

EPID-600 Introduction to Public Health Community Assessment Objectives

[PDF](#)

Students should be able to

- describe why community assessment is important for analyzing community health status
- describe the sources the data available for such analysis
- describe how to, how to gather and present the data that affect community public health policy & funding
- describe how to to use spreadsheet and geographic analysis presentations to strengthen their presentations.
- describe data sets available to measure health status at the national, state and local level
- how to link them health data to economic status
- how to access the health care and medical care data systems and their interfaces between public & private resources.
- GIS Objectives:
After this session students should understand the added value of epidemiologic analysis using GIS and geocoding software. They should understand the expanding use of census tracts for analyses. They should be able to explain where they can obtain data. They should understand the elements of enhanced data quality provided by GIS-related tools. They should be able to describe the major software available, including common use within the public health community.
- [Competencies](#) 1C(1,2,4,7,8) 1E (1,2,3,8,10) 1F(All) IIA (1-4)

Key Words

Community, jurisdiction, health status, health measurement, planning, goals, birth rate, infant death rate, fertility measures, community surveys, behavioral risk factors, mental health, Marc Lalonde, Kerr White.

GIS KeyWords: Maps, streets, block groups, census tracts, zip codes, ZCTA, geocoding, spatial analyses, Analysis/Visualization/Reporting (AVR), Census Bureau, Tiger files, choropleth.

Concept

Improving health outcome depends on knowledge of current health status rather than responding to medical crises.

GIS: Epidemiology concerns the distribution of disease with a space and time continuum. Geographic information systems (GIS) allow a visual display of data distribution, as well as affiliated attributes, at varying levels of geographic granularity. Additionally, GIS is being used to enhance data quality management and improve our understanding of socioeconomic factors related to public health surveillance. The use and need for GIS tools and spatial analyses of public health data is increasing, as is evidenced by the growing body of GIS-related literature.

Readings

[Essay](#), & scan [essay #6](#).
Schneider 2nd Edn: [scan](#) Chapter 5, 8, 11 and 24
Community [Health Status Indicators](#)
Kaiser Family Foundation: [State Health Facts](#)

GIS Readings: The National Association of State and Territorial AIDS Directors (NASTAD) [Prevention Bulletin. June 2007](#). Read the first four topics below.

Targeting Populations Using Geo-Mapping and Social Network Strategies

- [How do we target populations?](#)
- [Geo-Mapping](#)
- [New York City's Experience with Geo-Mapping](#)
- [Virginia's Experience with Geo-Mapping](#)
- Welcome to [ESRI Public Health Page](#), Scan the options for education and case studies in the left hand column

GIS Optional readings:

Monmonier, M. 1991. *How to Lie With Maps*. The University of Chicago Press.

Monmonier, M. 1993. *Mapping It Out*. The University of Chicago Press *
Monmonier, M. 1997. John Snow's legacy. *Cartographies of Danger: Mapping Hazards in America*. The University of Chicago Press. Ricketts, T.C. and L.A. Savitt, W.M. Gesler, et al. 1997. *Using Geographic Methods to Understand Health Issues*. (AHCPR Pub. No. 97-N013). Rockville, MD: Agency for Health Care Policy and Research (NTIS No. PB97-137707). Koch. T. 2005. *Cartographies of Disease: Maps, Mapping, and Medicine*. ESRI Press. Wade T. and Sommer S. ed. 2006. *A to Z GIS: An Illustrated dictionary of geographic information systems*. ESRI Press. Cromley & McLafferty. 2002. *GIS and Public Health*. Guilford Press.

GIS Additional Readings:

- Bozzetta SA et al.(1998) The care of HIV infected adults in the United States. *New England Journal of Medicine* 339(28): 1897-1904
- [MAPP](#) – a strategic approach to community health improvement
- [Principles](#) of Community Engagement.
- A new Perspective on the Health of Canadians, Marc Lalonde. 1974
- Community Assessment [using maps](#)

Articles

- Geography gaining power as a tool for shaping health and social policy. 1997. *Advances: The Quarterly Newsletter of the Robert Johnson Wood Foundation*, Issue 3.
- Rushton, G. et al. July 1995. A geographic information analysis of urban infant mortality rates. *Geo Info Systems*. 52-56.
- Tempalski, B. and S. McLafferty. June 1997. Low birthweights in New York City: using GIS to predict communities at risk. *Geo Info Systems* **7**, 6: 34-37
- The [Obama-Biden Transition project](#)

[Go to Lecture](#)

EPID-600 Introduction to Public Health Community Assessment Presentation

Data Sources

[Dr Barrett's Slides](#)

Dr. Bradford's [Slides](#)
[Handouts](#)

[Assessment Example 1](#)

GIS Map of [smoking deaths](#) in Corpus Christi, TX, Written with Graphics Basic in 1981

[Assessment Example 2](#)

[1998 Southside AHEC summary](#)

In the mid 1970s Ivan Illich's book "[Medical Nemesis](#)" sub-titled "The Expropriation of Health" was published. His thesis was to decry the tendency to name every symptom as a discrete disease and develop an ICDA code (and payment) for it, thus increasing the complexity of medical care unnecessarily, as well as making health assessment difficult. Look at the CDC Web Page on [Assessment in Public Health](#)

In 1975, [Marc Lalonde](#), Minister of Health for Canada proposed the "Health Field Effect" Noting that up to 75% of a community's health was affected by behaviors, rather than medically treatable diseases. He started the current impetus to look carefully at the whole community environment, including behavior/mental health, not just obvious treatable entities.

