Social Determinants of Health: Oklahoma as an Epicenter

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Social Determinants of Health

“The World Health Organization Commission defined social determinants of health as the conditions in which people are born, grow, live, work and age, including the health system.”

“The structural determinants and conditions of daily life constitute the social determinants of health and are responsible for a major part of health inequities between and within countries”

Oklahoma Context

Dust Storm Approaching at 60 mi per hr.

OKLAHOMA 1935

Severe Weather

70 MPH Wind
Tennis Ball Size Hail
Low Tornado Threat

Racing The Negro Out of Tulsa June 1921

Tornado waste
Current Oklahoma Reality
Policy

- Budget crisis
- NO Medicaid expansion
- Safety net: EITC under threat
- Education cuts
- Infrastructure, environment
Oklahoma is consistently ranked near the bottom of bridges by having the worst bridges in the nation. Structurally deficient bridges are a danger to motorists and have a detrimental impact on the economic growth, especially in rural areas. Oklahoma is planning to repair and build new bridges in the next 5 years to help the state comply with the 1966 National Bridge Act. A new report released by Oklahoma’s Infrastructure Commission showed that the state is making progress in reducing structurally deficient bridges. Oklahoma has a goal of reducing the number of structurally deficient bridges by 20% in the next 5 years.

**Oklahoma Infrastructure Grades**

<table>
<thead>
<tr>
<th>State</th>
<th>Access to Care Rank</th>
<th>Access to Care Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alaska</td>
<td>35</td>
<td>D</td>
</tr>
<tr>
<td>Arizona</td>
<td>37</td>
<td>D</td>
</tr>
<tr>
<td>Arkansas</td>
<td>42</td>
<td>F</td>
</tr>
<tr>
<td>California</td>
<td>14</td>
<td>B</td>
</tr>
<tr>
<td>Colorado</td>
<td>37</td>
<td>F</td>
</tr>
<tr>
<td>Connecticut</td>
<td>1</td>
<td>D</td>
</tr>
<tr>
<td>Delaware</td>
<td>2</td>
<td>A</td>
</tr>
<tr>
<td>Florida</td>
<td>36</td>
<td>D</td>
</tr>
<tr>
<td>Georgia</td>
<td>31</td>
<td>F</td>
</tr>
<tr>
<td>Hawaii</td>
<td>11</td>
<td>D</td>
</tr>
<tr>
<td>Idaho</td>
<td>5</td>
<td>F</td>
</tr>
<tr>
<td>Illinois</td>
<td>17</td>
<td>F</td>
</tr>
<tr>
<td>Indiana</td>
<td>44</td>
<td>F</td>
</tr>
<tr>
<td>Iowa</td>
<td>19</td>
<td>F</td>
</tr>
<tr>
<td>Kansas</td>
<td>29</td>
<td>C</td>
</tr>
<tr>
<td>Kentucky</td>
<td>28</td>
<td>C</td>
</tr>
<tr>
<td>Louisiana</td>
<td>32</td>
<td>A</td>
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<td>Maine</td>
<td>9</td>
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<td>Maryland</td>
<td>19</td>
<td>A</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>1</td>
<td>F</td>
</tr>
<tr>
<td>Michigan</td>
<td>14</td>
<td>B</td>
</tr>
<tr>
<td>Minnesota</td>
<td>16</td>
<td>C</td>
</tr>
<tr>
<td>Mississippi</td>
<td>4</td>
<td>D</td>
</tr>
<tr>
<td>Missouri</td>
<td>35</td>
<td>D</td>
</tr>
<tr>
<td>Montana</td>
<td>3</td>
<td>A</td>
</tr>
</tbody>
</table>

**5-kW Solar Payback Timer**

- **15 Years**
- **Investment Return (IRR): 6.5%**

**Highest Women’s Life Expectancy at Birth**

1. Hawaii
2. Minnesota
3. California
4. Connecticut
5. New York

**Lowest Women’s Life Expectancy at Birth**

1. T-47. Kentucky
2. T-47. Oklahoma
3. 49. Alabama
4. 50. West Virginia
5. 51. Mississippi
Environment

• Drought & Water Quality
  • Rising temperatures, crops – put strain on demand for water
  • Funds for water treatment, pumps, pipes
  • Fracking may impact water quality

