



TRIBAL EPIDEMIOLOGY CENTERS

Public Health Infrastructure (TECPHI) Program

FINAL BRIEF REPORT 2017-2022

Addressing Public Health in Indian Country



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Acronyms

AASTEC	Albuquerque Area Southwest Tribal Epidemiology Center
AIAN	American Indian and Alaska Native
ANEC	Alaska Native Epidemiology Center
ANTHC	Alaska Native Tribal Health Consortium
APRs	Annual Performance Reports
BRFSS	Behavioral Risk Factor Surveillance System
CHAs	Community Health Assessments
CDC	Centers for Disease Control and Prevention
CTEC	California Tribal Epidemiology Center
CoP	Community of Practice
DHHS	Department of Health and Human Services
DSAs	Data sharing agreements
EPG	Evaluation Practice Group
GLITEC	Great Lakes Inter-Tribal Epidemiology Center
GPTEC	Great Plains Tribal Epidemiology Center
IHS	Indian Health Service
ITCA	Inter Tribal Council of Arizona, Inc. Tribal Epidemiology Center
NEC	Navajo Epidemiology Center
NCC	Network Coordinating Center
NWTEC	Northwest Tribal Epidemiology Center
OKTEC	Oklahoma Area Tribal Epidemiology Center
PMs	Performance measures
RMTEC	Rocky Mountain Tribal Epidemiology Center
TA	Technical assistance
TECPHI	Tribal Epidemiology Center's Public Health Infrastructure Program
TECs	Tribal Epidemiology Centers
TEC-C	Tribal Epidemiology Centers Consortium
T/TO/UIOs	Tribes, Tribal organizations, and urban Indian organizations
USET	United South and Eastern Tribes, Inc. Tribal Epidemiology Center
UIHI	Urban Indian Health Institute

The TECPHI Program

In 2017, the Centers for Disease Control and Prevention's (CDC) National Center for Chronic Disease Prevention and Health Promotion funded Tribal Epidemiology Centers (TECs) for a 5-year cooperative agreement called the Tribal Epidemiology Centers Public Health Infrastructure (TECPHI) Program.

The following is a Brief Report highlighting stories and shares an overview of the entirety of the 5-year program. This report is not intended to reflect the full breadth and depth of work the TECs.

The 2017-2022 TECPHI Program was a comprehensive funding opportunity supporting each of the 12 TECs and one Network Coordinating Center (NCC). The TECPHI Program was a coordinated approach among partners to enhance the public health capacity and infrastructure of TECs and the American Indian and Alaska Native (AIAN) communities and organizations they serve. It is unique from other CDC supported public health infrastructure programs for state and local public health agencies and includes a NCC in the program design. All 12 TECs have participated in the TECPHI Program and the Alaska Native Tribal Health Consortium's (ANTHC) Alaska Native Epidemiology Center (ANEC) has also served as the NCC.

The data, stories, successes, and achievements of the TECPHI Program would not have occurred without the work the TECs do each day to serve their Tribes, Tribal organization, and urban Indian organizations (T/TO/UIO) partners. To learn more about each of the TEC's TECPHI Program Projects, please refer to the [Tribal Epidemiology Centers Public Health Infrastructure Program Brochure](#). The 12 TECs represented in this report are (Figure 1):

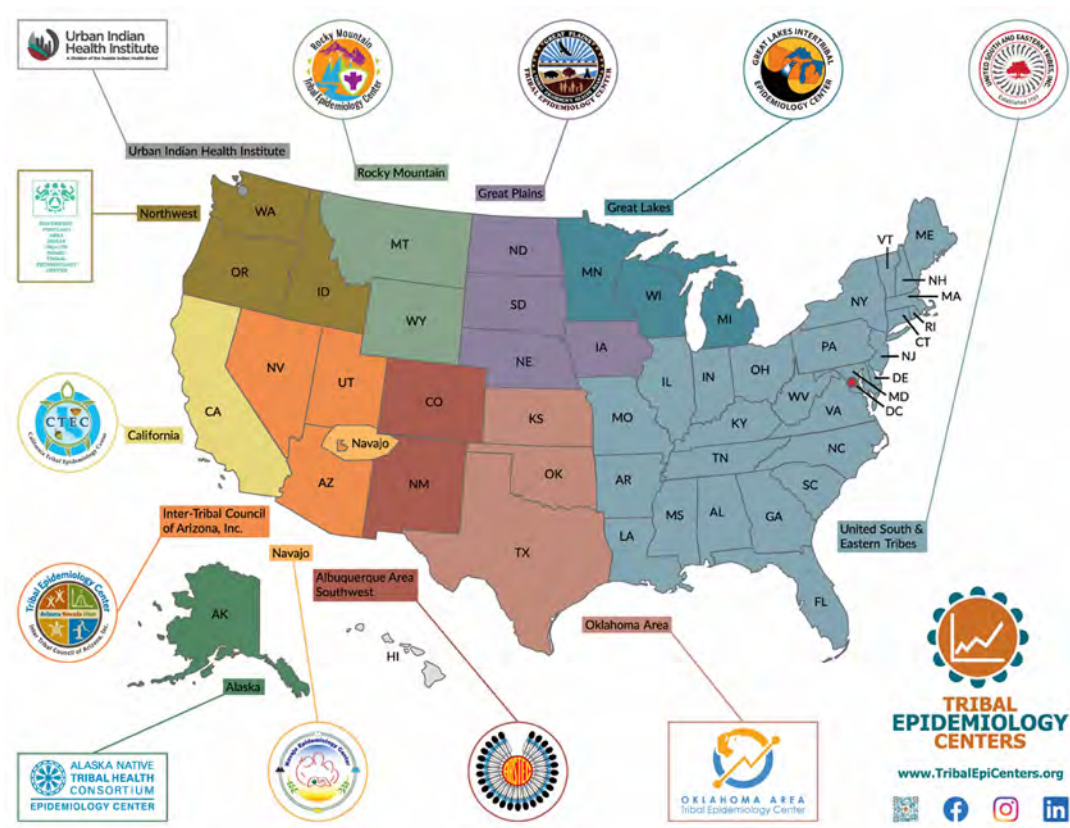
- Albuquerque Area Southwest Tribal Epidemiology Center (AASTECC)
- Alaska Native Epidemiology Center (ANEC)
- California Tribal Epidemiology Center (CTEC)
- Inter-Tribal Council of Arizona, Inc. Tribal Epidemiology Center (ITCA)
- Great Lakes Inter Tribal Council Tribal Epidemiology Center (GLITEC)
- Great Plains Tribal Epidemiology Center (GPTEC)
- Navajo Epidemiology Center (NEC)
- Northwest Tribal Epidemiology Center (NWTEC)
- Oklahoma Tribal Epidemiology Center (OKTEC)
- Rocky Mountain Tribal Epidemiology Center (RMTEC)
- United South and Eastern Tribes Tribal Epidemiology Center (USET)
- Urban Indian Health Institute (UIHI)

What is a Tribal Epidemiology Center?

In 1996, four TECs were established by the Indian Health Care Improvement Act (IHCIA) as a way to provide enhanced public health support to American Indian and Alaska Native (AIAN) peoples, T/TO/UIOs. Today, 12 TECs serve AIAN people and T/TO/UIOs in each of the 12 Indian Health Service (IHS) Areas, with one serving Urban Indian clinics and the peoples they serve. The permanent reauthorization of the IHCIA in 2010 acknowledged TECs as public health authorities. This law directs the Secretary of the Department of Health and Human Services to grant each TEC access to data, data sets, monitoring systems, delivery systems, and other protected health information within the possession of the Secretary (25 USC 1621m(e)(1)).

TECs strive to maintain a proficiency in data analysis, create data dissemination products, and provide data surveillance and epidemiologic services, and more. Each TEC is uniquely positioned in their respective service regions to provide technical assistance in these and other public health activities to T/TO/UIOs.

Figure 1. The 12 TECs and the Areas served.



The TEC Mission

To improve the health status of American Indian and Alaska Native people by identification and understanding of health risks and inequities, strengthening public health capacity, and assisting in disease prevention and control.

The TECs share the mission of improving AIAN health by identifying health risks, strengthening public health capacity, and developing solutions for disease prevention and control. Per the IHCIA, TECs perform the following seven core functions with respect to the applicable service area*:

1. collecting and monitoring data;
2. evaluating data and health care delivery systems;
3. identifying health priorities;
4. making recommendations for health service needs;
5. making recommendations for improving health care delivery systems;
6. providing epidemiologic and other technical assistance; and
7. providing disease surveillance.