Review Hans Rosling's video on a [global assessment](#) of health status

The session has three presentations. One by Dr. Buttery, one from VDH Staff and one from Dr. Bradford. Dr. Buttery will introduce the use of geographic communities ([slides](#)) ([handouts](#).) New VDH Staff will provide an introduction to GIS use in Community Assessment. Dr.

Bradford's presentations will focus on assessment of communities where the community is defined by a *population with shared characteristics* such as AIDS, sexual preference or Lung Cancer. Also, one of Dr Bradford's associates, Dr. Kirsten Barrett's recently completed an [assessment in S.W. VA](#). This study is similar in scope to the report on Dr Buttery's study of the Southside AHEC. You should compare the two and consider that Dr. Barrett's was funded in excess of \$200,000, while Dr. Buttery's for the AHEC was funded for \$7,500, had to use secondary data and was completed in 8 weeks.

If you don't know where you are going, you are not going to be able to measure a result which can lead to activities that will enhance the community's health. This is similar to the medical care providers who are so busy treating diseases that few of them take the time to prevent the diseases which they treat. Additionally, national and state legislatures only give lip service to funding prevention. This sends a false message to insurers, that it is not worth using their money to prevent disease.

What evidence is there that diseases are preventable? Where would you look? What proportion of disease might be preventable? Why?
[Again, look at Data Sources](#)

[Introduction to Mapping Resources](#)

Exploratory Analysis of Infant Mortality and Birth Defects in an Urban Area :
[Towards a Geographically-Based Public Health Surveillance System](#)

The World Health Organization's definition of 'Health' is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.

Review two assessments performed by Dr. Buttery where the population assessed were geographically defined rather than disease attribute defined. An issue that continues to be important in community assessment is that of disparities. While I believe income is the most important I include [an article](#) from Health Affairs from March of 2005 that suggests race matters, as well as income class. You might want to scan this .pdf which looks at health disparities [in the UK](#)

The first, [1973 Assessment](#), was performed for the City of Portsmouth, Virginia. While it was state of the art 30 years ago, not much has changed in techniques of assessment since, other than the advent of computerized GIS systems. The data was collected and analyzed manually. The [1998 Assessment](#) for 17 counties in Southside Virginia was performed by computer analysis by downloading data from the Virginia Center for Health Statistics, then analyzing a combination of spreadsheets, databases and GIS (geographic Information Systems) projections. For more information on GIS applications click on the Introduction to Mapping resources. Any of you who viewed the "RX for Survival" on PBS should review this article on GIS and [control of tropical diseases](#).

These assessments consider the following issues:

- How long does the population live?
- How well do they live?
- How much disability do they have for how long?
- What are the extremes of health and disability in the community?
- What seem to be the underlying causes of ill health?

How do you define 'ill health'?
What can be done to change health status?
Whose health status are you going to affect?
What are the costs and the benefits?
How long will change take?
Are these change medical or social?
Is there a difference?
What is measurable?
Are you sure it is measurable?
What role does the environment play?
Who will pay for it?

Once you believe you have answered these questions:

How are you going to plan interventions to change health status?
Whose permission do you need?
What are the constraints to your actions?
Who must be involved in the change?
What can enable the changes?

For an example of a community assessment, scan the [AHEC summary](#) of the community assessment Dr. Buttery performed in 1998, from which several of the slides in the 1998 slide show were chosen. Consider why the recommendations might be unexpected. A valuable report is that from PolicyLink, from The California Endowment, that [focuses on neighborhood factors](#) (pps 7-14 of this pdf document summarizing targeted research) that influence health and may be associated with health disparities. This is useful reading before starting an analysis.

If you want to look at and compare state data sets look at [StateMaster](#) and KFF [State Health Facts](#)

Finally, look at the following annual reports written to a city manager more than 25 years ago. This was the director's first position after completing his MPH. Which issues still remain important public health issues today? Why?. How do you think we could resolve them before another 25 years pass by? Consider how useful these annual assessments of policy accomplishment were for the health of the city's residents? What contributes to these assessments? Examine what happened with the grant programs over this 6 year period.

[Annual report for 1970](#)

[Annual report for 1973](#)

[Annual Report for 1974](#)

Review Jeff Stover's Objectives and recommended readings on the previous web page then examine the slides and handouts [Intro to GIS](#) [Handouts](#)

Readings for this session, Essays [3](#) & [6](#) (scan only)

Schneider: Chapter 8

Europe 2008 Atlas of [Health Facts](#) (skim to get a feel of what is available outside the U.S.)

[Community Assessment Bookmarks](#)