

# Connecting Vulnerable Children and Families to Community-Based Programs Strengthens Parents' Perceptions of Protective Factors

**Marcia Hughes, PhD; Allison Joslyn, BA; Morella Wojton; Mairead O'Reilly, BA; Paul H. Dworkin, MD**

We employed principles from a nationally recognized prevention model on family support to investigate whether connecting vulnerable children to community-based programs and services through a statewide intervention system, the *Help Me Grow* program, strengthens parents' perceptions of protective factors. We used a parent survey modeled on 5 protective factors and related theoretical underpinnings of the Strengthening Families Protective Factors Framework to assess the impact of *Help Me Grow* on parents' perceptions of family circumstances and children's development. In addition, we coded and analyzed case notes completed by care coordinators to examine strategies for promoting protective factors. Parents reported a positive change in their family circumstances and a strengthening of protective factors. Parents' responses were positive despite differences in presenting issues. *Help Me Grow* support to families and their connection to programs and services enhanced parents' perceptions of protective factors even among families with differing needs. Our analyses support the practical utility of the Strengthening Families approach as a tool for engaging parents and assessing parents' perceptions of the effectiveness of interventions. A positive shift in parents' attitudes, knowledge, and behaviors contributes to engaged, supported, and educated parents who are better equipped to meet their children's needs and foster healthy developmental outcomes. **Key words:** *community-based programs, Help Me Grow, protective factors, vulnerable children*

**U**NDETECTED developmental and behavioral problems in infants and young children have a profound impact on their lives,

as well as on society because of their later need for remedial services from the special education, mental health, and juvenile justice systems. Experts have long agreed that early detection of at-risk children offers the best hope for early intervention and optimal outcomes (Chamberlin, 1992). However, even when needs are identified, connecting children and their families to services often proves difficult and requires knowledge of programs, understanding and meeting of eligibility requirements, and persistence in overcoming barriers. The current study evaluates the impact of an intervention that promotes the early detection of vulnerable children at risk for poor developmental and behavioral outcomes and links them and their

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**Author Affiliations:** *Department of Sociology, Center for Social Research, University of Hartford, West Hartford, Connecticut (Dr Hughes and Ms Joslyn and Wojton); University of Connecticut School of Law (Ms O'Reilly); and Office for Community Child Health, Connecticut Children's Medical Center, University of Connecticut School of Medicine, Hartford (Dr Dworkin).*

*The authors declare no conflict of interest.*

**Correspondence:** *Marcia Hughes, PhD, Department of Sociology, Center for Social Research, University of Hartford, Hillyer Hall, Ste 423, 200 Bloomfield Ave, West Hartford, CT 06117 (mbughes@hartford.edu).*

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families to existing community-based resources (Dworkin, 2006). The study employs key principles of a nationally recognized model for supporting families to assess parents' perceptions of the effect of the intervention, *Help Me Grow (HMG)*, on factors demonstrated to positively impact children's developmental trajectories.

Children and families often have multiple, overlapping needs. However, service delivery and interventions often focus on single problems and operate in isolation from each other, resulting in a confusing array of disconnected programs, policies, and funding streams. Understandably, families in need are often confused and report problems understanding what services are available and how to access them (King, Cathers, King, & Rosenbaum, 2001; Sloper & Beresford, 2006). As a result, their needs are often neither comprehensively nor adequately addressed (Halfon, Duplessis, & Inkelas, 2007). *HMG* serves as a supportive net for all families and, in particular, helps those who are vulnerable to falling through the proverbial system "cracks."

The components of *HMG* include (1) outreach and training to child health providers (i.e., pediatricians, family physicians) on early detection of developmental and behavioral concerns; (2) community outreach to identify and engage service providers; (3) a statewide, toll-free telephone number accessible to parents and providers with developmental and/or behavioral concerns for a child; (4) care coordinators who triage calls and facilitate linkage to community-based programs and services; and (5) evaluation to assess program effectiveness. The Connecticut (CT) Office of Early Childhood (OEC) administers *HMG* in collaboration with the United Way of Connecticut/211 (the state's telephone information and referral service). The Child Development Infoline (CDI)—a specialized unit of United Way—serves as a central point of entry for early childhood intervention services for infants, toddlers, and preschoolers under the Individuals with Disabilities Education Act (IDEA), and services for children and youth with special health care needs under

the Children and Youth with Special Health Care Needs (CYSHCN) program of the Maternal and Child Health Services (Title V) State Block Grant. Since the incorporation of *HMG* in 2002, CDI has referred families and their children who do not meet the eligibility criteria for these programs to *HMG* and subsequent referral to community-based programs and services (Hughes & Joslyn, 2014).