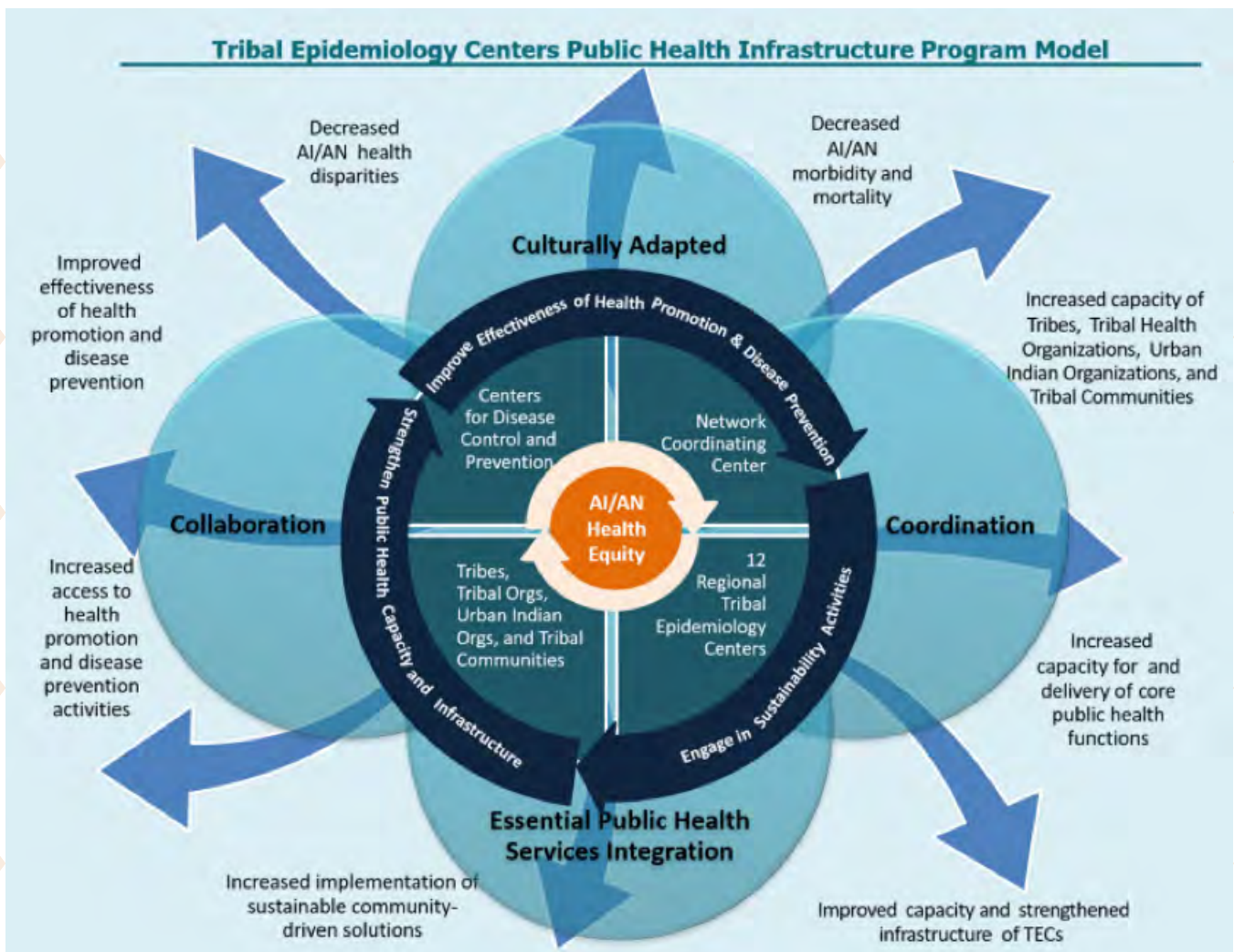
The TECs work in partnership with T/TO/UIOs and others towards this mission. TECs operationalize the seven core functions in different ways based on priorities and needs of the AIAN people and the T/TO/UIOs they serve, Tribal and urban Indian leadership, funding sources, and access to valid and reliable data.

[*Title 25-Indians, Chapter 18-Indian Health Care, Subchapter II-Health Services, U.S. Code § 1621m – Epidemiology Centers](#)

The Evolution of the TECPHI Program

The scope of the TECPHI Program shifted since the initiation of the program in 2017. Allowable activities within TECPHI Program funding expanded, enabling the TECs to be more flexible and creative with the support and services provided. The TECPHI Program offered an innovative funding opportunity that helped to reduce programmatic silos within TECs and strengthen capacity and infrastructure across **all** TEC activities and staff. It has become essential in enhancing the TEC seven core functions, initiated a ripple effect where TECs have helped to support building foundational public health infrastructure, and systems for T/TO/UIOs in tandem to growing and building their own public health capacity. The TECPHI Program also created the foundation for the TECs to act dynamically and nimbly in order to respond to the emergent needs in their regions throughout the COVID-19 pandemic. The TECPHI Program model in Figure 2 depicts the interplay between the partners of the program. Each partner is represented by one of the four quadrants of the inner teal circle who work together for a community-driven approach (depicted by the four transparent petals), resulting in the achievement and outcomes demonstrated at the ends of the spiraling arrows. The key strategies of the program are portrayed in the dark blue inner ring.

Figure 2. TECPHI Program Model*



*Reece J, Skelton-Wilson S, Groom A, Mitchell K, Thomas C. Building a Roadmap to Health Equity: Strengthening Public Health Infrastructure in Indian Country. Public Health Reports. 2022.

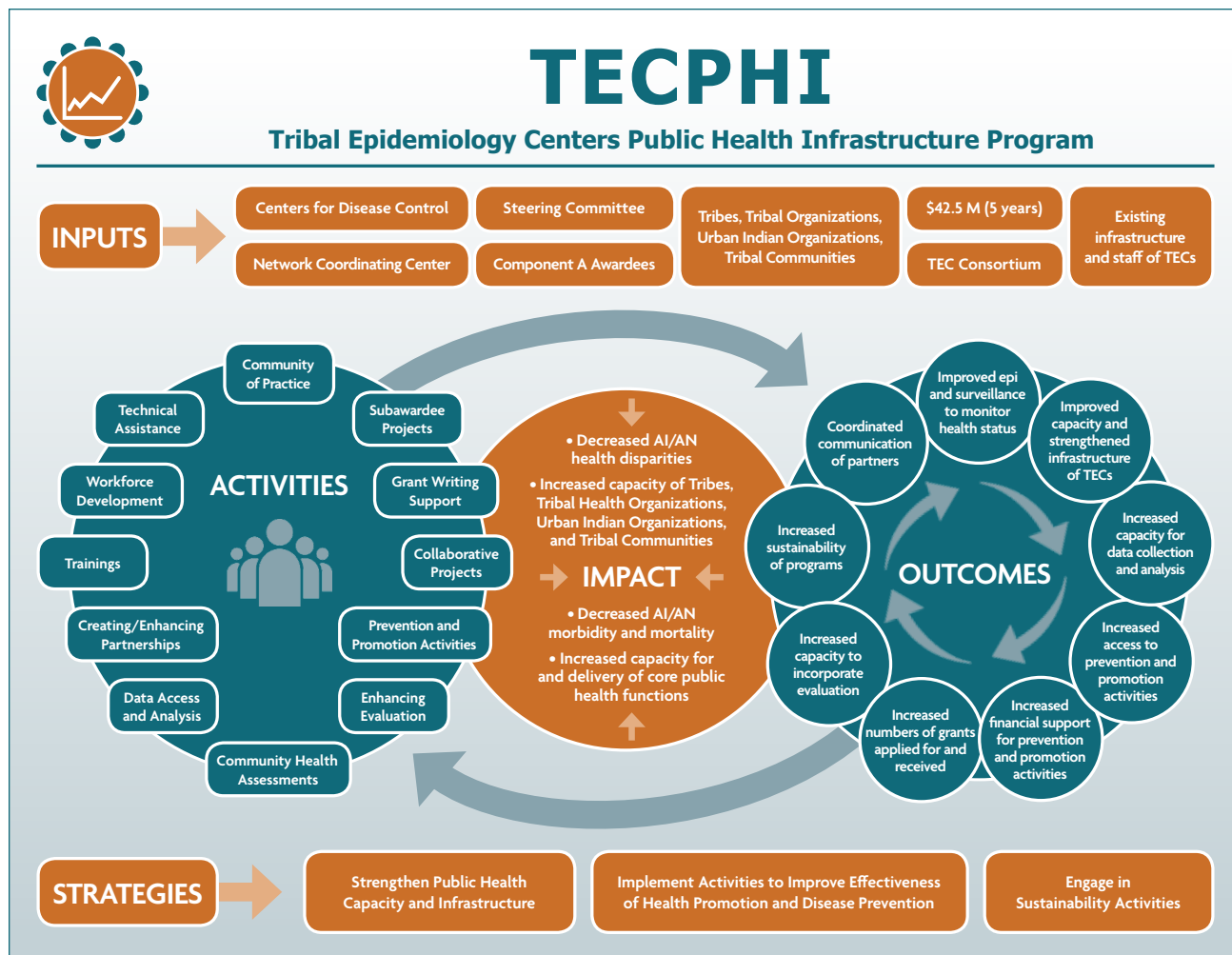
What can TECs do now that they could not do before?

The TECPHI Program’s overarching evaluation question, “**What can TECs do now that they could not do before?**” spoke to the main purpose of the program – to demonstrate how dedicated funding for the TECs directly impacted increases in capacity, infrastructure, and sustainability of TECs and the T/TO/UIOs they serve. Four other evaluation questions and data from eight corresponding performance measures have tracked program progress over the 5 years.

Program Objectives	Evaluation Questions	Performance Measures
Growing and Building the TEC Workforce	To what extent has the capacity of TECs to collect and monitor data on health status of Tribal populations increased as a result of TECPHI	1. Number of TEC staff 2. Number of trainings provided or supported by TECs
Developing Partnerships and Increasing Collaborations	To what extent have partnerships between TECs and area partners and organizations been enhanced or established as a result of TECPHI funding?	3. Number of new or expanded partnerships with TECs 4. Number of new or expanded data sharing agreements (DSAs) with TECs
Improving Communication and Outreach	To what extent has awareness of the services and expertise offered by TECs increased as a result of TECPHI activities?	5. Number of publications produced by TECs 6. Number of users of TEC websites
Enhancing TA and Support to Tribes, Tribal Organizations, and Urban Indian Organizations	To what extent has TA been delivered by TECs to area partners and organizations to develop capacity in the use of data for surveillance and epidemiology and health priority setting as a result of TECPHI funding?	7. Number of TA requests fulfilled by TECs
Planning for Sustainability	Grants and Funding Impacts All Evaluation Questions	8. Number of grant opportunities applied for or supported by TECs

The TECPHI Program Logic Model (Figure 3) communicated the intent of the evaluation approach. In addition, the logic model acted as a roadmap describing TEC and partner contributions, activities, and anticipated outcomes of the program.

