



Promoting Children's Optimal Healthy Development. It's the Environment, Stupid!

2019 Nurturing Developing Minds Conference and Research Symposium
Creating Environments in Which Children and Families Can Flourish

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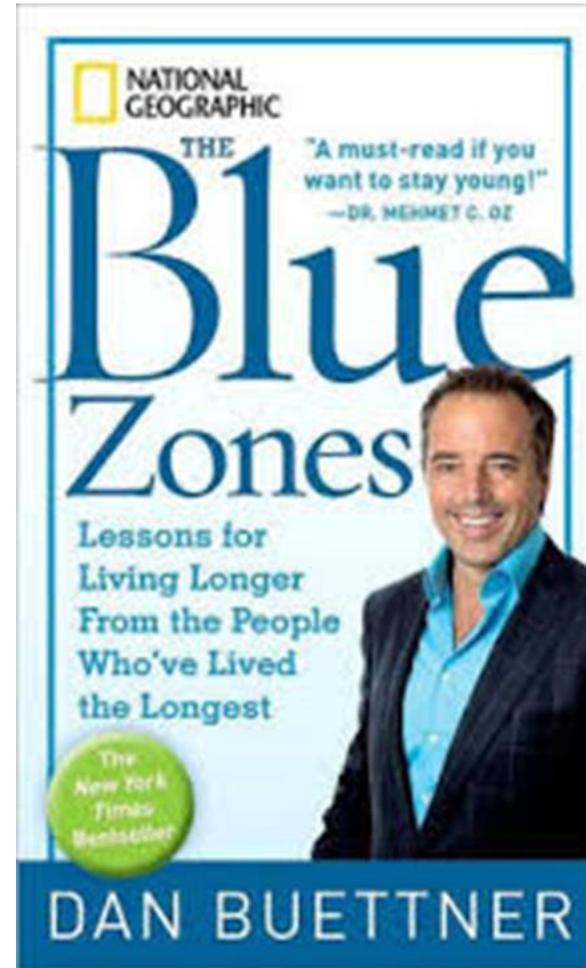
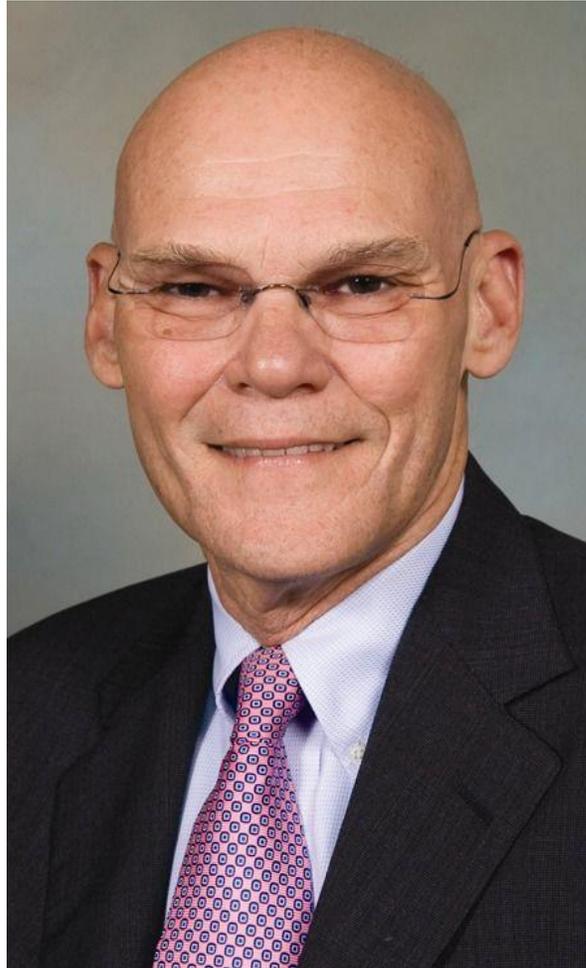
March 1, 2019



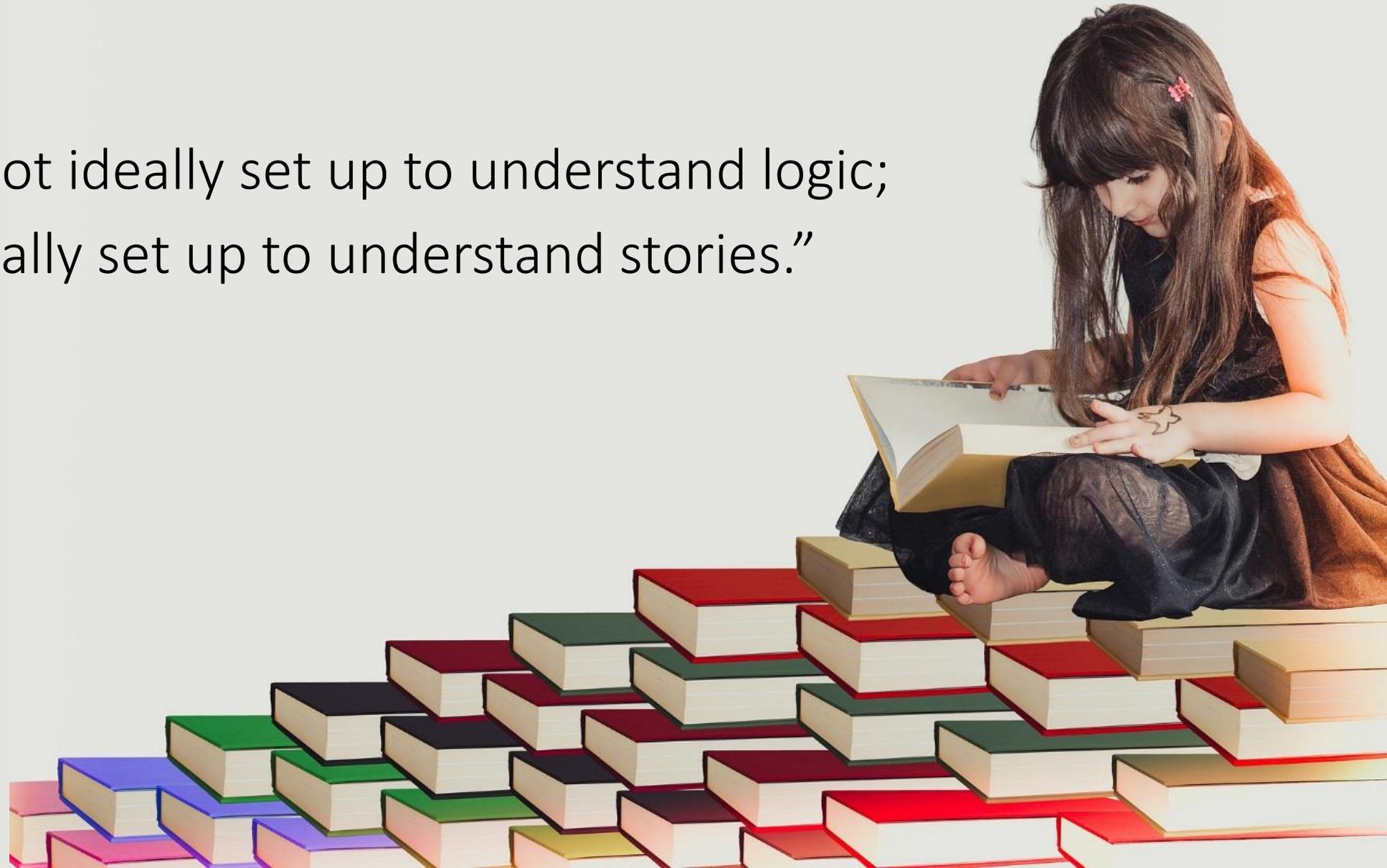
CONNECTICUT CHILDREN'S MEDICAL CENTER



“IT’S THE ENVIRONMENT, STUPID!”



