Addressing Mental Illness through ADHD Research

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THE PROBLEM
Mental Health Crisis

Mental illness, neurodevelopmental, and addiction

23%
THE OHSU APPROACH IS DISTINCTIVE: Addressing the key gateway
ADHD: GATEWAY TO MENTAL ILLNESS

Increased likelihood of different outcomes
ADHD: GATEWAY TO MENTAL ILLNESS

Increased likelihood of different outcomes

CHILD ADHD

- ALCOHOL USE: 75%
- SUICIDE ATTEMPT: 50%
- DEPRESSION: 200%
- PSYCHOSIS/SCHIZOPHRENIA: 300%
- DRUG USE: 80%
ADHD: GATEWAY TO MENTAL ILLNESS

Increased likelihood of different outcomes

*if comorbid disorders
PEOPLE WITH ADHD

• 1 in 20 kids (6 million in US)
• 1 in 40 adults (9 million in US)
• 2x as many boys as girls
• 2/3 worsen over time—contrary to myth
• Similar prevalence worldwide
• Diagnosed by behavior (no blood/brain test)
ADHD: a KEY to solving mental illness
OHSU: OUR STRENGTHS

• TOP SCIENTISTS
  + Technical + staff + collaborators + data bases

• STRONG INSTITUTIONAL RESOURCES

• INNOVATIVE CULTURE
  + Novel imaging + biomarkers + exciting new testing
OUR RESULTS

• Pioneered maps of brain networks
• Discovered maternal blood predictor
• Confirmed effects of multi-nutrient treatment
• New ADHD clinical profiles
OUR DISCOVERIES-1

• New ADHD clinical profiles

- Irritable, angry
- Exuberant, risk-taking
- Inattentive, distracted “mild”
OUR DISCOVERIES-II
Prediction: Who will have worse clinical problems one year later?
OUR DISCOVERIES-II

Prediction: Who will have worse clinical problems one year later?

Non-ADHD
OUR DISCOVERIES-II

Prediction: Who will have worse clinical problems one year later?

Non-ADHD
1 in 10
OUR DISCOVERIES-II

Prediction: Who will have worse clinical problems one year later?

Non-ADHD
1 in 10

ADHD mild
OUR DISCOVERIES-II
Prediction: Who will have worse clinical problems one year later?

Non-ADHD
1 in 10

ADHD mild
1 in 10
OUR DISCOVERIES-II

Prediction: Who will have worse clinical problems one year later?

- Non-ADHD: 1 in 10
- ADHD mild: 1 in 10
- ADHD risk-taking
OUR DISCOVERIES-II
Prediction: Who will have worse clinical problems one year later?

Non-ADHD
1 in 10

ADHD mild
1 in 10

ADHD risk-taking
2.5 in 10
OUR DISCOVERIES-II
Prediction: Who will have worse clinical problems one year later?

Non-ADHD
1 in 10

ADHD mild
1 in 10

ADHD risk-taking
2.5 in 10

ADHD angry
OUR DISCOVERIES-II

Prediction: Who will have worse clinical problems one year later?

- Non-ADHD: 1 in 10
- ADHD mild: 1 in 10
- ADHD risk-taking: 2.5 in 10
- ADHD angry: 4 in 10
OUR DISCOVERIES-III

• Maternal inflammation in pregnancy predicted negative mood and ADHD in offspring

What that means: We might have a reversible cause we can test early in life
OUR DISCOVERIES-IV

• Our groundbreaking North American clinical trial of therapeutic dose micronutrients helped the ADHD highest risk sub-group

• *What that means:* We can test new nutrition-related treatments for specific clinical subgroups

• Potential low cost, safe solutions for some of worst-affected people
VISION

• Confirm preliminary findings
• Identify causes (genes, exposures)
• Expand treatment trials based on recent discoveries
• Improve clinical care and prevention
• Reduce incidence of mental illness
SOLVING MENTAL ILLNESS FROM THE BEGINNING: OHSU’s Center for ADHD is leading the way
Virtuous cycle: Gifts launched studies--stimulating new grants

Cumulative $ Philanthropic and $ Grants (in $millions)

Year

Gifts

Grants