Place & Infant Health: “Hot Spot” and Asset Mapping for Infant and Maternal Health in Franklin County

PRESENTATION TO THE GREATER COLUMBUS INFANT MORTALITY TASK FORCE

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THE OHIO STATE UNIVERSITY

Kirwaninstitute.osu.edu
Our presentation builds upon the themes and materials presented by our Executive Director, Sharon Davies in February of 2014.

- Critical themes
  - Infant health is more than health care
  - Place and race matters
  - Thinking about place based interventions

- We initiated a “hot spot” and asset mapping initiative following this presentation
  - Today’s we present the preliminary results of that assessment

- Our goal with this work:
  - Better identify and understand "hot spots"
  - Develop a county wide tool to understand risk factors (geographically), health metrics, social determinants and assets (programmatic information)
  - Understand data needs and the geographic landscape of programmatic interventions
Place & Infant Health:
“Hot Spot” and Asset Mapping for Infant and Maternal Health in Franklin County

HOT SPOT ANALYSIS
(PRELIMINARY RESULTS)
Hot Spot & Asset Mapping

Hot Spot Process
- Review address level mortality data from CPH for 2007 to 2011
- Calculate “topography” of infant deaths (deaths per square mile over five year period)
- Use calculations for heat map “producing hot spots”

Includes
- Health outcome data
- Health service data
- Risk factor data
- Social determinant data
- Programmatic data (largest void in data)
- We will present just a sample of this data today

Ongoing data collection

Triangulating multiple sources
- CPH, ODH, HRSA, Census, etc.
Hot Spot “Heat” Health Outcome Maps

Franklin County Infant Deaths, 2007-2011

Infant Deaths per Square Mile
- 1.0 - 2.6
- 2.6 - 4.1
- 4.1 - 5.7
- 5.7 - 7.3
- 7.3 - 8.8
- 8.8 - 10.4
- 10.4 - 12.0
- 12.0 - 13.5
- 13.5 - 15.1

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Infant Mortality “Hot Spots”

- Hot Spot Areas (areas with more than 10 infant death per square mile over a five year period)
  - A: Hilltop
  - B: Franklinton
  - C: Morse/161
  - D: South Linden
  - E: Near East
  - F: Near South
  - G: Northeast
  - H: Southeast

- Note: names are for identification purposes only and do not necessarily correspond with exact neighborhood or civic association boundaries
IM Hot Spots & Risk Factors: Teen Pregnancy

Births to Mothers under 18 (Percent of Live Births)

- 0 - 2.0
- 2.1 - 4.0
- 4.1 - 6.0
- 6.1 - 8.0
- More than 8.0
IM Hot Spots & Risk Factors: STD Rates (Chlamydia and Gonorrhea Rates) (Proxy for safe sex practices).
IM Hot Spots & Risk Factors: Medicaid Births

Births Paid by Medicaid (Percent of Live Births)

- 0 - 20.0
- 20.1 - 35.0
- 35.1 - 50.0
- 50.1 - 65.0
- Greater than 65
IM Hot Spots & Risk Factors: SNAP & Other Social Determinants

**Percent of Households Receiving SNAP**

- 0 - 15.0
- 15.1 - 30.0
- 30.1 - 45.0
- 45.1 - 60.0
- Greater than 60.0
Place & Infant Health:
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HOT SPOT COMMUNITY PROFILES
(PRELIMINARY RESULTS)
Hot Spot Areas: Community Profiles
(Areas where defined using Census Geography – Census Tract Boundaries)

Hilltop

Franklinton
Hot Spot Areas: Community Profiles (Areas were defined using Census Geography – Census Tract Boundaries)
Hot Spot Areas: Community Profiles
(Areas were defined using Census Geography – Census Tract Boundaries)
Hot Spot Areas: Community Profiles (Areas were defined using Census Geography – Census Tract Boundaries)
Hot Spots and Infant Deaths

- Hot Spots demonstrate disproportionate rates of infant mortality and include a disproportionate share of all infant deaths and deaths for non-White infants.

- Nearly 1 in 4 of all infant deaths and nearly 1 in 3 of all non-White infant deaths occurred in the hot spot areas.

- Hot Spot Areas
  - Represented 9% of the County’s total population and 12% of total births.
  - But represented 22% of all infant deaths.

