No Health without Mental Health

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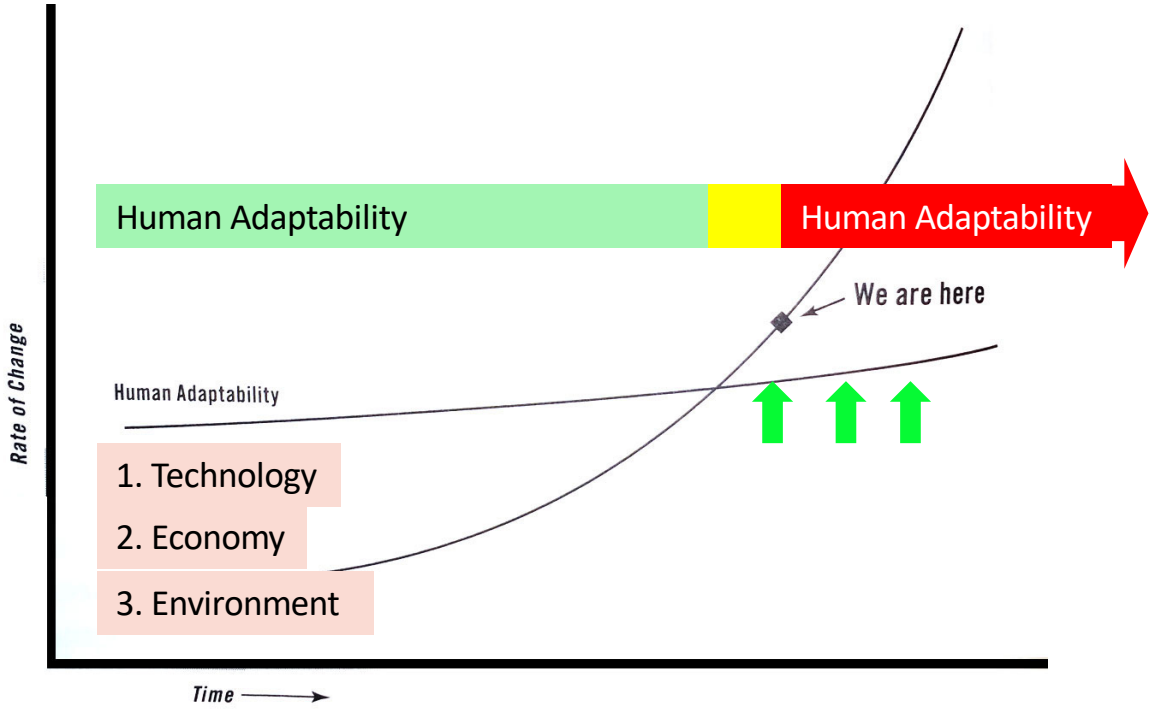
Concepts to Be Covered

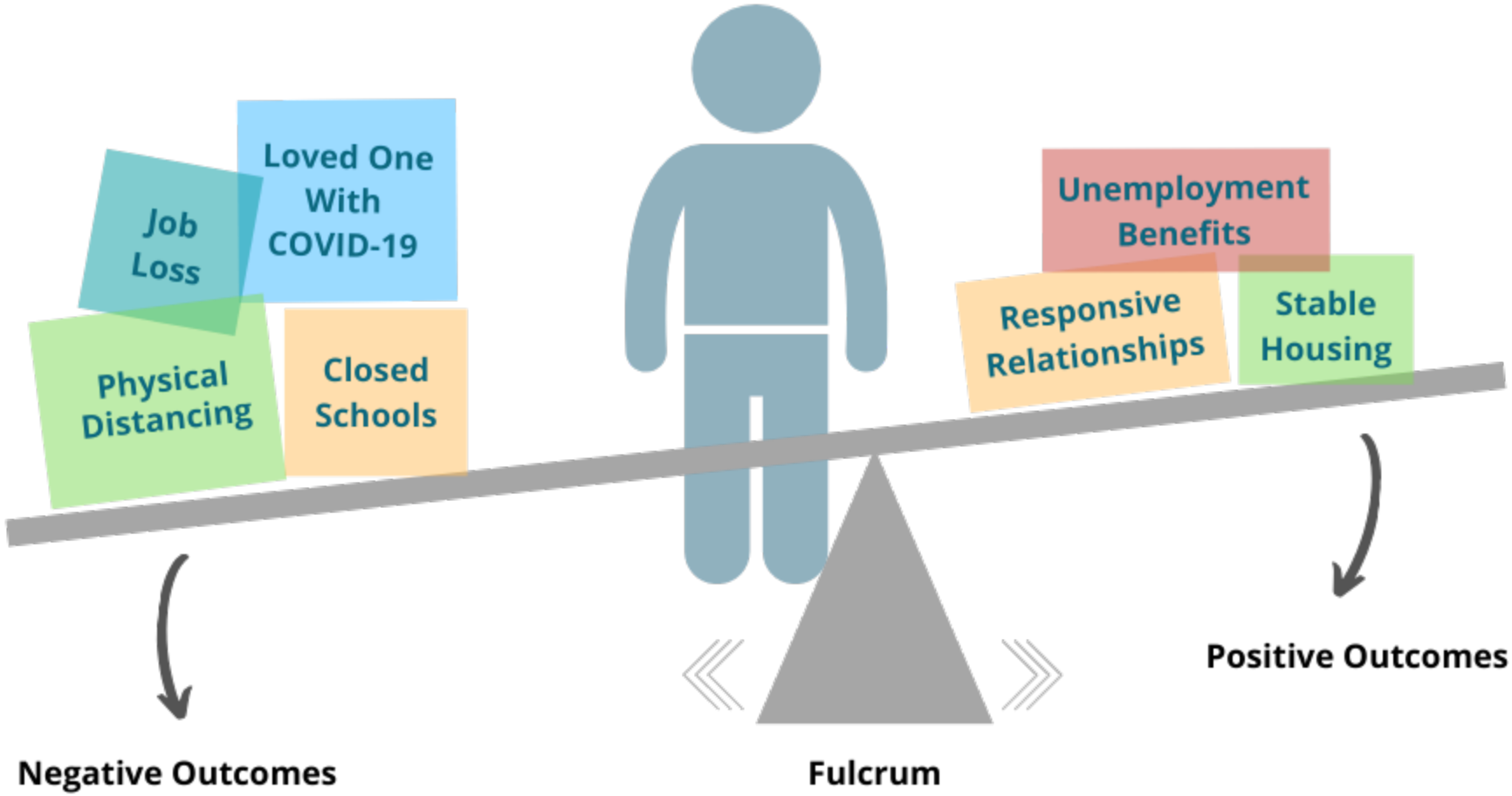
- Global mental health (definitions)
- Gaps in mental health care
  - Life course with developmental perspective
  - Integration (fragmentation and lack of continuity)
  - Cost/Access/Quality of care
  - Telehealth
- Convergence in understanding global mental health (the problem of diagnosis)
  - Adaptability to stress (Stress/trauma continuum)
  - Staging approach to classification and treatment of disorders
- Social determinants and social justice (sociology becomes the biology)
  - Structural racism
  - Health equity
- Relationships and resilience

ACCELERATING RATES OF CHANGE: Stressing Human Adaptabiliy before COVID

The 3 Domains of Unprecedented Change

- 1. Technology
- 2. Economy
- 3. Environment




Loved One With COVID-19
Job Loss
Physical Distancing
Closed Schools
Unemployment Benefits
Responsive Relationships
Stable Housing
Negative Outcomes
Fulcrum
Positive Outcomes