Figure 3. TECPHI Logic Model



Please see **Appendix A** for more information about the evaluation approach, development, and components of the national TECPHI Program Evaluation Plan and **Appendix B** for details pertaining to the logic model outcomes, associated activities, anticipated targets, and the final outcomes of the TECPHI Program.

The Purpose of this Brief Report

The TECs have grown exponentially with the support of the TECPHI Program - each year expanding and building on the foundational work completed the preceding year. The purpose of this Brief Report is to share achievements and outcomes of the dedicated funding and work to increase TEC capacity and infrastructure and strengthen the sustainability of programs.

The TECPHI Program by the Years

The following section shares an overview and several achievements and highlights from each of the five years of the TECPHI Program.

Year 1: Introduction of the TECPHI Program

As with any new challenge, the first year of the TECPHI Program was a year of setting the foundation and intentions of the project for all recipients. Many TECs and the NCC were engaged in planning and pre-implementation activities. The NCC initiated discussions with the CDC, TEC Directors, and staff to understand expectations of a coordinating center for the new program, develop and implement the evaluation approach, determine structure and content for the Communities of Practice (CoPs), and create consistent ways to describe and communicate the program.

How was public health capacity, infrastructure, and sustainability defined for the TECPHI Program?

Public health capacity, infrastructure, and sustainability have been described in the literature, but had not been defined or described for TECs or in the Tribal health context. Definitions were tailored to the TECPHI Program and relate to TEC public health work in a Tribal health context. The following definitions were initially drafted after a literature review of current established definitions and have been reviewed and further refined on an annual basis to reflect how the TECPHI Program has evolved over the past 5 years.

Public Health Capacity

The ability to respond to public health needs by possessing the “skills, motivation, knowledge, and attitude” needed to perform the TEC seven core functions:

1. collecting and monitoring data;
2. evaluating data and health care delivery systems;
3. identifying health priorities;
4. making recommendations for health service needs;
5. making recommendations for improving health care delivery systems;
6. providing epidemiologic and other technical assistance; and
7. providing disease surveillance.

Public Health Infrastructure

The foundation and framework that enables a functioning public health system to include:

- a workforce trained in public health core competencies;
- an information and data systems to rapidly analyze, assess, and communicate information;
- an ability to respond in a culturally relevant way to AIAN public health needs; and
- an established plan to sustain a program’s efforts once funding has ended.

Sustainability

The ability of a public health program to:

- maintain core program components and activities consistent with goals and objectives;
- respond and adapt to AIAN public health needs; and
- provide continued benefits and value to those they serve.

References:

1. Baker Jr, E. L., Potter, M. A., Jones, D. L., Mercer, S. L., Cioffi, J. P., Green, L. W., ... & Fleming, D. W. (2005). The public health infrastructure and our nation’s health. *Annu. Rev. Public Health*, 26, 303-318.
2. Baker Jr, E. L., & Koplan, J. P. (2002). Strengthening the nation’s public health infrastructure: historic challenge, unprecedented opportunity. *Health Affairs*, 21(6), 15-27.
3. Meyer, A. M., Davis, M., & Mays, G. P. (2012). Defining organizational capacity for public health services and systems research. *Journal of Public Health Management and Practice*, 18(6), 535-544.

Major Achievements

The major achievement for Year 1 was the collaborative development and implementation of the national TECPHI Program Evaluation Plan. The plan detailed the evaluation approach and data collection process that was approved by all TECPHI Network partners within the first six months of the grant cycle. The comprehensive plan included a logic model, one overarching and four additional evaluation questions, eight corresponding performance measures, and qualitative data components.

Other Highlights

Other Year 1 highlights included:

- All TECs hired more staff to support TECPHI programmatic work and supported staff to attend relevant training to ensure high levels of epidemiological skill and public health competency;
- The NCC implemented the TECPHI Program CoP approach to include three topic-specific groups – the Program Manager’s CoP, the Program Evaluation CoP, and the Data CoP);
- The NCC created TEC Connect, a private, password-protected website where TEC staff can access and share resources, and make connections;
- The TECs worked with partners on specific projects like joint trainings, publications, site visits, quality improvement, data sharing initiatives, and technical assistance to enhance services and to leverage resources; and
- TECPHI funding also increased opportunities to highlight collective work among TECs. For example, the TECs initiated a journal supplement project with the Journal of Public Health Management and Practice.

The initial progress of the TECs and the TECPHI Program during Year 1 accomplished much needed steps to increase public health capacity and infrastructure in Indian Country.

Year 2: TECs Doing the Work and Solidifying Relationships

Year 2 saw enormous growth for TECs. TECs made significant gains across every program area, most notably in workforce development and an increase in capacity to provide technical assistance. TECs continued to hire new staff and nearly doubled in size from Year 1. With more staff, TECs expanded services like providing specialized data needs and requests, conducted more site visits with T/TO/ UIO communities and organizations, formed new partnerships and expanded existing partnerships, and supported more activities with and for Tribal partners.

Major Achievements

One of the major achievements in Year 2 was the publication of the TEC Journal Supplement with the Journal of Public Health Management and Practice (JPHMP). This supplement was published in September, 2019 and featured 14 peer reviewed articles, 2 commentaries, and 1 editorial from 10 TECs, Tribal leadership, and the CDC. An additional six posts are featured on the journal’s supplementary website, JPHMP Direct.

A second achievement was the creation of the “What is a Tribal Epidemiology Center?” video in partnership with the Southern Plains Tribal Health Board’s Creative Team. Eleven TEC staff were interviewed to communicate the important role of TECs to a variety of audiences. This production has been shared with partners, on TEC websites, social media, and featured at the American Public Health Association Public Health Film Festival.

Other Highlights

Other highlights for Year 2 included:

- TECs provided sub-awards to T/TO/UIOs for projects focusing on increasing Tribal public health capacity;
- TECs doubled their number of established data sharing agreements (DSAs) from Year 1 to Year 2 and some enhanced data management systems and policies to ensure data security;
- TECs updated Tribal disease registries, created linkages with state and hospital data systems, oversampled the AIAN population in various population health surveys, expanded surveillance, gained access to the IHS EpiDataMart, identified data gaps, and developed new databases to complement existing data systems;
- Based on connections made within the CoPs, TEC staff planned several joint presentations at national conferences;
- The NCC documented increased engagement at all CoP meetings and a TEC staff initiated a new CoP focusing discussions on Racial Misclassification;
- TribalEpiCenters.org saw double the number of unique visitors which increases visibility, reach, and dissemination of publications and information about all 12 TECs; and
- All 12 TECs joined together for an in-person strategic planning session to discuss long-term goals and determine a strategic direction. The resulting TEC Strategic Plan included a list of strategic actions with definitive next steps that guiding future TEC work.

Year 3: The COVID-19 Pandemic and Rising to the Challenge

Year 3 brought new challenges as the COVID-19 pandemic began. TEC standard ways of operating changed dramatically and TEC staff, and most of their Tribal partners, shifted from office and clinical working environments to working from home. Many TECPHI Program work plan activities were impacted as TECs adjusted to meet public health and community needs during the public health emergency. The strength of the TECPHI Program, and the emphasis on capacity and infrastructure building enhanced the foundation of the TECs and enhanced their ability to be flexible and pivot to meet the needs of their communities. Whether managing data and creating easily accessed COVID-19 data dashboards and factsheets, distributing PPE, or conducting contact tracing and case investigations, TECs rose to the challenge.

Major Achievements

The major achievement for Year 3 was the TEC role in the pandemic response. Relationship building and trust are important considerations when collecting and working with T/TO/UIO data and information. Based on the trust TECs established over the years, as well as the increased reach and understanding of what TECs can do for their partners, Tribal communities and leadership asked for assistance with COVID-19 contact tracing, case investigation efforts, data analysis, and dissemination. Tribal leaders relied on data gathered by TECs to make informed public health decisions on COVID-19 regulations. The TECs were also able to provide situational reports, create data dashboards to provide up to date information, respond to a variety of technical assistance requests, and develop other education materials to share on social media platforms, websites, and in print. The number of publications produced and disseminated by TECs greatly increased, with a reported 500% upswing from the previous year.

Other Highlights

Other highlights for Year 3 included:

- TECs continued to increase numbers of staff. Shifts in priorities due to the pandemic response and funding to support emergency operations increased employment opportunities at all TECs;
- The NCC partnered with an epidemiologist podcaster, Dr. Charlotte Huntley, to feature a staff from each TEC to discuss career paths in public health, and experiences working for a TEC. Of note, three of the 12 TEC staff episodes made the podcast's "Top 10 Most Listened" list for 2020;
- TEC Directors developed closer relationships by meeting weekly during the height of the pandemic and then bi-weekly to share resources and discuss best practices and strategies to work through challenges. The weekly meeting were initially a short-term solution for TEC Directors to strategize activities and initiatives around COVID-19 and to learn from each other. Over time, it evolved into a true "community of practice" becoming a valued space to share resources and knowledge, engage with external partners, and to improve outreach and support for Tribal partners; and,
- Additionally, the TECs used Year 3 and beyond to leverage increased understanding of the importance of data to raise awareness of data gaps and TEC Directors and other staff participated in multiple panel discussions and presentations.

Year 4 & 5*: Normalization during COVID-19 and Adapting to Change and Wrapping up the TECPHI Program, Celebrating Success, and Sustaining Progress

***NOTE:** The last two years of overview and achievements are combined due to the reporting timeline for Year 5. Only three quarters of Year 5 are included in this report.

During Years 4 & 5, TECs demonstrated incredible resilience, adaptation, and flexibility in continuing to shift significant staff time and TEC resources to meet COVID-19 response needs as well as offering the typical services expected of the TECs. While many shifts from pre-pandemic ways of working were initiated during Year 3 of the pandemic, the final two years of the TECPHI Program were framed by the unanticipated transformation and normalization in the way TECs work that the continued duration of the pandemic required, as well as meeting the expectations required to wrap up TECPHI-related activities and complete final reporting deliverables.