“Humans are not ideally set up to understand logic;
they are ideally set up to understand stories.”



MISSION STATEMENT



American Academy
of Pediatrics

Committed to the attainment of optimal physical,
mental, and social health and well-being for all
infants, children, adolescents, and young adults



“What if our goal for child health services is not ‘merely’ to treat or even prevent childhood diseases and disorders, but is also to promote children’s optimal healthy development?”



OUR MODEL



OUR MODEL



Child Health Services

Connecticut Children's
Office for Community Child Health



TRADITIONAL CONTENT GUIDELINES FOR HEALTH SUPERVISION

- ✓ History
- ✓ Physical examination
- ✓ Measurements
- ✓ Sensory screening
- ✓ Immunizations and procedures
- ✓ *Anticipatory guidance*
- ✓ *Developmental and behavioral monitoring*



DOES DEVELOPMENTAL CONTENT INFLUENCE EFFECTIVENESS OF ANTICIPATORY GUIDANCE?

Prospective, controlled study to evaluate the value of discussing developmental stages with mothers during health maintenance visits

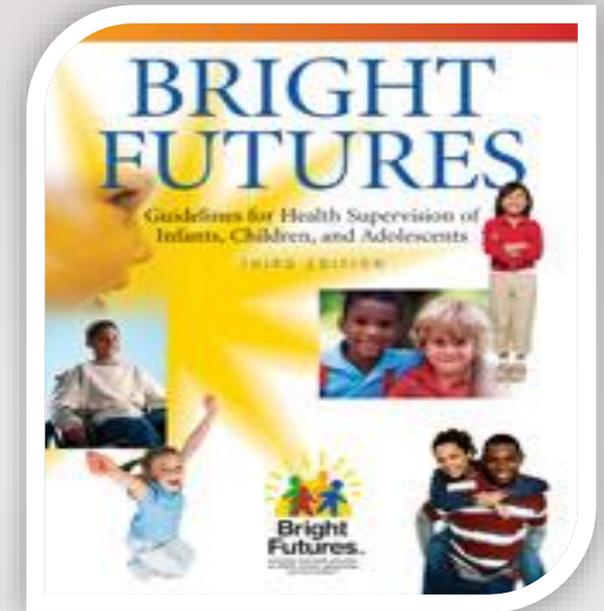
TABLE 2. Suggested Issues for Discussion During Health Maintenance Visits*

Age of Infant	General Issues	Developmental Issues
2 wk	Feeding, skin care, navel care, elimination patterns, safety, use of thermometer	State organization (predictability of change), synchrony (mutual awareness, expectations), attachment, temperament
2 mo	Feeding, injury prevention, immunizations, proprietary drugs, toy safety, babysitting	State organization (regularity of demands), synchrony ("fussing"), attachment, temperament
4 mo	Feeding, injury prevention, immunizations, toy safety, bedroom (night awakening)	Attachment, temperament, motor skills
6 mo	Feeding, injury prevention, immunizations, bedroom (nursing bottle caries), teething	Attachment (stranger, separation anxiety), autonomy and independence, temperament, motor skills

* Developmental issues were routinely discussed only with intervention group mothers.

ANTICIPATORY GUIDANCE IMPLICATIONS FROM RESEARCH

- Anticipatory guidance should continue to be emphasized as a means to promote children's development
- Need to **individualize** the content; discuss matters at level of parents' cognitive, cultural, psychological readiness
 - **Open-ended, parent-led agenda** may be preferable



American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN™





BRITISH & AMERICAN RECOMMENDATIONS ROLE OF SURVEILLANCE IN DEVELOPMENTAL MONITORING

Criteria for judging *conditions* appropriate for the screening process

- Must have significant morbidity or mortality and be sufficiently prevalent
- Screening program must include entire population
- Diagnostic tests must distinguish affected from non-affected persons
- Condition must be treatable or controllable
- Detection and treatment during asymptomatic stage much improve prognosis
- Adequate resources must be available for definitive diagnosis and treatment
- Cost of screening must be outweighed by savings in suffering and alternative expenditures

BRITISH & AMERICAN RECOMMENDATIONS ROLE OF SURVEILLANCE IN DEVELOPMENTAL MONITORING

Criteria by which specific *tests* are judged appropriate for use in screening programs

- Simple, convenient, acceptable
- Reliable, valid (sensitive and specific)
- Economical
- Lend themselves to easy interpretation

FAMILY CONTEXT VALIDITY OF PARENTS' APPRAISALS AND DESCRIPTIONS

Glascoe FP, Dworkin PH (1993). Obstacles to effective developmental surveillance: errors in clinical reasoning.

Glascoe FP, Dworkin PH (1995). The role of parents in the detection of developmental and behavioral problems.



DEVELOPMENTAL MONITORING SCREENING AND SURVEILLANCE

- Flexible, longitudinal, continuous process
- Knowledgeable practitioners perform skilled observations during child health encounters
- Components:
 - eliciting/attending to parents' concerns
 - obtaining a relevant developmental history
 - making accurate observations of children
 - identifying risk and resiliency factors
 - maintaining record of process and findings
 - sharing opinions with other professionals
- View child within context of overall well-being



DEVELOPMENTAL SURVEILLANCE AND SCREENING

Use of screening tools at periodic intervals to strengthen surveillance

- **Types**
 - Parent-completed questionnaires
 - Professionally-administered “tests”
- **Frequency**
 - 9, 18, 24-30 months
 - When concerns arise
 - (“second-stage”)

A sample PEDS (Parent Evaluation of Developmental Status) Response Form. The form is titled 'PEDS RESPONSE FORM' and includes fields for Child's Name (Roger J.), Parent's Name (Marilynda J.), Child's Birthday (8/8/05), Child's Age (2), and Today's Date (8/10/07). The form contains several screening questions with checkboxes for 'No', 'A little', and 'Yes'. Handwritten responses are provided for each question, such as 'No' for 'Do you have any concerns about how your child understands what you say?' and 'Yes' for 'Do you have any concerns about how your child uses his or her hands and fingers to do things?'. A 'COMMENTS' section is provided for each question, with handwritten notes like 'I can't tell if he doesn't understand, doesn't hear well or just ignores us' and 'He's good with manipulatives but does a lot of the same things over and over: spinning wheels on cars, flicking light switches, flipping pages'. The form also includes a section for 'Please list any other concerns' and a footer with copyright information for the University of Washington.



