden of data collection), and serve as liaison to PHAB and MICH. The DHSS Office of Performance Management will manage support services offered by the Accreditation Coordinators. To accelerate the adoption of accreditation tools and resources, DHSS is proposing to augment core funding to LPHAs with incentive payments funded by general revenue (not OE22-2203 funds).

As noted in the budget, some grant funds are allocated to support DHSS in addressing its gaps related to accreditation standards. With guidance from DHSS executives, the Accreditation Coordinators will prioritize and manage projects annually to identify and address deficiencies with PHAB standards.

Effectiveness of the accreditation plan will be monitored via program oversight from the Center for Local Public Health Services within the Division of Community and Public Health and the DHSS Director's Office. Annual surveys will be distributed to participating LPHAs to collect feedback to be used for improvements to the project structure.

Role of Partnerships. Strong partnerships between DHSS and LPHAs, as well as outside organizations, will be pivotal in the success of this activity. PHAB and MICH are essential partners. Engagement of County Commissions and Boards of Health will be part of the stakeholder collaboration steps for LPHAs.

Potential Barriers & Mitigation Strategies. There have previously been barriers to accreditation at both state and local levels. In the past, DHSS did not have the workforce capacity and funding in place to support LPHA accreditation efforts. These barriers will be mitigated by the current funding opportunity, which will be used to enhance capacity for assessments and stakeholder engagement as well as support for annual/initial fees. LPHAs often experience barriers related to their capacity to become accredited, especially smaller jurisdictions with limited staff. Funding provided by this opportunity, as well as support and assistance provided by two Accreditation Coordinators, will be utilized to help mitigate these concerns.

Successful implementation of this activity, and the goal of having all LPHAs achieve accreditation status, may be hindered by multiple risks, such as competing priorities for LPHAs which may affect the timeline for completion of accreditation activities. Lack of capacity and resources for some jurisdictions may affect the ability of all LPHAs to achieve accreditation. To address these risks, funding will support enhanced capacity for jurisdictions in need as well as a regional staffing system to share expertise and resources among counties.

Section A2.iii. Communications Strategy

> aligns with NOFO activity #A2.3 (enhance communications)

Background: The public's uneven response to the COVID-19 pandemic demonstrated the importance of compelling and persuasive public health messaging. Missourians represent a diverse citizenry which requires more variety than a monolithic framing campaign will deliver. Survey data suggests that a large percentage of Americans distrust the media, and a profound ideological divide among the population resulted in a polarization of public health information. Also, public health advocates must appreciate that a historical mistrust in government and the health care industry exists for many constituencies. For example, African Americans' vaccine hesitancy contributed to higher infection and mortality rates compared to white individuals. Numerous factors exacerbated poor health outcomes for African Americans, including a lack of Black physicians, the spread of misinformation on social media, and the underlying social and structural determinants of health that tend to disproportionately affect health outcomes of African Americans.

Missouri has an opportunity to reframe health messages that will lead to the public understanding what they stand to gain versus what they believe they will lose by following the guidance of public health agencies. Improved perceptions and better health outcomes can extend

beyond COVID-19 and work to restore trust and confidence among the public. DHSS will develop communication strategies in collaboration with LPHAs and community partners in the distribution of resources into historically underserved communities and vulnerable populations.

Design. DHSS will develop a statewide communications strategy that will generate a synergy that promotes a better understanding of what DHSS and LPHAs are working to achieve together as a comprehensive system. By having a shared vision and collaborative approach, the public health system will be able to share the same "story" about public health, its mission, and what it provides for the citizens of Missouri. With the support of OE22-2203, DHSS will assist LPHAs who do not currently have ample communications resources to utilize and spread key messages to their communities.

Promote a better understanding of what DHSS and LPHAs are working to achieve together ... and tell the same story about the value of public health to Missourians.

Year 1 key activities will include:

- Design and analyze key messages:
    - To shift the approach to public health messaging, DHSS will begin with an analysis of previous messaging campaigns and an assessment of the most critical health concerns facing Missourians. A thorough review will allow the communications team to determine the key messages that DHSS will deliver to the public. Knowing each audience and choosing statements with words and examples that resonate with each constituency will be essential. Messages must include citations from well-trusted sources, be concise, easy to understand, and, most importantly, culturally relevant across multiple demographics.
- Build an information infrastructure:
    - DHSS will create a unified web presence to house public health information for the state. Often the internet, rather than physicians, is the first place Missourians go to find answers to their health questions. Online health information provides an opportunity for citizens to increase their knowledge of health-related topics in general and provide a source to assist with health-related decision-making. However, online health information is difficult to regulate, and monitoring the consumption of this information presents challenges. Assuring that public health information remains accessible, relevant, and consistent will reduce the spread of misinformation.
- Craft shareable materials to communicate key messages with partners and public:
    - Creating content that partners and the public will share requires a basic understanding of human behavior, persuasion science, and trial and error. For content to be "shareable," it must hold value or provide utility to the reader and consider emotional and social perceptions. DHSS will work to ensure materials are simple, creative, fresh and tell a compelling story.
- Ensure the development and distribution of inclusive content and materials:
    - U.S. Census data shows that over forty different languages are spoken in Missouri. As a state with a diverse population, Missouri's approach to public

health material must be inclusive. DHSS will contract with translation companies to tailor materials to different languages, cultures, and education levels.
- Communications firm will assist with purchasing media and disseminating materials.

Support for Health Equity. As DHSS develops health messages, they will utilize a health equity lens to better understand systemic social and health inequities that have led to increased risk, higher rates of illness, and poor health outcomes for certain population groups. They will also consider the intersectionality of health equity and literacy levels within the state. The materials will be written in plain language with active verbs and distributed across multiple mediums based on the assumption that not all people have access to digital communication or speak English as their primary language. DHSS will partner with a currently contracted communications firm to create messages that benefit all Missourians. DHSS will require the firm to provide ongoing market analysis and web analytics that will enable a response to insights and continually adjust through the 5-year program period.