Work plans and activities continued to adapt and/or be delayed and TECs created innovations to meet the evolving needs and expectations of T/TO/UIOs and funders, particularly in the areas of evaluation, outreach and communication, and technical assistance. Despite the disruption that occurred during the pandemic, TECs continued to meet emergent response needs. Some of those changes have evolved into long-term positive impacts, such as the ability to reach broader audiences through virtual trainings, improvements to websites, and increased capacity and skills to develop and release factsheets, reports, and other publications. These threads were common themes throughout the last two years.

Major Achievements

A major achievement of Year 4 was the initiation of a second TEC journal supplement with Public Health Reports. While all TEC contributions were submitted by the end of the funding cycle, the review process by the journal prior to publication is still in progress. The supplement is anticipated to be published by June 2023. The second supplement will feature work conducted by the TECs to improve health and wellness with Tribal and urban Indian communities and partners.

Another major achievement of Years 4 & 5 was increasing the number of Certified in Public Health TEC staff. In both years, the NCC offered a two-week CPH Exam Review Course presented by faculty from the Emory University Rollins School of Public Health. Forty-one TEC staff from at least 10 TECs participated in the two training opportunities and 24 have passed and earned the CPH certification. Increasing the number of TEC staff with their CPH certification indicates the broad understanding of public health and is a key component to meet public health accreditation standards.

Finally, in August of 2022, all TECs and the CDC participated and shared in a virtual TECPHI Program Celebration where each TEC had the opportunity to present highlights, successes, and lessons learned from the 2017-2022 TECPHI Program with the entire TEC community and other federal partners. The theme for the celebration was “What can TECs do now that they could not do before?” This theme has been the guiding evaluation question for the entirety of the TECPHI Program.

Other Highlights

Other highlights in Year 4 & 5 included:

- The NCC continued the partnership with Dr. Huntley to feature TEC staff on her weekly podcast Public Health Epidemiology Conversations and in total, 24 TEC-specific episodes were included in the podcast. The interviews have been shared on a variety of social media platforms, the Tribalepicenters.org website, and through other outlets;
- TEC staff participated in a Strengths, Opportunities, Aspirations, and Results (SOAR) assessment analysis with each of the three CoP groups;
- The NCC deployed a follow-up Workforce Development and Training Needs Assessment survey to better understand how skills had improved or remained the same over the five year funding period; and
- TECs experienced a notable increase in requests for data and technical assistance indicating increase in knowledge and understanding of what TECs can do for their Tribes and communities.

As TECs worked on closing out the past five years of the TECPHI Program, the TECs were offered the opportunity to look toward the next five years and build on their amazing work and progress by applying to a new TECPHI Program funding opportunity offered by the CDC. All TECs and the NCC look forward to continue working with our federal partners to strengthen public health infrastructure and capacity of the TECs and the T/TO/UIOs they serve.

Impacts: The Legacy of the TECPHI Program

Although it is too soon to describe all of the impacts of the TECPHI Program, we anticipate the TECPHI Program to have significant impacts on Tribal Epidemiology Centers and Tribal public health infrastructure. The anticipated impacts of the TECPHI Program are indicated in the center of the Logic Model (Figure 3):

- Increased capacity for and delivery of core public health functions
- Increased capacity of T/TO/UIOs
- Decreased AIAN health disparities
- Decreased AIAN morbidity and mortality

The TECPHI Program has been a much needed catalyst for TECs to increase their capacity and strengthen their infrastructure for and delivery of core public health services to their T/TO/UIO partners. In the midst of the TECPHI Program, the Office of the Assistant Secretary for Health of the Department of Health and Human Services published **Public Health 3.0: A Call to Action to Create a 21st Century Public Health Infrastructure** (PH 3.0). Based on a series of community-based listening sessions, PH 3.0 “lays out the vision for [a] new model of public health, to characterize its key components, and to identify what actions would be necessary to better support the emergence of this transformed approach to public health” (DeSalvo et al., 2017, p. 4). The report summarized key findings around the following five themes:

1. Foundational infrastructure
2. Strong leadership and workforce
3. Strategic partnerships
4. Timely and locally relevant data, metrics, and analytics
5. Flexible and sustainable funding

Unintentionally, the TECPHI Program exemplified suggested next steps of the PH 3.0 recommendations- the TECs met the challenges and exceeded the expectations of the “Call to Action” laid out in PH 3.0. Not only have the TECs made significant improvements in all identified themes described in PH 3.0, they have improved their seven core public health functions in partnership with the AIAN communities they serve as well as across other sectors. There is still much room for improvement in order to have a fully functional and sustainable Tribal public health infrastructure, but the TECPHI Program has provided the much needed funds to actively work towards this goal.

The TECPHI Program has **enhanced the foundational public health capacity and infrastructure** so TECs can support and enhance the public health capacity and infrastructure of T/TO/UIOs. The “ripple effect” of the TECPHI Program enabled T/TO/UIOs to grow and build public health capacity as TECs have built and/or enhanced their public health systems. In many cases, as the TECs have grown in staff and in skills and abilities, and T/TO/UIO partners have grown and learned with the TECs through trainings, site visits, provision of technical assistance, grant applications and management, strategic planning, etc.

All TECs **enhanced their workforce by hiring new staff, supporting professional development, and providing trainings** to their T/TO/UIO workforce on a range of topics to build core public health competencies as well as to develop skills needed to support COVID-19 related work and meet technical assistance needs of T/TO/UIOs. TECs also leveraged contractors or subject matter experts to address staff vacancies and boost staff capacity. **TECs strengthened relationships among staff and leadership** with intentional networking and collaborative learning opportunities through CoP and strategic planning activities. Increased time spent together through the regular CoP meetings, resulted in a more **cohesive well-aligned, and stronger TEC leadership** through more regular meeting times to share and work on projects applicable to all TECs. The time has included discussions on a variety of topics like data, data access, data quality, and Tribal public health authority, and has become a dedicated space for current and potential partners to seek advice and provide information to the group.

TECs **exponentially increased the number of partnerships** each year of the TECPHI Program. Over half of the new or strengthened connections were with Tribal partners, but TECs also expanded reach and connected with state and federal partners, as well as across other sectors. The enhanced partnerships are reflected in the number of data sharing agreements and the number of technical assistance requests.

It would be difficult to causally link the work and efforts of the TECs and the funding of the TECPHI Program to reductions in AIAN health disparities, morbidity, and mortality in five years, and it is not possible to assume that the 5-year TECPHI Program had any direct effect on decreasing AIAN morbidity and mortality or decreasing AIAN health disparities. AIAN people and communities still experience disproportionate morbidity and mortality and experience health disparities at a much higher rate; there is still much work to be done and was highlighted with the COVID-19 pandemic. However, the increased capabilities of the TECs to **provide enhanced services across the seven core functions** will contribute to these reductions in a variety of ways. Tribal Leaders and AIAN communities can make more informed health related decisions and implement disease prevention programs and interventions that can be more effective with **better access to and quality of data**.

TECs **increased and enhanced grant seeking and management activities**. TECs provided multiple trainings for grant writing and management, and increased the level of support and technical assistance to T/TO/UIOs related for a variety of grants related activities. In addition to traditional funding opportunities, the COVID-19 pandemic has provided access to other funds supporting capacity and infrastructure of the TECs, as well as their T/TO/UIOs, that will continue for many years to come.

The data and stories presented in this Brief Report demonstrate the exponential growth in capacity and infrastructure of the TECs to serve their T/TO/UIO partners and communities. For greater detail of TEC achievements on an annual basis, please see all past annual TECPHI Program Progress Reports found on Tribalepicenters.org. The Progress Reports definitively demonstrate how the TECs have achieved the anticipated impact of **“Increased capacity for and delivery of core public health functions.”** The TECs have come a long way with this funding opportunity but there is still a long road ahead for TECs and their T/TO/UIO partners to realize full potential across all core functions and the 10 essential public health services and to achieve noticeable reductions in AIAN health disparities. With the ongoing recognition and support of our federal partners, this first TECPHI Program cycle demonstrates the great strides accomplished to date, the capacity of our TECs, and the hope for the future to achieve the intended long-term impacts.

Reference

DeSalvo, K. B., Wang, Y. C., Harris, A., Auerbach, J., Koo, D., & O'Carroll, P. (2017). Public Health 3.0: A call to action for public health to meet the challenges of the 21st century. *Preventing chronic disease*, 14.

Appendix A

TECPHI Program Evaluation Plan

Per the funding opportunity, one of the main tasks set for the NCC was to coordinate an evaluation approach with the TECs to monitor accomplishments in achieving anticipated outcomes. The NCC initiated the development of the evaluation approach during the first year of the program by conducting 31 key informant interviews to understand expectations of the TECs and the CDC for the national TECPHI Program Evaluation Plan. In collaboration with an Evaluation Work Group, comprised of at least one representative from each TEC, the NCC drafted the national TECPHI Program Evaluation Plan that was revised and finalized based on input from TEC leadership and CDC partners. The final approved plan included a logic model, one overarching and four additional evaluation questions with eight corresponding performance measures, and qualitative data components. The quantitative and qualitative data collected has monitored progress in building TEC capacity and infrastructure in meaningful and sustainable ways.

As priorities shifted, TECPHI Program partners collaborated to update goals, activities, and anticipated outcomes. The national TECPHI Program Evaluation Plan was a dynamic, living document and the plan allowed TECs the flexibility to describe their work in ways that have been most useful to their organization and partners. Examples demonstrating the dynamic nature of the plan include adjustments to several performance measures to ensure data collected represents all TEC activities and staff, the addition of performance measure clarifying and reflection questions, and addition of qualitative projects in Years 3-5 to gather information related to TEC COVID-19 related activities, strategic planning, sustainability planning, and to capture the ripple effect of TEC activities on the capacity and infrastructure of T/TO/UIOs served. The adjustments and additions have enabled the TECs and the NCC to share a more comprehensive story of TEC growth over time.

