



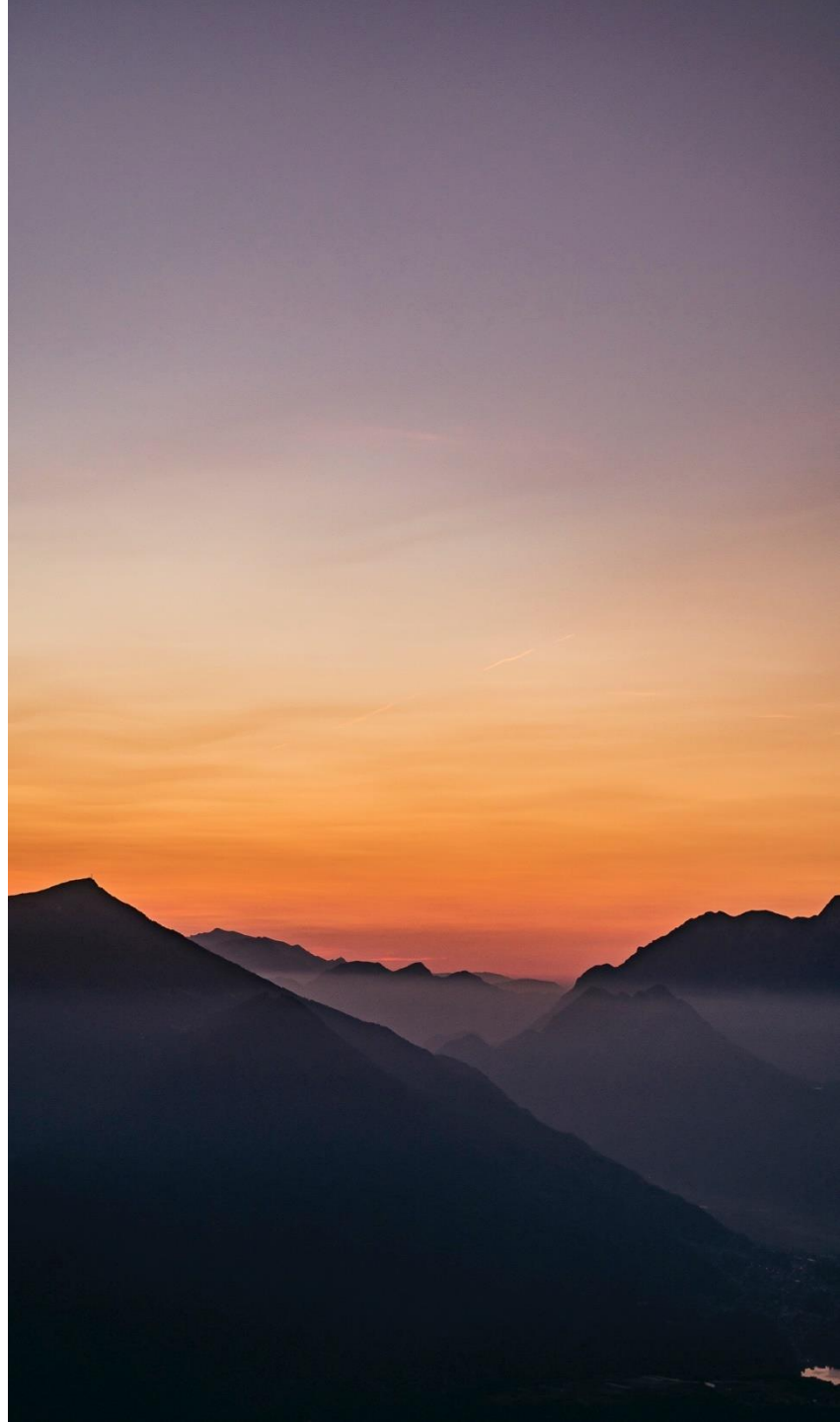
CHILDREN'S MENTAL HEALTH AND THE LIFE COURSE PERSPECTIVE

A Webinar Series Co-Organized by the Life Course Research
Network and the Forum for Children's Well-Being

Challenging Trends for Improving Health Systems to Address Children's Mental Health Risks: A Three Horizons Perspective

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an NIMH-Funded ALACRITY Center
September 16th, 2019



Today's Presentation

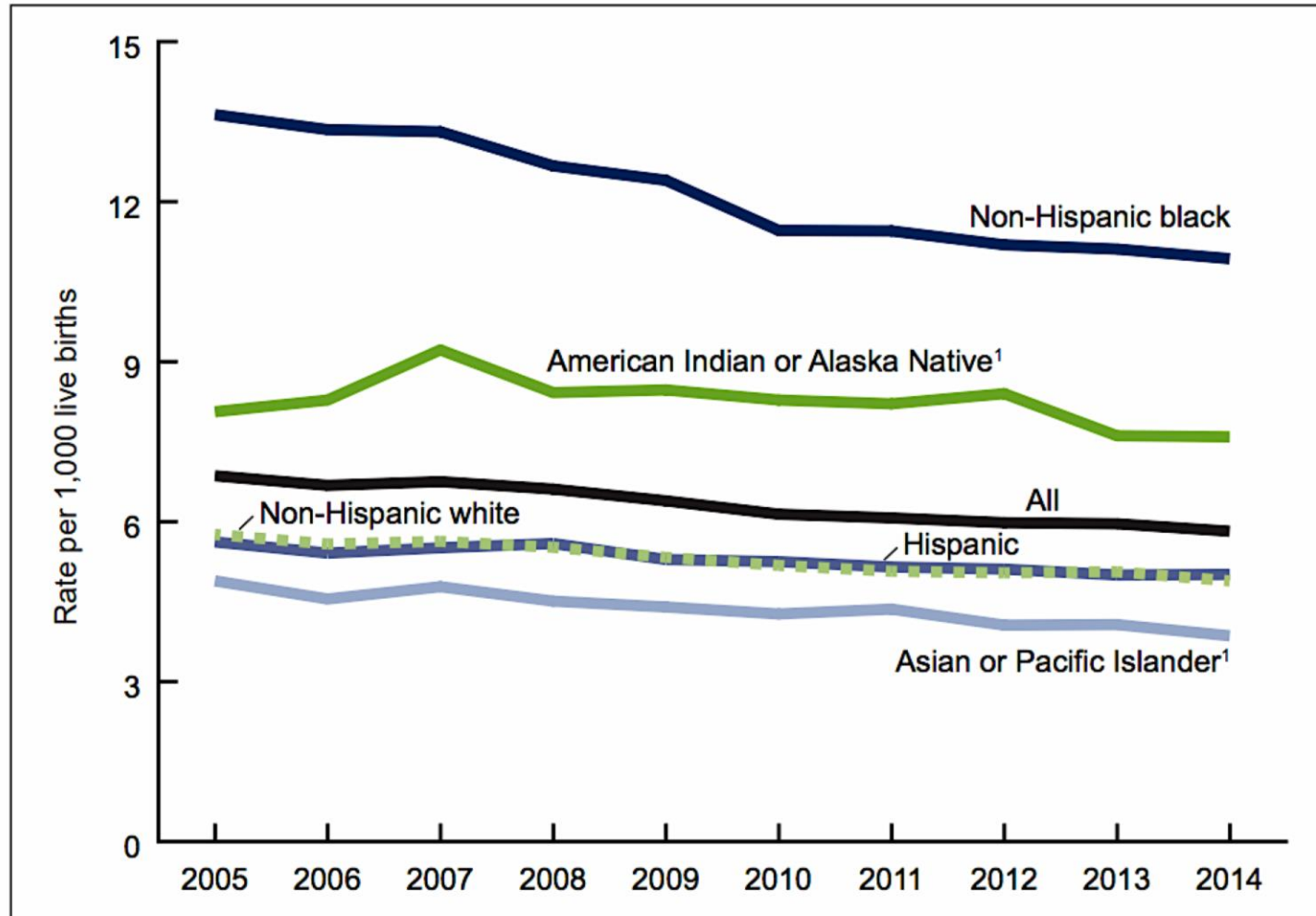
Q1: Trends in children's mental health service needs, use, and disparities

Q2: The three horizon perspective and its application to children's mental health system changes

Q3: Emerging models: Towards improved health systems that promote children's mental health within a life course health and development model

Infant mortality rates have declined over the past decade.

Figure 1. Infant mortality rates, by race and Hispanic origin of mother: United States, 2005–2014



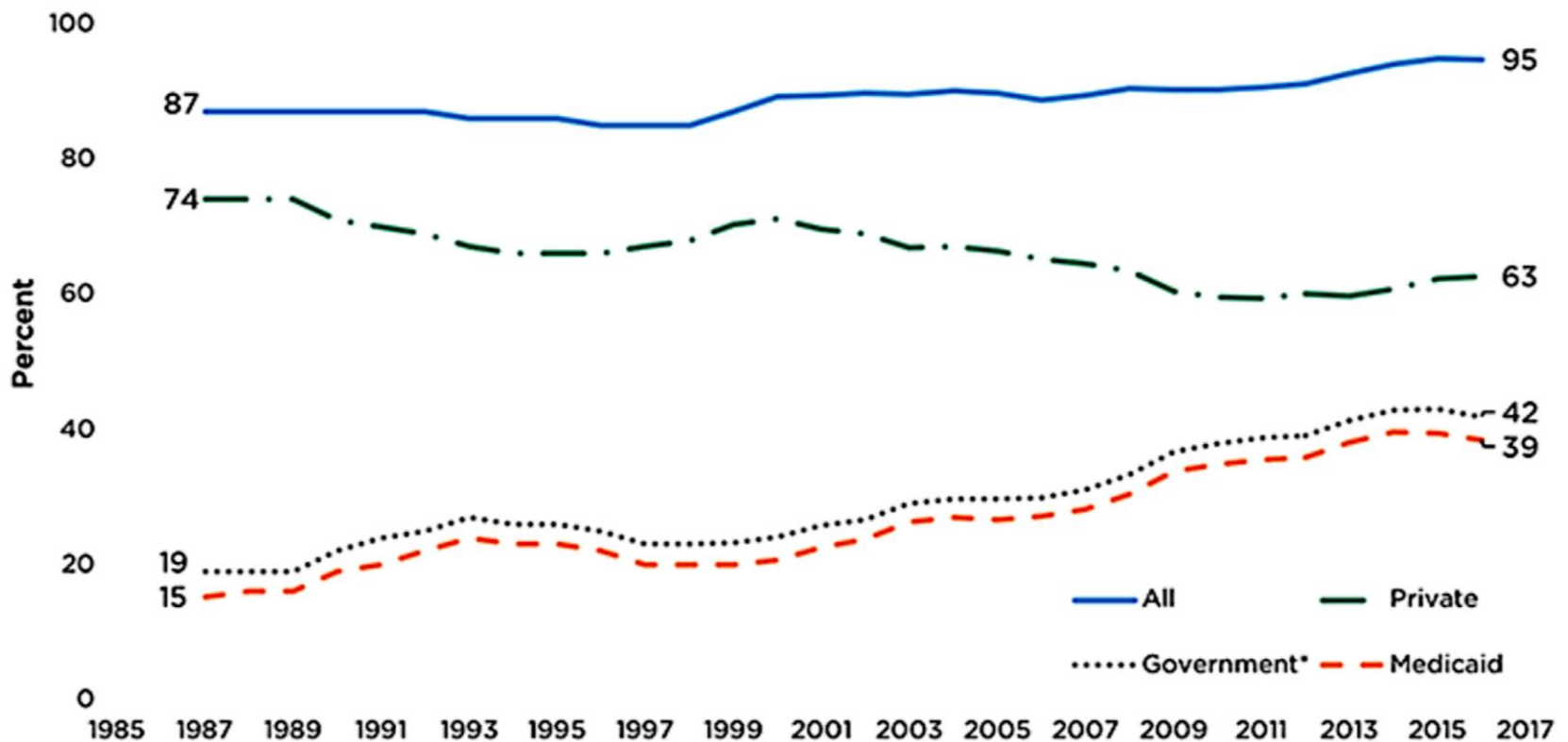
¹Includes persons of Hispanic and non-Hispanic origin.

NOTES: For "All" and each race and Hispanic origin group, the decline in the rate for 2005–2014 is statistically significant ($p < 0.05$). Access data table for Figure 1 at: https://www.cdc.gov/nchs/data/databriefs/db279_table.pdf#1.

SOURCE: NCHS, National Vital Statistics System.

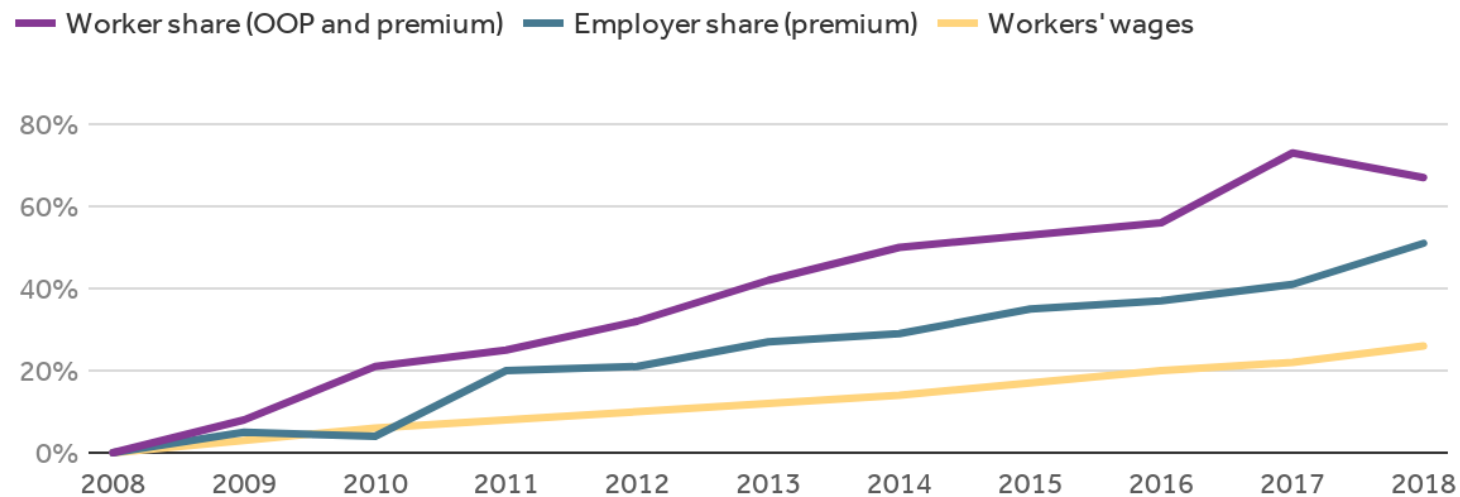
Health Insurance Coverage for Nearly all U.S. Children: 95%

Percentage of Children Covered by Health Insurance At Any Point in the Past Year, by Type of Insurance, Selected Years, 1987-2016¹



Health Care Costs Increasing for Families and their Children

Cumulative growth in premiums and out-of-pocket spending for families with large employer coverage, 2008-2018



Note: Out-of-pocket (OOP) costs are inflated from 2017 to 2018 because data are not yet available. Large employers are those with one thousand or more employees.