Role of Partnerships. DHSS has identified three main partners to ensure the effective execution of the communications strategy: LPHAs, the contracted communications firm, and health advocacy organizations throughout the state. With a statewide vision for health communications, our partners will support and share DHSS messaging with local stakeholders and the public using a shared vision, goals, objectives, and initiatives that target community needs. COVID-19 showed that without cohesive, coordinated, and culturally relevant messages, public health outcomes worsen, and mitigation strategies weaken.

Potential Barriers & Mitigation Strategies. DHSS has faced challenges in funding and staffing that have prevented the department from executing a comprehensive communications strategy to fully serve the public and meet specific community needs. The OE22-2203 funding opportunity will allow creative materials to be produced, media to be purchased and staffing to be contracted, all of which will help overcome the challenges previously faced by DHSS. To ensure that developed materials are utilized, staff will be committed to this project to allow for streamlined and intentional communication to occur internally, among outside partners, and with the public.

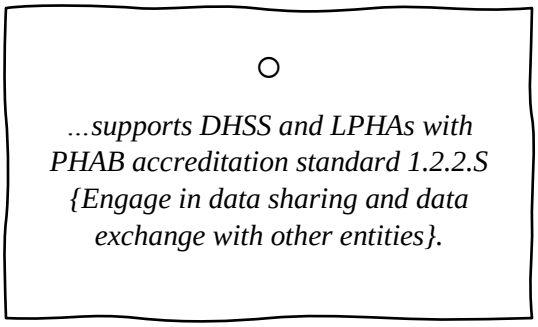
STRATEGY A3: DATA MODERNIZATION

The three proposed key activities for A3 enable and accelerate implementation of innovative modernization projects to enhance data quality, exchange, dissemination, and use. They satisfy NOFO requirements for assessment (#2) and implementation (#4), as described on page 13 of the NOFO. Leadership for DHSS's agile, enterprise-wide data modernization is provided by Dr. Venkata Garikapaty, Director of the Office of Epidemiology; his position is fully funded by other sources. The Office of Epidemiology team is coordinating and leveraging the workforce, laboratory system, and data-related activities in Epidemiology and Laboratory Capacity for Prevention and Control of Emerging Infectious Diseases (ELC), Public Health Emergency Preparedness (PHEP), and other funding opportunities.

Section A3.i: Interoperability Business Analysis

> aligns with NOFO-required activity #A3.2 (assessment)

Overview. Interoperable systems allow public health agencies to identify patterns and communicate data across disciplines and jurisdictions, exchanging information for discovery and action, often in real-time. DHSS manages many freestanding data systems that securely hold data, but do not interface with one another. As a result, DHSS bears substantial costs (in personnel and consultant time) when data files need to be linked, interfaced, or merged for analysis, visualization, and public reporting. In some cases, the work is not possible or cannot be completed in a timely manner to support decision-making. The Interoperability Business Analysis project addresses an immediate and critical data infrastructure need. This project supports DHSS and LPHAs in making progress toward PHAB accreditation standard 1.2.2.S {Engage in data sharing and data exchange with other entities}.



Program Description. The Interoperability Business Analysis project is a thorough review of DHSS data systems to identify opportunities and solutions to achieve interoperability and drive improvements in data quality and timely analysis/reporting particularly for reportable condition surveillance, vaccine registry and syndromic surveillance. DHSS formed the new Bureau of Data Modernization and Interoperability (BDMI) to address interoperability and other issues impacting state public health data systems. BDMI staff in conjunction with other units will explore access to new data sources that enable the linkage of social determinants to health status. The goal of this project is to enhance current surveillance systems not only in terms of infrastructure capabilities but also in terms of data reporting to CDC to meet 21st century public health data needs. Furthermore, a critical aspect of this project is to provide timely and accurate data to LPHAs on reportable conditions so that they can initiate public health actions in a timely manner without a data lag. While reportable condition and vaccine registry surveillance have made significant progress, syndromic surveillance is still in the initial stages and is anticipated to be completed by the timelines provided in the work plan.

Role of Partnerships. Contract monitoring and project management discipline mitigates risks associated with contractors meeting work plan deadlines and deliverables. Executive sponsorship by DHSS Acting Director Nickelson assures cooperation and participation of managers, directors, and key personnel who will inform the analysis and recommendations of the consulting team. Project management and technical expertise within BDMI will assist programs in developing realistic timelines, clear communication, and accountable task assignments.

Potential Barriers & Mitigation Strategies. Contract monitoring and project management discipline mitigates risks associated with the contractor meeting work plan deadlines and deliverables. Executive sponsorship by DHSS Acting Director Nickelson assures cooperation

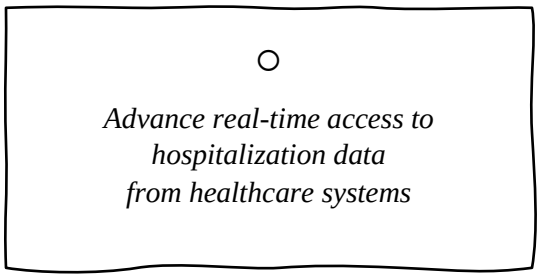
and participation of managers, directors, and key personnel who will inform the analysis and recommendations of the consulting team.

Section A3.ii: Hospitalization Surveillance System

> aligns with NOFO-required activity #A3.4 (implement)

Overview. This is a collaborative program to modernize and enhance the Missouri Hospital Association's Hospitalization Surveillance System for exchange of hospital case data. In response to the pandemic and the need to consolidate timely data from multiple sources, the US Department of Health and Human Services' (HHS) developed and launched HHS Protect, a secure data system comprised of eight commercial technologies for sharing, parsing, housing and accessing COVID-19 data and other health care information. One component, the Protect TeleTracking system, provides hospital specific data, such as inpatient bed utilization, ICU bed capacity, ventilator usage, percentage of beds occupied by COVID-19 patients, emergency department visits, laboratory testing, number of COVID-19 cases, as well as state policy actions, census and demographic data. The system also provides information on supply chains of large healthcare distributors and hospital inventories of supplies, such as personal protective equipment. Currently, more than 6,000 hospitals across the country are reporting to this system. The DHSS currently uses the HHS TeleTracking system to obtain hospitalized case data and partners have utilized the data to project transmission and hospitalization rates. With HHS TeleTracking eventually being discontinued, DHSS is seeking to work with Missouri Hospital Association (MHA) and its affiliated Hospital Industry Dara Institute (HIDI) to get this information in a near real-time manner. Historically, healthcare system data have often had lengthy delays in reporting, were fractured, and inaccessible. Combining these data and providing near real-time access makes this information extremely useful for data-driven decision making, guiding action, directing and maximizing resources, and improving health outcomes.

