THE NATIONAL EVALUATION OF GOOD HEALTH
AND WELLNESS IN INDIAN COUNTRY (GHWIC) 2014–2019

Words of Hope and Encouragement with American Indian and Alaska Native Communities

Prepared by
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a division of Seattle Indian Health Board

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Executive Summary

A Comprehensive Approach to Good Health and Wellness in Indian Country (GHWIC), FOA DP14-1421PPHF14 was launched in 2014 by the Centers for Disease Control and Prevention (CDC). GHWIC was a five-year cooperative agreement to fund tribes and tribal-serving health organizations to promote health and wellness and prevent chronic disease among American Indian and Alaska Native (AI/AN) people.

This report summarizes data collected from 2014–2019, qualitative data reported in Evaluation Reports, and an implementation evaluation project conducted by Urban Indian Health Institute (UIHI). Descriptive information was used to summarize changes in each measure between baseline and Year 5 to show cumulative progress where applicable. UIHI used content analysis to identify themes across evaluation indicators and qualitative data.

All contents of this report were reviewed by the GHWIC community to ensure findings were accurate, faithful, and ethical representations of the tribal communities who conducted the work. Due to flexibility in performance measure selection between sites, the data presented here are likely an underestimate of the true progress made.

Highlighted Key Findings

- **One hundred thirty-seven tribes** implemented policy, systems, and environmental changes to promote health and prevent chronic disease.
- **Ninety-six tribes** developed, implemented, or enhanced commercial tobacco-free policies.
- **Over 100 settings such as workplaces, schools, and community centers** promoted healthy and traditional foods, improving access for **over 74,000 individuals**.
- The number of young and adult smokers making quit attempts **increased nearly 20-fold** from 224 at baseline to 4,683 by Year 5.
- The number of healthcare systems engaging community health workers to link patients to community resources on blood pressure management **nearly tripled** from four to 11.
- The number of adults enrolled in diabetes prevention programs **increased nearly 39-fold** from eight to 308 individuals at three recipient sites.

Across all recipients, community collaboration, staff capacity, data collection, and cultural integration emerged as factors affecting their efforts. Collaborations enabled recipients to extend the reach of GHWIC funding and provided valuable insight and direction. Staff turnover impacted recipient abilities to implement strategic plans, but key staff provided long-term support. Reporting requirements were complex and burdensome, but evaluation efforts informed strategic decisions throughout the initiative. Lastly, incorporating cultural beliefs and teachings into program efforts improved buy-in and participation by recipients and community members.

GHWIC successfully improved chronic disease prevention for AI/ANs and built relationships between tribes and the federal government. Community-driven and culturally grounded strategies allowed for the implementation of policy, systems, and environmental changes that will continue to impact the lives of thousands of AI/ANs to come.

Introduction

Background

After three years of consultation with a tribal advisory committee, tribal members, and other American Indian and Alaska Native (AI/AN) representatives, the National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP) at the Centers for Disease Control and Prevention (CDC) launched *A Comprehensive Approach to Good Health and Wellness in Indian Country, FOA DP14-1421PPHF14* (GHWIC) to promote tribal health and chronic disease prevention. The CDC committed over $78 million to GHWIC efforts from 2014 to 2019—the single largest CDC investment made to date in tribal health promotion.

The need for GHWIC emerged from high rates of chronic diseases affecting AI/ANs (Espey D, 2014). Federal policies, institutional practices, and systematic oppression of cultural teachings shaped the current conditions by which tribal communities experience disparities in a wide range of health outcomes, risks, and quality of life measures. Fifteen percent (15.1%) of AI/AN adults have diabetes (CDC, 2017), 21.9% smoke (Benjamin et al., 2018), 8.1% have coronary heart disease (Blackwell DL, 2014), and up to 41% are obese (Blackwell DL, 2014; Cobb N, 2014). Key approaches to health equity improvement include the revitalization of Indigenous values and a focus on community strengths. In the spirit of tribal self-determination, GHWIC used sustainable, culturally driven interventions rooted in community voice and participation to improve health and prevent disease.

Through sub-awards and direct funding, over 100 tribal communities participated in GHWIC over the five-year period. Recipients used GHWIC funds to establish, strengthen, and broaden the reach and impact of effective tribal health improvement programs. Through GHWIC, recipients also supported the prevention and self-management of chronic diseases such as heart disease, type 2 diabetes, obesity, and hypertension. A key effort of the initiative was to support interventions increasing factors that protect against the onset of chronic disease such as availability of traditional and other healthy foods, opportunities for increased physical activity, reduced exposure to commercial tobacco smoke, culturally relevant health education, and improved community-clinical linkages.

GHWIC represented a first-of-its-kind collaboration between four CDC divisions, tribes, and tribal organizations. This report seeks to highlight and celebrate the work of GHWIC recipients over the five-year initiative. Cumulative data from 2014–2019 have been summarized to showcase the positive impacts in tribal communities through the use of traditional knowledge and development of resources to benefit future generations. This report also describes barriers and facilitators to accomplishing this work as identified by recipients.

The GHWIC Community

GHWIC recipients were comprised of two groups, summarized in Table 1:

- **Component 1 (C1):** Twelve federally recognized tribes addressed health disparities through culturally adapted policy, systems, and environmental change activities selected by tribal communities. C1 recipients worked directly in their communities to develop and implement strategic action plans based on community health assessments.

- **Component 2 (C2):** Eleven tribal-serving health organizations provided sub-award funding and technical assistance to tribes and tribal-serving organizations in their Indian Health Service (IHS) Administrative areas. In August of 2017, C2 recipients received supplemental funding from the Office on Smoking and Health to promote commercial tobacco cessation and education.

Recipients were supported by:

- **CDC Divisions:** Four divisions collaborated on funding and support to create GHWIC: The Office on Smoking and Health (OSH); Division of Diabetes Translation (DDT); Division of Nutrition, Physical Activity, and Obesity (DNPAO); and the Division of Heart Disease and Stroke Prevention (DHDSP).

- **Urban Indian Health Institute (UIHI):** UIHI served as the National Evaluation Coordination Center for GHWIC and worked alongside CDC to coordinate evaluation efforts. As a national Tribal Epidemiology Center (TEC), UIHI also provided public health leadership and services to urban AI/AN populations nationwide.

- **University of New Mexico Project Extension for Community Healthcare Outcomes (ECHO):** Project ECHO provided the infrastructure for various communities of practice organized over the course of GHWIC. These communities of practice are described in Appendix A: Implementation Details

- **Tribal Epidemiology Centers (TECs):** TECs provided public health data, evaluation expertise, and support services to GHWIC recipients.

Exhibit 1: Map of GHWIC Recipients

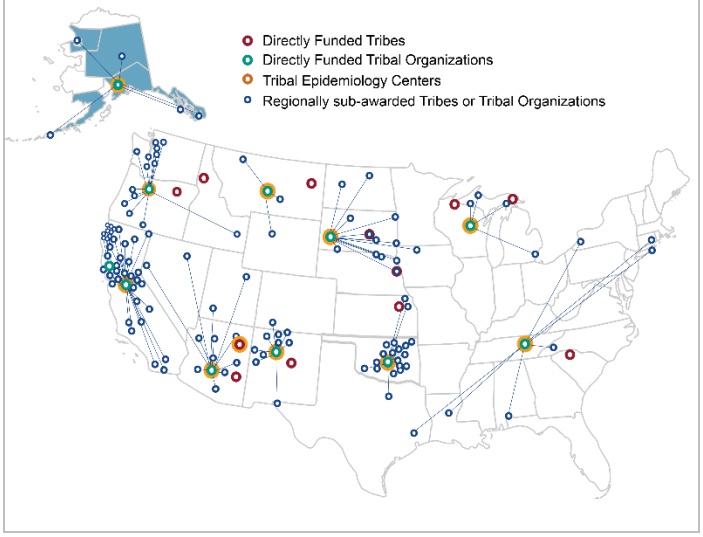


Table 1: GHWIC recipients by Indian Health Service area

IHS Area	Component 2: Tribal Organizations	Component 1: Tribes
Aberdeen	Great Plains Tribal Chairmen's Health Board	Lower Brule Sioux Tribe Winnebago Tribe of Nebraska
Alaska	Alaska Native Tribal Health Consortium	
Albuquerque	Albuquerque Area Indian Health Board, Inc.	Pueblo of Santa Ana
Bemidji	Great Lakes Inter-Tribal Council, Inc.	Red Cliff Band of Lake Superior Chippewa Indians Sault Sainte Marie Tribe of Chippewa Indians
Billings	Rocky Mountain Tribal Leaders Council	Fort Peck Community College
California	California Rural Indian Health Board, Inc. United Indian Health Services, Inc.	
Nashville	United South and Eastern Tribes, Inc.	Catawba Indian Nation
Navajo		Navajo Nation Department of Health
Oklahoma City	Southern Plains Tribal Health Board	Kickapoo Tribe in Kansas
Phoenix	Inter-Tribal Council of Arizona, Inc.	San Carlos Apache Tribe
Portland	Northwest Portland Area Indian Health Board	Nez Perce Tribe Yellowhawk Tribal Health Center

GHWIC Outcomes and Goals

Through policy, systems, and environmental changes, GHWIC recipients worked to make sustainable improvements for healthy environments and lifestyles in four major domains, including:

- Domain 1: Epidemiology and surveillance
- Domain 2: Policy, systems, and environmental approaches to health promotion
- Domain 3: Community-clinical linkages
- Domain 4: Health systems interventions

Via these four domains, overall GHWIC goals included:

- Reducing rates of death and disability from commercial tobacco use
- Reducing the prevalence of obesity through improved nutrition and physical activity
- Reducing rates of death and disability from diabetes, heart disease, and stroke
- Improving systems for public health surveillance and evaluation
- Improving systems for team-based care and community-clinical linkages to prevent and manage chronic disease

Overall Evaluation Approach

Twenty-three GHWIC recipients revitalized Indigenous values to improve health equity and chronic disease prevention through sustainable, culturally driven interventions rooted in community voice and participation. The data presented here are their stories, shared generously through annual reporting and evaluation efforts. This report summarizes the progress and impact in tribal communities and provides insight for future tribal health promotion efforts.

Purpose

The primary objectives of evaluating GHWIC were to capture overall impact of the initiative on its priority areas and the effects of health promotion efforts in recipient communities. This report expands the evidence base for chronic disease prevention in Indian Country, shares lessons learned and successes across tribal communities, and supports opportunities for future funding to promote AI/AN community health programs. Please see Appendix A for additional details on intended audiences and dissemination processes.

Guiding Principles

GHWIC evaluation efforts were guided by the Indigenous Evaluation Framework that describes four principles of evaluation practice (LaFrance, 2010). The framework places recipient knowledge at the forefront of innovating effective and sustainable health interventions in tribal communities. Implementing this model involved recipient decision-making at the local level to capture evaluation indicators that reflected qualities of local cultural and community landscapes.

- **Place:** As people of a place, recipients drew upon local histories and contextual regional factors in planning GHWIC activities adapted to each community. Understanding the context in which a program took place was critical to understanding its impact.

- **Gifts:** Indigenous people carry the gifts of traditional knowledge and cultural traditions. Culture, tradition, and local knowledge needed to be included in the evaluation and tribal partners engaged in developing metrics that reflected success of chronic disease prevention efforts.

- **Community:** Community values, interests, preferences, and needs were central to GHWIC-funded programs and embedded into every stage of the process. Evaluation processes and results were developed collaboratively with recipient communities to ensure measures were feasible and culturally sound.

- **Sovereignty:** Evaluation efforts respected tribally approved processes and sought to report results in ways meaningful to the community. Before dissemination to broader audiences, all evaluation products from GHWIC were shared with recipients to ensure they accurately reflected their stories and experiences. Examples of recipient work are shared with their permission.

Questions

Under these principles, UIHI worked closely with CDC staff and recipient representatives in the Evaluation Work Group (EWG) to narrow the focus of the evaluation on the following questions. The EWG initially formed to guide the design and implementation of reporting processes and met monthly to review overall evaluation activities and responses to issues of program monitoring and evaluation.

- What was the scope and impact of GHWIC recipient work?
- What innovative and promising practices for chronic disease prevention within tribal communities were identified?
- How can progress toward GHWIC outcomes be examined to understand the effectiveness of approaches used in tribal communities?

Methods

This report summarizes quantitative progress on targeted outcomes and qualitative themes around barriers and facilitators across the five years of GHWIC. UIHI used content analysis, descriptive statistics, and summaries to assess varied data sources.

Data Sources

Primary data sources for this report included:

- **Annual Progress Reports:** GHWIC recipients were required to report data annually to the CDC in the form of standardized performance measures co-developed in Year 1. A workgroup composed of CDC, UIHI, and recipient representatives defined 66 performance measures under 24 outcomes to be used for progress reporting. Recipients reported selected performance measures on a subset of their workplan outcomes as part of annual progress reports (APRs). The timeframe for annual progress reports covered February through January of the following year. These reports provided quantitative data on the progress of activities outlined in work plans and milestones met or exceeded. Project narratives from the APRs were also examined for barriers and facilitators and examples of work. Performance measures were separated by domain and included short- and intermediate term outcomes.

- **Evaluation Reports:** In addition to APRs, recipients completed annual Evaluation Reports that allowed for self-selected indicators in response to contextual evaluation questions. Unlike the performance measures, recipients were free to define and report whichever indicators they felt best reflected their work. These submissions were intended to provide context for recipient activities. The timeframe for Evaluation Reports was September to September of the following year, in alignment with the federal fiscal year. Reports were analyzed for qualitative trends in facilitators and barriers to recipient work.

- **Storymap:** UIHI collected case examples about GHWIC successes to showcase through an interactive ArcGIS website. Short narratives coupled with videos, photos geo-mapping, and other multi-media products conveyed GHWIC efforts in tribal communities across the country. In keeping with the Indigenous evaluation principles, narratives were designed by recipients and allowed for self-portrayal of progress.

- **Implementation Reflection Project (IRP):** UIHI conducted an evaluation in Years 4 and 5 to better understand how the implementation of the GHWIC model worked for engaging tribes. This effort explored challenges, lessons learned, and unexpected outcomes throughout the course of the cooperative agreement. UIHI also collected information on the recipient experiences working with federal processes and in collaboration with the CDC. The study included feedback from key GHWIC partners, including CDC Project Officers, division leaders, and recipient representatives. Interview and small group discussion transcripts were examined for challenges, facilitators, and recommendations for use by CDC and other agencies interested in health improvement collaborations with tribes.

Data Analysis

UIHI analysis involved a variety of approaches depending on the data source and type. After five years, substantial quantitative data in the form of standardized performance measures and rich qualitative information via Evaluation Reports, presentations, Storymap materials, and participation in the IRP had been collected.

Descriptive analysis and summaries

UIHI used descriptive statistics to summarize each outcome measure showing change from baseline by program year and cumulative progress where applicable. Year 1 of GHWIC was considered baseline. Standardized performance measure data collection began in Year 2 and continued through the end of Year 5. This report notes the number of recipients reporting and presents percent change from baseline to Year 5 where applicable to reflect trends for each measure.

Sample sizes varied depending on how many recipients reported data for each performance measure. The maximum possible sample size for any C1 measure was 11; for any C2 measure, the maximum possible sample size was 12. During analysis, any measure that only included data from one or zero recipients was not included. Additionally, some recipients reported measures inconsistently, dropping them after reporting data for a year or two. A measure with data from two recipients who reported data inconsistently was similarly excluded. Where data were available for all time points from at least two recipients, the measure was included.

Content analysis

UIHI used content analysis to identify themes across evaluation indicators and qualitative data. With this approach, APR narratives, Evaluation Reports, and recipient-generated stories were examined to describe the scope of planning, implementation, and impact over five years. UIHI used barriers and facilitators as initial codes and added additional codes and sub-categories as they emerged.

Community Review

All initial findings were discussed with the EWG for clarification, feedback, and agreement on interpretation. Additionally, draft products of the evaluation were presented back to the recipient community for review and feedback. Doing so helped ensure the resulting product was an accurate, faithful, and ethical representation of GHWIC work conducted.

Limitations

Due to flexibility in PM selection from year to year, reporting aggregate data inclusive of all recipient activities was not feasible. Recipients were only required to report on a subset of outcomes targeted in their workplans and could change which measures were reported. As a result, data presented here likely underestimate the true progress made on each outcome. The number of recipients reporting each measure has been noted in each table.

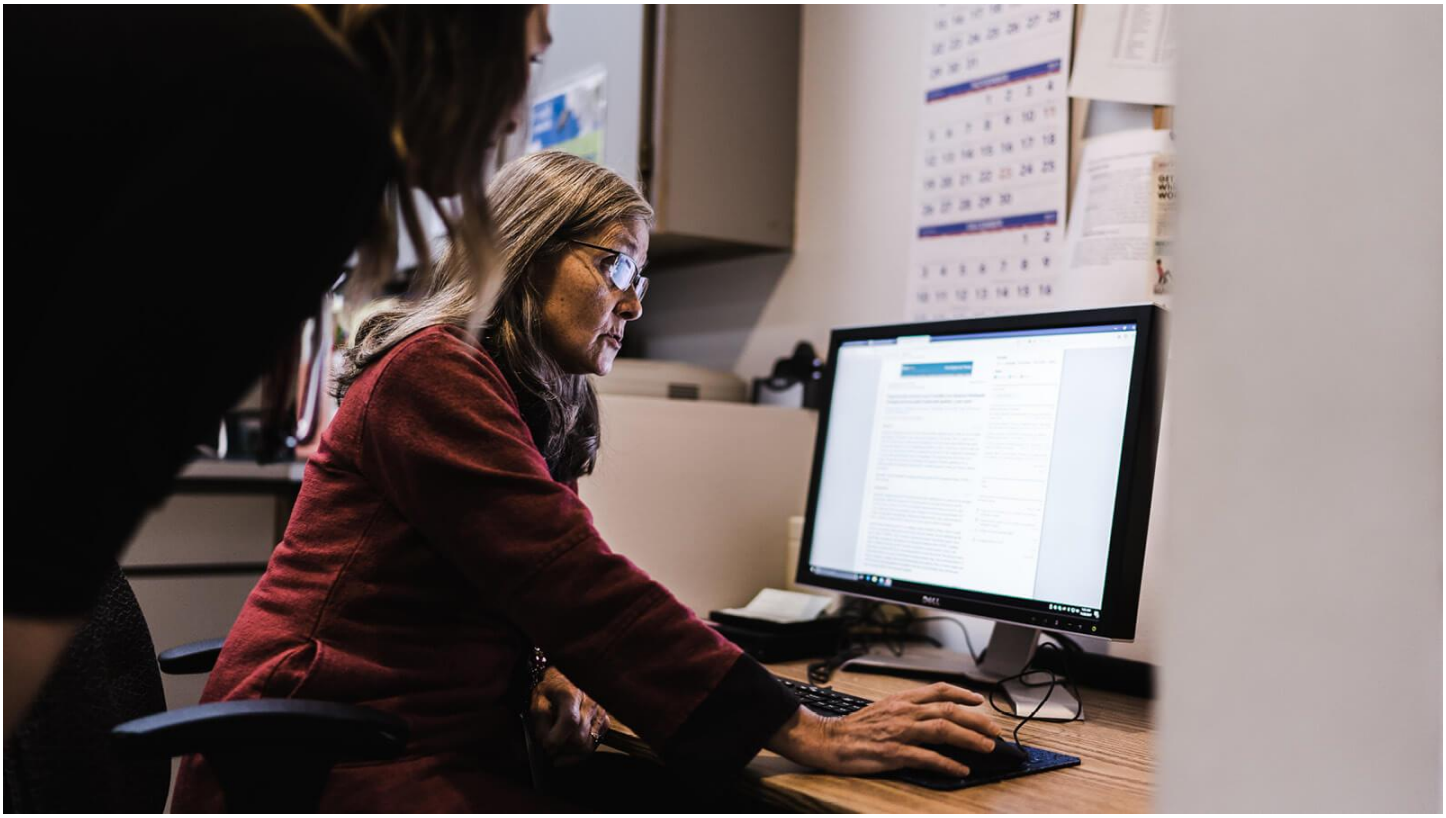
Most measures include a cumulative total for the five years of the initiative; however, to avoid duplication of results, some indicators do not include this cumulative total such as measures assessing the number of health systems. A recipient with a single health system would not have affected five total systems by the end of five years. A cumulative total would falsely distort the results in these circumstances. Measures where the cumulative total was omitted have been noted.

Additionally, some intermediate measures required recipients to report proportions of patients. Unfortunately, reporting cumulative proportions for these measures was not possible as numerator and denominator data were not consistently reported. These measures have been indicated as omitted.

Lastly, not all tribal communities in the United States were represented in GHWIC, and substantial differences existed between recipients. The results described here are not applicable to all tribes or tribal organizations.

Results

Performance measure results by domain from the five years of GHWIC were examined and have been presented here using the framework of the overall evaluation questions: What was the scope and impact of GHWIC recipient work?; What innovative and promising practices for chronic disease prevention within tribal communities were identified?; and, How can progress toward GHWIC outcomes be examined to understand the effectiveness of approaches used in tribal communities? Performance measure data help to answer the first and third questions while examples of recipient work and information drawn from APR narratives were used in response to the second.



Domain 1: Epidemiology and Surveillance

In Indian Country, CDC GHWIC Component 2 (C2) recipients worked to implement collaborative action approaches with partner representation from key sectors to ensure the successful implementation of GHWIC activities. Through denser networks of collaboration, recipients strengthened public health infrastructure for health promotion and disease surveillance and evaluation.

What was the scope and impact of GHWIC recipient work?

C2 recipients developed new memoranda of understanding and partnerships to promote GHWIC work. Sectors included representatives from both public and private interests such as health programs, insurers, and private businesses. The number of unique sectors averaged 89 per year, nearly quadrupling from baseline to a high of 148 unique sectors in Year 4 (Table 2). From these multi-sectoral coalitions and memoranda of understanding, recipients increased the number of new partnerships to assist with the development, implementation, and/or enhancement of policy, systems, and environmental (PSE) changes to promote health and prevent chronic disease. From sub-award funding, an average of 87 tribes per year developed, implemented, or enhanced PSE health promotion programs.

C2 recipients provided significant support to GHWIC communities to improve capacity on team-based care, evaluation, and chronic disease prevention and management. Through numerous trainings, C2 recipients expanded the number of tribes implementing team-based care approaches, chronic disease management strategies, and evaluation activities. For example, recipients increased the number of epidemiology- and data-focused partnerships with tribes and tribal programs from 12 to 203, a nearly 17-fold increase (Table 2). For progress on each measure by program year, see Appendix B: National Evaluation Details.

What innovative and promising practices for chronic disease prevention within tribal communities were identified?

Five years of support from a familiar collaborator with cultural competence proved to be a promising approach for GHWIC-funded communities. C2 recipients worked closely with sub-awarded communities and C1 recipients to provide support, technical expertise, and capacity building. C2 recipients frequently had long-standing relationships and established collaborations with the communities in the regions which provided a foundation for GHWIC to build upon. CDC Project Officers noted during the IRP that the preexisting relationships between C2 recipients and served communities provided a "springboard" for project success.