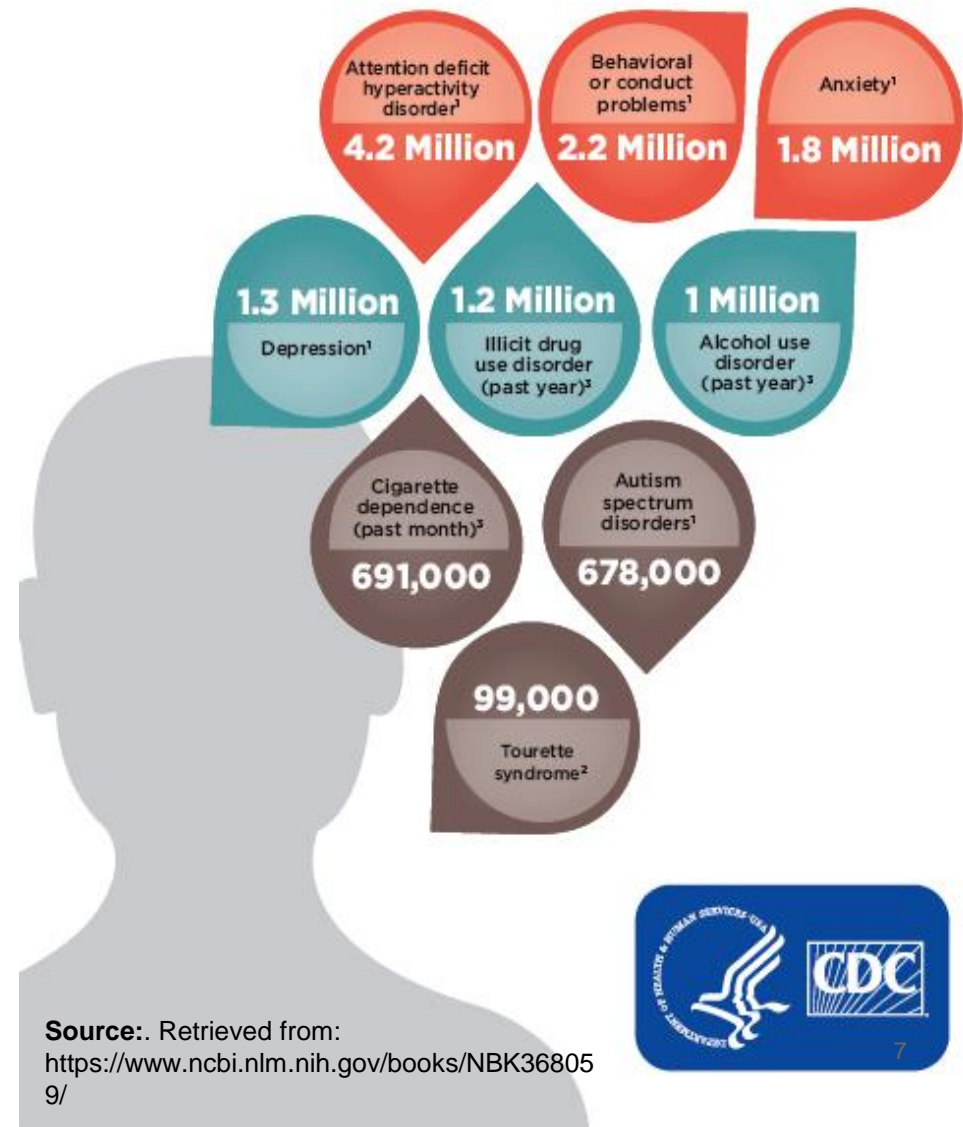
Source: KFF analysis of IBM MarketScan Commercial Claims and Encounters Database and KFF Employer Health Benefits Survey, 2018; Kaiser/HRET Survey of Employer-Sponsored Health Benefits, 1999-2017

Peterson-Kaiser
Health System Tracker

The State of Children's Mental Health: Mental Disorders in U.S. Children

One in **six** U.S. children
between the ages of 6 and
17 has a treatable mental
health disorder (Whitney &
Peterson, 2019)

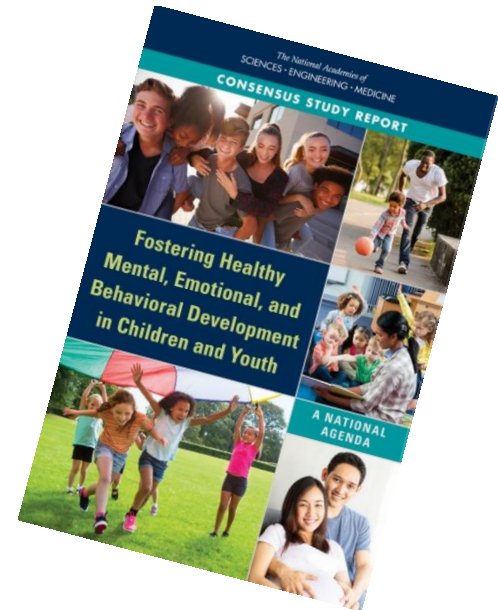
17.1 million
=
young people have or
have had a diagnosable
psychiatric disorder
(Merikangas et al., 2010)



The State of Children's Mental Health:

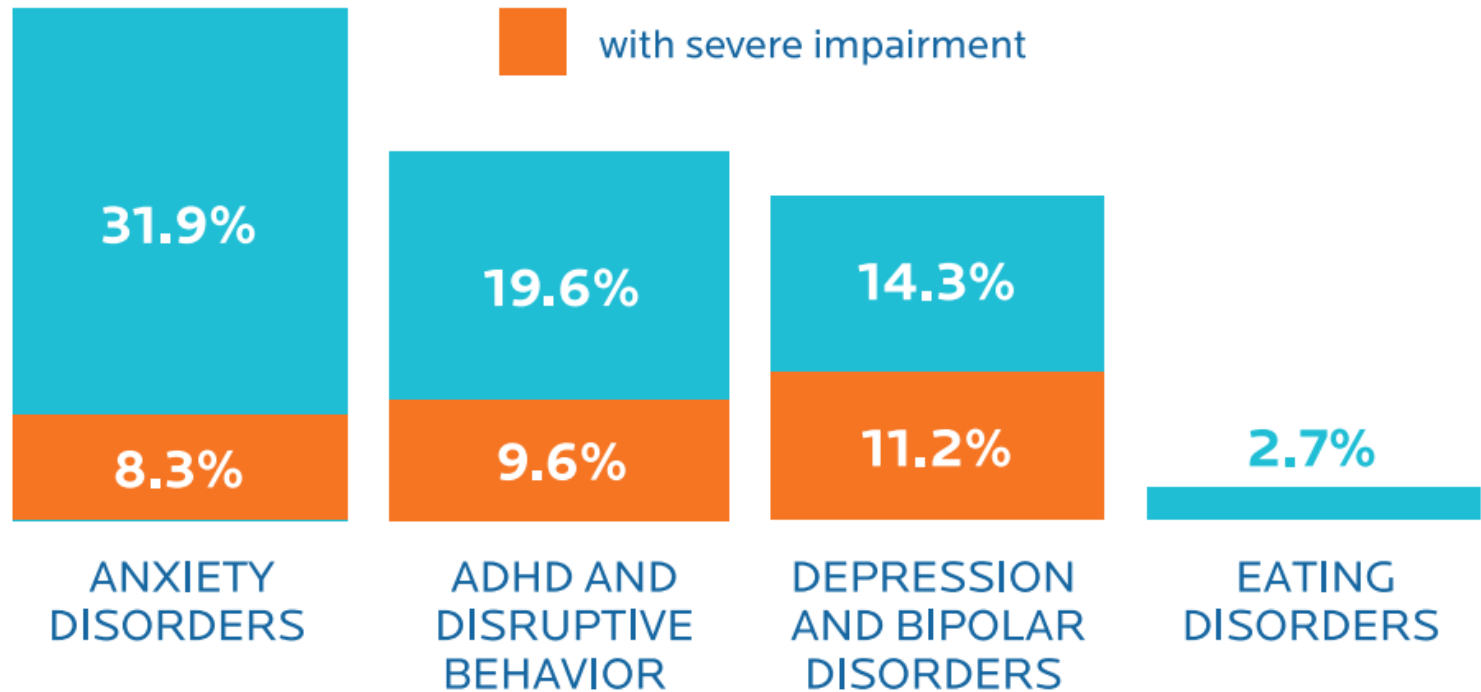
Prevalence Rates for Mental, Emotional and Behavioral Health Disorders

- Anxiety: 31.9 percent
- Behavior disorders: 19.1 percent
- Depression: 14.3 percent
- Substance disorders: 11.4 percent
- Comorbidity: 40 percent
- Suicide: **second** most common cause of death, ages 15-24; **third** most common, ages 10-14



Source: National Academies of Sciences, Engineering, and Medicine. 2019. Fostering Healthy Mental, Emotional, and Behavioral Development in Children and Youth: A National Agenda. Washington, DC: The National Academies Press. <https://doi.org/10.17226/25201>.

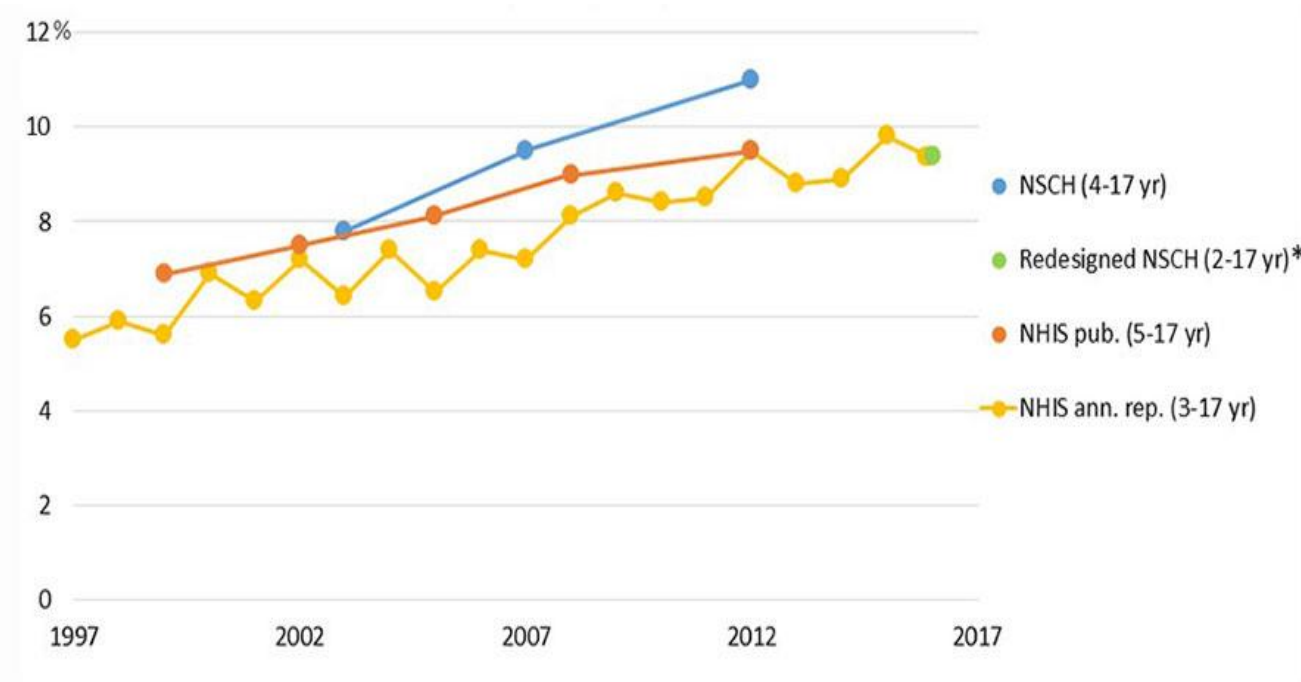
Most Common MH Disorders in Youth



Source: Child Mind Institute, 2015. Merikangas, et al., 2010)

Trends in Attention Deficit/Hyperactivity Disorder Diagnosis (ADHD), 1997-2017

Estimates from published nationally representative survey data (percent of children with a parent-reported ADHD diagnosis)



