THE HIPPOCRATIC OATH

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Children in Poverty
U.S. CHILD POVERTY STATUS

200% of U.S. Poverty Threshold
$44,226

100% of U.S. Poverty Threshold
$22,113

Slightly More Than
1 Out of 5
One out of five children (22 percent) lived below poverty in the United States in 2010.

More Than
2 Out of 5
More than two out of five (44 percent) children lived in low-income families in the United States in 2010.
ILLINOIS CHILD POVERTY RATES

Child Poverty Rates

Percent

25

20

15

10

5

0


## Illinois Child Poverty Rates

### Selected Counties with Highest Poverty Rates

<table>
<thead>
<tr>
<th>County</th>
<th>1999</th>
<th>2012</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>North</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cook</td>
<td>19.3</td>
<td>26.0</td>
<td>6.7</td>
</tr>
<tr>
<td>Kankakee</td>
<td>15.9</td>
<td>25.5</td>
<td>9.6</td>
</tr>
<tr>
<td>Stephenson</td>
<td>12.1</td>
<td>29.1</td>
<td>17.0</td>
</tr>
<tr>
<td>Winnebago</td>
<td>13.3</td>
<td>27.1</td>
<td>13.8</td>
</tr>
<tr>
<td>Central</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coles</td>
<td>11.9</td>
<td>26.8</td>
<td>14.9</td>
</tr>
<tr>
<td>Knox</td>
<td>17.5</td>
<td>32.5</td>
<td>15.1</td>
</tr>
<tr>
<td>Macon</td>
<td>19.2</td>
<td>28.4</td>
<td>9.1</td>
</tr>
<tr>
<td>Peoria</td>
<td>21.0</td>
<td>28.9</td>
<td>7.9</td>
</tr>
<tr>
<td>Sangamon</td>
<td>13.2</td>
<td>25.2</td>
<td>12.0</td>
</tr>
<tr>
<td>Vermilion</td>
<td>19.3</td>
<td>30.0</td>
<td>10.7</td>
</tr>
<tr>
<td>South</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Franklin</td>
<td>24.4</td>
<td>25.0</td>
<td>0.6</td>
</tr>
<tr>
<td>Jackson</td>
<td>23.6</td>
<td>33.7</td>
<td>10.2</td>
</tr>
<tr>
<td>Marion</td>
<td>17.3</td>
<td>30.5</td>
<td>13.2</td>
</tr>
<tr>
<td>St. Clair</td>
<td>21.9</td>
<td>30.3</td>
<td>8.4</td>
</tr>
</tbody>
</table>

*SOURCES U.S. Census Bureau, Census 2000 and American Community Survey 2011-2013 (3-year pooled data).*
Rural America’s Children
RURAL AMERICA

Americans living in rural areas are more likely to die from the five leading causes of death than their urban counterparts:

1. Heart Disease
2. Cancer
3. Unintentional Injuries
4. Chronic Lower Respiratory Disease
5. Stroke

RURAL AMERICA’S CHILDREN

- A higher percentage of children in rural areas compared with urban areas had parents who experienced financial difficulties meeting basic needs such as food and housing.

- Children in rural areas more often lacked amenities and lived in a neighborhood in poor condition.

• In rural areas, 1 in 6 children had a mental, behavioral, or developmental disorder (MBDD).

• Children with MBDD more often lacked a medical home, had a parent in poor mental health, lived in families with financial difficulty than children without MBDD.

• After adjusting for poverty and race/ethnicity among children with MBDD, those in rural areas more often had a parent with poor mental health and lived in resource-low neighborhoods than those in urban areas.

Source: Robinson et. al. “Differences in Health Care, Family, and Community Factors Associated with Mental, Behavioral, and Developmental Disorders Among Children Aged 2-8 in Rural and Urban Areas,” Surveillance Summaries, March 2017
THE ACHIEVEMENT GAP

Parents with more income and education vs. poorer and less-educated peers

- Talk more to their children
- Are more emotionally engaged
- Ask children more questions
- Use less harsh and punitive discipline strategies
- Use more varied vocabulary
THE ACHIEVEMENT GAP

Low-Income Students Fall 2.5 to 3 Years Behind by Fifth Grade

The Developing Child
EXPERIENCES BUILD BRAIN ARCHITECTURE
The brain goes through rapid changes in the first three years of life:

• The brain doubles in size in its first year of life.