• Natural disasters

• Fracking & Earthquakes
  • OK had 238 earthquakes in 2013, versus 20 in 2009

• Pollution
  • OKC and Tulsa are among 25 American cities with highest levels of ozone pollution
## Poverty

Below the poverty line = income below ($23,834 for a family of four)

<table>
<thead>
<tr>
<th>OKLAHOMA RANK</th>
<th>% of OKLAHOMA POPULATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>34th in percentage of people below the poverty line</td>
<td>16.8%</td>
</tr>
<tr>
<td>36th in percentage of children below the poverty line</td>
<td>23.5%</td>
</tr>
<tr>
<td>37th in percentage of working age women with incomes below poverty line</td>
<td>18.3%</td>
</tr>
</tbody>
</table>
Specific Consequences of Poverty in Oklahoma

• **Teen Pregnancy**
  - Oklahoma ranked 50th in number of teen births per 1000 women

• **No Health Insurance**
  - Ranked 46th in health insurance coverage, 31.7% of Oklahomans not covered

• **School Drop-Out**
  - Roughly 18% of students in Oklahoma do not graduate from high school

• **Incarceration**
  - Oklahoma leads the nation and the world in the rate of female incarcerations
Teen Pregnancy

OKLAHOMA TEENS GIVING BIRTH

- Asian: 1%
- Black: 13%
- Hispanic: 16%
- American Indian: 17%
- White: 69%

1% Ages 13-14
30% Ages 15-17
69% Ages 18-19

Source: 2008 figures, Oklahoma Institute for Child Advocacy (OICA)
Birth rate for females aged 15-19 by state: United States 2012

Birth Rate

- 10.0 - 20.0
- 20.1 - 30.0
- 30.1 - 40.0
- 40.1 - 50.0

U.S. Average 29.4
Oklahoma 47.3

Birth Rate = the number of live births per 1,000 females aged 15-19.
18% of high school students have had sex with four or more people during their life.

Among high school students who had sex during the 3 months before the survey, 58% used a condom during last sexual intercourse.

50% of high school students have had sex.
FOOD & HUNGER

food insecurity in the US

what is food security?
“access by all people at all times to enough food for an active, healthy life”

USDA

US households by food security status (%)

42% of households that live below the poverty line are food insecure

21% of households with children are not food secure

17.7% of households within principal cities are not food secure

49.1 million people live in food insecure households...

more than 16.4% of the population

US states with the highest rates of food insecurity:

Mississippi 17.9%
Texas 16.3%
Arkansas 15.9%

US states with the lowest rates of food insecurity:

North Dakota 6.9%
Massachusetts 8.3%
Virginia 8.6%

14.6% of all US households are food insecure

6 - 8.9% of households
11 - 13.9% of households
14% of households

2011 Food Insecurity & Food Cost in the US

Oklahoma

Food Insecurity Rate

17.2% of state population
Number of food insecure people: 653,820
National average food insecurity rate: 16.4%

Income Bands Within Food Insecure Population

Charitable Response: 46%
Reduced Price School Meals, WIC: 15%
SNAP, Free School Meals, CSFP (Seniors): 39%

Average Cost of a Meal

$2.58
*National average cost of a meal is $2.67

Five counties with the highest food insecurity rates:
- McCurtain
- Choctaw
- Okfuskee
- Okmulgee
- Comanche

Food Insecurity Rates

- 30% and above
- 25% - 29%
- 20% - 24%
- 15% - 19%
- 4% - 14%
Five top-performing states reached at least one in four of their low-income children in July 2013, when comparing Summer Nutrition participation to regular school-year free and reduced price lunch numbers: the District of Columbia, New Mexico, New York, Connecticut, and Vermont.