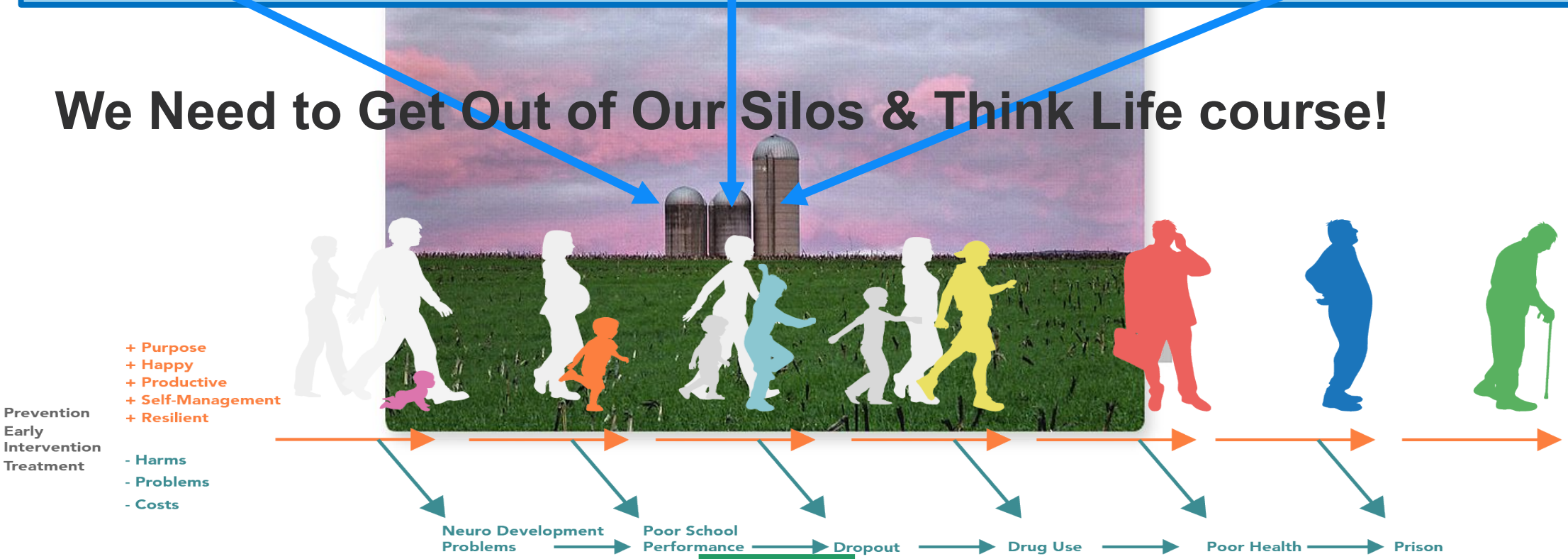
The Brain Behavior Connection

Developmental

Behavioral

Mental

We Need to Get Out of Our Silos & Think Life course!



DSM Diagnoses

ALL NEURODEVELOPMENTAL DISORDERS BASED ON DEVELOPMENTAL NEUROBIOLOGY

Mental Health is Developmental Health

Greater maturity reflects greater mental health

- Erickson's eight stages of human development as a fresh "criterion of mental health"
- J. Loevinger provided a model of adult ego development
- L. Kohlberg built up a model of adult moral development

W. Menninger's definition of maturity is a good definition of mental health: "…as capacity for love, absence of stereotyped patterns of problem solving, realistic acceptance of the destiny imposed by one's time and place in the world, appropriate expectations and goals for oneself, and capacity for hope."

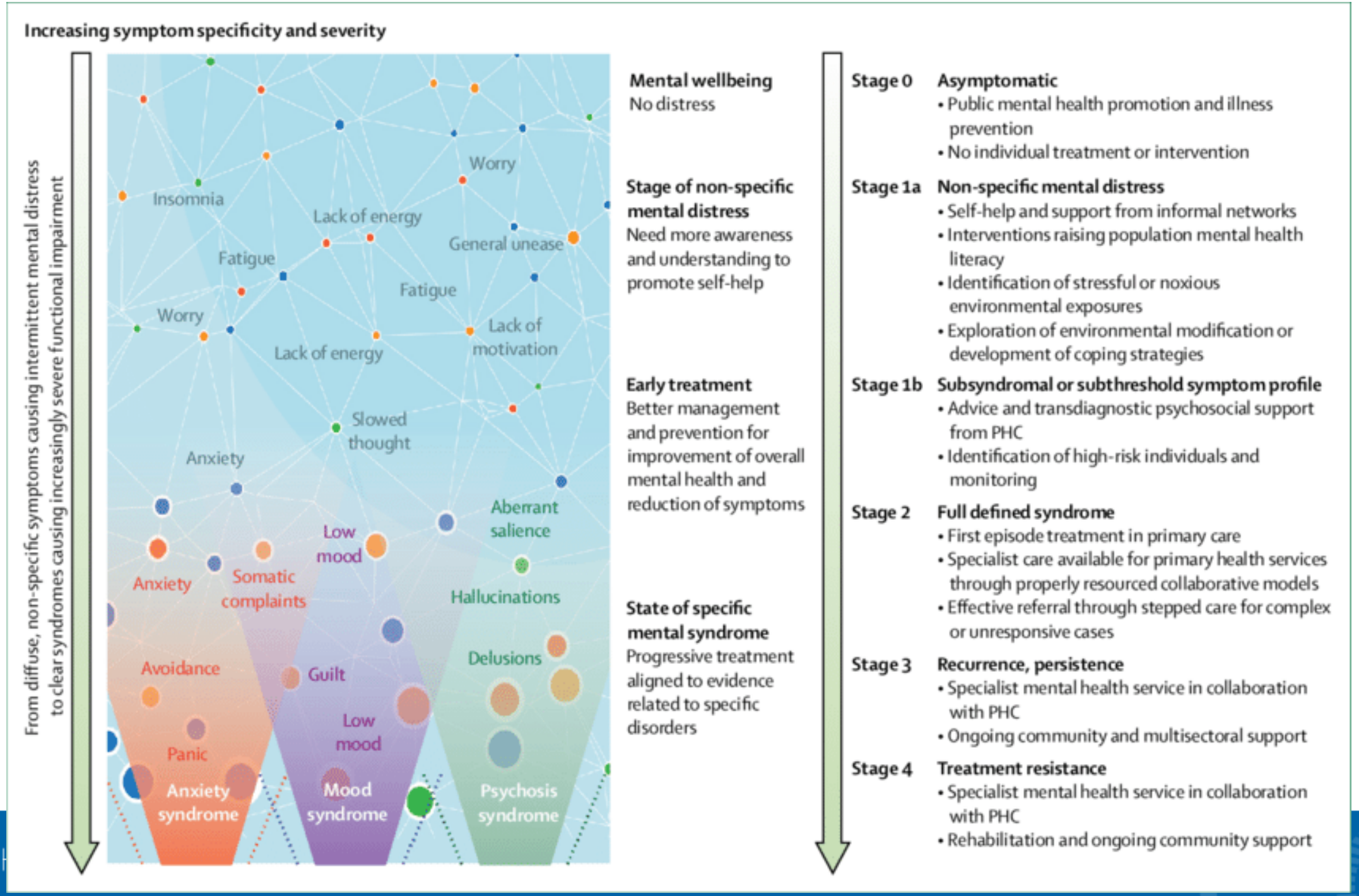
In this model, maturity is not only the opposite of narcissism, but it is quite congruent with other models of mental health.

