Esri News for
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The GIS Garden

Bill Davenhall, Global Manager, Esri Health & Human Services

During the last several decades, GIS advocates in health and human services have produced thousands of worthwhile research projects that demonstrate how GIS technology helps us understand specific health or social issues, concerns, and challenges. I consider these projects to be blooming flowers in the GIS garden.

I love to plant flowers as much as the next fellow, but I have come to realize that a thousand blooming flowers do not necessarily make a garden. A garden suggests an organized and thoughtful approach to planting flowers, a task somewhat more purposeful and challenging. Making decisions about which plants and shrubs will go where, and envisioning what the garden should accomplish, is a bit more work—perhaps a lot more work!

We need better GIS gardening within the health and human services fields. That does not mean we won't plant as many stunning flowers. Rather, we will become more thoughtful about the reasons we use GIS. Perhaps we will become more organized and considerate of outcomes, both persistent and sustainable. We also need to perfect a vision of that GIS garden so that it can garner the type of support worthy of our collective efforts. Simply buying more GIS flowers and watching them bloom is not helping build the kinds of underlying information and knowledge systems that are required to deliver more effective health and social services or more constructive and sustainable societal policies.

Of course, we can design many different types of GIS gardens, such as for research, service, evaluation, and discovery. For each of these gardens, we need more purposeful designs that have the capacity to produce desirable results, time after time.

How can we build GIS gardens capable of transcending budget cuts, economic downturns, and political shifts? Can we build GIS gardens to rival some of the most famous gardens in the world? What should a health and human services GIS garden look like? How should it be arranged? What has to be present, and what can be done without? Can we make a GIS garden from among the thousands of blooming flowers we already have?

I recently talked to a health ministry official who said,

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South Carolina Shares Public Health Data

By Jessica Wyland, Esri Writer

"If you want to learn about the health of a population, look at the air they breathe, the water they drink, and the places where they live."

Hippocrates

Residents of South Carolina can now quickly track environmental public health information via an interactive website developed by the South Carolina Department of Health and Environmental Control (DHEC) using ArcGIS technology from Esri. The site, created as part of the National Environmental Public Health Tracking (EPHT) Network initiative, aims to improve the health of communities by helping identify trends and influence healthier decisions.

"Environmental public health tracking is a way of incorporating data for analysis and reporting," said Jared Shoultz, deputy director, Public Health Statistics and Information Services (PHSIS), DHEC. "We set out to design a mainstream website with a rich user interface and decided to leverage our ArcGIS investment. Our overall goal is to provide information to help improve public health where people live, work, and play."

Content areas established by the Centers for Disease Control and Prevention (CDC) include air and drinking water quality, birth defects, cancer, carbon monoxide poisoning, childhood lead exposure, hospitalization data, and information about mothers and babies.

Visitors to the South Carolina DHEC site are able to access health information about where they live, work, and play and, as the site's tag line says, "Track It. Map It. Use It." Users can also view and create maps, graphs, and charts, along with community data, to help make better choices for health and the environment.