DEVELOPMENTAL SURVEILLANCE **AND** SCREENING

“Screening and surveillance are too often viewed as separate activities.

This perspective minimizes the effectiveness of both. Surveillance without screening is likely to contribute to children eluding early detection, while lofty expectations for the isolated use of screening tools may result in over- or under- identification.”

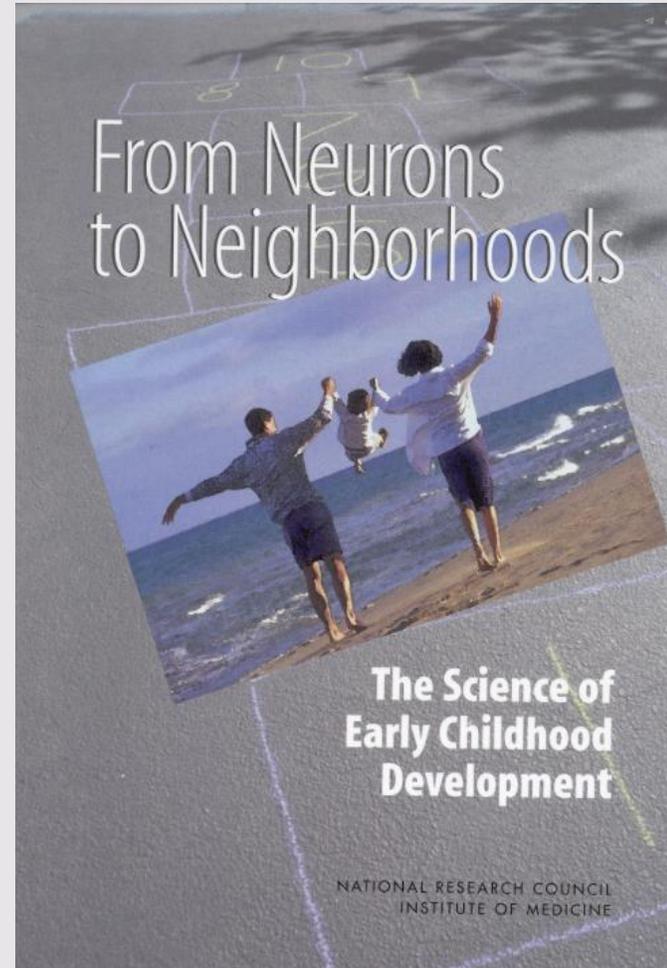
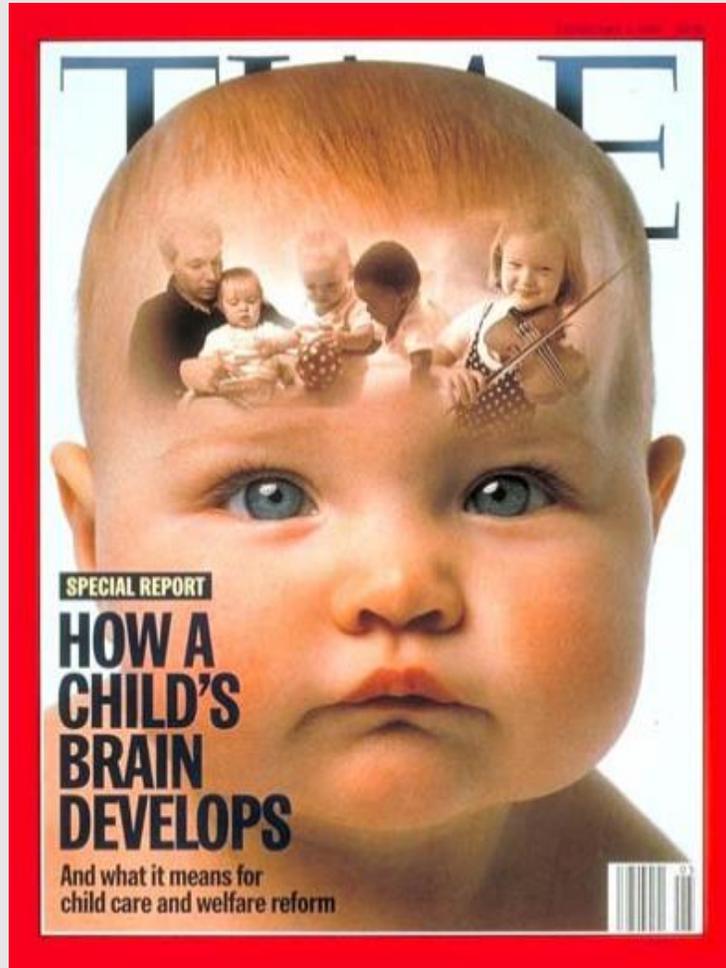
Caveat

Detection without referral/intervention is ineffective and may be judged unethical