Anticipated long-term outcomes and targets were drafted in Year 2 as a companion to the national TECPHI Program Evaluation Plan. The intention was to quantify expectations for TECPHI Program outcomes based on the roadmap laid out in the TECPHI Program Logic Model.

Showing and Telling

TECPHI Program Photo Narratives

The TECs and the NCC participated in a photo narrative project (a process similar to PhotoVoice) Years 1-5 of the TECPHI Program where each submitted 1-2 photos and brief narratives in response to each of the five TECPHI Program evaluation questions- approximately five photos and narratives were submitted by each TEC and the NCC each year. The annual photo narrative project has resulted in over 320 photo and narrative submissions and helped the fill the gaps of the performance measure data and shared interim answers to the program evaluation questions.

STORYTELLING: A Traditional Way of Sharing

Storytelling is an important aspect of Indigenous evaluation. Stories “support the interpretation of the data” and are a traditional way of sharing what does and does not work.¹ Stories allow participants to provide context to their experience. By incorporating stories into evaluation, participants are able to reflect on the relationship of activities to the anticipated outcomes or goals of their work.²

1. Tribal Evaluation Workgroup. (2013). A Roadmap for Collaborative and Effective Evaluation in Tribal Communities. Children’s Bureau, Administration for Children and Families, U.S. Department of Health and Human Services.

2. LaFrance, J., & Nichols, R. (2009). Indigenous evaluation framework: Telling our story in our place and time. Alexandria, VA: American Indian Higher Education Consortium (AIHEC).

Special thanks to the Urban Indian Health Institute for their insight and advice. The TECPHI photo narrative project was inspired by the community participatory evaluation approach used with their awardees.

TECPHI Program Qualitative Projects

In addition to the annual photo narrative, additional qualitative projects were collected from the TECs and the NCC in Years 3-5*. Additional projects were not collected from the TECs and the NCC in Years 1 and 2.

- 1) A project highlighting any one of the eight main TECPHI Program performance measures. The projects could describe any program activity completed during the course of the TECPHI Program (Years 3 and 4).
- 2) A project conceptualized each year to reflect emergent work or themes not captured or addressed in other TECPHI Program evaluation data (Years 3-5).

***NOTE:** Additional projects were not collected from the TECs and the NCC in Years 1 and 2.

Projects did not have to be directly funded by the TECPHI Program as there were differences in how each TEC leveraged and operationalized their seven core functions and other Tribal public health services. All TEC and the NCC qualitative project submissions can be found in the Years 3, 4, and 5 [TECPHI Program Qualitative Projects Reports](#) posted on Tribalepicenters.org.

The following provides a brief overview of the additional and unique qualitative projects:

Year 3: TECPHI Program COVID-19 Qualitative Project

The Year 3 qualitative project reflected on TEC experiences during the first year of the COVID-19 pandemic. It was an opportunity for the TECs to highlight how they mobilized response efforts and maintained routine support to T/TO/UIOs during the pandemic. The COVID-19 Qualitative Projects share stories of flexibility and capacity for growth during unsure times, how virtual relationships were initiated and maintained, and how TECs enhanced operational capacity as public health authorities.

Year 4: TECPHI Program Capacity & Infrastructure Qualitative Project

The Year 4 project demonstrated how TEC increases in capacity and infrastructure resulted in increases of T/TO/UIO capacity and infrastructure. In many cases, the “ripple effect” of TEC work for the TECPHI Program enabled opportunities for T/TO/UIOs to build baselines, foundations, and systems to grow and build their own public health capacity in skills like grant and data management and evaluation.

Year 5: “What can TECs do now that they couldn’t do before?” Qualitative Project

The Year 5 project offered TEC perspectives on the culmination of the entire Program. The question, “**What can TECs do now that they couldn’t do before the TECPHI Program?**” has been **the** guiding question for the entirety of the funding opportunity and TECs have grown in ways that were never feasible prior to 5 years ago. When conceptualizing this project, the TECs were also asked to think about the sustainability of program outcomes including “Now that the TECs can do these things, what is that potential impact to better address health issues, disparities, and inequities?”

TECPHI Program Evaluation Data & Data Sources

The data and stories presented in this report are intended to share a high-level overview of the final TECPHI Program outcomes depicted in the program logic model. **Appendix B** offers comparisons of the anticipated targets drafted in Year 2 to the final outcomes synthesized in Year 5. The data and information draws from the following six sources:

Evaluation Data	Description	Data Analysis
1. Performance Measures	Quantitative and brief narrative data was collected from all TECs and the NCC on 8 main performance measures and 43 corresponding sub-measures. Data was collected all five years and used to monitor TECPHI Program progress.	Data was downloaded annually into Excel spreadsheets and analyzed using descriptive statistics.
2. Photo Narratives	The TECs and the NCC have submitted about 320 photos with narratives describing experiences or offering responses to each of the evaluation questions. Photos and narratives were collected all five years and serve to illustrate the performance measures, evaluation questions, or theme of various progress report sections.	Photo narratives and qualitative projects were reviewed and analyzed using content analysis to identify themes and examples of successes and challenges to share the story of the TECPHI Program.
3. Year 3 & 4 Qualitative Projects	TECs and the NCC submitted a total of 26 qualitative projects in years 3 and 4. The qualitative projects have provided additional story and context for one of the 8 performance measures.	
4. COVID-19 Qualitative Projects	TECs and the NCC submitted a total of 8 COVID-19 qualitative projects in Year 3. The COVID-19 qualitative projects provide additional story and context of TEC experiences during the COVID-19 pandemic.	
5. Capacity and Infrastructure Qualitative Projects	TECs and the NCC submitted a total of 7 capacity and infrastructure projects in Year 4. The projects share stories about how increasing and improving the capacity and infrastructure of the TECs and also with the T/TO/UIO the TECs serve.	
6. “What can TECs do now that they could not do before?” Qualitative Projects	TECs and the NCC submitted a total of 8 “What can TECs do now that they could not do before?” projects in Year 5. As <i>the</i> guiding question for the entirety of the TECPHI Program, the projects share individual growth and outcomes for each TEC.	Photo narratives and qualitative projects have been shared in separate reports. They can be found at Tribalepicenters.org .
7. Annual Performance Reports (APRs)	TECs and the NCC submitted a total of 52 APRs in Years 1-4. The APRs are required annual reporting documents submitted to the CDC. The reports described activities and progress TECs and the NCC made on proposed work plans in each of the first four years of the TECPHI Program.	APRs and evaluation reports were reviewed and analyzed using content analysis. Stories, examples of successes, challenges, themes, etc. were collected from narrative data

<p>8. TECPHI Program Interim and Final Evaluation Reports</p>	<p>TECs and the NCC submitted a total of 39 Interim Evaluation Reports to the CDC in Years 2-4 and 13 Final Evaluation Reports in Year 5. These reports were concise documents sharing basic information, highlights of work completed, and progress made answering evaluation questions from individual TEC projects.</p>	<p>and organized by performance measure, evaluation question, or theme to share the story of the TECPHI Program.</p>
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Appendix B

Where are we now?

Anticipated long-term outcomes and targets were drafted in Year 2 as a companion to the national TECPHI Program Evaluation Plan. The intention was to quantify expectations for TECPHI Program outcomes based on the roadmap laid out in the TECPHI Program Logic Model (Figure 3). The entire program was driven by the three strategies that are foundational to the Program Logic Model. The TECs were engaged in many activities to meet the expected outcomes of the strategies.

Although the TECPHI Program evolved over time and the TECs adjusted work plans, timelines, and traditional ways of working in the middle of the grant cycle to meet area needs due to the COVID-19 pandemic, at the end of the five years, in most cases, **the TECs have exceeded the targets and expected outcomes**. As demonstrated by the comparison between Anticipated and Actual outcomes below, the TECPHI Program has been a tremendous success.

The following section lists the logic model outcomes, associated activities, the anticipated targets drafted in Year 2, and the actual final outcomes of the TECPHI Program.

Strategy 1: Strengthen Public Health Capacity and Infrastructure

Outcomes from Logic Model:

- Improved capacity and strengthened infrastructure of TECs
- Increased capacity for data collection and analysis

Logic Model Outcome 1.1: Coordinated communication of partners

ACTIVITY 1.1.1: Participating in Community of Practice (CoP) Meetings

ANTICIPATED Long-term Outcome 1.1.1 A: At least 9 out of the 12 TECs (or 75% of TECs) and/or an average of 9 attendees will have participated in CoP meetings each month.

ACTUAL Outcome 1.1.1 A:

Three topic specific CoP groups were developed and established in Year 1 and have continued throughout the full five years of the funding period. They are the Program Manager, the Evaluation, and the Data CoPs. Each CoP met quarterly with one CoP held each month and hosted by an NCC staff or designee. A total of 60 CoP meetings with 736 participants averaging about 12 participants at each CoP meeting. Below are the numbers for each of the topic-specific CoPs:

- Program Manager CoP: 20 meetings with 336 non-unique participants overall
- Evaluation CoP: 22 meetings with 233 non-unique participants overall
- Data CoP: 18 meetings with 167 non-unique participants overall

Although not an activity originally associated with the TECPHI Program, the TEC Directors have been meeting regularly and participating in what has evolved into a self-sustaining CoP that has been administratively supported by the NCC for 3 years. The Directors CoP met 86 times during the course of the TECPHI Program and continues to meet on a biweekly basis. On average, the CoP meetings were attended by 17 TEC staff and partners and 10 of the 12 TECs were represented at each meeting. Additionally, key federal partners of the TECs, the IHS and the CDC, have attended 87% and 66% of the meetings, respectively.

ANTICIPATED Long-term Outcome 1.1.1 B: The TECPHI CoP will have “matured” as demonstrated by an increase in survey rated relevance and usefulness of meetings and perceptions of the CoP gathered through the process/implementation evaluation.