*HMG* has averaged 2,370 calls a year for the past 5 years (Hughes & Joslyn, 2014) from parents and child health providers who have concerns for children's development and behavior. Calls are answered by care coordinators who are trained to conduct family interviews and build rapport over the phone. During the initial call, the care coordinator gathers demographic information, discusses the concern for the child and clarifies the family's needs. The care coordinator may also identify other family or household concerns and educate the families about state service systems. The care coordinator summarizes what has been discussed during the call, including any follow-up and referral needs. The care coordinator then identifies appropriate and available programs and services in the family's community and contacts the relevant resources to verify program information. Once the care coordinator has compiled information, the care coordinator calls the family back and provides the parent with information on available services and supports, with whom to speak at the relevant agencies, what questions to ask and, when necessary, how to complete application materials. The care coordinator will follow-up with the family within a 2-week period to determine if the family was able to successfully connect to resources or had additional questions or concerns. *HMG*, through CDI, also offers families access to the Ages & Stages (ASQ) Child Monitoring Program, a series of parent-completed (electronically or by mail) questionnaires that are designed to screen children for developmental delays from 3 months to 5 years of age (Squires, Bricker, & Potter, 1997).

Although evaluation has demonstrated the efficacy of *HMG* in enhancing early

detection (Honigfeld & McKay, 2006) and in successfully linking children and their families to programs and services (Hughes & Damboise, 2009), prior research does not tell us how linking to community-based programs and services benefits at-risk children and their families and promotes children's healthy development.

### **STRENGTHENING FAMILIES PROTECTIVE FACTORS FRAMEWORK**

The Strengthening Families (SF) Protective Factors Framework (PFF), developed by the Center for the Study of Social Policy (CSSP), is a universal approach to promoting positive parenting and child development across early childhood service sectors, as well as across families with a range of needs (CSSP, 2014; Horton, 2014). It is based on theory and research on resilience and, relatedly, the impact of risk and protective factors on parenting and child development. From some of the earliest studies to recent reviews on resiliency, the quality of the parent-child relationship is one of the most robust predictors of child adaptation (Guralnick, 2001; Luthar, 2006; Masten, 2001; Masten & Coastworth, 1998; Masten & Tellegen, 2012; Shonkoff, 2010; Sroufe, 2005; Sroufe, Carlson, Levy, & Egeland, 1999; Waters & Sroufe, 1983; Werner, 1984; Wickrama & Kaspar, 2007; Yates, Egeland, & Sroufe, 2003). Parents who are responsive, warm, and provide appropriate control promote *and* protect their children's development (Egeland, Carlson, & Sroufe, 1993; Kilmer, Cowen, & Wyman, 2001; Sameroff, 2000, 2010; Sameroff, Gutman, & Peck, 2003; Werner & Smith, 1982).

Much as a child's well-being depends on characteristics of the surrounding caregiving environment, the quality of parental care is dependent on the nature of surrounding stressors and supports (Luthar, 1999; Rak & Patterson, 1996). For a family with a child who has a developmental or behavioral problem, parental relationships, coping styles, and beliefs in the family's ability to manage the child's care are better predictors of

parental stress—and child outcomes—than the child's disability or problem itself (Armstrong, Birnie-Lefcovitch, & Ungar, 2005; Guralnick, 2011; Hauser-Cram et al., 1999; Lu & Halfon, 2003; Neely-Barnes & Dia, 2008; Shonkoff & Hauser-Cram, 1987; Webster-Stratton & Taylor, 2001). Accordingly, the focus of SF PFF is to inform practice and strategies for strengthening protective factors among families by helping parents to (1) manage stress, (2) connect with supportive others, (3) better understand child development and related parenting strategies, (4) access concrete support and services when needed, and (5) interact with their children in such a way as to foster better communication and emotion regulation.

The evaluation presented in the article measures the aforementioned five protective factors and related programmatic strategies of the SF approach. In particular, we examined the effect of *HMG* on factors that positively impact children's developmental trajectories. We hypothesized that as a result of contacting *HMG*, parents would perceive an improvement in their situations (e.g., protective factors would be strengthened) in one or more of the following ways: (1) understanding of their children's development and needs; (2) knowledge of available services; (3) access to services; (4) available assistance, advice, or emotional support; (5) a positive change in day-to-day circumstances (i.e., routines/interactions); (6) parental relationship with the child; (7) child's behavior; and (8) parents' perception of their ability to better handle things (i.e., coping skills).

### **METHODS**

We used a mixed-methods approach to collect data. We recruited families who previously called *CDI* to participate in a phone survey. The 10-item survey asked parents to numerically rate the ways in which they perceived that they experienced a change in their situation as a result of their contact with *HMG* and the receipt of information and services from *HMG*. In addition, we coded and

analyzed case notes completed by care coordinators for each of the families who responded to the survey to assess whether and how the *HMG* program promoted protective factors. The study design, including all recruitment materials and the consent form, was approved by the University of Hartford's institutional review board.

### Participants

We recruited parents, 18 years or older, in one of two ways: We sent a letter explaining the purpose of the study (in English and Spanish) to the address of all *HMG* family cases that were closed within the 6 months prior to the start of the study in April 2012; in addition, for approximately 3 months following the start of the study, care coordinators informed parents of the study as their case was closing and we mailed them the same letter. A consent form explained that willingness to participate in the study also included permission for the research staff to review the *HMG* care coordinators' case notes. In addition, we informed participants they would receive a \$15.00 department store gift certificate upon their completion of the parent survey. Consent forms, including the parents' phone number and the best time to contact them, were returned in a self-addressed envelope.