Eleven states fed summer meals to fewer than one in ten of their low-income children in July 2013. Oklahoma, Mississippi, and Nevada were the three lowest-performing states, and each had a 2013 ratio even worse than in the previous year.
Mental Health & Substance Abuse

Serious mental illness in the past year among people age 18 or older

Percentages, annual averages based on 2011 and 2012 surveys

Percentages of people
- 4.66% - 5.48%
- 4.34% - 4.65%
- 4% - 4.33%
- 3.67% - 3.99%
- 3.05% - 3.66%

SOURCE: SAMHSA, CENTER FOR BEHAVIORAL HEALTH STATISTICS AND QUALITY, NATIONAL SURVEYS ON DRUG USE AND HEALTH, 2011 (REVISED OCTOBER 2013) AND 2012
SUICIDE: OKLAHOMA 2015 FACTS & FIGURES

**Suicide Death Rates**

<table>
<thead>
<tr>
<th></th>
<th>Number of Deaths by Suicide</th>
<th>Rate per 100,000 Population</th>
<th>State Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oklahoma</td>
<td>665</td>
<td>17.28</td>
<td>12</td>
</tr>
<tr>
<td>Nationally</td>
<td>41,149</td>
<td>12.57</td>
<td></td>
</tr>
</tbody>
</table>

Suicide cost Oklahoma a total of $778,731,000 of combined lifetime medical and work loss cost in 2010, or an average of $1,260,082 per suicide death.

In Oklahoma, suicide is the...
- 2nd leading cause of death for ages 10-34
- 4th leading cause of death for ages 35-44
- 5th leading cause of death for ages 45-54
- 8th leading cause of death for ages 55-64
- 16th leading cause of death for ages 65 & older

Suicide is the 9th leading cause of death overall in Oklahoma.

On average, one person dies by suicide every 13 hours in the state.

Over twice as many people die by suicide in Oklahoma annually than by homicide; the total deaths to suicide reflect a total of 13,761 years of potential life lost (YPLL) before age 65.

Based on most recent 2013 data from CDC

In a single-day count in 2013, 16,700 individuals in Oklahoma were enrolled in substance use treatment—an increase from 14,929 individuals in 2009.
Methamphetamine Epidemic

Oklahoma is No. 3 in the nation in per capita use of meth. Our meth use is 240% greater than the national average. 

Since 2004, 979 meth labs have been discovered in Tulsa County — more than any other county in the nation. SOURCE: CNN Money Map
Meth’s affliction felt in nation’s heartland

In 2004, authorities made nearly 16,000 seizures related to clandestine methamphetamine labs, many of which were in the Midwest. The meth epidemic affects both cities and rural areas, where meth “cookers” have more space to operate undetected.

Law enforcement seizures of methamphetamine labs, by state

NOTE: Includes seizures of labs, dump sites, chemicals and equipment

[Map showing the number of seizures per 100,000 population by state, with states shaded in different colors indicating the number of seizures.

Actual number of seizures: 673

United States*: Includes one seizure in Guam

SOURCE: Drug Enforcement Agency
Meth abuse rises sharply in a decade

A recent report showed that the number of methamphetamine users who sought treatment in the United States quadrupled from 1993 to 2003.

Methamphetamine/amphetamine admission rate per 100,000 aged 12 and older, 2003

SOURCE: U.S. Substance Abuse and Mental Health Services AP
METHAMPHETAMINE INCIDENTS

These numbers include methamphetamine laboratories, chemical/equipment/glassware seizures and dumpsites.