To highlight an example, the United South and Eastern Tribes (USET) supported 30 tribal nations in 13 different states with epidemiologic and public health surveillance services. Many supported tribal nations had small populations and limited infrastructure for evaluation and data work. For the supported communities to successfully implement community health assessments and chronic disease prevention activities, USET sponsored workshops and provided tailored technical assistance to leverage local data sources for data collection and analysis.

How can progress toward GHWIC outcomes be examined to understand the effectiveness of approaches used in tribal communities?

The effectiveness of approaches used by C2 recipients was demonstrated by the scale of expansion in partnerships and multi-sectoral collaborations. The number of C2 partnerships, trainings, and evaluation activities increased dramatically over the five years. In turn, sub-awarded tribes and C1 recipients leveraged C2 regional support to implement increasing numbers of team-based care and chronic disease management strategies, PSE approaches, and new partnerships. By Year 5, 137 tribes had advanced or sustained PSE approaches to health promotion and chronic disease prevention (Table 2). Given that the primary goal of C2 recipients working under Domain 1 was to expand support services for public health epidemiology and surveillance and increase the capacity of tribal nations to implement PSE approaches, progress made under this Domain indicates the effectiveness of a collaboration-driven approach. GHWIC outcomes benefited from improved capacity, denser collaboration networks, and additional C2 technical support.

Table 2: Domain 1 performance measure results

OUTCOME	NUMBER REPORTING	BASELINE	YEAR 5 FINAL OR MAX	PERCENT CHANGE
Outcome 1.1: An assessment of tribal capacity → Increased capacity for chronic disease prevention and management across the area				
S-1.1.1: Proportion of Tribes in Indian Health Service (IHS) Administrative area included in assessment activities. *Note: Insufficient numerator and denominator data*	NA	NA	NA	NA
I-1.1.1: Proportion of Tribes IHS Administrative area involved in assessment activities that implement strategic actions. *Note: Insufficient numerator and denominator data*	NA	NA	NA	NA
Outcome 1.2: Increased involvement of tribes in partnerships and collaborations, including partnership and collaboration with Tribal Epidemiology Centers → Increased community-clinical linkages				
S-1.2.1: Number of new memoranda of understanding.	4	11	255	2,218%
S-1.2.2: Number of unique sectors represented in multi-sector coalitions to address chronic disease*	5	38	148	290%
I-1.2.1: Number of new partnerships developed to support community-clinical linkages within tribes in the IHS Administrative area	3	0	62	NA
Outcome: 1.3: Increased implementation of effective strategies and activities consistent with tribal assessments → Increased sustained policies, systems, and environmental improvements identified and implemented				
S-1.3.1: Number of tribes in the IHS Administrative Area that developed, implemented, and/or enhanced policy, system and environment-focused programs to promote health and prevent chronic disease*	8	5	130	2,500%
I-1.3.1: Number of tribes in the IHS Administrative Area that advanced and/or sustained policy, system and environment-focused programs to promote health and prevent chronic disease*	8	0	137	NA
Outcome 1.4: Increased delivery of trainings on team-based care and prevention and management strategies → Increased team-based systems of care and Improved quality of chronic disease prevention				
S-1.4.1: Number of trainings delivered on team-based care	2	1	20	1,900%
S-1.4.2: Number of trainings on chronic disease prevention and management strategies delivered	5	8	225	2,713%
I-1.4a.1: Number of training participant tribes that implement team-based care activities*	3	0	33	NA
I-1.4b.1: Number of training participant tribes that implement chronic disease prevention and management strategies*	4	1	46	4,500%
Outcome S-1.5: Increased inclusion of epidemiology and evaluation activities in tribal program strategies → Increased engagement on epidemiology and evaluation				
S-1.5.1: Number of new and/or revised evaluation activities implemented with tribes or tribal programs, including with Tribal Epidemiology Centers	7	10	1465	14,550%
S-1.5.2. Number of new epidemiology and/or data-focused partnerships with tribes or tribal programs, including with Tribal Epidemiology Centers	6	12	203	1,592%
I-1.5.1: Number of tribes served by leadership, technical assistance, training, guidance, and consultative support*	6	4	135	3,275%
Outcome: S-1.6: Increased collection of data to support effective program implementation, evaluation, and sustainability → Increased sharing of data to support effective program implementation, evaluation, and sustainability				
S-1.6.1: Number of data sources accessed, used, and/or created to support effective program implementation, evaluation, and sustainability	7	12	982	8,083%
I-1.6.1: Number of products/tools developed to disseminate tribal data	5	3	464	15,367%

*** A final cumulative total for all five years is not shown to avoid duplication. Maximum value achieved is depicted.**

Tobacco Supplement Measures

In Year 2, the Office on Smoking and Health released supplemental funding to C2 recipients and one C1 recipient for commercial tobacco education and cessation. Tobacco supplement recipients worked to expand the reach of tobacco education campaigns, increase training, and develop and disseminate products on the burden of commercial tobacco use with the goal of reducing exposure. Performance measure collection for the tobacco supplement began in Year 3.

What was the scope and impact of GHWIC recipient work?

Tobacco Supplement recipients substantially increased the number of trainings on tobacco education campaigns, evidence-based and culturally appropriate publications, and the economic burden of commercial tobacco use within a relatively short timeframe. For example, recipients delivered 175 trainings on the economic burden of commercial tobacco use whose content was in turn given to tribal members, tribal leaders, and decision makers (Table 3). Through education, tribal advocacy, and capacity building on policy development and tribal interventions, Tobacco Supplement recipients successfully pushed for improved commercial tobacco cessation and management in numerous communities. Up to 96 tribes across the 11 IHS regional service areas developed, implemented, or enhanced commercial tobacco-free policies, 58 tribes implemented culturally appropriate tobacco education campaigns, and 11 others developed, implemented, or enhanced interventions to reduce availability and marketing exposure of commercial tobacco (Table 3). For progress on each measure by program year, see Appendix B: National Evaluation Details.

What innovative and promising practices for chronic disease prevention within tribal communities were identified?

A key element of tribal efforts to reduce commercial tobacco exposure was distinguishing the traditional uses of tobacco for ceremonial and spiritual purposes from the use of commercial tobacco for smoking, chewing, etc. Previous tobacco education campaigns often failed to consider the distinction. Tobacco Supplement recipients worked to honor and preserve the place of traditional tobacco where relevant while simultaneously advocating for and implementing commercial tobacco control measures. Through extensive training efforts, recipients connected with community members, providing tools, resources, and data to implement commercial tobacco education, cessation, and prevention measures that resonated with local traditions.

For example, the Albuquerque Area Southwest Tribal Epidemiology Center (AASTEC) implemented a Tribal Commercial Tobacco Prevention and Control Project to serve the 27 tribes in the Albuquerque service area. This project provided training, educational resources, and communications materials to key stakeholders of the Southwest Tribal Tobacco Coalition (STTC). In addition to classic public health education brochures, the STTC designed and created comic books aimed at Indigenous youth. AASTEC designed and released an eGuide for commercial tobacco prevention efforts called “Keep Tobacco Use Sacred: An eGuide for Tribal Communities” that included statistics on potential health implications from commercial tobacco use and second-hand smoke, strategies for control and prevention of commercial tobacco, and example policies, media campaigns, and resources. The eGuide and other materials are examples of Indigenous-centered resources that incorporated traditional uses of tobacco while promoting commercial tobacco cessation.

How can progress toward GHWIC outcomes be examined to understand the effectiveness of approaches used in tribal communities?

As a result of hundreds of trainings and resources (Table 3), Tobacco Supplement recipients encouraged a substantial increase in the number of tribes developing, implementing, or enhancing commercial tobacco-free policies and tobacco education campaigns. By creating environments to protect AI/AN peoples from the harmful effects of commercial tobacco and second-hand smoke, recipients laid the groundwork for lower death and disability from an entirely preventable cause. Traditional tobacco plays an important cultural role for many tribal nations. By distinguishing and reclaiming traditional tobacco, recipients produced tobacco education materials and advocacy work more relevant to tribal communities.

Table 3: Tobacco Supplement performance measure results

OUTCOME	NUMBER REPORTING	BASELINE	YEAR 5 FINAL OR MAX	PERCENT CHANGE
Outcome: S-1.7: Provide leadership, technical assistance, training, guidance and consultative support to tribes to develop plans to expand the reach of CDC Tips media campaigns or other federal tobacco education campaigns, Surgeon General Reports, and other tobacco related science/evidence-based publications				
S-1.7.1: Number of trainings delivered to tribes on culturally appropriate tobacco education campaigns	5	0	120	NA
S-1.7.2: Number of trainings delivered to tribes on tobacco related evidence-based and culturally appropriate publications	5	4	96	2,300%
I-1.7.1: Number of training participant tribes that implement culturally appropriate tobacco education campaigns*	5	4	58	1,350%
I-1.7.2: Number of products/tools developed and disseminated to tribes on evidence-based strategies for commercial tobacco use, second-hand smoke exposure and chronic disease	5	4	101	2,425%
Outcome: S-1.8: **Provide leadership, technical assistance, training, guidance and consultative support to tribes to develop and implement plans to inform and educate tribal leaders, decision makers and tribal communities on the burden of commercial tobacco use to their tribal members and tribal economy**				
S-1.8.1: Number of trainings delivered to tribes on the burden of commercial tobacco use to their tribal members and tribal economy	8	0	175	NA
I-1.8.1: Number of presentations or speaking opportunities given to tribal leaders/decision makers on commercial tobacco burden	6	0	145	NA
S-1.8.2: Number of products/tool developed and disseminated to tribes on burden of commercial tobacco use	8	0	288	NA
I-1.8.2: Number of presentations or speaking opportunities given by tribes to tribal members on burden of commercial tobacco use	5	0	198	NA
Outcome: S-1.9: Provide leadership, technical assistance, training, guidance and consultative support to tribes to implement evidence-based, culturally appropriate tribal interventions that increase the number of AI/AN protected from secondhand commercial tobacco smoke as a result of implementation of tobacco-free policies				
S-1.9.1: Number of trainings delivered to tribes on the implementation of commercial tobacco free policies	11	0	115	NA
I-1.9.1: Cumulative number of tribes that have developed, implemented or enhanced their commercial tobacco-free policies*	12	5	96	1,820%
S-1.9.2: Number of tools developed or disseminated to facilitate the writing of commercial tobacco free policies	11	8	154	1,825%
Outcome: S-1.10: Provide leadership, technical assistance, training, guidance and consultative support to tribes to implement evidence-based, culturally appropriate tribal interventions that decrease AI/AN exposure to commercial tobacco marketing and availability of commercial tobacco products				
S-1.10.1: Number of trainings given to tribes on tribal interventions to decrease exposure to commercial tobacco marketing and availability	3	0	61	NA
I-1.10.1: Number of tribes that have developed, implemented or enhanced evidence-based, culturally appropriate tribal interventions to decrease exposure to commercial marketing and availability of commercial tobacco products*	2	0	11	NA

*** A final cumulative total for all five years is not shown to avoid duplication. Maximum value achieved is depicted.**

Domain 2: Policy, Systems, and Environmental Approaches to Health Promotion

GHWIC Component 1 (C1) recipients worked to implement policy, systems, and environmental (PSE) changes to improve access, support, and availability of healthier foods and beverages, spaces to engage in physical activity, and opportunities to learn and adopt healthy lifestyles that incorporate healthy eating, physical activity, and commercial tobacco-free living.

What was the scope and impact of GHWIC recipient work?

A major aspect of C1 efforts was to improve access for children and adults to settings promoting physical activity, healthy eating, access to social support resources, and tobacco cessation support through PSE changes. Settings included workplaces, community centers, medical clinics, event spaces, and other locations where community members spent significant amounts of time. Recipients built community coalitions to develop broad-based support and productive collaborations for these changes. PSE approaches were highly varied, including efforts to improve heathy vending machine offerings, paid exercise breaks, policies to limit screen time, or large-scale traffic safety improvements for better walkability. As a result, the number of settings implementing changes for promotion of healthy living and protective factors against chronic disease increased dramatically. For example, the number of settings that increased access to healthier foods and beverages though promotion, teaching of healthy traditional food activities, or improved pricing, placement, and promotion of healthy traditional foods increased more than nine-fold from 11 at baseline to a high of 103 in Year 5 (Table 4).

As a result of these systemic alterations, the number of individuals with access to environments that support and promote health increased substantially over the course of GHWIC. The percent increase of individuals with access to settings that promoted physical activity, healthy eating, access to social support resources, and tobacco cessation support numbered in the hundreds, sometimes thousands. For example, from a baseline of 350 individuals, the number of people accessing settings with policies and practices to improve physical activity increased over 180-fold in five years to over 63,000 people (Table 4). For progress on each measure by program year, see Appendix B: National Evaluation Details.

What innovative and promising practices for chronic disease prevention within tribal communities were identified?

Given the wide range of activities and variations in outcomes selected by recipients under Domain 2, it was difficult to summarize promising practices across the whole initiative. What worked for one recipient on one outcome may not have necessarily worked for another. However, some common features of effective work emerged. Recipients spent the first two years of GHWIC building community coalitions and conducting community health assessments. As a result, the targeted outcomes selected were aligned with community priorities and interests and recipients had engaged key partners to leverage resources and efforts Though GHWIC had specific outcomes to choose from, the options were diverse and offered communities a lot of flexibility to choose what was most relevant.

For example, in a community health assessment, Yellowhawk Tribal Health Center identified improved access to healthy and traditional foods as a priority area for chronic disease prevention. Yellowhawk expanded an established community garden program and linked it with other physical activity promotion efforts to improve access to and interest in traditional foods. In collaboration with local non-profits, schools, and community volunteers, over 1,000 people in addition to 770 youth worked in the garden. As this example illustrates, selecting targeted outcomes based on community-identified priorities encouraged participation and ownership.

A promising practice that emerged was the successful implementation of paid administrative leave policies for health promotion activities and disease management classes. Employees were given time during the working week to attend classes or work out, thereby greatly reducing barriers to access. For example, the Lower Brule Sioux Tribe successfully lobbied the Tribal Council to create a policy allowing tribal employees three hours of administrative leave per week to attend diabetes prevention classes. As a result, over a third of individuals identified as high risk for diabetes were enrolled in the Diabetes Prevention Program. Having the support of tribal leadership created a more favorable environment for changing policy to support healthy choices.

How can progress toward GHWIC outcomes be examined to understand the effectiveness of approaches used in tribal communities?

The effectiveness of approaches used by C1 recipients can be seen in the dramatic increase in the number of individuals with access to settings promoting healthy choices and chronic disease prevention. While not every individual takes advantage of such options, modifying the environment to make healthier choices easier greatly improves and restores the conditions for healthier lifestyles. For example, the number of settings adopting commercial tobacco smoke-free policies increased 554% from five at baseline to 24 in Year 5. Between more commercial tobacco smoke-free spaces and increased commercial tobacco education campaigns, the number of individuals making quit attempts using culturally appropriate interventions increased by over 2,000% (Table 4). While the long-term health impact of these changes will be years in the making, recipients recognized that the *"powerful and comprehensive policies and systems changes in place… benefit many people. Those will continue to live on. That's there forever."* Whether targeted at increased physical activity, sustained access to healthy and traditional foods, or better protection against exposure to second-hand commercial tobacco smoke, PSE changes implemented by recipients will not be easily undone and will continue beyond the GHWIC initiative.

> *"[Recipients] put powerful and comprehensive policies and systems changes in place that benefit many people. Those will continue to live on. That's there forever.*

Table 4: Domain 2 performance measure results

OUTCOME	NUMBER REPORTING	BASELINE	YEAR 5 FINAL OR MAX	PERCENT CHANGE
Outcome 2.1: Increase number of early childcare programs adopting and implementing practices to increase physical activity and improve nutrition quality of foods and beverages → Increased physical activity among children, youth, and adults in the population				
S-2.1.1: Number of settings for infants and children ages 0–5 that develop, adopt, or implement practices and policies to increase physical activity that are appropriate to the environment. *Note: Insufficient numerator and denominator data*	NA	NA	NA	NA
S-2.1.2: Number of settings for infants and children ages 0–5 that develop or adopt practices or policies to implement food service guidelines/nutrition standards including sodium. *Note: Insufficient numerator and denominator data*	NA	NA	NA	NA
I-2.1a.1: Number of infants & children ages 0–5 attending settings w/ physical activity strategies	2	112	449	301%
Outcome 2.1b: Increased percentage of adults or youth who increase consumption of nutritious foods and beverages and decrease total intake of discretionary calories				
I-2.1b.1: Number of infants & children 0–5 attending settings w/ food service guidelines/nutrition standards	2	112	449	301%
Outcome 2.2: Increase the number of settings that develop, adopt, and implement food service guidelines/nutrition standards → Increased percentage of adults or youth who increase consumption of nutritious foods and beverages and decrease total intake of discretionary calories				
S-2.2.1: Number of Settings Developing Nutrition Guidelines*	5	4	31	675%
I-2.2.1: Number of Individuals w/ Access to Settings Adopting Nutrition Guidelines	5	182	10274	5,545%
Outcome 2.3: Increase access to health education resources that improve health beliefs, attitudes, and behaviors → Sustained use of health education resources				
S-2.3.1: Number of Settings Increasing Access to Social Support Resources*	4	5	34	580%
I-2.3.1: Cumulative Number of Individuals w/ Access to Settings Improving Access to Social Support Resources	2	10	4255	42,450%
Outcome 2.4: Increase availability and access to healthy traditional and other foods and beverages → Sustained access to traditional and other healthy foods and water via food system changes				
S-2.4.1: Number of Settings Promoting Access to Healthy Foods*	9	11	103	836%
I-2.4.1: Number of Individuals w/ Access to Settings Serving Healthy Food	8	107	74259	69,301%
Outcome 2.5: Increase opportunities for physical activity and increased use of these opportunities → Increased physical activity among children, youth, and adults in the population				
S-2.5.1: Number of Settings Adopting Policies to Improve Physical Activity*	9	10	169	1,590%
I-2.5.1. Number of Individuals Accessing Settings w/ Policies & Practices to Improve Physical Activity	5	350	63076	17,922%
Outcome 2.6: Increase the number of policies and supports that promote initiation, duration and exclusivity of breastfeeding → Increased rates of breastfeeding in tribes				
S-2.6.1: Number of setting providing support for breastfeeding. *Note: Insufficient data*	NA	NA	NA	NA
I-2.6.1: Percent of infants 2 months old or less being exclusively breastfed. *Note: Insufficient data*	NA	NA	NA	NA
Outcome 2.7: Expand the reach of the Tips Campaign with culturally relevant and tribal/village-specific education → Evidence-based practices, policies, and interventions are institutionalized, and poised to sustain tobacco cessation				
S-2.7.1: Cumulative Number of Media Efforts Addressing Harmful Commercial Tobacco Use	3	18	172	856%
I-2.7.1: Cumulative Number of Individuals Reporting Support for Creation of Commercial Tobacco-free Policies	4	196	8933	4,458%
Outcome 2.8: Increase the number of AI/ANs protected from secondhand commercial tobacco smoke by implementing tobacco-free policies → Evidence-based practices, policies, and interventions are institutionalized and poised to sustain tobacco cessation				
S-2.8.1: Number of Settings Adopting Smoke-Free Policies*	5	24	133	454%
I-2.8.1: Number of Individuals Reporting Perceived Compliance with Commercial Tobacco-free Policies	5	617	11541	1,771%
Outcome 2.9: Increased use of tobacco cessation quit line through the 1-800-QUIT-NOW portal; Increased number of smokers making quit attempts.				
S-2.9.1: Number of Settings Promoting Tobacco Cessation Support*	3	3	15	400%
I-2.9.1: Number of adult and young smokers who have made a quit attempt using proven (culturally appropriate) cessation methods.	3	224	4693	1,995%

*** A final cumulative total for all five years is not shown to avoid duplication. Maximum value achieved is depicted.**

Domain 3: Community-Clinical Linkages

In addition to policy, systems, and environmental changes for health promotion, GHWIC recipients worked closely with clinical systems to establish and improve connections with community resources for chronic disease prevention and management.

What was the scope and impact of GHWIC recipient work?

To understand the scope of this domain, it is important to recognize that many recipients have a single health system, which may be a distance for residents to travel. While individual counts may be low for any given measure, each count may represent a sole healthcare facility for an entire tribe and thus serve thousands of people.

Recipients worked to improve links between healthcare systems and community resources that strengthen chronic disease management outside of clinical settings. GHWIC recipients increased the number of healthcare systems with a referral process to support high blood pressure management for people with hypertension by 120% (Table 5). GHWIC recipients also worked to increase the number of health care systems that engage community health workers and healthcare extenders to link patients to community resources that promote self-management of high blood pressure and diabetes. The number of healthcare systems using these strategies increased by 175% and 200%, respectively (Table 5). Lastly, recipients worked to increase the number of diabetes self-management education programs engaging community health workers in the delivery of services by 200% (Table 5). For progress on each measure by program year, see Appendix B: National Evaluation Details.

What innovative and promising practices for chronic disease prevention within tribal communities were identified?

Identification of community partners was key to establishing effective linkages between clinical care programs and community resources. Partnerships with youth programs and community centers proved to be effective methods of connecting the teachings from wellness courses and clinical directions with actual resources and opportunities for practice.

For example, the Winnebago Tribe of Nebraska leveraged GHWIC funding to expand the Ho-Chunk Hope: A Diabetes Free Future Program to include a partnership with the Little Priest Tribal College (LPTC). The diabetes prevention class is held at the LPTC every fall and the students earn 3 college credits in conjunction with the Native Health & Wellness Class. Another partnership was formed with the Winnebago Public School and St. Augustine's School 8th grade classes to teach "Youth Staying Healthy", an evidence-based diabetes prevention education curriculum for AI/AN teens. Additionally, the Tribe invested in the Whirling Thunder Wellness Center and Land of Wellness to provide increased opportunities for physical activities in the form of ball fields, a swimming pool, gym, exercise rooms, and walking trails.

How can progress toward GHWIC outcomes be examined to understand the effectiveness of approaches used in tribal communities?

Given the importance of health systems to the tribes being served, doubling and tripling the number of systems with improved community-clinical linkages for self-management of high blood pressure and diabetes meant significantly improved support for potentially thousands of individuals. The use of community health workers and community health representatives helped to fill a crucial gap in health services, particularly for recipients who may occupy significant land areas involving long travel times for healthcare.