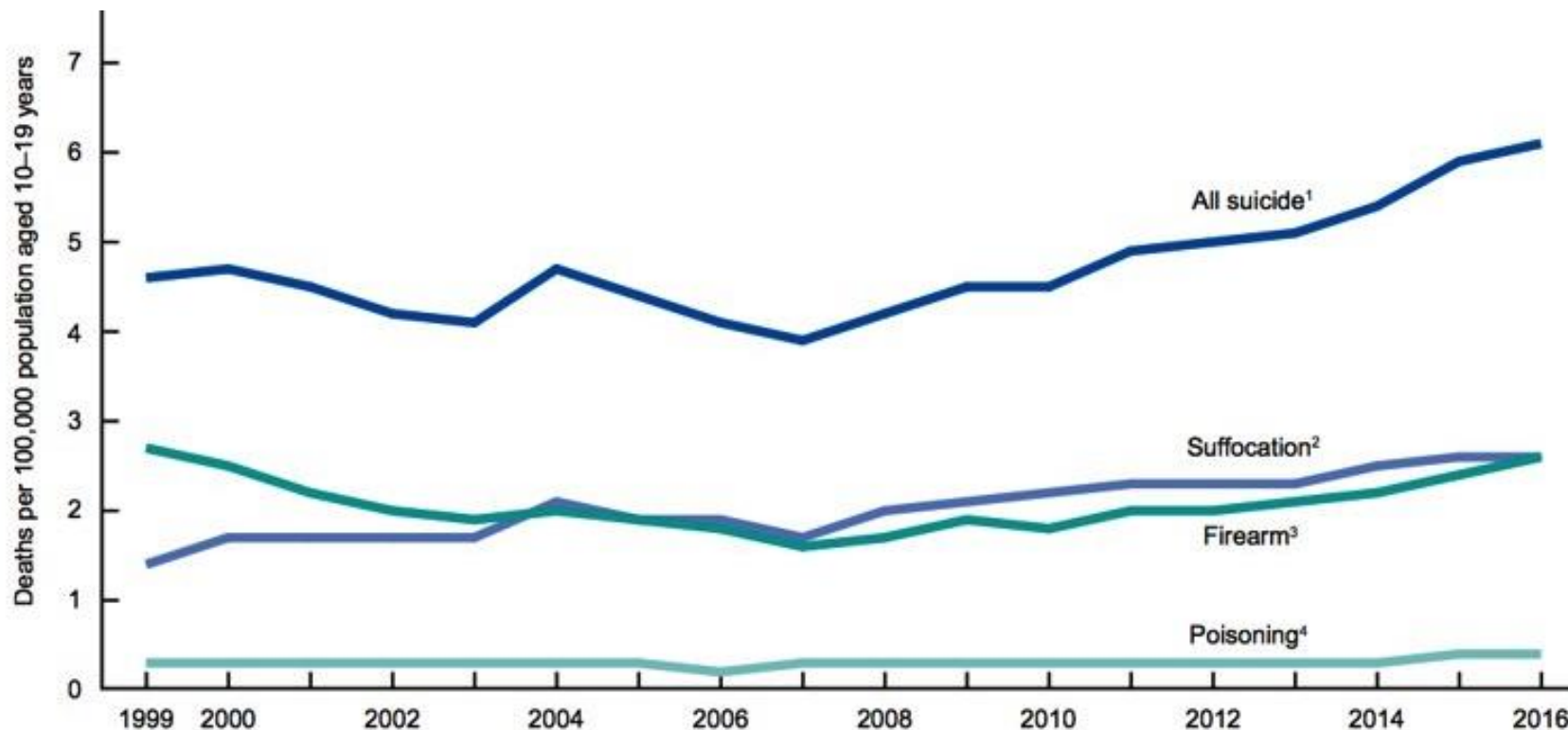
In ~ **70%** of cases, ADHD **co-occurs** with another mental, emotional, or behavioral disorder.

Children with ADHD and co-occurring conditions have **more significant functional impairments**

Source: CDC, 2019. Retrieved from <https://www.cdc.gov/ncbddd/adhd/timeline.html> on 8.29.19. Division of Human Development and Disability, National Center on Birth Defects and Developmental Disabilities, Centers for Disease Control and Prevention

Trends in Youth Suicide Rates: 1999-2016

Deaths per 100,000, ages 10-19



¹Significant decreasing trend from 1999–2007; significant increasing trend from 2007–2016, $p < 0.05$.

²Significant increasing trend from 1999–2016, $p < 0.05$.

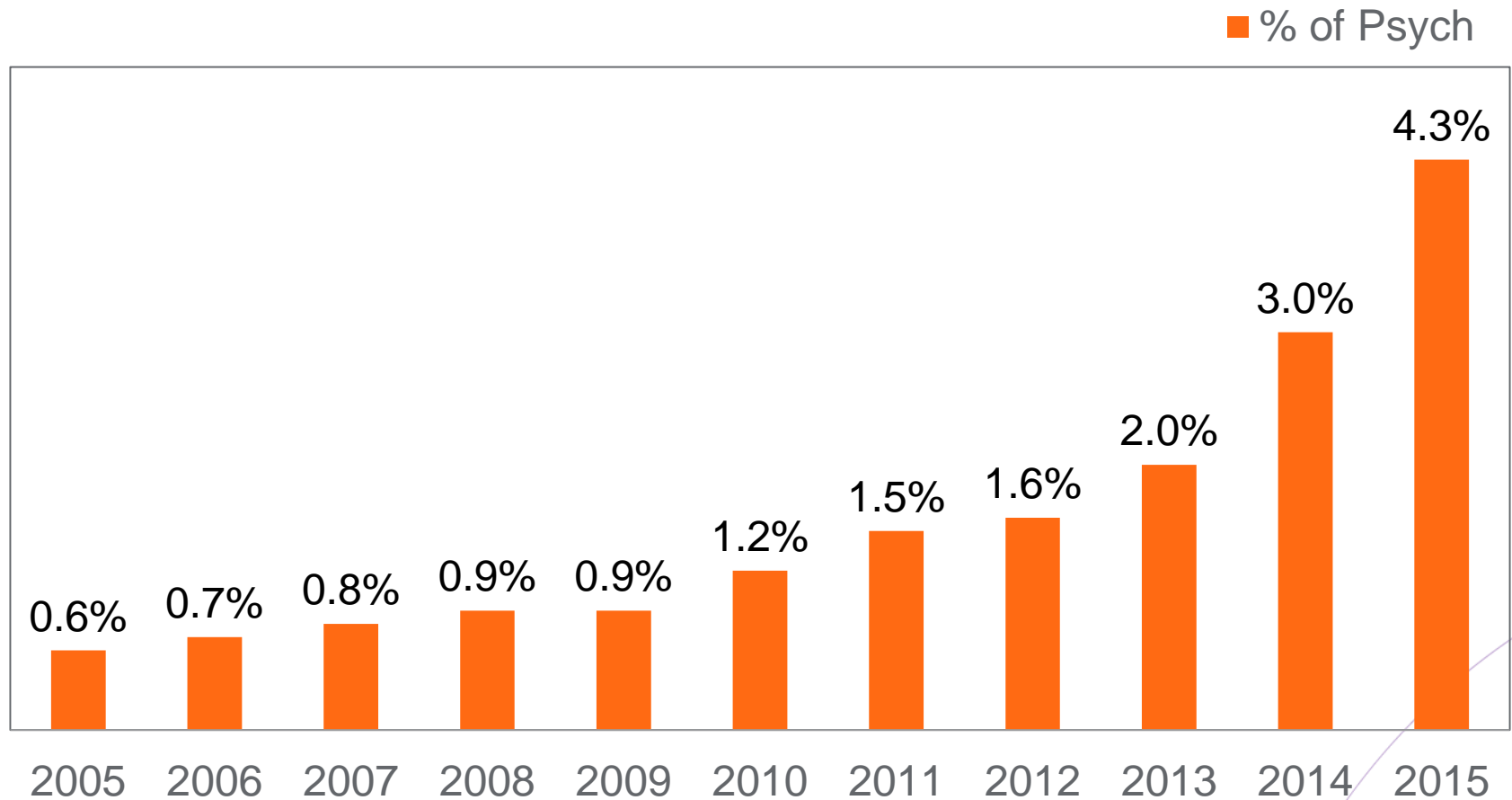
³Significant decreasing trend from 1999–2008; significant increasing trend from 2008–2016, $p < 0.05$.

⁴Significant increasing trend from 1999–2016, $p < 0.05$.

NOTES: Suicide deaths are identified with *International Classification of Diseases, Tenth Revision* (ICD–10) codes *U03, X60–X84, and Y87.0; suicide deaths involving firearms with codes X72–X74; suicide deaths involving suffocation with code X70; and suicide involving poisoning with codes X60–X69.

SOURCE: NCHS, National Vital Statistics System, Mortality.

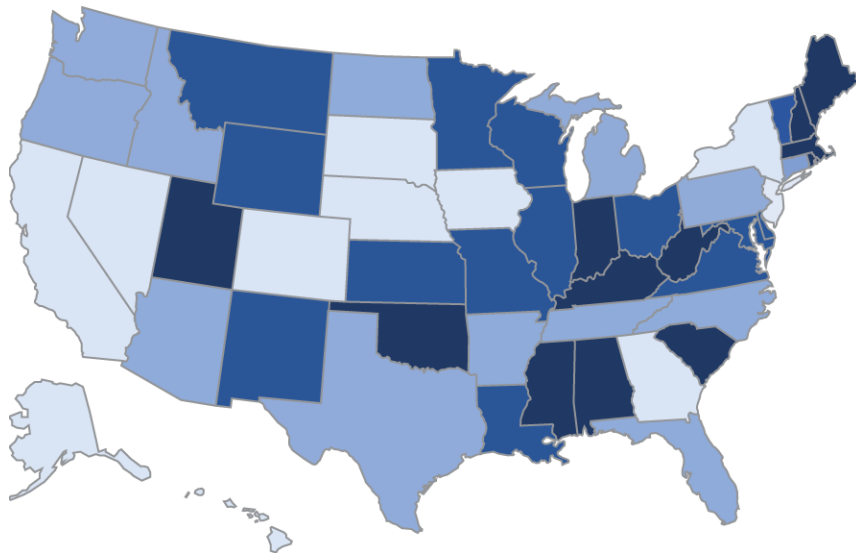
Trends in Psychiatric-Related Emergency Department (ED) Visits (% age of all visits, 2005-2015)



Source: Zima B, et al (2016). Psychiatric Disorders and Trends in Resource Use in Pediatric Hospitals. *Pediatrics*. 138. e20160909-e20160909. 10.1542/peds.2016-0909.

Prevalence and Treatment of Mental Health Disorders in the U.S. (age <18)

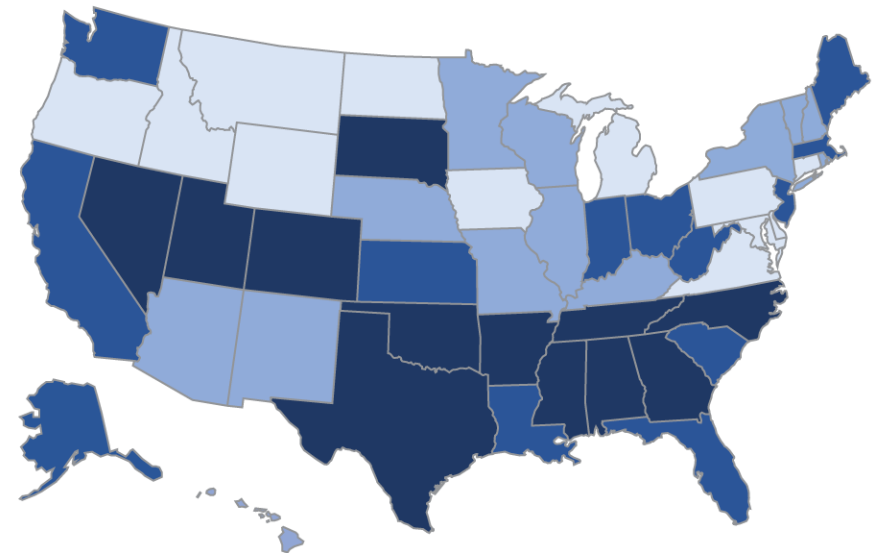
A Prevalence of mental health disorders in children



Prevalence quartiles, %

7.6-15.2 15.3-17.7 17.8-19.9 20.0-27.2

B Prevalence of not receiving care in children with mental health disorders



Prevalence quartiles, %

29.5-41.3 41.4-46.6 46.7-53.1 53.2-72.2

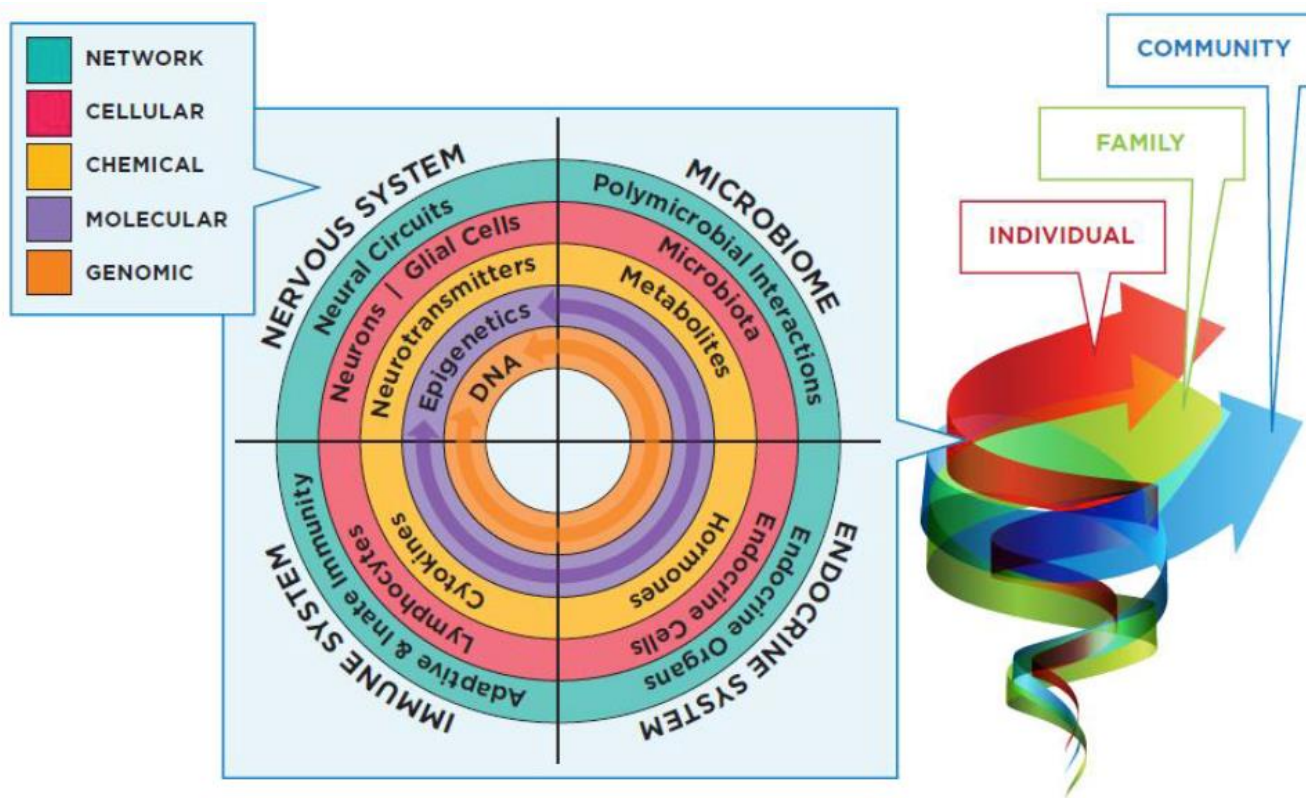
- **Half (50%)** of the estimated 7.7 million U.S. children with a treatable mental health disorder did not receive needed treatment from a mental health professional.
- **Alabama, Mississippi, Oklahoma, and Utah** in top quartile for **both prevalence** and those who **did not receive needed treatment** for mental health disorders

