

ACES Screening and Interventions

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Disclosures

I have no financial relationships to disclose or conflicts of interest to resolve

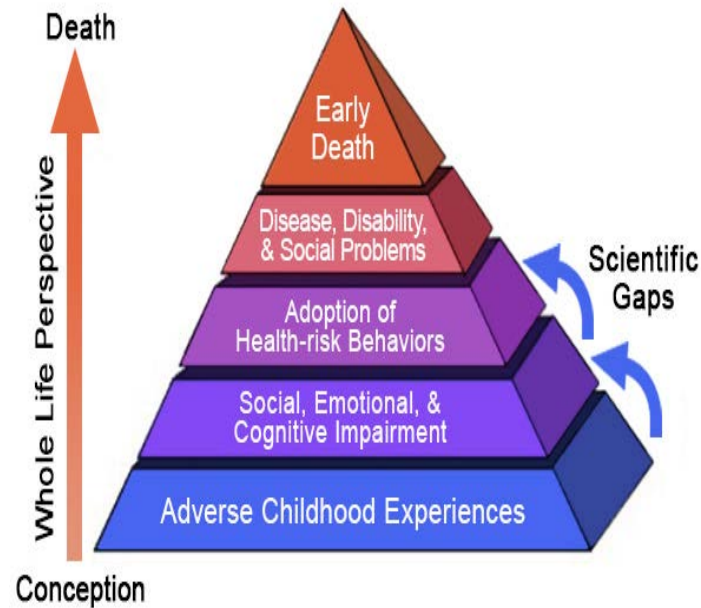


Overview

- Brief Overview of the Science of Adversity
 - Population-level
 - Individual-level
- ACEs Screening
 - Risks vs. Benefits
 - “Conventional” ACEs vs. “Expanded” ACEs
- Trauma-Informed Interventions to Build Resilience



Adverse Childhood Experiences (ACEs)



Stressful or traumatic events (including abuse, neglect, and household dysfunction) occurring before the age of 18 years that have adverse effects on individual functioning and physical, social, and emotional well-being

Substance Abuse and Mental Health Services Administration



The Science of Adversity

Population-Level



Vincent Felitti, MD

Interviewed a sample of 'dropouts':

During an interview, he accidentally asked, "How much did you weigh when you were first sexually active"? The patient, a woman, answered: "40 pounds"

1985: Sought to understand reasons for the high dropout rate in his obesity clinic

Of the 286 patients interviewed, a significant proportion were sexually abused

The Science of Adversity

Population-Level

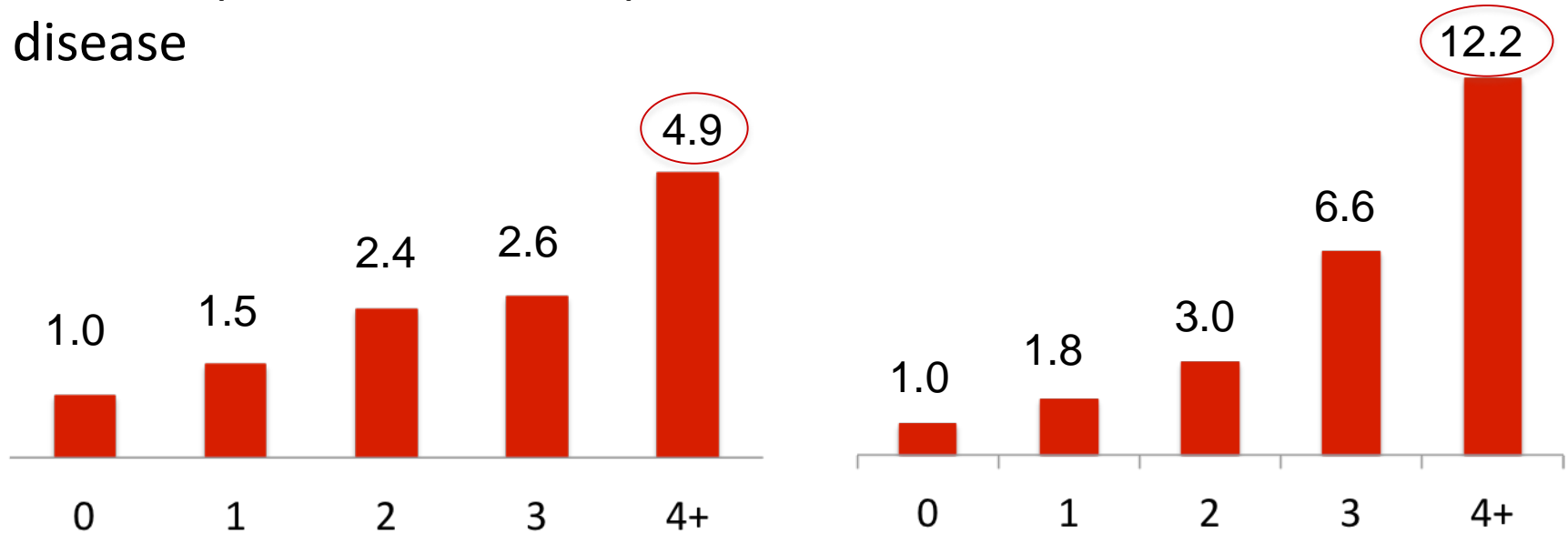
ACEs Study

- Surveyed 17,000 adult patients at Kaiser Permanente
- Objective: to understand relationship between child adversity and adult health outcomes
- 10-item questionnaire
- Each positive response given a score of “1”

Childhood Exposure	Subcategory
Abuse	Psychological Physical Sexual
Household Dysfunction	Substance Abuse Mental Illness Intimate Partner Violence Criminal Behavior Divorce
Neglect	Emotional Physical

Adverse Childhood Experiences Study

- More than 50% of adults reported at least 1 ACE
- More than 25% reported 2 or more ACEs
- Dose response relationship between ACE score, risk behaviors, and disease



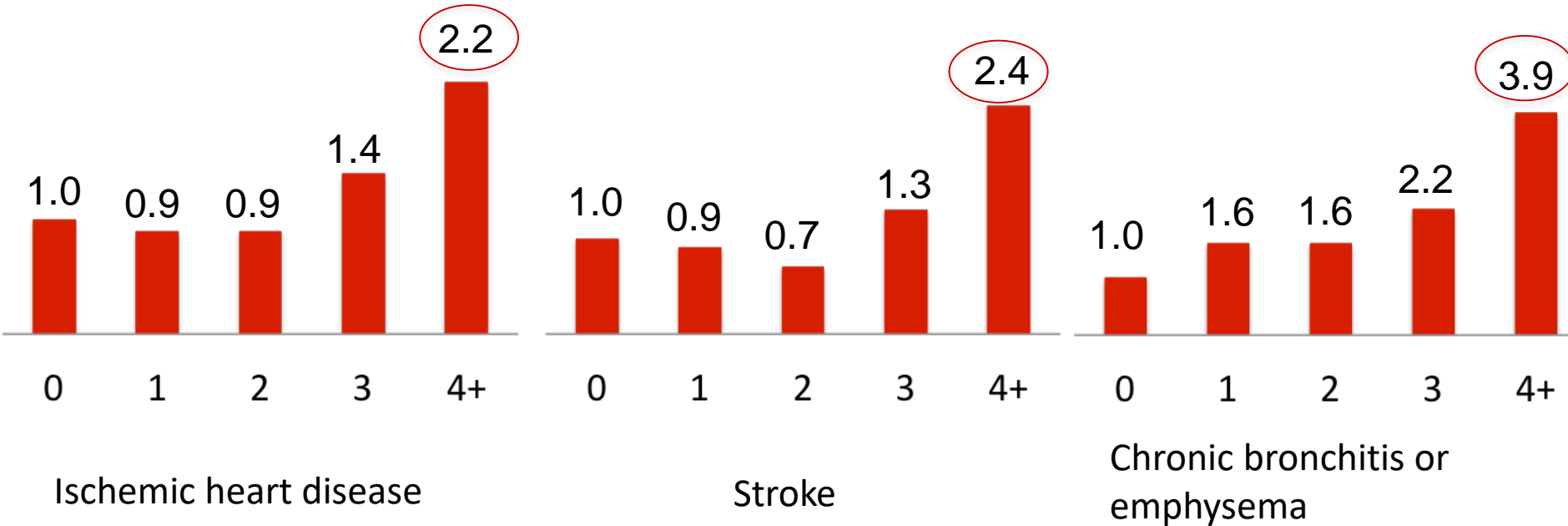
Two or more weeks of depressed mood in the past year

