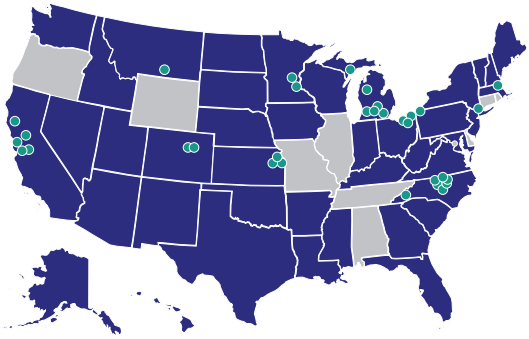
Program Evaluation Summary:

Building GIS Capacity for Chronic Disease Surveillance

Background

The Building GIS Capacity for Chronic Disease Surveillance program aims to enhance the capacity of state and local health departments to incorporate GIS into their surveillance and prevention efforts for heart disease, stroke and other chronic diseases. Starting in 2009, the Division for Heart Disease and Stroke Prevention (DHDSP) partnered with Children's Environmental Health Initiative at Rice University and the National Association of Chronic Disease Directors to design and implement a GIS training program to expand health departments' capability to integrate the use of GIS into daily operations.

Participants: 41 state and **32 local** health departments have participated in the program as of January 1, 2018.



Evaluation Purpose

The evaluation, conducted in 2017—2018, aimed to assess:

- The quality of the **training** and its usefulness to prepare participants to implement GIS in their work.
- How participants **utilize** (or plan to utilize) GIS in their work to address chronic disease priorities.
- What formal and informal processes and structures have been implemented to **institutionalize** GIS use.
- The extent to which the program facilitated or strengthened **collaboration and partnerships**.

Throughout the evaluation, potential opportunities for program improvement were identified. Evaluation findings informed the development of **recommendations for CDC support**.

Methods

The evaluation applied a mixed methods approach and incorporated the use of primary and secondary data. Data collection methods and sources included:

- Document review
  - Program documents (e.g., applications, program description)
  - Transcripts from previously conducted interviews
  - Post training evaluation forms
- Direct observation of the training
- Survey of past training participants[1]
- Key informant interviews[2]

Evaluators conducted a document review and observed a session of the training to gain an understanding of the program. The quantitative analysis used descriptive statistics to summarize results from the GIS Network Survey, which included questions about how health departments have incorporated GIS in their work. In the qualitative analysis, evaluators conducted a thematic analysis of the transcribed interviews using a deductive qualitative analysis approach.

Major Findings of Program Impact

Training

The program delivers a high quality training that teaches proficiency in GIS software and prepares participants for its application in a government public health context. The training is facilitated by knowledgeable, passionate instructors who foster an excellent learning environment with a training structure that reinforces learning. Participants refer back to their training materials and would appreciate continued opportunities to learn more.

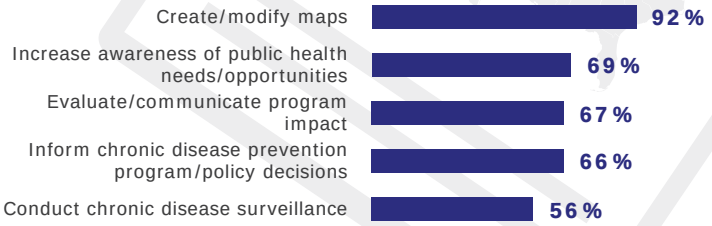
"I thought the training did a tremendous job of not just giving you the nuts and bolts of GIS, but getting you to think about the potential for once we get back to our day jobs."

"They've got this great training team at Rice that really understands how to bring a training together that's going to address the needs of health departments"

Utilization

GIS mapping is used throughout participants' health departments in creating maps for a wide variety of products that appeal to different stakeholders. Maps are used to aid program planning in targeting interventions, identifying gaps, and evaluating outcomes. Participants would like to submit maps to the GIS Exchange (CDC's on-line forum for showcasing and sharing chronic disease maps and resources) but largely have not done so.

Participants have used GIS to:[3]

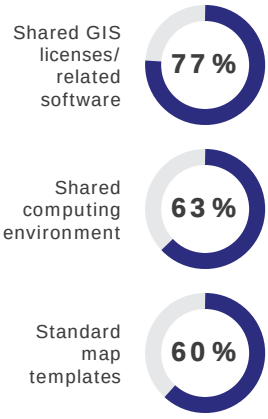


Institutionalization

One way participating health departments are institutionalizing the use of GIS is by building a supporting technical infrastructure. This infrastructure is often managed by a GIS users group and can include offering shared computing environments, providing software licenses, and using share folders to store map templates and data.

Institutionalizing GIS use is also supported by its prioritization. Participants indicated a higher prioritization can be facilitated through leadership support and by integrating GIS into reporting for CDC cooperative agreements.

Health departments can institutionalize GIS through the use of:[3]



Collaboration and Partnerships

Participants acknowledged the skills they learned have allowed them to communicate the language of GIS and enhanced both internal and external partnerships. Collaboration on GIS projects has allowed participants to report findings to stakeholders in meaningful ways and engage community members with important issues.

Participants have used GIS to enhance or facilitate:[3]

Internal Partnerships	External Partnerships
52%	**56%**

"The training also opened up our world to the state's GIS resources…[and] opened us up to that entire network of partners that we hadn't been working with in the past."

Summary of Recommendations for CDC Support

	High Feasibility	Moderate Feasibility
High Impact	• Increase promotion of training materials that are available on the DHDSP mapping webpages • Continue to offer additional training opportunities for building GIS capacity for chronic disease surveillance in state and local health departments, including both standard and advanced GIS skills • Incorporate training content that focuses on effectively working with partners to create, use and disseminate GIS products	• Encourage state and local health departments to use GIS and include maps when developing reports for cooperative agreements • Provide more guidance and resources for geocoding
Moderate Impact	• Increase promotion of DHDSP's Chronic Disease Exchange website • Enhance the training content that addresses data management of spatial data within health departments (e.g., the use of shared folders)	• Further expand the scope of chronic diseases that are included in the GIS capacity building project

1. The survey was administered to the GIS Network, an email network of state and local health department staff working with GIS, including past training participants. The evaluation sample included 64 respondents (from 22 state and 8 local health departments) who indicated they had participated in the training.
2. Interviews (n=9) were conducted with individuals from 6 state and 3 local health deparments.
3. Results are from the GIS Network Survey. Percentages are the proportion of survey respondents reporting the given activity/outcome.