Being Data Savvy
Sources of Open Public Health Data

Jonathan Gross, MPH, CPH, Certificate in GIS
Epidemiologist, Office of Youth Violence Prevention
Baltimore City Health Department
jonathan.gross@baltimorecity.gov
Savvy?

**n/adj:** shrewdness and practical knowledge, especially in politics or business

**verb:** to know or understand
Overview

- Health indicators in BNIA data
- Other open sources of public health data
- Local, state, and federal examples
- Health Department updates
BNIA Indicators

Health Department provides:
- Life expectancy at birth
- Infant mortality
- Mortality by age groups
- Fast food density, food deserts/Hopkins

State Health Department/DHMH:
- Teen pregnancy rate
- Percent of births delivered at term
- Satisfactory birth weight
- Mother received prenatal care

Maryland Dept of Environ: Lead poisoning
Other Open Sources of Public Health Data

• City/Local
  • Neighborhood Health Profiles (PDFs)
    • http://health.baltimorecity.gov/neighborhoods/neighborhood-health-profile-reports
  • Open Baltimore:
    https://data.baltimorecity.gov/
    • Locations of health facilities, grocery stores,…
    • Environmental Control Board (ECB) Violations
    • (Restaurant Inspections-Coming soon)
  • Health related-data
    • 311 Calls (911 calls in future)
    • Liquor licenses
    • Crime and arrests
Other Open Sources of Public Health Data

- **State**
  - DHMH Map page:
    - http://dhmh.maryland.gov/maps/SitePages/Home.aspx
  - “Open Maryland”
    - https://data.maryland.gov/
    - Also has city datasets

- **Federal-Healthcare**
    - Inpatient and outpatient charges to Medicare
    - Prescription information
    - Industry payments to doctors and hospitals
    - Census/ACS- e.g. health insurance estimates
Local Example

BNIA data used in the grant application for the National Forum on Youth Violence Prevention, Summer 2014

Table 1: Examples of High Crime CSAs

<table>
<thead>
<tr>
<th>Crime Indicators (Population-based rates)</th>
<th>Upton/Druid Heights</th>
<th>Sandtown-Winchester/Harlem Park</th>
<th>Southwest Baltimore</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part I Crime</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Violent Crime</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Property Crime</td>
<td>2</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Juvenile Arrests</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Juvenile Arrests – Violent Offenses</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Juvenile Arrests for Drug-Related Offenses</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Domestic Violence Calls for Service</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Narcotics Calls</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Non-Fatal Shooting Calls</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Gun Homicide</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

Ranked BNIA crime indicators (1 highest to 5 lowest)
Search, search, search

- Facilities and doctors prescribing buprenorphine/naloxone for opioid overdoses

<table>
<thead>
<tr>
<th>No.</th>
<th>Facility Name</th>
<th>Address</th>
<th>City</th>
</tr>
</thead>
<tbody>
<tr>
<td>94</td>
<td>Baltimore Behavioral Health, Inc.</td>
<td>1101 W Pratt St</td>
<td>Baltimore City</td>
</tr>
<tr>
<td>95</td>
<td>Baltimore Crisis Response, Inc.</td>
<td>2041 E Fayette Street</td>
<td>Baltimore City</td>
</tr>
<tr>
<td>96</td>
<td>Center For Addiction Medicine (CAM)</td>
<td>827 Linden Ave</td>
<td>Baltimore City</td>
</tr>
<tr>
<td>97</td>
<td>Glass Health Substance Abuse Programs, Day</td>
<td>2490 Giles Road</td>
<td>Baltimore City</td>
</tr>
<tr>
<td>98</td>
<td>Deaf Addiction Services at Maryland</td>
<td>1001 W Pratt Street</td>
<td>Baltimore City</td>
</tr>
<tr>
<td>99</td>
<td>Echo House Multi-Service Center, Inc.</td>
<td>1705 W Fayette Street</td>
<td>Baltimore City</td>
</tr>
<tr>
<td>100</td>
<td>Gaudenzia, Inc.</td>
<td>4615 Park Heights Avenue</td>
<td>Baltimore City</td>
</tr>
</tbody>
</table>

Savvy Tip #2
Don’t get discouraged, open data can be hard to locate!

Source: https://data.maryland.gov/Health-and-Human-Services/Doctors-Currently-Prescribing-Buprenorphine/3wcd-jp6t
### Average Inpatient Provider Charges to Medicare, FY2013

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Johns Hopkins Hospital</th>
<th>University of Maryland Medical Center</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychoses (885)</td>
<td>$34,232</td>
<td>$19,293</td>
<td>+$14,939 (1.7x)</td>
</tr>
<tr>
<td>Digestive Disorders (392)</td>
<td>$12,618</td>
<td>$9,041</td>
<td>+$3,577</td>
</tr>
<tr>
<td>Heart Failure and Shock w/CC (292)</td>
<td>$17,050</td>
<td>$15,993</td>
<td>+$1,057</td>
</tr>
</tbody>
</table>

**Why is there a difference?**

- Patients? Number of tests? Better outcomes? Data error?
- Does size of the difference depend on diagnosis?

**Savvy Tip #3**

Comparisons are powerful tools!
By Hospital for Psychoses, FY 2013

**Federal Example**

Savvy Tip #4: Use simple tables and colorful graphs

Note: All hospitals listed have more than 200 discharges for this diagnosis. Maryland General is now UMMC Midtown.
Health Department Updates

Small steps

- Increasing access and transparency
- Shootings in Safe Streets posts:

Visit: http://health.baltimorecity.gov/safestreets
Health Department Updates

BIG Steps

• Online map gallery

• Making more health data publically available on Open Baltimore and with BNIA

• Never personally identifiable
Data, Savvy!

- Start early
- Be BOLD!
- Open data is valuable
- Search, search, search!
- Find a comparison group/area
- Use simple tables and colorful graphs
- Work in teams
- Don’t be afraid to start over
Free Data Tools

- Google Sheets and Open Office
  - Excel replacement, easy to use

- Plotly
  - Harder to use, fancier graphics
  - https://plot.ly

- “R” Project
  - Intermediate/advanced data user
  - http://www.r-project.org

- QGIS
  - Free software for making maps!
  - http://www.qgis.org
Thanks!

• Questions?

• What health topics are important to you?

• Ideas for online maps?