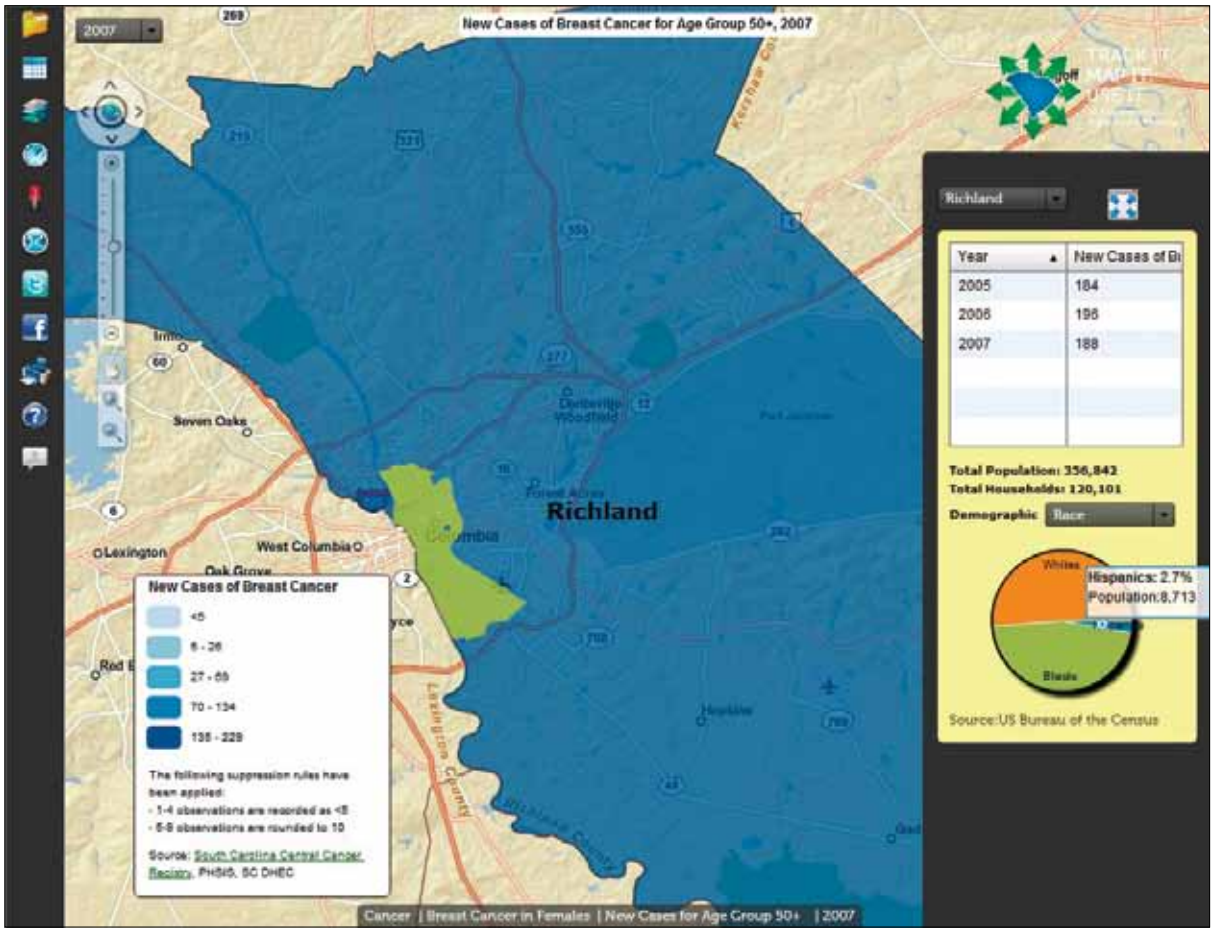

Chart of new breast cancer cases for residents over 50 years of age in select South Carolina counties. Data can be displayed in the form of a chart, bar graph, or trend lines.

"We put this information in context so people can understand it better," Shoultz said. "Different types of data are used to learn how the environment affects public health."

Shoultz and his team pulled together data from sources such as the Environmental Protection Agency, CDC, Poison Control, the US Census, and numerous

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More Industry News

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The GIS Garden

"I get GIS; I like it a lot and see its value, but my people don't seem to get the larger picture—that I would like to see GIS in everything, not just in isolated areas." This is a reflection of a GIS gardening problem.

So what would my GIS garden for health and human services look like? My garden would start with a vision: the notion that everything in health and human services is connected. No one thing is more important than another. We will all walk through this garden one at a time. I would design major sections for prevention, diagnosis, treatment, evaluation, and research. I would consider GIS plants in each section to complement my data colors. I would have analytic GIS shrubs that provide bursts of informational contrasts. I would make sure people did not get lost inside my garden or feel disconnected as they passed through the various sections.

A great deal is possible with today's GIS technology. There is little doubt that the future holds even greater promise. But without health and human services landscape architects and their master GIS gardeners, it's probably just planting and growing more blooming flowers!