National meth incidents

Top 10 states for meth incidents in 2013

<table>
<thead>
<tr>
<th>State</th>
<th>Incidents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indiana</td>
<td>1,797</td>
</tr>
<tr>
<td>Tennessee</td>
<td>1,616</td>
</tr>
<tr>
<td>Missouri</td>
<td>1,495</td>
</tr>
<tr>
<td>Ohio</td>
<td>1,010</td>
</tr>
<tr>
<td>Illinois</td>
<td>673</td>
</tr>
<tr>
<td>Michigan</td>
<td>607</td>
</tr>
<tr>
<td>North Carolina</td>
<td>568</td>
</tr>
<tr>
<td>Kentucky</td>
<td>495</td>
</tr>
<tr>
<td>Oklahoma</td>
<td>436</td>
</tr>
<tr>
<td>South Carolina</td>
<td>397</td>
</tr>
</tbody>
</table>
Human & Child Trafficking, The Opioid Connection

Location of Sex Trafficking Cases Involving U.S. Citizens Reported to NHTRC and BeFree (2014)
Interpersonal Violence

Domestic violence in Oklahoma

Oklahoma women rank No. 1 in the U.S.
The ranking is based on prevalence of rape, physical violence, and/or stalking by a partner in their lifetime.

ESTIMATED NUMBER OF VICTIMS
697,000

REPORTS OF DOMESTIC VIOLENCE, 2013
22,801

Maximum time in jail for first domestic abuse conviction
1 year

Number of domestic violence shelters
29

Top 3 states for homicide rate per 100,000 women for 2012

Alaska
2.57

South Carolina
2.06

Oklahoma
2.03

Average number of domestic abuse reports from ’94 to ’13

Most common offense
Assault and battery, between 8 and 9 p.m. on Sunday

Total number of hotline calls
15,214

Total number of women turned away from shelter because of capacity
2,488

SOURCES: U.S. CENTERS FOR DISEASE CONTROL AND PREVENTION, OKLAHOMA STATE BUREAU OF INVESTIGATION, OKLAHOMA DOMESTIC VIOLENCE FATALITY REVIEW BOARD, OKLAHOMA ATTORNEY GENERAL’S OFFICE.
ACEs in Oklahoma

Prevalence of Children Ages 0-17, by State, Who Experienced Two or More of the Nine Adverse Childhood Experiences Evaluated in the 2011-12 National Survey of Children’s Health

ACEs in Oklahoma had the highest percent of children experiencing two or more ACEs (33%).

Incarceration Rates Around the World

Number of People in Prison per 100,000 population

No Country Incarcerates More Women Than The U.S.
Top 10 countries with the largest number of female prisoners in 2013

- **USA**: 201,200 (8.8%)
- **Brazil**: 35,596 (6.9%)
- **Mexico**: 10,072 (4.5%)
- **Ukraine**: 9,697 (6.1%)
- **Russia**: 59,002 (7.8%)
- **China**: 84,600 (5.1%)
- **Thailand**: 29,175 (14.6%)
- **Vietnam**: 12,591 (11.6%)
- **India**: 15,406 (4.1%)
- **Philippines**: 7,826 (8.1%)

Source: International Centre for Prison Studies
US Rate Per 1000: 69
OK Rate Per 1000: 134

Female incarceration rates
Female inmates per 100,000 population

Source: Oklahoma Department of Corrections

DAVID HOUSH/Tulsa World
Mental Health Services Versus Jail

https://www.ok.gov/doc/Organization/Administrative_Operations/Health_Services/Mental_Health_Services/
Mental Illness in Prison: a Gender Divide

Depression-related disorders were the most common mental illnesses diagnosed to male and female inmates in Oklahoma. The second most common diagnosis for women was PTSD, which affected women at about five times the rate of men.

**Female Inmates**

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Percent of Inmates Diagnosed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depressive Disorder</td>
<td>25</td>
</tr>
<tr>
<td>PTSD</td>
<td>18</td>
</tr>
<tr>
<td>Anxiety Disorder</td>
<td>13</td>
</tr>
<tr>
<td>Bipolar Affective Disorder</td>
<td>10</td>
</tr>
<tr>
<td>Dysthymic Disorder</td>
<td>8</td>
</tr>
<tr>
<td>Schizoaffective Disorder</td>
<td>5</td>
</tr>
</tbody>
</table>