WHO/Lancet Definitions

- **Mental Health**: The capacity of thought, emotion, and behaviors that enables every individual to realize their own potential in relation to their developmental stage, to cope with **the normal stresses of life**, to study or work productively and fruitfully, and to contribute to their community.
- **Mental Disorder**: Disturbances of thought, emotion, behavior, and relationships with others that lead to substantial suffering and functional impairment in one or more major life activities, as identified in the major classification systems such as the WHO International Classification of Diseases and the Diagnostic and Statistical Manual of Mental Disorders

Limitations of Mental Health Diagnoses

- Dimensional approaches of symptom spectra rather than discrete categories of mental disorders
- Multiple interacting biological and environmental factors affecting development through out the life course
- Staging model is a compromise between dimensional and diagnostic approaches recognizing opportunities for interventions at all stages of the pathway from wellbeing to different stages of the disorder; recognizes the importance of addressing relevant risk factors or strengthening environments that promote mental health
  - Recognize those with some symptoms but not enough to form a diagnosis falling between these stages and referred to a subsyndromal or subthreshold.
  - Staging model particularly relevant in the crucial developmental phases of infancy and adolescence
  - Particularly useful in primary care where people present with less severe and more mixed symptoms which need to be addressed without the lack of a clear diagnosis


Increasing symptom specificity and severity
From diffuse, non-specific symptoms causing intermittent mental distress to clear syndromes causing increasingly severe functional impairment
Insomnia
Worry
Lack of energy
General unease
Fatigue
Fatigue
Worry
Lack of energy
Lack of motivation
Slowed thought
Anxiety
Aberrant salience
Low mood
Anxiety
Somatic complaints
Hallucinations
Avoidance
Guilt
Delusions
Low mood
Panic
Anxiety syndrome
Mood syndrome
Psychosis syndrome
Mental wellbeing
No distress
Stage of non-specific mental distress
Need more awareness and understanding to promote self-help
Early treatment
Better management and prevention for improvement of overall mental health and reduction of symptoms
State of specific mental syndrome
Progressive treatment aligned to evidence related to specific disorders
Stage 0 Asymptomatic
• Public mental health promotion and illness prevention
• No individual treatment or intervention
Stage 1a Non-specific mental distress
• Self-help and support from informal networks
• Interventions raising population mental health literacy
• Identification of stressful or noxious environmental exposures
• Exploration of environmental modification or development of coping strategies
Stage 1b Subsyndromal or subthreshold symptom profile
• Advice and transdiagnostic psychosocial support from PHC
• Identification of high-risk individuals and monitoring
Stage 2 Full defined syndrome
• First episode treatment in primary care
• Specialist care available for primary health services through properly resourced collaborative models
• Effective referral through stepped care for complex or unresponsive cases
Stage 3 Recurrence, persistence
• Specialist mental health service in collaboration with PHC
• Ongoing community and multisectoral support
Stage 4 Treatment resistance
• Specialist mental health service in collaboration with PHC
• Rehabilitation and ongoing community support

Determinants of Mental Health

- Social (the sociology becomes the biology)
  - Structural social and economic arrangements (eg, poverty and income inequality)
  - Differential exposure to adverse life events (eg, humanitarian emergencies and interpersonal violence)
- See chart five key domains: demographic, economic, neighborhood, environmental and social/cultural

SOCIAL DETERMINANTS ACROSS THE LIFE COURSE

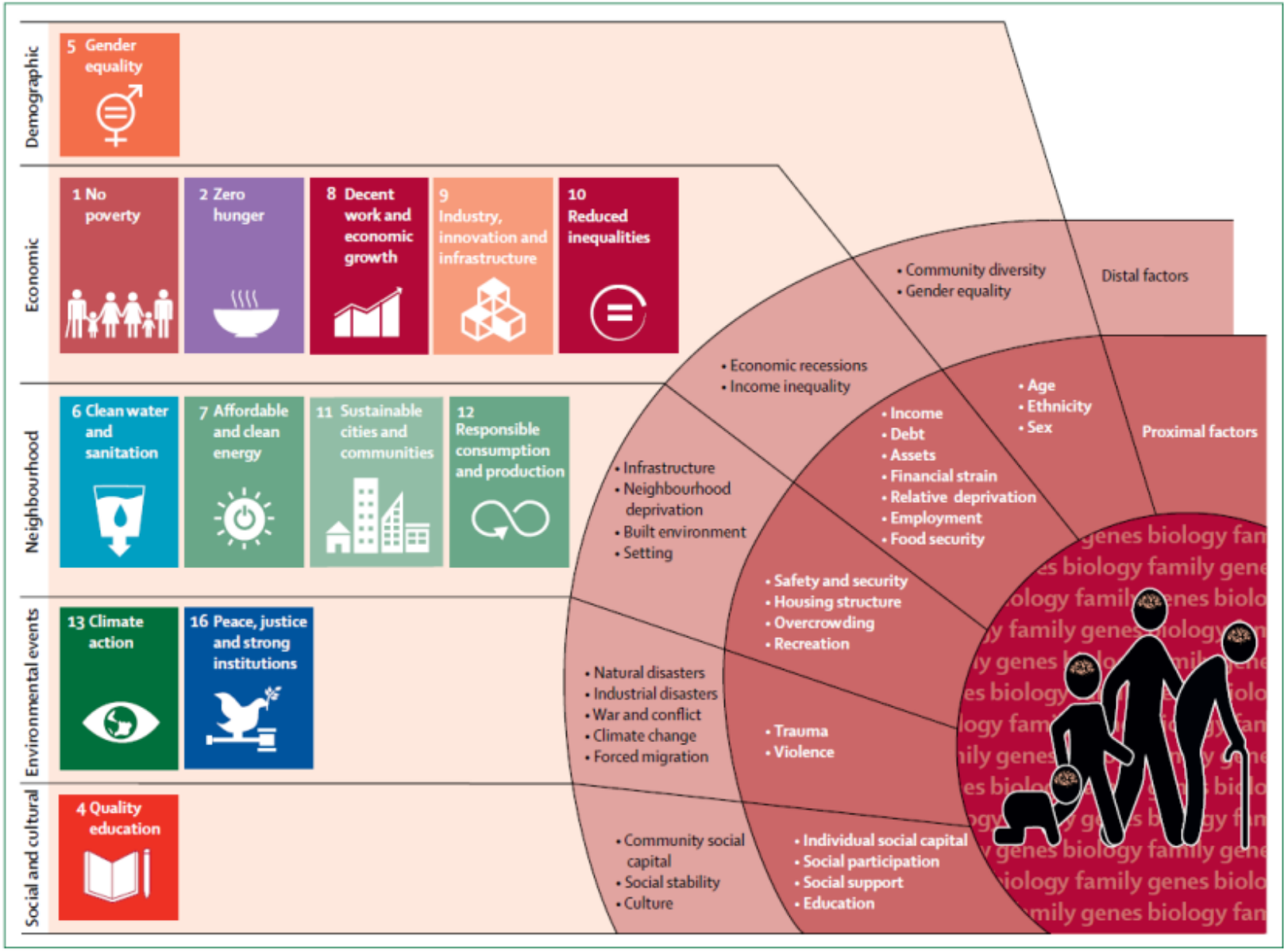


Figure 6: Social determinants of global mental health and the Sustainable Development Goals[90]

