MEN’S HEALTH NETWORK in collaboration with the Congressional Men’s Health Caucus
Congressmen Markwayne Mullin (OK) and Donald Payne, Jr. (NJ) (Co-Chairs)

Briefing:
Men’s and Boys’ Mental Health Issues:
Gateways to Opioid and Drug Abuse?

Agenda

I. Opening Remarks
   • Ana Fadich, MPH, CHES – Introduction
     Vice President, Men’s Health Network, Chair, APHA Men’s Health Caucus
   • Congressman Donald Payne, Jr. (Confirmed), Tenth District, New Jersey
   • Congressman Markwayne Mullin (Invited), Second District, Oklahoma

II. Speakers
   • Eric Murphy, PhD
     Program Chief
     Depression and Suicide Related Behaviors Program, National Institute of Mental Health (NIMH)
   • Wizdom Powell, PhD, MPH, MS
     Director
     Health Disparities Institute, University of Connecticut
   • Gregory Tau, MD, PhD
     Faculty, Child and Adolescent Psychiatry
     Columbia University Medical Center
   • Nathaniel Counts, JD
     Senior Policy Director
     Mental Health America
Translational Research in Developmental Depression and Suicide Risk

Eric Murphy, Ph.D.
Chief: Depression and Suicide Related Behaviors Program
Division of Translational Research, NIMH
January 30, 2018
Talk Overview

- Defining translational research
- Brain development
  - Healthy
  - Disordered
- Depression and suicide statistics in youth
- Snapshots of ongoing research
- Future areas of interest
Translational Research, Explained via the NIMH Extramural Division Structure

Bench

Neuroscience & Basic Behavioral (DNBBS)

Translational (DTR)

AIDS/HIV (DAR)

Services & Interventions (DSIR)

Practice

Pre-Clinical → Psychopathology, Treatment Development → Effectiveness Services
Brain Development is Protracted

• Brain maturation continues through late adolescence.
• Brain regions develop at different rates, as do associated cognitive abilities.
• Disordered development can interfere with cognitive abilities associated with adaptive functioning, and contribute to mental health issues.

Lenroot & Giedd 2006
Cognitive Development in Adolescence

- Faster development of limbic regions (reward, fear, anger) than prefrontal regions (self-control) during adolescence contributes to risky behavior.
- Atypical development can create imbalance in relationship between limbic and prefrontal regions:
  - Impulsivity
  - Negative Affect
  - Decreased reward response
  - Lack of motivation

Casey, Jones & Hare, 2008
What Could Contribute to Disordered Development?

- Environmental Stressors
  - Trauma
  - Malnutrition
  - Neglect
  - Abuse
  - Poverty
  - In-utero exposures

- Genetic Predisposition

- Many other factors (social environment, gender, age, puberty, etc.)

- Interactions of multiple factors
Depression Rates across Adolescence

Past Year Prevalence of Major Depressive Episode Among U.S. Adolescents (2016)

Data Courtesy of SAMHSA
Depression Rates in Adulthood

Past Year Prevalence of Major Depressive Episode Among U.S. Adults (2016)

Data Courtesy of SAMHSA

<table>
<thead>
<tr>
<th>Sex</th>
<th>Overall</th>
<th>Female</th>
<th>Male</th>
<th>18–25</th>
<th>26–49</th>
<th>50+</th>
<th>Hispanic</th>
<th>White</th>
<th>Black</th>
<th>Asian</th>
<th>NH/OPI***</th>
<th>AI/AN***</th>
<th>2 or More</th>
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</thead>
<tbody>
<tr>
<td>Percent</td>
<td>6.7</td>
<td>8.5</td>
<td>4.8</td>
<td>10.9</td>
<td>7.4</td>
<td>4.8</td>
<td>5.6</td>
<td>7.4</td>
<td>5.0</td>
<td>3.9</td>
<td>7.3</td>
<td>8.7</td>
<td>10.5</td>
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</table>
## Leading Causes of Death Across Lifespan