ACTUAL Outcome 1.1.1 B:

In Year 3, the NCC conducted an implementation evaluation designed in part to gather feedback about experiences participating in the CoP meetings. The NCC sent a survey to anyone who had attended at least one of any of the three CoP groups. Over 80% of the participants felt the meeting frequency was “just right” and were “moderately,” “very,” or “extremely” useful. Meeting schedules were mentioned as the most frequent barrier to participation. Other challenges mentioned included:

- Audio challenges;
- Lack of audio/visual equipment;
- Lack of privacy;
- Relevance of topic to work;
- Lack expertise in topic; and
- High variability in participant competencies and TEC activities

In Year 5, the NCC conducted SOAR Evaluations with each of the three CoP groups as a way to better understand how, and if, CoPs have added value to the work of participating staff. “SOAR”, which stands for Strengths, Opportunities, Aspirations, and Results is similar to the more well-known “SWOT” (Strengths, Weaknesses, Opportunities, and Threats) and is a strengths-based evaluation approach that focuses on visioning for the future. The SOAR evaluations were conducted using an online “sticky note” tool called Miro, which allows for anonymous participation. A few themes were consistent across the three TECPHI CoP groups: 1) desire for more opportunities for sharing across the TEC staff, 2) appreciation of the benefits of a routine meeting time and dedicated space to come together and learn from colleagues, and 3) the pre-scheduled regular meeting times have provided a sense of connectedness for TEC staff. These outcomes all seem important as we consider the sustainability of the programmatic work initiated during the TECPHI Program.

ACTIVITY 1.1.2: Increasing/Contributing to collaborative projects

ANTICIPATED Long-term Outcome 1.1.2 A: The Network will have contributed to a number of small (10-15) collaborative activities and at least 2-3 major collaborative TEC projects.

ACTUAL Outcome 1.1.2 A:

In total, about 22 collaborative activities were completed during the 5-year cycle. While many of these constitute small projects, more significant projects were: 1) the production of the “*What is a TEC?*” video begun in Year 2 and finalized in Year 3; 2) the production of a second journal supplement with US Public Health Reports; 2) completion of 24 episodes on Dr. Charlotte Huntley’s *Public Health Epidemiology Conversations Podcast* highlighting TEC staff in Years 4 and 5; and 3) production of a second TEC Journal Supplement with the US Public Health Reports (Table 1).

Table 1: TECPHI Program collaborative projects

Major collaborative projects by year:	
Year 1	<ul style="list-style-type: none"> • Developed TECPHI Brochure describing the TECPHI Program and providing overviews of TECs and their projects; • Coordinated the development of the <i>Journal of Public Health Management and Practice Supplement: Tribal Epidemiology Centers Advancing Public Health in Indian Country</i> for over 20 years. 17 papers submitted by TECs.
Year 2	<ul style="list-style-type: none"> • Sponsored 2019-2024 TEC Strategic Planning session; • Sponsored and coordinate the “What is a TEC?” video produced by the Creative Team at the Southern Plains Tribal Health Board; • Created the TEC Brochure with inserts for each of the 12 TECs allowing for customization.
Year 3	<ul style="list-style-type: none"> • Coordinated a 10 week Certified in Public Health Study Group • Facilitated TEC Strategic Plan follow-up session • Initiated Planning for a TEC Gathering • Updated the TEC Communications Plan with contractor which included discussions to refine the TEC Tagline • Wrote a Congressional Thank You Letter • Coordinated the TEC Director Roundtable Discussion attended by 217 attendees and 11 panelists
Year 4	<ul style="list-style-type: none"> • Coordinated a TEC Grand Rounds session with 5 TECs for CDC Preventative Medicine Residency and EIS • Organized two panel discussions with staff from 5 TECs for the SPTHB Tribal Public Health Conference • Participated in monthly interview with Dr. Huntley that were featured on the <i>Public Health Epidemiology Conversation Podcast</i> • Initiated second TEC Journal Supplement with Public Health Reports to be completed after the funding cycle
Year 5	<ul style="list-style-type: none"> • Planned and hosted virtual TEC exhibits at national conferences • Continued coordination of <i>Public Health Reports</i> TEC Journal Supplement in process (Anticipated completion date of 3/2023) • Continued collaboration on monthly <i>Public Health Epidemiology Conversations Podcast</i> coordination with Dr. Charlotte Huntley • Planned TECPHI Celebration with representation by all 12 TECs on behalf of our CDC partners • Increased the number of TEC staff with CPH
Minor collaborative projects throughout the five-year cycle include:	
<ul style="list-style-type: none"> • Hosting in-person and virtual TEC exhibits at national conferences • Trainings, webinars, presentations, etc. • Multiple evaluation projects 	

ANTICIPATED Long-term Outcome 1.1.2 B: The Network will have a prioritized list of future collaborative activities/projects compiled by the Steering Committee that aligns with the TEC Strategic Plan.

ACTUAL Outcome 1.1.2 B:

In addition to what is listed above, in March of 2019, TEC staff came together for an in-person strategic planning session. The group identified several strategic objectives and drafted corresponding action items. In October 2019, the TEC Directors refined objectives and identified definitive action steps assigning TECs and individuals specific tasks. Several of the activities needed adjustment due to COVID, but the objectives were met in different ways. NCC has tracked and updated progress of activities associated with the following strategic objectives:

- Foster Intentional Inter-TEC Collaboration: Increase opportunities to build relationships across TECs and reduce silos between staff and organizations;
- Reformulate Existing Communication/Marketing Plan: Develop and implement approach to communicate TEC value and activities at the national level;
- Implement Robust Recruitment and Retention Program: Enhance outreach and student engagement to improve recruitment strategies and explore growth management approaches for TECs; and
- Continuous Quality Improvement for Data Access, Analysis, and Reporting: Enhance data access by engaging with external partners and advocating for improved data quality.

Logic Model Outcome 1.2: Improved epi and surveillance to monitor health status

ACTIVITY 1.2.1: Providing technical assistance

ANTICIPATED Long-term Outcome 1.2.1 A: TECs will have increased numbers of technical request responses to T/TO/UIO as compared to Year 1.

ACTUAL Outcome 1.2.1 A:

All TECs increased their capacity to respond to TA. Activities include enhancing mechanisms that track TA, working with sub-awardees to assess TA needs, and deploying surveys to follow-up with organizations regarding TA provision. Some TECs have made the process for requesting TA more accessible to external audiences by adding TA requests forms to their websites. In Year 1, TECs responded to 660 requests and at least 53% of those requests were for T/TO/UIOs. In Year 3 during the COVID-19 pandemic, TECs nearly tripled the fulfilled number of TA requests and responded to 1,712 requests. Fulfilled TA requests continued to increase in Year 4 (2,306). Year 5 is on track for a similar number as Year 4 with 1,311 being reported three-quarters through the year. Across both years, T/TO/UIOs made up the largest category of consumers of TA services with 68% in Year 4 and 57% in the Year 5 partial year reporting.

ANTICIPATED Long-term Outcome 1.2.1 B: TECs will have improved technical assistance tracking/request/response as demonstrated by improved reporting of instances of technical assistance.

ACTUAL Outcome 1.2.1 B:

Each TEC defines, tracks, categorizes, quantifies, and qualifies TA differently making monitoring TA on a national level challenging. TECs have made progress and improvements each year. Some challenges mentioned by TECs in fulfilling TA requests included making TA responses consistent, ensuring appropriate follow-up, tailoring TA responses to the needs of the T/TO/UIOs and sub-awardees, and delays in developing TA tracking systems. How TECs monitor TA provision has been a topic of discussion at many Evaluation CoP meetings.

Several TECs made enormous progress leveraging technology and other systems (e.g. Smartsheet and Sharepoint) to assist with automating TA requests and completions and increased outreach through websites and social media has resulted in increased knowledge of where partners can request TA.

Efforts have also been made to make TA more consistent for the TECs. The NCC conducted a literature review on TA. The resulting overview document, offered ideas to better clarify definitions, tracking, categorization, and qualification of TA provision for T/TO/UIOs. Since the creation of the document, several TECs have used the expanded definitions and categorization.

ACTIVITY 1.2.2: Supporting workforce development

ANTICIPATED Long-term Outcome 1.2.2 A: At least 75% TEC staff will have participated in a training related to a core public health competency.

ACTUAL Outcome 1.2.2 A:

Increasing staff capacity in public health core competencies is a key strategy of the TECPHI Program and all TECs and the NCC have offered professional development and training opportunities on a range of topics in increasing numbers each year of the TECPHI Program. Training opportunities have taken many forms and included webinars, subject-specific trainings, and conferences and typically formalized opportunities to build skills and in core public health competencies like epidemiology, quantitative and qualitative methods of data collection and analysis, grant writing, and grant management.

In the first year of the program, TECs offered or supported 110 trainings. In Year 3 and 4, TECs shifted many in-person trainings to a virtual format due to the COVID-19 pandemic. Although initially challenging, moving to an online training format resulted in the positive outcome of greater participation in the trainings. In Year 4, the number of trainings offered reached a high of 564 across all TECs. This is nearly 5 times the numbers of trainings in Year 1. In total, TECs have offered approximately 1,500 trainings to staff and the T/TO/UIO workforce and the NCC has offered 21 trainings to all TEC staff. Given the growth in number of TEC staff and turnover over the years, it is difficult to confirm if 75% of TEC staff have participated in a training related to a core public health competency during the TECPHI Program, however, at least 8 TECs have been represented in each of the NCC trainings.

Of note, in both Year 4 and 5, the NCC offered a two-week Certified in Public Health (CPH) Exam Review Course presented by faculty from the Emory University Rollins School of Public Health. Forty-one TEC staff from at least 10 TECs participated in the two training opportunities and 24 have passed and earned the CPH certification. Increasing the number of TEC staff with their CPH certification indicates the broad understanding of public health and is a key criteria to meet public health accreditation standards.