• By age 3, it has reached 80% of its brain volume.
BRAIN ARCHITECTURE

Newborn
1 Month
9 Months
2 Years
Adult
Executive Functioning

Frontal lobe is responsible for much of the executive functioning of the brain.

These functions include:
- Attention
- Working memory
- Planning, organizing
- Forethought
- Impulse control
Adverse Childhood Experiences
POSITIVE STRESS VS. TOXIC STRESS

**Positive**
Brief increases in heart rate, mild elevations in stress hormone levels.

**Tolerable**
Serious, temporary stress responses, buffered by supportive relationships.

**Toxic**
Prolonged activation of stress response systems in the absence of protective relationships.
3. Toxic Stress Derails Healthy Development
ADVERSE CHILDHOOD EXPERIENCES

**ABUSE**
- Physical
- Emotional
- Sexual

**NEGLECT**
- Physical
- Emotional

**HOUSEHOLD DYSFUNCTION**
- Mental Illness
- Mother treated violently
- Divorce
- Incarcerated Relative
- Substance Abuse
ADVERSE CHILDHOOD EXPERIENCES

- Adverse Childhood Experiences
- Social, Emotional, & Cognitive Impairment
- Adoption of Health-risk Behaviors
- Disease, Disability and social problems
- Early Death
- Death

Birth
Southern Illinois University School of Medicine
Distribution of General Pediatricians
State of Illinois
Population Aged 17 and Under per General Pediatrician by County

Number of Counties: 46
Aggregated Pediatric Population: 161,883
Pediatric Population Range: 749 - 11,625
No General Pediatrician practicing in the County

Number of Counties: 7
Aggregate Pediatric Population: 79,475
Pediatric Population Range: 7,364 - 25,386
Aggregate Number of General Pediatricians: 11
Distribution of General Pediatricians - Range per County: 1 - 4
1 General Pediatrician per 7,225 Pediatric Population
Population per General Pediatrician Range: 6,293 - 9,613

Number of Counties: 18
Aggregate Pediatric Population: 314,434
Pediatric Population Range: 3,035 - 145,943
Aggregate Number of General Pediatricians: 90
Distribution of General Pediatricians - Range Among Counties: 1 - 44
1 General Pediatrician per 3,404 Pediatric Population
Population per General Pediatrician Range: 3,035 - 4,939

Number of Counties: 20
Aggregate Pediatric Population: 723,766
Pediatric Population Range: 1,622 - 193,479
Aggregate Number of General Pediatricians: 336
Distribution of General Pediatricians - Range Among Counties: 1 - 81
1 General Pediatrician per 2,154 Pediatric Population
Population per General Pediatrician Range: 1,812 - 2,779

Number of Counties: 6
Aggregate Pediatric Population: 67,540
Pediatric Population Range: 5,263 - 19,575
Aggregate Number of General Pediatricians: 30
Distribution of General Pediatricians - Range Among Counties: 5 - 11
1 General Pediatrician per 1,732 Pediatric Population
Population per General Pediatrician Range: 1,529 - 1,800

Number of Counties: 5
Aggregate Pediatric Population: 1,707,869
Pediatric Population Range: 44,783 - 1,208,586
Aggregate Number of General Pediatricians: 1,623
Distribution of General Pediatricians - Range Among Counties: 41 - 1,000
1 General Pediatrician per 1,052 Pediatric Population
Population per General Pediatrician Range: 865 - 1,130

Sources:
2. US Census Bureau, American Fact Finder; ACS Demographic and Housing Estimates; 2010 - 2014 American Community Survey 5-Year Estimates; Table DP05 - ACS Demographic and Housing Estimates.
Evidence Based Solutions
SERVE AND RETURN
INTERACTIONS

2. Serve & Return Interaction Shapes Brain Circuitry
HOME VISITING PROGRAMS

Nurse-Family Partnership
Helping First-Time Parents Succeed

Stronger Families. Brighter Futures.
AHVN TRAINING INSTITUTE
EARLY CHILDHOOD EDUCATION

EDUCARE

Brain Building Oregon
The IHI Triple Aim

Population Health

Experience of Care

Per Capita Cost

DEFINITIONS OF POPULATION HEALTH

“The health outcomes of a group of individuals, including the distribution of such outcomes within a group.” (Kindig and Stoddart 2003)