1990s

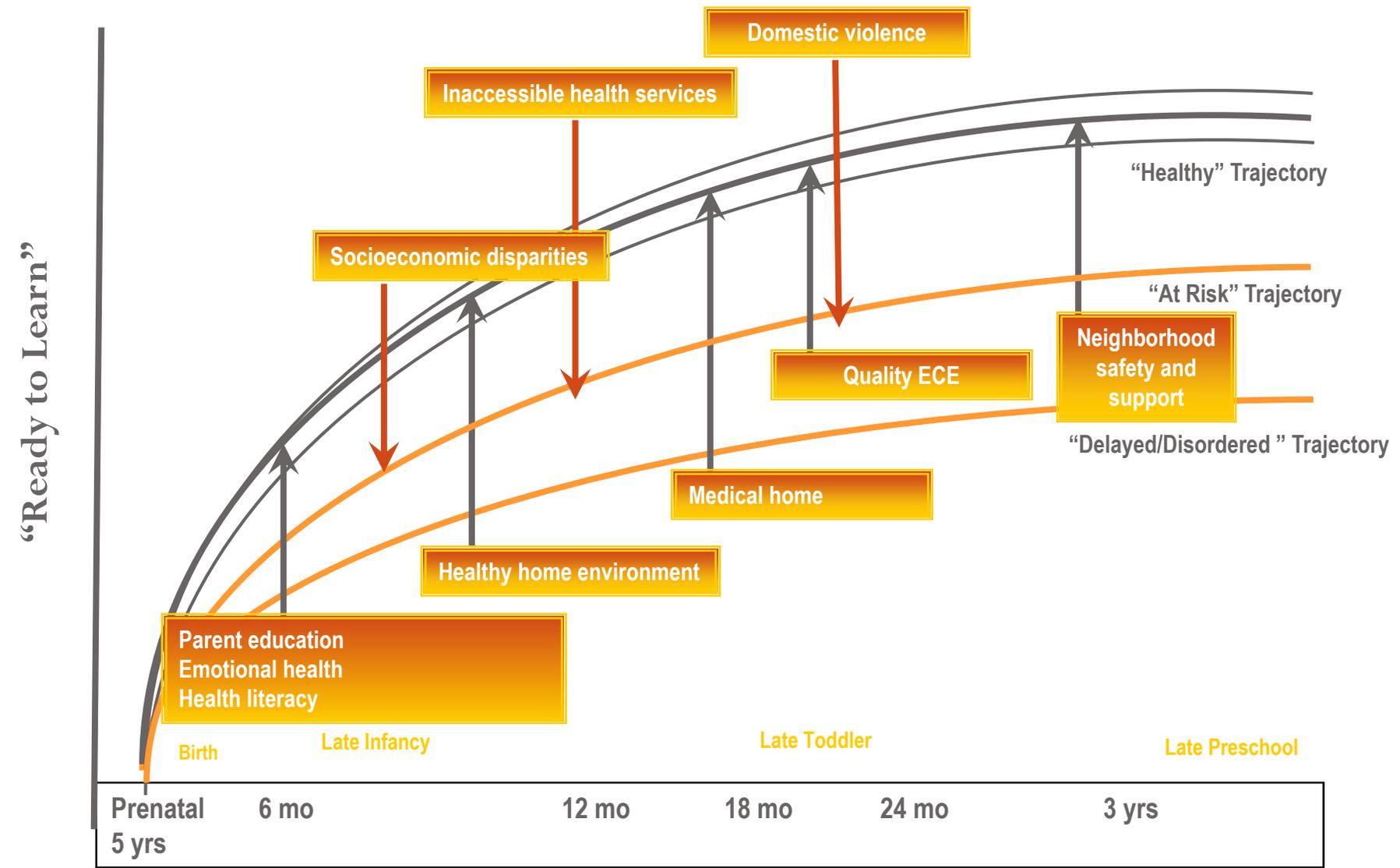
DECADE OF THE BRAIN



SERVICE IMPLICATIONS EARLY BRAIN DEVELOPMENT

- For optimal effectiveness, services must begin **as early as possible**
- Stimulation during the **first three years** is particularly critical to ensure optimal development
 - Aspects of “use it or lose it”
- Services must be **comprehensive and aligned** with children’s developmental stages and needs

DEVELOPMENTAL TRAJECTORIES



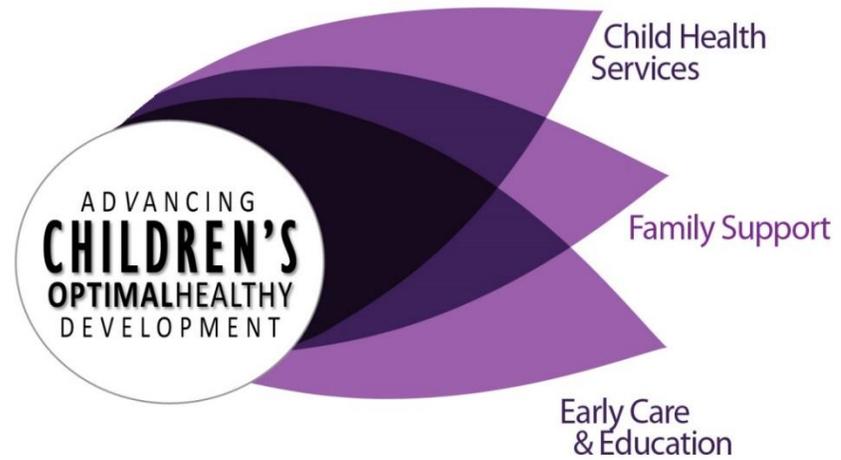
Graphic Concept Adapted from Neal Halfon , UCLA Center for Healthier Children, Families, and Communities

COMPREHENSIVE SYSTEM BUILDING

“The most effective long-term strategy appears to be the development of a comprehensive, coordinated, community-wide approach focused on **preventing low- and medium-risk families from becoming high-risk**, as well as providing intensive services to those who already have reached a high-risk status.”



OUR MODEL



Connecticut Children's
Office for Community Child Health



THE HARTFORD STORY



PLANNING PARTNERS

- Hartford Foundation for Public Giving (HFPG) *Brighter Futures* initiative
- Hartford City Health Department
 - *Child Development Program* (CDP)
- Region's child health providers
 - Community health centers
- Children's Health Council
 - *Children's Health Infoline*
- Hartford Parents Network
- CT Birth to Three System (Part C)