Program Description. The DHSS currently exports hospitalization data from the HHS TeleTracking system for the purpose of monitoring COVID-19 and associated impacts on the health care system in Missouri. While TeleTracking data have been valuable throughout the COVID-19 pandemic, their utility from a public health reporting perspective is limited for a variety of reasons including burdensome manual entry, reporting frequency insufficiently for public health situational awareness, and a lack of granularity needed to support targeted interventions and ongoing health equity monitoring. Moreover, there currently is no defined mechanism for replacing these data when HHS TeleTracking is discontinued at a future date. In the spring of 2022, DHSS, HIDI and MHA worked collaboratively to evaluate the feasibility of using Admissions, Discharge, and Transfers (ADT)-based, real-time reporting to be a foundation for ongoing and future monitoring of Missouri hospitalization case-based data. The system will have true



interoperability and be in alignment with the Office of the National Coordinator for Health Information Technology and Centers for Medicare & Medicaid Services provisions of the 21st Century Cures Act.

Early learnings from the May 2022 DHSS/HIDI collaborative demonstration pilot support feasibility of scaling the existing statewide platform's capture of real-time ADT encounter data for statewide case encounter reporting. A sampling of recently submitted hospital ADT data demonstrated high levels of completeness of cases reported as well as demographic data granularity as matched to TeleTracking and historical claims data. This funding will help to make these enhancements a reality and create a near real-time hospitalization case-based data stream to DHSS. The upgraded systems will achieve improvements in the following areas: (1) interoperability between healthcare systems and DHSS, (2) improved timeliness, quality, completeness, and accuracy of data, and (3) modern and efficient infrastructure. For example, interoperability of systems will increase availability and use of acute care data to assist with planning and evaluation of health outcomes and make timely and accurate data about COVID-19 and other public health threats available to public health practitioners and clinicians to identify risks, inform testing and effective treatment options, and assess overall quality of care. The time spent on manual entry and file transfers will reduce personnel costs related to data collection, management, and analytics. Through improvements to timeliness and data completeness, health systems can implement notifications and alerts into workflows that assist clinicians in determining which patients may require additional resources (e.g., subspecialty medical care, care coordination, social services), may be at risk for complications (e.g., readmission).

Year 1 goals of this project will focus on establishing the connection between DHSS research analyst staff and the MHA/HIDI data warehouse to access data that is currently collected; developing dashboards and other tools needed by epidemiology and research staff to enhance surveillance needs; and creating an effective dissemination plan to effectively and efficiently communicate information gathered from this data source. By Year 5, DHSS will establish secure data feeds for information already collected by MHA. This information will be used to track hospitalization information and to develop dissemination plans including reports, dashboards, and other visual analytic tools. LPHAs will be able to access hospitalization information more rapidly and be notified of data within their communities.

Focus on Equity. The geographic and demographic data helps us better understand how COVID-19 and other diseases affect different population groups and the disproportionate impacts on minority and other populations. For example, data showed the tremendous COVID-19 impact on Black and African Americans (prevalence 2.7x and mortality 3.7x greater) than white Missourians and schools were able to use that data to set policies and make decisions on reopening. The population and communities that will benefit from this activity include all Missourians, but especially minority groups, the medically underserved, and families with low socioeconomic status who have been so disproportionately impacted by COVID-19 and other health conditions.

Role of Partnerships. The collective partners will be heavily involved in the data platform enhancement process, including data submission and utilization, testing and feedback of the new

system, and information exchange and functionality. These key partners include, but are not limited to hospitals and clinics, MHA/HIDI, MO HealthNet, LPHAs, and federal partners such as CDC.

Potential Barriers & Mitigation Strategies. To promote success, training on new procedures will be provided for health systems and staff. There is the potential for disruption of data processing from small hospitals and others who may have resistance and hesitancy towards a new system. Training, establishing processes, and accessible technical assistance will be developed to help overcome these barriers. Effectiveness of implementation will be continuously monitored through established outcomes and input from the collective partnership in planning and throughout enhancements.

Section A3.iii: Missouri Cancer Registry

> aligns with NOFO-required activity #A3.4 (implement)

Overview. The *Missouri Cancer Registry (MCR)* is one of the most important and mature surveillance systems used to measure and improve the health of the state's population. The MCR was launched in 1972 as a voluntary reporting system for Missouri hospitals. In 1984, legislation was passed that required hospitals to mandatory report cancer cases and a year later (1985), the first cancer incidence rates were calculated. This groundwork led to the MCR becoming part of the CDC National Program of Cancer Registries (NPCR) in 1995 and on to the 1999 state legislation that expanded cancer case reporting to pathology laboratories, ambulatory surgery centers, freestanding cancer clinics, treatment centers, physicians, and non-hospital care centers. This created a solid foundation for the high-volume central cancer registry, averaging more than 35,000 cases per year (2014-2018), to provide population-based quality, reliable data to conduct epidemiological studies; better understand cancer and outcomes in communities and the state; and contribute to national vital cancer statistics. One of the highest priority needs for the MCR system is to continue upgrading to a modernized, scalable, sustainable, and efficient system for pathology reports. Funding and staff resources have been inadequate to implement these enhancements in the past. These barriers will be mitigated through this funding opportunity. Modernization of the MCR system will improve the timeliness, quality, completeness, and accuracy of NPCR surveillance data.

Modernization of the Missouri Cancer Registry system improves the timeliness, quality, completeness, and accuracy of surveillance data.

The MCR actively participated in the CDC NPCR Data Modernization Initiative after receiving funding for Tier 1 and Tier 2 of the Data Modernization Initiative 2021-22. Missouri was one of the first four states that was able to receive cancer pathology data from the Association of Public Health Laboratories (APHL) Informatics Messaging Service (AIMS) Platform through the onboarding of national, regional, and local laboratories. MCR was also part of Tier 2 DMI Workgroups that specifically focus on the building and governing of the cancer surveillance

cloud-based computing platform with multiple staff participating in each workgroup: self-service onboarding/vendor, web-plus, data governance, and eMarc.