Disparities in Mental Health Service Use by Youth Merikangas et al., 2010 (NCS-A)

- Ethnic/racial minorities had lower treatment rates than did non-Hispanic whites for several classes of disorder:
- Hispanics were less likely to receive treatment for mood and anxiety disorders;
- Non-Hispanic Blacks were less likely to receive treatment for mood disorders; and
- Other/multiracial ethnic youth were less likely to receive treatment for anxiety and ADHD

Merikangas, K et al (2011). Service utilization for lifetime mental disorders in U.S. adolescents: results of the National Comorbidity Survey-Adolescent Supplement (NCS-A). Journal of the American Academy of Child and Adolescent Psychiatry, 50(1), 32–45.

Influences on Mental, Emotional and Behavioral Health



- **Environment** modulates gene expression and shapes neuro-development
- **Experiences** affect conception, gestation, and childbirth
- Characteristics of the **family and community** (e.g. parent characteristics, peer behavior, and school characteristics) affect development
- Characteristics of the **broader society** (e.g. poverty and economic inequality, systemic racism and discrimination, law- and policy-driven factors, marketing of unhealthy products) affect health and development

Source: National Academies of Sciences, Engineering, and Medicine. 2019. Fostering Healthy Mental, Emotional, and Behavioral Development in Children and Youth: A National Agenda. Washington, DC: The National Academies Press. <https://doi.org/10.17226/25201>.

Three Horizons Thinking

(Hodgson & Sharpe, 2007; Curry & Hodgson, 2008; Sharpe 2013; Sharpe, Hodgson, Leicester, Lyon & Fazey, 2016)

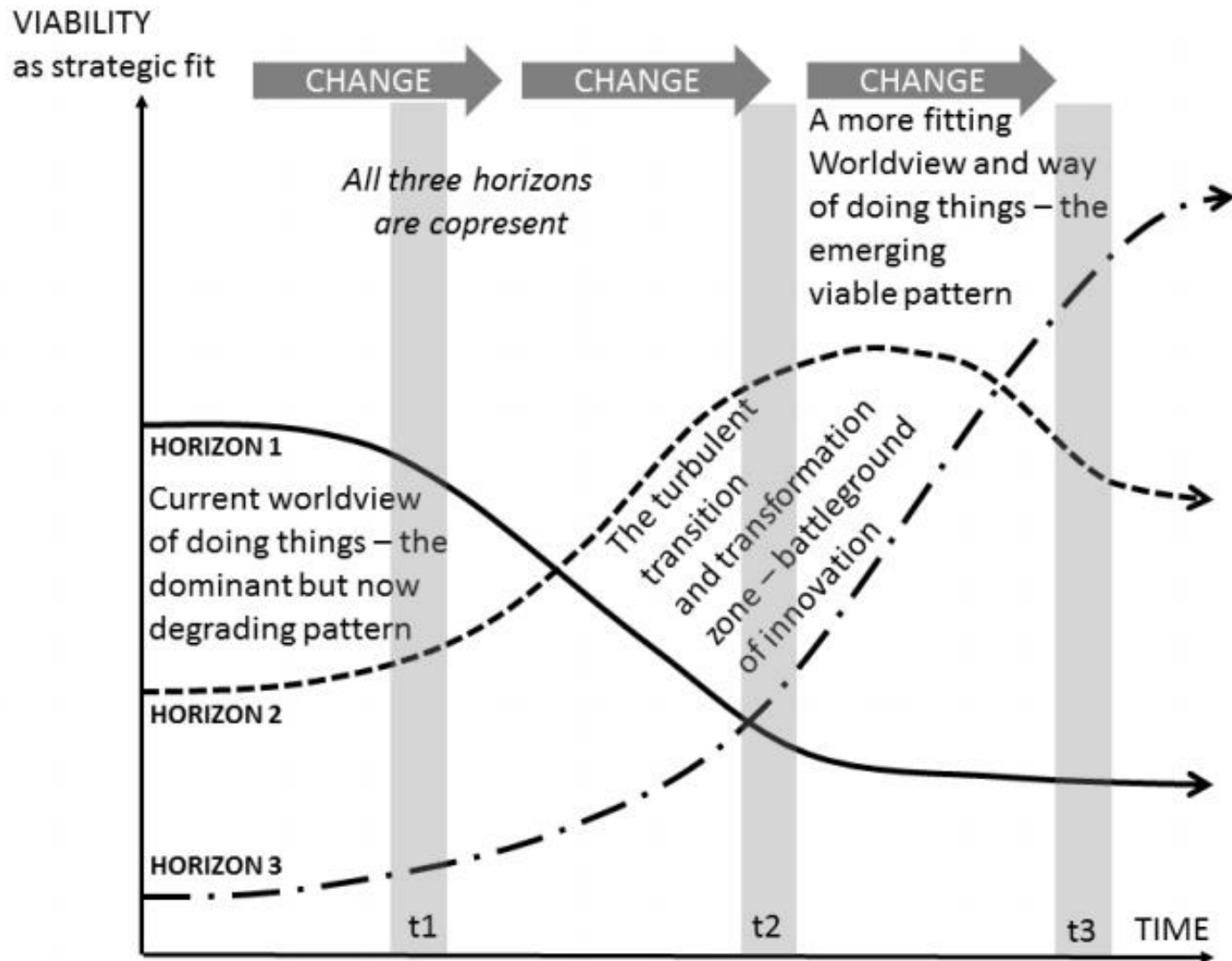
- Focused on bridging **different** kinds of knowledge
- Focused on change processes that lead to **significant systemic changes**
- Designed for **complex problems** with *uncertain predictive models*
- Provides an **analytic lens** for environmental action

Three Horizons Thinking

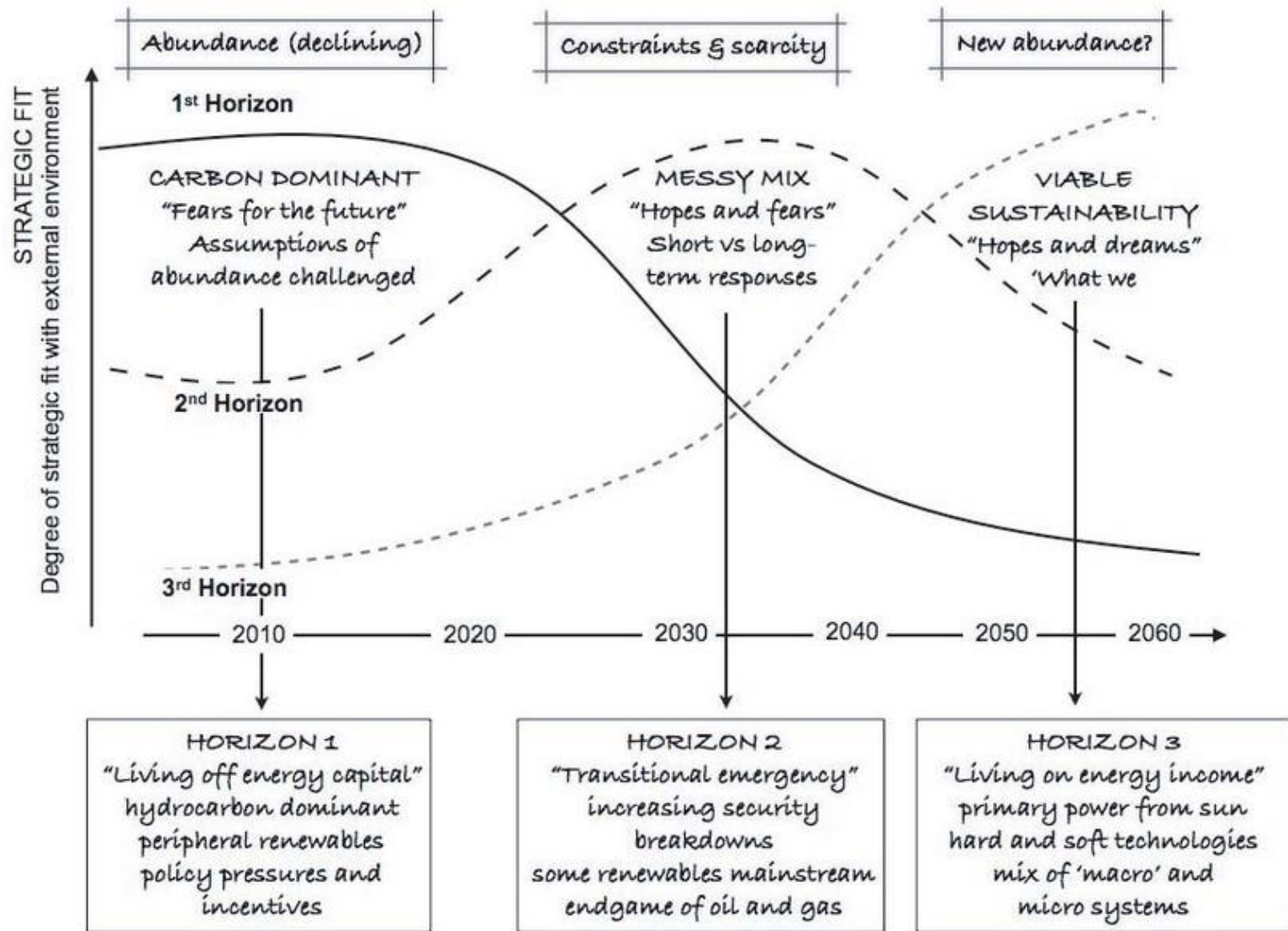
- **Horizon 1:** A pattern of incremental change that is losing its fit with emerging conditions
- **Horizon 2:** A turbulent domain of transitional activities and innovations in response to the changing landscape
- **Horizon 3:** An emerging pattern that is appearing and growing on the fringes of the present system

.....Different views of the future are expected, and competing models are encouraged for exploration

Framing the Issues



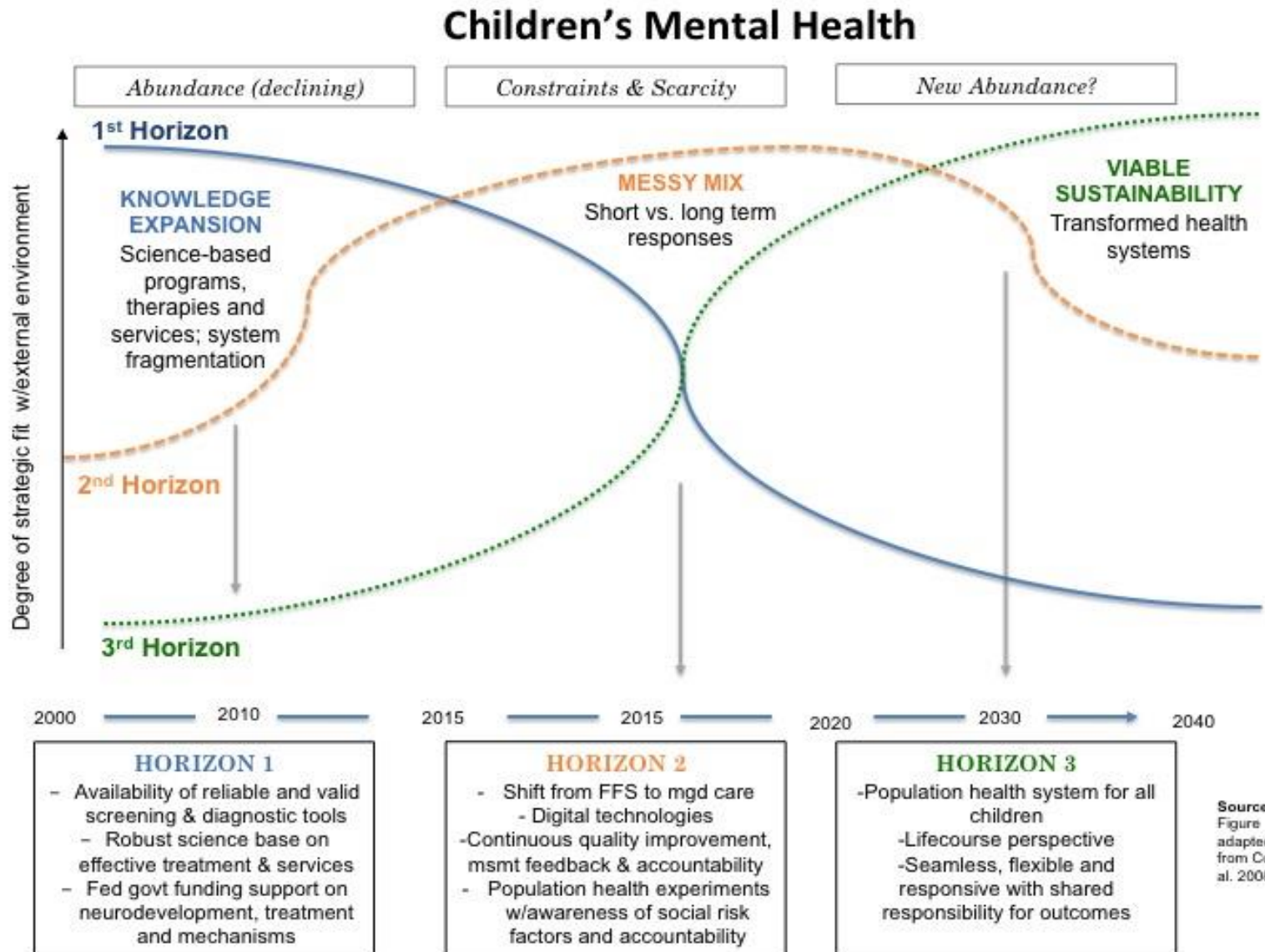
Three Horizons: Example from Solar Energy



Source: Curry, Andrew & Hodgson, Anthony. (2008). Seeing in Multiple Horizons: Connecting Futures to Strategy. *Journal of Futures Studies*. 13.