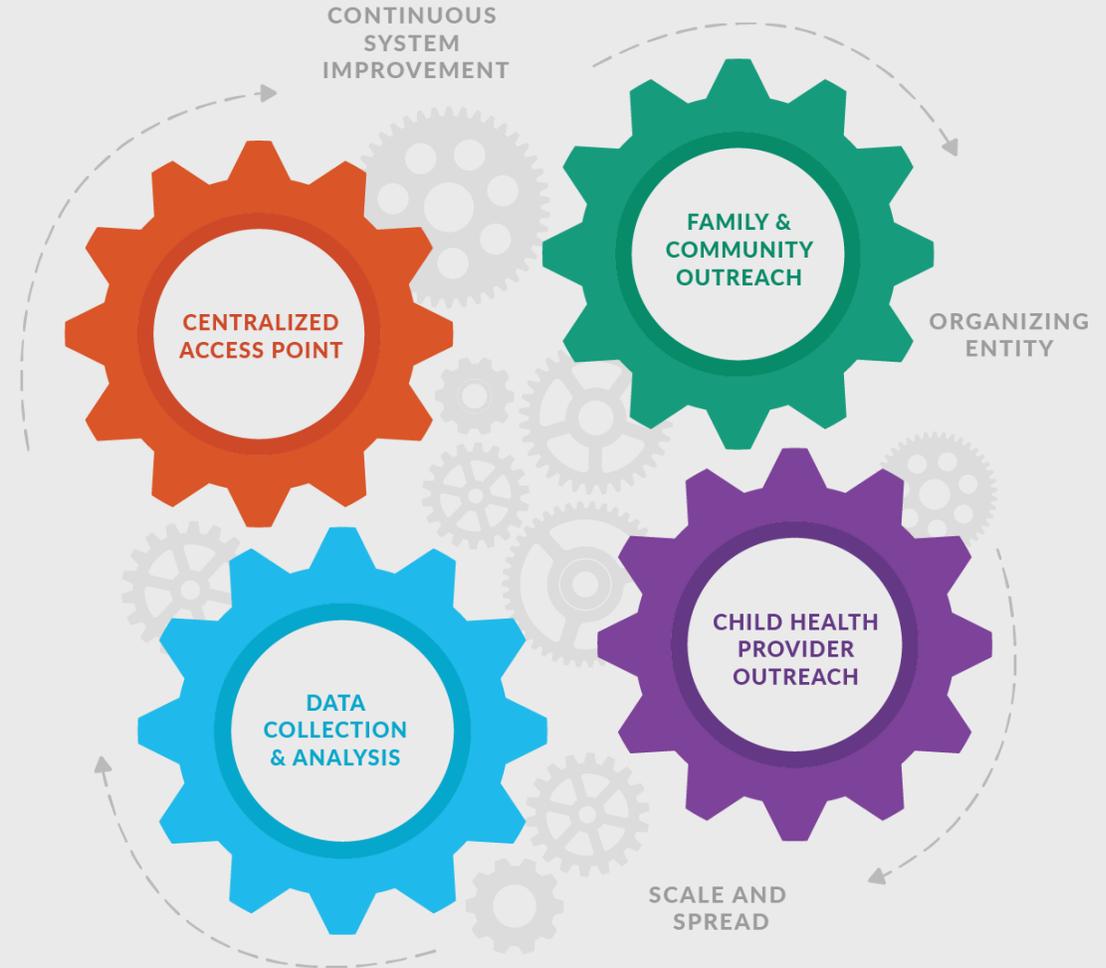
SHARED ASSUMPTIONS

- Children with developmental/behavioral problems are **eluding early detection**
- Many **initiatives exist** to provide services to young children, their families
- **A gap exists** between child health and child development/early childhood education programs
- Children and their families would benefit from a **coordinated, region-wide system** of early detection, intervention for children at developmental risk

HELP ME GROW SYSTEM MODEL COOPERATION OF FOUR CORE COMPONENTS

A system model that leverages and enhances existing resources in order to develop and enhance a comprehensive approach to early childhood system building in any given community.

It is the **Co-operation** of the core components that defines the system



HELP ME GROW EVOLUTION



1997-2004
HMG Pilot and early
growth in Connecticut

**Over 2 decades ago, HMG
was first introduced as a
model in Hartford,
Connecticut**



2005
First HMG replication in
Orange County, California



2008-2010
Replication spread to 5 states



2010-2013
Development of the HMG National Center

Replication to 10 additional states



2014-Present
92 HMG systems across 28 states

EVALUATION EFFICACY & COST EFFECTIVENESS



Promoting Optimal Child Development



POLICY BRIEF

Help Me Grow National Center • Hartford, Connecticut • February 2013

Help Me Grow Promotes Optimal Child Development by Enhancing Protective Factors

Successfully Addressing the Needs of At-Risk Children

*Study findings indicate that referrals to **Help Me Grow** and subsequent linkages to community-based programs and services enhance protective factors, and perhaps even mitigate risk factors. By enhancing protective factors, the **Help Me Grow** system successfully promotes children's healthy development.*

Undetected childhood developmental and behavioral problems have a profound impact not only on the lives of involved children and their families, but also on society in terms of cumulative costs related to education, mental health, and juvenile justice. Experts agree that early detection of at-risk children offers the best hope for early intervention and optimal outcomes. However, even when needs are identified, connecting children to services often proves difficult and requires knowledge of programs, understanding and meeting of eligibility requirements, and persistence in overcoming barriers.

Now being replicated across the nation, the *Help Me Grow* system promotes the early detection of children at risk for developmental and behavioral problems, provides a centralized call center as a single point of entry for community-based programs and services, and links children and their families with the appropriate resources quickly and effectively. Rigorous data collection allows for continuous quality improvement, while also demonstrating the system's success. For example, since 2002, 85% of children and families referred to Connecticut's *Help Me Grow* have been successfully connected with community-based programs and services.

The *Help Me Grow* National Center, based at Connecticut Children's Medical Center, provides technical assistance in the building, sustaining, and continuous improvement of *Help Me Grow* systems, and conducts research to expand the evidence base in support of *Help Me Grow* replication.

While research has proven the efficacy of *Help Me Grow* in enhancing early detection¹ and in successfully linking children and their families to programs and services,² prior research does not answer the critical question of whether *Help Me Grow* promotes children's healthy development.

Help Me Grow promotes optimal child development by enhancing protective factors.

Enhancement of protective factors leads to healthy child development.³ Intervention studies demonstrate that enhancing children's cognitive and social competence, influencing parenting behaviors, and changing patterns of

Cost Benefits



POLICY BRIEF

Help Me Grow National Center • Hartford, Connecticut • June 2012

Cost Benefits of "De-medicalizing" Childhood Developmental and Behavioral Concerns: National Replication of *Help Me Grow*

*As resources continue to be egregiously misplaced toward time-consuming, unnecessary, and expensive medical services, health care costs, including Medicaid and Medicare, grow at uncontrollable rates. As a result, our country's most at-risk children suffer. **Help Me Grow** must become part of the national strategy to control these costs and get our children the treatment they need and deserve.*

A costly lack of options

During two-year old Shana's routine checkup, her exasperated mother expresses concerns over her daughter's ongoing behavioral outbursts. The mother describes Shana as very strong-willed, unpredictable, and easily upset, and also reports episodes resembling breath-holding spells. The pediatrician refers the mother to a local specialist, a pediatric neurologist. Two months later, at the earliest possible appointment, Shana receives a neurological examination that is unhelpful in identifying a cause for Shana's behaviors. She is then referred for an EEG test to rule out the possibility of a seizure disorder. After a total of almost 4 months, the child has been declared free of neurological disease, yet no recommendations or assistance has been provided for the initial concerns. The cost of the visits and subsequent tests are covered, in part, by the family's basic health insurance plan and, in part, are incurred by Shana's family, and over the course of a year total several thousand dollars. Over the next two years, Shana's behavioral problems persist, causing her to enter school a year late, enrolling in a special education program where paired professionals work with her to manage her outbursts.

The above vignette reflects many of the realities in the current state of pediatric management of behavioral and developmental concerns. Caregivers of at-risk children rely too heavily on costly and oversubscribed medical and behavioral specialists, while community-based programs and services offering valuable support are underutilized. The National Center for Children in Poverty at Columbia University reported, in 2008, that "despite overwhelming evidence supporting prevention and early treatment intervention services, funding is heavily focused towards deep-end treatment like ... intensive services." While pediatric specialists provide critical services, long wait times and limited capacity result from inappropriate referrals. Child health providers and parents are too often ill-equipped to identify and make use of the vast array of community-based resources designed to support families facing early childhood behavioral and developmental challenges. In many cases of tertiary care (i.e., specialty) referrals, there are more beneficial, cost-effective, and readily available community alternatives.