**Male Inmates**

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Percent of Inmates Diagnosed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depressive Disorder</td>
<td>15</td>
</tr>
<tr>
<td>Mood Disorder</td>
<td>10</td>
</tr>
<tr>
<td>Anxiety Disorder</td>
<td>8</td>
</tr>
<tr>
<td>Antisocial Personality Disorder</td>
<td>6</td>
</tr>
<tr>
<td>Schizoaffective Disorder</td>
<td>4</td>
</tr>
<tr>
<td>PTSD</td>
<td>3</td>
</tr>
</tbody>
</table>

Source: March 2015 data from Oklahoma Department of Corrections.
Health Outcomes

Heart Disease and Stroke Risk Factors among Adults - Oklahoma Compared with United States

- Diabetes: Oklahoma 10.2%, Nationwide 8.0%
- Cigarette Smoking: Oklahoma 9.8%, Nationwide 25.8%
- High Blood Pressure: Oklahoma 31.5%, Nationwide 27.8%
- High Total Blood Cholesterol: Oklahoma 41.0%, Nationwide 37.8%
- No moderate or vigorous physical activity: Oklahoma 64.5%, Nationwide 50.5%
- Overweight or Obese: Oklahoma 65.1%, Nationwide 62.9%
- Eat fruits and vegetables less than 5 times/day: Oklahoma 83.7%, Nationwide 75.6%

Obesity in Oklahoma

**Adult obesity**

Current adult obesity rate: 32.5%

Rank among states: 6th

**Childhood obesity**

10- to 17-year-olds

Current obesity rate 2011: 17.4%

Rank among states 2011: 14th

High school students

Current obesity rate 2013: 11.8%

Rank among states 2013: 26th

**Obesity rate by gender**

- Men: 2012 - 33.1%
- Women: 2012 - 31.4%

**Obesity rate by age**

- 18-25: 23.8%
- 26-44: 2013 - 26.7%
- 45-64: 2013 - 33.5%
- 65+: 2013 - 36.9%

**Obesity rate by race**

- White: 2013 - 31%
- Black: 2013 - 38.7%
- Latino: 2013 - 31.3%

**Source:**

Rich State  Poor State  Slim State  Fat State?

The face of U.S. poverty isn’t gaunt cheeks, but wide hips. Obesity is highest in the poorest states.

SOURCE: U.S. Census Bureau and stateofobesity.org/adult-obesity
Prevalence of Chronic Disease by State

- Top 25% (lowest disease rate)
- Second 25%
- Third 25%
- Bottom 25% (highest disease rate)
Life Expectancy

Short Distances to Large Gaps in Health

Life expectancy at birth (years)

Shorter    Longer
ZIP code snapshot
Here's how the two ZIP codes compared from 2011-2013.

74137
$81,322 – median household income
8.8 – percent of the population below poverty
80.4 – life expectancy

74126
$25,191 – median household income
38.2 – percent below poverty
69.7 – life expectancy

Source: Tulsa Health Department
Recent Headlines

*A premature and unnatural death in rural Oklahoma* Washington Post
Elin Saslow April 8, 2016

*The rich live longer everywhere. For the poor, geography matters.* Neil Irwin and Quoctrung Bui April 11, 2016
The Rich Live Longer Everywhere. For the Poor, Geography Matters.

By NEIL IRWIN and QUOC TRUNG BUI  APRIL 11, 2016

Life expectancy of 40-year-olds with household incomes below $28,000, adjusted for race.¹
Life expectancy of 40-year-olds with household incomes below $28,000, adjusted for race: Tulsa & OKC

On average, the life expectancy for a poor 40-year-old in the Oklahoma City area is 77.6 years. It is worse than most places in the U.S. for life expectancy for the poor.

On average, the life expectancy for a poor 40-year-old in the Tulsa area is 77.6 years. It is worse than most places in the U.S. for life expectancy for the poor.
There is a gap between the rich and poor...

• Those in households making more than $100,000 per year — and poor:

• In the Oklahoma City area, the poor will die about 8 years before the rich. That’s roughly equivalent to the difference in life expectancy between an average man in the United States and one in Liberia. It is about 1.5 years more than the gap for the United States as a whole.

