Tell me about you . . .

What do you know of GIS?

Have you used GIS?
Learning Outcomes

(1) At the end of this session, the participants will be able to identity the foundational concepts of geographic information systems (GIS).
(2) At the end of this session, the participants will be able describe the relevance of GIS for the professional counseling field.
(3) At the end of this session, the participants will be able apply GIS concepts and examples within their curriculum, research, and community efforts.
What is GIS

GIS is a technological field that incorporates geographical features with tabular data in order to map, analyze, and assess real-world problems.
GIS Def . . . Again

“In the strictest sense, a GIS is a computer system capable of assembling, storing, manipulating, and displaying geographically referenced information, i.e. data identified according to their locations. Practitioners also regard the total GIS as including operating personnel and the data that go into the system.” ~ USGS

Source - https://www.gislounge.com/what-is-gis/
Key Principles

- Place
- Time
- Distance
Why GIS

To disseminate information and provide psychoeducation to a community . . .

An example opioid crisis and GEO_stories in northern Kentucky -
GEOStory of Opioid Addiction

Northern Kentucky is experiencing a serious opioid epidemic! In 2017, Northern Kentucky, on average, lost a person to a drug overdose every 35 hrs. We lost nearly four times more residents to drug overdoses than car accidents in 2017 (1,2,3).

This report provides data on issues related to the opioid epidemic. It demonstrates the magnitude of the problem, describes community responses and offers recovery resources. For immediate assistance with substance use disorders, call 859-415-9280.

Purpose and Navigation

How to navigate the story map:

- Click on orange highlighted text to display topic data on the map.
- Use map navigation tools to move around in the map window. Click on any area of map to open a popup with additional information.
- Blue text contains links to outside resources.
- Source references are listed in parenthesis, complete sources are located on the last page of the report.

Help is available in Northern Kentucky. Call NKY Helpline:

859-415-9280
Why GIS

- Using tweeter feeds to map GIS and Depression -
Why GIS

- Multilevel modeling . . . in research . . . control for environment or individual level
  - [http://rdcu.be/xySo](http://rdcu.be/xySo)
- SPSS, SAS, R have “spatial analysis” features/packages.
  - SPSS - click [here](http://rdcu.be/xySo)
  - R - click [here](http://rdcu.be/xySo)
Why GIS

Provide data for clinicians for decision making and referral

Population Health Assessment Engine - Click here.
My Community

What you can do using My Community:

• View community characteristics
• View your clinic’s service area
• View how your clinic’s service area relates to community characteristics
• Download community characteristics
What you can do using Community HotSpots:

• View community characteristics
• View hot spots (clusters of poor disease control or gaps in quality) from your electronic health record data
• View how hot spots relate to community characteristics
• Download community characteristics
Why Gis?

Tool for Social Justice

Utilizing GIS to Support Advocacy and Social Justice - Click here.
Purpose To better understand a neighborhood through the eyes of young people living there.
Methodology Provide participants, mostly affiliated with the Boys and Girls Club of Dane County, with digital cameras and GPS units and have them take pictures of their neighborhood, documenting routine use of community and recreation environments. The images are then geocoded as part of a neighborhood-level GIS that includes other demographic and spatial data, such as population, household characteristics, and crime statistics.
Outcome These photos become the objects of focus-group sessions in which open dialogue creates emerging themes that are attached to particular images. This creates a qualitative GIS focused on the experience of community and recreation environments.

Source: PPM Project webpage, University of Wisconsin, School of Medicine and Public Health
http://www.fammed.wisc.edu/research/external-funded/communities-risk/ppm
Software Options - Open-source

- GRASS GIS
- gvSIG
- ILWIS
- JUMP GIS
- MAPWindow GIS
- QGIS
- SAGA GIS
- uDIG
Software - Commercial

- Autodesk
- Bentley Systems
- ENVI
- ERDAS Imagine
- ESRI
- Integraph
- MapInfo
- Smallworld
So What?

- Imbed GIS in MC course . . .
- Expand research and advocacy efforts directed towards Social Justice . . .
- Tailor interventions
- Tools for clinicians for understanding community such as DashBoard, referrals and disaster response/trauma
Q and A . . .