- Hot Spot Areas
  - Represented 17% of all non-White population.
  - But represented 30% of all non-White infant deaths.
Hot Spot Areas: LBW/Preterm & Medicaid Births

% of Births Low Birth Weight and & of Births Pre-Term

% Births to Medicaid

<table>
<thead>
<tr>
<th></th>
<th>% Low Birth Weight</th>
<th>% Pre Term Births</th>
</tr>
</thead>
<tbody>
<tr>
<td>FRANKLINON</td>
<td>15.8%</td>
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</tr>
<tr>
<td>HILTOP</td>
<td>14.4%</td>
<td></td>
</tr>
<tr>
<td>MORSE/161</td>
<td>17.9%</td>
<td></td>
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<tr>
<td>NEAR EAST</td>
<td>14.2%</td>
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<tr>
<td>NEAR SOUTH</td>
<td>18.7%</td>
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<tr>
<td>NORTHEAST</td>
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<tr>
<td>SOUTH LINDEN</td>
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<td>SOUTHEAST</td>
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<td>COUNTY</td>
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% Births Low Birth Weight

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<tr>
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<tr>
<td>FRANKLINON</td>
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<td>15.3%</td>
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<td>COUNTY</td>
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% Births Pre-Term

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<thead>
<tr>
<th></th>
<th>% Pre Term Births</th>
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</thead>
<tbody>
<tr>
<td>FRANKLINON</td>
<td>15.8%</td>
</tr>
<tr>
<td>HILTOP</td>
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<tr>
<td>MORSE/161</td>
<td>17.9%</td>
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<tr>
<td>NEAR EAST</td>
<td>14.2%</td>
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<tr>
<td>NEAR SOUTH</td>
<td>18.7%</td>
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<tr>
<td>NORTHEAST</td>
<td>20.1%</td>
</tr>
<tr>
<td>SOUTH LINDEN</td>
<td>17.0%</td>
</tr>
<tr>
<td>SOUTHEAST</td>
<td>15.3%</td>
</tr>
<tr>
<td>COUNTY</td>
<td>13.2%</td>
</tr>
</tbody>
</table>
Hot Spot Areas: Community Profiles Risk Factors

Chlamydia and Gonorrhea Rates (Per 1,000 People)

% to Births to Mothers Under Age 18
Hot Spot Areas: Socioeconomics (Race & Immigration)

% Non White in Hot Spot Areas and For County

<table>
<thead>
<tr>
<th>Location</th>
<th>% Non White</th>
</tr>
</thead>
<tbody>
<tr>
<td>FRANKLINTON</td>
<td>21.5%</td>
</tr>
<tr>
<td>HILLTOP</td>
<td>35.0%</td>
</tr>
<tr>
<td>MORSE/161</td>
<td>66.3%</td>
</tr>
<tr>
<td>NEAR EAST</td>
<td>88.7%</td>
</tr>
<tr>
<td>NEAR SOUTH</td>
<td>73.9%</td>
</tr>
<tr>
<td>NORTHEAST</td>
<td>87.5%</td>
</tr>
<tr>
<td>SOUTH LINDEN</td>
<td>72.2%</td>
</tr>
<tr>
<td>SOUTHEAST</td>
<td>88.1%</td>
</tr>
<tr>
<td>COUNTY</td>
<td>32.7%</td>
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% of Population Foreign Born in Hot Spot Areas and For County

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<tr>
<th>Location</th>
<th>% Foreign Born</th>
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</thead>
<tbody>
<tr>
<td>FRANKLINTON</td>
<td>1.0%</td>
</tr>
<tr>
<td>HILLTOP</td>
<td>3.3%</td>
</tr>
<tr>
<td>MORSE/161</td>
<td>17.4%</td>
</tr>
<tr>
<td>NEAR EAST</td>
<td>4.1%</td>
</tr>
<tr>
<td>NEAR SOUTH</td>
<td>0.9%</td>
</tr>
<tr>
<td>NORTHEAST</td>
<td>30.3%</td>
</tr>
<tr>
<td>SOUTH LINDEN</td>
<td>3.5%</td>
</tr>
<tr>
<td>SOUTHEAST</td>
<td>15.6%</td>
</tr>
<tr>
<td>COUNTY</td>
<td>9.2%</td>
</tr>
</tbody>
</table>
Hot Spot Areas: Socioeconomics (Poverty & SNAP Benefits)

% of Population in Poverty

- Franklinton: 53.8%
- Hilltop: 39.5%
- Morse/161: 31.2%
- Near East: 37.1%
- Northeast: 33.7%
- South Linden: 43.0%
- Southeast: 30.6%
- County: 17.7%