Ever attempted suicide

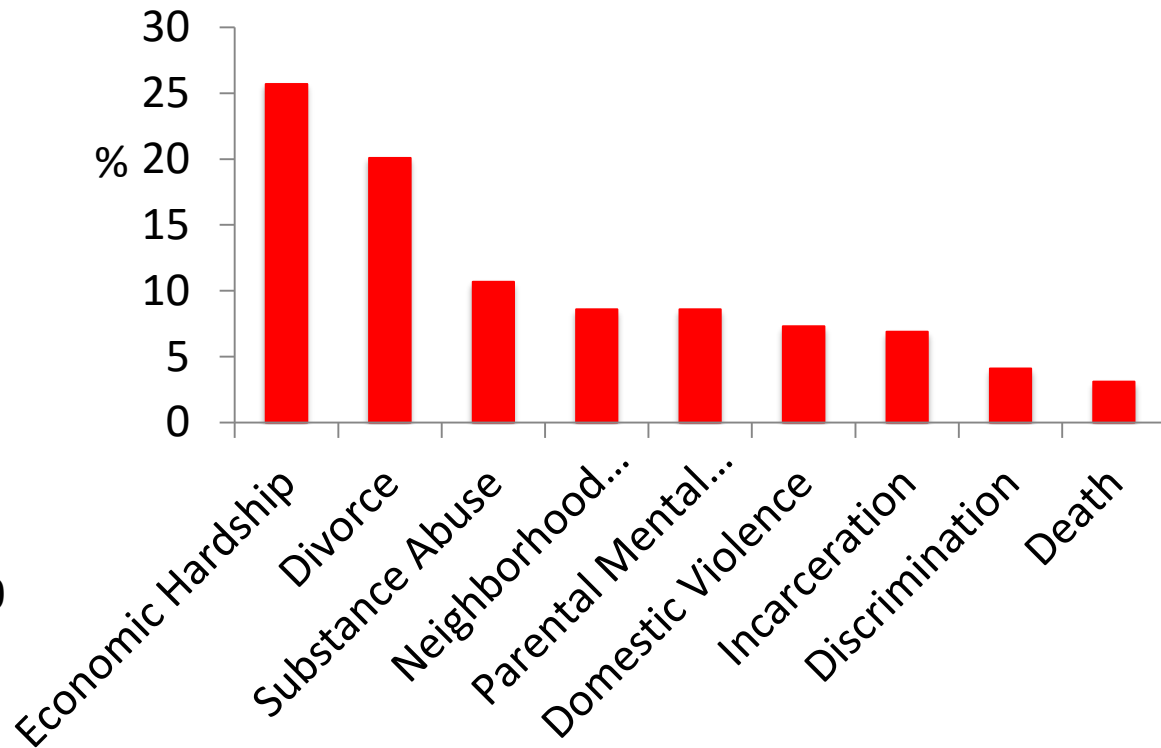
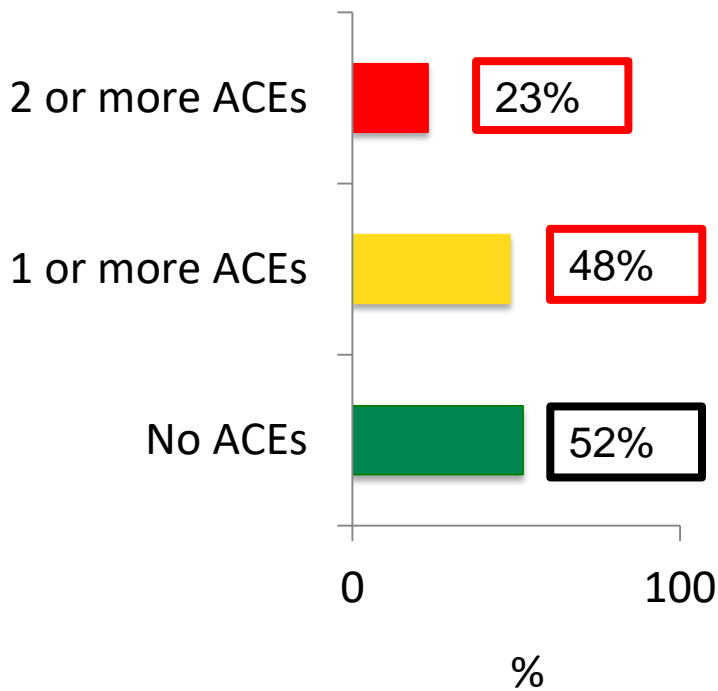


Adverse Childhood Experiences Study

Physical Health Consequences



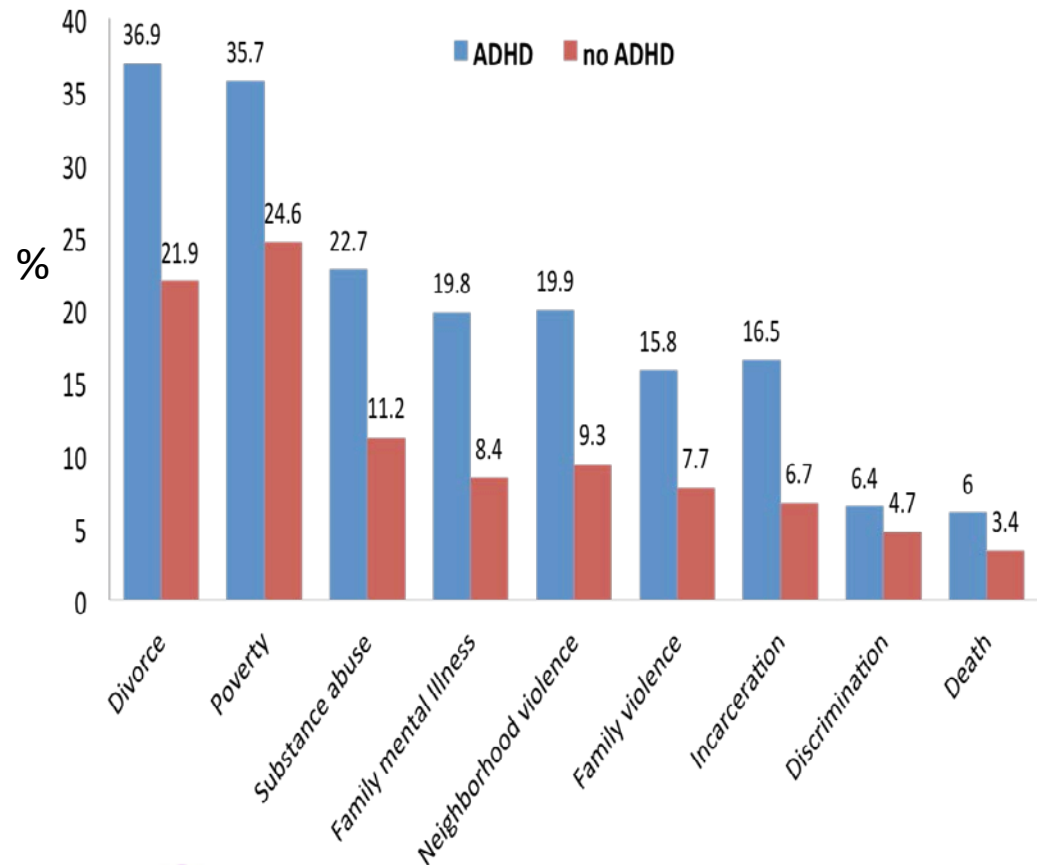
Adverse Childhood Experiences in U.S. Children