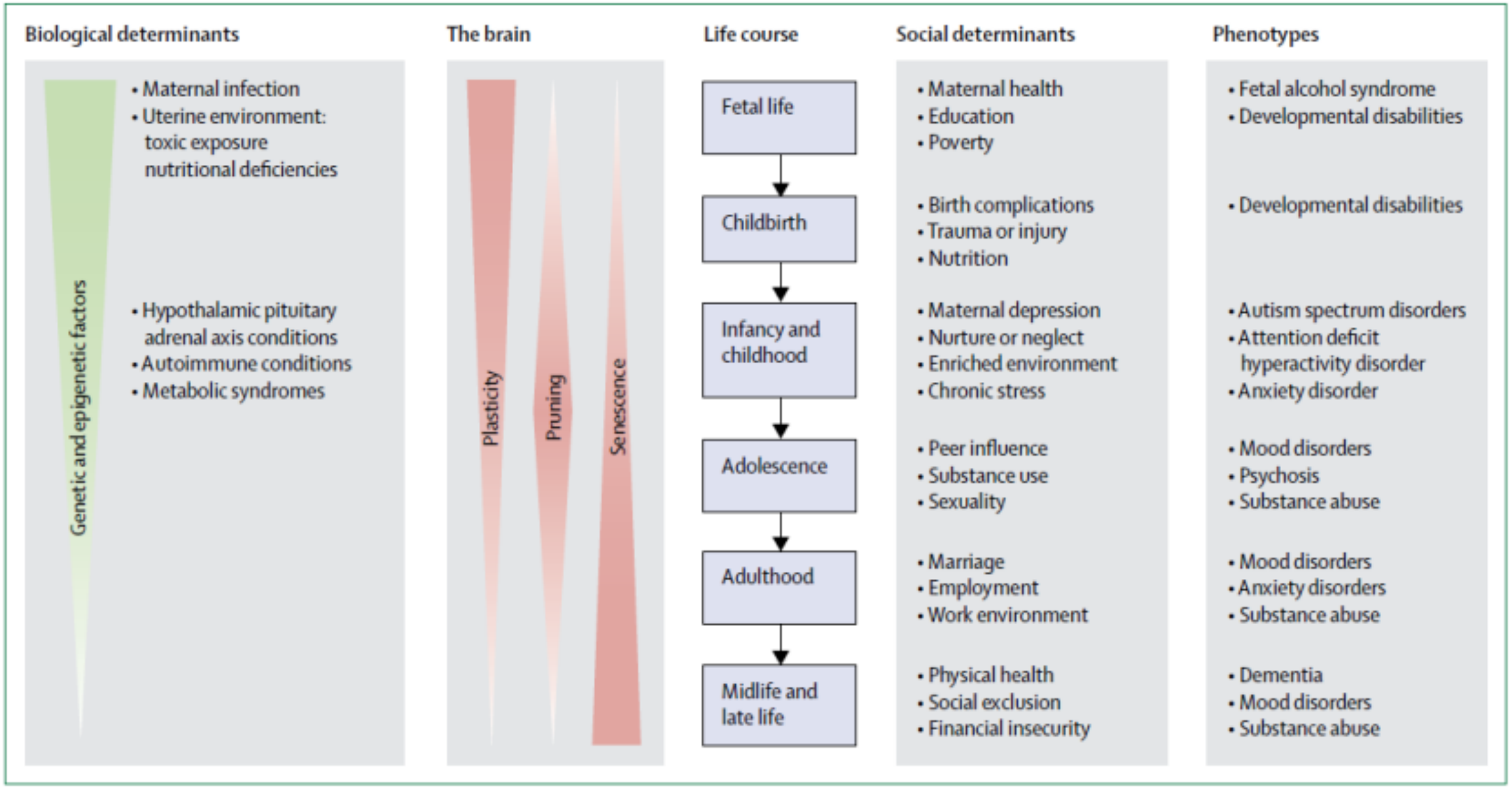


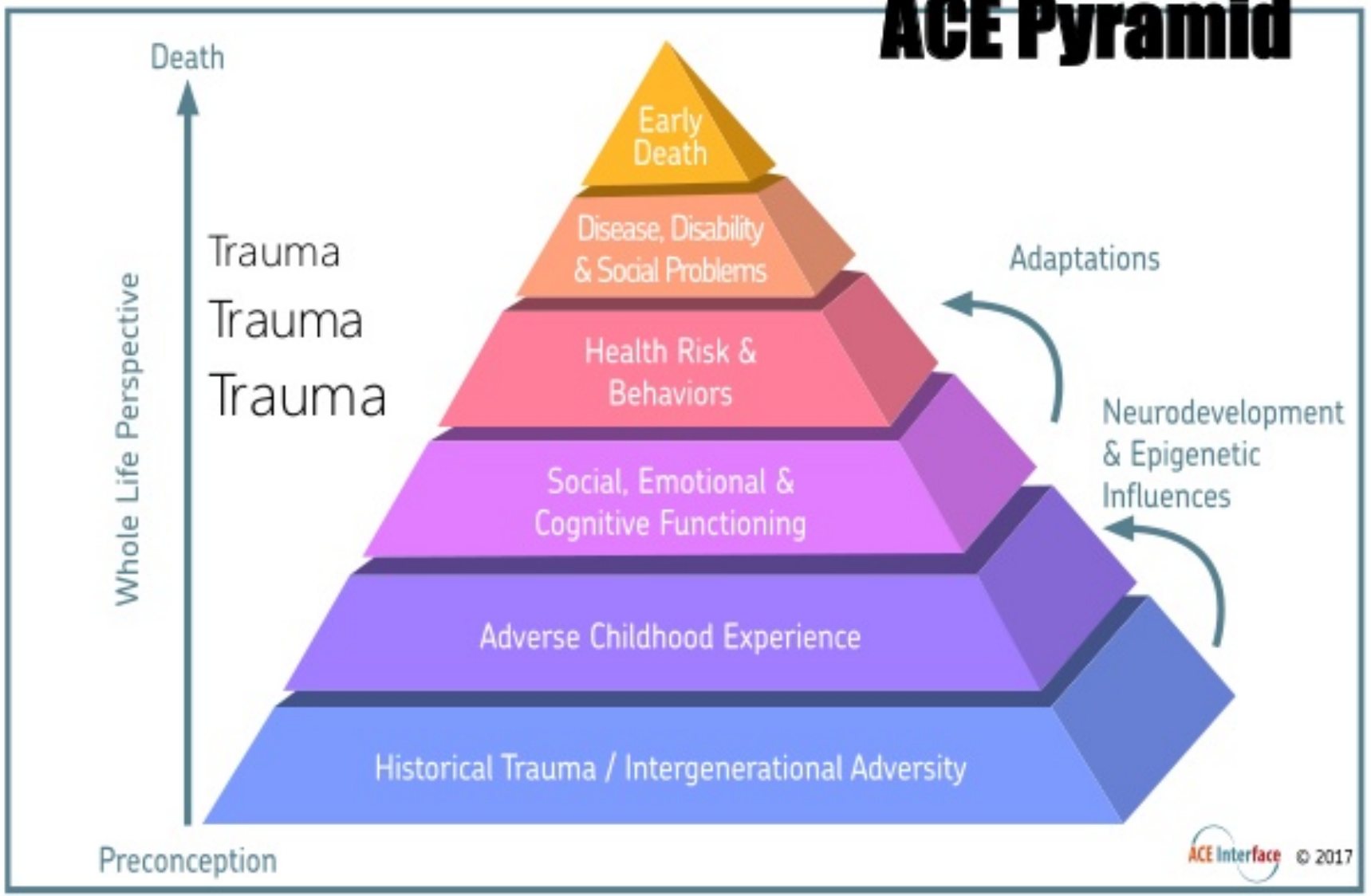
***Figure 7*: Biological and social determinants of neurodevelopment across the life course**

Examples of biological and social determinants that can influence mental health outcomes across the life course. These determinants can operate at different points in life and can interact to produce specific phenotypes.

Convergent Approach to Mental Health

- Strong association of mental health disorders with social disadvantage and childhood adversity (ACEs) and the fact that most mental disorders emerge in adolescence and young adulthood
- Built on evidence emerging from diverse disciplines (eg, developmental science, neuroscience, intervention science and epidemiology)

ACE Pyramid


Death
Whole Life Perspective
Trauma
Trauma
Trauma
Early Death
Disease, Disability & Social Problems
Health Risk & Behaviors
Social, Emotional & Cognitive Functioning
Adverse Childhood Experience
Historical Trauma / Intergenerational Adversity
Adaptations
Neurodevelopment & Epigenetic Influences
Preconception
ACE Interface © 2017

Care for Children and Youth with Mental Health Problems

- Most mental disorders have their origins in childhood and adolescence
- Poverty negatively affects the neurodevelopment and mental health of children, children in lower socio-economic positions are at increase risk of mental ill health in adulthood
- Neurologic changes during sensitive periods in childhood and adolescence provide opportunities to positively affect the developing brain
- Half of all cases of mental disorders develop by age 14 although most remain undetected and untreated until later in life (Patel et al 2007, WHO, 2014)

Types of Mental Health Data

- Retrospective
  - National youth surveys conducted in numerous countries
    - US National Comorbidity Survey Adolescent Supplement (Kessler et al, 2012)
  - Children's mental health Emergency Department visits
- Prospective longitudinal studies
  - Moffit et al 2010
  - Copeland et al 2011
- Global Burden of Disease

Data Before COVID

- The combined mental and substance use disorders among children and youth are the 6th leading cause of DALYs (accounting for 6% of total disease burden in this age group)
- They are the leading cause of disability in terms of years lost due to disability in terms of years lost due to disability, equivalent to a quarter of disability in youths aged 10-24 years worldwide (27%)
- High prevalence of disorders consistently reported in national youth surveys of numerous countries
- Prevalence of DSM-IV disorders was 23.4% (Kessler et al 2012)
- Global Burden of Disease Study 2010: largest study > 1 billion results for deaths, years of life lost due to premature mortality (YLLs), years lived with disability (YLD) and disability-adjusted life years (DALYs covering 291 causes for 187 countries aggregated into 21 regions, 7 super-regions and the entire globe (Lim et al 2012)
- Trend of the study:
  - Human were living longer albeit sicker
  - Disease burden shifting from communicable to non-communicable