We tried to recruit families across a range of circumstances and experiences to gain as much insight as possible to identify any common themes respective to protective factors. For such maximum variation sampling, a sample size of at least 50 families is considered sufficient (Alreck & Settle, 1995; Onwuegbuzie & Collins, 2007; Patton, 1990). In addition, a 10% response rate is the recommended guideline for this type of purposeful, nonprobability sampling technique (Alreck & Settle, 1995).

A total of 875 parents were invited to participate, of whom 105 (12%) returned a completed consent form. Of these 105 families, 85 parents (80%) completed the phone survey, yielding an overall response rate of 10% and meeting the recommended sample size for purposes of our study. For the remaining 20 parents who returned a consent form, ei-

ther the phone number was no longer in service or insufficient or incorrect information prevented cross-referencing with case notes. Included in the study sample were 79 of the 85 respondents who had called *HMG* about a child 0–8 years of age; the remaining six respondents who had contacted *HMG* about a child older than 8 years (enrolled in CYSHCN) were removed for the purpose of the analyses in this article.

The 79 families included those who had questions about children enrolled in either Part C (38%) or Part B (14%) of the IDEA services and/or services for the Title V CYSHCN program (26%). Most of the participants (92%) also had concerns about their children's behavior or development aside from eligibility requirements for Part C, Part B, or CYSHCN. In addition, 27% of the participants called with a concern about a child who did not meet the eligibility criteria for publicly funded services but was in need of support. The diverse service needs of the families and other demographic data on participants, as described in the following paragraphs, indicate that the sample of families was experiencing a wide range of circumstances.

As shown in Table 1, three fourths of the calls were about children 3 years and younger, 11% of the calls were for children aged 4 to 5 years, and 14% of the cases were for children aged 6–8 years. For 61% of the callers, children resided with their mother only (single parent) and 39% of children resided with both parents. For 15% of families, Spanish was their primary language. Forty-one percent of the children were receiving free or low-cost health insurance for eligible families (i.e., Medicaid, State Child Health Insurance Program [SCHIP]), 34% had private insurance, and the remaining 25% did not specify (i.e., not documented in case notes).

We aggregated data on family place of residence based on five distinct city/town groupings in terms of income, poverty, and population density (i.e., urban core, urban periphery, suburban, rural, and wealthy city/town groups; Levy, Orlando, & Wayne, 2004) to determine whether there were

**Table 1.** Family Demographics and Other Characteristics

	<b>Study Participants (N = 79)</b>
Child's age (years)	
Birth to 3	75%
4-5	11%
6-8	14%
Child resides with	
Both parents	39%
Mother only	61%
Primary language spoken	
English	85%
Spanish	15%
Insurance type	
Medicaid or SCHIP	41%
Private insurance	34%
Unspecified	25%
Location of residence	
Urban core	52%
Urban periphery	23%
Suburban	13%
Rural	13%
Wealthy	0%

Note. SCHIP = State Child Health Insurance Program.

meaningful patterns among the *HMG* callers based on socioeconomic city/town groups. Fifty-two percent of study participants resided in the urban core, and 23% resided in the urban periphery. Together, these cities/towns have the lowest income, the highest poverty rates, and the highest population density in the state (Levy et al., 2004). Approximately 13% of participants resided in suburban towns, followed by 13% who resided in rural towns. None of the study participants lived in wealthy towns. These percentages are similar in proportion to annual analyses of all *HMG* callers for programmatic years 2010-2013 (Hughes & Joslyn, 2014).

## Procedures

### Parent survey

The 10-item parent survey assessed changes perceived by the parent that may have oc-

curred as a result of contacting *HMG* through the CDI. The survey items were based on the SF PFF initiative. We shared the items with community program leaders, state early childhood leadership staff, and the *HMG* care coordinators to ensure relevance, validity, and understanding of each item.

The phone survey was administered over a 4-month period by three researchers who were trained on the survey protocol. For the 15 Spanish-speaking participants, a researcher fluent in Spanish conducted the interviews. Before making the phone call, the researcher reviewed the case notes for a given participant and used the case notes to cross-reference as necessary during the phone call. Researchers used a script for introductions and to establish the purpose of the phone contact and to obtain parents' general impressions on their experience contacting *HMG*. Survey administration was last.

Calls occurred throughout the day, and evening hours, based on parental preference. If parents requested to postpone the interview or were not home, we called back. The phone calls, including the survey administration, took 20-30 min. We confirmed addresses at the end of the call and mailed gift certificates within 1-3 days of the phone call. All information about the calls was documented, and the researchers held regular meetings to ensure coordination and to discuss progress.

### Coding system for case notes

We used the SF program self-assessment form (CSSP, 2012) as the basis for developing an a priori coding system for analyzing care coordinators' case notes on each of the study participants. The self-assessment tool is organized around key strategies that build protective factors with families. We culled out practices considered applicable to *HMG* care coordination services for the coding system. Once developed, we vetted the coding system on two separate occasions with the *CDI* and CT OEC leaders and *HMG* care coordinators for their understanding of the different

items and to identify areas that needed further refinement.