Child ACEs are Associated with Poor Population-Level Child Health Outcomes

Common pediatric conditions/issues

- Asthma
- Headaches
- Developmental delay
- Poor academic performance
- **ADHD**
- Adolescent pregnancy



Brown NM, et al, *Academic Pediatrics* 2017

Associations Between ACE Type, ACE Score, and ADHD Severity

ACE Type	Moderate to Severe ADHD (vs Mild ADHD) aOR ^a (95% CI)
Socioeconomic hardship	1.47** (1.13 to 1.89)
Divorce	1.05 (0.81 to 1.35)
Familial substance abuse	1.13 (0.83 to 1.55)
Familial mental illness	1.57** (1.12 to 2.21)
Neighborhood violence	0.94 (0.69 to 1.28)
Incarceration	0.89 (0.61 to 1.29)
Domestic violence	0.83 (0.58 to 1.19)
Discrimination	1.04 (0.65 to 1.67)
Death	1.18 (0.73 to 1.92)
ACE Score	
0	Reference
1	1.27 (0.95 to 1.71)
2	1.65** (1.21 to 2.26)
3	1.73** (1.15 to 2.59)
4 or more	1.63** (1.14 to 2.33)

*p < 0.05; **p < 0.01; ***p < 0.001

Specific ACEs are Associated with Suboptimal Health Care Utilization and Access to Care

Alcala et al (2017):

- All ACE types are associated with lower odds of being insured in a national sample of US adults
- Emotional abuse, familial mental illness, living with a drug user, familial incarceration and parental divorce associated with lower odds of having a personal doctor
- Sexual abuse associated with lower odds of yearly check-up

Limitations of Population-Level ACE Data

“All traumas are not created equal”

ACEs are weighted equally;

ACE score assumes that ACEs are equally traumatic

Differential experience of trauma;
wide variation in stress response

Much of the existing data is cross-sectional

More longitudinal studies needed

Conventional ACE questionnaire does not capture community contexts and social injustices/stressors, i.e. racism



STRONG
CHILDREN WELLNESS

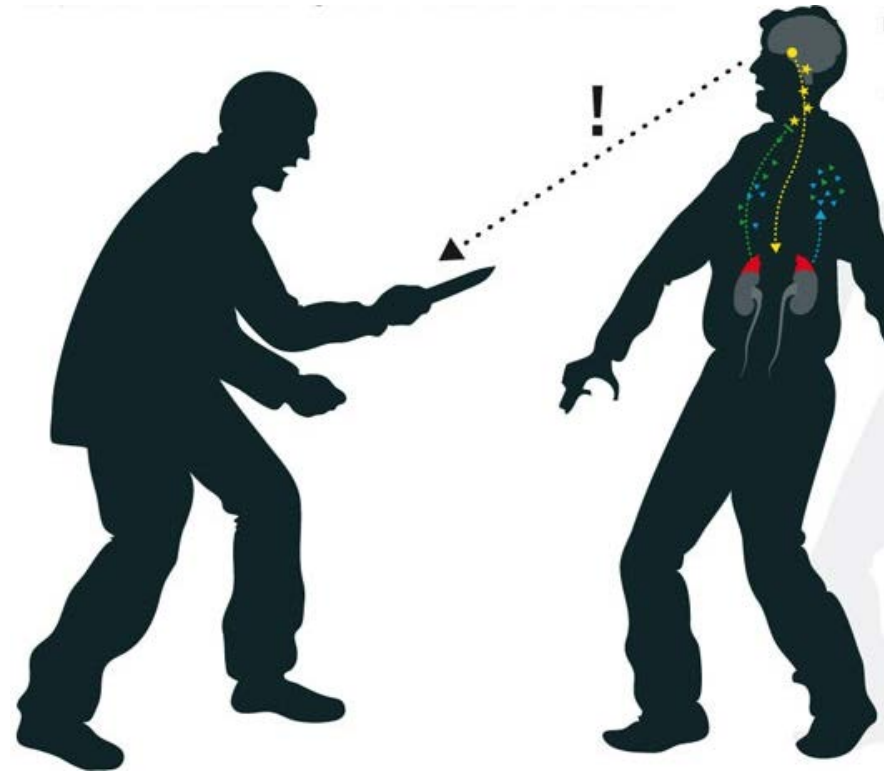
Adversity and Stress Response

Individual Level

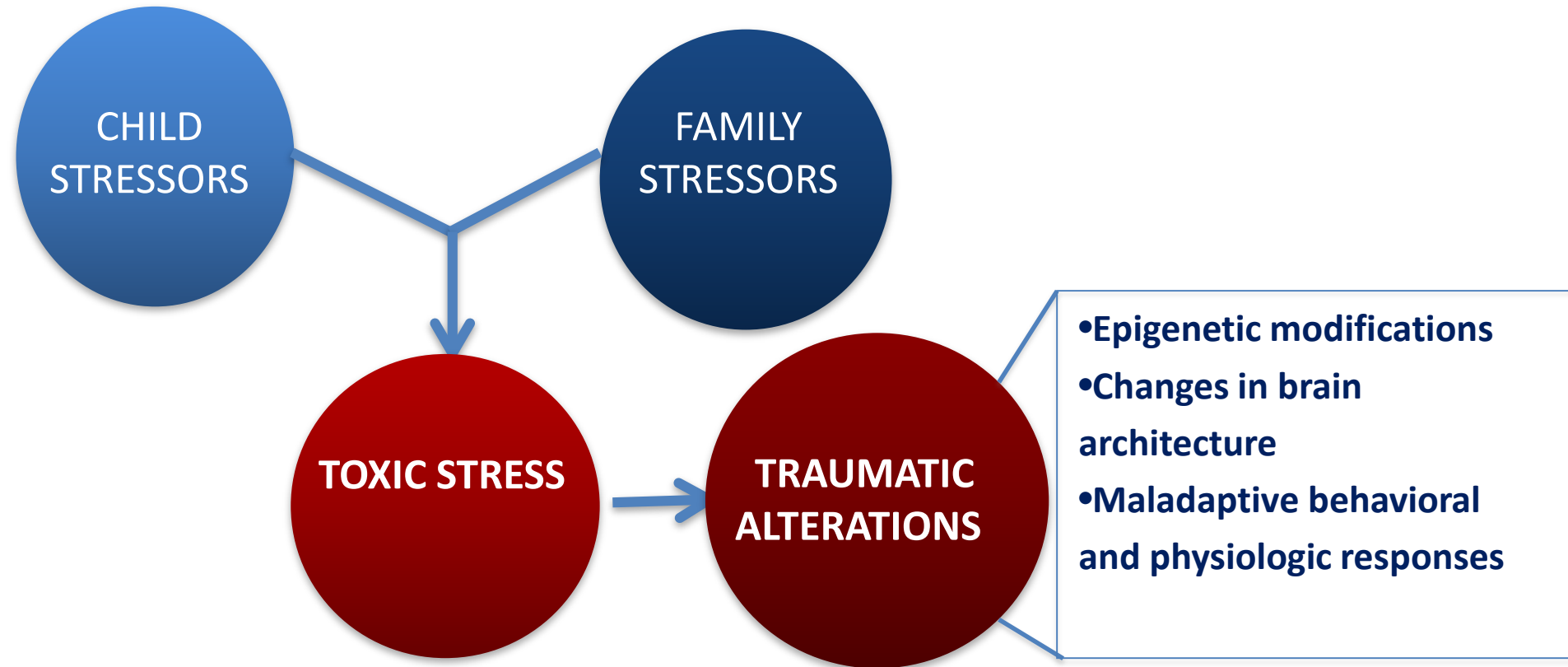
When confronted with adversity:

- Adrenaline released → fight or flight response
- HPA releases cortisol → mobilizes energy stores, activates immune system, enhances memory

When stress response systems are activated in children in the context of supportive adult relationships, these physiological effects are buffered



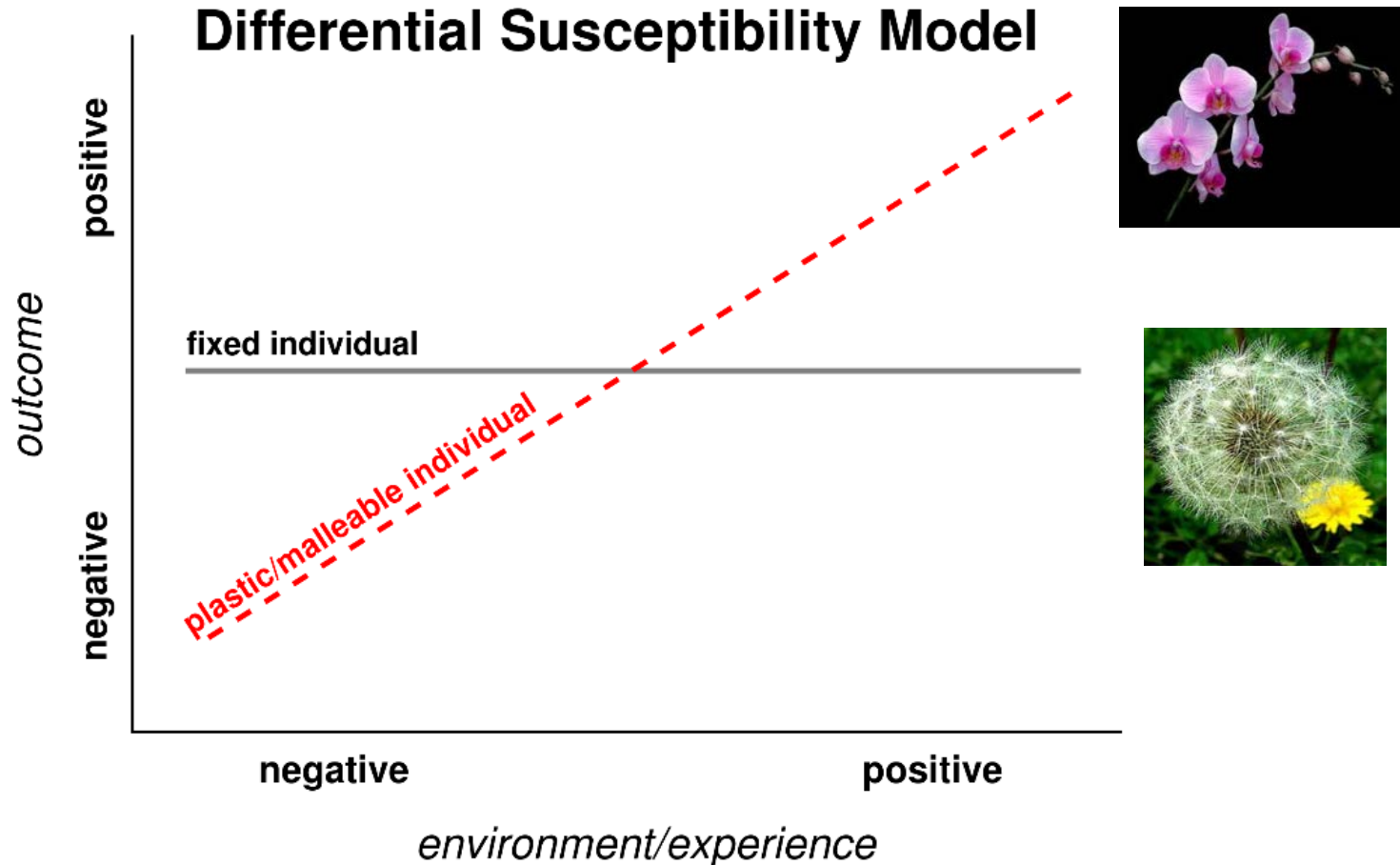
How Adversity Gets “Under the Skin”



Adapted from American Academy of Pediatrics. Helping Foster and Adoptive Families Cope with Trauma. (2013)

Dandelions and Orchids

Individual variation in excessive stress activation





POLICY STATEMENT

Early Childhood Adversity, Toxic Stress, and the Role of the Pediatrician: Translating Developmental Science Into Lifelong Health

“Pediatric practices[should] consider implementing standardized measures to identify family and community-level factors that put children at risk for toxic stress”



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ACEs Screening: Important Considerations

- Screening has benefits when we have interventions that mitigate potential harmful outcomes
 - Wide range of potential interventions needed for specific ACE types; costs and skill of workforce in some settings may be prohibitive/limited
 - While referral of ‘high ACE scorers’ to behavioral health providers may have benefit, evidence is limited
- ACEs questions may be seen as intrusive, and carry stigma
- Risk for overtreatment



ACEs Screening: Important Considerations

- Mandatory child abuse reporting may contribute to underreporting of ACEs, and/or inquiries about ACEs (even ACE score) may provoke suspicion of abuse
- Usefulness of a screening tool depends on it's accuracy (sensitivity and specificity) and potential to inform clinical decision-making, enhance receipt of care, and promote health



How accurately do ACEs capture stress exposure in children and do we have interventions in place for downstream effects?