Table 5: Domain 3 performance measure results

OUTCOME	NUMBER REPORTING	BASELINE	YEAR 5 FINAL OR MAX	PERCENT CHANGE
Outcome 3.1: Increased community-clinical linkages to support prevention, self-management, and treatment of diabetes, hypertension and obesity → Increased proportion of patients with high blood pressure and/or diabetes who have a self-management plan and Increased proportion of adults with high blood pressure or with diabetes in adherence to medication regimens				
S-3.1.1: Number of Healthcare Systems w/ Policies Linking Hypertensive Patients to Community Resources*	6	5	11	120%
I-3.1a.1: Proportion of patients with hypertension that are referred to community resources to treat or manage their high blood pressure. *Note: Insufficient numerator and denominator data*	NA	NA	NA	NA
I-3.1b.1x: Optional: Proportion of patients with high blood pressure in adherence to medication regimens. *Note: Insufficient numerator and denominator data*	NA	NA	NA	NA
Outcome 3.2: Increased access to Community Health Representatives (CHRs) who link patients to community resources that promote self-management of high blood pressure and prevention of diabetes → Increase in the use and number of Community Health Representatives (CHRs) in the delivery of education/services				
S-3.2.1: Number of Healthcare Systems Engaging Community Health Workers to Manage High Blood Pressure*	4	4	11	175%
S-3.2.2: Number of Healthcare Systems Engaging Community Health Workers to Manage Diabetes*	6	5	15	200%
S-3.2.3: Number of DSME Programs Engaging Community Health Workers*	3	2	6	200%
I-3.2.1: Proportion of patients with high blood pressure who were linked to community resources. *Note: Insufficient numerator and denominator data*	NA	NA	NA	NA
I-3.2.2: Proportion of patients who were linked to community resources that promote prevention of diabetes and its complications. *Note: Insufficient numerator and denominator data*	NA	NA	NA	NA
I-3.2.3: Proportion of patients with diabetes who were engaged by community health workers to participate in DSME programs. *Note: Insufficient numerator and denominator data*	NA	NA	NA	NA

*** A final cumulative total for all five years is not shown to avoid duplication. Maximum value achieved is depicted.**

Domain 4: Health System Interventions

Lastly, in conjunction with PSE approaches to health promotion and chronic disease prevention and community-clinical linkages, GHWIC recipients worked to improve the number of healthcare systems implementing team-based care approaches to chronic disease management.

What was the scope and impact of GHWIC recipient work?

As with Domain 3, many of the measures in this Domain are based on healthcare systems, of which a recipient may only have one. Though individual counts are low, each frequently represents the sole source of health services for thousands of individuals.

Recipients worked to increase the number of healthcare systems using team-based care approaches to improve blood pressure and diabetes management by 500% and 100%, respectively (Table 6). Recipients also worked to increase the number of high-risk patients participating in diabetes prevention programs by 3,750% (Table 6). For progress on each measure by program year, see Appendix B: National Evaluation Details.

What innovative and promising practices for chronic disease prevention within tribal communities were identified?

Changes within healthcare systems were strengthened by partnerships between tribes, community health organizations, and public health authorities. By improving internal care practices for chronic disease management and linking care with community resources, recipients promoted sustainable change in patient health and, as one recipient put it, encouraged people to move from being *"passive service recipients to active agents in their own well-being."*

For example, two tribal health organizations in Alaska improved screening and referral policies for tribal members at-risk for diabetes in order to improve connections with health resources, Diabetes Self-Management classes, nutrition consultation, and clinical care. These two organizations supported a combined 3,238 tribal members.

How can progress toward GHWIC outcomes be examined to understand the effectiveness of approaches used in tribal communities?

As with Domain 3 efforts, health systems play a critical role in promoting health in tribal communities. Implementing new team-based strategies for chronic disease management at a clinical level improves care for many patients. Implementing changes in clinical flow requires a different kind of engagement with clinical partners and faces unique challenges. To have increased the number of systems implementing team-based care for blood pressure management, 500% is a significant achievement.

Table 6: Domain 4 performance measure results

OUTCOME	NUMBER REPORTING	BASELINE	YEAR 5 FINAL OR MAX	PERCENT CHANGE
Outcome 4.1: Increased use of team-based care strategies, including use of health care extenders such as Community Health Representatives, pharmacists, public health nurses, case managers, patient navigators, community health workers → Increased team-based systems of care				
S-4.1.1: Number of Healthcare Systems Encouraging Team Approach to High Blood Pressure Management*	6	2	12	500%
S-4.1.2: Number of Healthcare Systems Encouraging Team Approach to Diabetes Management*	2	2	4	100%
I-4.1.1: Proportion of patients within healthcare systems with policies for team-based care approaches to blood pressure control. *Note: Insufficient numerator and denominator data*	NA	NA	NA	NA
I-4.1.2: Proportion of patients with diabetes who have achieved blood glucose control. *Note: Insufficient numerator and denominator data*	NA	NA	NA	NA
Outcome 4.2: Increase in dental treatment and preventive maintenance visits by diabetic patients (e.g. Diabetes Self-Management Education)				
S-4.2.1: Proportion of diabetic patients receiving dental care and/or preventative maintenance. *Note: Insufficient numerator and denominator data*	NA	NA	NA	NA
Outcome 4.3 Increased proportion of high-risk adults who participate in CDC-recognized Diabetes Prevention Program (DPP) → Increased proportion of high-risk adults who participate in CDC-recognized diabetes prevention program				
S-4.3.1: Number of Healthcare Systems Using AMA/CDC Prevent Diabetes STAT Toolkit*	2	1	2	100%
I-4.3.1: Number of high-risk adults who enrolled in a diabetes prevention or lifestyle change program	3	8	308	3,750%

*** A final cumulative total for all five years is not shown to avoid duplication. Maximum value achieved is depicted.**

Barriers and Facilitators

Throughout GHWIC, recipients were asked about major facilitators and challenges to meeting strategic goals. To answer this question, recipients submitted annual Evaluation Reports from 2016–2018. In addition, many recipients participated in the Implementation Reflection Project (IRP): a qualitative exploration of GHWIC implementation, lessons learned, and recommendations for future initiatives. From the IRP and recipient Evaluation Reports, major facilitators and barriers to recipient work were identified. Many of the same themes—including partnerships, leadership and partner support, staff capacity, and others—emerged as both a facilitator (when present) and a barrier (when not).

Among C1 recipients, the most common facilitators were partnerships, leadership and partner support, and data collection. Dense networks of collaboration and support strengthened the effectiveness and reach of recipient efforts. The collection of data on community needs guided objectives and ensured strategies were aligned with community interests. The top barriers reported by C1 recipients were staff capacity, partnerships, and perceptions and attitudes. GHWIC efforts were hindered when programs were understaffed or experienced staff turnover. The absence of community partners made enacting strategic plans difficult as community coalitions were sometimes missing critical roles and delayed partnerships slowed implementation. For example, one recipient sought to improve fruit and vegetable access through mobile grocery delivery but could not convince a delivery company to stay on board. Lastly, it was sometimes difficult to combat prevailing attitudes and beliefs in the community about the circumstances that improve health and well-being. For recipients that tried to implement healthy vending standards, for example, it was frequently a challenge to convince community members that healthy options tasted just as good.

For C2 recipients, top facilitators reported across multiple years included technical assistance, partnerships, and policies and systems. As established tribal organizations with longstanding roots in communities, C2 recipients were able to provide substantial technical assistance to strategic health promotion efforts. Recipients helped facilitate introductions for the development and support of partnerships and could provide examples of effective policies and systems. The top barriers cited by C2 recipients included access to data, staffing capacity, and policies and systems. As recipients tasked with tracking progress across sub-awardees, C2s were often hard-pressed to identify reliable data sources. As with C1 recipients, maintaining staff capacity to meet GHWIC requirements was a continual challenge. C2 recipients reported frequent policy and systems challenges among sub-awardees made enacting changes difficult. For example, one sub-awardee described barriers to updating and enforcing new policies. Frequent tribal government staff turnover impacted buy-in and sustainability of efforts.

Within these top facilitators and barriers, four major themes about implementation at the local level emerged: community collaboration, staff capacity, data collection, and cultural integration.

Community Collaboration

Community collaboration was a prominent theme across both C1 and C2 recipients. Collaboration involved both new partnerships across tribal sectors and larger organizations such as universities, including the building and maintaining of programmatic partnerships.

Community collaboration could be both a strength and a barrier. Even though some programs explicitly mentioned delayed partnerships as the reason for difficulties implementing projects, a number of recipients stated community collaborations were a source of strength and an area they were proud to expand through GHWIC efforts. Collaborations enabled recipients to extend the reach of GHWIC funding by having "more hands" to do the work and additional topic expertise to inform projects. For example, the Pueblo of Santa Ana formed a valuable partnership with the Santa Ana Native Plants Nursery to help with gardening projects, identifying traditional local plant names, and greening outdoor walking spaces. Communities also provided valuable direction for GHWIC work through direct input and feedback. According to the analysis, community collaboration and partnerships were the top facilitators across all years of the evaluation.

Community collaboration was cited frequently among C2 recipients for sub-awarded tribes. For example, one C2 sub-awardee highlighted how a garden project lowered barriers by bringing together community groups that had not previously worked together. C2s also spoke about community collaboration as an intentional strategy for ensuring success of federally funded programs. For example: *"How wonderful it was for the GHWIC funding model to be adaptive. I've seen tremendous growth in our sub-awardees. In fact, one of our sub-awardees, for the first time in recent history finally became a state tobacco prevention control awardee."*

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One of our sub-awardees, for the first time in recent history finally became a state tobacco prevention control awardee.

Staff Capacity

Staff capacity was a major theme for recipients and CDC. Staff capacity as a barrier included turnover, lack of staff time, training, or finding people with the right skill sets. Staff capacity as a facilitator highlighted the value of passionate, long-term staff who kept programs moving forward and provided support to community partners, sub-awarded tribes, and/or other recipients.

When discussing staff capacity, C1 recipients identified a lack of adequate staff to deliver programs and high rates of turnover. For many recipients, GHWIC was their first federal cooperative agreement and they did not have the initial financial or administrative capacity to handle the extensive requirement burden. For recipients and CDC, turnover affected abilities to provide support as new staff required extensive orientation to the complex initiative. For example: *"Shifts happened at the beginning of GHWIC and people moved on within CDC. Different people represented different positions, then they were gone, and different people came along. It set us back."*

Staff capacity issues could ripple out into funded communities beyond the immediate GHWIC team. In one example, a C1 recipient described how community coalition members began having multiple competing demands for time and attention. Too many meetings and obligations meant less work was getting done. The recipient successfully mitigated the issue by merging similar coalitions together and hosting joint meetings.

Staff capacity also served as a facilitator by contributing valuable skills and knowledge, finding the perfect match for a job, or how instrumental staff were to program success. The willingness of staff to learn and adapt was crucial to effective efforts and collaborations. For example: *"The individuals we interfaced with are passionate about their work and have hearts in the right place. It's nice to have reinforcement and support."* Having consistent staff for the initiative helped enormously with continuity.

Data Collection

Data collection was identified by recipients as both a barrier and facilitator. The original GHWIC funding opportunity announcement explicitly required recipients to develop a data-driven community action plan. The data gathered over the first two years of the cooperative agreement built a foundation upon which recipients implemented strategic plans. Through the practice of data collection and assessment, GHWIC recipients developed programs tailored to local circumstances.

Over the remainder of the cooperative agreement, methods of data collection, which indicators were collected, and data collection tools all emerged as factors influencing recipient work. The flexibility of the evaluation approach enabled tribes to *"gather quality data to support effective program development."* However, many of the evaluation systems for federal reporting were complex and burdensome. As one recipient noted, *"[CDC] want[s] to know what's going well, yet you're supposed to use this spreadsheet that isn't a place for the narrative crucial for understanding Indian Country."* Recipients frequently reported via workgroup and individual communication feeling reporting requirements were overly burdensome and that a large part of staff time was devoted to completing paperwork rather than implementing programs.

Beyond evaluation reporting, recipients continued to inform strategic decisions with active data collection efforts. For example, a C1 recipient examined data from the 2016 Indian Health Service Diabetes Audit and local Diabetes Program surveys, identifying a serious gap in participation rates between male and female participants at risk for diabetes. As a result, the recipient made efforts to encourage male participation, including male-only classes, incentives for bringing a friend, and so on. Data collection efforts beyond GHWIC evaluation requirements informed internal decision making like this for many recipients.

Cultural Integration

The theme of cultural integration was almost exclusively discussed as positive in report narratives. Recipients chose or adapted tools to improve cultural relevancy for communities. Community members responded positively as a result. Programs integrated traditional cultural activities or served to implement cultural teachings. For instance, the San Carlos Apache Traditional Apache Diet Project worked extensively to develop, analyze, and teach a pre-colonial diet to tribal members and youth. That project *"Preserv[ed] ways of knowledge about ways to take care of the earth through the harvest walks, seed saving workshop, and canning and preserving workshops."*

Incorporating cultural beliefs and teachings into materials and activities greatly improved participation of recipients and community members. For example, one C2 tobacco coordinator offered unique "No Smoking" signs to sub-awardees who submitted commercial tobacco-free policies. Each sign included art from the community and messages in the local Indigenous language. Sub-awardees were *"extremely pleased"* by these materials. By aligning or incorporating activities with cultural beliefs, priorities, and traditions, GHWIC recipients improved participation, community buy-in, and relevance.

> *"Incorporating cultural beliefs and teachings into materials and activities greatly improved participation by recipients and community members.*

Discussion

Over five years, GHWIC recipients and sub-awarded tribes implemented a wide array of community-driven strategies for health improvement and chronic disease prevention. While many of the chronic diseases of interest to GHWIC (heart disease, diabetes, obesity, etc.) operate on time scales beyond the scope of this initiative, recipients made significant improvements in the conditions and environments that prevent, mitigate, or help treat chronic conditions. It will be years before changes in disease rates from these interventions may become known, but there was demonstrable progress in improving protective factors and disease management environments that contribute toward the overall goals of the GHWIC cooperative agreement.

Reducing rates of death and disability from commercial tobacco use.

Commercial tobacco cessation and education was a major effort of both C1 and C2 recipients. GHWIC saw critical increases in the number of trainings, products, tools, and materials on the health and economic impacts of commercial tobacco developed and distributed to tribal communities, whether through direct C1 efforts or C2 support through the Tobacco Supplement. As a result, up to 96 tribes developed, implemented, or enhanced commercial tobacco-free policies, and 11 others developed evidence-based, culturally appropriate interventions to reduce exposure to commercial tobacco marketing and products. Among C1 recipients, media campaigns for tobacco education and efforts to create commercial smoke-free settings resulted in a 46-fold increase in the number of individuals supporting commercial tobacco-free policies and a 21-fold increase in the number of smokers making quit attempts using culturally appropriate cessation methods. GHWIC created environments free from commercial tobacco and encouraged personal smoking cessation, both of which contribute directly to lower rates of death and disability from commercial tobacco use.

Reducing the prevalence of obesity through improved nutrition and physical activity.

Recipients made enormous progress in improving environments to support healthy eating and physical activity to reduce rates of obesity. Through GHWIC, recipients increased the number of settings with nutrition guidelines eight-fold, the number of settings promoting access to healthy foods nine-fold, and the number of settings promoting physical activity 17-fold. As a result, thousands more people now have access to these settings that did not before. By creating community coalitions to improve these settings, GHWIC recipients have woven denser networks of collaboration and mutual support to continue health improvement through improved nutrition and physical activity. As one recipient summarized in the IRP, *"We're seeing this connection back to culture, back to land, and back to tradition within communities. They've reestablished these connections that needed to be re-enlightened. From that, health has flourished."*

Reducing rates of death and disability from diabetes, heart disease, and stroke.

In addition to improving environmental protective factors against the conditions that lead to diabetes, heart disease, and stroke, recipients made significant improvements to healthcare systems and links with community resources. The number of healthcare systems using Community Health Workers to manage diabetes and high blood pressure tripled over the five years of GHWIC. A tribe may only have one healthcare system available, so these changes impacted the health of entire communities. Between these changes and community efforts to provide education on diabetes prevention, recipients reporting the measure saw a 39-fold increase in the number of high-risk adults enrolled in a diabetes prevention program. In combination with healthier environments, improved care systems, and community support, networks of community resources will contribute to reduced rates of death and disability from diabetes, heart disease, and stroke.

Improving systems for public health surveillance and evaluation.

Underpinning the work of C1 recipients to create healthier environments and support networks was the significant expansion of public health and evaluation data activities. C2 recipients increased data sharing and engagement on epidemiology and evaluation through a 147-fold increase in the number of evaluation activities implemented with tribes and tribal programs, a 17-fold increase in the number of data-focused partnerships, and a 155-fold increase in the number of products developed to disseminate tribal data. C1 recipients and sub-awarded tribes had a wealth of strategic data accessible to inform strategic planning and decision making. Memoranda of understanding and partnerships established under GHWIC strengthened systems for public health surveillance and evaluation and will continue to support health improvement programs and strategic data collection.

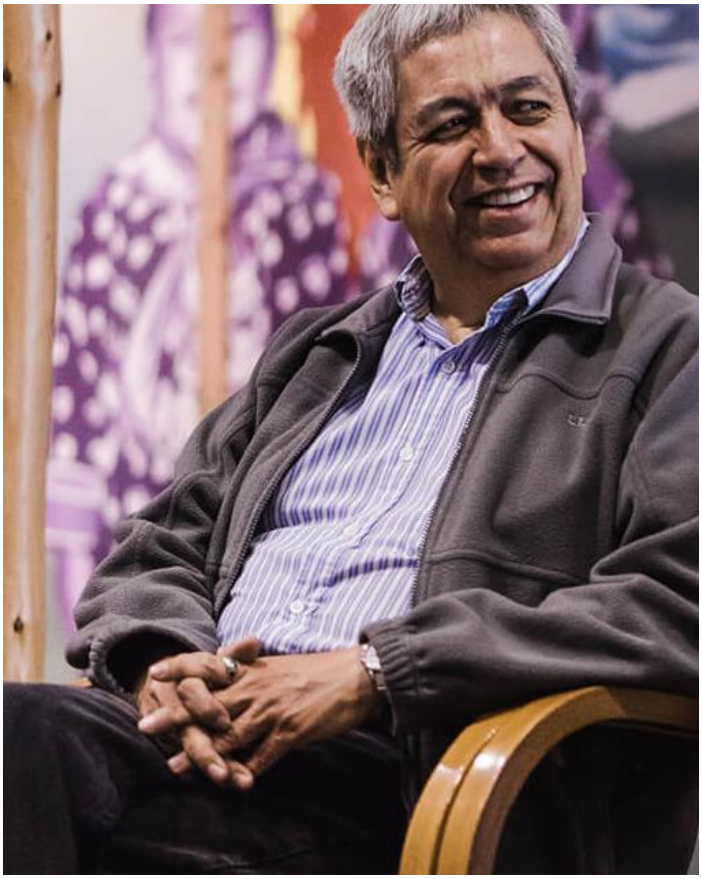
Improving systems for team-based care and community-clinical linkages to prevent and manage chronic disease.

C2 recipients conducted extensive training efforts to increase team-based systems of care around chronic disease management and prevention. Up to 60 tribes implemented team-based care activities and 113 implemented chronic disease prevention and management strategies as a result. Among C1 recipients, the number of healthcare systems encouraging team-based care for high blood pressure increased six-fold. GHWIC substantially expanded systems for team-based care and improved community-clinical linkages.

None of the overall goals of GHWIC should be considered in isolation as progress made on one goal contributed toward progress made on others. Expanded community coalitions contributed to better clinical linkages and improved environments to support physical activity, healthy eating, and reduced exposure to commercial tobacco use and smoke. Those environments in turn provided resources and support for improved chronic disease management and prevention. Improved data surveillance and evaluation systems made for better decision making and support systems of team-based care. Throughout this work, recipients leaned on the strengths of cultural integration and strong community collaborations to overcome staff capacity issues, lack of partnerships, and data collection challenges to implement community changes. The long-term effects of these improvements on recipients and on the overall goals of GHWIC will be felt for years to come.

Conclusion

As a pilot initiative of unprecedented division collaboration on tribal health promotion, GHWIC was ultimately successful in the effort to improve health promotion and chronic disease prevention among AI/ANs and build relationships between tribes and the federal government. While the timeframe of GHWIC did not allow for assessment of the impact on chronic disease rates, it laid the groundwork for long-term systemic change. Community-driven and culturally grounded strategies put into place policy, systems, and environmental changes that will continue to impact the lives of thousands of AI/ANs.



As documented in this report and in GHWIC Regional Updates, the GHWIC Storymap, GHWIC presentations, and individual tribal and tribal health organization websites, GHWIC has made an indelible impact on the health of communities. To highlight just a few, the number of tribes developing policy, systems, and environmental changes increased 26-fold; 96 tribes developed commercial tobacco-free policies; over 74,000 people now have access to healthy and traditional food; and the number of smokers making quit attempts increased 21-fold. These measures likely underestimate the true extent of GHWIC.

This report expands the evidence base for a collaborative approach to chronic disease prevention in Indian Country. It is through the incredible work recipients have done that the GHWIC model for tribal collaboration on health promotion and chronic disease prevention can be considered successful and illustrative for future endeavors.

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Appendix A: Implementation Details

This appendix contains additional details about the communities of practice supporting GHWIC and the intended audiences and dissemination processes for evaluation products.

Communities of Practice

A culturally responsive initiative encourages participation and involvement in communities of practice (CoP): groups of people engaged in a collective learning process over a shared endeavor. CoPs employ joint planning, partnership, and co-learning that reflects local protocols and cultural norms. GHWIC recipients and national partners (UIHI and Project ECHO) coordinated with CDC to facilitate a series of focused workgroups on topics such as evaluation, regional efforts, and strategic coordination with CDC.

Table 7: GHWIC Workgroups

Tribal Workgroup	The Tribal Workgroup was coordinated by the NCCDPHP Office of the Director and included Project Officers, management, and participating divisions to discuss the status and emerging issues of GHWIC. This group provided alignment of evaluation with the priorities of the NCCDPHP Director, as well as consistency with other CDC requirements.
Evaluation Workgroup	An Evaluation Workgroup (EWG) initially formed to guide design and implementation of reporting processes. The EWG met monthly to review overall evaluation activities and responses to issues of program monitoring and evaluation. This group included UIHI and CDC staff from each division.
TEC Workgroup	TECs engaged in IHS area-level surveillance and data collection to support the national evaluation in addition to C1 and C2 evaluation efforts. UIHI hosted a quarterly meeting with TEC staff and CDC representatives to establish collaborative regional strategies for measuring GHWIC health impact.
Evaluation Forum	UIHI hosted a quarterly Evaluation Forum for all recipients and GHWIC staff, the TECs, and CDC to provide updates and support discussion on evaluation planning, performance monitoring, and recipient experiences. This workgroup developed standard performance measures and launched evaluation processes in the first two years of GHWIC.

The Project ECHO model was adapted for a public health setting to create communities of practice among and between recipients and CDC partners. These were achieved through planning and implementing recipient-led ECHO sessions and facilitating GHWIC use of the project management software Teamwork and the videoconferencing platform Zoom. These platforms served to give GHWIC recipients spaces to collaborate and communicate about strategies and best practices across the initiative.

Intended Audience

The results of this evaluation are intended for CDC staff (including evaluators, Division leads, Project Officers, and GHWIC initiative staff), GHWIC recipients, other federal agencies interested in working in Indian Country, and members of AI/AN communities. The data contained herein provide powerful evidence about the effectiveness of community-driven and culturally grounded approaches to health promotion and chronic disease prevention.

UIHI anticipates this report will be used as a tool for orienting future CDC or tribal staff on the structure, activities, collaborative model, and Indigenous framework used under GHWIC. Future funding opportunities for tribal communities may look to these results for guidance when considering how to best propose work with tribal partners.

These results have been discussed extensively in the EWG and with the GHWIC recipient community to ensure they accurately portray the work recipients conducted. This report provides non-identifiable aggregate data and highlights some case examples where appropriate permissions and approvals were granted.

Dissemination Process

Center for Disease Control (CDC)

Throughout GHWIC, recipients were encouraged to use evaluation results and share lessons learned with other parties having an interest in the program. GHWIC results have predominantly been presented as formal evaluation reports, though depending on the various audiences, results could be presented in different forms such as executive summaries and/or presentations.