STRENGTHENING FAMILIES PROTECTIVE FACTORS

1. Parental resilience
2. Social connections
3. Knowledge of parenting and child development
4. Concrete support in times of need
5. Social and emotional competence in children



strengthening families™
A PROTECTIVE FACTORS FRAMEWORK

RESPONSES TO SURVEY QUESTIONS	PARENT RESPONSES (%)		
	Extremely or Quite a bit	Not at all	N/A
As a result of my call to Child Development Infoline and the information and services I received:			
I have a better understanding of my child's development.	80%	4%	7%
I am able to better understand and meet my child's needs.	79%	2%	5%
I have a better understanding of services for me and/or my child.	81%	6%	1%
I am able to access services if I need it.	84%	2%	2%
There are people who can provide me with assistance when I need it.	87%	1%	4%
I have people I can talk to for advice and emotional support.	79%	1%	4%
There is improvement in my family's day-to-day circumstances.	66%	5%	17%
My relationship with my child has improved.	71%	2%	27%
My child's behavior has improved (e.g., mood, attitude, play, relationships with other children).	45%	1%	32%

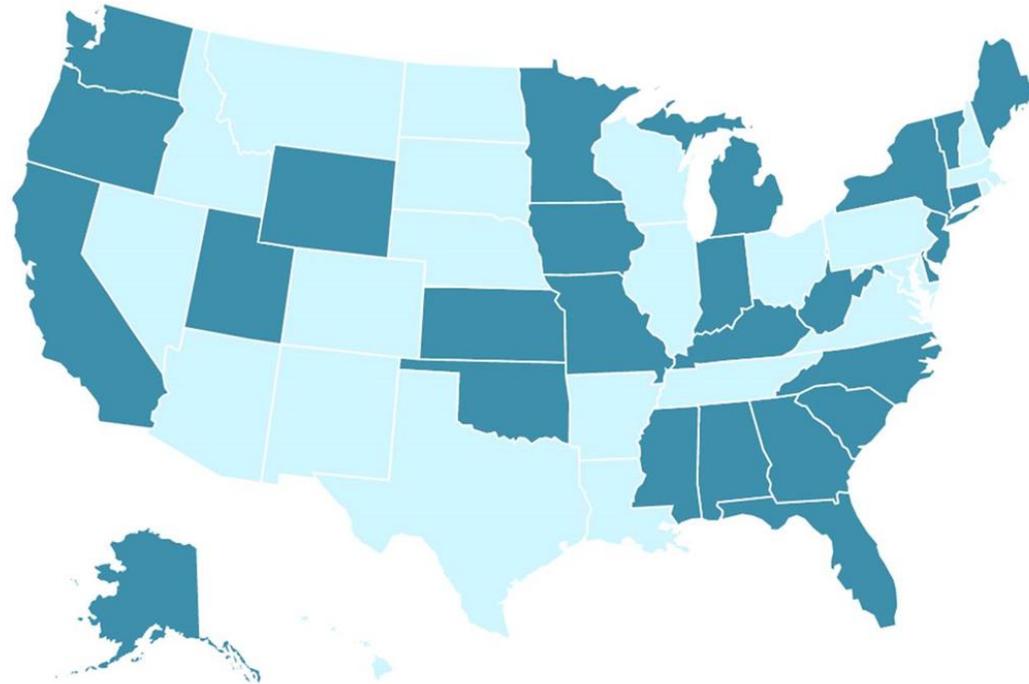


HELP ME GROW NATIONAL CENTER

LEADING A NATIONAL
NETWORK THAT ENSURES
ALL CHILDREN REACH
THEIR FULL POTENTIAL



HELP ME GROW NATIONAL CENTER & AFFILIATE NETWORK



1. Alabama
2. Alaska
3. California
4. Connecticut
5. Delaware
6. District of Columbia
7. Florida
8. Georgia
9. Indiana
10. Iowa
11. Kansas
12. Kentucky
13. Maine
14. Michigan
15. Minnesota
16. Mississippi
17. Missouri
18. New Jersey
19. New York
20. North Carolina
21. Oklahoma
22. Oregon
23. South Carolina
24. Utah
25. Vermont
26. Washington
27. West Virginia
28. Wyoming

The Help Me Grow National Center serves as a national resource to support the implementation of Help Me Grow systems throughout the country.

The National Center offers technical assistance to new states and communities in order to advance existing early childhood systems through the implementation of the Help Me Grow system model.

BIOLOGY OF ADVERSITY

Fear and Anxiety Affect the Brain Architecture of Learning and Memory

PREFRONTAL CORTEX

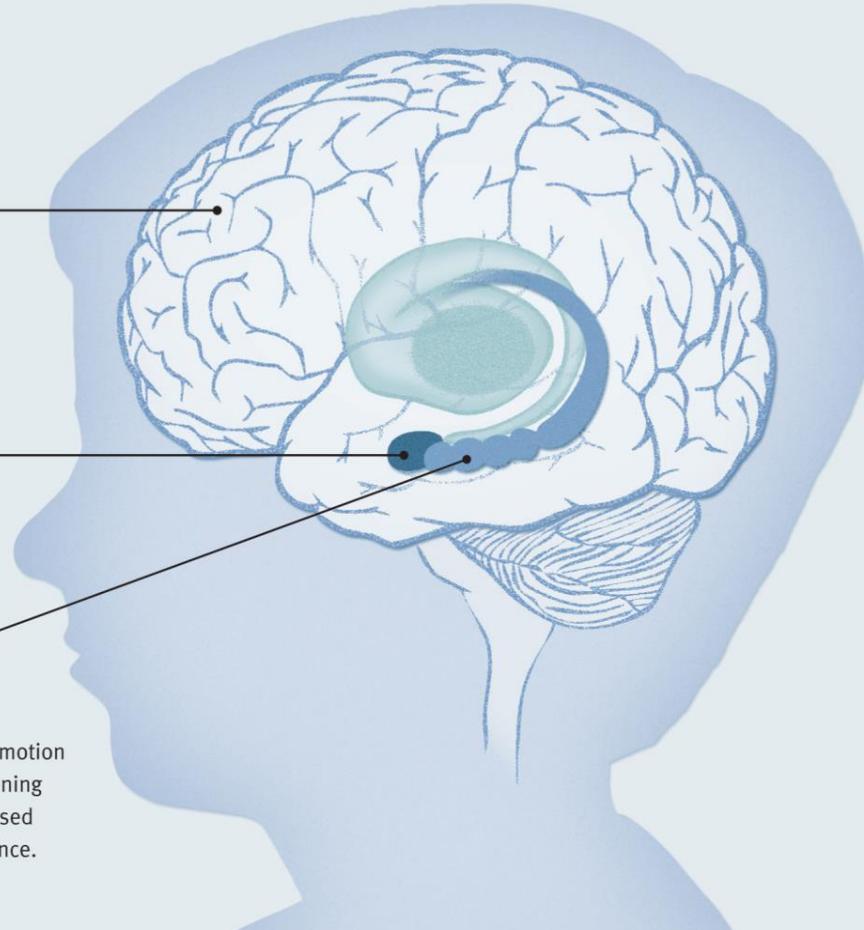
Center of executive functions; regulates thought, emotions, and actions. Especially vulnerable to elevation of brain chemicals caused by stress. Matures later in childhood.