Global Burden of Disease Mental Health Data for Mental & Substance Disorders

- Twenty disorders included:
  - Major depressive disorder (MDD), dysthymia, anxiety disorders (as a single cause), bipolar disorder, schizophrenia, conduct disorder, attention-deficit/hyperactivity disorder (ADHD), autism, Asperger's syndrome, anorexia nervosa, bulimia nervosa, idiopathic intellectual disability, cannabis dependence, cocaine dependence, amphetamine dependence, opioid dependence, other drug dependence (a residual category), alcohol dependence, fetal alcohol syndrome, and a residual category of other mental and substance use disorders.
  - Idiopathic intellectual disability was the remaining component once all other intellectual disability had been re-attributed to specific causes (e.g. neonatal encephalopathy) in order to avoid double counting. Certain major disorder groups, e.g. personality disorders, were not included because of exceedingly sparse epidemiological data (Erskine et al. 2013).

Disability-Adjusted Life Year (DALY)

Mental & substance use disorders are the 6th leading cause of DALYs!

GLOBAL BURDEN OF DISEASE (GBD) Results

- Globally in 2010 mental and substance use disorders were responsible for 55.5 million DALYS (49.6-61.2) in people aged 0-24 years
- Mental and substance use disorders were 6th leading cause of DALYs in children and youth accounting for5.7% (5.0-6.3) of total disease burden in this age group
- Mental and substance use disorders were the leading cause of global disability accounting for 54.2 million (48.5-60.0 million) YLDs to a quarter of disability in children and youth worldwide (23.9%, 21.7-28.7)
- Co-occurring social adversities including intimate partner violence, childhood sexual abuse and poverty
- Prevention strategies greatest effect (eg, parenting skills training, maternal mental health interventions, reducing poverty,
- Require integrated behavioral health and primary care

GBD Study Under-estimates

- True extent of association between mortality and mental/substance use disorders
- Study only includes mortality if it was a direct cause of death
- Study underestimates suicide burden by not including suicide if attributable to other mental disorders, ADHD and pervasive developmental disorders

Mental and Substance Use Disorder

- These are major contributors to health-related disability in children and youth
- Half of all cases of mental disorder develop by age 14 years
- Most remain undetected and untreated until later leading to adverse consequences

Mental & substance use disorders are the leading cause of disability in children & youth worldwide!

Increasing Prevalence of Mental Health Disorders in Children and Youth before COVID

- Our health care system has a mental health care gap, a quality gap (ie, the quality of care received by children and youth with mental disorders and a prevention gap (ie, the coverage of interventions that target the risk factors for mental disorders.
- The burden of mental health disorders can only be reduced through combined actions of the prevention of mental disorders and the effective clinical and social care of children and youth with mental disorders

The Problem: Increasing Prevalence of DBMD in the US

- Studies in children 2 to 8 years of age have shown an increase of 20.9% in disability due to DBMD from 2000-2001 to 2010-2011. During this same time the percentage of disability case related to physical health conditions declined by 11.8%.
- These disorders include anxiety, depression, ADHD and other behavioral or conduct problems, Tourette syndrome and autism spectrum disorder plus other problem behaviors, such as suicide, early drug or alcohol use, antisocial or aggressive behavior, and violence
- Rates of DBMD change with age but over time are increasing.

Houtrow et al, Pediatrics 2014: 134: 530-538

~ 1 in 6 Children between the ages of 3 to 17 have a developmental disability

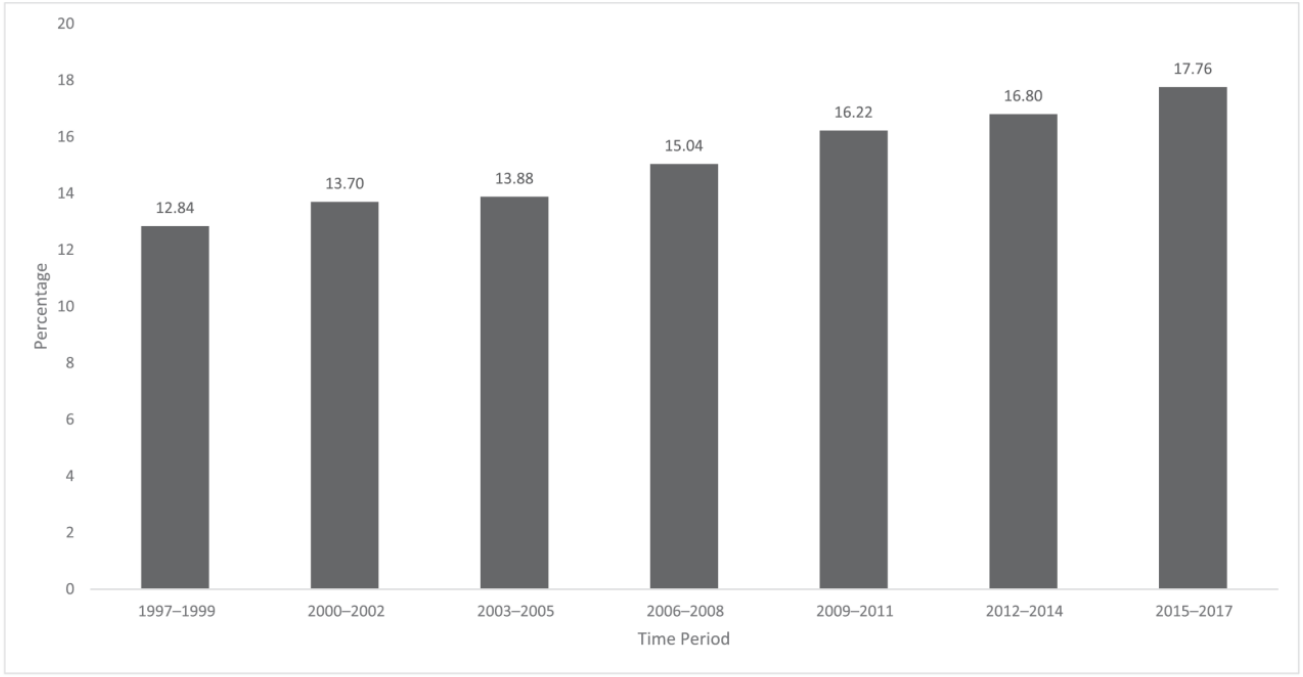


FIGURE 1
Prevalence of any developmental disability among children ages 3 to 17 years in the United States, 1997 to 2017. In 2000, the NHIS shifted from asking

- ADHD
- Autism Spectrum Disorder
- Blindness
- Cerebral palsy
- Moderate to profound health loss
- Learning Disability
- Intellectual Disability
- Seizures
- Stuttering or stammering