Each of us will have a passion for a particular section or, for that matter, several blooming flowers in any GIS garden. We need to begin to think like a landscape architect. We need to think more about how it is all connected and how it can better serve all the health and social needs of people. The challenge for all of us GIS practitioners is to become better GIS gardeners in every sense of the word. Let's begin to take the time and trouble to envision what the health and human services garden should look like. Let's consider more holistically what people who enter that garden need to see, touch, feel, and get out of our gardens.

Outstanding gardens don't just happen. They are purposeful creations and designs with particular outcomes in mind. This is where GIS in the health and human services needs to head next.

Visit esri.com/health.

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South Carolina Shares Public Health Data

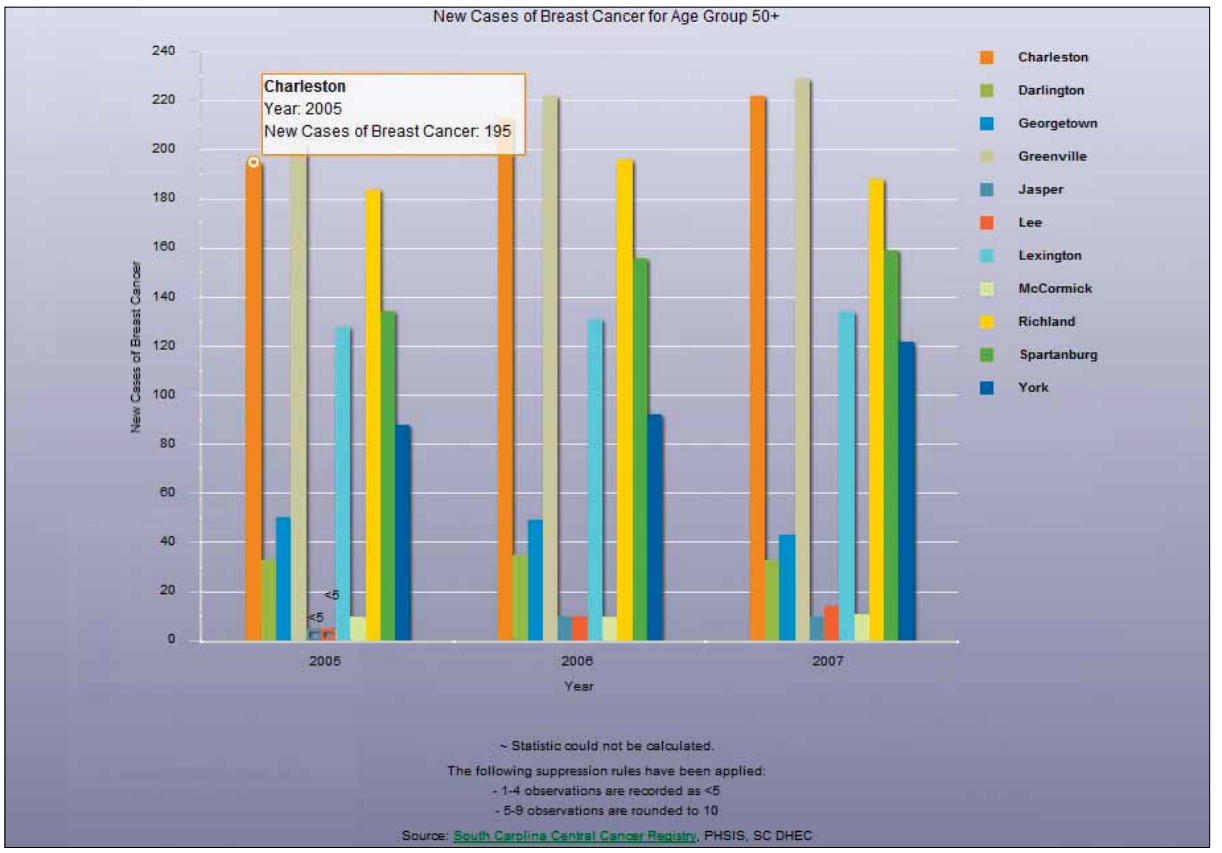
internal DHEC program areas. Within the GIS, the team then built the datasets related to CDC-determined content areas.