AMYGDALA

Triggers emotional responses; detects whether a stimulus is threatening. Elevated cortisol levels caused by stress can affect activity. Matures in early years of life.

HIPPOCAMPUS

Center of short-term memory; connects emotion of fear to the context in which the threatening event occurs. Elevated cortisol levels caused by stress can affect growth and performance. Matures in early years of life.



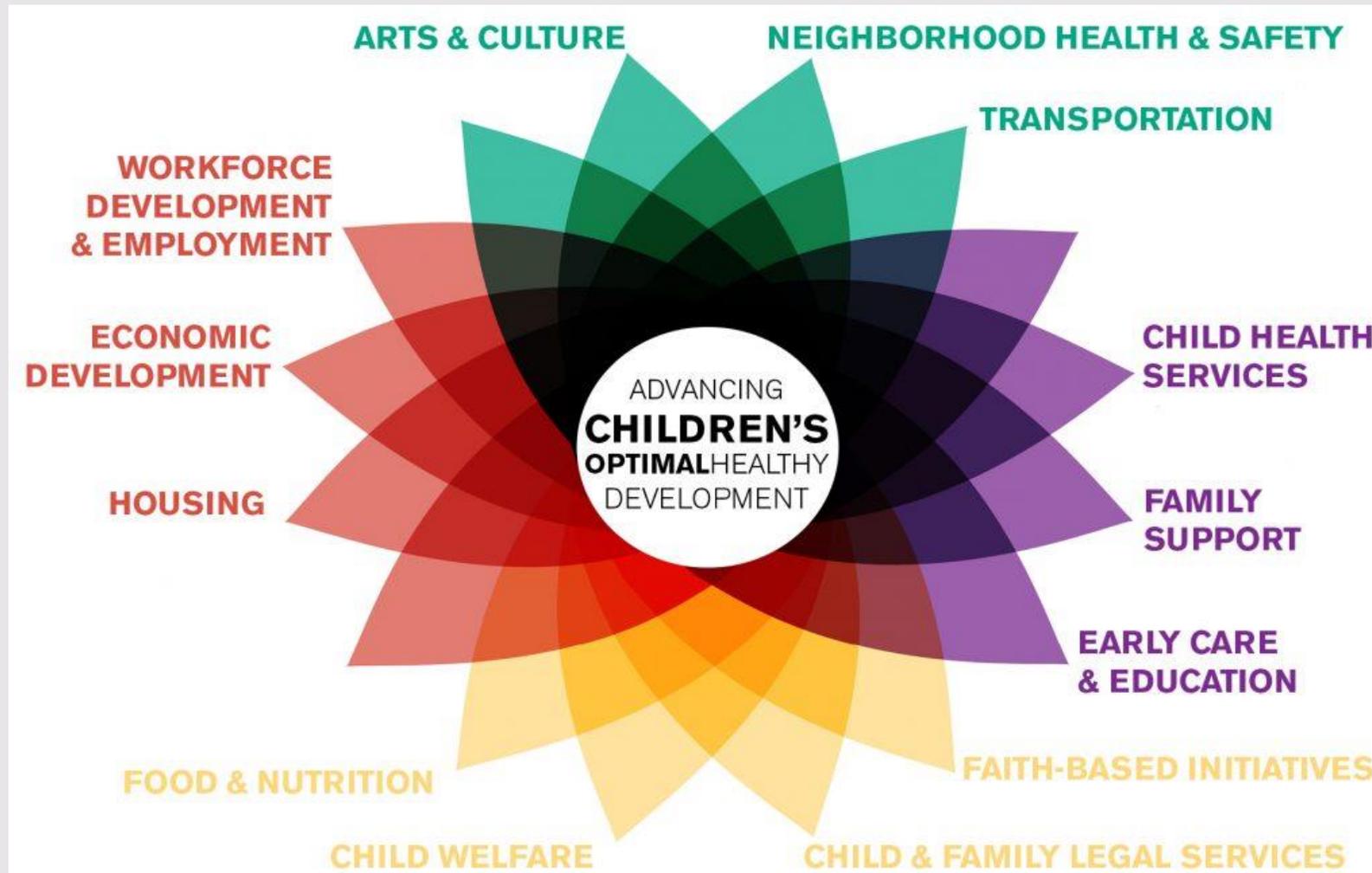
DETERMINANTS OF HEALTH



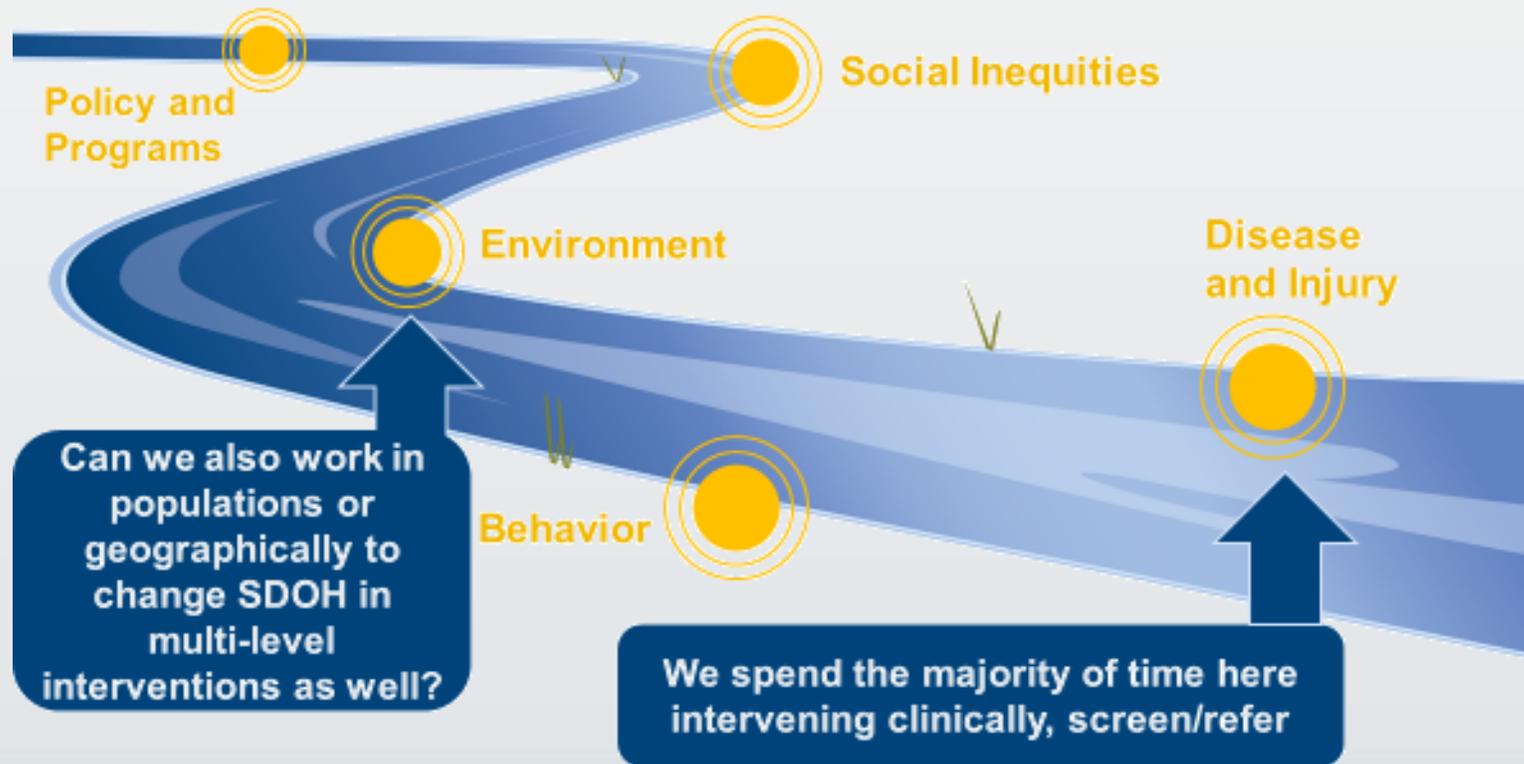
Source: McGinnis, J.M. et al.
Health Affairs 2002;21(2):78-93



