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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“IT'S THE ENVIRONMENT, STUPID!”
“Humans are not ideally set up to understand logic; they are ideally set up to understand stories.”

- Roger Schank, cognitive neuroscientist
“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

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

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

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


DEVELOPMENTAL MONITORING SCREENING AND SURVEILLANCE

• Flexible, longitudinal, continuous process

• Knowledgeable practitioners perform skilled observations during child health encounters

• Components:
  o eliciting/attending to parents’ concerns
  o obtaining a relevant developmental history
  o making accurate observations of children
  o identifying risk and resiliency factors
  o maintaining record of process and findings
  o sharing opinions with other professionals

• View child within context of overall well-being
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”)
“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.”

- Paul Dworkin, M.D., Reframing the Early Detection and Early Intervention Pathway, Help Me Grow Blog, December 2012
Caveat

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

1990s
DECADE OF THE BRAIN
• 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

“Ready to Learn”

Prenatal 6 mo 12 mo 18 mo 24 mo 3 yrs

Birth Late Infancy Late Toddler Late Preschool

Healthy home environment

Parent education
Emotional health
Health literacy

Inaccessible health services

Socioeconomic disparities

Medical home

Quality ECE

Domestic violence

Neighborhood safety and support

“Healthy” Trajectory

“At Risk” Trajectory

“Delayed/Disordered” Trajectory

Graphic Concept Adapted from Neal Halfon, UCLA Center for Healthier Children, Families, and Communities
“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
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
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.
Over 2 decades ago, HMG was first introduced as a model in Hartford, Connecticut.

1997-2004
HMG Pilot and early growth in 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

Help Me Grow Promotes Optimal Child Development by Enhancing Protective Factors

As resources continue to be aggressively re-invested toward time-consuming, unnecessary, and expensive medical and behavioral health 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.

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

Enhancement of protective factors leads to healthy child development. Intervention studies demonstrate that increasing children’s opportunities and support, family competence, influencing parenting behaviors, and changing patterns of

Cost Benefits

Help Me Grow National Center 

Help Me Grow Promotes Optimal Child Development by Enhancing Protective Factors

Study findings indicate that children who grew up in families receiving Help Me Grow were more likely to have better health outcomes than children who did not receive Help Me Grow services. The program focuses on building strong relationships between children and their families, which leads to improved health outcomes.

Help Me Grow National Center 

Help Me Grow Promotes Optimal Child Development by Enhancing Protective Factors

The Help Me Grow program has been shown to be cost-effective and has been widely implemented across the country. The program focuses on building strong relationships between children and their families, which leads to improved health outcomes.

Help Me Grow National Center 

Help Me Grow Promotes Optimal Child Development by Enhancing Protective Factors

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

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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
As a result of my call to Child Development Infoline and the information and services I received:

<table>
<thead>
<tr>
<th>RESPONSES TO SURVEY QUESTIONS</th>
<th>PARENT RESPONSES (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have a better understanding of my child's development.</td>
<td>Extremely or Quite a bit</td>
</tr>
<tr>
<td>I am able to better understand and meet my child’s needs.</td>
<td>80%</td>
</tr>
<tr>
<td>I have a better understanding of services for me and/or my child.</td>
<td>79%</td>
</tr>
<tr>
<td>I am able to access services if I need it.</td>
<td>81%</td>
</tr>
<tr>
<td>There are people who can provide me with assistance when I need it.</td>
<td>84%</td>
</tr>
<tr>
<td>I have people I can talk to for advice and emotional support.</td>
<td>87%</td>
</tr>
<tr>
<td>There is improvement in my family’s day-to-day circumstances.</td>
<td>66%</td>
</tr>
<tr>
<td>My relationship with my child has improved.</td>
<td>71%</td>
</tr>
<tr>
<td>My child’s behavior has improved (e.g., mood, attitude, play, relationships with other children).</td>
<td>45%</td>
</tr>
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</table>
HELP ME GROW NATIONAL CENTER

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

*As of September 2018*
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

Quality health care 10%
Social/Environmental 20%
Genetic 30%
Behavior 40%

OUR MODEL
THE OFFICE FOR COMMUNITY CHILD HEALTH

- Connecticut Children’s Office for Community Child Health, About Us.
To achieve real change in SDOH we have to go deeper than typical clinical interventions to address root causes and test multi-level strategies.

- Dr. Megan Sandel, Boston Medical Center
Advancing Kids Innovation Program (AKIP)
Care Coordination Collaborative Model
Center for Care Coordination (CCC)
Children’s Center on Family Violence (CCFV)
Co-Management Program
Easy Breathing
Educating Practices in the Community (EPIC)
Hartford Youth HIV Identification and Linkage (HYHIL) Program
Healthy Homes
Help Me Grow National Center
Injury Prevention Center
Mid-Level Developmental Assessment (MLDA)
Person-Centered Medical Home
Practice Quality Improvement (PQI)
Resident Education in Advocacy and Community Health (REACH)
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
“...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

[Adapted from NICHQ, Center on the Developing Child, and Penguin Random House, LLC]

The Orchid and the Dandelion

Why Some Children Struggle and How All Can Thrive

W. Thomas Boyce, M.D.
Thank You!