% of Households Receiving SNAP Benefits in Hot Spot Areas and For County

- Franklinton: 49.4%
- Hilltop: 38.6%
- Morse/161: 23.1%
- Near East: 55.8%
- Near South: 38.1%
- Northeast: 29.7%
- South Linden: 38.7%
- Southeast: 28.9%
- County: 13.6%
Hot Spot Areas: Social Determinants (Housing Cost Burdened Households & Households w/o a Vehicle)

% of Homeowners and Renters Cost Burdened by Housing for Hot Spot Areas & County

<table>
<thead>
<tr>
<th>Area</th>
<th>Franklinton</th>
<th>Hilltop</th>
<th>Morse/161</th>
<th>Near East</th>
<th>Near South</th>
<th>Northeast</th>
<th>South Linden</th>
<th>Southeast</th>
<th>County</th>
</tr>
</thead>
<tbody>
<tr>
<td>27.9%</td>
<td>34.0%</td>
<td>29.2%</td>
<td>28.4%</td>
<td>35.0%</td>
<td>40.7%</td>
<td>27.7%</td>
<td>59.1%</td>
<td>49.3%</td>
<td></td>
</tr>
</tbody>
</table>

% of Households with No Auto in Hot Spot Areas and For County

<table>
<thead>
<tr>
<th>Area</th>
<th>Franklinton</th>
<th>Hilltop</th>
<th>Morse/161</th>
<th>Near East</th>
<th>Near South</th>
<th>Northeast</th>
<th>South Linden</th>
<th>Southeast</th>
<th>County</th>
</tr>
</thead>
<tbody>
<tr>
<td>34.4%</td>
<td>16.1%</td>
<td>12.6%</td>
<td>20.5%</td>
<td>8.7%</td>
<td>17.5%</td>
<td>18.1%</td>
<td>18.1%</td>
<td>8.4%</td>
<td></td>
</tr>
</tbody>
</table>
Hot Spot Areas: Social Determinants (Vacancy & Crime)

% of Housing Units Vacant in Hot Spot Areas and For County

<table>
<thead>
<tr>
<th>Hotspot Area</th>
<th>2000-2010 Violent Incidents</th>
<th>Avg Violent Incidents/yr</th>
<th>2008-2012 Total Pop</th>
<th>Estimated Violent Incidents per 1,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Franklinton</td>
<td>1,731</td>
<td>157</td>
<td>5,092</td>
<td>30.9</td>
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<tr>
<td>Hilltop</td>
<td>3,069</td>
<td>279</td>
<td>18,106</td>
<td>15.4</td>
</tr>
<tr>
<td>Near East</td>
<td>1,691</td>
<td>154</td>
<td>6,580</td>
<td>23.4</td>
</tr>
<tr>
<td>Morse-161</td>
<td>3,060</td>
<td>278</td>
<td>27,415</td>
<td>10.1</td>
</tr>
<tr>
<td>Near South</td>
<td>3,651</td>
<td>332</td>
<td>14,087</td>
<td>23.6</td>
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<tr>
<td>Northeast</td>
<td>305</td>
<td>28</td>
<td>8,908</td>
<td>3.1</td>
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<tr>
<td>Southeast</td>
<td>1,366</td>
<td>124</td>
<td>11,180</td>
<td>11.1</td>
</tr>
<tr>
<td>South Linden</td>
<td>2,079</td>
<td>189</td>
<td>12,434</td>
<td>15.2</td>
</tr>
<tr>
<td>Rest of Columbus*</td>
<td>42,012</td>
<td>3,819</td>
<td>1,063,682</td>
<td>3.6</td>
</tr>
<tr>
<td>All of Columbus</td>
<td>58,964</td>
<td>5,360</td>
<td>1,167,484</td>
<td>4.6</td>
</tr>
</tbody>
</table>

*Portion of Columbus in Franklin County.

Source: Columbus Division of Police, Incident Report Records, 2000-2010.
Place & Infant Health: “Hot Spot” and Asset Mapping for Infant and Maternal Health in Franklin County

PROGRAMMATIC DATA ASSESSMENT (PRELIMINARY RESULTS)
IM Hot Spots & Risk Factors: Key Health Access Points