• In the Tulsa area, the poor will die about 8 years before the rich. That’s roughly equivalent to the difference in life expectancy between an average man in the United States and one in Afghanistan. It is about 1 years more than the gap for the United States as a whole.
Life expectancies for the poor in the Tulsa area have worsened since 2001 by about 0.1 years. Life expectancies increased in most other places.
Unnatural causes sick and dying in small town America
A new divide in American death

Among white women ages 40 to 44, rural women are dying at drastically higher rates while the rate for urban women stayed steady.
What killed Jones was cirrhosis of the liver brought on by heavy drinking. The exact culprit was vodka, whatever brand was on sale, poured into a pint glass eight ounces at a time. But, as Anna’s family gathered at the gravesite for a final memorial, they wondered instead about the root causes, which were harder to diagnose and more difficult to solve.
“White women between 25 and 55 have been dying at accelerating rates over the past decade, a spike in mortality not seen since the AIDS epidemic in the early 1980s. According to recent studies of death certificates, the trend is worse for women in the center of the United States, worse still in rural areas, and worst of all for those in the lower middle class. Drug and alcohol overdose rates for working-age white women have quadrupled. Suicides are up by as much as 50 percent.”

Two Studies: Data Collection

<table>
<thead>
<tr>
<th>Study</th>
<th>N</th>
<th>Sample</th>
<th>Linked to</th>
</tr>
</thead>
<tbody>
<tr>
<td>OU-Tulsa, School of Community Medicine</td>
<td>354</td>
<td>Clinic patients, adults</td>
<td>Electronic Medical Record data: health conditions, medications, history</td>
</tr>
<tr>
<td>Clinic Survey</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Educare Survey: Family Life and Stress</td>
<td>338</td>
<td>Parents of children enrolled in Tulsa Educare</td>
<td>Educared data: Parent interviews Teacher observations AND Cortisol sample from children</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>692</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
OU Clinic Patients: ACEs

Verbal abuse 42%
Physical abuse 32%
Sexual abuse 27%
Familial ties 34%
Basic needs unmet 20%
Witness IPV 25%
Sep/Divorce 41%
Alcohol/drugs 37%
Mental illness 27%
Prison 18%

0 or 1: 35.7%
2 to 4: 34.2%
5+: 30.1%
Educare Parents: ACEs

% Parents Experiencing 0-1 ace, 2-4 aces, 5 or more aces

- Verbal abuse: 20%
- Physical abuse: 14%
- Sexual abuse: 11%
- Familial ties: 22%
- Basic Needs Unmet: 9%
- Witness IPV: 11%
- Sep/Divorce: 47%
- Alcohol/drugs: 21%
- Mental illness: 10%
- Prison: 17%
Clinic Sample: Health Care Barriers

- **23%** currently uninsured
- **50%** needed HC, no insurance
- **36%** experienced time without insurance, last 12 months
- **37%** reported someone in the HH went without needed HC
- **54%** needed care, no money
- **54%** needed care, no insurance
- **52%** used ER, no regular doctor
- **58%** report medical debt
- **7%** used payday lender for medical debt
## Combined Data: Access to Health Care

<table>
<thead>
<tr>
<th># of ACEs</th>
<th>N</th>
<th>Health Care Barriers, Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-1</td>
<td>319</td>
<td>2.29 (1.59)*</td>
</tr>
<tr>
<td>2-4</td>
<td>217</td>
<td>3.22 (1.57)*</td>
</tr>
<tr>
<td>4 or above</td>
<td>140</td>
<td>3.84 (1.65)*</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Doctor Regularly as a Child?*</th>
<th>N</th>
<th>ACE Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>234</td>
<td>2.95</td>
</tr>
<tr>
<td>Yes</td>
<td>419</td>
<td>2.25</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dentist Regularly as a child?*</th>
<th>N</th>
<th>ACE Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>289</td>
<td>3.07</td>
</tr>
<tr>
<td>Yes</td>
<td>363</td>
<td>2.02</td>
</tr>
</tbody>
</table>