Nat'l Health Interview Survey DD 2009-2017

Zablotsky et al, PEDIATRICS 144: 4, Oct 2019

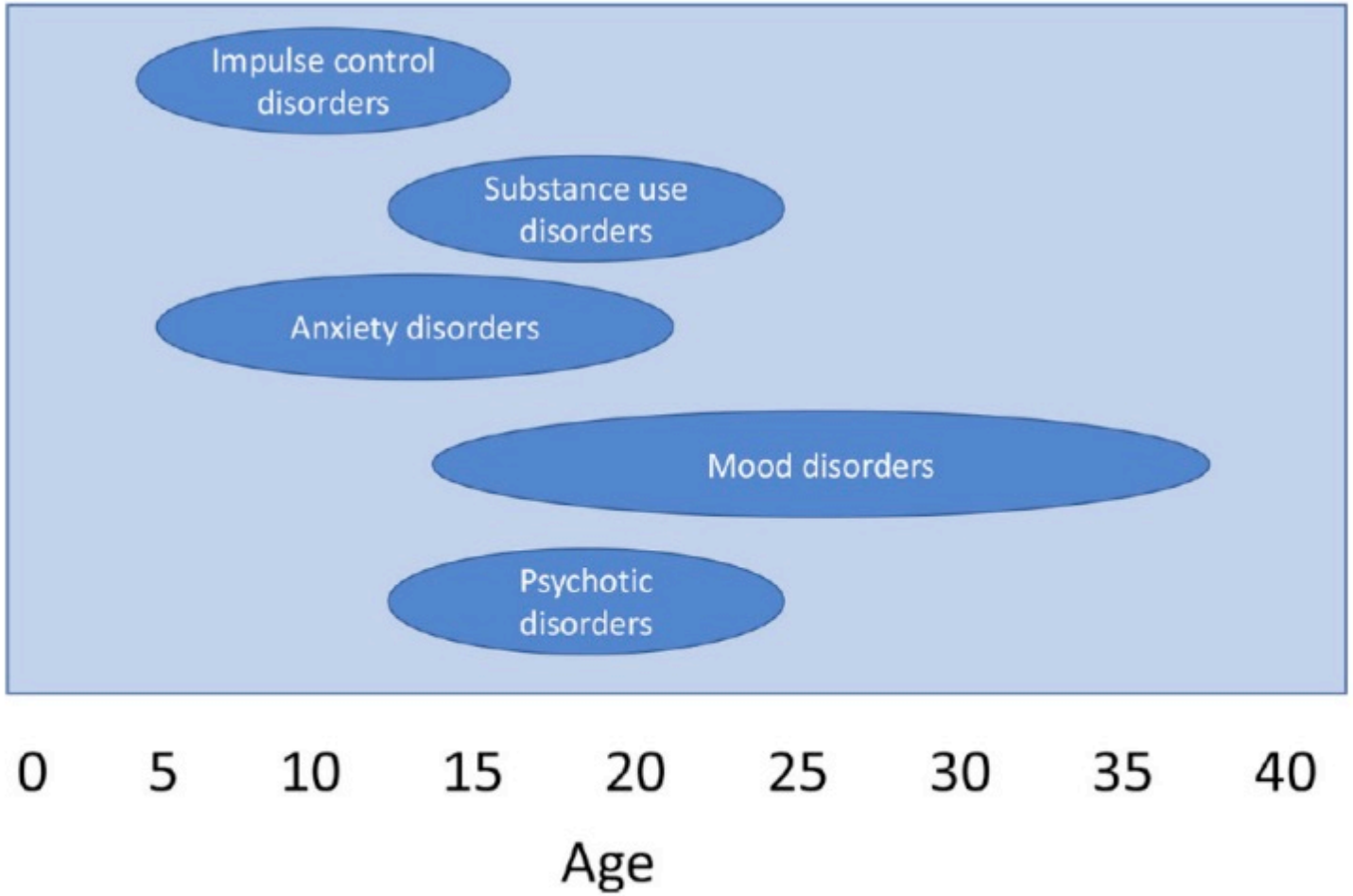
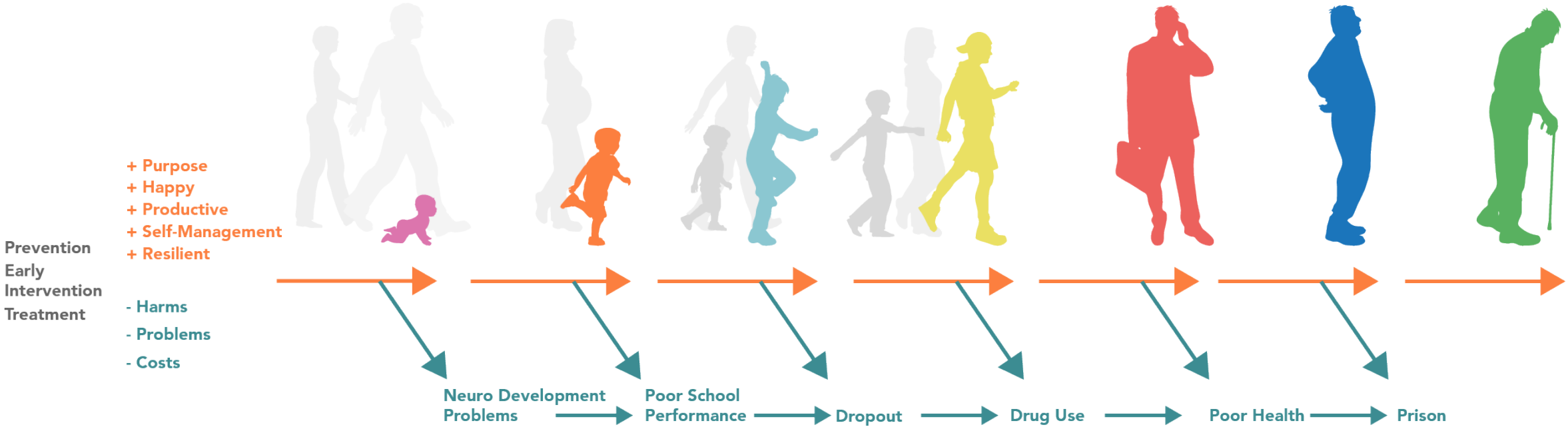


FIGURE 1 | Ranges of onset age for common psychiatric disorders. Data from the National Comorbidity Survey Replication study (13), a nationally representative epidemiological survey of mental disorders. The majority of those with a mental disorder have had the beginnings of the illness in childhood or adolescence. Some anxiety disorders such as phobias and separation anxiety and impulse-control disorders begin in childhood, while other anxiety disorders such as panic, generalized anxiety and post-traumatic stress disorder, substance disorders, and mood disorders begin later, with onsets rarely before early teens. Schizophrenia typically begins in late adolescence or the early 20s [adapted from Ref. (13)].

Life Course: We need longitudinal studies!



+ Purpose
+ Happy
+ Productive
+ Self-Management
+ Resilient
Prevention
Early
Intervention
Treatment
- Harms
- Problems
- Costs
Neuro Development Problems
Poor School Performance
Dropout
Drug Use
Poor Health
Prison

ACE Pyramid
Whole Life Perspective
Preconception
Death
Trauma
Trauma
Trauma
Historical Trauma / Intergenerational Adversity
Adverse Childhood Experience
Social, Emotional & Cognitive Functioning
Health Risk & Behaviors
Disease, Disability & Social Problems
Early Death
Influences
Neurodevelopment & Epigenetic
Adaptations
© 2017

Existing Mental Health Weaknesses: Added Unique Stressors of COVID

- High baseline parent stress levels
- High baseline prevalence of developmental, behavioral and mental disorders in children (particularly in high risk populations)
- Generalized not circumscribe and localized
- Illness concerns
- School closures
- Self-quarantining
- Financial uncertainty
- Vocational uncertainty
- Disruption of mental health protective factors of physical activity, sleep routine, social interactions

