New Haven MOMS Partnership Concept Paper

The City of New Haven has a population of approximately 133,000 with a diverse racial/ethnic composition (39% Black/African American, 23% Hispanic/Latino). The median income of New Haven households ($36,783) is far below the U.S. median household income of $51,425. (American Community Survey, 2010) Notably, 42% of children in New Haven live in poverty. (CT Voices for Children, 2010)

The New Haven MOMS Partnership: The New Haven Mental Health Outreach for Mothers (MOMS) Partnership, a community-academic partnership consisting of All Our Kin, Clifford Beers Clinic, New Haven Health Department, New Haven Housing Authority, New Haven Healthy Start, The Diaper Bank, The State of Connecticut Department of Children and Families, and Yale School of Medicine, uses input from families and providers to develop public health approaches to ensure that pregnant and parenting women living in New Haven achieve the highest possible standards of mental health and well-being throughout their lives. Two tenets are central to the work of the MOMS Partnership:

(1) mothers everywhere face complex challenges as they strive to raise children. In New Haven we have heard from over 900 mothers that these challenges most commonly involve: (1) a mother’s ability to meet her family’s basic needs; (2) stress, and (3) social isolation; and (2) secure, reliable relationships and the stress buffering process provided by parents, are integral to preventing adverse childhood outcomes. (Shonkoff, 2012) In New Haven, more than a third of children are raised by a single mother, thus in the MOMS Partnership, we choose to focus our work specifically on mothers as a means to ensuring optimal health and development for families.

The New Haven MOMS Partnership’s mission is to unite women and their families with those individuals and institutions that are dedicated to the emotional and physical wellness of women in order to create generations of children that flourish, succeed and achieve. The New Haven MOMS Partnership has a vision that pregnant women, women who are parents, and all women raising children living in the City of New Haven achieve the highest possible standards of emotional health and well being throughout their lives, and as such, pass this on within their community, their family, and to the next generation.

MOMS Partnership and the Center on the Developing Child at Harvard:

The Center on the Developing Child at Harvard University (the Center) was founded in 2006 on the belief that the vitality and sustainability of any society depend on the extent to which it expands opportunities early in life for all children to achieve their full potential and engage in responsible and productive citizenship. The Center views healthy child development as the foundation of economic prosperity, strong communities, and a just society, and the mission is to advance that vision by using science to enhance child well-being through innovations in policy and practice. Specifically, the Center is committed to: building a unified science of health, learning, and behavior to explain the early roots of lifelong impairments; leading the design, implementation, and evaluation of innovative program and practice models that reduce preventable disparities in well-being; catalyzing the implementation of effective, science-based public policies through strategic relationships and knowledge transfer; and preparing future and current leaders to build and leverage knowledge that promotes the healthy development of children and families and brings high returns to all of society.
Central to the success of this ambitious agenda is the need to draw on new knowledge, explore new territory, and address well-recognized challenges in new ways. In this spirit, an innovation agenda at the Center emerged to pursue a relatively uncharted path. The driving force of the innovation agenda is the Frontiers of Innovation (FOI) initiative, a community-building, results-driven effort to engage a network of talented thinkers and doers in an ambitious mission. It was launched in May 2011 at a meeting in Cambridge, MA, that convened 65 leading researchers, policymakers, practitioners, and philanthropists, and it has grown to close to 400 members in less than a year. The knowledge base guiding the FOI community is multidisciplinary, cross-sectoral, and dynamic. Its core is driven by advances in the biological, behavioral, and social sciences, with a strong interest in the emerging insights of neuroscience, molecular biology, epigenetics.

The shared goal of the MOMS Partnership and the FOI community is to substantially improve the life prospects of vulnerable young children, beyond the level of impact achieved by the best of current policies and programs. The importance of fresh thinking is particularly critical for disadvantaged children and families in New Haven whose needs are not addressed adequately by existing programs and for whom society pays considerable future costs in remedial education, economic dependence, increased medical care, and the burdens of crime and incarceration. The MOMS Partnership and the FOI community are driven by a strong belief in the value of science as a catalyst for new ideas and a deep commitment to a disciplined process of collaborative designing, testing, and evaluation of specific intervention strategies in partnership with communities and neighborhoods in carefully selected locations as a necessary first step toward breakthrough impacts. The MOMS Partnership and the FOI community are fueled by the realization that quality improvements in existing programs (although clearly important) will not be enough to produce significantly greater effects, and that promising new strategies linked to science-based theories of change are necessary in sites willing to serve as innovation communities such as New Haven.

The signature feature of both the MOMS Partnership and the FOI community is a commitment to the continuous refinement of a theory of change that is grounded in credible science and that drives the design of explicit strategies focused on specific causal mechanisms to produce relevant breakthrough outcomes across generations. The framework that has emerged over the first year of the initiative has been heavily influenced by the biology of adversity and resilience, reflecting a growing interest in the extent to which excessive or prolonged activation of stress response systems early in life leads to disruptions in developing brain architecture that create barriers to learning, as well as impairments in other maturing organs and metabolic regulatory functions that lead to lifelong problems in health.