The final coding system included 42 codes (some with subcodes) within the following six constructs, each of which signifies both a family issue identified at intake and a care coordinator strategy: (1) facilitate friendships and mutual support; (2) strengthening parenting; (3) support parents of children with special needs; (4) developmental monitoring; (5) facilitate children's social and emotional development; (6) respond to family crisis; and (7) recognize/respond to early warning signs of child abuse and neglect. Each construct was operationally defined (codes and subcodes) using concrete examples. For example, codes under the operational definition of the construct "facilitate friendships and mutual support" include "the program helps parents set up formal and informal support mechanisms" and "the program connects families with similar interests, children's ages, and circumstances." Examples of codes under the construct "strengthening parenting" include "parents are connected to classes, services or programs, and discussion groups" and "parents' directions and/or decisions about their child are supported." In addition, we coded all referrals to services for each case.

Each case note contained demographic information, parent concern(s), care coordinator actions, narrative, and referral information, from the beginning of the case to the time it was closed, and was considered a separate observation. For each observation, the researcher coded each occurrence of any of the six constructs. We coded the case notes electronically using NVivo, a qualitative analysis software package (QSR International Pty Ltd, 2012). One researcher coded all of the case notes. Another researcher independently coded approximately one fourth of the case notes (i.e., double-coded) to assess the usefulness of the coding system, refine or revise the coding scales to obtain the best measurement of the qualitative data, and ensure inter-rater reliability. The research team discussed questions and differences in ratings to clarify

underlying concepts and to determine final coding.

### Data analyses

To assess the impact of *HMG* on parents' perceptions of protective factors, we calculated the total average score for all the survey items and the score percentages for each response, from 0 (not at all) to 4 (extremely). To examine strategies utilized by the care coordinators for addressing family needs/promoting protective factors, we first aggregated the percentages of times a code was noted across each of the case notes. We then used the aggregated percentages for conducting a person-centered cluster analysis to delineate specific subgroups of families who showed unique and significantly different patterns of presenting issues and related care coordinator intervention strategies (Bergman, Magnusson, & El-Khoury, 2003). To further examine distinction between the subgroups, we conducted a one-way analysis of variance (ANOVA) to determine any differences between the subgroups in type and number of referrals. Finally, we conducted a one-way ANOVA to determine whether there were differences between the subgroups of families (independent measure) in their ratings on the parent survey (dependent measure).

## RESULTS

### Parent survey

The average score for all survey questions for the entire study sample was 3.3. The top five items (Table 2) to which parents indicated that CDI and *HMG* supported them "extremely" or "quite a bit" were "there are people who can provide me with assistance when I need it" (88%), "I am able to access services if I need it" (84%), "I have a better understanding of my child's development" (83%), "I have a better understanding of services for me and/or my child" (83%), and "I am able to better understand and meet my child's needs" (81%). While 61% and 67% of parents rated "My relationship with my child has improved"

**Table 2.** Response to Survey Questions

As a Result of My Call to CDI and the Information and Services I Received	Parent Responses (N = 79)					
	Extremely	Quite a Bit	Somewhat	A Little Bit	Not At All	Does Not Apply
1. I have a better understanding of my child's development.	43 (54%)	23 (29%)	5 (6%)	2 (2%)	1 (1%)	5 (6%)
2. I am able to better understand and meet my child's needs.	46 (58%)	18 (23%)	9 (11%)	2 (2%)	1 (1%)	3 (4%)
3. I have a better understanding of services for me and/or my child.	42 (53%)	24 (30%)	8 (10%)	0 (0%)	4 (5%)	1 (1%)
4. I am able to access services if I need it.	51 (65%)	15 (19%)	7 (9%)	3 (4%)	1 (1%)	2 (2%)
5. I have people I can talk to for advice and emotional support.	49 (62%)	13 (17%)	9 (11%)	4 (5%)	1 (1%)	3 (4%)
6. There are people who can provide me with assistance when I need it.	48 (61%)	21 (27%)	7 (9%)	0 (0%)	0 (0%)	3 (4%)
7. There is improvement in my family's day-to-day circumstances.	29 (37%)	24 (30%)	8 (10%)	3 (4%)	2 (2%)	13 (17%)
8. My relationship with my child has improved.	36 (46%)	12 (15%)	4 (5%)	4 (5%)	2 (2%)	21 (27%)
9. My child's behavior has improved (e.g., mood, attitude, play, relationships with other children).	23 (29%)	14 (18%)	16 (20%)	2 (2%)	0 (0%)	24 (30%)
10. I feel like I can handle things better.	36 (46%)	23 (29%)	10 (13%)	1 (1%)	1 (1%)	8 (10%)

*Note.* CDI = Child Development Infoline.

and “there is improvement in my family’s day-to-day circumstances,” respectively, as “extremely” or “quite a bit,” 47% of parents reported that their child’s behavior improved “extremely” or “quite a bit.” However, even when a child’s behavior remained unchanged, parents reported having better capacity to cope. Specifically, 75% of parents rated “I feel like I can handle things” as “extremely” or “quite a bit.”

A closer inspection of case notes for the 10 families with an average score of 2.5 or below indicate that most of these families had difficulty getting clarity on diagnoses for their children or were seeking difficult-to-secure services such as respite care and financial relief.