Program Design. With funding from OE22-2203, the MCR will continue modernization efforts made possible by Tier 1 and Tier 2. The focus is on achieving the successful adoption of data modernization strategies aligned with CDC NPCR priorities, most notably scalable improvements designed that reduce the burden on the public health workforce – via automation, technology, policies, and system efficiencies. The MCR's upgraded systems will achieve improvements in the following areas: (1) interoperability between laboratories and other reporters and the registry, (2) improved timeliness, quality, completeness, and accuracy of data, and (3) modern and efficient infrastructure. Interoperability and timeliness promote the health of all Missourians through increased availability and use of cancer incidence data, which can guide the development and evaluation of prevention and treatment interventions at the community and clinical level. The MCR seeks to reduce personnel time spent on reporting tasks and allow reporting partners (e.g., hospitals, labs) to reallocate time to patient care activities and other high-priority tasks. DHSS will obtain new functionality from MCR that enables laboratories to report jurisdiction-specific data for identification trends, risk factors, and clusters/outbreaks. DHSS will also have better data accessibility for the Missouri Comprehensive Cancer Prevention and Control Program and improve the quality of data reported to the CDC.

Year 1 goals include testing and reporting on ePath and WebPlus, training and working with pathology laboratories on onboarding, increasing timeliness and real-time reporting, and increasing efficiency in national reporting. A description of Year 1 tasks can be found in the attached work plan.

Health Equity. Modernization of the MCR adds capacity to study and address health equity across Missouri. Data obtained from this system include geographic and demographic information that can be analyzed to describe disparities and changes in health equity for racial minorities, rural/urban communities, poverty, medically-underserved, sex/gender, and groups disproportionately affected groups by specific cancers (e.g., lung, breast).

Role of Partnerships. Partners are heavily involved in the data modernization process, including in the testing and feedback of the new system, reporting according to standards, and accessibility and use of the data. These key partners include, but are not limited to, commercial laboratories, hospitals and clinics, clinicians, local public health agencies, DHSS programs (e.g., Missouri Comprehensive Cancer Prevention and Control Program, WISEWOMAN, Missouri Tobacco Prevention and Control), and other state-based registries. The management of MCR is coordinated through a long-standing agreement between DHSS and the University of Missouri.

Potential Barriers & Mitigation Strategies. There is a potential disruption of data processing from small-scale data reporters due to resistance and hesitancy toward new systems. Training, establishing processes, and accessible technical assistance will be developed to help overcome these barriers. The effectiveness of implementation will be continuously monitored through established outcomes and input from key partners in planning and throughout the project.

1. Collaborations

Additional capacity to execute strategies successfully and equitably will be provided through collaborations with key professional groups, academic institutions, and other departmental and non-profit partnerships that DHSS has established over the past decades. The partnerships are critical to the proposed strategies and to building a sustainable public health infrastructure that delivers foundational public health services across Missouri.

Please refer to the table below for a listing of key collaborators (external to DHSS) and their connection to strategies A1, A2 and A3.

Table B.1. *Listing of key collaborators*

Partner Organization	***Lead Representative(s)***	***A1***	***A2***	***A3***
Missouri Hospital Association (membership organization for hospitals)	Jackie Gatz, Mat Reidhead	⭘	○	●
Missouri Public Health Association (membership organization for LPHA directors and public health practitioners)	Kristi Campbell	⭘	●	
Missouri Primary Care Association (membership organization for community health centers)	Lindsey Haslag, Rodney Hummer	○		○
University of Missouri School of Medicine	Kathleen Quinn	●	●	
Missouri Cancer Registry (University of Missouri)	Iris Zachary			●
Saint Louis University School of Medicine and College for Public Health and Social Justice	Eric Armbrecht	⭘	○	
Missouri Foundation for Health	Clay Goddard	○	○	
Missouri Department of Elementary and Secondary Education	Kari Monsees		○	
Missouri Department of Higher Education and Workforce Development	Dr. Mardy Leathers	●		
Missouri Department of Mental Health	Valerie Huhn	⭘		
Missouri Association of Local Public Health Agencies	Becky Hunt	⭘	○	
Missouri Center for Public Health Excellence	Spring Schmidt	⭘	○	
Learfield Communications		●		

Levels of collaboration:
○ *Advisory*: information sharing and partner engagement
⭘ *Important:* necessary for successful planning, design or evaluation
● *Essential:* critical for implementation

2. Target Populations and Health Disparities

As the statewide public health department established by statute to supervise and manage all public health functions and programs, DHSS provides services across 115 counties with a total population of 6,154,913 million residents, per 2020 U.S. Census. Funds from OE22-2203 will serve the entire population of the State of Missouri except for Kansas City, Missouri

(population: 508,090 per 2020 US Census). A separate grant proposal submitted by the Kansas City Health Department describes activities focused on this city. Therefore, DHSS activities supported by OE22-2203 will serve approximately 5.6 million Missourians.

While Missouri is the 19th largest state in the country, its per capita public health spending is 50th, at just $7 per person per year. Missouri's public health system funding is consistently among the lowest in the country and has been for decades. The OE22-2203 opportunity will provide urgently needed funding that will enable DHSS to offer improved public health services and well-being to all Missourians. Missouri has significant health disparities, particularly in low income, rural and Black/Brown populations. COVID-19 disproportionately affected these communities, while simultaneously exacerbating existing health disparities in chronic conditions such as diabetes, cancer, and heart disease. Activities selected for Strategies A1, A2 and A3 are designed to improve health equity and lower health disparities. For more information on target populations and health disparities in Missouri, please see Section A: Background and attachment "Organizational Capacity_Component A_Population Size".

C. EVALUATION AND PERFORMANCE MEASUREMENT PLAN

Utilization-focused and participatory approach to evaluation. Practicality is the organizing theme for the evaluation of the proposed activities. Consistent with utilization-focused evaluation theory, the Evaluation Team focuses on real users and specific applications of evaluation results to drive quality improvement at two levels of the public health infrastructure – local and state. The DHSS will employ an embedded evaluator model where evaluation experts participate fully in program design and facilitate decision-making to address barriers and project risk. A participatory approach is demonstrated in many ways, including the (a) strategic evaluation planning process, (b) Evaluation Advisory Committee (EAC), (c) annual quality improvement conference, and (d) use of storytelling methods.