An Approach to Framing the Issues

Three Horizons Thinking for Children's Mental Health



Horizon 1: Knowledge Expansion

Abundance of evidence-based practices (EBPs)

- **PracticeWise Blue Menu** (Chorpita & Daleiden, 2009): Menu of EBPs for 5 problem areas (anxious/ avoidant behaviors, attention and hyperactivity behaviors; autism spectrum disorders; delinquency/disruptive behaviors; depressive/ withdrawn behaviors)
- **Blueprints (University of Colorado)**: 15 'model' programs, 64 'promising practices'

Data on benefit-cost ratio EBPs/programs/policies

- **Washington State Institute for Public Policy (WSIPP)**: Menu of 200+ policy options/programs, whether they achieve improvements in outcomes, and their benefit-to-cost ratio

Expansion of neurodevelopmental studies and LCHD

NIH attention/investment in this area:

- NIMH Decade of the Brain Initiative (1990-1999)
- Research Domain Criteria (RDoC)(2010-) framework development
- Division of Neuroscience and Basic Behavioral Science (DNBBS) funding
- NIH's Brain Research through Advancing Innovative Neurotechnologies® (BRAIN) Initiative: \$950 million (2014-2018)

Horizon 1: Implementing is Fraught with Challenges

Evidence-based practices and their implementation

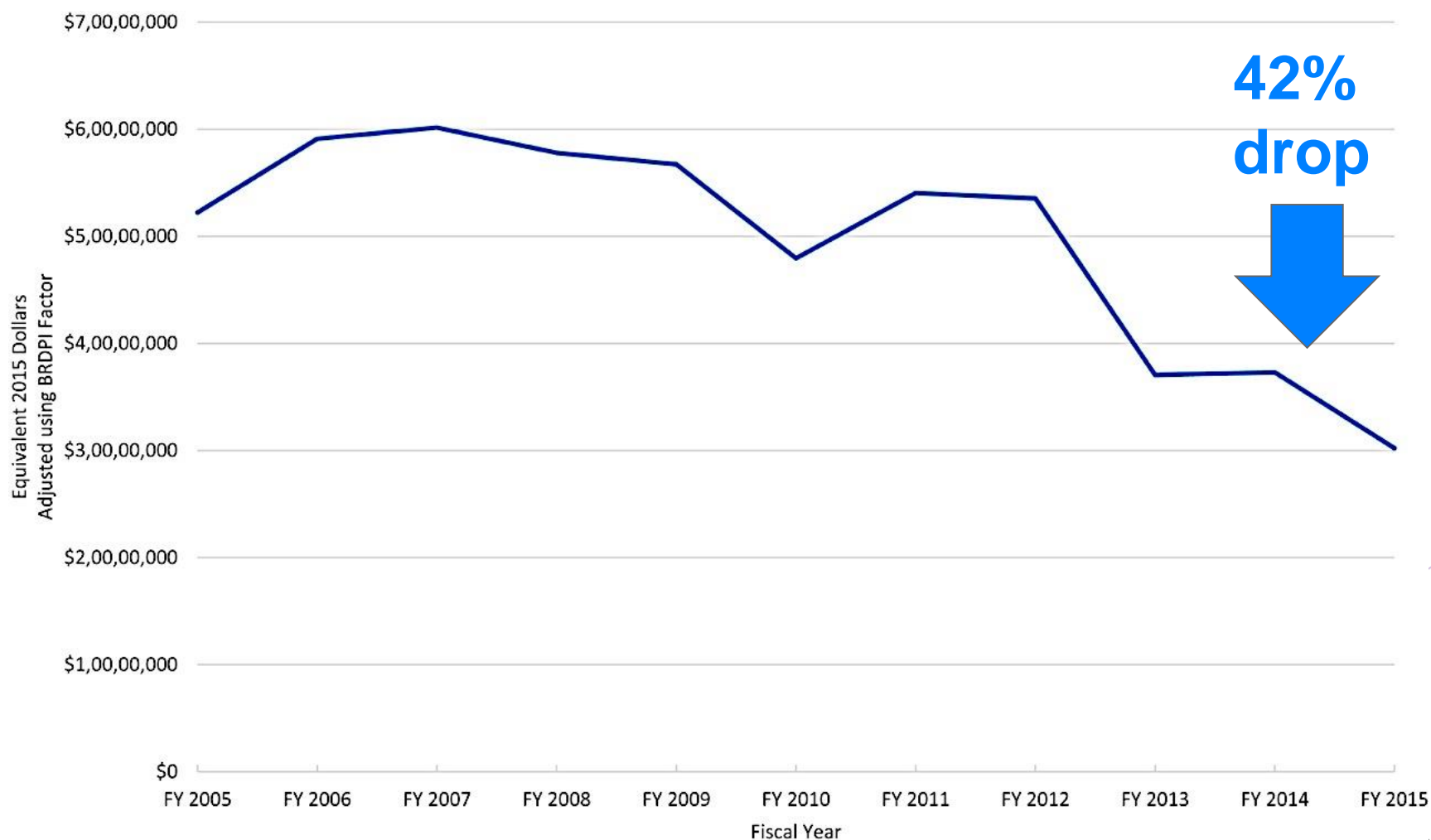
(Hoagwood et al., 2014)

- Multiple barriers related to
 - Lack of feasibility
 - Training burden
 - Costs
 - Measurement, monitoring
- Approximately 61 different implementation frameworks, but
 - Few practical tools
 - Few examples of implementation success
 - Very costly

Horizon 1: Incremental Change Losing its Fit

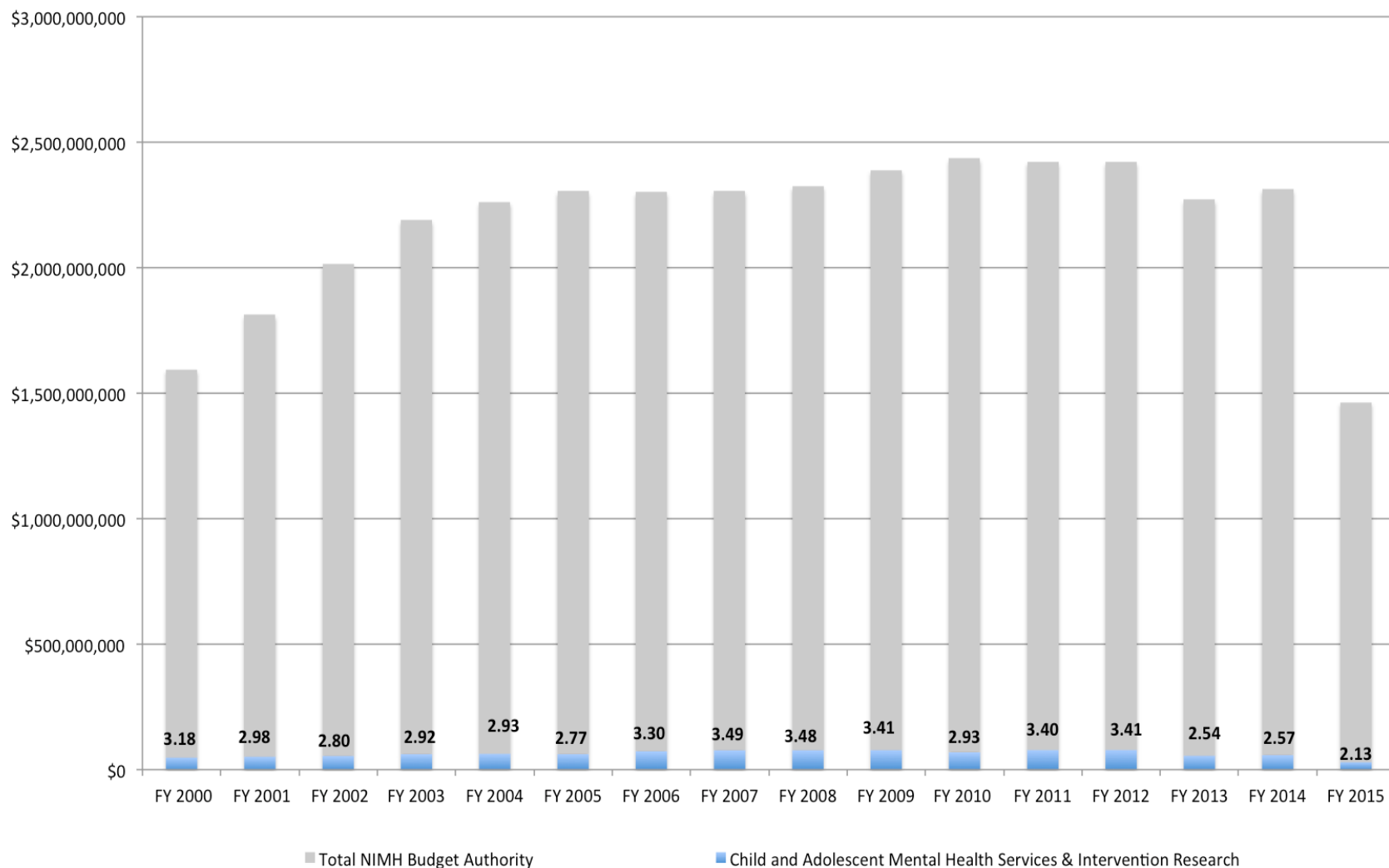
Example: NIMH Funding for Child Mental Health Services Research (Hoagwood et al., 2018)

NIMH Child and Adolescent Mental Health Services & Intervention Research Funding, 2005-2015



Horizon 1: Incremental Change Losing its Fit

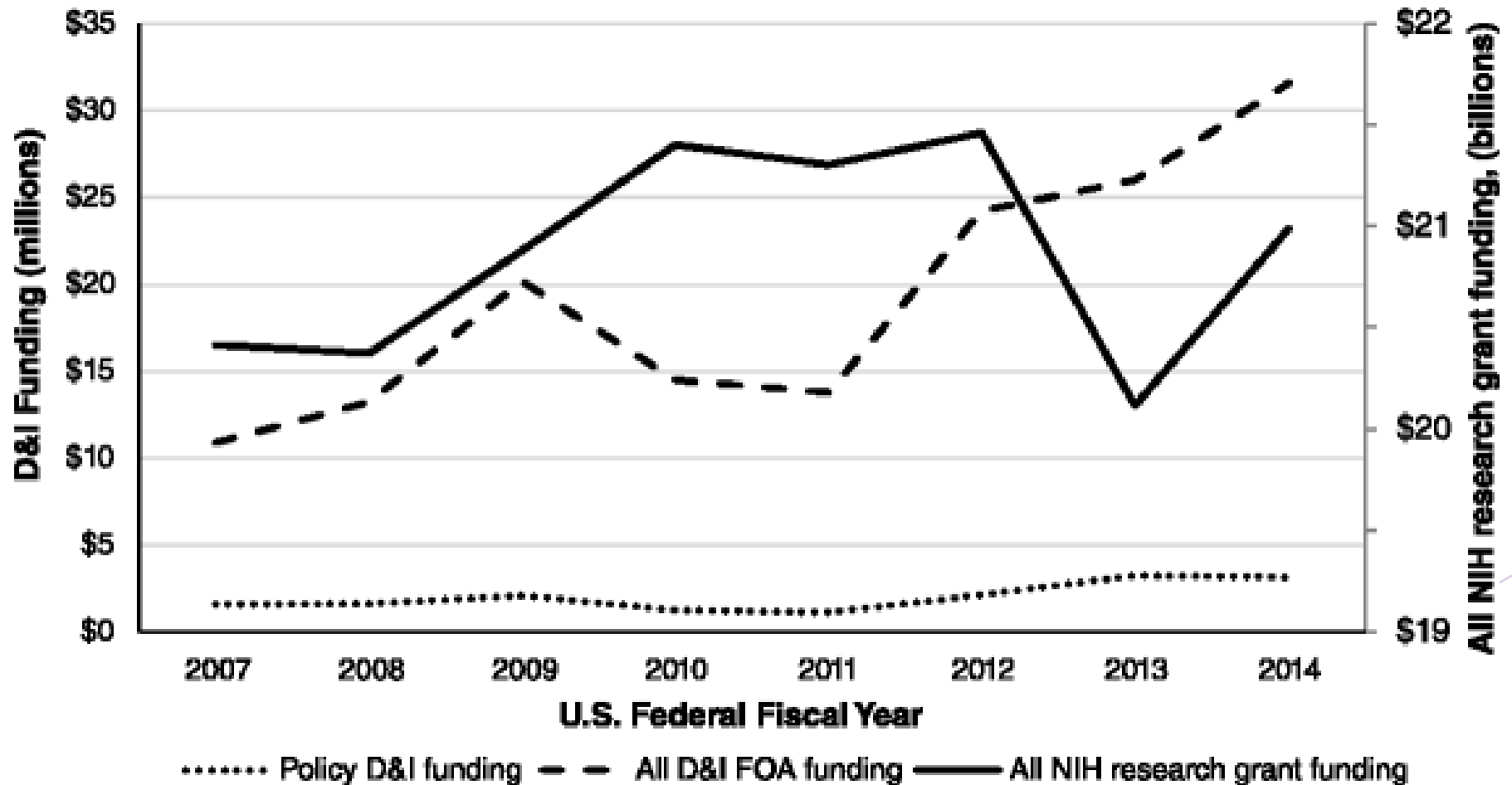
NIMH Investment in Children's Services Research vs. NIMH Total Budget



Source: Data retrieved from NIH RePORTER; see Figure 2 for search methodology. All data are in FY 2015 dollars, adjusted using the NIH Biomedical Research and Development Price Index (BRDPI); see https://officeofbudget.od.nih.gov/pdfs/FY16/BRDPI_Values_for_2014_2020.pdf for BRDPI calculations. All FY data excludes HIV/AIDS services grants, and FY 2009 and FY 2010 data excludes ARRA funding. FY 2000 Total NIMH funding is appropriation not budget authority.