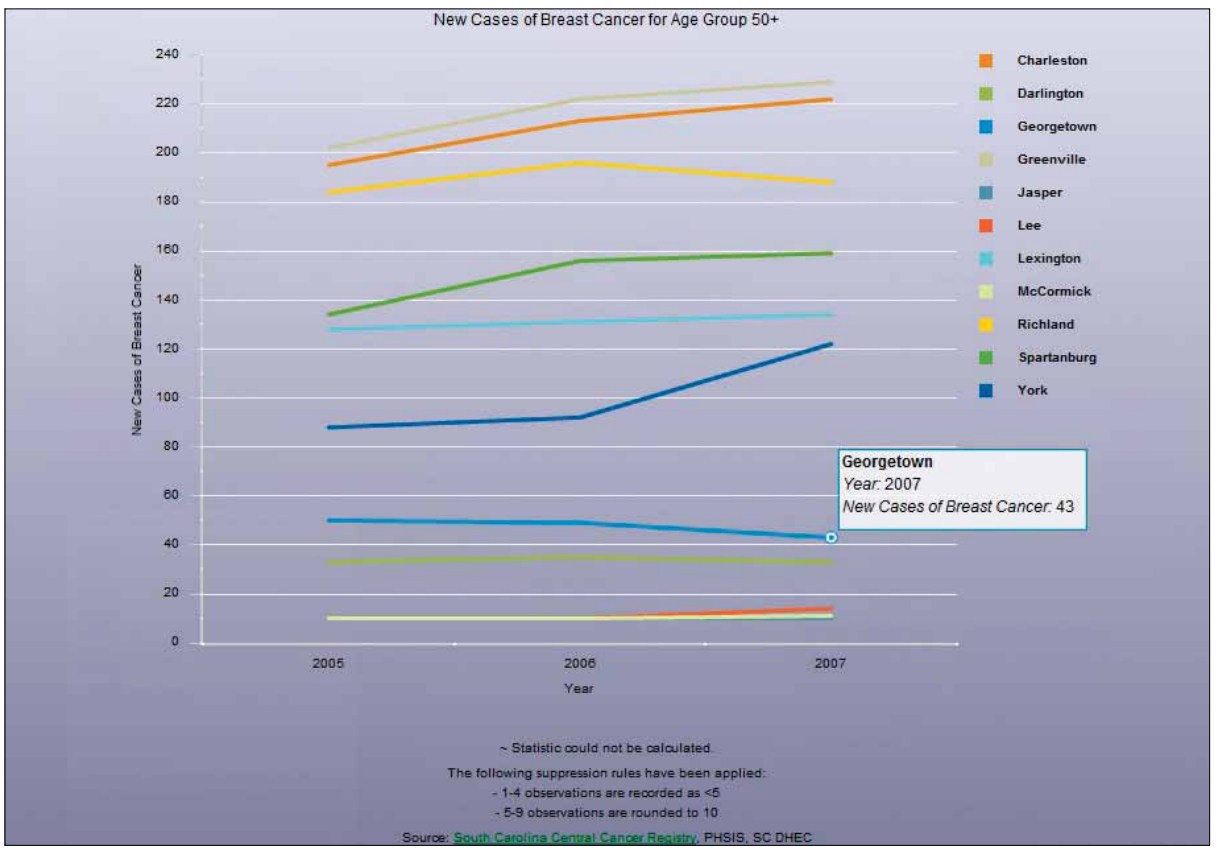
CDC provided funding to 23 US state and local health departments, including South Carolina, to develop local tracking networks. These networks feed into the National EPHT Network and provide information about the following types of data:

- Health effect: Data about health conditions and diseases, such as asthma and birth defects
- Environmental hazard: Data about chemicals or other substances, such as carbon monoxide and air pollution, in the environment
- Exposure: Data about the amount of a chemical in a person's body, such as lead in blood
- Other: Data that helps us learn about relationships between exposures and health effects (for example, information about age, sex, race, and behavior or lifestyle choices that may help us understand why a person has a particular health problem)

Environmental causes of chronic diseases have heretofore been difficult to identify. The National EPHT Network could change that by providing the ability to measure the amount of hazardous substances in our environment in a standard way, trace the spread of these substances over a specific time and geographic region, see how the substances show up in human tissue, and understand how they may cause illness.