○

Focused on real users and specific applications of evaluation results to drive quality improvement

Full-time Lead Evaluator and team provide capacity to deliver evaluation results. The DHSS dedicates a full-time employee (Lead Evaluator, 1.0 FTE) to program evaluation and performance measurement. As the DHSS' primary liaison for all evaluation and performance measurement issues, the Lead Evaluator facilitates progress reporting, grant performance measures, internal evaluation activities, collaboration with national partners (e.g., Component B contractors), and participation in relevant national organizational and workforce assessments. DHSS intends to hire a Lead Evaluator with professional experience in program evaluation, grant management, and health equity; the ideal candidate holds an advanced degree in public health and has worked with LPHAs in Missouri. The Lead Evaluator is supported by a contracted team (Evaluation Team) that implements the evaluation plans, designs surveys, collects data, manages databases, prepares reports, and provides general project management services (e.g., meeting facilitation, communications). The contractor will be selected via standard, state-required procurement procedures. One person on the Evaluation Team will serve as the Data Coordinator, responsible for building a catalog of data resources (quantitative and qualitative) used by individual evaluation projects and preparing the required *Data Management Plan*. In addition, the Data Coordinator will provide quarterly updates and periodic quality checks of data availability or integrity. The Lead Evaluator and Evaluation Team are equipped to support a variety of data collection tasks in coordination with the Component B contactor and CDC, such as PH-WINS, ASTHO/NACCHO Profiles, and PHAB Accreditation.

○

Lead Evaluator + Evaluation Team + Evaluation Advisory Committee provides stability and expertise to conduct thorough evaluations with CDC and other states

Evaluation planning engages many. To expand its capacity and expertise for effective evaluation, the DHSS will form an Evaluation Advisory Committee (EAC) with nine experts across many public health fields, including administration, equity, health education, training, epidemiology, and communications. Two additional EAC members will be appointed to represent the viewpoint of local public health agency boards of health. Attention has been given to diversity across many factors in selecting EAC members. The proposed membership of the EAC is presented in Table C.1. The EAC will advise annual strategic evaluation planning, per

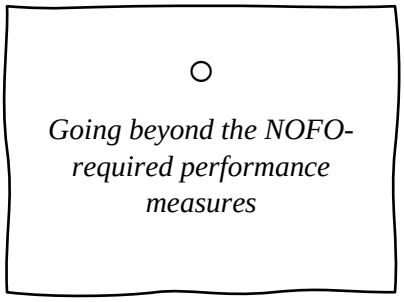
CDC's *Learning and Growing* framework, and in alignment with the program logic model, NOFO-required outcomes, and four overarching evaluation questions as shown in Table C.2.

Table C.1. Evaluation Advisory Committee (proposed membership)

Name	***Role / Organization***	***Areas of Expertise***
Sara Davenport	DHSS, Office of Rural Health	Evaluation methods
Valerie Butler	DHSS, Office of Minority Health	Health equity
Jane Mosely, Ph.D.	Health Forward Foundation	Evaluation methods, health equity
Clay Goddard, MPA	Missouri Foundation for Health, Public Health Transformation Program	Policy development, LPHA administration, communications
Eric Armbrecht, PhD	Saint Louis University College for Public Health and Social Justice	Epidemiology, research methods, data management
Brenna Davidson	DHSS Operational Excellence, Office of Performance Management	Evaluation methods, quality improvement
Jenine Harris, PhD	Washington University Brown School of Social Work	NACCHO, survey design, data analysis
John Thomas	DHSS, Workforce Director	Program management, training
Maxwell A Barffour, PhD	Ozark Public Health Institute	Data management, LPHAs
Deb Cook, RN	Dunklin County Department of Health	Local board of health (chair)
Serena Muhammad	St. Louis City Department of Health	Local board of health (chair)

Evaluation and Performance Management Plan. The EAC will provide input on the development of the *Evaluation and Performance Management Plan (EPMP),* which will be completed within six months of the grant award. The EPMP will address (1) data collection sources/methods, (2) evaluation questions, (3) continuous quality improvement, and (4) partner participation in planning. DHSS is prepared to report quarterly (and possibly monthly) on all required performance measures described in OE22-2203 and collaborate with CDC, Component B contractors, and others for yet-to-be-defined metrics. During Year 1, the Lead Evaluator and EAC will host monthly webinars with LPHA and partners to gather information about evaluation needs, receive input to inform EPMP development and seek methods and tools to minimize the data burden collection and reporting. By updating the EPMP annually, the Evaluation Team commits to incorporating stakeholder input in setting the highest priorities for evaluation activities and assuring resources are available to deliver NOFO-required performance measures.

Selecting activities for rigorous evaluation and quality improvement and sharing results. As part of the strategic evaluation planning process, the EAC will assist the Lead Evaluator (and DHSS leadership) with prioritizing a few activities for rigorous evaluation – beyond NOFO-required performance measures. The prioritization rubric would elevate activities that address health disparities and benefit from applying best practices from improvement science, such as consistent project management, root cause analysis, plan-do-study-act cycle, and routine measurement. Quality improvement projects are indexed and organized by the Evaluation Team using the Model for Improvement, a framework for change management endorsed by the Institute for Healthcare Improvement (Langley et al, 2019). The EAC will be consulted quarterly to review quality improvement project results and assist with



strategies to disseminate evaluation findings through multiple channels, including case studies and an annual conference.

Annual forum and quarterly webinars. At the end of Year 1, DHSS will begin hosting annual conferences (*Missouri Public Health Quality Improvement Forum*) and quarterly webinars to build a shared understanding of OE22-2203 evaluation goals among stakeholders and disseminate results. Current plans call for the first conference to be hosted in coordination with public health associations and professional development programs. The annual forum and webinars broaden partner involvement and gather input from those who are collecting data, changing systems, and advocating for public health. Through sharing evaluation results, DHSS can also celebrate successes and build a community of support and encouragement for public health professionals, especially those responsible for program evaluation. In addition, the annual forum and webinars provide a channel to offer technical assistance related to performance measures (See Table C.3) and promote participation in the national and state workforce and foundational capabilities assessments.