Horizon 1: Incremental Change Losing its Fit

Example: NIH Funding for Policy-Focused D&I Research



Horizon 2: Disruptive Changes

- **Digitalized domination of health care:** Changing mental models of health/pathology
- Continuous Quality Improvement (CQI), development of **quality indicators** for children's services, accountability for outcomes
- **Family** as service unit; competency development for family support providers
- Breaking down boundaries: multidisciplinary knowledge generation; applying science to the '**black box**' of policy-making
- **Broadening** the workforce (parent peer advocates)
- **Empowerment** and **education** of families, consumers, the public: explosion of accessible knowledge and accessible garbage

Horizon 2: Disruptive Change

Example: 2019 Medicaid Child Core Set

BH measures include:

- Depression screening (12-17)
- ADHD medication follow-up
- MH hospitalization follow-up
- 1st line psychosocial care for youth on antipsychotics
- Use of multiple, concurrent antipsychotics in youth

Proposed additions (2020):

- Metabolic monitoring measure for children and adolescents on antipsychotics (APM)

Measures under consideration:

- broader psychotropic polypharmacy measure;
- a bundle of measures for maternal health

2019 Core Set of Children's Health Care Quality Measures for Medicaid and CHIP (Child Core Set)

NQF #	Measure Steward	Measure Name	Data Collection Method
Primary Care Access and Preventive Care			
0024	NCQA	Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents – Body Mass Index Assessment for Children/Adolescents (WCC-CH)	Administrative, hybrid, or EHR
0033	NCQA	Chlamydia Screening in Women Ages 18–20 (CHL-CH)	Administrative or EHR
0038	NCQA	Childhood Immunization Status (CIS-CH)	Administrative, hybrid, or EHR
0418/0418e	CMS	Screening for Depression and Follow-Up Plan: Ages 12–17 (CDF-CH)	Administrative or EHR
1392	NCQA	Well-Child Visits in the First 15 Months of Life (W15-CH)	Administrative or hybrid
1407	NCQA	Immunizations for Adolescents (IMA-CH)	Administrative or hybrid
1448*	OHSU	Developmental Screening in the First Three Years of Life (DEV-CH)	Administrative or hybrid
1516	NCQA	Well-Child Visits in the Third, Fourth, Fifth and Sixth Years of Life (W34-CH)	Administrative or hybrid
NA	NCQA	Adolescent Well-Care Visits (AWC-CH)	Administrative or hybrid
NA	NCQA	Children and Adolescents' Access to Primary Care Practitioners (CAP-CH)	Administrative
Maternal and Perinatal Health			
0139	CDC	Pediatric Central Line-Associated Bloodstream Infections (CLABSI-CH)	Medical records (CDC's NHSN)
0471	TJC	PC-02: Cesarean Birth (PC02-CH)	Hybrid
1380	CDC	Audiological Diagnosis No Later Than 3 Months of Age (AUD-CH)	EHR
1382	CDC	Live Births Weighing Less Than 2,500 Grams (LBW-CH)	State vital records
1517*	NCQA	Prenatal and Postpartum Care: Timeliness of Prenatal Care (PPC-CH)	Administrative or hybrid
2902	OPA	Contraceptive Care – Postpartum Women Ages 15–20 (CCP-CH)	Administrative
2903/2904	OPA	Contraceptive Care – All Women Ages 15–20 (CCW-CH)	Administrative
Care of Acute and Chronic Conditions			
1800	NCQA	Asthma Medication Ratio: Ages 5–18 (AMR-CH)	Administrative
NA	NCQA	Ambulatory Care: Emergency Department (ED) Visits (AMB-CH)	Administrative
Behavioral Health Care			
0108	NCQA	Follow-Up Care for Children Prescribed Attention-Deficit/Hyperactivity Disorder (ADHD) Medication (ADD-CH)	Administrative or EHR
0576	NCQA	Follow-Up After Hospitalization for Mental Illness: Ages 6–17 (FUH-CH)	Administrative
2801	NCQA	Use of First-Line Psychosocial Care for Children and Adolescents on Antipsychotics (APP-CH)	Administrative
NA	NCQA	Use of Multiple Concurrent Antipsychotics in Children and Adolescents (APC-CH)	Administrative
Dental and Oral Health Services			
2508*	DQA (ADA)	Dental Sealants for 6–9 Year-Old Children at Elevated Caries Risk (SEAL-CH)	Administrative
NA	CMS	Percentage of Eligibles Who Received Preventive Dental Services (PDENT-CH)	Administrative (Form CMS-416)

Horizon 3: Transformative Changes:

Pockets of Future in the Present

Trends:

- Focus on promoting **children's well-being**, not only treating pathology; *population*-level responsibility (NAM 2019 Report on Fostering MEB health)
- Focus on **social determinants of health** (SDOH), not only specific clinical disorders; and
- Focus on **local** experimentation

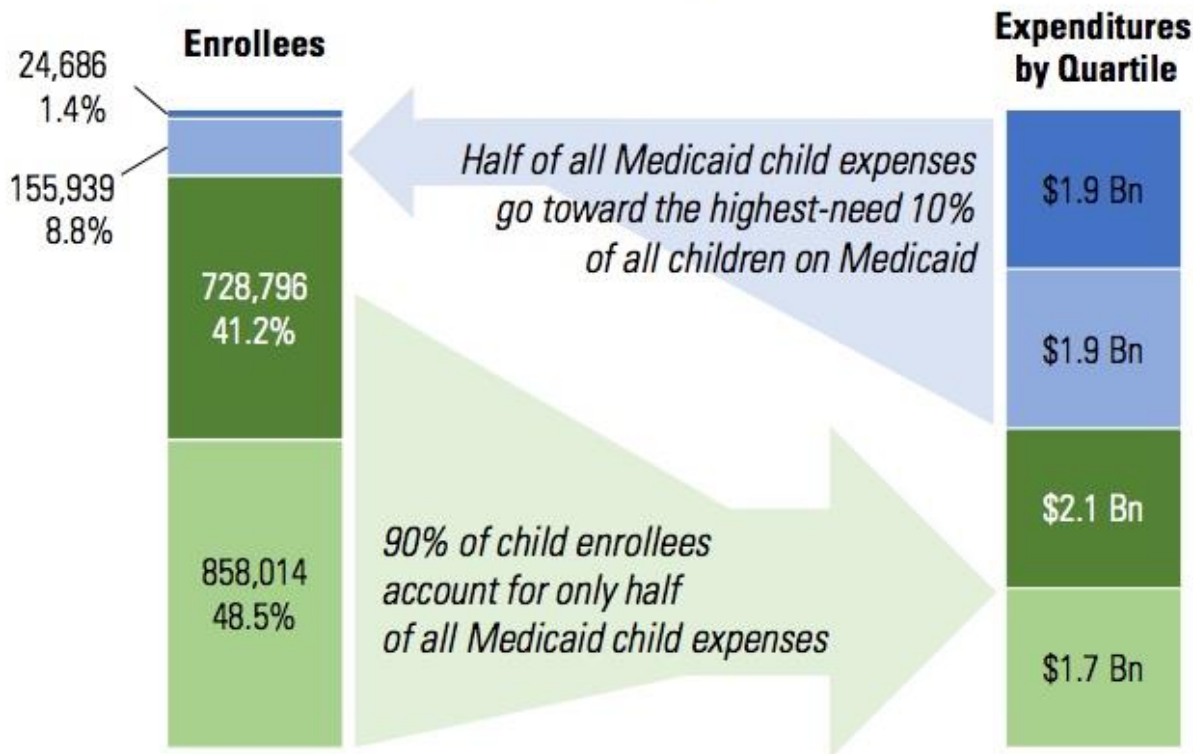
Examples: Targeting Social Risks; Integrating Services

- State experiments: NYS Value-Based Purchasing and First 1,000 days; MN; MA; OR; CO; VT
- Community experiments (IncK Model; local integration, cross-sharing)
- Hospital system experimentation: Nationwide Children's Hospital

Horizon 3: Transformative Change

Example: New York State Value-Based Care in Medicaid (continued)

2014 New York Medicaid Expenditure Quartiles for Continuously Enrolled Children, Ages 0–20



Source: Kennedy-Shaffer L and Shearer C. July 2016. *Understanding Medicaid Utilization for Children in New York State: A Chartbook*. UHF. <https://uhfnyc.org/publications/publication/understanding-medicaid-utilization-for-children-in-new-york-state/>

Source: Brundage, S.C. and Shearer, C. (2019). *Reforming Payment for Children's Long-Term Health Lessons from New York's Children's Value-Based Payment Effort*. United Hospital Fund: New York, NY.

Horizon 3: Transformative Change

Example: New York State Value-Based Care in Medicaid (continued)



THE FIRST 1,000 DAYS: MEDICAID'S CRITICAL ROLE

The first 1,000 days of a child's life are a critical window for development. Exposure to adverse childhood experiences (ACEs) dramatically increases the potential for life-long negative health and social outcomes.

ADVERSE CHILDHOOD EXPERIENCES

- ABUSE
- NEGLECT
- EXPOSURE TO VIOLENCE
- FAMILY DYSFUNCTION

OUTCOMES:

- POOR SCHOOL PERFORMANCE
- DEVELOPMENTAL DELAYS
- JUVENILE JUSTICE INVOLVEMENT
- POOR HEALTH IN ADULTHOOD

MEDICAID'S UNIQUE ROLE IN EARLY CHILDHOOD

Medicaid is uniquely positioned to identify and connect at-risk children (ages 0-3) in low-income families with needed health, developmental, and social services — increasing the odds that children get a good start in life.

- Medicaid covers almost half of babies born in the United States and 40 percent of children
- Publicly financed health care is the social institution most likely to have regular contact with children ages 0-3 in low-income families
- Medicaid guarantees coverage for developmental screenings and other preventive care that is important for identifying concerns early

MAXIMIZING MEDICAID'S WINDOW OF OPPORTUNITY

There are key opportunities for state Medicaid agencies and their health plan contractors to support high-risk, low-income families:

- Integrating data across sectors
- Using data to target the highest risk children and families
- Identifying assessment tools and shared metrics
- Building state and community partnerships
- Creating new clinical models and community linkages

To learn more, visit www.chcs.org/medicaid-early-childhood-lab/

CHCS Center for Health Care Strategies, Inc.

Horizon 3: Transformative Change

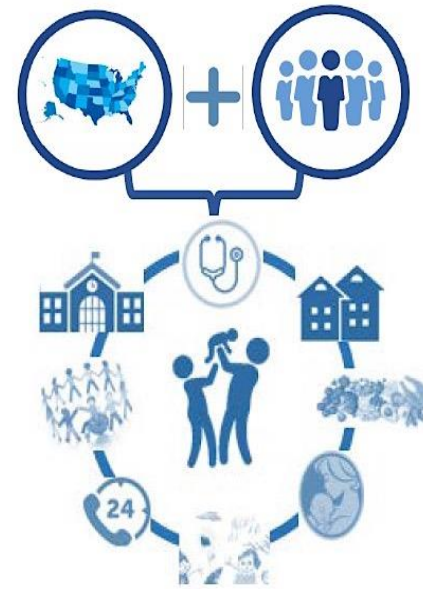
Example: Integrated Care for Kids (InCK), DHHS, CMMI.
Targets social risk factors

Framework

The **Integrated Care for Kids (InCK) Model** is a child-centered *local service delivery* and *state payment model* aimed at **reducing expenditures** and **improving the quality of care** for children covered by Medicaid and CHIP, especially those with or at-risk for developing significant health needs.