**Case notes**

The average number of incoming and outgoing calls per case/observation was approximately four, with a range from one to 11 calls, and the average number of days a case was open, from time of intake through final follow-up call, was 28 days, with a range from 1 to 100 days. Table 3 shows the percentages of

cases for each family issue/care coordinator intervention strategy. The following excerpts from case notes and parent phone calls illustrate presenting issues and care coordinator strategies.

**Facilitate friendships and mutual supports**

Care coordinators connected families with similar interests, children of similar age, and common circumstances and helped parents set up formal and informal support mechanisms. A mother reported that, as a result of her call to HMG, she became involved in a local support group for parents. She commented, “The parents have great information to share and now I know there is a lot more out there for me to connect with.”

**Strengthening parenting**

Care coordinators acknowledged and recognized children’s frustrating behaviors and parents’ efforts and connected parents to educational and support services. A care coordinator referred a parent whose child was

**Table 3.** Presenting Issues/Strategies for Promoting Protective Factors for All Cases and Each Subgroup

Typology	All (N = 79)	1 (n = 23)	2 (n = 31)	3 (n = 12)	4 (n = 13)
Facilitate friendship and mutual support	24%	4%	13%	58% <sup>***</sup>	54% <sup>**</sup>
Strengthening parenting	67%	57%	97%	83%	0%
			Subgroups 1 and 4 <sup>***</sup>		
Support parents of children with special needs	33%	4%	10%	83% <sup>***</sup>	92% <sup>***</sup>
Developmental monitoring	33%	100% <sup>***</sup>	0%	25% <sup>**</sup>	0%
Facilitate children’s social and emotional development	81%	78%	100%	75%	46%
			Subgroup 4 <sup>***</sup>		
Respond to family crisis	13%	0%	0%	83% <sup>***</sup>	0%
Recognize/respond to early warning signs of child abuse and neglect	23%	4%	3%	100% <sup>**</sup>	31%

<sup>\*\*</sup>*p* ≤ .01. <sup>\*\*\*</sup>*p* ≤ .001.



displaying aggression for behavioral consultation. The mother reported,

I was very impressed with everyone I spoke to and everyone that came to the house, they were very professional. Now I feel like a normal parent and not like the worst parent in the world . . . I have a master's degree and teach health education and I still had no idea, not even having two other children prepared me for [the third child].

### ***Supporting parents of children with special needs***

The care coordinators connected families to a range of services and programs specific for children with special needs, often addressing more than one protective factor. A mother who was connected to a parent support group shared, "Now I am friends with a mother whose child also has Fragile X syndrome and we figure out our problems around that together." Another parent reported:

My son was not receiving sign language services at school that he was supposed to, so through [HMG] I got the phone number for a parent school advocate. They got involved, and, since then, there have been a lot of changes. He gestures and signs now.

### ***Developmental monitoring***

Care coordinators referred families with a child who has or may have a developmental and/or medical disorder for evaluation (e.g., through Part C or Part B, or when applicable, directly to community-based evaluation services). When parents wanted to learn more about their children's development or were concerned about the possibility of a developmental delay, they were referred to the ASQ Child Monitoring Program. One mother reported on her experience utilizing the ASQ, "Now I feel more equipped and reassured . . . I know what to expect, and my gut feeling is stronger now . . ."

### ***Facilitate children's social and emotional development***

These families developed effective strategies for supporting their children's social-emotional behavior. One parent reported that as a result of calling HMG, she attended

a child-parent class at a child study center and that improvement ". . . definitely has stemmed from classes. I am more consistent with discipline . . . This has helped him learn about things, responsibility, and values. Our daily life has improved, less yelling and arguing."

### ***Respond to family crisis***

These families were in immediate need of concrete support. A single, low-income mother called requesting financial assistance for her child. She explained that her child had received a diagnosis of reactive attachment disorder and oppositional defiant disorder. The therapist wanted him to receive intensive group therapy, but her insurance only covered a small portion. The care coordinator referred her to an agency that raised funds to assist families with children with serious diseases and also referred her for respite care. During the interview, the mother reported that the agency

helped me out a lot, [my child is receiving intensive group therapy] now . . . they were able to help with the financial burden. I was really relieved because of that, and the respite funding will be a huge help when it comes through for afterschool programs or summer camp possibly.

All of these services, "Make it a lot easier for me; I have a better outlook now and a better relationship with [my child] since the call."

### ***Recognize and respond to early warning signs of abuse and neglect***

These families acknowledged having significant stressors in their lives (e.g., financial, health-related, familial, or relationship-related) that were compounded by difficulties they were having with their children. A mother who recently immigrated to the United States was the parent of a child with special needs and indicated that she was depressed. She reported that HMG

. . . gave me a lot of information that I didn't know before. I would feel very, very depressed because I did not know where I can go to get help. Now I know where to go. I used to be crying, crying, all

the time. I did not know where to go . . . . Sometimes when with a kid who has multiple problems, you don't know the services they have . . . . I called [HMG] and they gave me the information.