* Statistically significant difference
<table>
<thead>
<tr>
<th>Health Care Barriers</th>
<th>N</th>
<th>Mean Ace Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did you need health care but not get it because you did not have money?*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>360</td>
<td>1.84</td>
</tr>
<tr>
<td>Yes</td>
<td>304</td>
<td>3.21</td>
</tr>
<tr>
<td>Did you use the ER because you did not have a regular doctor?*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>366</td>
<td>1.96</td>
</tr>
<tr>
<td>Yes</td>
<td>300</td>
<td>3.10</td>
</tr>
<tr>
<td>Do you have medical debt?*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>312</td>
<td>1.84</td>
</tr>
<tr>
<td>Yes</td>
<td>359</td>
<td>3.00</td>
</tr>
<tr>
<td>Did you use a payday lender to help cover medical costs?*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>615</td>
<td>2.36</td>
</tr>
<tr>
<td>Yes</td>
<td>54</td>
<td>3.69</td>
</tr>
<tr>
<td>Needed health care but no health insurance?*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>404</td>
<td>1.92</td>
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<tr>
<td>Yes</td>
<td>262</td>
<td>3.33</td>
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Classic ACE Triangle

Adverse Childhood Experiences

Impaired bio/neurological functioning

Impaired social, cognitive, emotional functioning

Problematic behaviors

Chronic disease and conditions

Early death

Classic ACE Triangle
Expand the Focus of Interventions

Most programs address observable behaviors and conditions stemming from ACEs.

- Early death
- Chronic disease and conditions
- Problematic behaviors
- Impaired social, cognitive, emotional functioning
- Impaired bio/neurological functioning

Preparatory interventions

Traditional interventions

Prevention

Adverse Childhood Experiences
Expand the Focus of Intervention

Stressed adults, who have experienced trauma in past and current life, may not respond well to educational or behavioral interventions. Most programs address observable behaviors and conditions stemming from ACEs. Stressed adults, who have experienced trauma in past and current life, may not respond well to educational or behavioral interventions. These interventions are needed, but they come late (not primary prevention) and stressed adults may not be ready to participate & also have little impact on generational change.
Expand the Focus of Interventions

Interventions target what we know re: stress research, ACE studies, animal models: Biological imbedding of toxic stress, elevated cortisol levels, changes in brain structure & function.

Most programs address observable behaviors and 'behavioral' streams from ACEs.

Impaired social, cognitive & emotional functioning

Problematic behaviors

Chronic disease and death

Early death

Adverse Childhood Experiences

Preparatory interventions

Traditional interventions
Siloed Approaches to Connected Problems

Cognitive

Social/Emotional

Physical

Educators

Mental health Families

Doctors
Breaking Silos, Location of Care

School System

Educators

Mental health Families

Health care practitioners

MH System, Family Support Services

Cognitive

Emotional

Physical

Social/Emotional

Mental health

Families

Doctors

School System

MH System, Family Support Services

Educators

Mental health Families

Health care practitioners

MH System, Family Support Services
Acknowledgements & Collaborators

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Associate Professor, Director of Research
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<table>
<thead>
<tr>
<th>Study</th>
<th>Investigators</th>
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<tbody>
<tr>
<td>OU-Tulsa, School of Community Medicine Clinic Survey</td>
<td>Marty Jelley, MD; Frances Wen, PhD; Kim Coon, Ed; Julie Miller-Cribbs, PhD; Jennifer Hays-Grudo, PhD</td>
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<tr>
<td>Educare Survey: Family Life and Stress</td>
<td>Jennifer Hays-Grudo, PhD; Diane Horm, PhD; Kent Teague, PhD; Julie Miller-Cribbs, PhD</td>
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<tr>
<td>Homeless Youth &amp; trust of medical providers</td>
<td>Munoz, R.T., Brahm, N.C. &amp; Fox, M.D.</td>
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<td>Residents in public housing, community health</td>
<td>Ric Munoz, MSW &amp; Mark Fox, MD</td>
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