Public Health Clinics

1. Capital Park Family Health
2. Columbus Public Health East
3. Doctors Hospital
4. East Central Health Center
5. Grant Medical Center
6. John Maloney Health Center
7. Mount Carmel St. Ann’s
8. Mount Carmel West
9. Nationwide Children’s Teen and Pregnant (TaP)
10. Northeast Health Center
11. Ohio Better Birth Outcomes (OBBO) at OSU East
12. OhioHealth WOW South High School
13. OhioHealth WOW Walnut Ridge High School
14. OSU Family Practice at Care Point East
15. OSU Rardin Family Practice
16. Riverside Methodist Hospital
17. St. Ann’s Family Practice
18. St. Stephens Health Center
19. Westside Health Center
20. Wexner Medical Center at OSU
21. Whitehall Family Health

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 IM Hot Spots & Risk Factors: Home Visits

Pregnancy Support Services

Ohio Infant Mortality Reduction Initiative
IM Hot Spots & Risk Factors: Health Professional Shortage Areas
Place & Infant Health: 
“Hot Spot” and Asset Mapping for Infant and Maternal Health in Franklin County

KEY FINDINGS & RECOMMENDATIONS
(PRELIMINARY RESULTS)
Key Finding: Not all “Hot Spots” are the same (Typology of Different Communities)

These Differences Are Critical for Designing Interventions

 Typology: Low income communities of color indicating significant neighborhood distress
  ▶ Predominately African American
    ▶ Near South
    ▶ Near East
    ▶ South Linden

 Typology: Low income predominately White communities indicating significant neighborhood distress
  ▶ Hilltop
  ▶ Franklinton

Other Typologies & Differences
  ▶ Neighborhoods which do not fit the profile of neighborhood distress, but demonstrate a unique population (Immigrant)
    ▶ Morse/161 (large African born population)
    ▶ Northeast (large Latino population)
    ▶ Southeast (large Latino population)
  ▶ Other distinctions
    ▶ Transportation limitations greatest (Near East and Franklinton)
    ▶ Highest rates of poverty (Franklinton, Near East, South Linden)
    ▶ Highest rates of housing vacancy (Franklinton, Near East, South Linden)
    ▶ Highest rates of violent crime (Near South, Near East, Franklinton)
    ▶ Highest rates of STD cases (Near South, Near East)
    ▶ Highest teen birth rates (Franklinton, Near East, Near South, South Linden)
Place Based and Geographic Analysis and Interventions Could Assist in Addressing Infant Mortality in Our Community

- Place based programming and collective impact community building models have demonstrated strong results
  - B’More for Health Babies (Baltimore)
  - Northern Manhattan Perinatal Partnership (NYC)
  - Our data suggests these types of efforts could assist here as well
  - Our analysis of home visit data illustrates these programmatic interventions are “spread thin” across the County
- A place based approach would be helpful in addressing racial disparities
  - Nearly 1 in 3 non-White infant deaths occurred in our “hot spots”
- Stronger support for existing place based interventions
  - E.g. Moms 2B
Needs – Supporting Asset Based Community Development Efforts: Hot Spot Neighborhoods of Distress Do Have Assets to Build From

- Many of the neighborhoods who are distressed have community development infrastructure, have significant community social capital assets, are the focus of some health interventions and are targeted by several intensive place based investment strategies
  - For example
    - Near East (PACT)
    - Southside (CD4AP, NCH HNHF)
    - South Linden
    - United Way focused in multiple neighborhoods
    - Moms 2B expanding to two of the areas
- How do identify all of these assets and leverage the communities strengths to address social determinants and infant health risk factors
  - Support collective impact in community
  - Are certain community assets and institutions at risk? (Franklinton – Mt. Carmel)

What are community assets?
- Community and our cultural resources
- Critical institutions
- Areas of investment or improvement
- Elements of civic capacity and organizational capacity
- Technical capacity
- Critical community features which are points of pride or essential (could range from a health care clinic, to a park to a historical resource)
- Leadership capacity
- Faith based institutions
- Nodes of investment
- Social capital resources

Need for some community design in identifying assets
We Need Better Data to Support Collective Impact and to Address our IM Challenge

- We found a very poor base of programmatic information and we found it challenging to access key data sets
  - Opportunity: public health data is generally rich but not shared easily
- We need multiple data sources to understand this issue
  - Each data set contains important information
- We need ongoing collection of data (a living mapping process)
- We need to conduct ongoing surveys of programmatic interventions
- We need better coordination and collaboration with data and information among stakeholders
Next Steps for Mapping Efforts

- Continue to update data
- Finalize analysis
- Conduct preliminary asset mapping in Hot Spot communities (quantitative information & qualitative information)
- Prepare interactive on-line mapping platform to allow stakeholders access to data and information
  - Supports better data informed decision making
  - Supports collective impact
  - “Living” site (ongoing data collection)