**Family subgroups**

The *k*-mean cluster analysis differentiated four parent subgroups with distinct patterns or "profiles" of presenting issues/intervention strategies. Table 3 shows mean percentages on the clustering variables for each of the family subgroups and where there were significant differences between the groups.

All families in Subgroup 1 (*n* = 23) were seeking to learn more about their children's development (i.e., developmental monitoring), just over three fourths of these families (78%) were also seeking support for their children's social and emotional development and more than half (57%) were in need of parenting support or education (i.e., strengthening parenting). All families in Subgroup 2 (*n* = 31) were seeking support for their children's social and emotional development and, additionally, they were rated highest in need of strengthening parenting (97%). But unlike Subgroup 1, none of these families were seeking to learn more about their children's development (i.e., developmental monitoring) and only 10% of these families had a child with special needs. Whereas no other subgroup had families who were experiencing a crisis, the majority of families in Subgroup 3 (*n* = 12) were experiencing acute stress, for example, lacking basic needs (83%), and circumstances for all of the families in this group indicated risk for child abuse and neglect. In addition, 83% of families in Subgroup 3 were seeking support for a child with special needs,

75% were seeking support for their children's social and emotional development, and more than half (58%) were in need of friendships and mutual supports. Similar to Subgroup 3, the majority of families in Subgroup 4 (*n* = 13) were seeking support for a child with special needs (92%) and more than half (54%) were in need of friendships and mutual supports. Unlike Subgroup 3, none of these families were experiencing an acute family crisis (e.g., lack of basic needs), although 31% of the families showed early warning signs of child abuse and neglect. Although almost half of the families (46%) were seeking support for their children's social and emotional development, this was much less than the other subgroups.

HMG made 461 referrals for services on behalf of all 79 families (Table 4). On average, 5.8 referrals were made per family; 26 families had one referral, and 17 families had 10 or more referrals. There was a significant difference between family subgroups in the average number of referrals per family (*f* = 19.45, *p* = .000). Of the 461 referrals, 41% were made on behalf of the 12 families in Subgroup 3 (average of 15.6 referrals per family) all of whom were showing early warning signs of child abuse and neglect, with 83% experiencing an acute family crisis. The next highest percentage of referrals was for Subgroup 4 (9.5 referrals on average), with the highest number of children with special needs (92%), and almost a third (31%) who were showing early warning signs of abuse and neglect. In contrast, 19% and 14% of referrals were made on behalf of families in Subgroup 1 (3.8 on average) and Subgroup 2 (average of 2.1 referrals per family), respectively. The lower intensity needs of the two larger groups of

**Table 4.** *Help Me Grow* Referrals Made on Behalf of Families

	All Cases ( <i>N</i> = 79)	Subgroup 1 ( <i>n</i> = 23)	Subgroup 2 ( <i>n</i> = 31)	Subgroup 3 ( <i>n</i> = 12)	Subgroup 4 ( <i>n</i> = 13)
Total no. of referrals	461	87 (19%)	64 (14%)	187 (41%)	123 (27%)
Average no. of referrals per family	5.8	3.8	2.1	15.6	9.5

families were met by facilitating parents' support of their children's social and emotional development, and, in the case of Subgroup 1, facilitating access to developmental monitoring. The significant difference in the average number of referrals between family subgroups indicates that care coordinators' time and effort across the population are often focused on higher need families.

### Comparison between family subgroups on parent survey scores

Although subgroups had significantly different profiles in terms of family issues/intervention strategies, we found no significant differences on the average total score among the three family subgroups on the parent survey ( $f = 0.191, p = .902$ ). The average scores were 3.2, 3.3, 3.3, and 3.4 for Family Subgroups 1, 2, 3, and 4, respectively.

## DISCUSSION

Recognition of the importance of early childhood intervention for children at risk for poor developmental and behavioral outcomes has led to an emphasis on the early detection of such children through the process of developmental surveillance and screening (National Research Council and Institute of Medicine, Committee on Integrating the Science of Early Childhood, 2000; Council on Children with Disabilities, American Academy of Pediatrics, 2006). To be effective, early detection must result in children and families being connected to programs and services. This is especially challenging because of the multiple contacts typically required to coordinate such care (McKay, Shannon, & Vater, 2006). *HMG* has documented efficacy in linking at-risk children and their families to such interventions (Hughes & Joslyn, 2014; Taylor, 2012). Yet, the extent of the benefits to children and families has been uncertain.

The current study employed principles of SF, a universal approach for promoting positive parenting and child development across early childhood service sectors, to assess par-

ents' perceptions of the effect of *HMG* on family functioning and child progress. Specifically, we employed a survey to evaluate parent perceptions of *HMG* on five protective factors demonstrated to positively impact children's developmental trajectories. Overall, ratings on the survey indicated that parents had better understandings of service systems and programs, and how to access them, and better knowledge of their children's development. Survey data and case note analysis indicated that many parents perceived improvements in their family circumstances, their relationship with their children, and their children's behavior. The parents' ratings on the survey indicated that, overall, the majority had positive responses to all 10 items as a result of utilizing CDI and *HMG*.