OUR MODEL THE OFFICE FOR COMMUNITY CHILD HEALTH



To achieve real change in SDOH we have to go deeper than typical clinical interventions to address root causes and test multi-level strategies



THE OFFICE FOR COMMUNITY CHILD HEALTH



Healthy Housing Is...

Quality Housing

Even mild lead poisoning can cause permanent brain damage and lower IQ.

As many as 40% of asthma cases among children related to housing (moisture, mold, pests, tobacco smoke)

Stable Housing

Multiple moves (2 or more moves over a 2-year period) can have the same affect on maternal mental health as being homeless

Affordable Housing

“Heat or eat” - 1 in 5 households report forgoing proper nutrition and health care in order to pay for high housing and energy costs

40% of parents living in high-poverty neighborhoods report moderate to severe symptoms of depression and reported higher levels of stress

CONCLUSIONS & IMPLICATIONS

- We must expand our target population to all children and especially those vulnerable and at risk of adverse developmental outcomes
- We must embrace the implications of the “biology of adversity” for children’s healthy development
- We must recognize the imperative of embedding efficacious interventions within the context of comprehensive early childhood system building, with “all sectors in” and “cross-sector collaboration”
- We need to focus on measures and metrics that capture the impact of interventions on strengthening families
- We must respond to extraordinary opportunities to drive the creation of a nurturing environment for all children and families

PEDIATRIC RESEARCH AGENDA

“...ultimately, the most important thing we can do is to demonstrate, through our work, how pediatric research makes children and families stronger, and to advocate passionately for all innovations, activities, and programs that research informs us will make children and families stronger.”



EMERGING OPPORTUNITIES

Reasons for cautious optimism

- **State** level
- **Federal** level

Key to **success: comprehensive system building, with all sectors in**, to strengthen families to promote children's optimal health, development, wellbeing

- **Help Me Grow** model as vehicle for **comprehensive system building**



“While targeted, small-scale social interventions provide invaluable assistance for individual patients, we must also remain focused on the social determinants that perpetuate poor health at the community level.”

-Meeting Individual Social Needs Falls Short Of Addressing Social Determinants Of Health (Health Affairs Blog, 2019)

“...[P]lace takes on a different meaning when the goal is addressing social determinants of health. In this context, attending to place requires focus on the health of an entire community (not just people who present for care) and engagement with the environment that shapes community well-being. Similarly, stakeholders interested in housing have to include health impacts in their definition of shelter and consider how the lack of quality affordable housing is an impediment to larger goals for community health and well-being.”

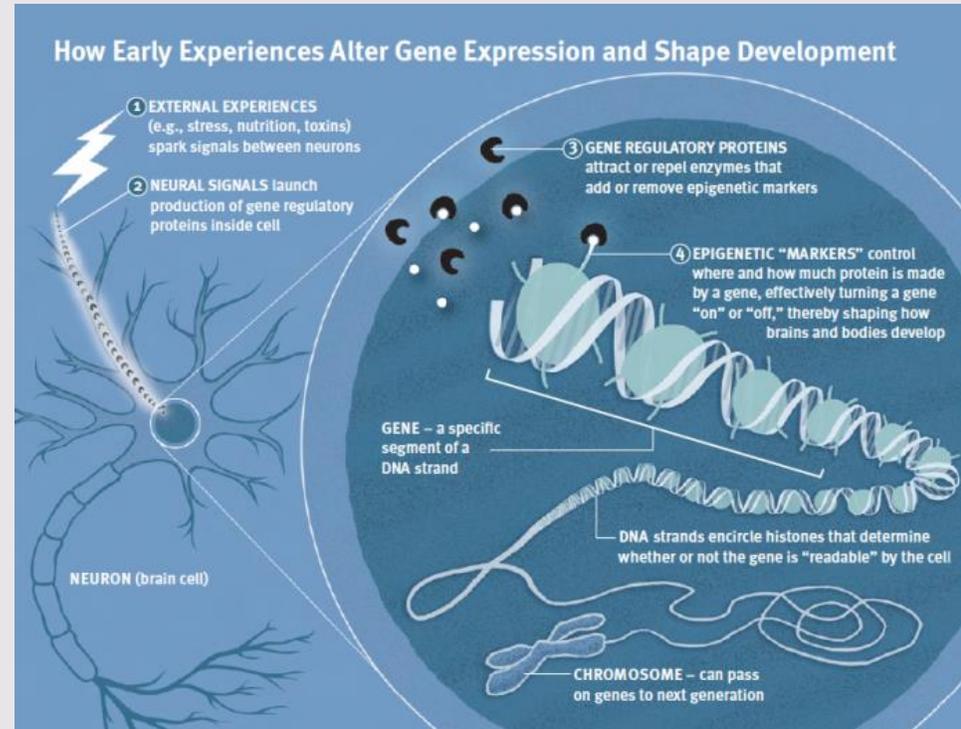
- Emerging Strategies for Integrating Health and Housing (Urban Institute, 2017)

WHERE DO WE GO FROM HERE?

“Integrated Modular Technology Solutions”



Gene-Environment Interactions



The Orchid and the Dandelion

Why Some Children Struggle and How All Can Thrive

W. Thomas Boyce, M.D.



Thank You!