Using evaluation as a way to enhance stakeholder engagement.

Experience with national workforce and foundational capabilities assessments. DHSS has been an active participant in national and statewide efforts to assess and improve the capacity of the public health system. And the DHSS is committed to ongoing participation. Here are a few highlights of prior commitment and experience:

Committed to ongoing participation with national workforce and foundational capabilities assessments.

- The DHSS and many of its stakeholders engaged in a multi-year planning and engagement process called #HealthierMO, an initiative of the Missouri Public Health Association, to convene public health agencies and partners to build "a stronger, more resilient public health system." In 2020 #HealthierMO released the final version of Missouri's Foundational Public Health Services Model (Missouri Model), which defines a minimum set of fundamental public health services and capabilities that must be available in every Missouri community to have a functional system. Refer to Section B (strategy A2) for an illustration. The Missouri Model aligns with the national Public Health National Center for Innovations' (PHNCI) Foundational Public Health Services. In November 2021 report, PHNCI called out the Missouri Model for how it elevates health equity and social determinants of health, making them visible across all capabilities and areas. The DHSS intends to use the Missouri Model as a framework for case studies that describe changes in LPHA capabilities and expertise.

- In 2020, #HealthierMO and DHSS conducted a statewide infrastructure and capacity assessment survey of LPHAs, with participation from 97% of LPHAs. The statewide conclusions, released in April 2021, spurred the formation of the DHSS Public Health Workforce Advisory Group and informed plans for many activities found in this grant proposal. The key findings were: (a) per capita funding drives local public health capacity more than any other indicator, (b) capacity deficits were associated with administrators with less than two years of experience, and (c) capacity in capabilities depends on leadership skills

and training, (d) accreditation predicts, but does not guarantee capacity, and (e) communicable disease control had high levels of expertise and capacity. County-level results, released in September 2021, assisted many LPHAs with advancing plans to pursue accreditation or re-accreditation. DHSS will explore options for using the county-level data from the #HealthierMO assessment as a baseline for measuring the change in infrastructure and capacity.

- The DHSS and Missouri LPHAs are regular participants in the PH-WINS survey by de Beaumont Foundation. The 2017 report identified significant workforce capacity needs for Missouri. The newly released report brief (July 21, 2022) pointed to stress and burnout of the public health workforce, noting that 1 in 3 public health employees say they are considering leaving their organization within the next year. The DHSS eagerly awaits the release of detailed findings from PH-WINS, which may provide specific information about Missouri or the multi-state region. The DHSS plans to seek technical assistance from CDC and de Beaumont Foundation for data collection methods regarding workforce capacity, job satisfaction, and more.

- The DHSS participates in the ASTHO Profiles project and pledges to continue. During the last administration of the NACCHO Profiles, 55 of 114 LPHAs participated – a response rate of 48%. DHSS and its partners, such as Missouri Public Health Association, are committed to increasing participation in NACCHO Profiles.

- The DHSS recently completed a self-study, community health assessment, and state health improvement for a PHAB reaccreditation application. DHSS was first accredited in 2016 and was the sixteenth state to earn PHAB accreditation. The recent experience provided current DHSS executive leaders and managers with the knowledge and organizational support to achieve improvement goals. Moreover, the DHSS can offer technical assistance and leadership support to LPHAs that are pursuing accreditation via PHAB. Today there are 8 LPHAs accredited by PHAB – including all of the large cities/counties (e.g., St. Louis City, St. Louis County, Kansas City, Springfield-Green County, Columbia-Boone County) that serve about 40% of the state population. The Evaluation Team will build surveys and other data collection tools as needed for NOFO-required performance measures, so they align with PHAB definitions and standards.

- In addition to PHAB, the Missouri Institute for Community Health (MICH) is authorized to accredit LPHAs in Missouri using its standards and assessment tools based on the PHNCI Foundational Public Health Services. Established in 2003 with support from the Missouri Association of Local Public Health Agencies, MICH was formed to meet the needs of small and rural health departments seeking peer assessment and recognition for achieving standards. Fifteen LPHAs hold accreditation from MICH. The Evaluation Team will collaborate with MICH to minimize the burden of data collection from LPHAs that choose MICH accreditation.

- The DHSS supported an independent study of Missouri's Public Health Response to COVID-19 by the George Washington Milken Institute School of Public Health, funded by the Missouri Foundation for Health. Published in September 2021, the study *Key Findings and*

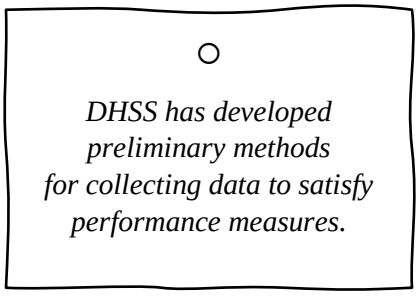
Recommendations for State Action and Investment assessed Missouri's foundational capabilities. They outlined eight recommendations to strengthen the public health infrastructure, many of which are addressed directly by activities proposed in this application. Of particular relevance to A1 and A2 strategies are three specific recommendations: (a) bolster the public health workforce, (b) create regional coordinating bodies, and (c) provide financial support and technical assistance for public health accreditation.

Guided by evaluation questions. As part of the EPMP development process, the DHSS will synthesize information about how projects and partners are addressing the four overarching evaluation questions shown in Table C.2. More importantly, the planning process will focus on alignment of activities with performance measures to assure there is sufficient, valid data available for reporting to CDC and other stakeholders.

Table C.2. Preliminary evaluation questions: *To what extent has the State of Missouri…*

Area	***Question***
Workforce	**(1)** Strengthened the public health workforce?
Diversity and Inclusion	**(2)** Increased the contributions of diverse staff to the achievement of public health improvement goals?
Organizational Capacity	**(3)** Improved organizational systems and processes for effective management of local and statewide public health agencies?
Data	**(4)** Increased availability and use of public health data?