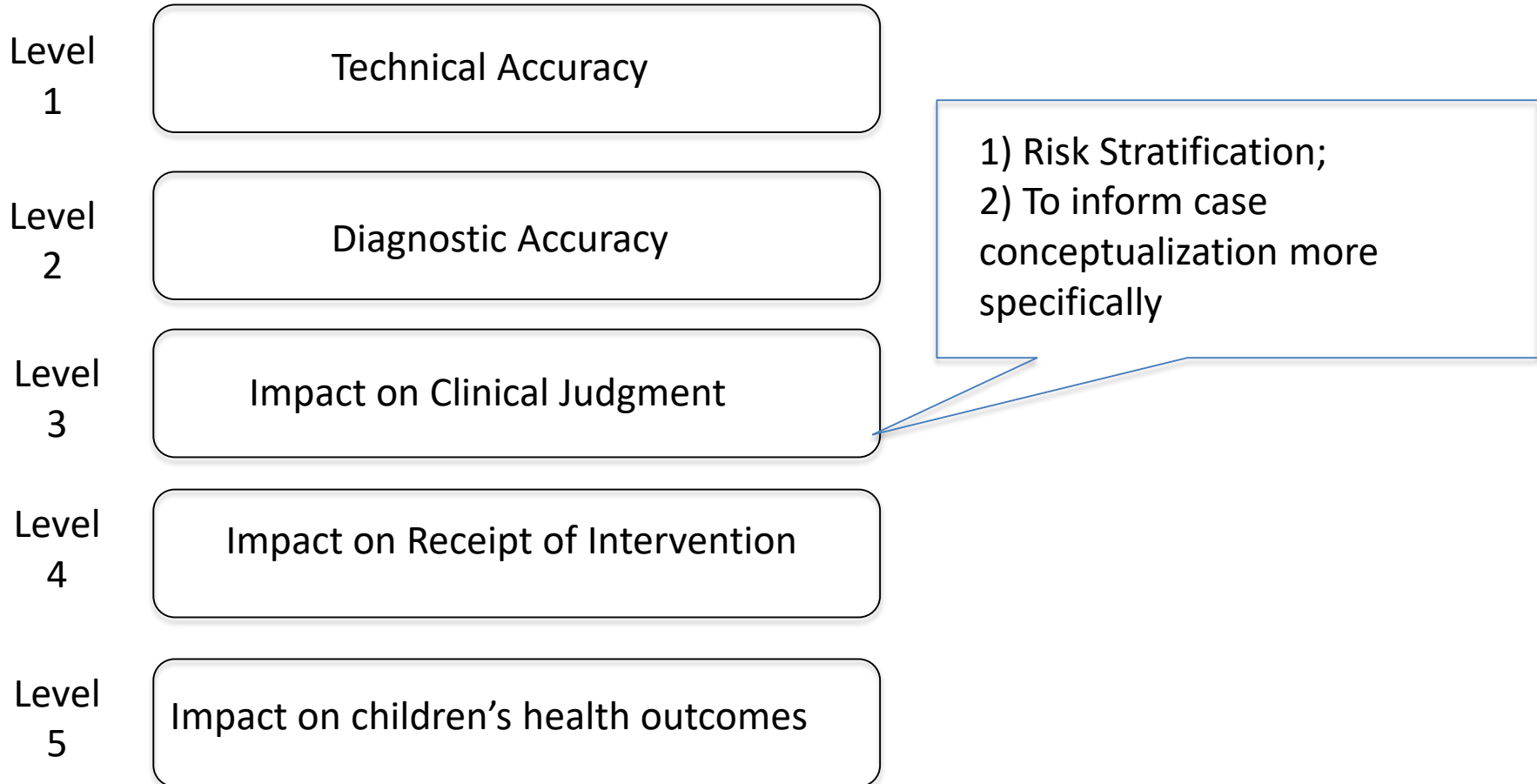
PHQ-2

ASQ
MCHAT

PSC-17
Vanderbilts

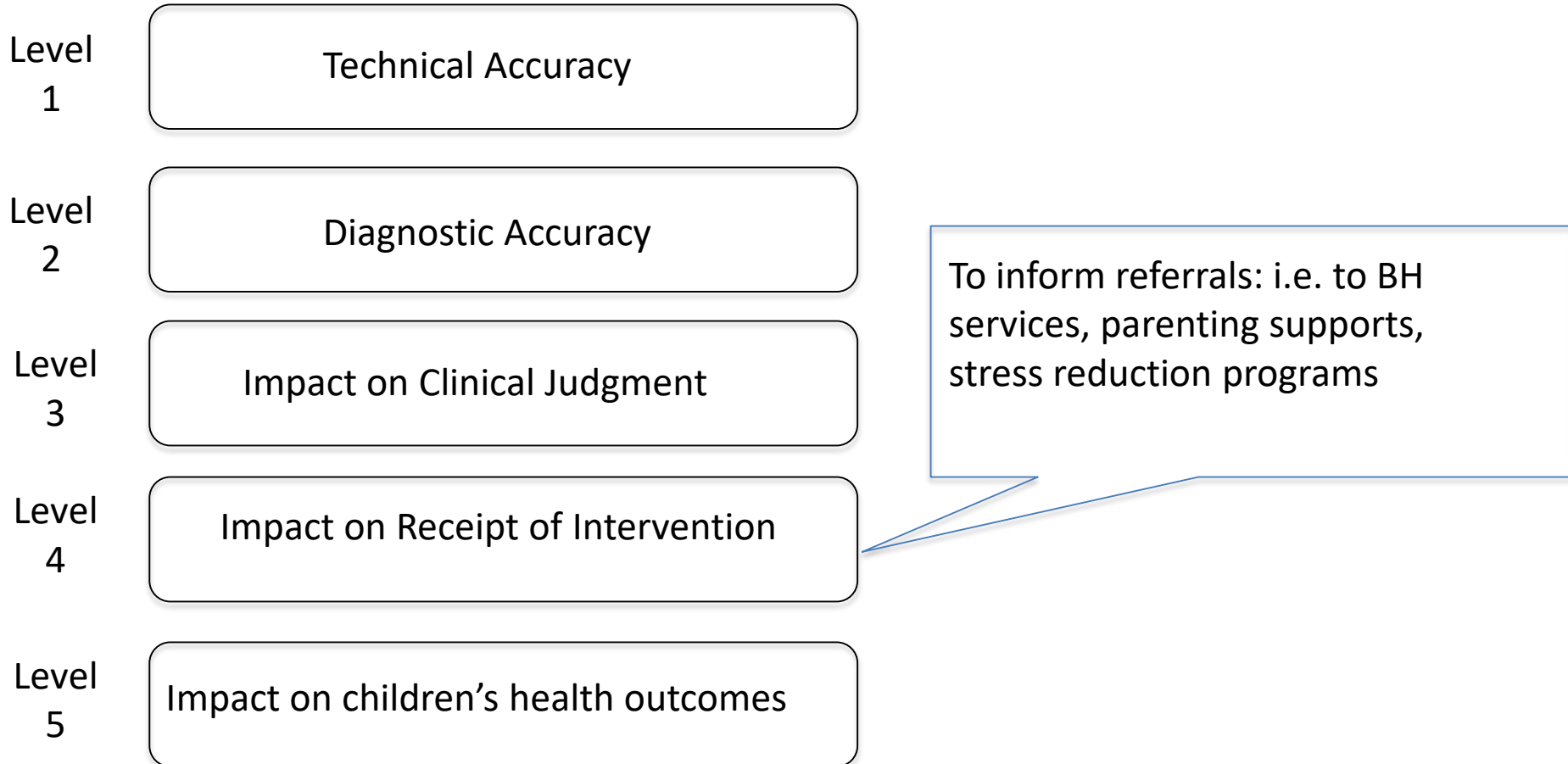


Goals/Potential Benefits of ACEs Screening



Adapted from Fryback and Thornbury, *Med Decis Making* 1991

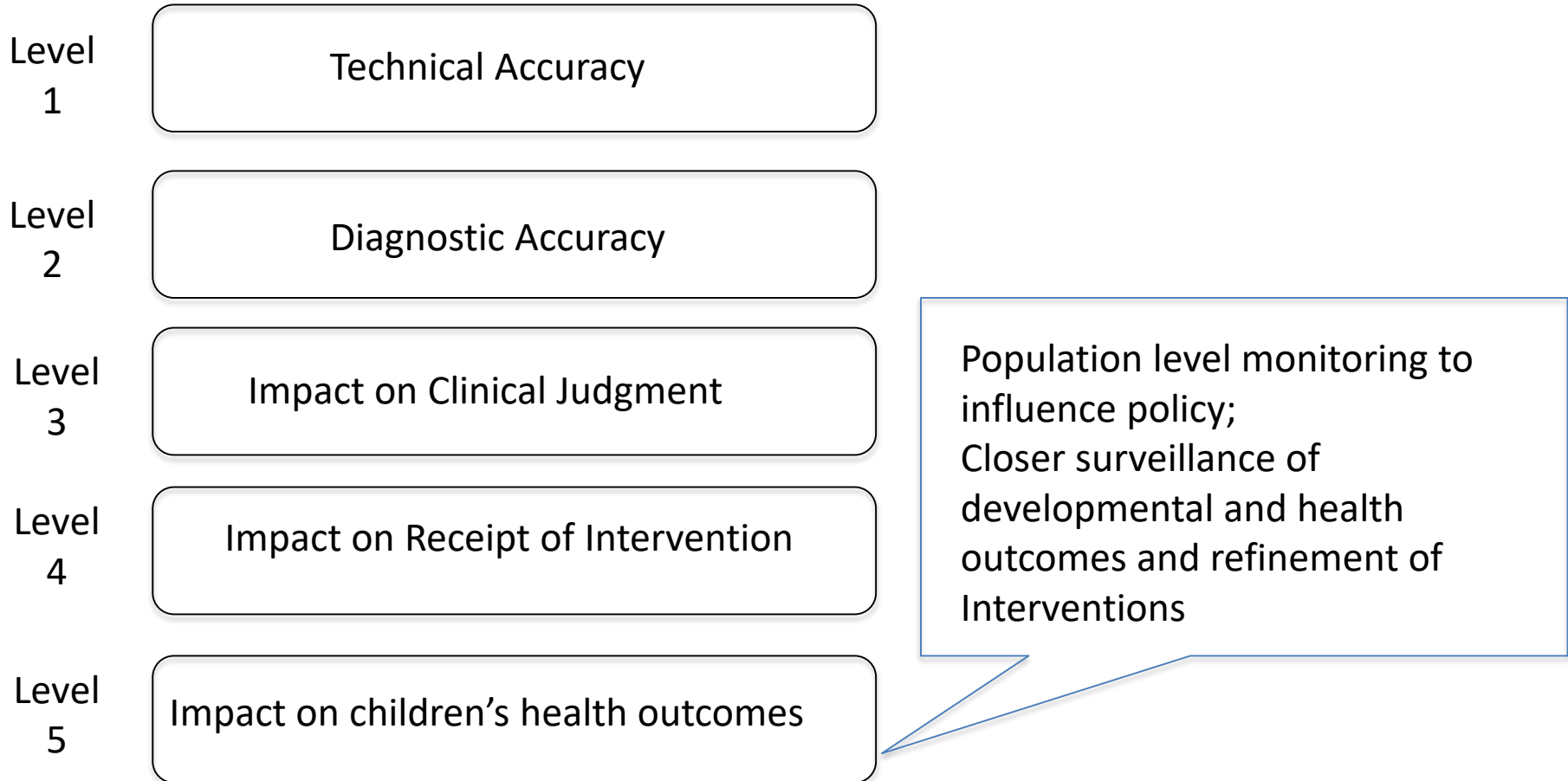
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Goals/Potential Benefits of ACEs Screening



Adapted from Fryback and Thornbury, *Med Decis Making* 1991

ACEs Screening at Montefiore

- Universal ACEs screening since 2016
 - CDC ACEs screener (adapted for child and parent)
- Infant and Parent ACEs starting at 2 month visit
- Child ACEs screening at each yearly well visit, starting at 12 months through adolescence



Montefiore

Dear Parent,

At Montefiore we care about your child's health, both physical and emotional, and we want to make sure that your child receives the best quality of care.

Studies have shown that the more stressful events you experience as a kid, the more likely you are to have long term physical health problems as an adult such as diabetes, high blood pressure, heart disease, etc. As the number of stressful events your child is exposed to increases, your child's risk for these health problems increases as well. At Montefiore, we have the opportunity to identify these risks so that we can help prevent or lower the risk of health problems for your child.

