GIS as a Powerful Communication and Community Empowerment Tool

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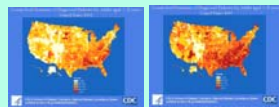
ESRI ArcGIS
Custom Analysis

Regional and National Level Maps

Created for Native Diabetes Wellness Program, Division of Diabetes Translation, Centers for Disease Control and Prevention.

Visual displays of community data
- Engage community members in awareness about problems
- Track progress in programs
- Empower communities in participatory discussions
- Identify problem locations

Community Level Maps
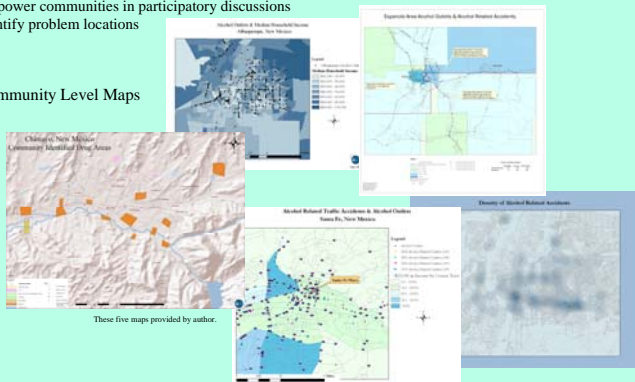
These five maps provided by author.

"…*maps based on local data* make the information about cancer rates more meaningful to people who are familiar with the local area."
Beyer KMM, Rushton G. Mapping Cancer for Community Engagement. Prev Chronic Dis 2009;6(1).

Map created for Pacific Islands Chronic Disease Coalition.

Centers for Disease Control and Prevention: National Diabetes Surveillance System. Available online at: http://www.cdc.gov/diabetes/statistics/index.htm. Retrieved 4/7/2010.

GIS – Geographic Information Systems

Why Maps?
- Clear concise communication
- Raise awareness
- Track change

What Audience?
- What is the message?
- How will the message be used?
- Customize message to audience
  -Local level maps for community audience
  -Regional level maps for policy level communication

What Data?
- Mapping challenges and barriers
  -access to food
  -access to healthy food
  -exercise and recreation facilities
  -healthcare
- Demographic Information
- Environmental Information
- Other Location Information

Communicating to Policy Makers
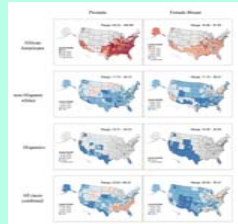
Prostate, female breast cancer death rates per 100,000 person-years by congressional district (age-adjusted 2000 US population), 1990–2001. *International Journal of Health Geographics* 2006; 5:28.

"The cancer mortality patterns by congressional district are generally similar to the patterns seen using other geographic boundaries. However, the *patterns by congressional district may be useful to cancer control advocates* to illustrate the importance of cancer control measures (prevention, early detection, and treatment) for *their constituents*."
U.S. Congressional District Cancer Death Rates. Yongping Hao, Elizabeth M Ward, Ahmedin Jemal, Linda W Pickle and Michael J Thun. *International Journal of Health Geographics* 2006; 5:28.

Communicating to Community
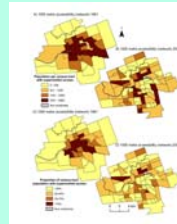
Mapping the evolution of 'food deserts' in a Canadian city: Supermarket accessibility in London, Ontario, 1961–2005 Kristian Larsen and Jason Gilliland *International Journal of Health Geographics* 2008; 7:16.
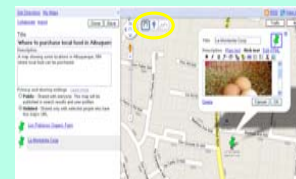
"Increasing the availability of neighbourhood socioeconomic, health, and environmental characteristics will allow individuals to obtain the *knowledge needed to make informed decisions* concerning their own health risks…"
J.C. Maclachlan et al. / Health & Place 13 (2007) 72–86.

Google Maps
Community Participation

Everyone loves maps and Google Maps offers an easy, free, platform for creating community maps.
- Google Maps can be either open to the public or can be unlisted
- Public maps are automatically included in Google Maps searches
- Personal photos can be added to these maps

Helpful Google Map Resources: My Maps help page: http://maps.google.com/support/bin/answer.py?answer=68480 and YouTube instruction video: http://www.youtube.com/watch?v=T0Fnot5uXw

Online Resources
Easy-to-Make Maps & Pre-Analyzed Data

EPA EnviroMapper for Envirofacts
http://www.epa.gov/emefdata/em4ef.home

Environmental Data

ESRI: Linking Your Health to Your Environment
http://www.esri.com/industries/health/geomedicine/index.html

Health and Environment Data

USDA Food Environment Atlas
http://www.ers.usda.gov/FoodAtlas/

Regional and County-level Food Data

Earth Data Analysis Center, University of New Mexico

Poster presented at CDC Diabetes Translation Conference 2010: "Looking to 2020: Keeping Our Eyes on the Prize of Diabetes Prevention and Control" April 13-16, 2010, Kansas City, Missouri