Required performance measures for A1 and A2 – data collection and reporting. The DHSS agrees to report on all NOFO-required performance measures, as shown in Table C.3, for A1 and A2 strategies. Data sources have been identified for all performance measures; many require establishing a survey-based system to gather data from LPHA administrators and their human resources staff. For example, performance measure A.1.p1 {job vacancies} may be collected quarterly from LPHAs and partners via survey, whereas vacant positions at DHSS can be extracted from the State of Missouri's human resources information system (HRIS). The Evaluation Team will explore collaborations with the DHSS Office of Human Resources to access HRIS analytic tools and job boards (e.g., https://mocareers.mo.gov/). Some performance measures, such as A.2.p2 {improvements to foundational systems/processes} may be addressed by case study methods (e.g., key informant interview, reflective practice, focus group) and sampling LPHAs. A few performance measures, such as A.1.io {staff job satisfaction} may involve the administration of a workplace climate survey and collaboration with a national assessment (e.g., PH-WIN). The proposed staffing of the Evaluation Team is sufficient to handle the data collection, management and reporting tasks during the grant period. With advisory support from the EAC and DHSS experts in evaluation and measurement (e.g., survey instrument design), the Evaluation Team, including the Data Coordinator, is prepared to develop and implement a mixed-methods approach



to achieve the goals of the EPMP. As noted previously, the EPMP will specify data collection sources/methods and how LPHAs and partners have contributed to a feasible implementation plan.

Table C.3 provides a preliminary estimation of the burden of data collection for each performance measure. The burden of data collection may be high for LPHAs and partners due to current uncertainty about existing data systems that would make data requests easy to fulfill. For example, it is unknown what capacity all LPHA payroll and human resource information systems have to provide data on staff turnover, which is performance measure A1.so.2. Of the 25 NOFO-required performance measures, only 3 (or 12%) are classified as a high burden. Still, the DHSS is confident that feasible and efficient methods can be designed and implemented to satisfy the reporting requirement. Recall, that the EPMP will be developed with input from LPHAs and other partners to minimize the burden of data collection. The DHSS will seek technical assistance from CDC and its consultants to assure accuracy and alignment with other states.

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Given the resources of the Evaluation Team, most NOFO-required performance measures can be collected and reported with ease.

The Evaluation Team will create a website and help desk (email, chat, and telephone) to support agencies/organizations that receive OE22-2203 funding. The website will provide resources, templates, tools, and on-demand training to facilitate data collection and reporting of performance measures. In addition, Evaluation Team will host monthly webinars so stakeholders can review and discuss evaluation-specific activities, challenges, and solutions. The Evaluation Team is committed to systems and structures that capture frequent and meaningful feedback from LPHAs and partners.

Table C.3. Performance Measures. *All Performance Measures are tracked by the Lead Evaluator and Evaluation Team, responsible for observing patterns and facilitating adjustments to address gaps, inform technical assistance, and drive quality improvement.*

Area	***Metric***	***Proposed Data Sources***	***Burden***
A1 Workforce: Short-term process measures			
A.1. p1	Number/ type of current vacancies overall and by Job Type/Classification…	Quarterly survey (LPHAs and partners); DHSS HRIS	Low
A.1. p2	Number/type of hiring mechanisms used to hire new staff	Annual survey (LPHAs); 10 case studies	Low
A.1. p3	Number/type of incentives or programs used to retain existing public health staff	Annual survey (LPHAs); 10 case studies	Medium
A.1. p4	Number/type of workplace programs or services newly available for staff…	Annual survey (LPHAs); 10 case studies	Medium
A.1. p5	Number/type of workforce, training, and other assessments conducted …	central training activity database; Annual survey (LPHAs); 10 case studies	Medium

A.1. p6	Number and type of improvements to workforce systems and processes	50 LPHA case studies; DHSS staff survey	Medium
A.1. p7	Number and type of innovations to workforce systems and processes	Annual survey (LPHAs); 20 LPHA case studies; DHSS staff survey; DHSS HRIS	Medium
A.1. p8	Successes and challenges to implementation	Quarterly survey (LPHAs); Key informant interviews	Low
A1 Workforce: Short-term outcomes measures			
A.1. so1	Number of diverse staff hired overall and by job type or classification…	Quarterly survey (LPHAs and partners); DHSS HRIS	Medium
A.1. so2	Staff retention rate by job type …	Quarterly survey (LPHAs and partners); DHSS HRIS	High
A.1. so3	Percent increase in salary ranges pre-pandemic to current date	Annual Personnel Salary Expenditure Worksheet (LPHAs and partners); DHSS HRIS	Low
A.1. so4	Number of positions with a salary range at or above $15 an hour	Annual Personnel Salary Expenditure Worksheet (LPHAs and partners); DHSS HRIS	Low
A.1. so5	Percent improvement on organizational administrative competency assessment …	survey of DHSS staff using Competencies Assessment; survey of sample of 50 LPHAs with the same method	Medium
A.1. so6	Mean position vacancy duration in working days (average time to hire)	DHSS HR Department; sample of 30 LPHA HR directors	High
A1 Workforce: Intermediate outcome measures			
A.1. io1	Number of staff employed overall and by job type or classification …	Quarterly survey (LPHAs and partners); DHSS HRIS	Medium
A.1. io2	Total size of the workforce, over time, by job type or classification…	Quarterly survey (LPHAs and partners); DHSS HRIS	Medium
A.1. io3	Proportions of …staff who report being satisfied with their job/job security…	Workplace climate survey (DHSS and sample of LPHAs)	High
A2 Foundational capabilities: process measures			
A.2. p1	Number of recipients that apply for public health accreditation or re-accreditation	Quarterly accreditation status survey (LPHAs and partners)	Low
A.2. p2	Number and type of improvements to foundational systems and processes	DHSS case study	Medium
A.2. p3	Number and type of innovations to foundational systems and processes	DHSS case study	Medium
A.2. p4	Successes and challenges to implementation	Quarterly survey (LPHAs); Key informant interviews	Low

A2 Foundational capabilities: short-term outcome measures			
A.2.so1	Number and type of quality improvements to organizational systems and processes	Quarterly accreditation status survey (LPHAs and partners)	Low
A2 Foundational capabilities: intermediate outcome measures			
A.2.io1	Number of recipients that receive public health accreditation or re-accreditation	Quarterly accreditation status survey (LPHAs and partners)	Low
A.2.io2	Number of recipients that meet or exceed accreditation standards and measures	Annual accreditation status survey (LPHAs and partners); review of accreditation application materials	Low
A.2.io3	Number of recipients that report "full" or "sufficient" capability on organizational administrative competency assessments	Review of LPHA accreditation application materials; DHSS annual assessment of organizational competency (e.g., PHAB Domain 8 and Domain 10)	Medium

HRIS = Human Resources Information System; Competencies Assessment is an instrument published by Public Health Foundation (http://www.phf.org/); Annual Personnel Salary Expenditure Worksheet will be developed by the Evaluation Team to capture personnel spending information from LPHA and partners.