### Table 1. Leading Causes of Death in the United States (2015)

<table>
<thead>
<tr>
<th>Rank</th>
<th>10-14</th>
<th>15-24</th>
<th>25-34</th>
<th>35-44</th>
<th>45-54</th>
<th>55-64</th>
<th>All Ages</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Unintentional Injury 763</td>
<td>Unintentional Injury 12,514</td>
<td>Unintentional Injury 19,795</td>
<td>Unintentional Injury 17,818</td>
<td>Malignant Neoplasms 43,064</td>
<td>Malignant Neoplasms 116,122</td>
<td>Heart Disease 633,842</td>
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<tr>
<td>2</td>
<td>Malignant Neoplasms 428</td>
<td><strong>Suicide 5,491</strong></td>
<td><strong>Suicide 6,947</strong></td>
<td>Malignant Neoplasms 10,909</td>
<td>Heart Disease 34,248</td>
<td>Heart Disease 76,872</td>
<td>Malignant Neoplasms 595,930</td>
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<tr>
<td>3</td>
<td><strong>Suicide 409</strong></td>
<td>Homicide 4,733</td>
<td>Homicide 4,863</td>
<td>Heart Disease 10,387</td>
<td>Unintentional Injury 21,499</td>
<td>Unintentional Injury 19,488</td>
<td>CLRD 155,041</td>
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<tr>
<td>4</td>
<td>Homicide 158</td>
<td>Malignant Neoplasms 1,469</td>
<td>Malignant Neoplasms 3,704</td>
<td><strong>Suicide 6,936</strong></td>
<td>Liver Disease 8,874</td>
<td>CLRD 17,457</td>
<td>Unintentional Injury 146,571</td>
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<tr>
<td>5</td>
<td>Congenital Anomalies 156</td>
<td>Heart Disease 997</td>
<td>Heart Disease 3,522</td>
<td>Homicide 2,895</td>
<td><strong>Suicide 8,751</strong></td>
<td>Diabetes Mellitus 14,166</td>
<td>Cerebrovascular 140,323</td>
</tr>
<tr>
<td>6</td>
<td>Heart Disease</td>
<td>Congenital Anomalies</td>
<td>Liver Disease</td>
<td>Liver Disease</td>
<td>Diabetes Mellitus</td>
<td>Liver Disease</td>
<td>Alzheimer's Disease</td>
</tr>
</tbody>
</table>

Data courtesy of CDC
Recent and Current NIMH Work

Psychobiological Mechanisms Underlying the Association Between Early Life Stress and Depression Across Adolescence.

• Early Life Stress (ELS) increases risk for later psychopathology, but we still know very little about how or when these stressors influence neural development.

• This study collected ELS info from healthy children, then measured behavior and brain imaging over time in the same individuals.

• Separately evaluates ELS effects on two cognitive domains associated with depression: Stress Reactivity and Reward Sensitivity.
Biomarkers, social, and affective predictors of suicidal thoughts and behaviors in adolescents.

- Adolescents who have been hospitalized for suicidal thoughts and behaviors are highly likely to make a suicide attempt within 6 months of discharge.

- The social context of the family environment that the adolescent returns to can play a large role in alleviating or exacerbating these thoughts.

- In this study, an Electronically Activated Recorder (EAR) carried by the adolescent periodically records the environment. Social context and reactive affect will be used to predict suicidal thoughts and behaviors.

- Will look at whether childhood maltreatment and associated biological signatures enhances relationship between social context and affect.

Nicole Nugent MH105379
Future Areas of Interest

• Proximal risk for suicide: can we tell when someone might transition from thinking about suicide to acting on these thoughts?

• Influence of sleep on mental health.

• Suicidal thoughts and behaviors in younger children.
  ■ Graphs and charts for many mental health disorders
  ■ Links to source data

  ■ Mapping of data nationally or by census region.
Thank you