The CDC Healthy Tribes Program shared GHWIC evaluation results internally with partner Division Directors and Branch Chiefs, the Center Director, leadership from the CDC Office of Tribal Affairs and Strategic Alliances, and other interested CDC offices. Divisions also had the option to share reports and other GHWIC deliverables with their Project Officer and evaluation staff to provide context for evaluation practices in tribal communities.

Each Division has a set of partners with whom they may have an interest in sharing the evaluation results, which varied by Division. Partners included national organizations and networks involved in tribal and non-tribal chronic disease prevention, as well as state and local partners who may have existing collaborations with tribes. Additionally, CDC shared evaluation results with tribal and other units within federal agency partners such as the Indian Health Service, US Department of Agriculture, and Centers for Medicare and Medicaid Services (CMS).

Urban Indian Health Institute (UIHI)

As the National Evaluation Coordination Center for GHWIC, UIHI used an Indigenous Evaluation Framework (IEF) throughout GHWIC. The IEF is an evaluation approach that combines tribal values with Western methods. Integrating these values required federal partners to recognize the important effect that culture has on health. This framework called for tribal and tribal health organization engagement, the recognition of tribal sovereignty, distinction between all tribal entities, and identification of strengths through a holistic approach.

The goal of the evaluation was to tell the story of GHWIC. UIHI collaborated closely with CDC and recipients in identifying key audiences and communication goals for evaluation results. The primary audience for evaluation findings were GHWIC partners: tribes (C1s), tribal health organizations (C2s), sub-awarded tribes and groups, TECs, CDC leadership, and participating CDC Divisions. External audiences included CDC Divisions outside of GHWIC, non-CDC federal agencies, federal decision-makers, tribal public health and advocacy groups, state and local public health agencies, policy makers, and the broader community interested in chronic disease and AI/AN health intervention efforts. The goals for communication and dissemination of GHWIC findings varied by audience. UIHI continuously engaged with CDC Divisions, workgroups, and recipients to manage the evolving priorities and interests in GHWIC findings and to incorporate feedback.

For data analyses, key messages, and products, UIHI worked closely with CDC and recipients to refine outlines and content of all reports or other products to reflect a balanced picture of GHWIC efforts. Prior to dissemination, UIHI followed a collaborative writing and review process. Completed draft products were shared with GHWIC recipients when specific recipient data or stories were included to ensure proper tribal approvals were made and tribal sovereignty was honored. UIHI would then share drafts with various CDC workgroups as appropriate for feedback. Final products were approved by GHWIC recipients and CDC staff before dissemination to external partners.

Communication and dissemination channels for internal GHWIC partner groups included:

- Project ECHO Teamwork website and messages
- GHWIC Tribal Digest newsletters via email
- UIHI, TEC, and CDC websites
- Presentations at national tribal leadership and public health conferences
- Video conference seminars or informational sessions

Appendix B: National Evaluation Details

This appendix lists yearly progress for each GHWIC performance measure, organized by domain.

Domain 1: Epidemiology and surveillance

Data for measures S-1.1.1: Proportion of tribes in Indian Health Service (IHS) Administrative area included in assessment activities and I -1.1.1: Proportion of tribes in the IHS Administrative area that were involved in assessment activities and that implement strategic actions are not included in this report as recipients did not report sufficient numerator and denominator data to calculate cumulative totals.

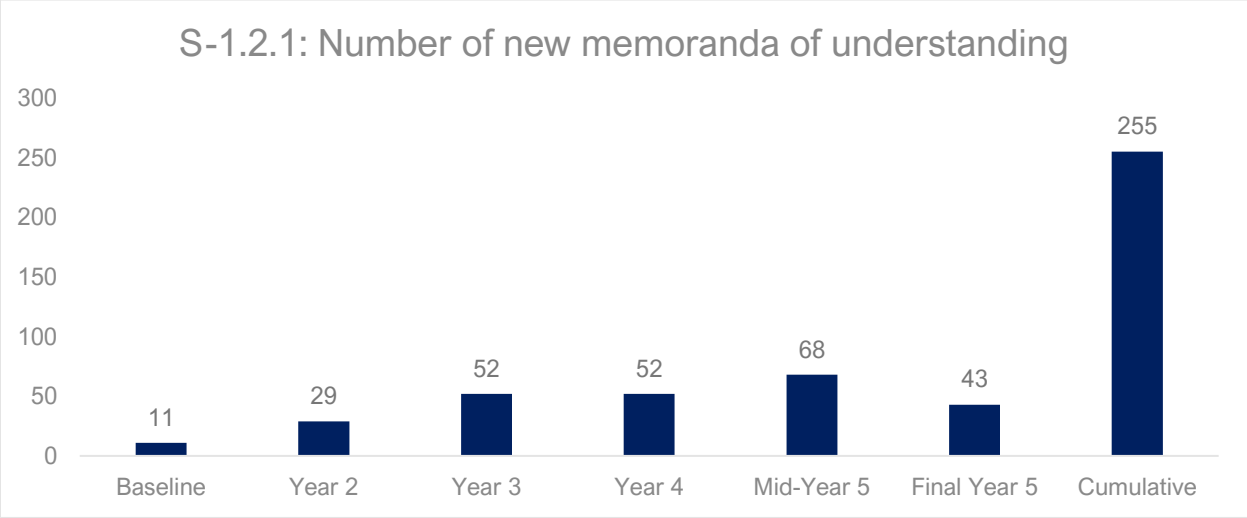

Figure 1: Number of new memoranda of understanding developed to support chronic disease prevention activities by year. N = 4

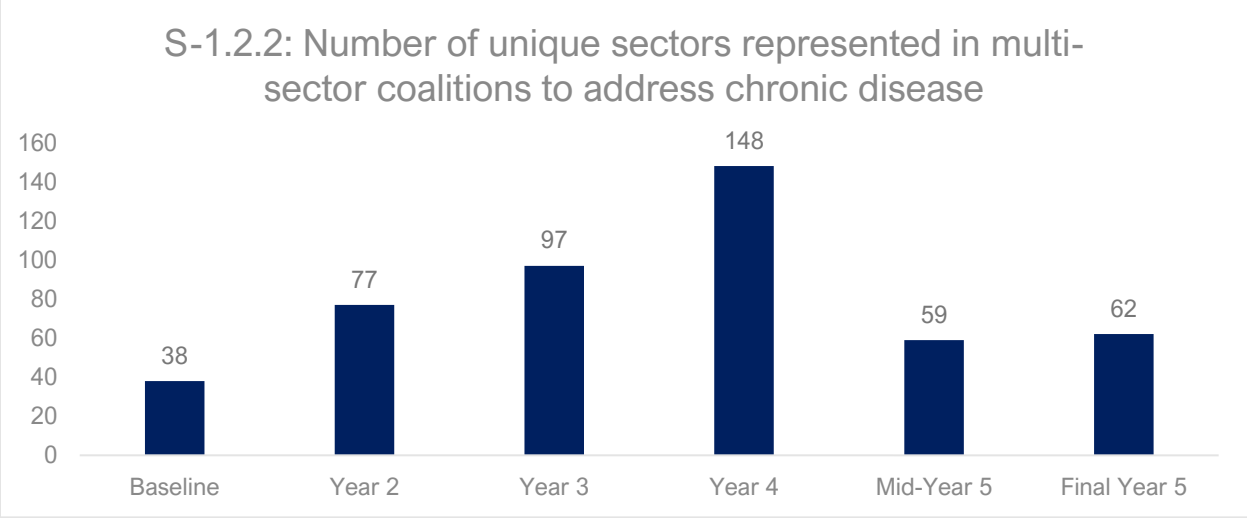

Figure 2: Number of unique sectors in chronic disease prevention coalitions by year. NOTE: A final cumulative total for all five years is not shown to avoid duplication. N = 5

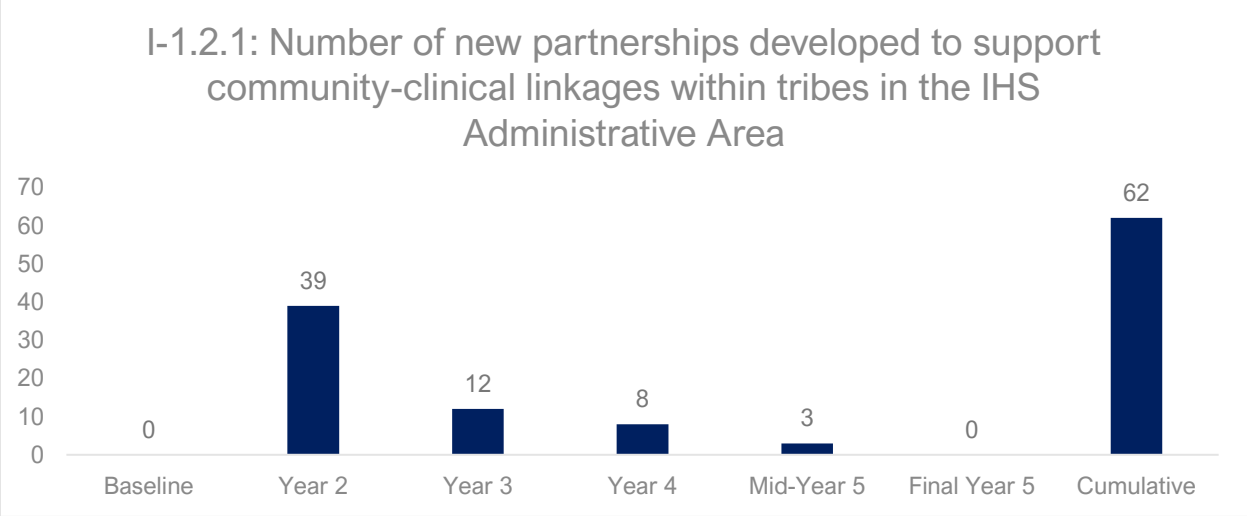

Figure 3: Number of new partnerships developed for community-clinical linkages within tribes in the IHS administrative area at baseline and by year. N = 3

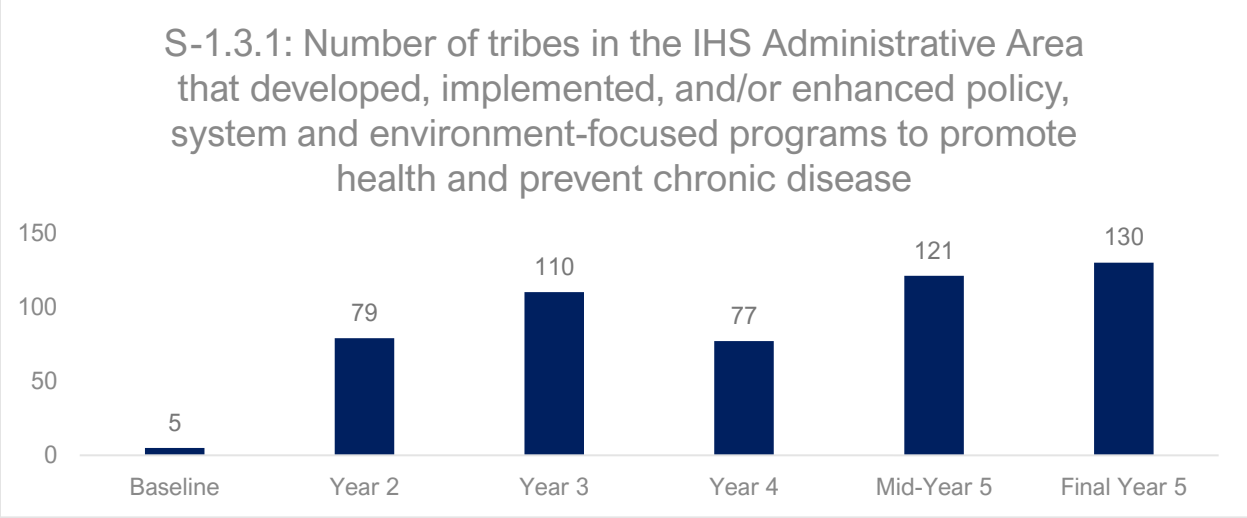

Figure 4: Number of tribes across all IHS areas that developed PSE approaches for health promotion by year. NOTE: A final cumulative total for all five years is not shown to avoid duplication. N = 8

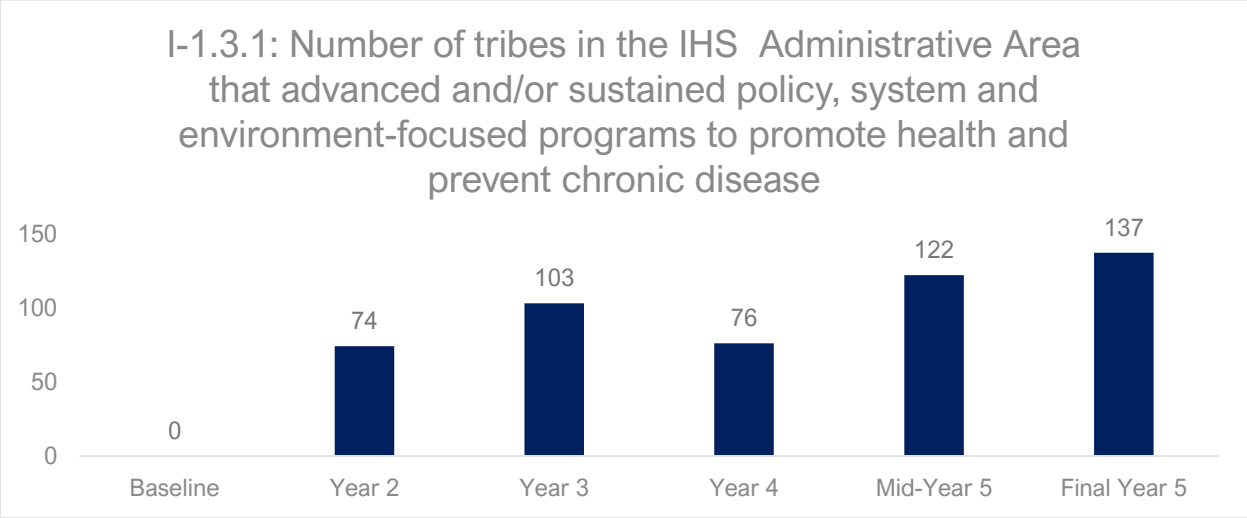

Figure 5: Number of tribes across all IHS areas that sustained existing PSE efforts for health promotion by year. NOTE: A final cumulative total for all five years is not shown to avoid duplication. N = 8

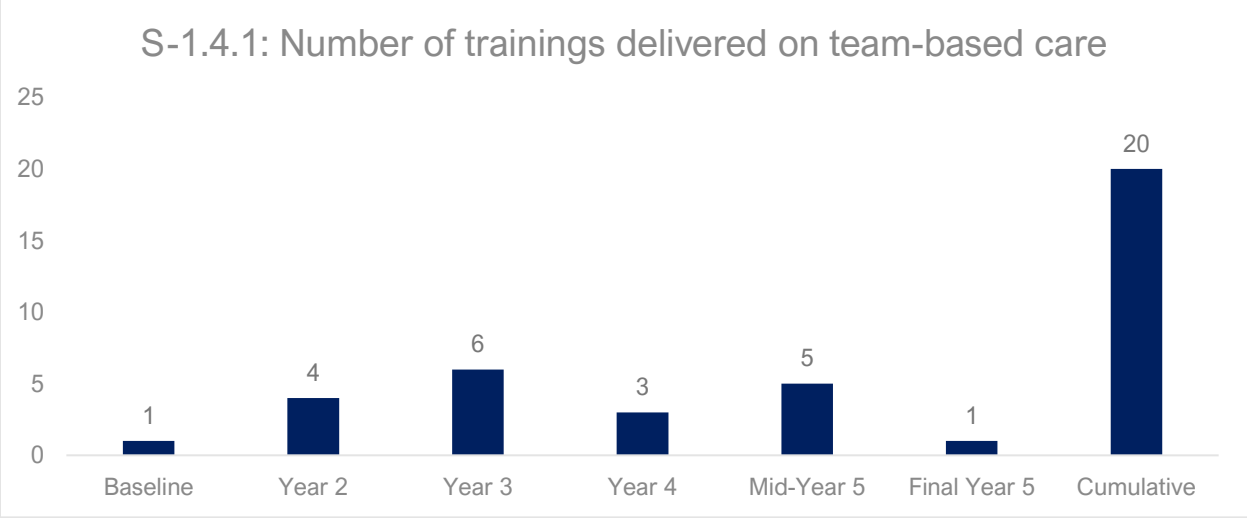

Figure 6: Number of trainings on team-based care for clinical outcomes improvement. N = 2

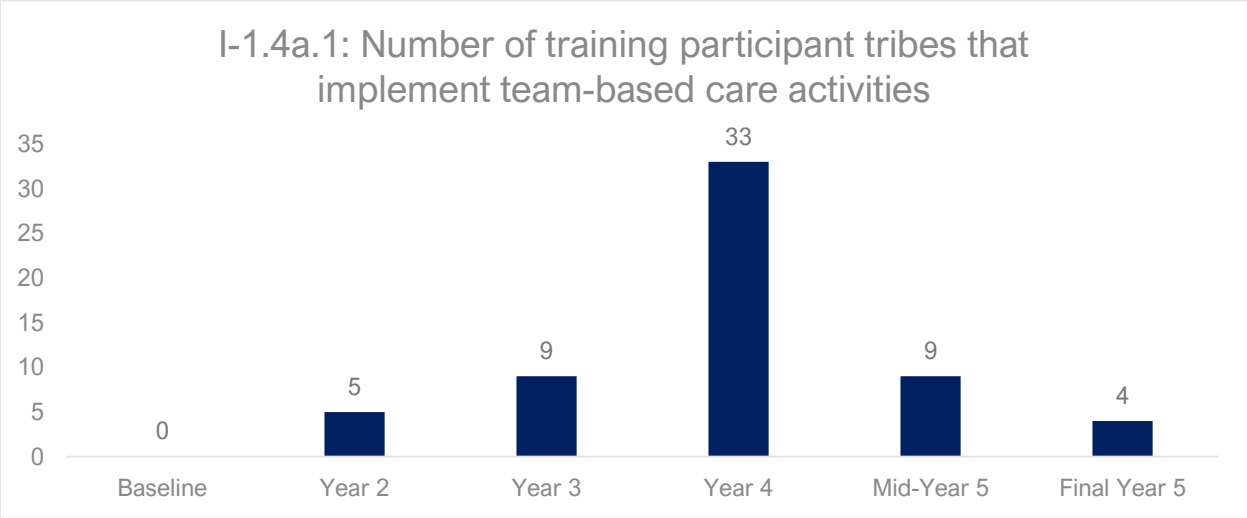

Figure 7: Number of tribes that implemented team-based care activities addressed in trainings by year. NOTE: A final cumulative total for all five years is not shown to avoid duplication. N = 3

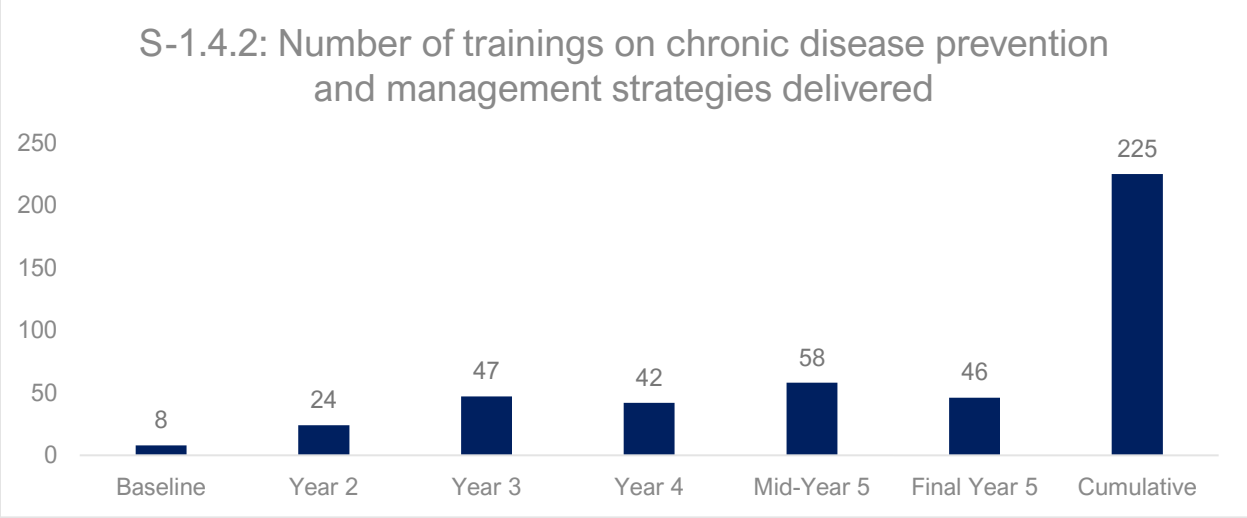

Figure 8: Number of trainings on chronic disease prevention and management strategies. N = 5

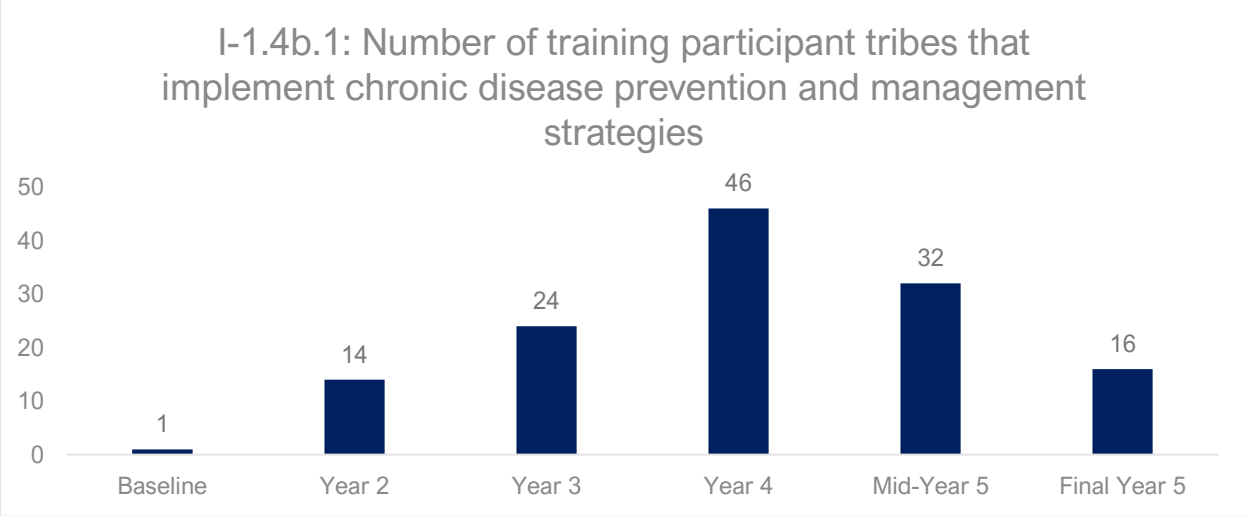

Figure 9: Number of tribes implementing chronic disease prevention and management strategies addressed in trainings. NOTE: A final cumulative total for all five years is not shown to avoid duplication. N = 4