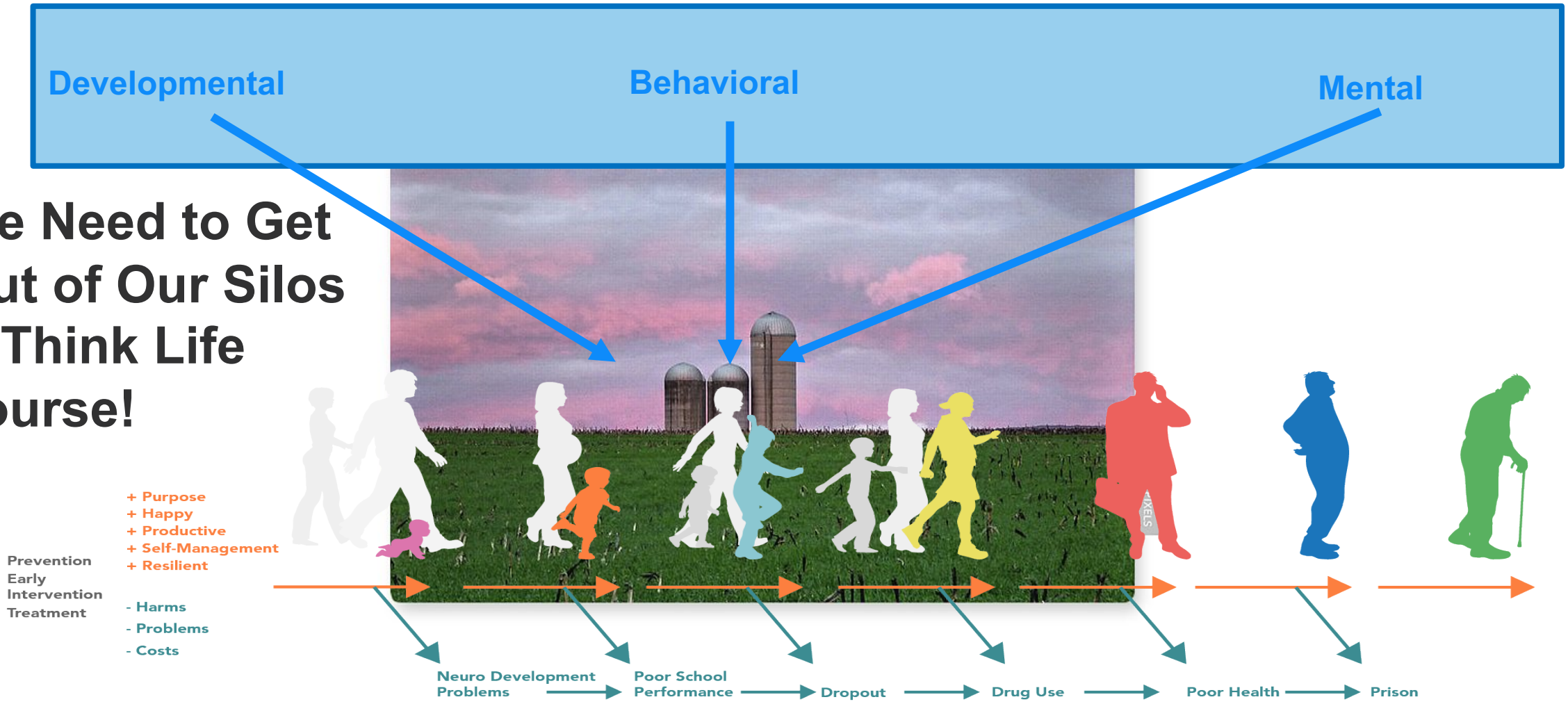
Unmet Mental Health Needs in Children and Adolesents

- Barriers to access
- Delays to Initial Treatment
- Poor engagement with Mental Health Services: Up to 75% treatments leading to premature termination
- Barriers to primary care
- Falling through the cracks
- Poor involvement in the design of mental health services
- Lack of incorporation of scientific evidence into clinical care (clinical staging and early intervention during the developmental period

Threats to Global Mental Health

- Little evidence to suggest substantial reductions in treatment gaps
- Financial resources allocated for mental health by governments remain alarmingly low
- Pharmacological and other clinical interventions for mental health disorders have limited effects on population-level burden of mental disorders: Need investments in early intervention; there is a lack of data (more process indicators rather than outcome indicators
- Multiple transitions face populations and are drivers for poor mental health: 1. increasing social determinants such as pandemics, conflicts and displacement; 2. increasing global income inequality 3. growing economic and political uncertainties 4. rapid urbanization 5. environmental threats such as increased natural disasters associated with climate change
- Biomedical emphasis
- Advocacy for global mental health threatened by fragmentation cause by diverse constituencies and scientific perspectives

We Need to Get Out of Our Silos & Think Life course!



DSM Diagnoses

ALL NEURODEVELOPMENTAL DISORDERS BASED ON DEVELOPMENTAL NEUROBIOLOGY

Application of Interventions Across the Life Course

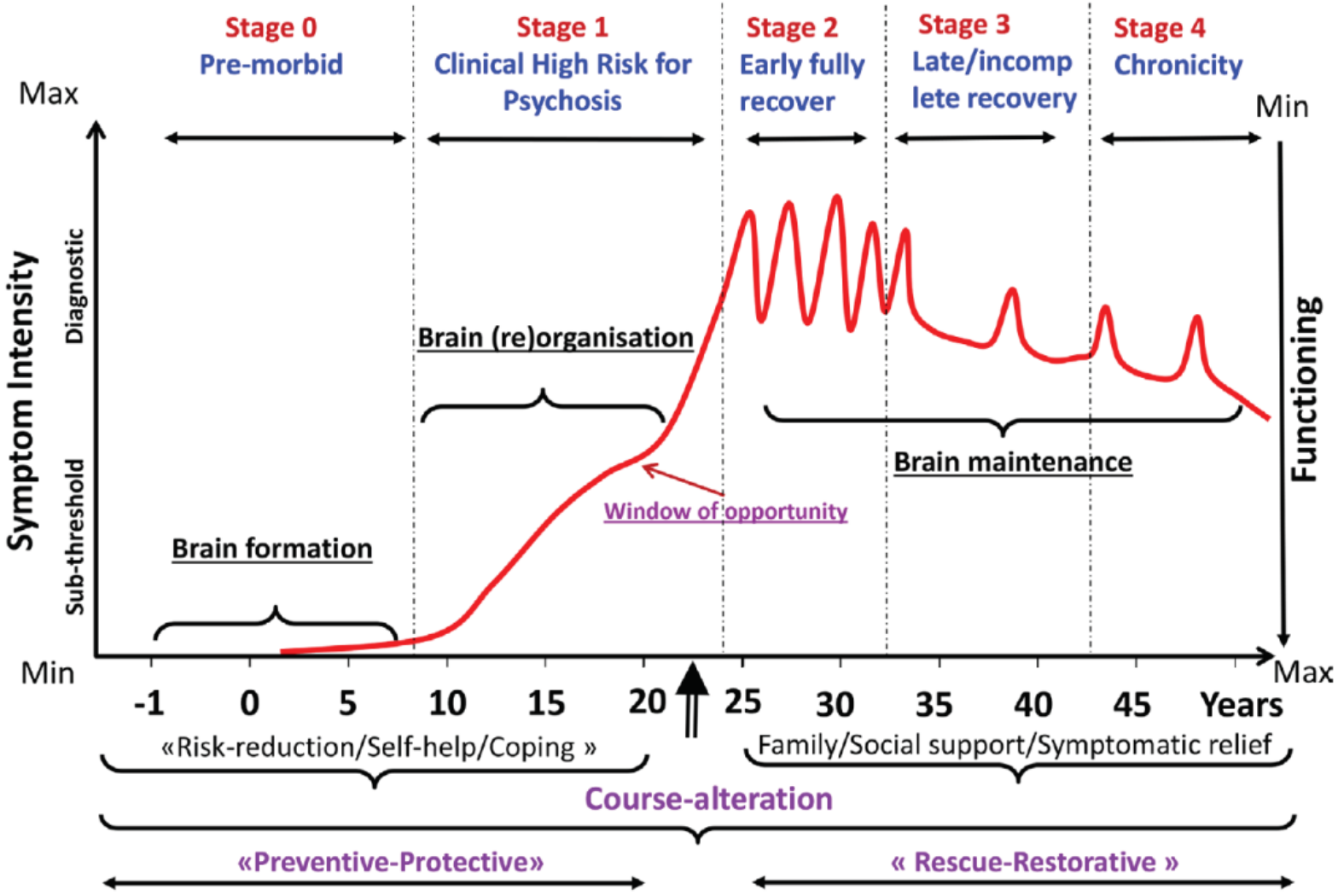


FIGURE 3 | Onset and progression of psychosis in relation to the developmental processes affected by the disorder [adapted from Ref. (25)]. During the premorbid and clinical high risk for psychosis neurodevelopmental phases, risk reduction strategies can exert the highest impact for course alteration. During the early fully recover/late incomplete recovery and chronicity phases, rescue and restorative strategies can have the highest impact on course alteration.

