Integrated Pediatric Behavioral Health at Montefiore: Bringing Population Based Behavioral Health Services to Scale

Rahil D. Briggs, PsyD
Associate Professor of Clinical Pediatrics, Einstein
Director, Pediatric Behavioral Health Services, Montefiore Medical Group
Identifying children at high risk for toxic stress is the first step in providing targeted support for their parents and other caregivers.”
Three Core Concepts of Development

1. Brain Architecture Is Established Early in Life and Supports Lifelong Learning, Behavior, and Health

2. Stable, Caring Relationships and “Serve and Return” Interaction Shape Brain Architecture

3. Toxic Stress in the Early Years of Life Can Derail Healthy Development

Healthy Child Development
Barriers to Educational Achievement Emerge at a Very Young Age

Data Source: Hart & Risley (1995)

Graph Courtesy: Center on the Developing Child at Harvard University
Relationships Buffer Toxic Stress

• Learning how to cope with moderate, short-lived stress can build a healthy stress response system.

• Toxic stress—when the body’s stress response system is activated excessively—can weaken brain architecture.

• Without caring adults to buffer children, toxic stress can have long-term consequences for learning, behavior, and both physical and mental health.
Significant Adversity Impairs Development in the First Three Years

Number of Risk Factors

Data Source: Barth, et al. (2008)

Graph Courtesy: Center on the Developing Child at Harvard University
The Foundation of a Successful Society is Built in Early Childhood

- Educational Achievement
- Economic Productivity
- Responsible Citizenship
- Lifelong Health

Successful Parenting of Next Generation

Strong Communities

Healthy Economy

HEALTHY CHILD DEVELOPMENT
“Health in the earliest years – actually beginning with the future mother’s health before she becomes pregnant – lays the groundwork for a lifetime of well-being.”
The Primary Care Challenge

• Is there an opportunity to identify children at risk of developing mental health problems within the primary care setting?

• If so, how early can we identify children who would benefit from specific preventive or therapeutic interventions to them and their caregivers to optimize their developmental and behavioral potential?

• What tools are available in primary care to accomplish this function and how should they be administered?
Cumulative ACES & Mental Health$^{1,2}$

![Bar chart showing prevalence of mental health disorders by ACES score](#)
Healthy Steps at Montefiore 2006-present

- Co-location and integration of mental health specialists in pediatric primary care
  - Universal screening, assessment, treatment, and referral of infant mental health/development and caregiver mental health
  - Adverse Childhood Experiences (ACES)
  - Ages and Stages Questionnaires: Social Emotional (ASQ:SE)
  - Patient Health Questionnaire (PHQ-9)
  - Provider education
Healthy Steps Program Evaluation
Design

• Quasi-experimental longitudinal follow up of children enrolled in a Healthy Steps (HS) program at their primary care pediatric setting and a comparison group (CG) from a matched clinic who met enrollment criteria, but did not receive the intervention

• Objective: Determine the relationship between maternal ACES and maternal report on the ASQ:SE at 36 months
## Results - Population

<table>
<thead>
<tr>
<th>Category</th>
<th>CG Percentage %</th>
<th>HS Percentage (%)</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child Female</td>
<td>56</td>
<td>53</td>
<td>NS</td>
</tr>
<tr>
<td>Child Hispanic</td>
<td>49</td>
<td>56</td>
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<tr>
<td>Child Black</td>
<td>37</td>
<td>38</td>
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<tr>
<td>Child Medicaid</td>
<td>50</td>
<td>76</td>
<td>NS</td>
</tr>
<tr>
<td>Maternal Education ≤ HS</td>
<td>34</td>
<td>75</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Mean maternal age</td>
<td>21.9 (+/- 3.9)</td>
<td>24 (+/- 5.6)</td>
<td>.03</td>
</tr>
<tr>
<td>Maternal ACES &gt;0</td>
<td>26</td>
<td>55</td>
<td>.003</td>
</tr>
<tr>
<td>History of depression in past year</td>
<td>15</td>
<td>30</td>
<td>.069</td>
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</table>
Results – Impact of Intervention on 36 month ASQ:SE scores

Behavioral Health Integration Program: HS + CAPP
Our model (present → future)

- 300,000 patients (90,000 pediatric)
- 21 sites (19 pediatric, 21.8 FTE)
- Healthy Steps 0-5, innovative Child and Adolescent programming (CAP), Collaborative Care Initiative model for adults---training needs
- Universal life span behavioral health screening
- Family assessments
- Education of primary care providers (COR)
- Integrated care at each site (hubs and satellites)
Preliminary CAP findings

- 6 month study period (9/14-2/15)
- 8 practice sites
- 1164 children referred
- Demographics of referred sample:
  - Gender  Male 51%; Female 49%
  - Race/ethnicity
    Hispanic 37%
    Black or African-American 30%
    White 4%
    Other 20%
    Unknown 9%
  - Insurance
    Medicaid 65%
    Commercial 31%
    Other 4%
Key Findings: Referral Rate

- In a nationally representative sample of pediatric primary care practices, only 16% of children were referred to behavioral health (Rushton et al., 2002)

- Across the 6 month study period, 26.3% of children who attended pediatric visits were referred to a BHIP psychologist

(Rushton et al., 2002)
Key Findings: Warm Handoffs

A Warm Handoff, a unique feature of integrated care, consists of the psychologist meeting with the referred patient during the well child visit.

- 274 (23.5%) received a Warm Handoff
- Among patients who received a Warm Handoff, 172 (63%) also attended a full therapy session.
- Without a warm handoff, 53% of children attended a full therapy session.
Clinical Significance

• Data illustrate the feasibility of integrating behavioral health providers into a large pediatric primary care network.

• The current study found 53% of total referred patients attended at least one session and that warm handoffs, a unique feature of integrated care, increased this rate to 63%.

• The data suggests it is important for integrated behavioral health providers to prioritize warm handoffs to increase attendance.
BHIP Conclusions

• HS as a moderator between ACES in parents and SE development in children
• It is feasible and efficacious to integrate pediatric behavioral health into primary care pediatrics/family medicine settings
• Payment reform needed (dyadic care, prevention, bundling)
• Training of BHIP providers, primary care providers
  — Backbone, flexibility, COR
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“I wish I’d started therapy at your age.”