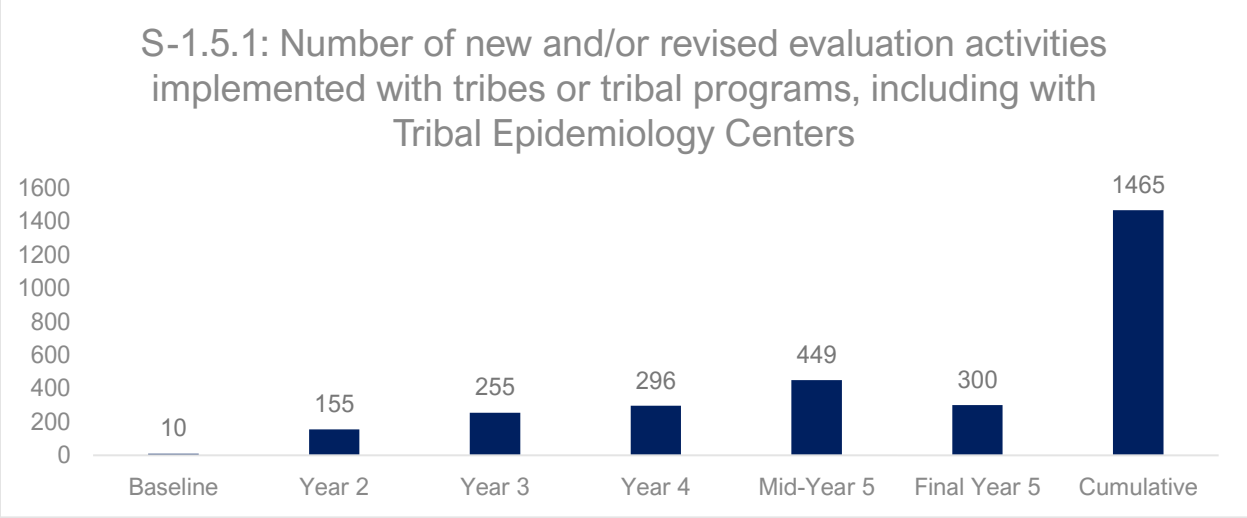

Figure 10: Number of new and/or revised evaluation activities implemented. N = 7

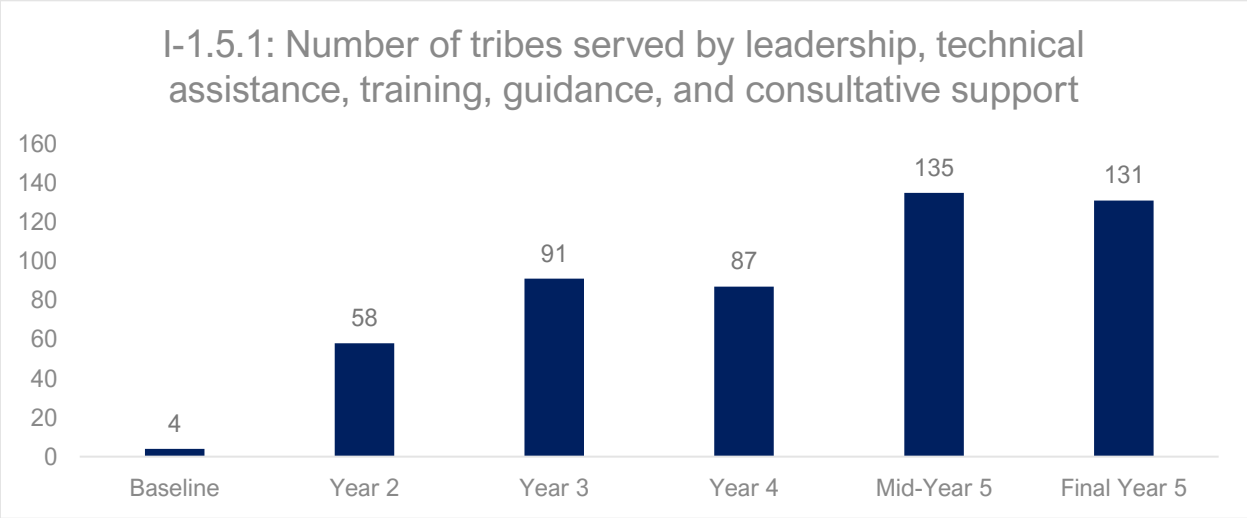

Figure 11: Number of tribes served with technical assistance, training, guidance, and consultative support. NOTE: A final cumulative total for all five years is not shown to avoid duplication. N = 6

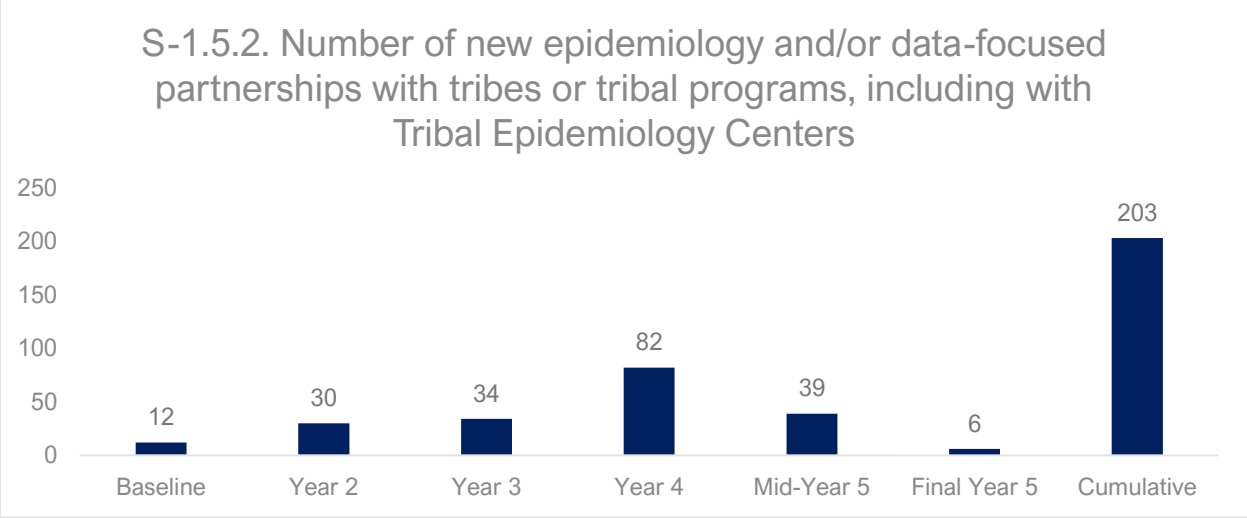

Figure 12: Number of partnerships focused on epidemiology and/or data with tribes, tribal organizations, and other Tribal Epidemiology Centers. N = 6

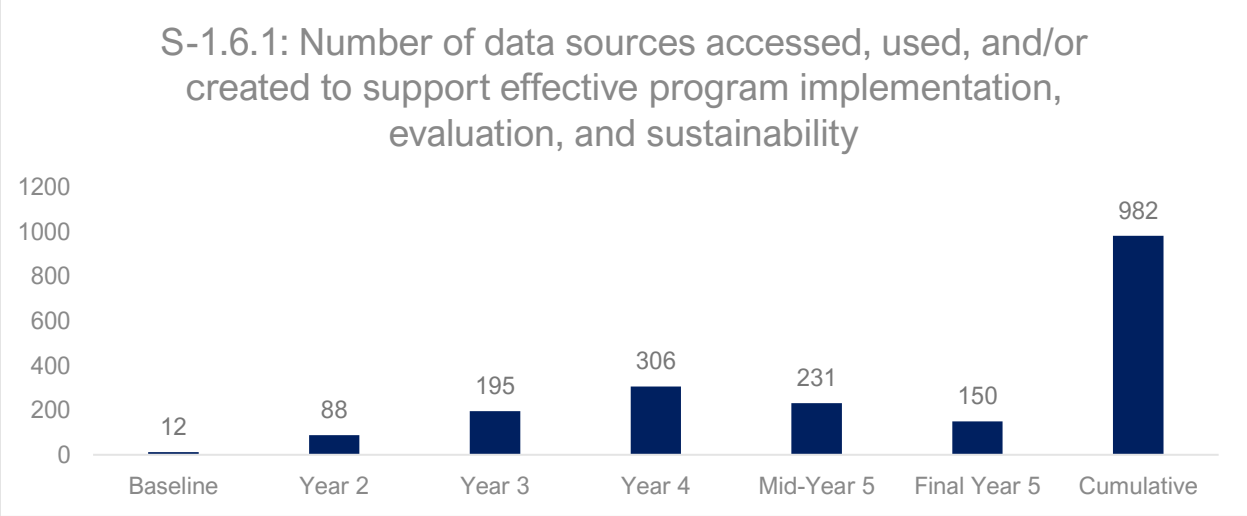

Figure 13: Number of data sources accessed to support recipient programs. N = 7

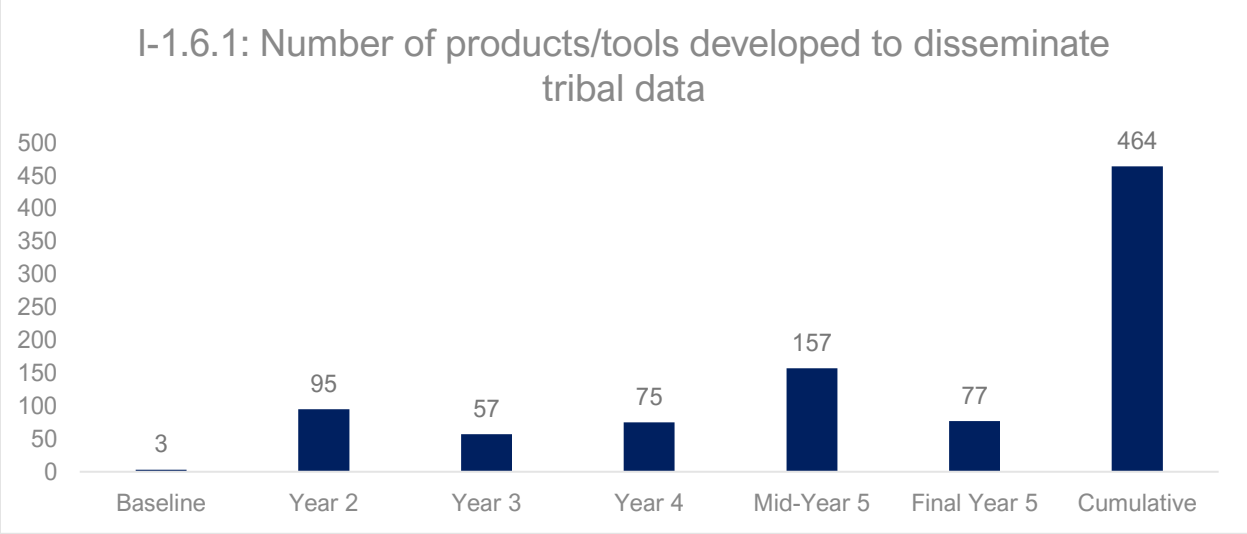

Figure 14: Number of products and tools developed to disseminate tribal data. N = 5

Tobacco Supplement

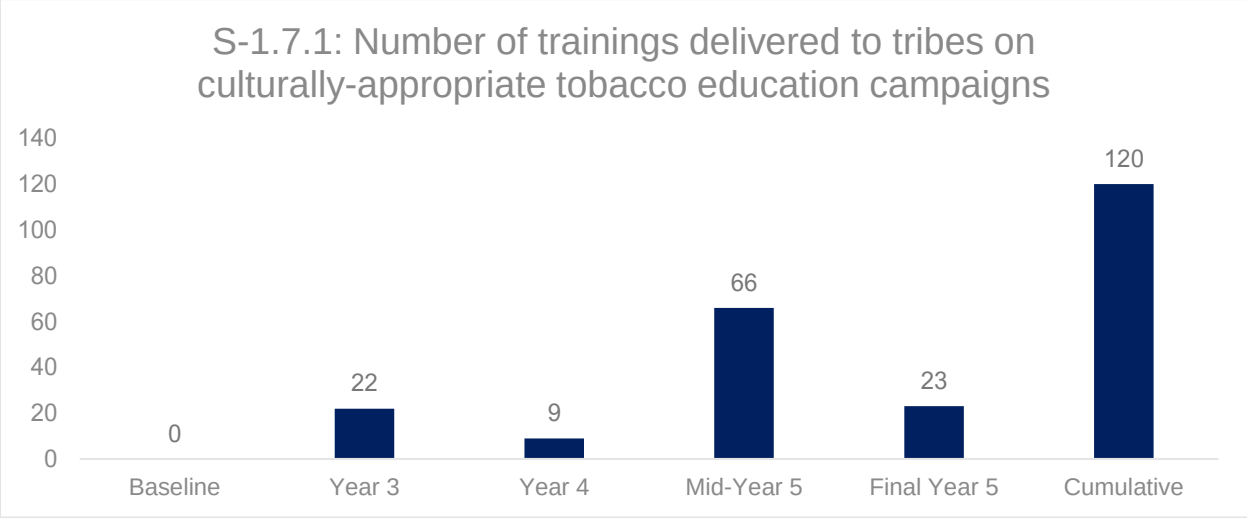

Figure 15: Number of trainings delivered to tribes on culturally appropriate tobacco education campaigns by year. N = 5

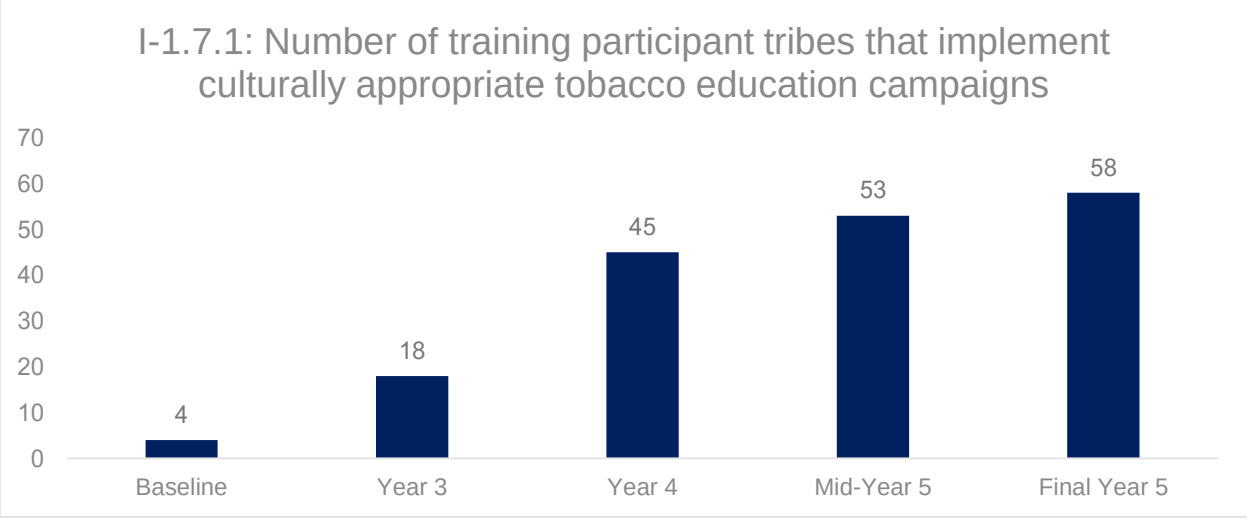

Figure 16: Number of participating tribes that implemented culturally appropriate tobacco education campaigns. NOTE: A final cumulative total for all five years is not shown to avoid duplication. N = 5

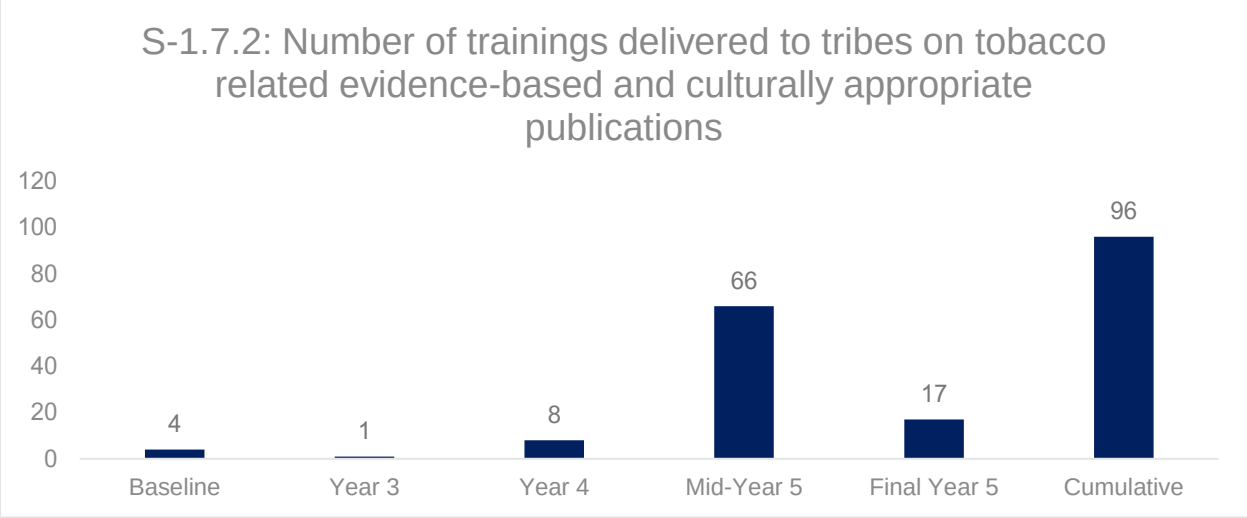

Figure 17: Number of trainings delivered to tribes on evidence-based and culturally appropriate tobacco-related publications. N = 5

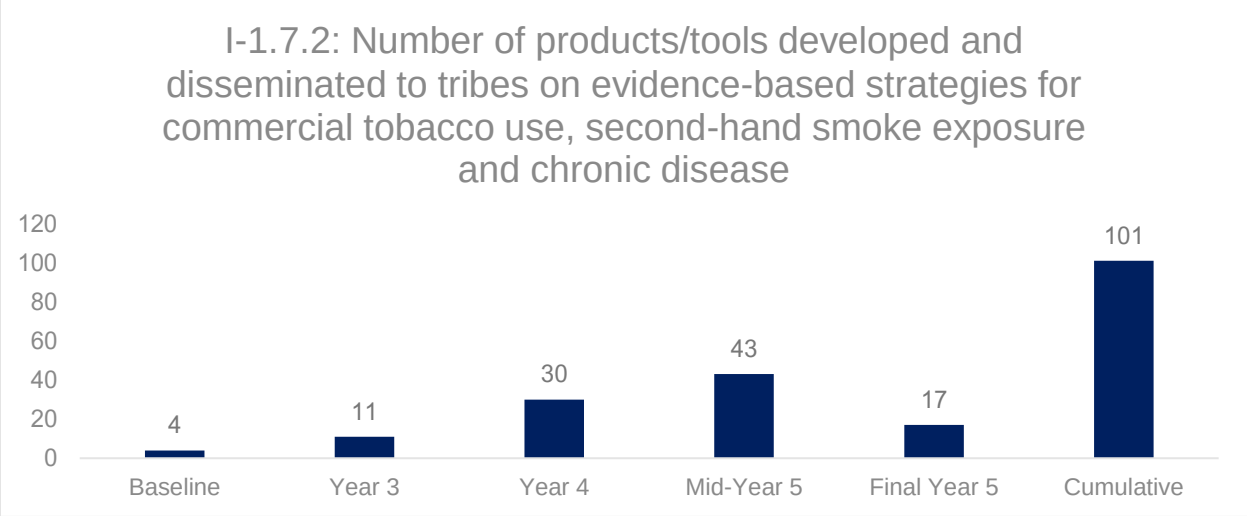

Figure 18: Number of products and tools developed for tribes on the evidence base of commercial tobacco use, second-hand smoke exposure, and chronic disease. N =5

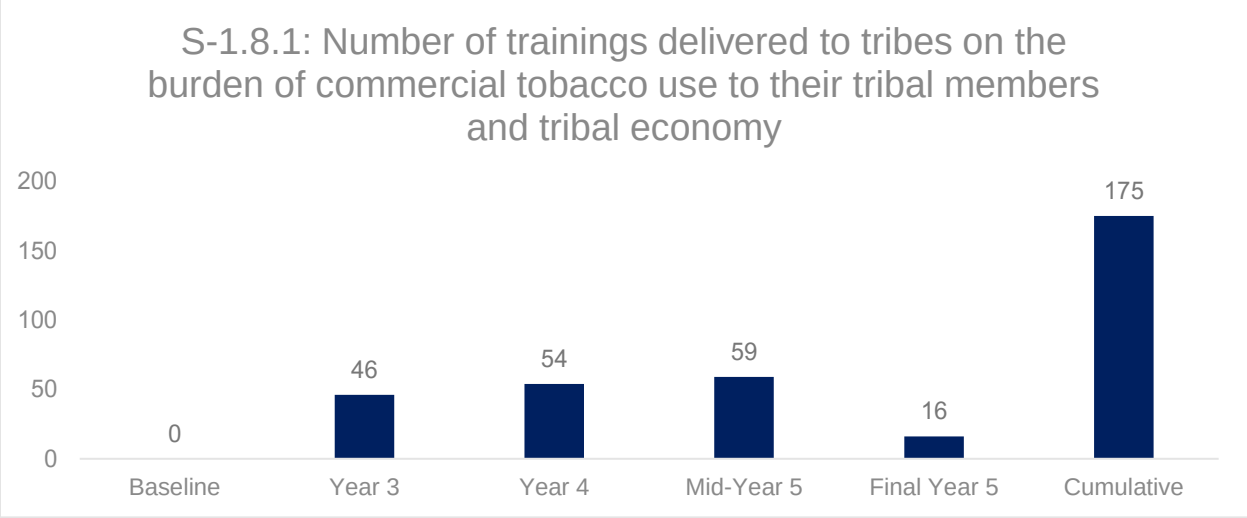

Figure 19: Number of trainings delivered to tribes on the burden of commercial tobacco use at baseline and by year. N =8

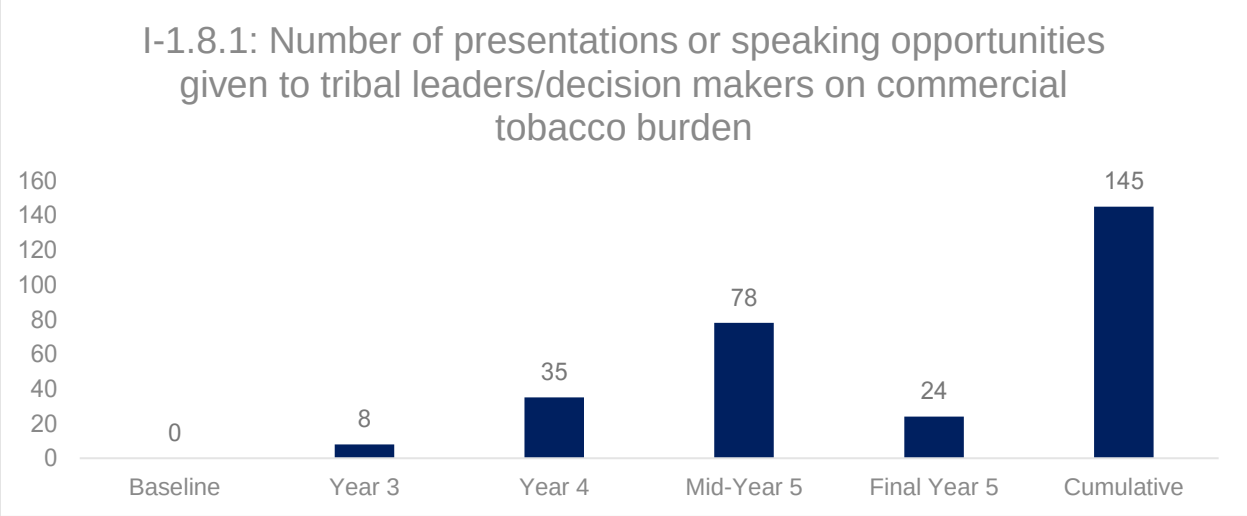

Figure 20: Number of presentations and speaking opportunities given to tribal leaders and decision makers on the burden of commercial tobacco use. N = 6