Integrated Behavioral Health Models

- Coordinated care: mental health services that are coordinated with the PCP but not provided in the primary care practice (e.g.,telephone consultation)
- Co-located care: mental health providers who practice in within the primary care setting but share little more than an expedited referral system
- Integrated care:
  - mental health services that are offered on site, with some degree of direct collaboration with PCPs throughout the treatment process
  - Blended hybrid programs or combination of all of the above

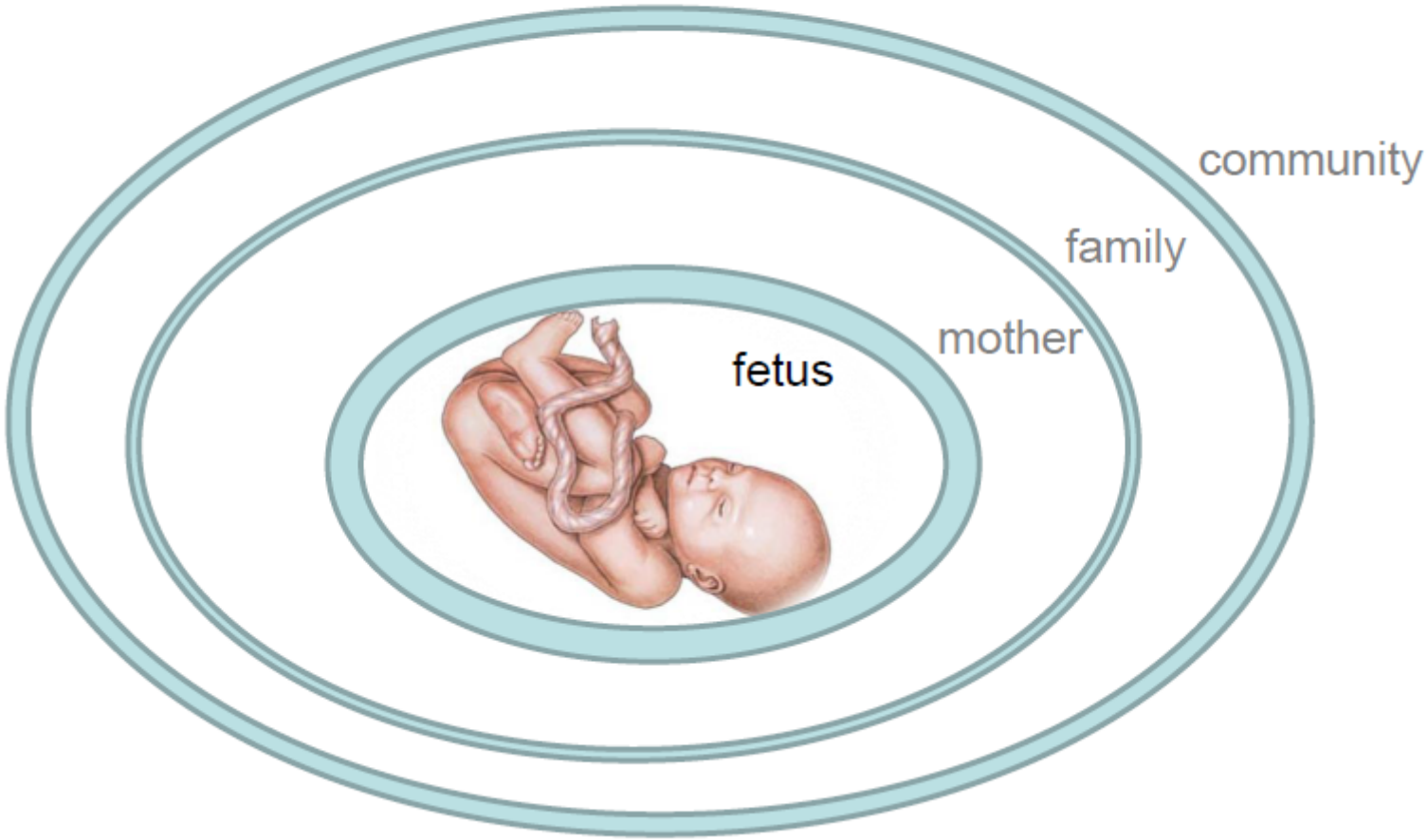
Benefits of Integrating Behavioral Health Into Pediatric Primary Care

- Promote accessibility and family engagement in evidence-based behavioral health services
- Reduce barriers to care
- Increase opportunities for providers to reach a greater number of families than standard medical care
- Result in improvements in patient and family outcomes

Emerging Examples of Family-Centered MH Care: A Family-based Continuum of Care

- Pediatric, obstetric, and adult primary care clinics integrated within an outpatient specialty MH clinic under 1 administrative structure
- Pregnant women who have positive screening results for depression are connected to integrated MH clinicians and psychiatrists
- Care continues with same clinician during the postpartum period
- Screening for parental depression continues during well-child visits until age 5
- Mental health clinicians provide evidence-based interventions, warm handoffs
- Billing models are implemented to support timely interventions for MH concerns emerging in children and parents
- Interventions to address parenting skills deficits, family conflict and adverse childhood events are offered within the center

Circle of Influences on Fetal and Infant Health



Break Down Silos Separating Child & Adult Mental Health Services

- Improve access and quality of effective interventions for families
- Family mental illness is a key component and current parental symptoms need to be actively addresses as an important component of treatment planning for children.
- Screening for maternal mood and anxiety disorders in now recommended practice but there are many barrier to referral
- New models of family centered integrated mental health care needed to provide treatment of parents' mental health symptoms which improves functioning and reduces symptoms in their children
- Models of integrated care include:
  - Collaborative care
  - Co-located MH clinicians
  - Care management/coordination
- Currently adult MH services are rarely well integrated into child-focuses systems

Efforts to Pilot Integrated Care Approaches

- These must include efforts to address parent MH
- Child and adolescent MH Outpatient Clinics should has capacity to deliver brief evidence based treatment for common parent MH concerns
- These clinics should also have capacity to address parenting skills deficits and family conflict as part of comprehensive treatment plans
- One-stop early intervention service: Headspace: Multidisciplinary, integrated, and delivered in a single setting which constitutes a soft entry point

Future Directions for Continued Integration

- Training medical staff and behavioral staff to broaden skills
- Implementing universal behavioral health screening
- Developing a tiered approach to treatment based on the identified needs of the patients
- Utilizing care coordination and management
- Involving outside consultation to psychiatry when appropriate for medication management, level of care consultation, and/or inpatient/hospitalization consultation
- Shift in mindset from Child Mental Health to Family Mental Health

Digital Technology: Part of the Solution

- Can educate the public and disseminate information about common mental disorders through antistigma campaigns, substance use prevention messaging and efforts to promote awareness by use of SMS
  - Online communities: Family members can also access important resources such as social support, recommended coping strategies, and self-help programs delivered online or through mobile phone platforms—for example, for developmental disorders,173 mood and anxiety problems (the Depression and Bipolar Support Alliance), and for dementia (WHO's iSupport)
- Can facilitate screening and diagnosis of mental disorders
- Can support the treatment and care of people with mental disorders.
  - Telepsychiatry applications such as online videoconferencing can allow patients to connect with mental health providers for clinical consultations for diagnosis, follow-up care, or long-term support
- Can support effective training and supervision of non-specialist health workers through digital learning and supervision platforms, by providing crucial decision support tools, or access to specialist consultation and support.
  - Digital applications can extend the capacity and reach of the limited number of mental health specialists by facilitating off-site supervision and mentoring of local health and lay providers. Such support can build provider capacity and reduce burnout and turnover among frontline health workers.
- Can support health-care, system level efforts to improve mental health. For example, digital mental health information systems can help track patients and mental health outcomes of defined populations, and can ensure that patients do not fall through the cracks. Tools such as mobile or web-based registries can facilitate care coordination and prompt targeted notifications to the care team or family caregivers. Such technologies could also afford opportunities to identify crisis situations and facilitate rapid response.
  - Can support health-care systems through analysis of big data to facilitate system monitoring, planning, and quality improvement as well as targeting specific interventions to patients (an approach aligned with the principles of precision medicine).

Questions?

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