**Critical needs exist for families in New Haven:** In 2010 the MOMS Partnership began its work through a year long process of assessing the needs of the most hard to reach families in our City. Two unique strategies were employed in this systematic “needs assessment” process. First, New Haven mothers, termed, “Community Ambassadors” were hired, trained in research methods, brief mental health outreach, and child development. The Community Ambassadors interviewed over 900 mothers in New Haven. Interview questions focused on sources from which mothers’ derived support, personal, professional and parenting goals. Interspersed with these questions on strengths were questions focused on stress, sources of stress, stress buffering resources, isolation, and areas in which mothers felt they needed support for themselves and their children.
The second unique feature of our needs assessment was that we targeted the most disrupted, or “hard to reach” mothers. These were mothers that were not connected to services and for the most part, did not have relationships with other agencies serving low-income families in our City. In other words, Community Ambassadors did not only interview mothers in clinical settings or settings of service provision, but also approached mothers in grocery stores, nail salons, banks, parks, churches, bus stops and other naturalistic settings of mother-child interaction.

Findings from the MOMS Partnership needs assessment: Specific to New Haven, we have found the following factors placed mothers at high risk for poor outcomes for themselves and their children (ranked in order by 912 mothers interviewed by the MOMS Partnership):

- poverty, not specifically defined by mothers as lack of money, but rather defined as tangible, basic needs related to parenting—diapers, food, child care, clothing, and unstable housing;
- social isolation; and
- high levels of maternal mental illness or “stress,” defined by mothers to include symptoms and actual depressive, anxiety and addictive disorders.

These key findings from our needs assessment are distilled into an adapted and restructured pyramid of maternal needs (akin to Maslow’s traditional Hierarchy of Needs) and are depicted in Figure 1. To achieve significant impact on the health and development of two generations of mothers and children in New Haven, the MOMS Partnership in conjunction with the FOI community must address all of the needs defined by mothers and reflected in the pyramid. Without systematically addressing these needs we cannot achieve breakthrough outcomes in child health and development.

In addition to providing an overall frame to our work, our needs assessment provided targeted, neighborhood-level information on the needs of families in our most disenfranchised neighborhoods in New Haven. We have
mapped all of our needs assessment data using statistical mapping software to pinpoint the neighborhoods most in need of resources and new, innovative approaches to promoting the health and development of mothers and their children. The three maps depict just how prevalent the factors comprising the maternal hierarchy of needs are throughout New Haven.

Our needs assessment process is critical to understanding the evolution of the MOMS Partnership, as the strategic planning, interventions, measurement, and design of the MOMS Partnership work is driven by information conveyed by over 900 low-income mothers in New Haven. The MOMS Partnership integrates information gleaned from New Haven mothers and the expertise and leadership of a core steering committee of local leaders and experts, with cutting edge developmental, behavioral, and psychiatric research at the Yale School of Medicine and partnership with the FOI community. Through this community-academic partnership we have the power, political will, and participation of mothers to change outcomes for families using a systematic neighborhood-based approach.
The Solution: Our Theory of Change. We believe breakthrough child outcomes cannot be achieved without interventions that simultaneously address four factors mediating the relationship between early life adversity and child outcomes:

1. maternal psychopathology;
2. maternal stress reactivity;
3. maternal executive function; and
4. parenting quality.

These mechanisms are illustrated graphically and described in detail in the MOMS Partnership’s Theory of Change represented in Figure 2.

Our theory of change rests on the premise that improvements in maternal mental health and maternal economic security result in not only decreased morbidity for mothers, but also vastly improved outcomes for their children through reductions in parenting stress. We also believe that for low-income mothers, lasting poverty alleviation cannot occur without attention to mental health needs that may impede mothers’ ability to seek and sustain stable employment. Moreover, we believe there are very specific and unique realities of poverty for parents such as diaper need and fear of losing custody of children, which place additional undue stressors on mothers and their children. These ideas are reflected in our Theory of Change depicted in Figure 2. Mechanisms targeted by the MOMS Partnership are represented in yellow highlights.
Our theory of change is based on the proposition that the elevated stress that is endemic in the everyday lives of socially and economically disadvantaged families (social isolation, lack of basic needs) plays a causal role in the higher prevalence of problems in learning, behavior, and health among children, problems that are mediated by maternal states and parenting quality. Based on this thinking, the MOMS Partnership and the Frontiers of Innovation initiative seek to combat toxic stress and economic disadvantage through a model of action encompassing community mobilization and innovative neighborhood-level service delivery tailored to the needs of local families. With knowledge generated and integrated at each level of action, MOMS and FOI hope to learn quickly what avenues seem most promising, which need further refinement, and which merit further testing.

How the MOMS Partnership will achieve breakthrough outcomes across two-generations: Our Theory of Action. Any comprehensive strategy to improve the outcomes of mothers and children relies on our ability to engage mothers that are either disinterested or unable to engage due to competing priorities (work, school, neighborhood chaos). Over the next 10 years, utilizing the existing infrastructure of the MOMS Partnership and in partnership with the FOI community, we will work to intervene upon psychopathology, stress reactivity, and executive function in mothers as a means to improve parenting capacity and ultimately child health, development, and achievement on a citywide level.