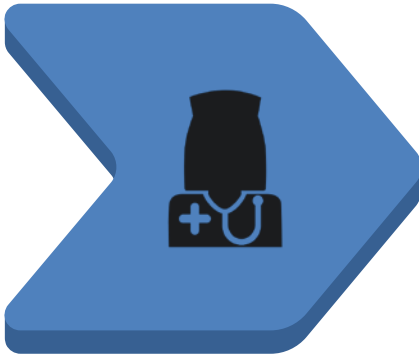
That's why it is so important to answer this questionnaire honestly, even though these are personal questions. Answering this questionnaire is completely optional.

Your answers will be kept confidential.



Montefiore

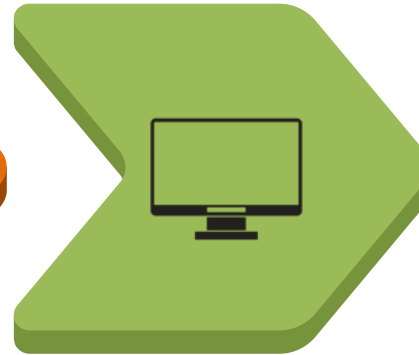
ACE Screening in Primary Care: Workflow



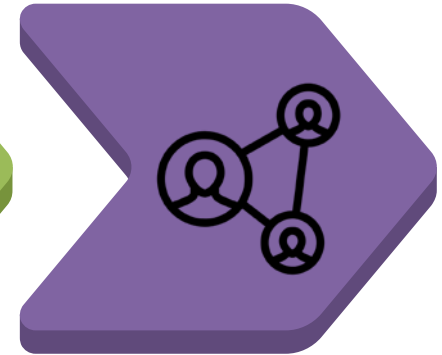
● Nurse gives ACEs Questionnaire/cover letter



● Parent completes Questionnaire
*Score only



● Nurse enters ACE Score into EPIC for Provider review



● ACE score 1-3:
Provider Counseling;
ACE Score 4+:
Refer to Healthy Steps;
Refer to Behavioral Health;
Refer to CHW or SW if needed

ACEs Screening: 'Conventional' vs. 'Expanded' ACEs

Childhood Exposure	Subcategory
Abuse	Psychological Physical Sexual
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Abuse	Psychological Physical Sexual
Household Dysfunction	Substance Abuse Mental Illness Intimate Partner Violence Criminal Behavior Divorce Death of a parent
Neglect	Emotional Physical
Neighborhood/ Community	Bullying Violence Racism