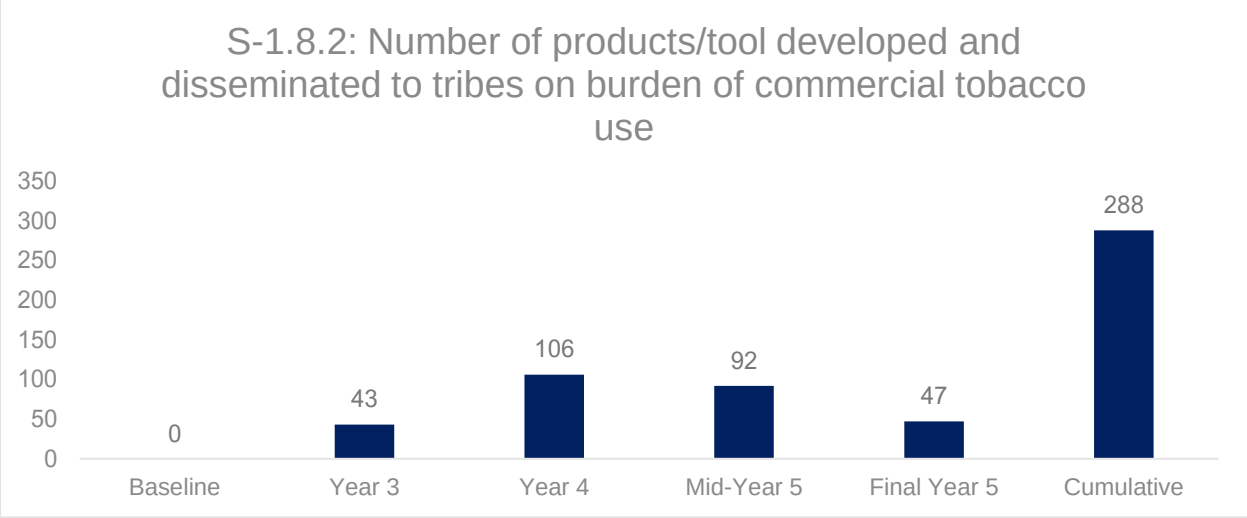

Figure 21: Number of products and tool developed and disseminated to tribes on the burden of commercial tobacco use. N = 8

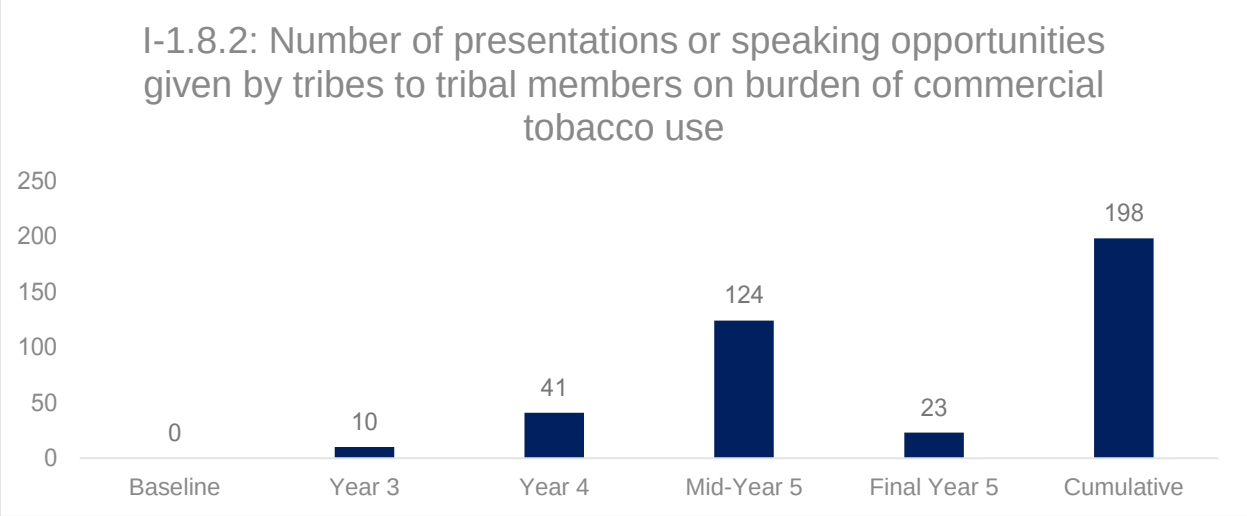

Figure 22: Number of presentations and speaking opportunities given to tribal members on the burden of commercial tobacco use. N = 5

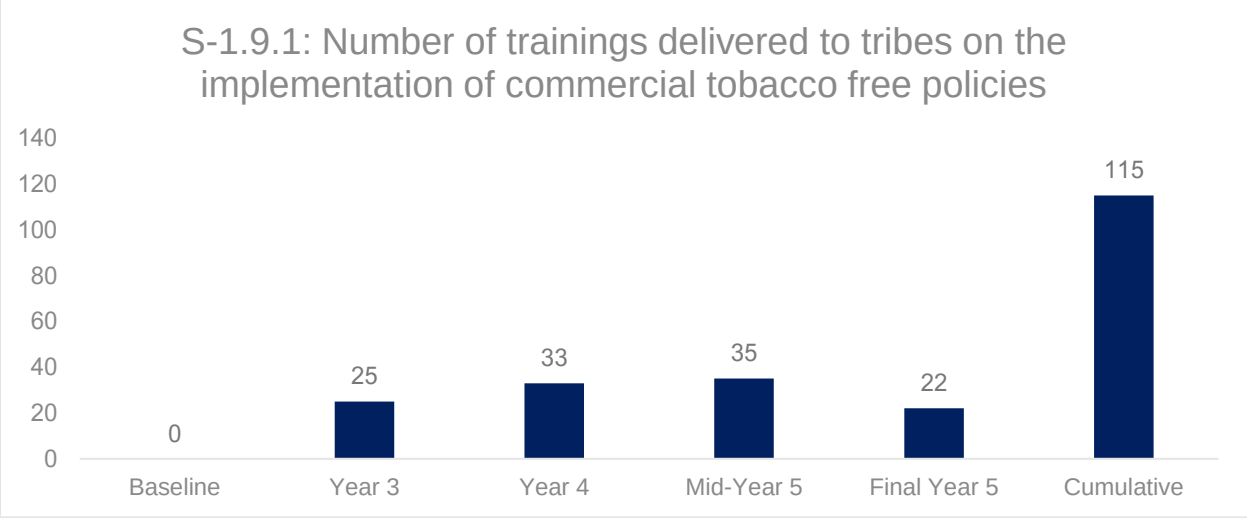

Figure 23: Number of trainings delivered to tribes on the implementation of commercial tobacco-free policies. N = 11

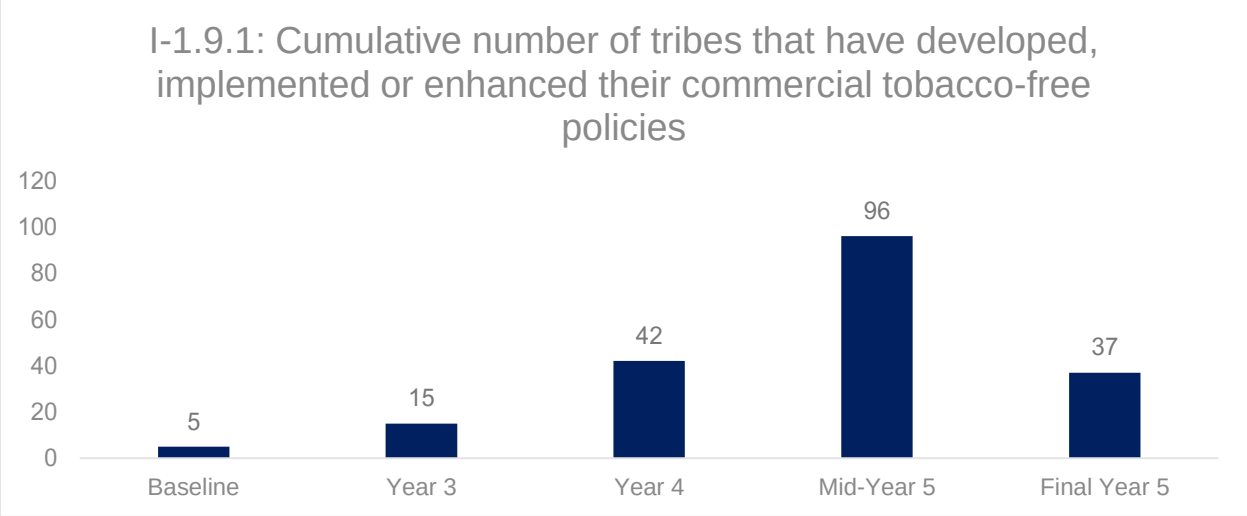

Figure 24: Number of tribes that developed, implemented, or enhanced commercial tobacco-free policies. NOTE: A final cumulative total for all five years is not shown to avoid duplication. N = 12

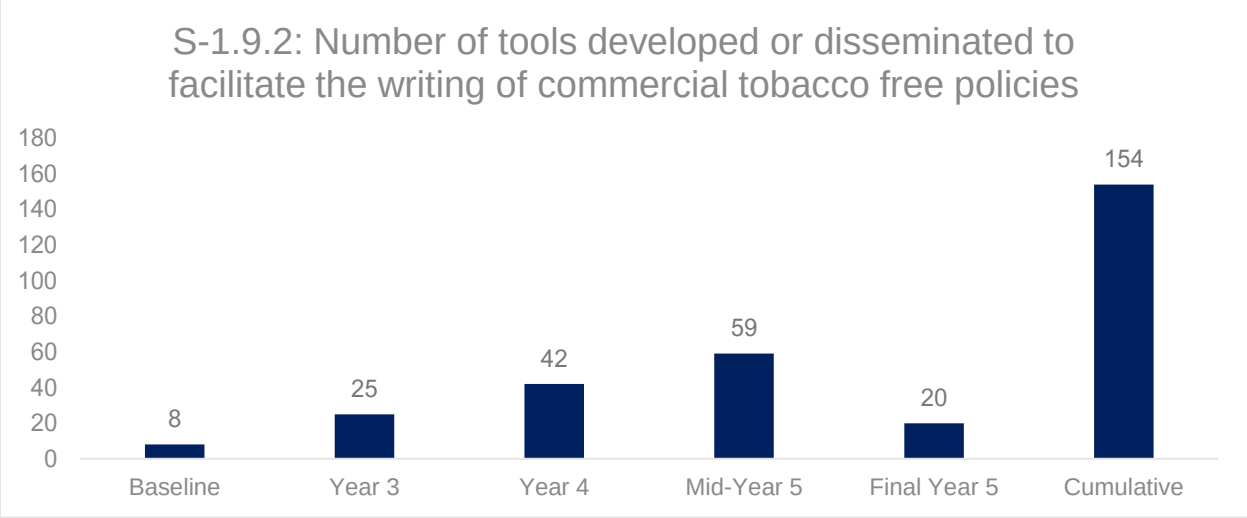

Figure 25: Number of tools developed and disseminated to tribes to facilitate writing commercial tobacco-free policies. N = 11

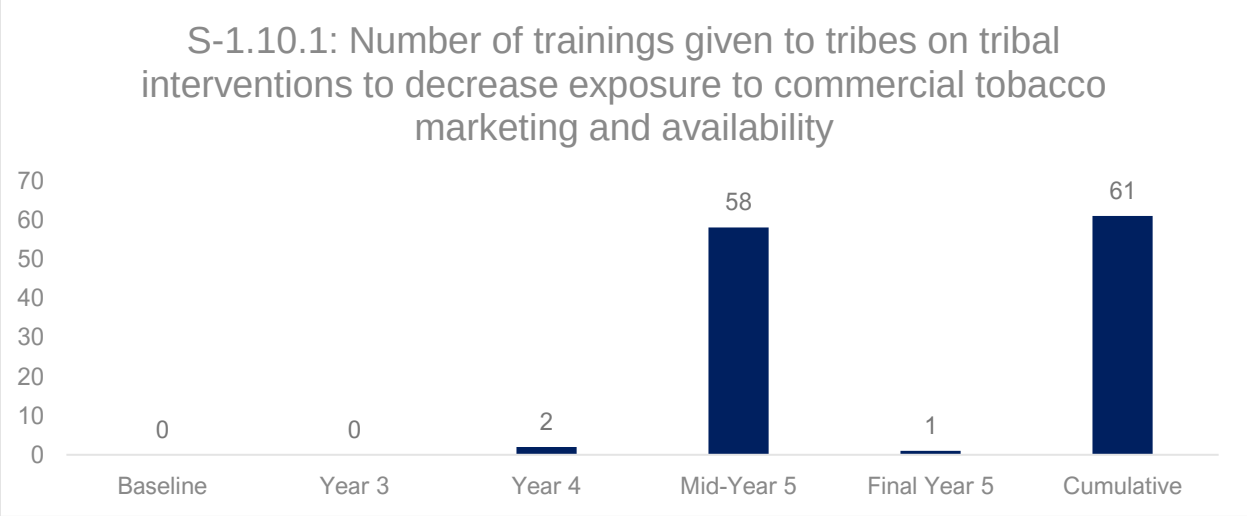

Figure 26: Number of trainings given to tribes on evidence-based and culturally appropriate tribal interventions to reduce exposure to commercial tobacco marketing and availability. N = 3

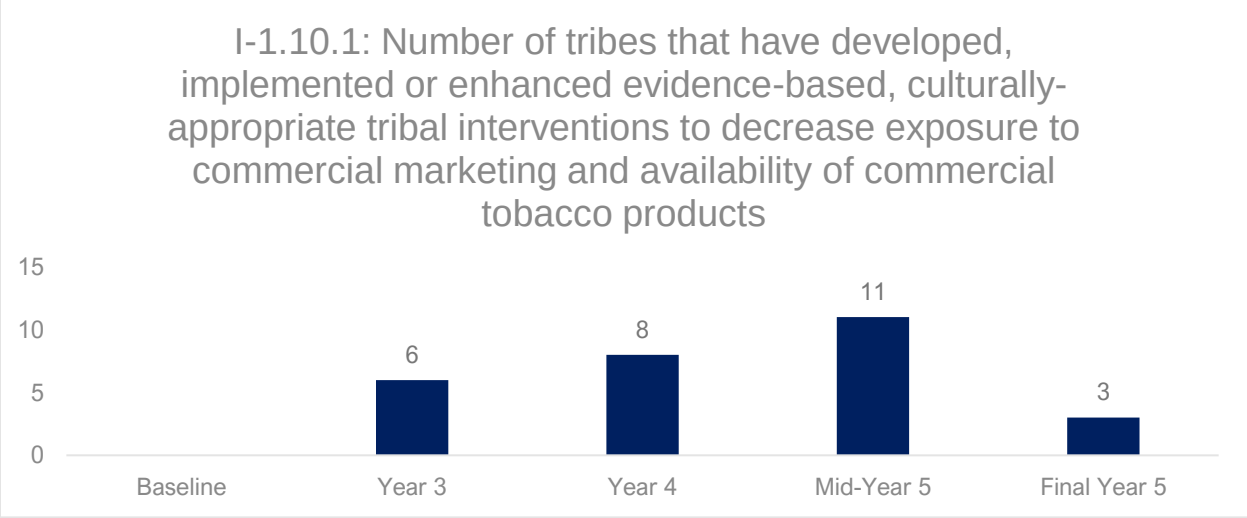

Figure 27: Number of tribes that developed, implemented, or enhanced tribal interventions to decrease exposure to marketing and availability of commercial tobacco products. NOTE: A final cumulative total for all five years is not shown to avoid duplication. N = 2

Domain 2: Policy, Systems, and Environmental approaches to health promotion

Short term measures 2.1.1 and 2.1.2 are not reported here due to insufficient data.

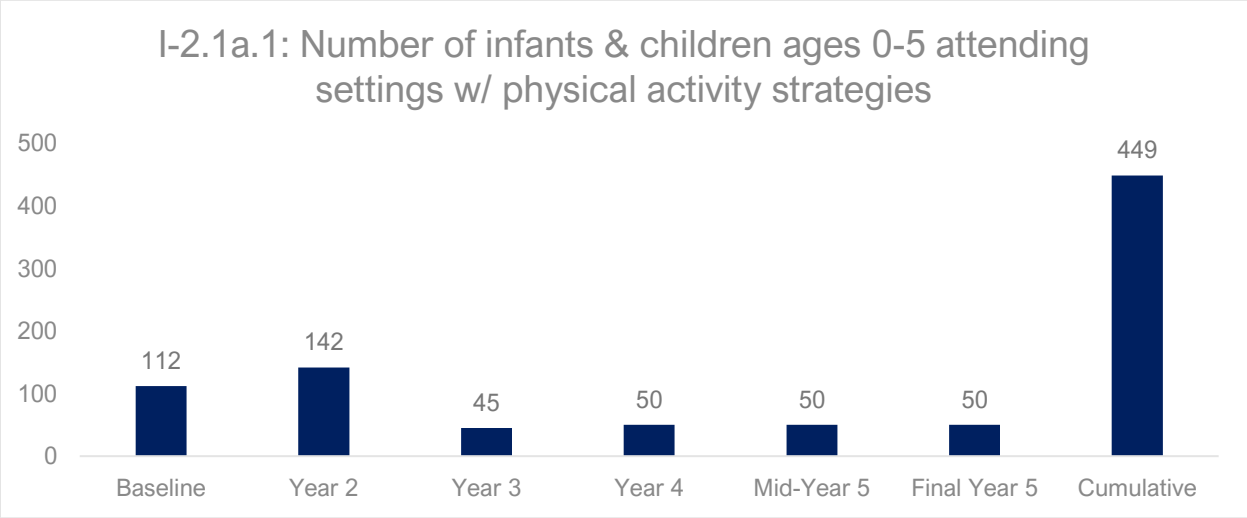

Figure 28: Number of children under 5 attending settings that adopt strategies to increase physical activity. N = 2

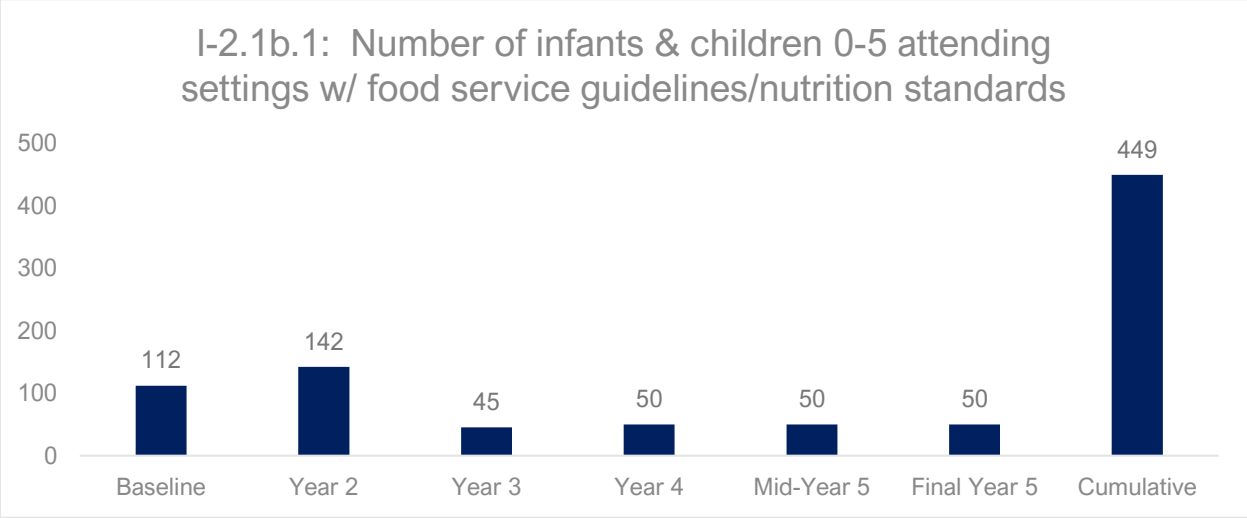

Figure 29: Number of children under 5 attending settings that develop or adopt policies to implement food service guidelines and nutrition standards. N = 2

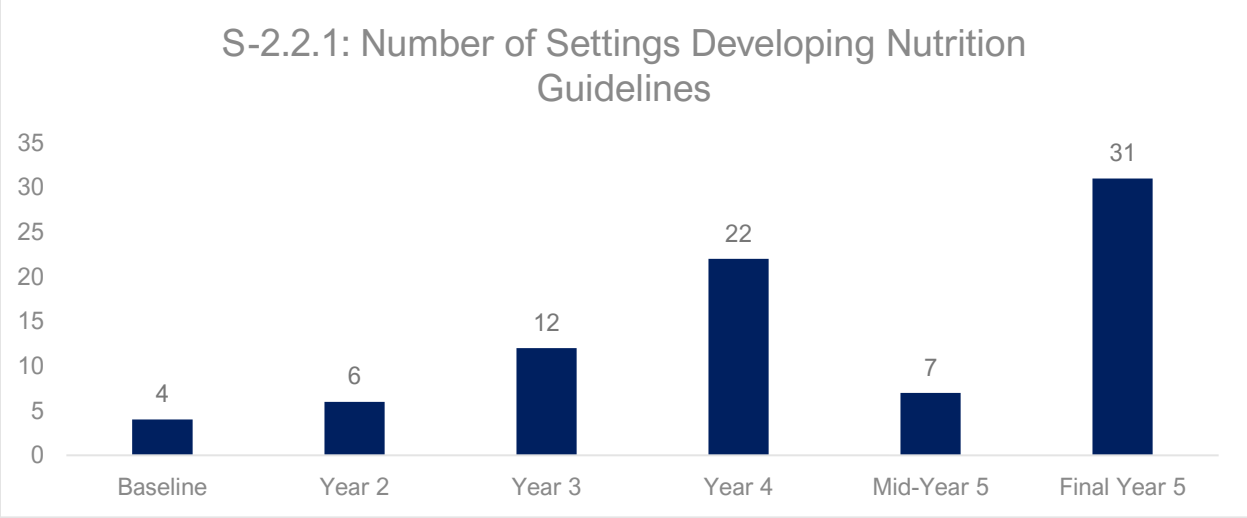

Figure 30: Number of settings developing food service guidelines and nutrition standards. NOTE: A final cumulative total for all five years is not shown to avoid duplication. N = 5