Additional performance measures may be established by DHSS. The Lead Evaluator may add performance measures that assist DHSS with managing proposed A1 and A2 activities and support overall grant administration. For example, the DHSS Pathways program offers paid internships as a learning opportunity and recruitment strategy for the next generation of public health professionals. Therefore, in addition to qualitative data related to A.1.p2 {hiring mechanisms}, the EPMP may include metrics about the interns (e.g., demographics), work experience provided, and placement in a full-time position.

A3 performance measures. The EPMP will also address methods and data sources to achieve reporting on 10 NOFO-required performance measures related to A3. Evaluation activities will be coordinated with the CDC Epidemiology and Laboratory Capacity for Prevention and Control of Emerging Infectious Diseases (ELC) supplemental funding program. The DHSS will seek technical assistance from CDC to ensure that the proposed activities under A3 (See Section B) have sufficient evaluation plans for grant monitoring and to drive quality improvement.

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DHSS will seek guidance from CDC to assure alignment with ELC methods for A3 activities.

Collaborate with national evaluation partners and participate in learning communities. The DHSS intends to collaborate fully with the national evaluation partner and participate in additional evaluation activities, such as case studies and interviews. The Lead Evaluator will serve as the CDC's primary liaison for all evaluation and performance measurement issues. Upon request from CDC, the Lead Evaluator will adjust plans and resources to collect more metrics for performance measurement. The EPMP will be updated accordingly. The Evaluation Team will also participate in CDC-sponsored learning communities/collaboratives – formal and informal – to increase DHSS's capacity for excellence, explore new methods/tools, and improve operations. The DHSS has been a regular contributor to CDC webinars, conferences, and workgroups during the past decade; DHSS stands

willing to continue sharing its experience with others. Moreover, DHSS welcomes guidance about frameworks and practical evaluation tools recommended by other states, CDC, Public Health Foundation, and others.

In addition to an Annual Evaluation Report, the Evaluation Team plans will publish a web-based dashboard-style scorecard to visualize activities and results.

Reporting. In addition to reporting NOFO-required performance measures to the CDC, the Lead Evaluator will oversee the development web-based, dashboard-style scorecard to visualize activities and results across the proposed activities. The dashboard enhances transparency among stakeholders and provides positive reinforcements to the people working in the public health system across Missouri. A summative *Annual Evaluation Report (AEP)* will describe overall progress, solicit input, inform management, and adjust professional development and technical assistance efforts the Evaluation Team offers. The *Annual Evaluation Report* and periodic progress reports will align with CDC guidelines and be published on a publicly available website.

Enhance program evaluation capacity among partners. The advancement of Missouri's public health system depends on its ability to apply utilization-focused principles and effective evaluation methods. Beginning in Year 2, DHSS will expand evaluation capacity among the LPHAs and partners by offering staff many opportunities to participate in professional development regarding utilization-focused theory, economic analysis methods, survey data collection, project management, dashboard reporting, etc. The DHSS will leverage established partnerships with universities to build a robust training program focused on public health program evaluation. By listening carefully to the needs described by LPHAs, the Lead Evaluator and Evaluation Team will design and promote training programs that prepare the statewide public health workforce to excel at program evaluation and quality improvement for health equity and infrastructure.

Data Management Plan. Based on the proposed activities, a Data Management Plan (DMP) will be submitted within six months of the award notification, if required by DHSS or CDC. Consistent with similar projects, all data will be transmitted using State of Missouri encryption standards. Access to project data files will be limited to essential staff, with extra protections for de-identified, individual-level records. All project data will be stored and archived in the state network system, which includes offsite backup. The *Data Management Plan* will be reviewed and updated annually to ensure validity and integrity throughout the project's lifecycle.

D. ORGANIZATIONAL CAPACITY TO IMPLEMENT THE APPROACH

Established by state statute (192.005 RSMo) as a department of state government to supervise and manage all public health functions and programs, DHSS has a long, successful history of managing funds from federal agencies, particularly the CDC. Past and currently funded projects have demonstrated the capacity to successfully plan, implement and evaluate the types of activities proposed in this application by working with partners internal and external to DHSS.

Missouri's 114 LPHAs operate independently of each other and work collaboratively with DHSS through core funding and contracts to deliver public health services to the communities they serve. DHSS also provides technical support, laboratory services, a communication network, and other services to support LPHA efforts and will collaborate under this funding opportunity to effectively address public health workforce strategies and foundational capabilities through the activities proposed.

Leadership over this grant award will be provided by a trio of public health professionals who have been instrumental in Missouri's public health infrastructure and efforts for a combined 50 years, including DHSS Acting Director Paula Nickelson who is a member of the Missouri Governor's Cabinet. The other members of the core leadership trio are Dr. Laura Naught, DHSS Deputy Department Director, and Lori Brenneke, Division Director, Division of Community and Public Health.

Additionally, DHSS has established and trusted partnerships with professional organizations, state government agencies, academic institutions, and community-based organizations that will be critical to the successful implementation of strategies.

DHSS is well positioned to implement the approach proposed herein to deliver the full range of Foundational Public Health Services and across all ten essential services to millions of Missourians.

For detailed information on the organizational capacity, refer to the five required attachments:

- Organizational Capacity_Component A_Services
- Organizational Capacity_Component A_Hiring
- Organizational Capacity_Component A_Accreditation
- Organizational Capacity_Component A_Population Size
- Organizational Capacity_Component A_ELC_Support.