Sources: Center for Youth Wellness ACE-Q
Centers for Disease Control
National Survey of Children's Health



ACEs Screening: Knowledge Gaps

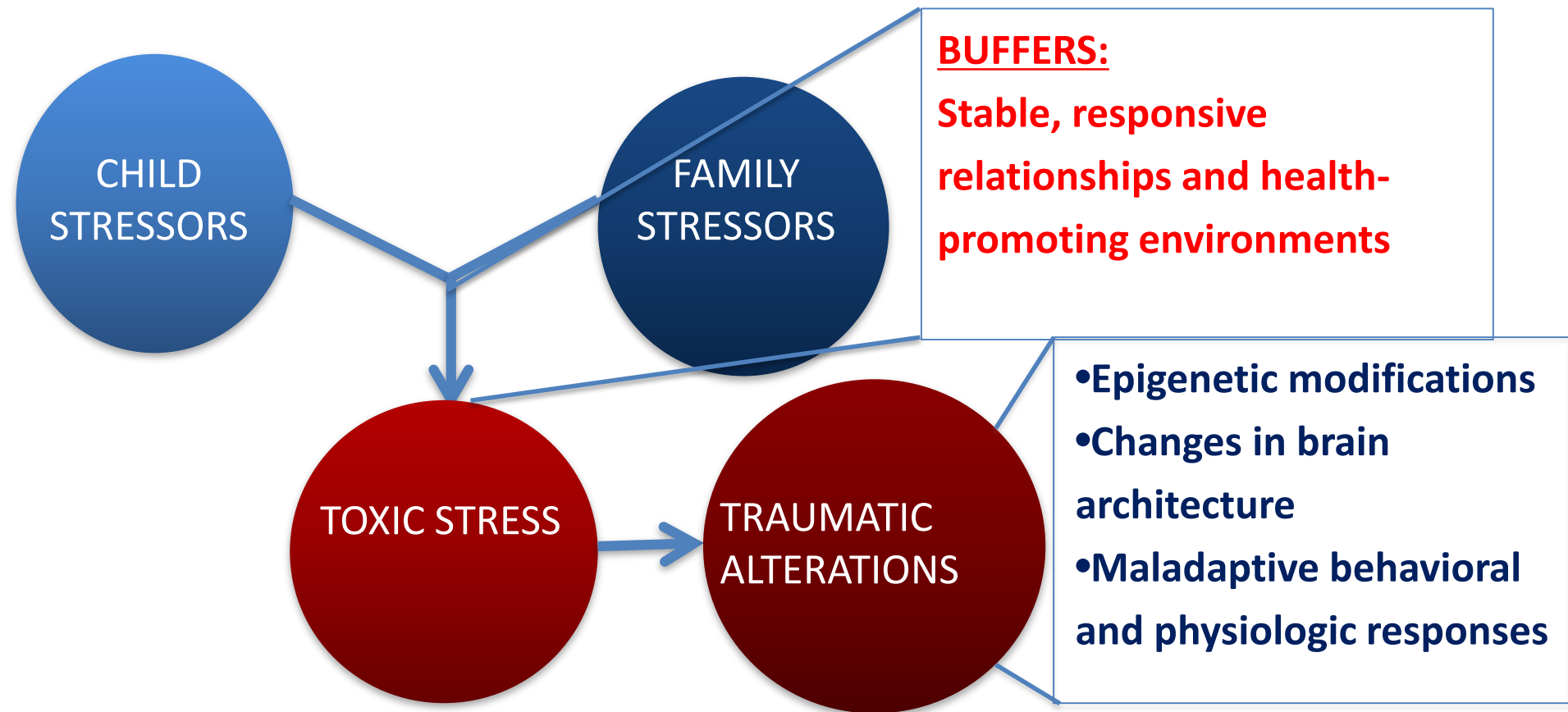
- Provider perspectives about ACEs screening have not been fully elucidated
 - *Kerker BD, Stein REK, et al (2016): Only 4% of pediatricians usually ask about all ACEs; 32% did not ask about any*
- How best to screen in ways that minimize stigma and underreporting
- Measuring the accuracy (sensitivity, specificity, predictive value) of tools
- Further research examining benefits of universal ACEs screening in pediatric primary care is needed



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Trauma-Informed Interventions to Build Resilience

ACE+Trauma Symptoms

Trauma-Focused CBT
Integrated Behavioral Health
Stress Reduction Techniques



ACE+Parenting Stress

Healthy Steps (0-5)
Triple P
Nurse Family Partnership



ACE+Trauma+MH +/- PH conditions

Pediatric Health Home
Assigns care manager to coordinate care and services and address SDH



ACE+ SDH

Community Health Workers/Patient Navigators
Ensures engagement in services and closes communication loops



Trauma-Informed Interventions to Build Resilience

Population-level ACE data can enable better targeting of resources to high risk patients



- Engagement in care
- Health care utilization
- Specific morbidities

Build a culture of trauma-informed care



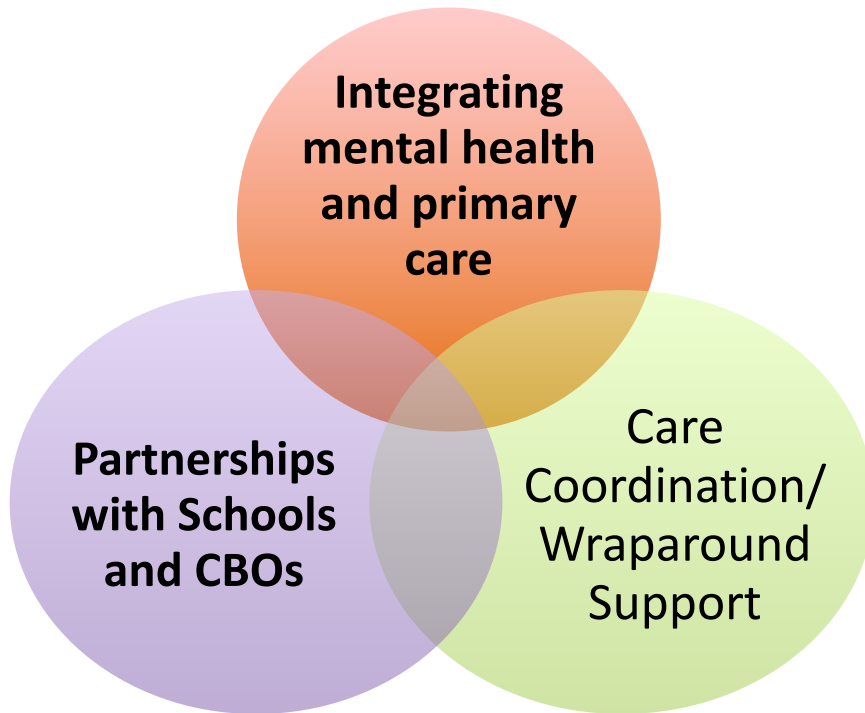
- Patient and staff education
- Support for vicarious trauma

ACEs Community Collaboratives



- Uses community-level ACEs data to bring stakeholders together in formal partnerships
- Philadelphia ACEs collaborative
 - Identified expanded ACEs