ANTICIPATED Long-term Outcome 1.2.2 B: There will be a 25% increase in self-reported proficiency in core public health competencies on the TECPHI Program Workforce Development survey compared to Year 1 results.

ACTUAL Outcome 1.2.2 B: TECs have also assessed training needs for staff and partners and several TECs and the NCC have deployed surveys to better understand staff and partner training needs. In Year 1, the NCC distributed a Workforce Development survey to all TEC staff to better understand the training needs and self-reported gaps in skills and knowledge in the public health core competencies. The goal of this survey was to identify the areas to support professional development.

The NCC implemented a follow-up survey in Year 5 to assess how skills had improved or remained the same over time. One notable change was that three of the four public health competency areas that ranked as the highest training need in Year 1 were ranked as areas of excellence in Year 5 (Communication, Analytical/Assessment skills, and Program Planning).

ACTIVITY 1.2.3: Offering/supporting training opportunities

ANTICIPATED Long-term Outcome 1.2.3 A: TECs will have improved training participation tracking methods compared to Year 1 baseline performance measure data.

ACTUAL Outcome 1.2.3 A:

TECs have increased the participation of the T/TO/UIO workforce in training opportunities every year of the TECPHI Program. In year 1, the TECs reported they trained 1,800 individuals, with the highest number trained in Year 3 at >40,000. Numbers of individuals trained continued to be high in Year 4 at 36,000 and 20,000 in Year 5.

Over the five years, it was estimated that 30-50% of the participants in all TEC-sponsored or supported trainings were AIAN. The number of AIAN participants is “estimated” because the many of the TECs did not to track the race and ethnicity of training participants. TECs reported continued progress over the five years to refining and developing better methods to capture training participant information.

ANTICIPATED Long-term Outcome 1.2.3 B: TECs will have increased Tribal public health workforce training opportunities compared to Year 1 baseline performance measure data.

ACTUAL Outcome 1.2.3 B:

Please see Long-term Outcome 1.2.2 A for information about Outcome 1.2.3 B.

ACTIVITY 1.2.4: Creating/enhancing partnerships

ANTICIPATED Long-term Outcome 1.2.4 A: TECs will have increased number of partnerships with T/TO/UIO, State Health Departments, and other health sectors as compared to Year 1 baseline performance measure data.

ACTUAL Outcome 1.2.4 A:

Effective partnerships and collaborations are essential for increased communication around best practices and developing and maintaining trusting working relationships among partners. TECs increased the number of new or expanded partnerships each year. In Year 1, TECs reported 233 new or expanded partnerships with a variety of organizations. Even though TECs reported on a condensed timeframe, the TECs established over 670 new partnerships in Year 5. Approximately 50% of the partnerships established each year were with T/TO/UIOs and the majority of the remaining with state health departments.

ACTIVITY 1.2.5: Establishing data sharing agreements (DSAs) and increasing access to data

ANTICIPATED Long-term Outcome 1.2.5 A: TECs will have improved their capacity to access more data as demonstrated by increased number of DSAs establishing access to new datasets as compared to Year 1 baseline performance measure data.

ACTUAL Outcome 1.2.5 A:

All TECs worked towards establishing new and/or expanding DSAs and other partnerships to improve monitoring of health status for T/TO/UIOs. From Year 1, TECs have more than quadrupled the number of new or expanded datasets they are able to access starting with a baseline of 61 and reporting 245 in Year 5. Additionally, the TEC Directors have engaged in collective activities with a variety of federal partners to discuss issues related to data access, data analysis, and interpretation to address a variety of issues with AIAN data access, quality, and missingness.

While not a direct result of the TECPHI Program, increased awareness of AIAN data challenges is an important outcome of the foundational and collaborative nature of the TECPHI Program work that began during the COVID pandemic. The work has led to improved communication and understanding of the challenges TECs have experienced accessing data and issues of data quality with a wider audience. An example of this is the U.S. Governmental Accountability Office (GAO) Report published in March 2022. Due to a Congressional request, the GAO examined factors affecting the TECs' access to epidemiological data. The GAO interviewed Directors of, or Director-appointed designee, from each of the 12 TECs and officials from the CDC and IHS and performed a document review. As a result of the publically released findings and recommendations, multiple HHS agencies have contacted the TECs to discuss steps needed to clarify policies and procedures related to accessing and improving the quality of the data.

ACTIVITY 1.2.6: Increasing data dissemination

ANTICIPATED Long-term Outcome 1.2.6 A: TECs will have assessed their websites for potential refresh/redesign, as appropriate, to enhance data dissemination.

ACTUAL Outcome 1.2.6 A:

Communicating and telling the TEC story to the public, and increasing external partner engagement continues to be an area of focus. Overall, TECs reported increasing the number of users on their websites each year. Many TECs enhanced their websites and began leveraging a variety of social media platforms to increase audience reach and dissemination of data and information. Through the entirety of the COVID-19 pandemic, TECs have used their websites to update audiences with data dashboards, factsheets, situation reports, and culturally-appropriate communication materials. Several engaged outside vendors for website development and/or management to optimize consumer experiences including adding user-friendly TA request portals. In Year 4, website traffic saw its biggest increase across TECs (over 300% increase from Year 1 and a 53.6% increase from Year 3).

The NCC has supported all TECs in increasing visibility, reach, and dissemination of their work by posting Success Stories, publications, and a variety of other media sources via *TribalEpiCenters.org*. All TECs have contributed to the content of the website and the website has often been referred to as a “clearinghouse” for TEC information. The NCC makes changes and updates the websites frequently based on feedback from usability testing and enhancing the site with other relevant and timely content.

In addition, the NCC has completed projects to enhance the TEC website and other platforms, including producing the “What is a TEC?” video in collaboration with the Southern Plains Tribal Health Board with contributions made by all TECs, the TECPHI Program Brochure, and the TEC Brochure with individual inserts for each TEC. Of note, the “What is a TEC?” video was accepted to the 2020 APHA Public Film Festival. In Year 3, the TECs worked with a communications consulting firm to help refine the TEC branding and tagline and develop an approach to leverage social media. Social media engagement was identified as an area for focus and improvement but proved a challenge to implement consistently due to a lack in staff capacity.

Additionally, in Years 3-5 the NCC partnered with Dr. Charlotte Huntley to feature TEC staff on her weekly podcast *Public Health Epidemiology Conversations* to highlight 24 TEC staff and their work. The interviews have been shared on a variety of social media platforms, the Tribalepicenters.org website, and through other outlets.

ANTICIPATED Long-term Outcome 1.2.6 B: TECs will have increased opportunities for data dissemination participating in the coordination of TEC exhibit booths for at least 8 national conferences.

ACTUAL Outcome 1.2.6 B:

The NCC has coordinated 14 TEC exhibits over 5 years of the TECPHI Program. All exhibits were in-person events in Years 1 and 2 and the exhibits shifted to a virtual platform Year 3-5. TECs have participated in a variety of national professional conference events as well as a few career fairs including the American Public Health Association Annual Meeting, the National Indian Health Board Tribal Public Health Summit, the Southern Plains Tribal Public Health Conference, and the Columbia University Mailman School of Public Health Career Fairs.

ANTICIPATED Long-term Outcome 1.2.6 C: TECs will have improved dissemination of T/TO/UIO data as demonstrated by increased number of a variety of publications as compared to Year 1 baseline performance measure data.

ACTUAL Outcome 1.2.6 C:

TECs have exponentially increased the number and type of publications over the past five years of the TECPHI Program (151 in Year 1 compared to an estimated 3,898 in Year 5). TECs provided huge numbers of communications materials to T/TO/UIOs and the public at large throughout the COVID-19 pandemic, as well as explored and expanded the type and variety of publications they produced to include data dashboards, situation reports, infographics, public service announcements and other data products to ensure T/TO/UIOs had ready access to the information they needed to make informed health-related decisions for their communities. In Year 1, the TECs reported a total of 151 publications of which 59 were health status fact sheets, In contrast, in Year 4 there were a total of 3,959 publications (1,935 were health status fact sheets) and 2,931 (1,137 were health status fact sheets) for the partial year reporting in Year 5. Despite the focus on COVID-related publications in Year 3-5, the TECs also produced a variety of significant reports and peer-reviewed papers on AIAN health.

TECs also received training and improved their approaches to data visualization to make data access and understanding easier for partners and are continually refining fact sheets, reports, etc. to make data easier to understand and more accessible for a wide breath of audiences.

Strategy 2: Implement activities to improve effectiveness of health promotion and disease prevention

Outcomes from Logic Model:

- Increased access to prevention and promotion activities

Logic Model Outcome 2.1: Conducting community health assessments

ACTIVITY 2.1.1: Conducting community health assessments (CHAs)

ANTICIPATED Long-term Outcome 2.1.1 A: TECs will have increased knowledge of T/TO/UIO current health status, data needs, and health priorities as demonstrated by an increased number of CHA activities.

ACTUAL Outcome 2.1.1 A:

Reliable data is a cornerstone to improved public health capacity and community health assessment (CHA) activities offer T/TO/UIOs greater opportunities to understand community strengths, needs, set priorities, and address community concerns. The CHA outcomes were only relevant to TECs conducting these activities and were not a requirement of the TECPHI Program. During the TECPHI Program, 6-7 TECs conducted CHAs per year and 2-3 TECs offered CHA-related trainings in each of Year 3-5.

ANTICIPATED Long-term Outcome 2.1.1 B: TECs will have increased the number of CHAs developed for T/TO/UIOs.

ACTUAL Outcome 2.1.1 B:

At least three TECs received increased numbers of requests for CHAs by the end of the grant cycle. The increased number of CHA activities for TECs could also be an indicator of increased capacity of some T/TO/UIOs to collect and utilize data.