Cluster analysis of family issues and care coordinator intervention strategies identified four family subgroups with significantly different profiles of presenting issues but no significant differences in parent survey scores. The smallest subgroups of families had children with very complex special needs often compounded by limited economic and/or social resources. Families in the larger subgroups experienced less overall stress and were mainly concerned about their children's social and emotional development or in learning more about their children's development. These findings demonstrate that *HMG* support to families and their connection to programs and services enhance parents' perceptions of protective factors even among families with differing service needs. We conclude that the same set of strategies that are enhancing parents' perceptions of protective factors for high-need families is also fostering positive views for relatively low-need families.

Several limitations of this study deserve comment. The study sample may not be representative of all *HMG* family participants, as it was limited to a self-select sample of families who responded to our recruitment efforts over a 9-month period. The families who did respond to recruitment efforts might represent those who had more favorable experiences with *HMG* than those who did not

respond to our recruitment. Future evaluations should include a larger sample of families who participated in *HMG*, who are randomized, and who can provide additional information to the data collected on the program's impact. One further limitation is the lack of data on the actual utilization of the recommended services and the follow-up implementation of such services with the families who participated with *HMG*. This, too, would be an important focus for future evaluation. An additional next step would be to integrate the SF approach into *HMG* care coordination (i.e., tailored to increase protective factors) and test the effectiveness of this intervention using a quasi-experimental or experimental design with a control group.

## CONCLUSION

More than 15 years ago, Shonkoff and Phillips (2000) highlighted the challenges inherent in making causal connections between interventions and developmental outcomes, including selection bias, confounding variables, and simultaneity bias. Schorr (2009) emphasized using theoretical connections established by research when attempting to demonstrate the effectiveness of developmental interventions. Our analyses support the practical utility of the SF PFF as a potential tool for assessing parents' perceptions of the effectiveness of interventions on family and

child factors that are amenable to change and are known to correlate with long-term positive adaptation (Coatsworth, 2010; Cowen, 1994; Guralnick, 2013; Luthar, 2006; Masten, 2001). With further research and refinement, perhaps the SF model and assessment tools can enhance and improve measurement systems that now focus on child development as the sole outcome of family and early childhood interventions.

The findings of this evaluation suggest that the *HMG* program improved connections of families with vulnerable children to community-based programs and services and enhanced their perceptions of family functioning relevant to protective factors across a sample of 79 families with differing needs. Some parents needed help with complex issues or problems, whereas others needed practical information or guidance on their children's development. Families who call under stress, sometimes in crisis, were able to gain access to necessary help. Many families reported on the benefits of being connected to services, such as the ASQ Child Monitoring Program, and to other parents of children with similar needs. Programs that result in positive perceptions among participating parents contribute to engaged, supported, and educated parents who are better equipped to meet their children's needs and foster healthy developmental outcomes.

## REFERENCES

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- Aleck, P., & Settle, R. (1995). *The survey research handbook*. New York, NY: McGraw-Hill.
- Armstrong, M. I., Birnie-Lefcovitch, S., & Ungar, M. T. (2005). Pathways between social support, family well-being, quality of parenting, and child resilience: What we know. *Journal of Child and Family Studies, 14*(2), 269–281.
- Bergman, L. R., Magnusson, D., & El-Khoury, B. M. (2003). *Studying individual development in an interindividual context: A person-oriented approach*. Mahwah, NJ: Erlbaum.
- Center for the Study of Social Policy. (2012). *Strengthening families program self-assessment*. Retrieved February 8, 2012, from Center for the Study of Social Policy website: [http://www.cssp.org/reform/strengthening-families/resources/SF\\_Program-Self-Assessment\\_2012.pdf](http://www.cssp.org/reform/strengthening-families/resources/SF_Program-Self-Assessment_2012.pdf)
- Center for the Study of Social Policy. (2014). *The research behind strengthening families*. Retrieved May 28, 2015, from the Center for the Study of Social Policy website: <http://www.cssp.org/reform/strengtheningfamilies/2014/ResearchBehindStrengtheningFamilies.pdf>
- Chamberlin, R. W. (1992). Preventing low birth weight, child abuse, and school failure: The need for comprehensive, community-wide approaches. *Pediatrics in Review, 13*(2), 64–71.
- Coatsworth, J. (2010). *A developmental psychopathology and resilience perspective on 21<sup>st</sup> century*