Goals:

- 1 Improving performance on priority measures of child health
- 2 Reducing avoidable inpatient stays and out-of-home placements
- 3 Creation of sustainable Alternative Payment Models (APMs)



Horizon 3: Transformative Change

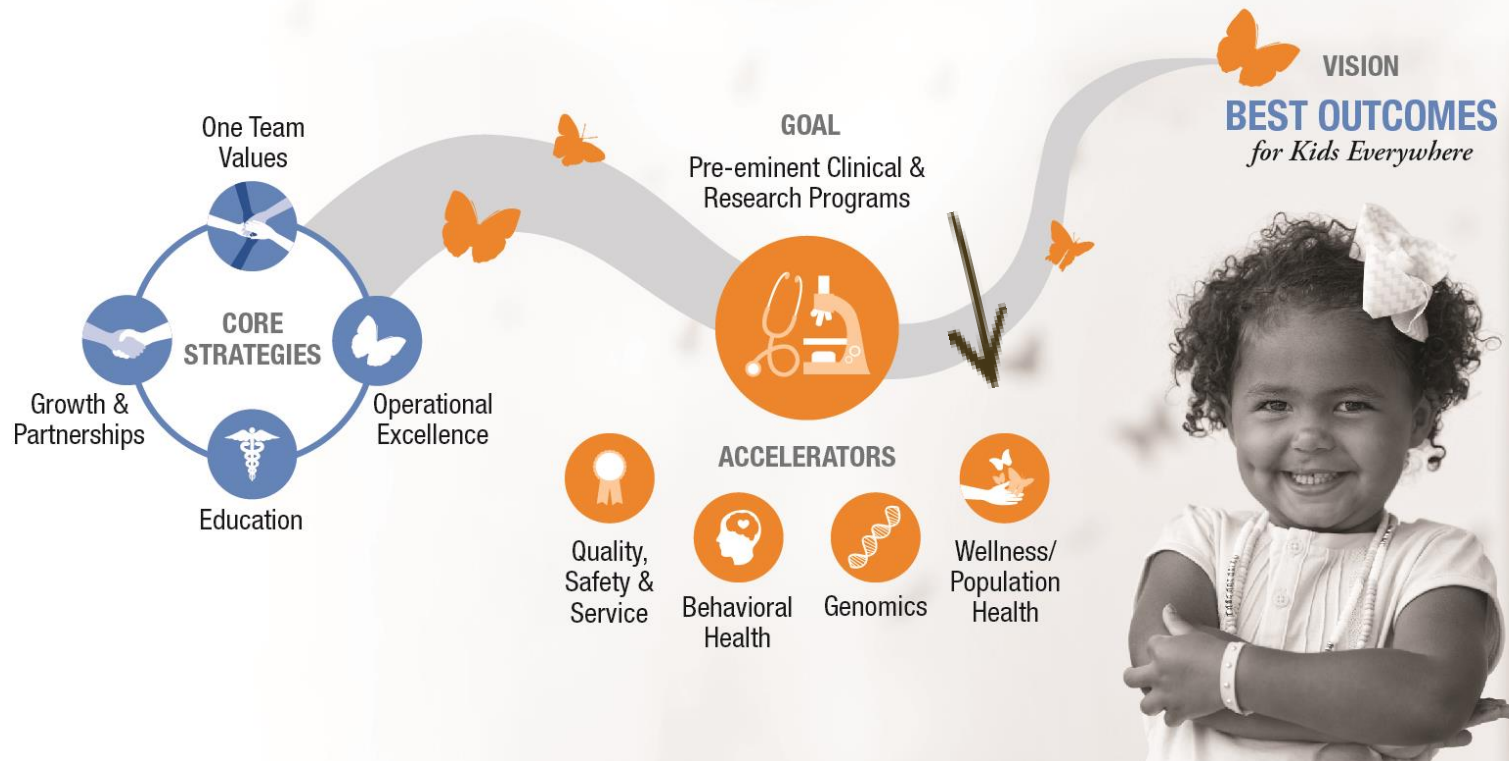
Example: Nationwide Children's SDOH Initiative

Healthy Neighborhoods, Healthy Families

2017-2022

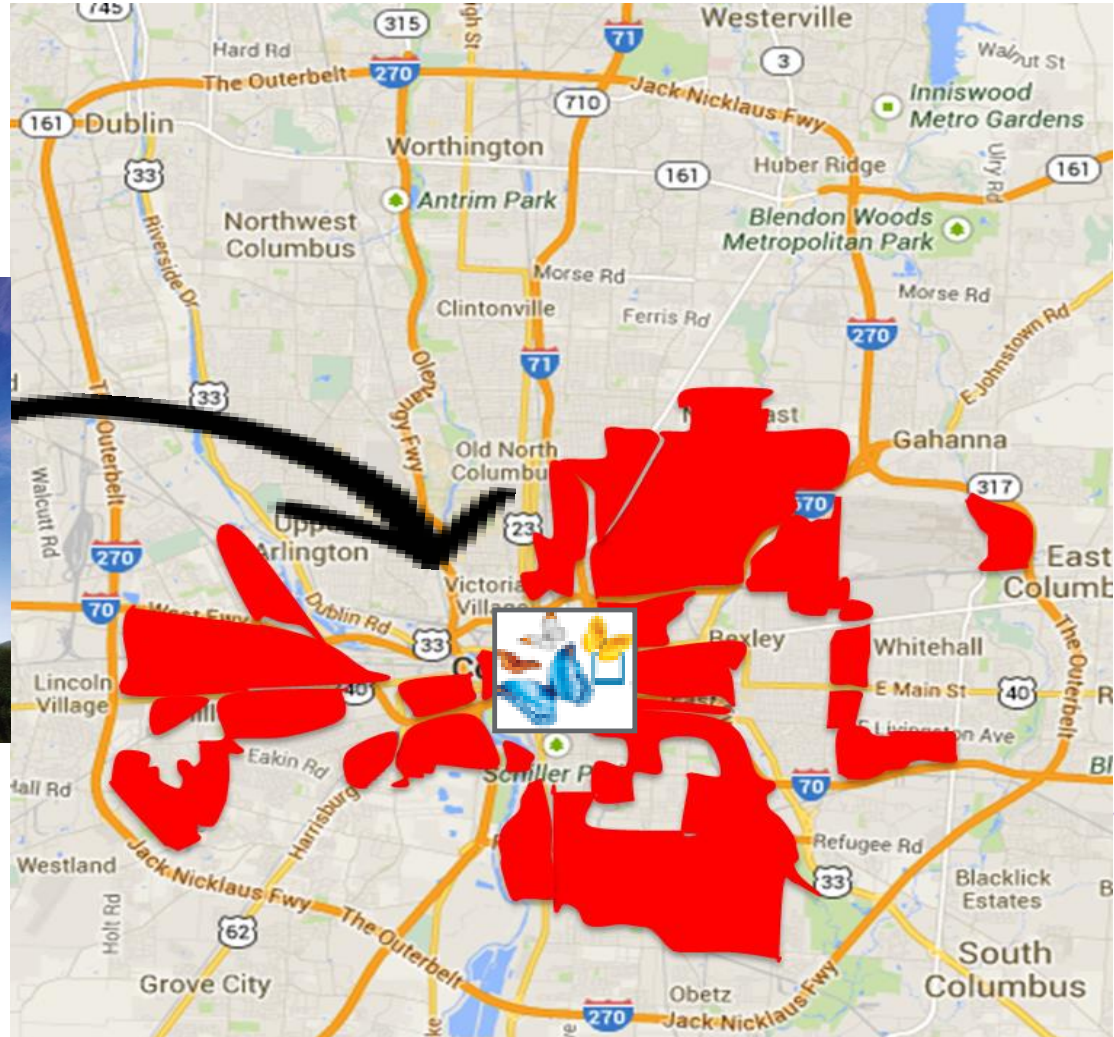
JOURNEY TO BEST OUTCOMES

Through best people & programs



Franklin County Opportunity Index Map

RED = LEAST OPPORTUNITY/HIGHEST RISK

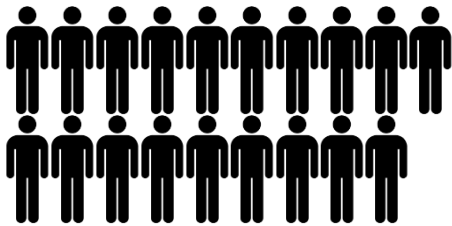


**Nationwide
Children's
Hospital
Columbus, Ohio**

Healthy Neighborhoods, Healthy Families

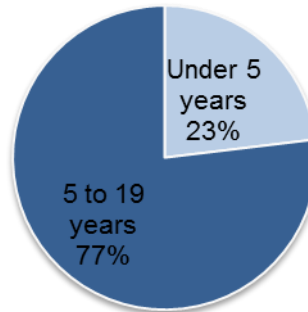
Zone 06*

Population: 1,856



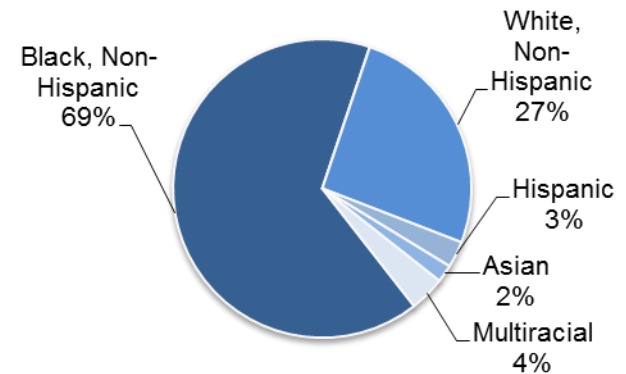
493
Families

612 Children

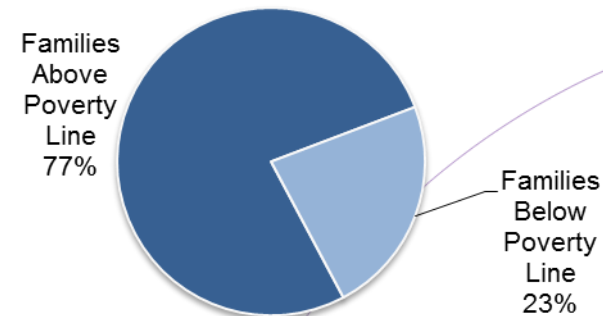


23.6% of 1,021
housing units are
owner-occupied

73% Minority

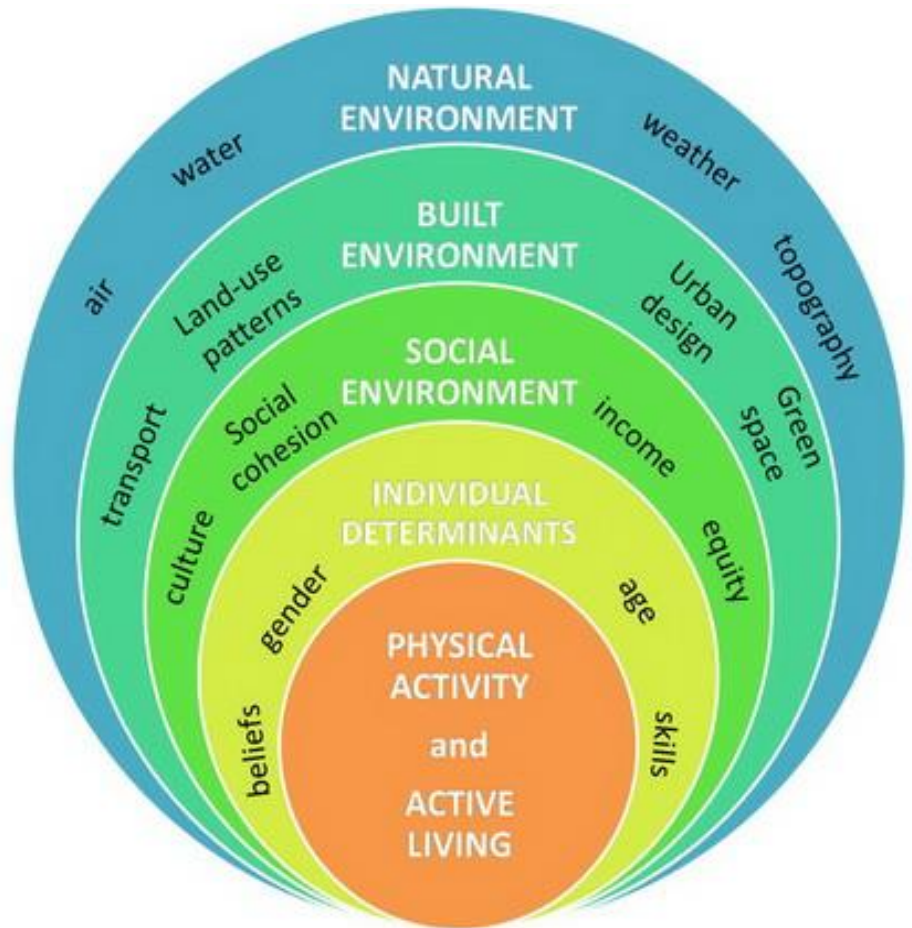


Per Capita Income
\$17,581



Neighborhood Distress and Child Development

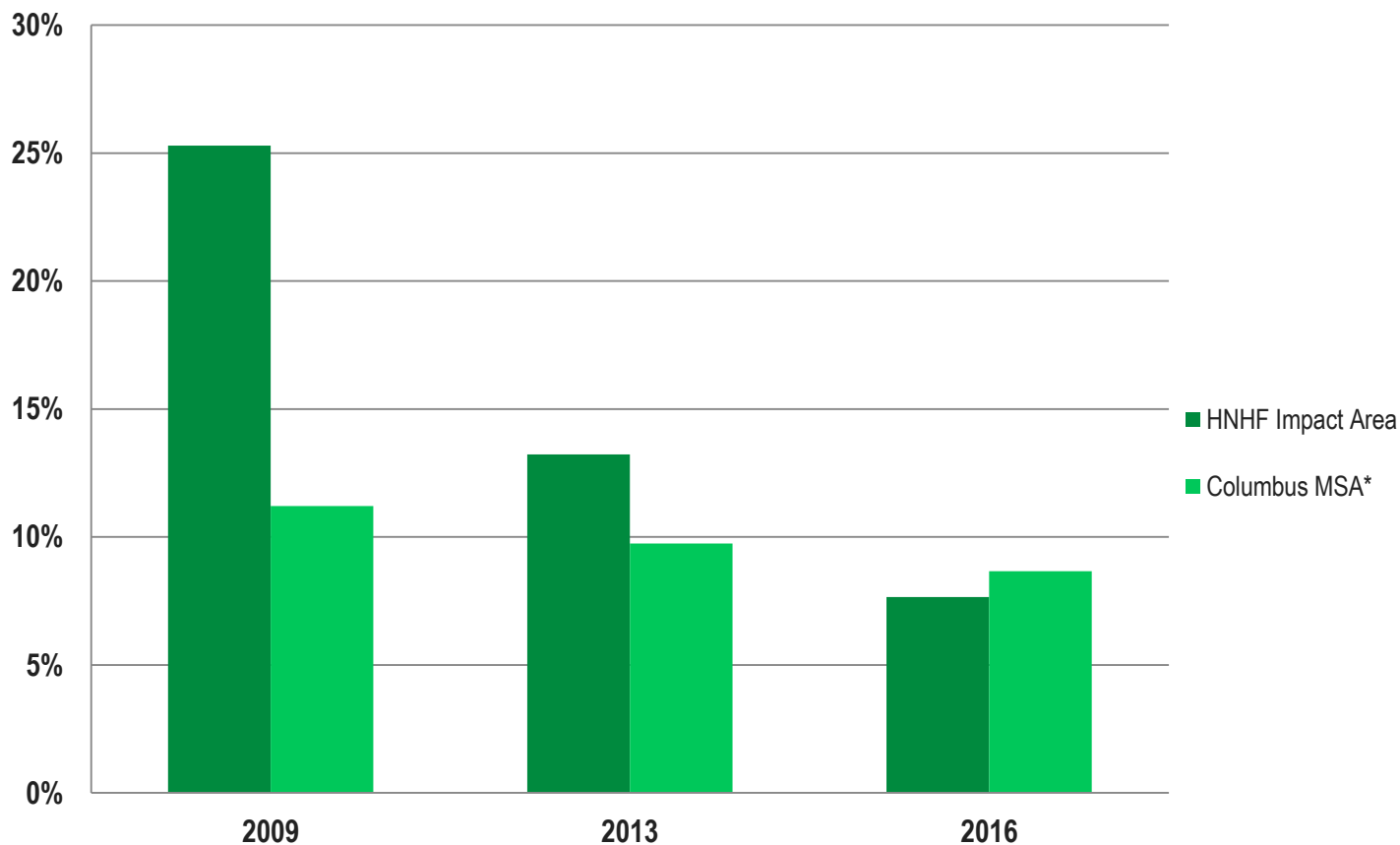
- Epigenetics/gene expression
- Structural neuronal changes
- Hormonal alterations
- Cognitive, behavioral, social outcomes





