Community Mapping and Utilizing Geographic Data

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Tobacco Retailers near Schools

Legend
- School
- Half-mile buffer
- Stores within buffer

Source: Esri, HERE, DeLorme, USGS, Intermap, Increment, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapiGroup, NGCC, © OpenStreetMap contributors, and the GIS User Community.
Tobacco sales data by Nielsen market region
“Precision medicine gives us one of the greatest opportunities for new medical breakthroughs that we have ever seen. Doctors have always recognized that every patient is unique.”
Medical treatments have historically been designed for the “average patient”
Communities are unique and strongly related to health behaviors and outcomes

Most effective public health programs are tailored to communities

Gathering place-based data is advantageous for program planning and evaluation
Enhancing interventions through local data collection

• Benefits of using geographic data
• Field data collection tools and resources
• Accessing existing geographic data
• Limitations/challenges using local data
Benefits of using geographic data

• Assists in decision-making when used as a needs assessment tool
  – Resource allocation
  – Targeted intervention strategies
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• Maps are persuasive and easily understood by stakeholders and community members
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• Applications and software for data collection and map-making now more affordable and easy-to-use
Field data collection tools and resources
Accessing existing geographic data
Accessing existing geographic data

Model-based estimates for mammography use among women aged 50–74 years – 2014

Borough Park
“This crossing has a high collision rate (2.1 per month) for its pedestrian population. The large billboard advertising on both sides of the street may distract drivers and pedestrians. The researchers showed that intersections with billboards had 42 percent more injuries.”

Limitations/challenges using local data

- Field data collection can be cumbersome
- Environments dynamic and constantly changing
- Mapping/analysis requires basic knowledge of geographic information systems
- Access to existing geographic datasets limited
  - Privacy concerns
  - Smaller areas produce unstable estimates
Summary

- “Place” impacts health behaviors and outcomes
- Documenting community features and local health data can enhance the effectiveness of interventions
  - Assessing needs
  - Program planning & evaluation
- Geographic data is increasingly accessible and should be incorporated in all sectors of public health
  - Research
  - Practice
  - Policy-making
Thank you!