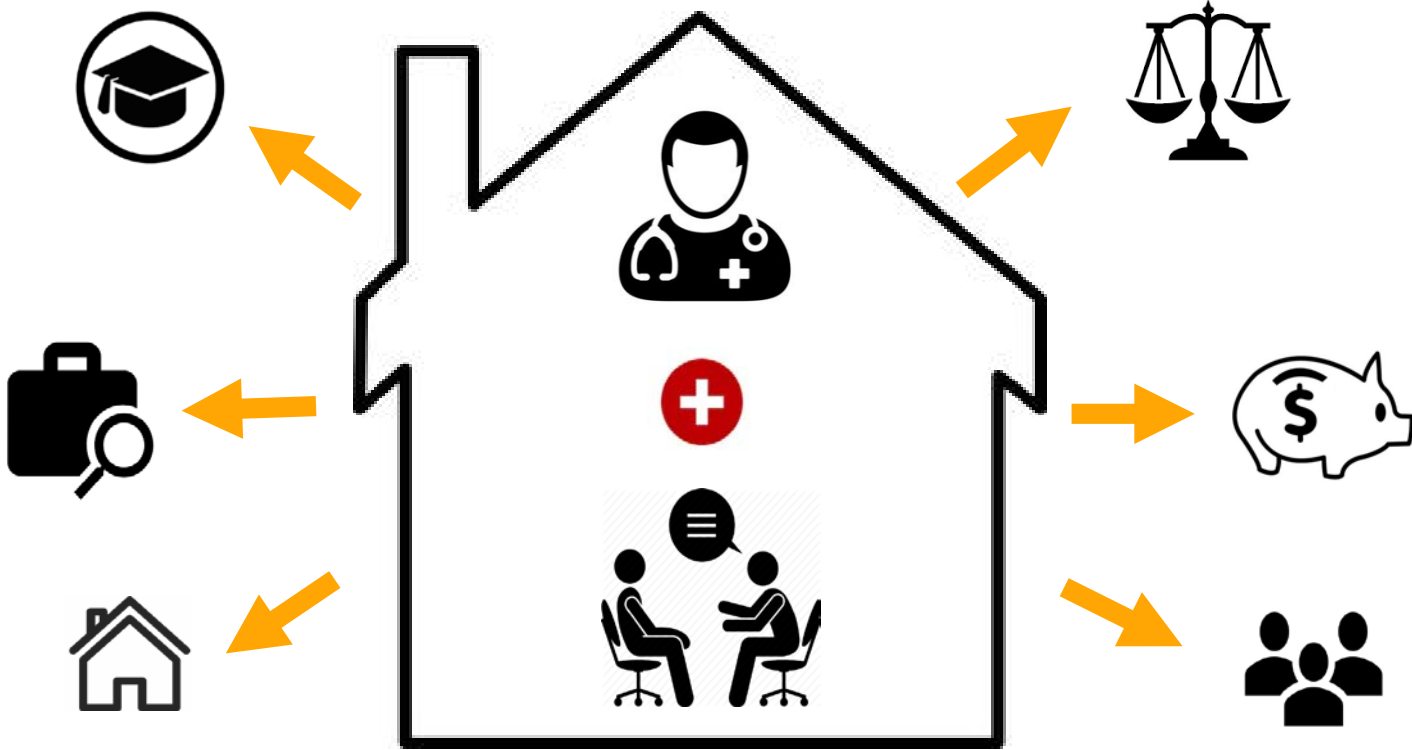
Systems Approach to Building Resilience



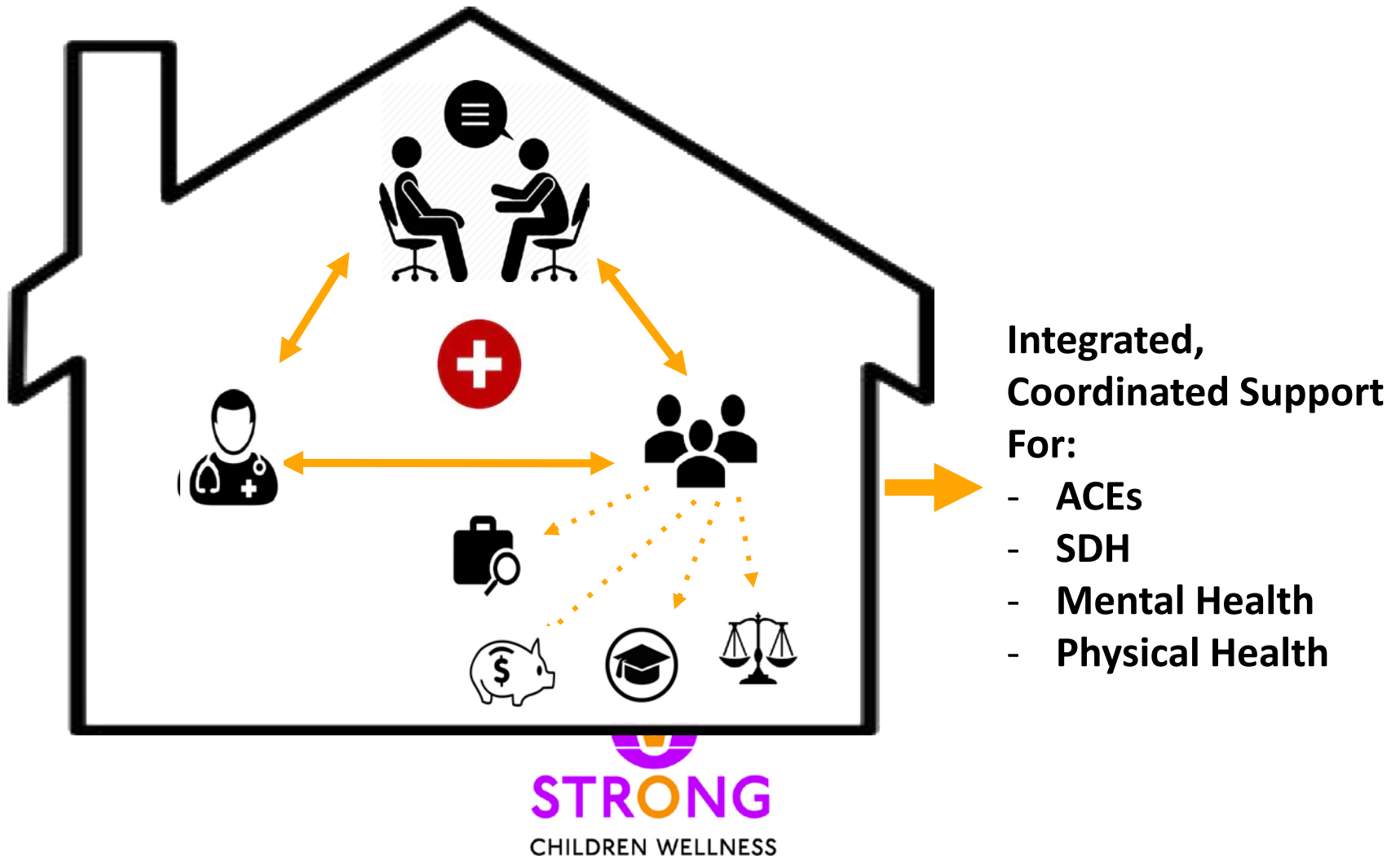
Protective Factors:

- **Supportive Family Environment and Social Networks**
- **Concrete support for basic needs**
- **Nurturing Parenting Skills**
- **Parental employment, education**
- **Adequate Housing**
- **Access to health care and social services**

Usual Integrated Care Model



Strong Children Wellness Care Delivery Model: *Reverse Integration*



THANK YOU!

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