HEALTHY NEIGHBORHOODS HEALTHY FAMILIES
AFFORDABLE HOUSING

Vacancy Rate 2009 - 2016

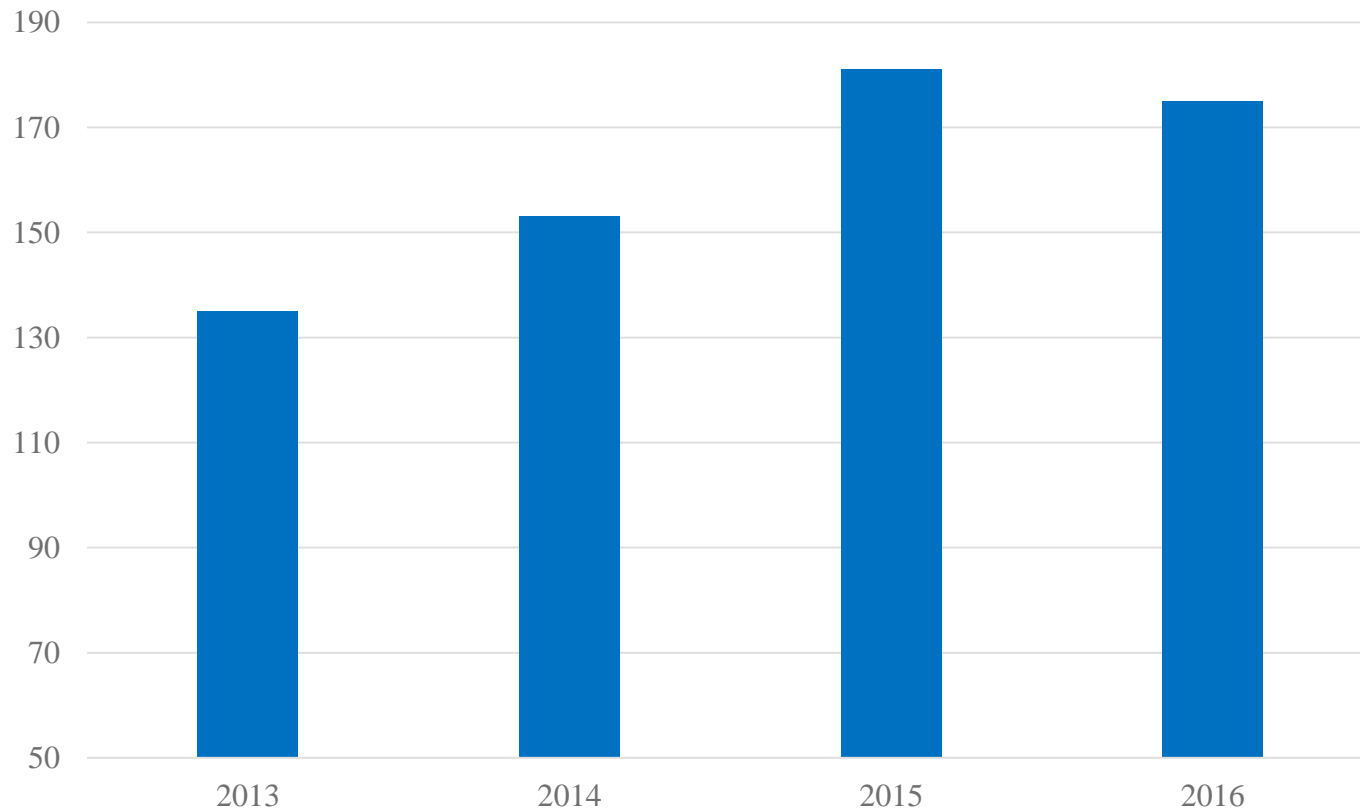


*Source: American Community Survey 1-year Estimates for 2009, 2013, & 2015



HEALTHY NEIGHBORHOODS HEALTHY FAMILIES
WORKFORCE DEVELOPMENT

Neighborhood Hires



NATIONWIDE CHILDREN'S
When your child needs a hospital, everything matters.™

Closing Thoughts: The 3rd Horizon

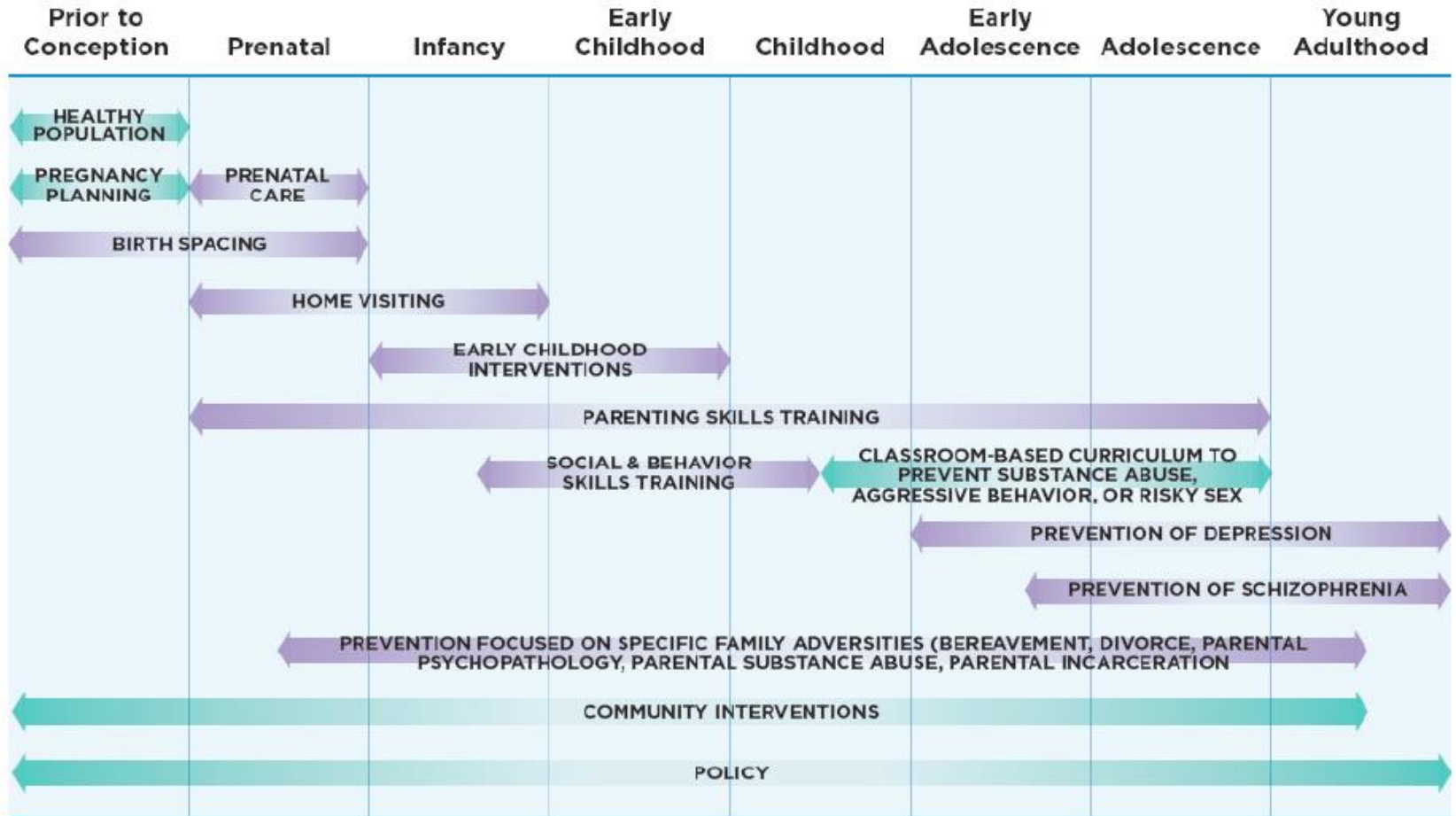


FIGURE 11-1 Interventions across the life course.

Source: National Academies of Sciences, Engineering, and Medicine. 2019. Fostering Healthy Mental, Emotional, and Behavioral Development in Children and Youth: A National Agenda. Washington, DC: The National Academies Press.

<https://doi.org/10.17226/25201>.

Closing Thoughts

Towards 3rd Horizon Thinking

- Inter-generational services
- Healthcare setting strategies (over the life course)
- Policy strategies that cross systems
- Creative financing options for health promotion
- Research to bridge gap between practice and policy: comparative policy impact studies

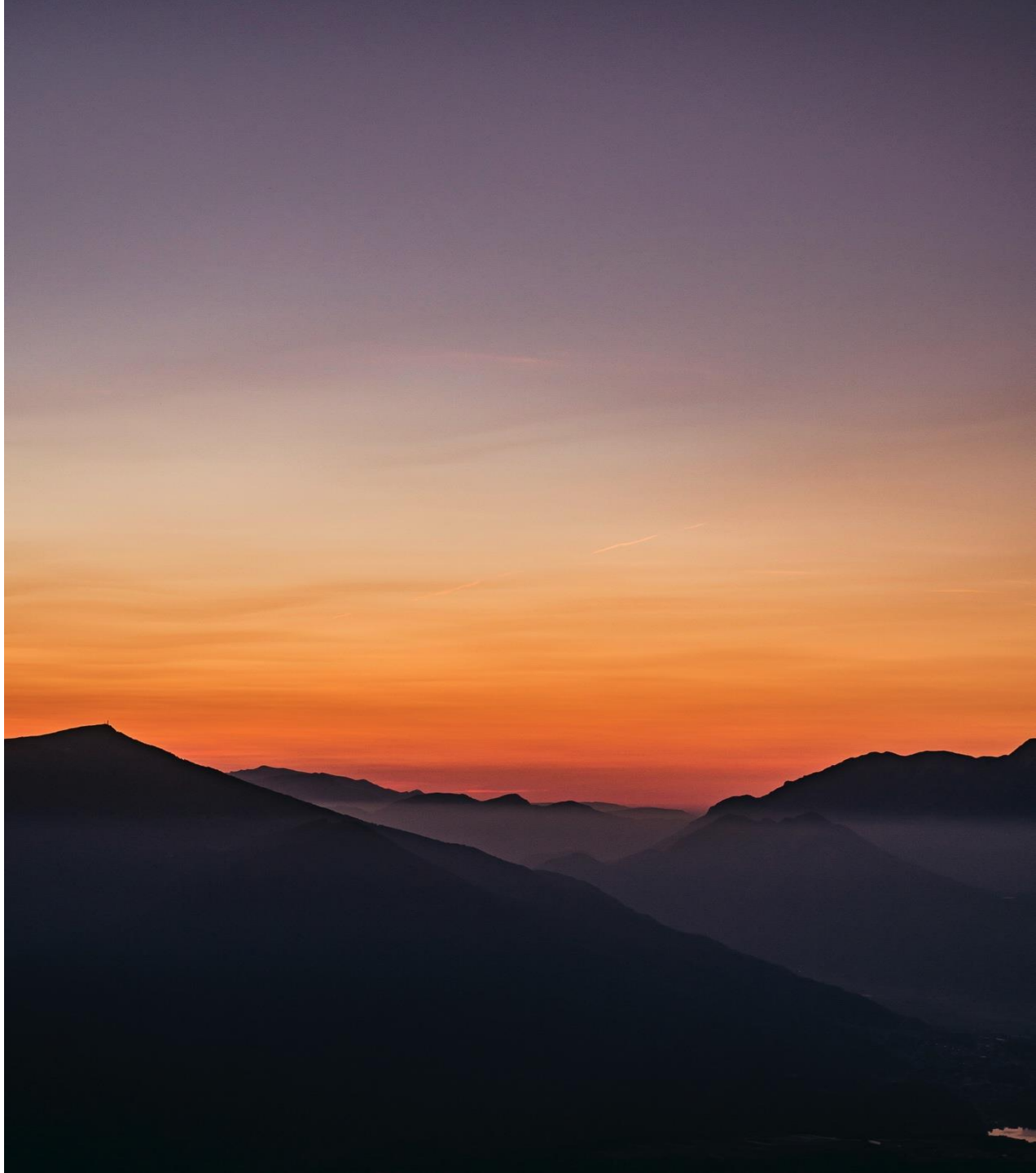


Photo by Kevin Ianeselli on Unsplash