Specifically, we will create “MOMS Zones” in 12 neighborhoods in our City. These “MOMS zones” will have two unique features: (1) a “MOMS hub” to deliver centralized mental health and family self-sufficiency-economic security services and (2) a neighborhood workforce of Community Ambassadors trained to engage the hardest to reach families and encourage the engagement of these families with the MOMS hubs. The two components of our MOMS Zones are outlined in detail below:
(1) Neighborhood MOMS Hubs: To achieve our reality we propose a menu of interventions and services offered through the hubs (and determined by the interviews with over 900 mothers across New Haven) using tiered levels to match the needs of mothers and children. Through the MOMS hubs we will:

   a. train a maternal mental health workforce;
   b. provide services (economic security, mental health, attachment-based parenting interventions);
   c. offer items and services to meet mother’s basic needs; and
   d. provide opportunities to create community and build natural supports close to home.

(2) Community Ambassadors: Community Ambassadors, mothers from New Haven trained in brief mental health intervention, key principles to promote health, development and achievement across generations, act as referral sources to the MOMS hubs and care extenders at the hub. A comprehensive workforce development strategy will be utilized to train all outreach workers at existing neighborhood and citywide agencies in key principles of a two generation strategy to promote health, development and achievement. All neighborhood business professionals frequently interacting with mothers (referred to as “door openers” (e.g. nail technicians, hair dressers, and laundromat owners) will be trained on brief “touch points” to use to engage mothers with the neighborhood MOMS hubs. In this way, a large portion of the neighborhood or community would become “mom informed” and filter families at risk or in need to the MOMS hubs. The MOMS Partnership is currently developing and testing a curriculum for Community Ambassadors.
**How will we know if it works?** We propose to stratify (by poverty rate, size, and baseline level of unemployment in female single heads of household) and randomize 12 New Haven neighborhoods. Each neighborhood would receive a MOMS Zone consisting of a MOMS Hub and Community Ambassadors. Neighborhoods would be randomized such that:

- 4 of the neighborhoods would have MOMS hubs that delivered mental health and family self-sufficiency services for mothers and children;
- 4 of the neighborhoods would have MOMS hubs that delivered mental health services only through the MOMS hubs; and
- 4 of the MOMS hubs would deliver family self-sufficiency services only.

Thus, we will be testing each of our key paths in our Theory of Change (Figure 2). Do we achieve the greatest impact on child outcomes if we improve maternal psychopathology, executive function, stress reactivity, and in turn parenting and child outcomes? Or do we achieve an equivalent or greater impact if we target family self-sufficiency and economic security? Many of these questions currently remain unanswered.

**What are we trying to impact?** The research component of the MOMS Partnership will be structured as a longitudinal, prospective, repeated measures study, recruiting mothers in pregnancy through the two New Haven Hospitals, four health clinics, and handful of obstetrical offices serving low-income mothers in the city. Mothers who reside in our 12 neighborhoods with MOMS Zones will be recruited, enrolled, and connected with MOMS hubs. We will collect indicators on a neighborhood, family and individual level and follow mothers longitudinally for ten years.

Key maternal outcomes will be:

1. executive function;
2. symptoms of psychopathology (depressive, anxiety, addictive disorders);
3. stress reactivity;
4. quality of parenting.

Key child outcomes will be:

1. executive function;
2. kindergarten readiness and school success;
3. growth parameters;
4. symptoms of depressive and anxiety disorders
5. emergency department visits.

We will utilize the National Institutes of Health Toolbox and computerized testing to measure executive function in mothers and children and stress reactivity in mothers. Measures of maternal psychopathology and parenting quality will be obtained through clinical interview and observation of a dyadic interaction by trained researchers at the MOMS Hubs. School readiness and success, growth parameters, and emergency department visits will be obtained both through self-report and extant data agreements between the MOMS Partnership and City of New Haven agencies and practitioners.
Why we can do it: Currently funded by the Office of Women’s Health and in partnership with FOI, the MOMS Partnership leverages federal and private funding to create a two generation strategy to promote child health and development. In just two years, the MOMS Partnership has interviewed over 900 mothers, designed and disseminated attachment-based cognitive behavioral therapy for mothers in public housing complexes throughout the city, created and manualized Community Ambassador trainings, competed successfully for federal and private funding, disseminated findings and obtained full support and active partnership with local and state-level agencies. The MOMS Partnership harnesses the science of early childhood development, the trust cultivated in a community-academic partnership and the input and collaboration of low-income families, to improve outcomes for the most vulnerable mothers and their children in New Haven.

Maternal mental illness constitutes one of the largest public health problems facing not only women of reproductive age, but also their children. This fact, and the recognition that mothering in poverty places even more stressors on women, necessitates the development of innovative communitywide public health promotion efforts to reduce the burden of mental illness and increase the life skills of low-income mothers to promote the health and development of their children. The MOMS Partnership focuses on engaging the hardest to reach families by combining systems to promote two generation health and development with strategies to address the pernicious realities of poverty, violence and anomie described by mothers raising young children in our City.