Logic Model Outcome 2.2: Increased capacity to incorporate evaluation

ACTIVITY 2.2.1: Conducting community health assessments (CHAs)

ANTICIPATED Long-term Outcome 2.2.1 A: TECs will have increased evaluation capacity as demonstrated by comprehensive 5-year evaluation plans that have been approved by the CDC.

ACTUAL Outcome 2.2.1 A:

In December 2018, Program Evaluators and Program Managers from all 12 TECs and the NCC gathered at AASTEC in Albuquerque, NM to attend an Evaluation Workshop coordinated by the CDC. During the 3-day workshop, TEC staff and the CDC Program Evaluator discussed approaches to Indigenous evaluation and how to incorporate elements of TEC stories into 5-year Evaluation Plans for the individual TECPHI Program projects. All 12 TECs and the NCC drafted and had approved 5 year evaluation plans by the end of February 2019.

ANTICIPATED Long-term Outcome 2.2.1 B: TECs will demonstrate the collective impact of the TECPHI Program as demonstrated through national performance measure and photo narrative data collected from all TECs.

ACTUAL Outcome 2.2.1 B:

All 12 TECs and the NCC have submitted annual evaluation data detailed in the national TECPHI Program Evaluation Plan. The NCC has produced annual TECPHI Progress Reports to highlight the collective work of the TECs, summarize performance measure and other narrative data, and share stories of achievement and growth made each year in the program. A combined TECPHI Program Year 4 and 5 Progress Report highlights the last 2 years of the program.

A large component of the annual evaluation data collection includes the TEC and NCC photo narratives. The photo narrative projects are collected to share story and context and “answer” the TECPHI Program evaluation questions on an annual basis. The TECPHI Photo Narratives are shared in full and produced in separate documents. In total, the TECs have shared over 320 photos with brief narratives during the five year project. In Years 3, 4, and 5 supplementary qualitative projects were added to the national TECPHI Program Evaluation Plan deliverables. Additional qualitative projects have been added in Years 3, 4, and 5 to highlight emergent activities or themes not captured in other evaluation deliverables.

At the end of the five years, all national TECPHI Program project and evaluation data shared with the NCC will be used to answer the national TECPHI Program evaluation questions and to assess for other anticipated (and unanticipated) outcomes and other potential longer-term impacts.

ANTICIPATED Long-term Outcome 2.2.1 C: The Network will have a preliminary 5-year evaluation informal report providing an overview of the long-term outcomes of the TECPHI program.

ACTUAL Outcome 2.2.1 C:

The Final TECPHI Brief Report and Appendix will be finalized by end of December 2022.

ACTIVITY 2.2.2: Supporting sub-awardee projects

ANTICIPATED Long-term Outcome 2.2.2 A: TECs will have enhanced the public health capacity, infrastructure, and sustainability of T/TO/UIOs by supporting sub-awardee projects and providing targeted TA to address chronic health disease prevention and promotion activities.

ACTUAL Outcome 2.2.2 A:

Although not a requirement of the TECPHI Program, at least eight TECs have supported sub-awards during the 5-year program. The sub-awards have ranged from smaller funded mini-grants to larger, long-term projects. The sub-awards have supported a variety of initiatives including community health assessment projects, community-identified public health initiatives, targeted TA, data dissemination plans, and strategic and action planning.

ACTIVITY 2.2.3: Developing/managing prevention and promotion activities*

ANTICIPATED Long-term Outcome 2.2.3 A: Not applicable

ACTUAL Outcome 2.2.3 A:

Although not the intent of the TECPHI Program, all long-term outcomes support the TECs in improving their capacity developing and managing prevention and promotion activities. Increasing TEC capacity enables TECs to better support all work and activities across all programs as well and support the work and activities of the T/TO/UIOs. Some activities that directly contribute include:

- Providing technical assistance
- Offering and supporting training opportunities for TEC and T/TO/UIO staff
- Establishing DSAs and improving data quality
- Increasing data dissemination
- Conducting CHAs
- Enhancing evaluation

For specific examples and progress over time, please refer to all TECPHI Progress Reports, Photo Narratives, and Qualitative Reports posted on Tribalepcenters.org.

Strategy 3: Engage in sustainability activities

Outcome from Logic Model:

- Increased sustainability of programs

Logic Model Outcome 3.1: Increased numbers of grants applied for and received

ACTIVITY 3.1.1: Increasing numbers of grants applications

ANTICIPATED Long-term Outcome 3.1.1 A: TECs will have planned for short and long-term funding needs and recognized that sustainability is enhanced with diverse funding sources as demonstrated by increased number of grant proposals and grants awarded as compared to baseline national TECPHI Program performance measure data related to grant seeking.

ACTUAL Outcome 3.1.1 A:

Securing and managing funding is key for program stability. Year 4 and Year 5 both saw increases in the number of grants supported or applied for- 300 and 335 grants applied or supported by TECs in Year 4 and 5 in comparison to 117 in Year 1. In addition to traditional funding opportunities, the COVID-19 pandemic has provided access to other funds supporting capacity and infrastructure at the TECs as well as their T/TO/UIOs. These COVID related funding opportunities enabled TECs and their T/TO/UIOs to:

- hire staff to support COVID response efforts and maintain staff for other programmatic work;
- enhance and increase data sharing agreements increasing access to federal, state, and local datasets;
- create a variety of data dashboards and develop new approaches to data dissemination;
- develop data collection systems;
- develop a Tribal syndromic surveillance system;
- offer sub-awards and other types of funding to T/TO/UIOs;
- provide increased numbers of training across all public health core competencies;
- offer grant writing support and management to T/TO/UIOs;
- purchase PPE and distribute to T/TO/UIOs; and
- factsheets, resources, and public health messaging.

While funding is supporting pandemic activities, the benefits will continue to enhance capacity and infrastructure for many years to come with the additions of new staff, enhanced data access and systems, and increased numbers of relationships across sectors.

ANTICIPATED Long-term Outcome 3.1.1 B: There will be an increased capacity for seeking financial support among TEC staff as measured by results of a follow up training needs assessment and by an increase from baseline national TECPHI Program performance measure related to grant seeking.

ACTUAL Outcome 3.1.1 B:

The NCC and TECs have provided a variety of trainings related to applying for and managing grants. Each year, approximately seven TECs and the NCC offered trainings to TEC and T/TO/UIO staff. The NCC has been able to provide at least one grants-related training every year for a total of six trainings in five years. Each training was attended by an average of 22 TEC staff representing an average of 10 TECs. Each training has built on knowledge gained in the previous training. At least seven TEC staff have been able to complete the Grants Management Certificate Program through Management Concepts, further demonstrating TEC staff competence in writing for and successfully managing, budgeting, and monitoring grant funding and programs.

Logic Model Outcome 3.2: Increased financial support for prevention and promotion activities

ACTIVITY 3.2.1: Offering grant writing support

ANTICIPATED Long-term Outcome 3.2.1 A: TECs will have increased technical assistance and peer review for grant writing support to T/TO/UIOs, as requested, compared to baseline national TECPHI Program performance measures related to grant writing support activities.

ACTUAL Outcome 3.2.1 A:

Many TECs supported grant writing for T/TO/UIOs over the course of five years and especially during the COVID pandemic. Anecdotally, TEC Directors shared that T/TO/UIOs requested TECs write for and manage the funds after award in order to keep the administrative and reporting burden low for the T/TO/UIOs. Years 4 saw an increase in the number of grants supported by the TECs as compared to Year 1 (139 for Years 4 vs 53 in Year 1). Although a partial reporting year, Year 5 was on track to surpass Year 1 as well. This was also reflected in the number of TA requests fulfilled by TECs for grant writing- 25 requests in Year 3 and 39 in Year 4. In Year 4, the majority of grants applied for were for COVID-19 related work.

ACTIVITY 3.2.2: Participating in strategic planning

ANTICIPATED Long-term Outcome 3.2.2 A: The TEC Directors will have an active Strategic Plan and Action Plan, with input from all 12 TECs, with a sustainability component to plan for TEC activities after the funding opportunity has ended.

ACTUAL Outcome 3.2.2 A:

March of 2019, TEC Directors and staff from all 12 TECs came together to participate in a strategic planning session. The group identified several strategic objectives and corresponding action items. The 2019-2024 TEC-C Strategic Plan was approved September 2019.

To complement the strategic planning, the NCC sponsored a sustainability planning webinar with the Brown School at Washington University in St. Louis, Center for Public Health Systems Science (CPHSS) to describe the Program Sustainability Assessment Tool (PSAT). The tool can be used to evaluate the sustainability of a program across eight domains. The NCC sponsored 1-on-1 sustainability action planning technical assistance opportunities for each TEC and CPHSS staff to administer the PSAT to TEC staff and their partners, translate the PSAT results into an individualized, actionable sustainability plan, and provide additional technical assistance as needed. Ten TECs and the NCC participated in the 1-on-1 sustainability training and technical assistance opportunity.

ANTICIPATED Long-term Outcome 3.2.2 B: The TEC Directors will have regularly reviewed and monitored activities related to the TEC Strategic Plan and Action Plan as demonstrated by participation in follow-up opportunities (in-person and/or virtually) over the course of the funding cycle.

ACTUAL Outcome 3.2.2 B:

In October 2019, the 12 TEC Directors engaged in a follow-up strategic planning session to refine objectives and identify definitive action steps of the 2019-2024 TEC-C Strategic Plan by assigning TECs and staff specific tasks. Several of the activities were shifted due to COVID, but were adjusted in a variety of ways to meet the objectives. NCC has taken action, tracked, and updated progress made on the strategic plan as appropriate.

The NCC has tracked, monitored, and initiated key actions related to marketing and communication, outreach, and enhancing opportunities for TEC staff to network and build relationships. The NCC has actively engaged TEC staff for a variety of collaborative efforts related to the Strategic Plan like developing a TEC Communications Plan and enhancing outreach opportunities on social media platforms and creating opportunities for TEC staff to build relationships and collaborative activities.