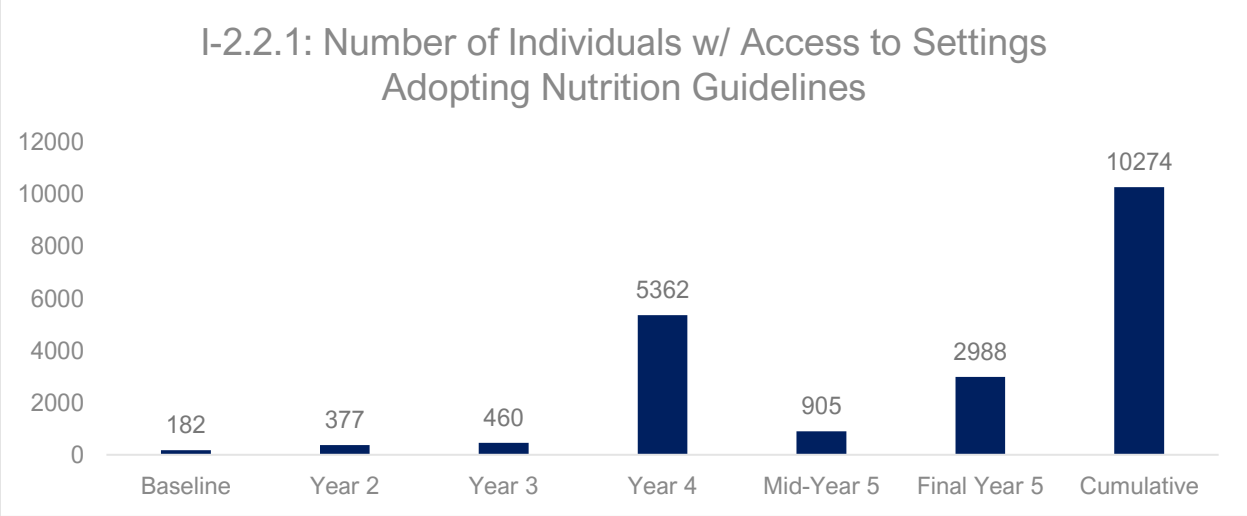

Figure 31: Number of individuals with access to settings that have developed food service guidelines and nutrition standards. N = 5

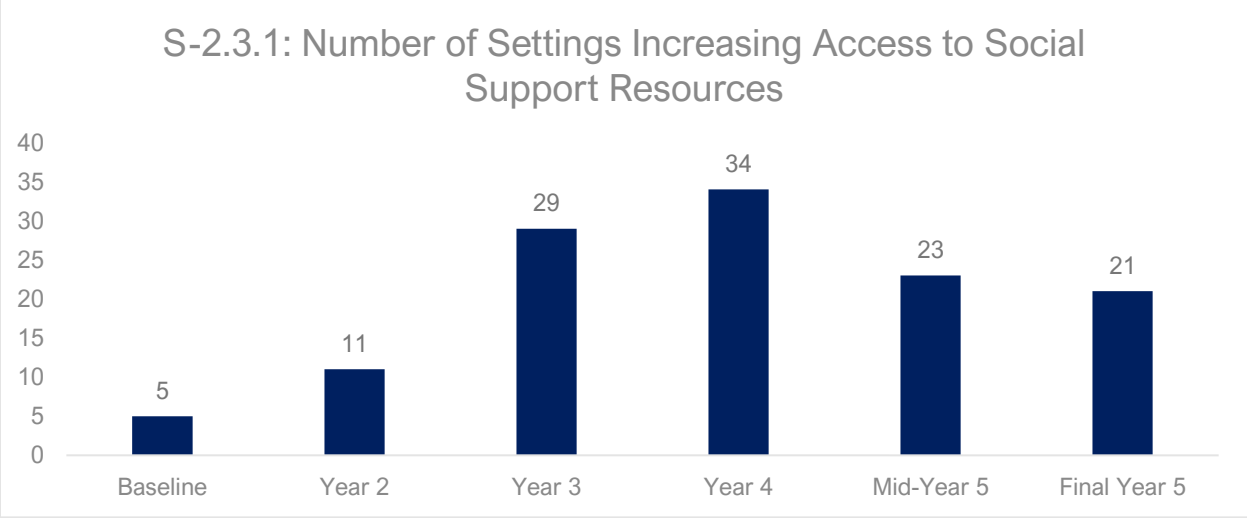

Figure 32: Number of settings increasing access to social support resources. NOTE: A final cumulative total for all five years is not shown to avoid duplication. N = 4

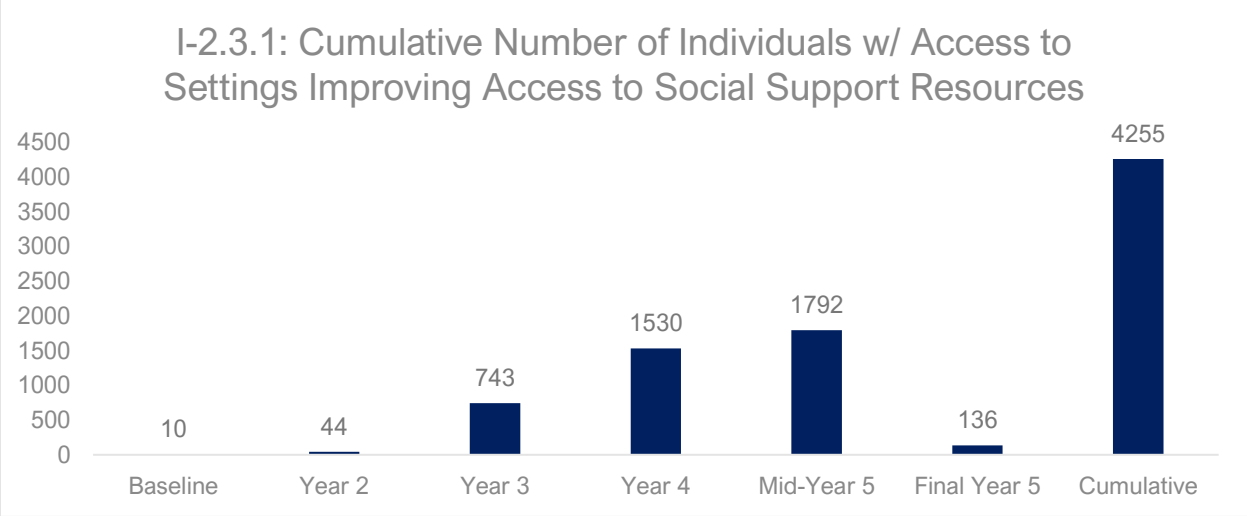

Figure 33: Number of individuals with access to settings improving access to social support resources. N = 2

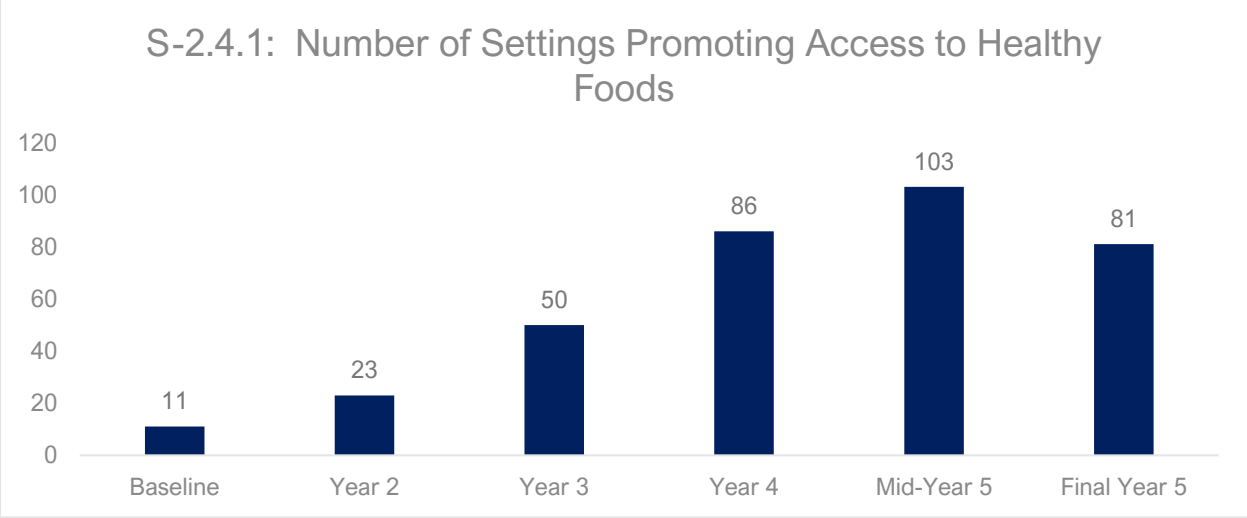

Figure 34: Number of settings promoting access to healthy foods. NOTE: A final cumulative total for all five years is not shown to avoid duplication. N = 9

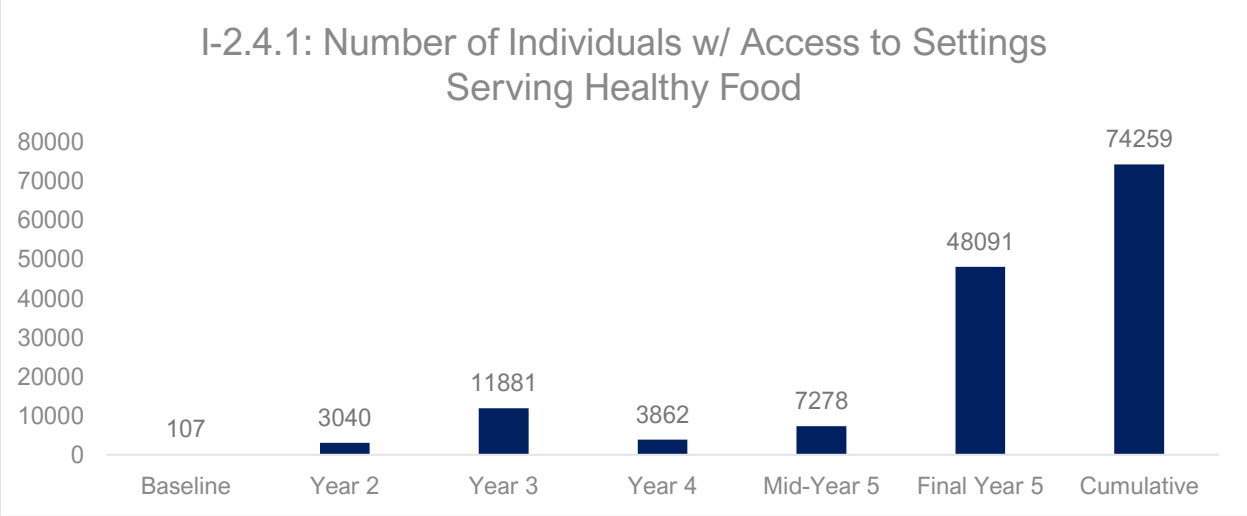

Figure 35: Cumulative number of individuals with access to settings serving healthy foods. N = 8

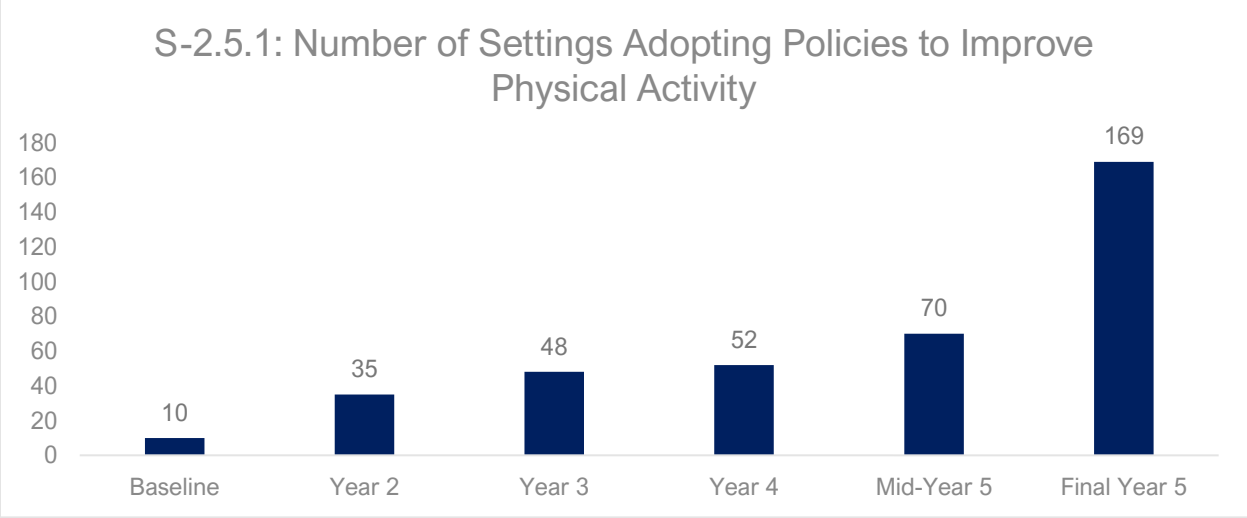

Figure 36: Number of settings adopting policies to improve physical activity. NOTE: A final cumulative total for all five years is not shown to avoid duplication. N = 9

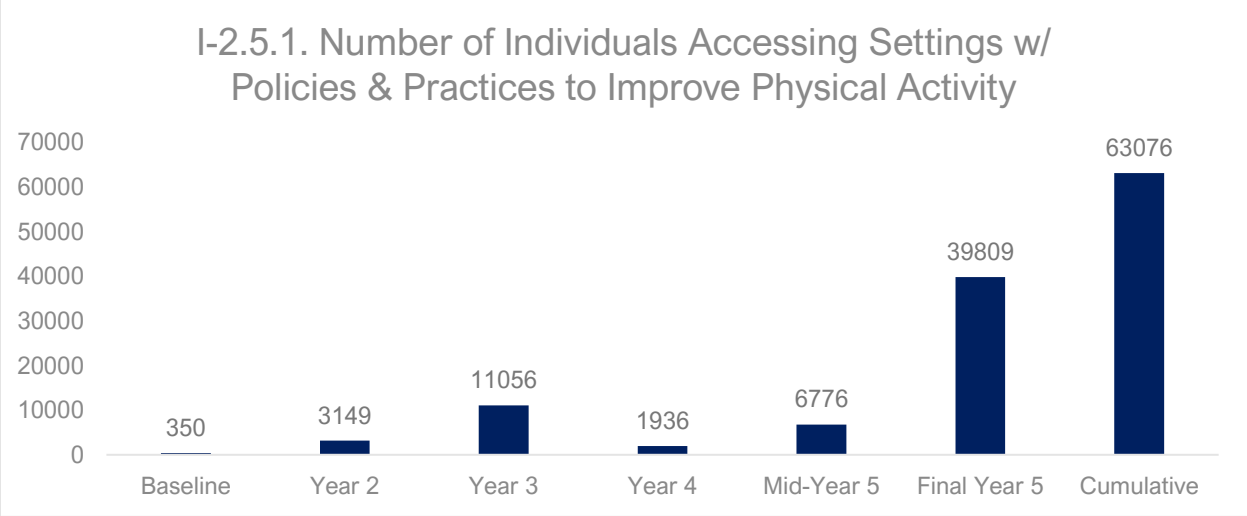

Figure 37: Number of individuals accessing settings with policies and practices to improve physical activity. N = 5

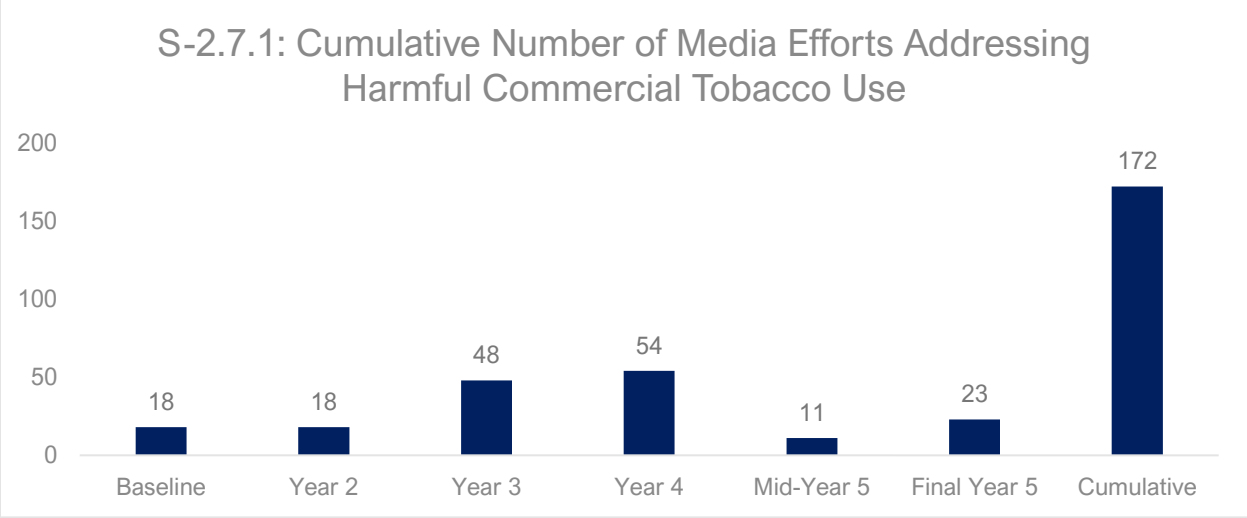

Figure 38: Cumulative number of paid and earned media efforts that addressed harmful effects of commercial tobacco use, secondhand smoke exposure, and chronic disease. N = 3

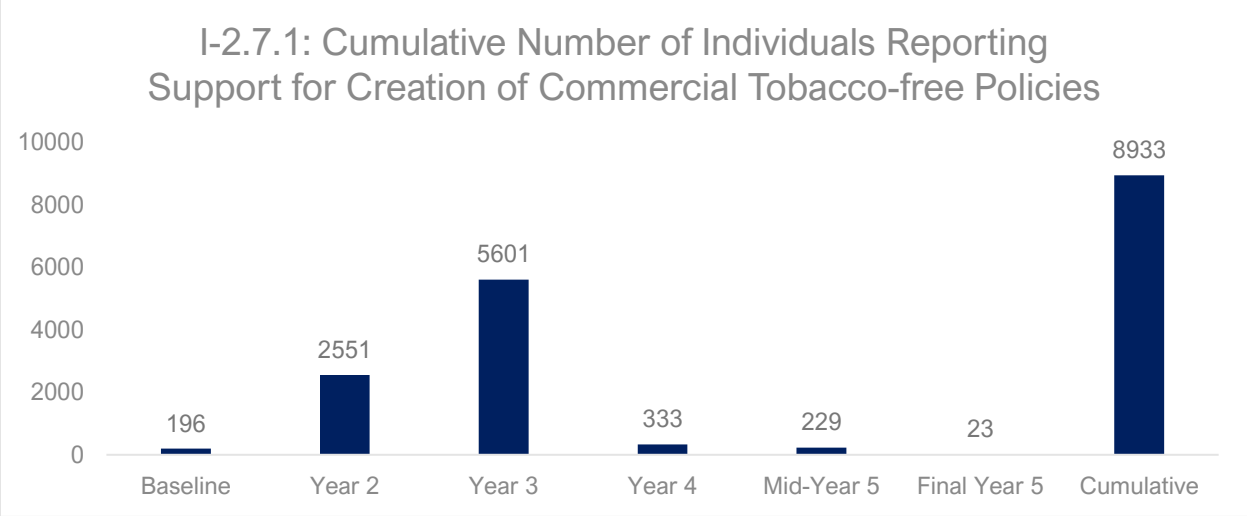

Figure 39: Cumulative number of individuals expressing support for the creation of commercial-tobacco free policies. Three of four recipients did not report final Year 5 data for this measure. N = 4

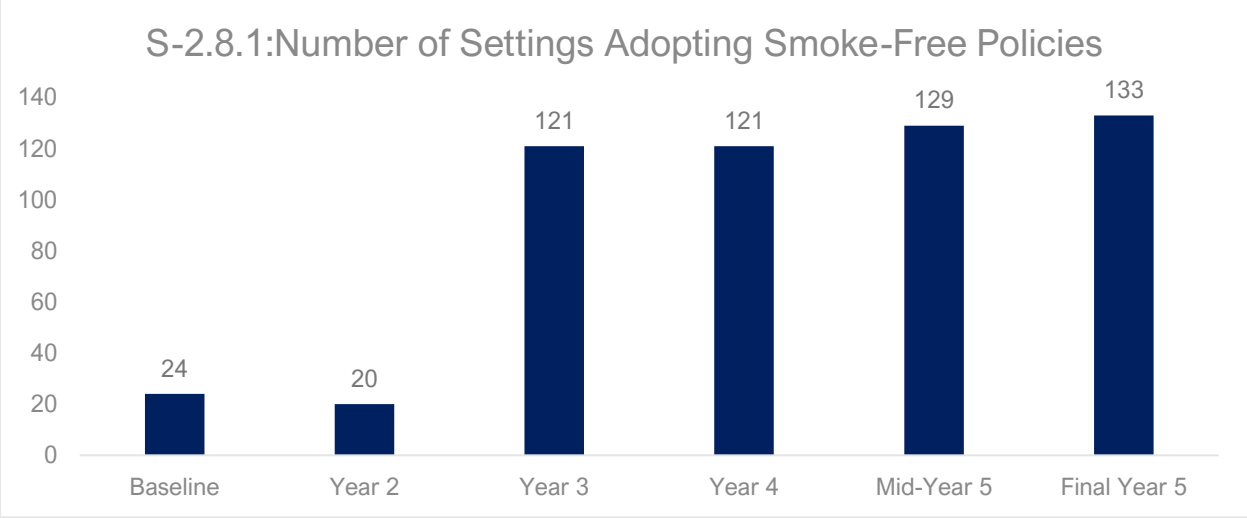

Figure 40: Number of settings that adopted commercial tobacco-free policies. NOTE: A final cumulative total for all five years is not shown to avoid duplication. N = 5

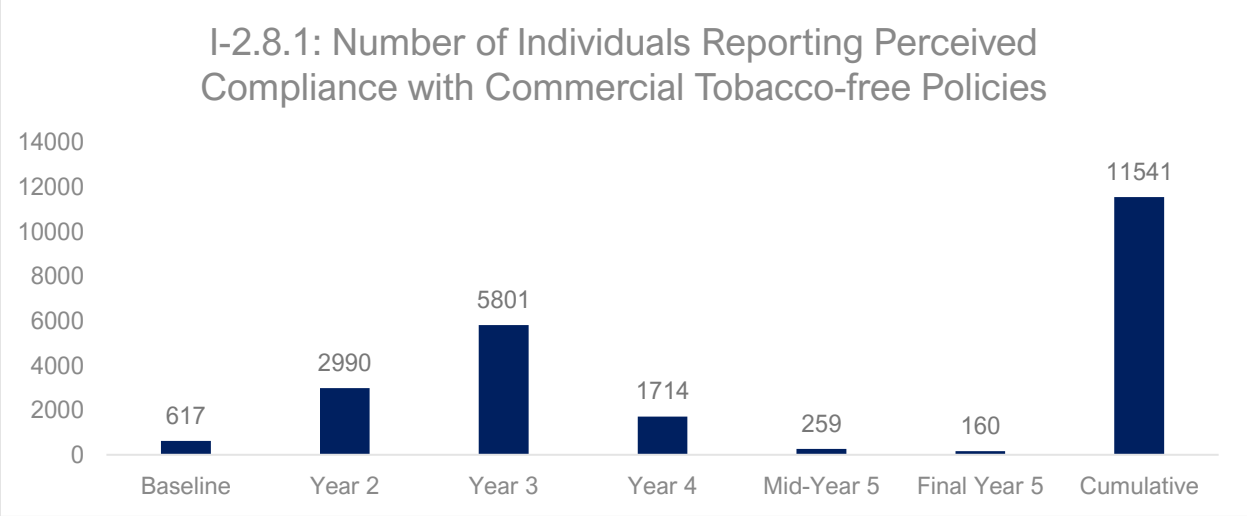

Figure 41: Number of individuals reporting compliance with commercial tobacco-free policies. N = 5