For more information, contact the South Carolina EPHT Program at epht@dhec.sc.gov or visit www.scdhec.gov/ephtportal.





A demographics tool shows population information on age, race, and sex for the selected county and years.

Health Highlights from the Esri UC

Esri president Jack Dangermond opened this year's Esri International User Conference (Esri UC) by sharing his GIS vision for the future. This year, 15,000 people from 126 countries registered for the conference, held July 11–15 in San Diego, California.

"Our world is changing rapidly, and humans are causing it, which is creating many challenges," Dangermond said. "We need collective intelligence and understanding that help us meet these challenges."

During the Plenary Session, Esri's Brenda Wolfe showed how Esri Community Analyst extends the reach of GIS in an organization. The Software as a Service (SaaS) solution comes with more than 6,000 variables including US Census 2010 data, population projections up to the year 2015, federal data, and Centers for Disease Control and Prevention (CDC) data. People who work in government and nongovernment agencies alike will be able to use Community Analyst, which provides GIS tools and demographic, health, economic, education, and business data.

Later, Esri recognized the achievements of more than 140 US and international organizations at the Special Achievement in GIS (SAG) Awards ceremony. The SAG Awards acknowledge innovative and intelligent applications of GIS technology.

SAG Award winners in the health and human services industry include

- Institute for Health Metrics and Evaluation, Washington, USA
- Rhode Island Department of Health, USA
- Suphanburi Provincial Health Office, Suphanburi Province, Thailand

Conseil National de Lutte contre le SIDA (CNLS), Burundi National Commission against HIV/AIDS, received a Special Achievement in GIS Award at the 2011 Esri International User Conference.

Another SAG Award winner was the Conseil National de Lutte contre le SIDA (CNLS), Burundi National Commission against HIV/AIDS.

Save the date for the 2012 Esri International User Conference, to be held in San Diego, California, July 23–27.

Visit esri.com/uc.

On the Road

American Public Health Association Annual Meeting and Exposition
October 29–November 2, 2011
Washington, D.C., USA
www.apha.org/meetings/AnnualMeeting

International Hospital Federation World Hospital Congress
November 8–10, 2011
Dubai, UAE
www.ihfdubai.ae

Healthy Communities by Design Summit
November 14–15, 2011
Loma Linda, California, USA
www.llu.edu/public-health/hcbd

International Geospatial Geocoding Conference
December 6–7, 2011
Redlands, California, USA
www.geocodingconference.com

Healthcare and Information Management Systems Society (HIMSS) Annual Conference and Exhibition
February 20–24, 2012
Las Vegas, Nevada, USA
www.himssconference.org

Esri Federal User Conference
February 22–24, 2012
Washington, D.C., USA
esri.com/feduc

Esri International User Conference
July 23–27, 2012
San Diego, California, USA
esri.com/uc

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Environmental Health Atlas Featured in 2011 *Esri Map Book*

The recently released *Esri Map Book*, Volume 26, highlights the *Environment and Health Atlas for England and Wales*, developed by Imperial College of London. The atlas was designed to provide information for policy makers and the public on geographic patterns of disease and selected potential environmental exposure to pollutants. Atlas maps can be accessed through the *Esri Map Book Online*.

Esri Map Book features more than 100 maps and shows how GIS users contribute ever-increasing amounts of data and other resources to promote sustainable development and a more hopeful future. Each map is accompanied by a description of how it was produced, for what purpose, and by whom.

"Our map book this year represents a variety of contributors, from students and professionals just getting started to veteran ArcGIS users whose maps have appeared frequently in this publication," says Jack Dangermond, Esri president. "The maps included affirm that GIS-based cartography conveys important information as no other medium can."

Visit esri.com/mapmuseum.