“The health of a population as measured by health status indicators and as influenced by social, economic, and physical environments, personal health practices, individual capacity and coping skills, human biology, early childhood development, and health services.” (Dunn and Hayes 1999)

“Conceptual framework for thinking about why some populations are healthier than others.” (Young 2005)
SOCIAL DETERMINANTS OF HEALTH

Social Determinants of Health

Population Health

Physical Environment
- Environmental quality
- Built environment

Socio-Economic Factors
- Education
- Employment
- Income
- Family/social support
- Community safety

Health Care
- Access to care
- Quality of care

Health Behaviors
- Tobacco use
- Diet & exercise
- Alcohol use
- Unsafe sex

Source: Authors’ analysis and adaptation from the University of Wisconsin Population Health Institute’s County Health Rankings model ©2010. http://www.countyhealthrankings.org/about-project/background
BUILDING
CHILDREN’S
FUTURES
SIU School of Medicine’s Response
Assist the people of central and southern Illinois in meeting their health care needs through:

- Education
- Patient Care
- Research
- Service to Community
SIU MEDICINE SERVICE REGION

Entire Region
66 Counties
Population: Approximately 2.2 million
32,000 Square Miles

Three Rural Regions
20 - 22 Counties each
Population: Approximately 450,000
8,700 - 11,000 Square Miles

Western Illinois
Havana
Mason District Hospital

Southern Illinois
Carbondale
Center for Rural Health and Social Service Development

Eastern Illinois
Mattoon
Sarah Bush Lincoln Hospital
Improving the health of residents in central and southern Illinois through research, policy, and education.
Understanding why certain populations are healthier than others and using that knowledge to design programs and interventions to make populations healthier.
To create the systemic change necessary to provide sustainable solutions for the residents of central and southern Illinois.
Understanding and advancing the health, development, and wellness of residents in central and southern Illinois.
BUILDING
CHILDREN'S
FUTURES
CHILDREN’S - THREE AREAS OF FOCUS

- **Data Acquisition and Analytics**
  - *Collaborator:*
  - University of Illinois - Springfield Department of Computer Science
  - *Pilot Project*
  - SIU Healthcare Pediatric Big Data Analysis
  - *Piloting Funding Mechanism*
  - UIS/SIU Moy Grant

- **Disease Focused Population Health Strategies**
  - *Collaborators:*
  - St. John’s Community Outreach
  - Springfield Community Federation
  - Illinois Department of Public Health
  - Illinois
  - *Pilot Project*
  - Home Asthma Action Plans
  - *Seed Funding Mechanism*
  - Illinois Department of Public Health and HSHS St. John’s Hospital

- **Systems Based Population Health Solutions**
  - *Collaborators:*
  - 1. Chapin Hall Policy Research Center - University of Chicago
  - 2. Center on the Developing Child - Harvard University
  - *Pilot Projects*
  - 1. Rural Caregiver Reflections on Development
  - 2. Premature Baby Home Visitation Program
  - 3. Hillsboro Hospital Day Care Brain Building
  - 4. Trauma-Informed School Partnerships
  - *Funding Mechanism*
  - 1. Hospital Community and Foundation Funds
  - 2. Seeking Seed Funding Opportunities
Focus groups have been created in 6 rural communities in the southern 16 counties of Illinois to gain an understanding of how caregivers view baby brain development.

Goal is to better understand:

- Rural caregiver viewpoints on their roles as their children’s first teachers
- Perceptions on the role of building baby’s brains through developmentally appropriate activities
- Role of the doctor in advising parenting practices
HILLSBORO, ILLINOIS
• A day care brain development and parent engagement program aimed at improving developmental outcomes in rural Illinois.

• Partnering with Hillsboro Hospital, intervention will occur in Hillsboro Child Development Center, a day care facility housed within the hospital.

• Program will target parent engagement with a model that incorporates developmental milestones as measured during pediatric well child visits.
MACON AND PIATT COUNTIES, ILLINOIS
TRAUMA INFORMED SCHOOL PARTNERSHIPS

- Creating community health care and education coalitions to create trauma sensitive school practices that improve academic achievement and educational outcomes of children.


- Pilot sites in our service region are in Macon and Piatt Counties. Thankful for the partnership of Macon/Piatt Regional Office of Education, Illinois Education Association – Region 10, and Education Coalition of Macon County.
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CHILDREN'S
FUTURES
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Questions?