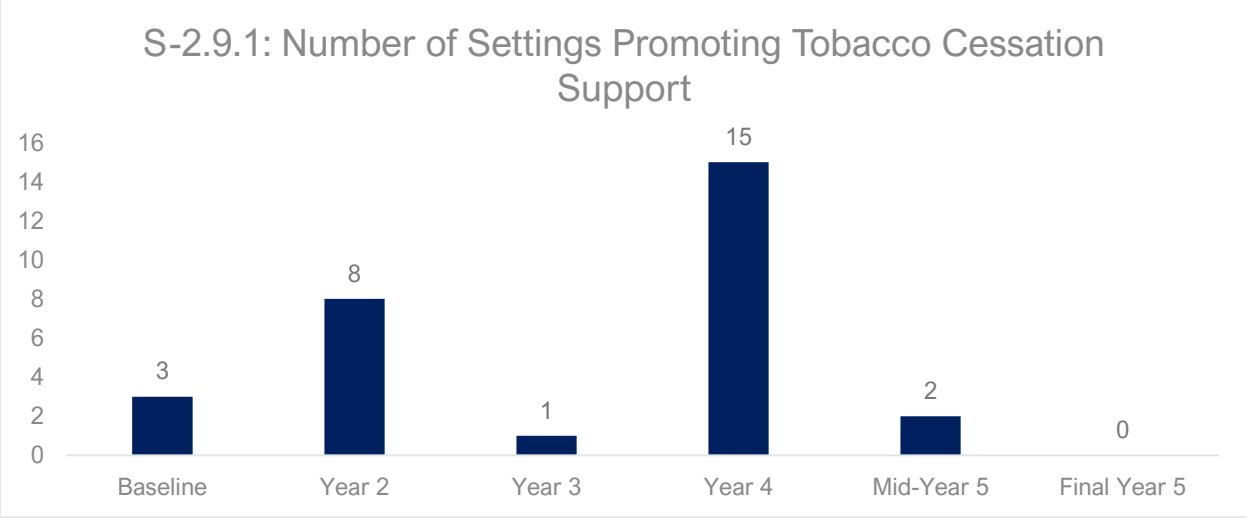

Figure 42: Number of settings promoting culturally specific commercial tobacco cessation support. NOTE: A final cumulative total for all five years is not shown to avoid duplication. N = 3

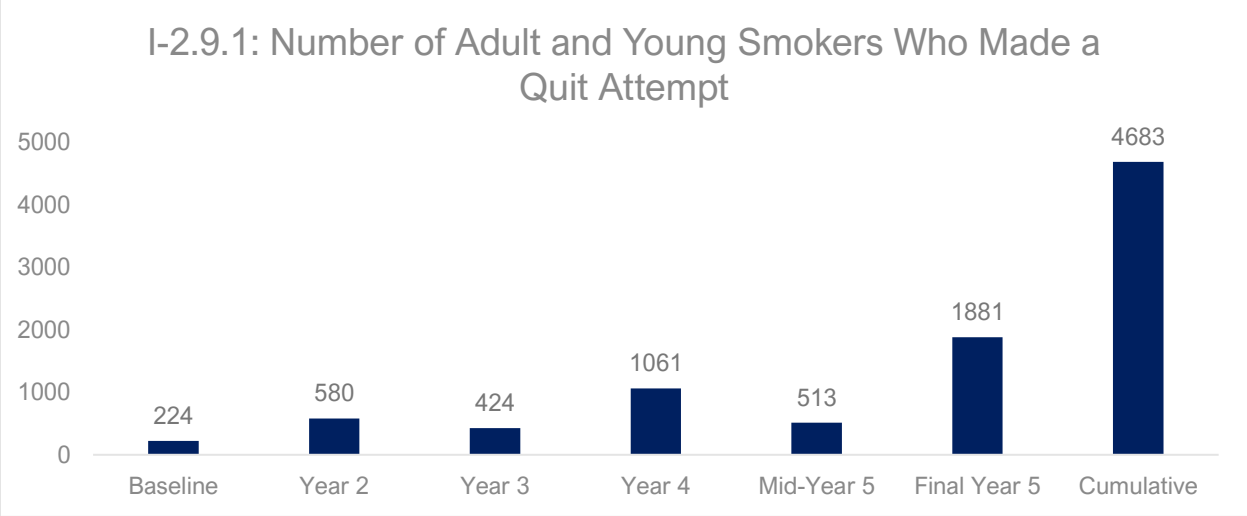

Figure 43: Number of adult and young smokers who made a quit attempt. N = 3

Domain 3: Community-Clinical Linkages

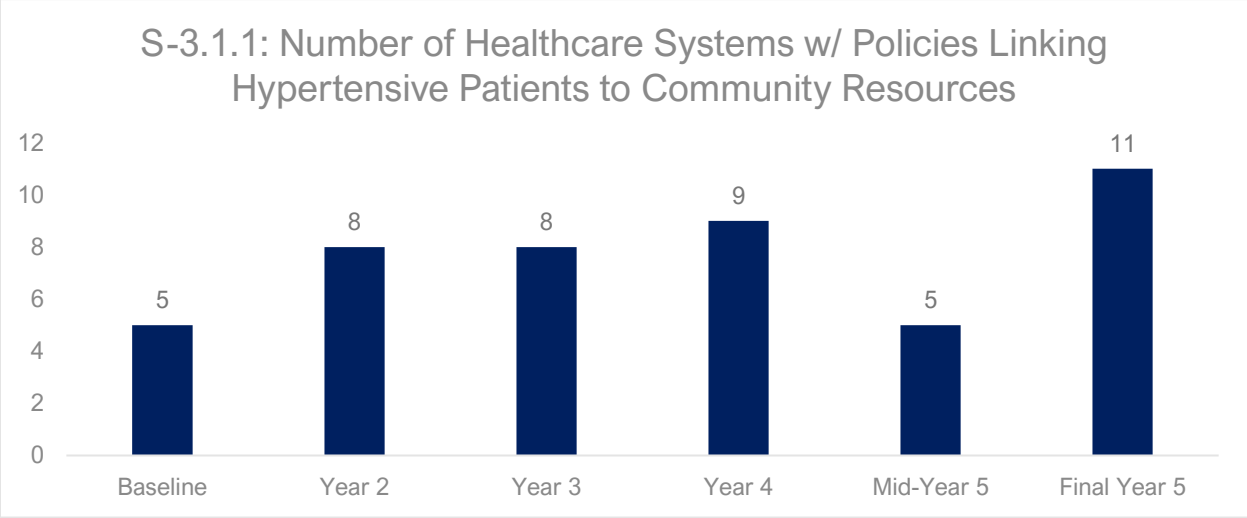

Figure 44: Number of healthcare systems implementing policies to link hypertensive patients to community resources. NOTE: A final cumulative total for all five years is not shown to avoid duplication. N = 6

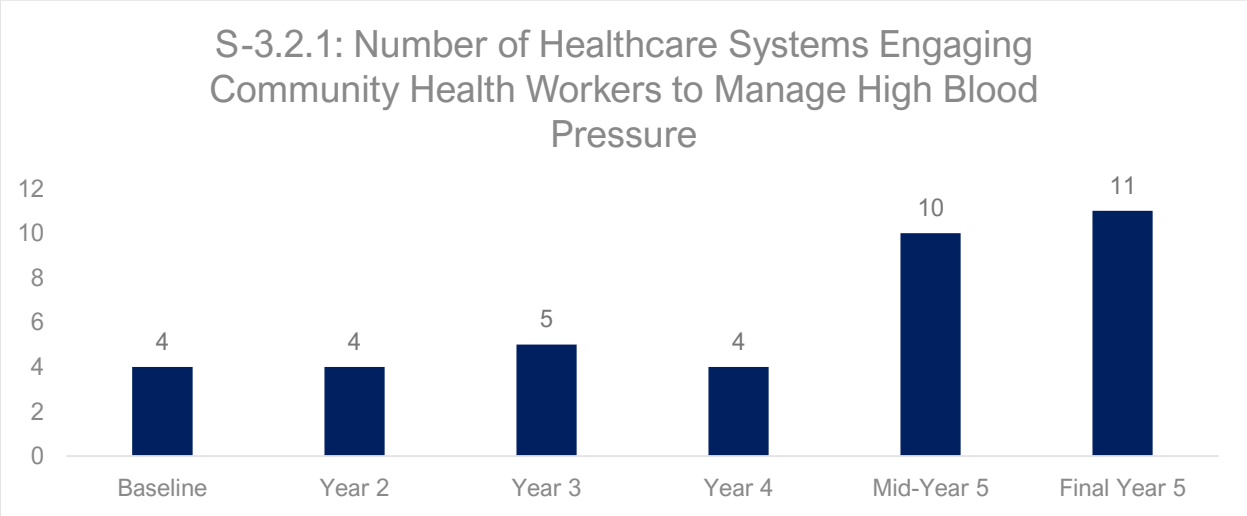

Figure 45: Number of healthcare systems engaging community health workers to manage patients with blood pressure. NOTE: A final cumulative total for all five years is not shown to avoid duplication. N = 4

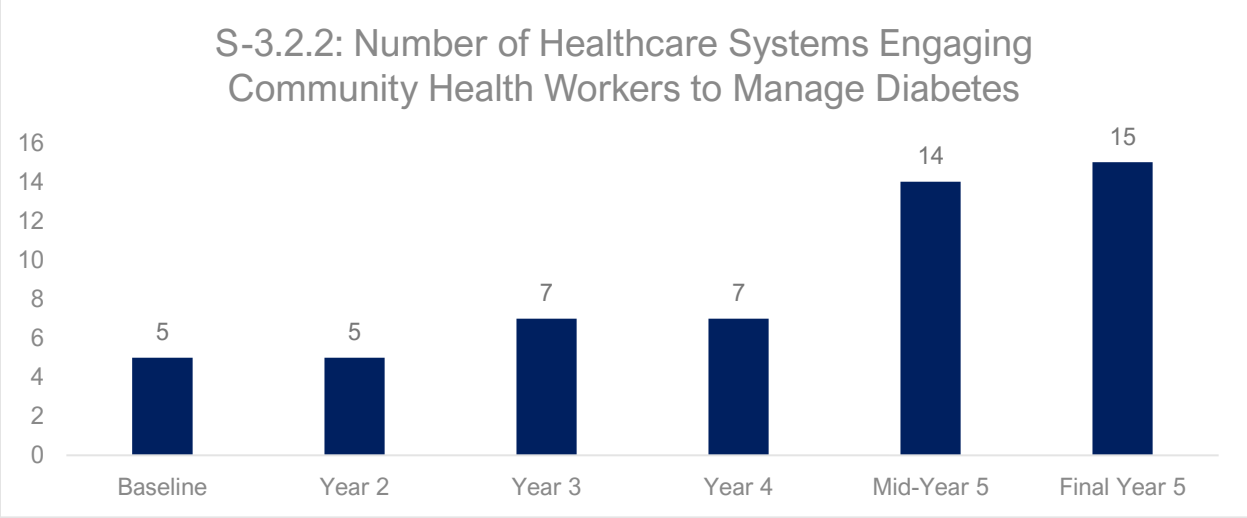

Figure 46: Number of healthcare systems engaging community health workers to link patients to community resources that promote prevention of diabetes and its complications. NOTE: A final cumulative total for all five years is not shown to avoid duplication. N = 6

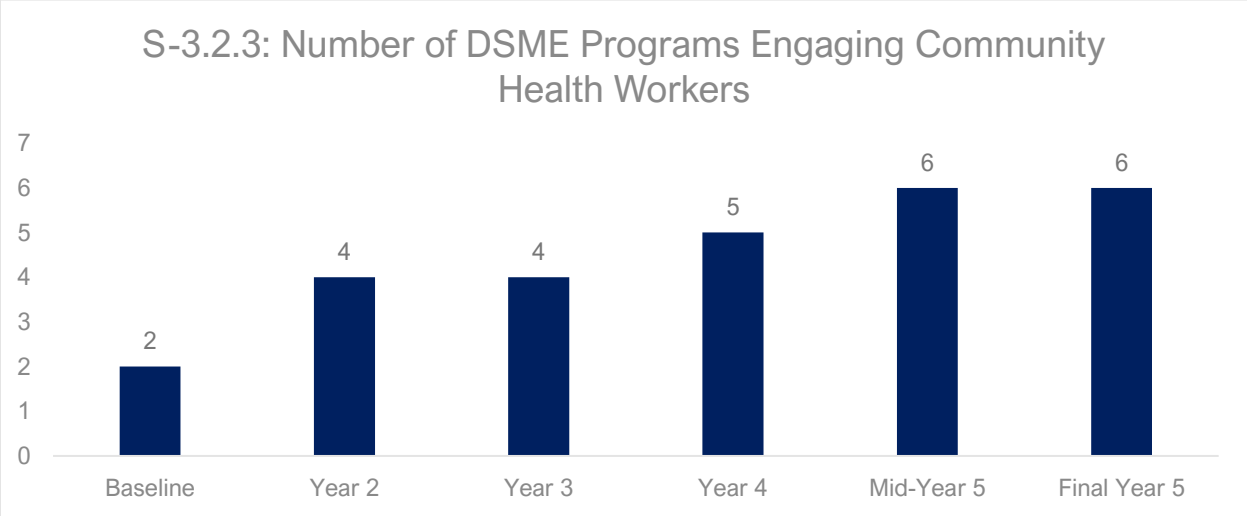

Figure 47: Number of Diabetes Self-Management Education (DSME) programs engaging Community Health Workers in the delivery of education/services. NOTE: A final cumulative total for all five years is not shown to avoid duplication. N = 3

Domain 4: Health System Interventions

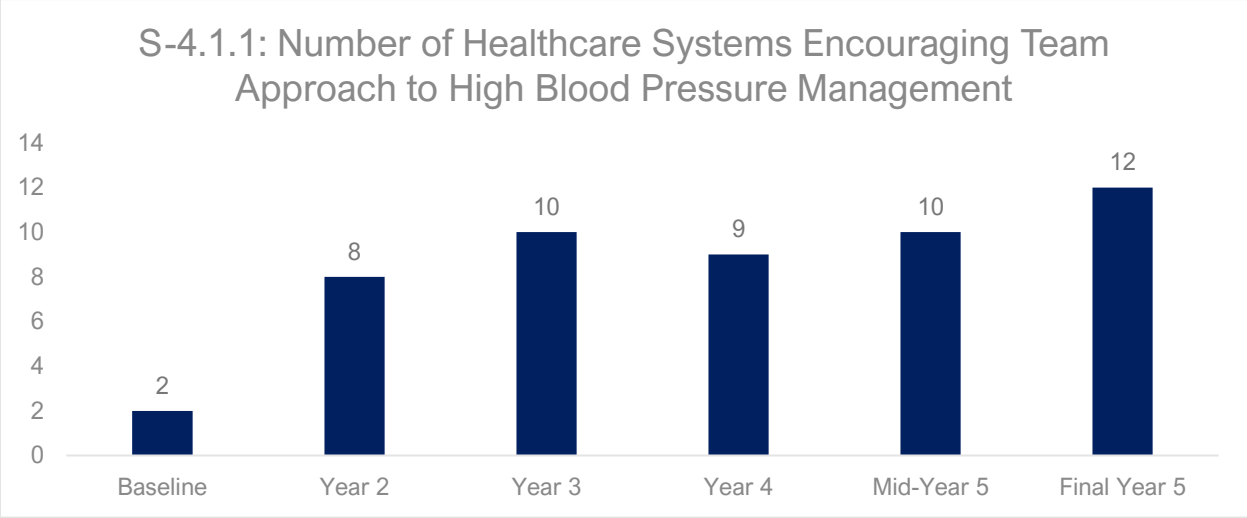

Figure 48: Number of healthcare systems with policies or systems to encourage a multi-disciplinary team approach to blood pressure control. NOTE: A final cumulative total for all five years is not shown to avoid duplication. N = 6

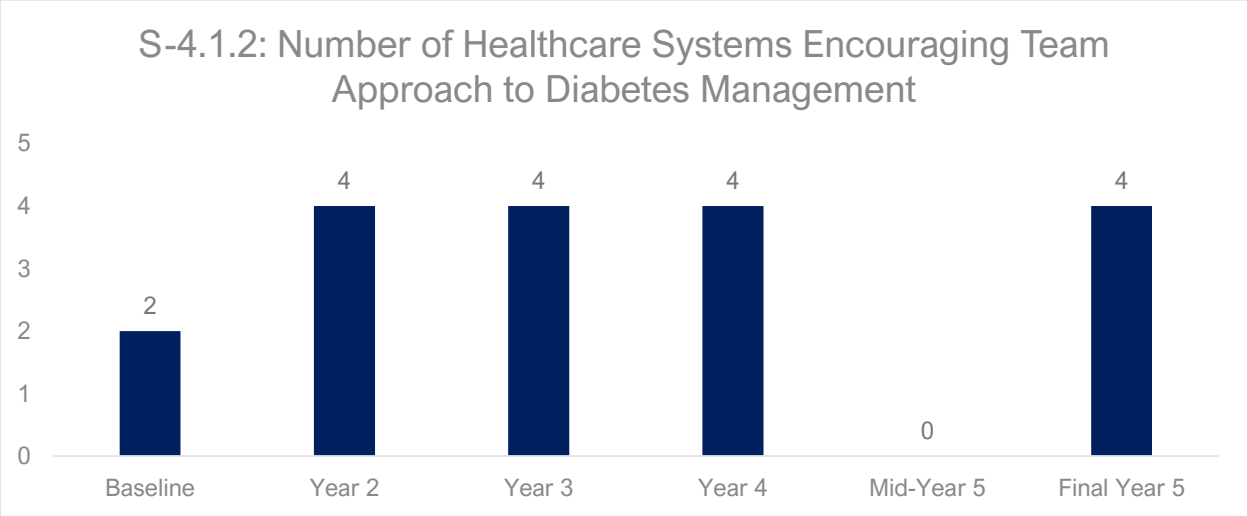

Figure 49: Number of healthcare systems encouraging a team-based care approach to diabetes management. NOTE: A final cumulative total for all five years is not shown to avoid duplication. N = 2

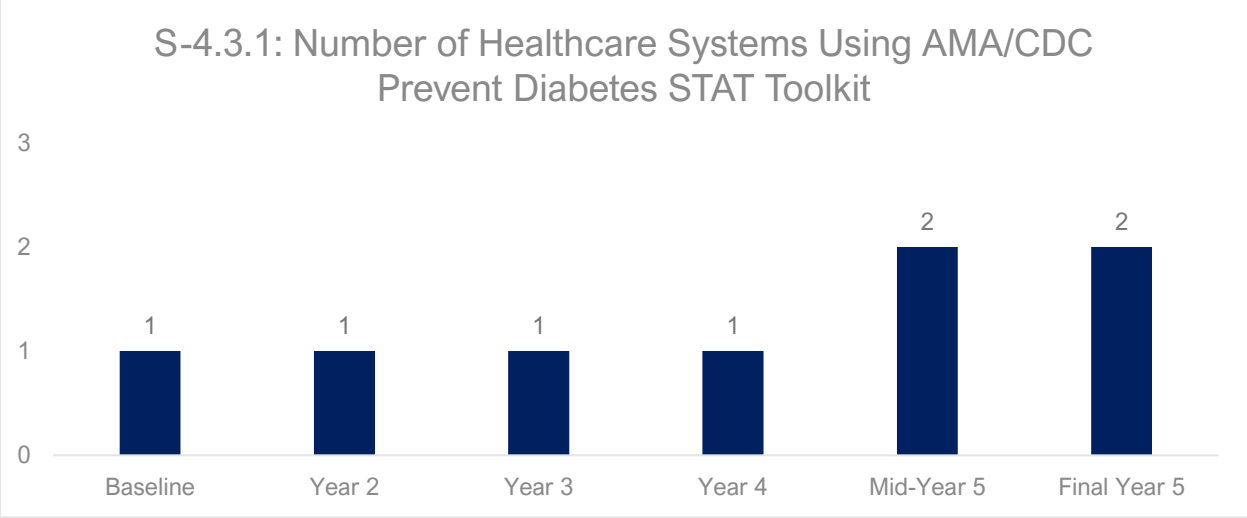

Figure 50: Number of healthcare systems using the AMA/CDC Prevent Diabetes STAT Toolkit or other diabetes prevention program. NOTE: A final cumulative total for all five years is not shown to avoid duplication. N = 2

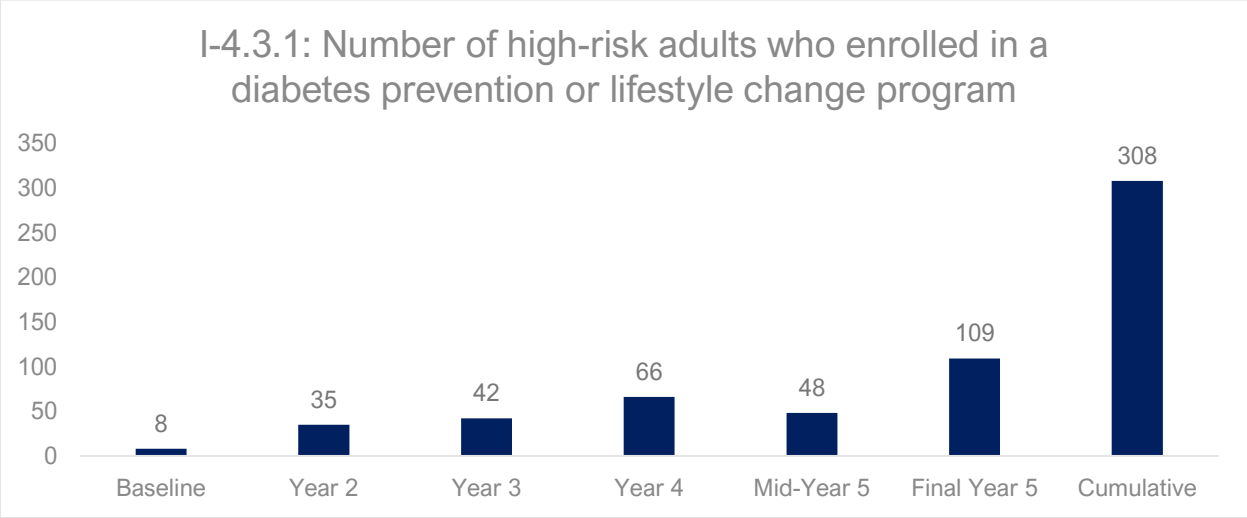

Figure 51: Number of high-risk adults who enrolled in a diabetes prevention or lifestyle change program. N = 3