- competencies*. Menlo Park, CA: The William and Flora Hewlett Foundation.
- Council on Children with Disabilities, American Academy of Pediatrics. (2006). Identifying infants and young children with developmental disorders in the Medical Home: An algorithm for developmental surveillance and screening. *Pediatrics*, *118*(1), 405-420.
- Cowen, E. (1994). The enhancement of psychological wellness: Challenges and opportunities. *American Journal of Community Psychology*, *22*, 149-179.
- Dworkin, P. H. (2006). Historical overview: From Child-Serv to Help Me Grow. *Journal of Developmental and Behavioral Pediatrics*, *27*(1, Suppl.), S5-S7.
- Egeland, B., Carlson, E., & Sroufe, L. A. (1993). Resilience as process. *Development and Psychopathology*, *5*(4), 517-528.
- Guralnick, M. J. (2001). A developmental systems model for early intervention. *Infants & Young Children*, *14*(2), 1-18.
- Guralnick, M. J. (2011). Why early intervention works: A systems perspective. *Infants & Young Children*, *24*, 6-28.
- Guralnick, M. J. (2013). Developmental science and preventive interventions for children at environmental risk. *Infants & Young Children*, *26*(4), 270-285.
- Halfon, N., Duplessis, H., & Inkelas, M. (2007). Transforming the U.S. child health system. *Health Affairs*, *26*(2), 315-330.
- Hauser-Cram, P., Warfield, M., Shonkoff, J. P., Krauss, M., Upshur, C., & Sayer, A. (1999). Family influences on adaptive development in young children with Down syndrome. *Child Development*, *70*(4), 979-989.
- Honigfeld, L., & McKay, K. (2006). Barriers to enhancing practice-based developmental services. *Journal of Developmental and Behavioral Pediatrics*, *27*(1, Suppl.), S30-S33.
- Horton, C. (2014). *Strengthening families*. Retrieved February 10, 2016, from Center for the Study of Social Policy website: [http://www.cssp.org/reform/strengtheningfamilies/2014/The-Strengthening-Families-Approach-and-Protective-Factors-Frame-work\\_Branching-Out-and-Reaching-Deeper.pdf](http://www.cssp.org/reform/strengtheningfamilies/2014/The-Strengthening-Families-Approach-and-Protective-Factors-Frame-work_Branching-Out-and-Reaching-Deeper.pdf)
- Hughes, M., & Damboise, M. (2009). *Help Me, 2007-2008 annual evaluation report*. West Hartford, CT: Center for Social Research, University of Hartford.
- Hughes, M., & Joslyn, A. (2014). *Help Me Grow program years 2010-2013 evaluation report*. West Hartford, CT: Center for Social Research, University of Hartford.
- Kilmer, R., Cowen, E., & Wyman, P. (2001). A micro-level analysis of developmental, parenting, and family milieu variables that differentiate stress-resilient and stress-affected children. *Journal of Community Psychology*, *29*(4), 391-416.
- King, G., Cathers, T., King, S., & Rosenbaum, P. (2001). Major elements of parents' satisfaction and dissatisfaction with pediatric rehabilitation services. *Children's Health Care*, *30*(2), 111-134.
- Levy, D., Orlando, R., & Wayne, V. (2004). *The changing demographics of Connecticut—1990-2000. Part 2: The five Connecticuts*. Storrs, CT: The Connecticut State Data Center, University of Connecticut.
- Lu, M. C., & Halfon, N. (2003). Racial and ethnic disparities in birth outcomes: A life-course perspective. *Maternal and Child Health Journal*, *7*(1), 13-30.
- Luthar, S. (1999). *Poverty and children's adjustment*. Newbury Park, CA: Sage.
- Luthar, S. (2006). Resilience in development: A synthesis of research across five decades. In D. Cicchetti, & D. Cohen (Eds.), *Developmental psychopathology: Risk, disorder, and adaptation* (pp. 740-795). New York, NY: Wiley.
- Masten, A. (2001). Ordinary magic: Resilience processes in development. *The American Psychologist*, *56*(3), 227-238.
- Masten, A. S., & Coastworth, J. (1998). The development of competence in favorable and unfavorable environments. *The American Psychologist*, *53*(2), 205-220.
- Masten, A. S., & Tellegen, A. (2012). Resilience in developmental psychopathology: Contributions of the Project Competence Longitudinal Study. *Development and Psychopathology*, *24*, 345-361.
- McKay, K., Shannon, A., & Vater, S. (2006). Lessons learned from the design and implementation of a community-based developmental surveillance program. *Infants & Young Children*, *19*(4), 371-377.
- National Research Council and Institute of Medicine, Committee on Integrating the Science of Early Childhood Development. (2000). *From neurons to neighborhoods: The science of early childhood development*. Washington, DC: National Academies Press.
- Neely-Barnes, S. L., & Dia, D. A. (2008). Families of children with disabilities: A review of literature and recommendations for interventions. *Journal of Early and Intensive Behavior Intervention*, *5*(3), 93-107.
- Patton, M. Q. (1990). *Qualitative evaluation and research methods*. Beverly Hills, CA: Sage.
- QSR International Pty Ltd. (2012). *NVivo qualitative data analysis software*. Retrieved 2014 from QSR International website: [http://www.qsrinternational.com/products\\_nvivo.aspx](http://www.qsrinternational.com/products_nvivo.aspx)
- Rak, C. F., & Patterson, L. E. (1996). Promoting resilience in at-risk children. *Journal of Counseling and Development*, *74*, 368-373.
- Sameroff, A. J. (2000). Developmental systems and psychopathology. *Development and Psychopathology*, *3*, 297-312.
- Sameroff, A. (2010). A unified theory of development: A dialectic integration of nature and nurture. *Child Development*, *81*(1), 6-22. doi:10.1111/j.1467-8624.2009.01378.x
- Sameroff, A., Gutman, L. M., & Peck, S. C. (2003). Adaptation among youth facing multiple risks: Prospective research findings. In S. S. Luthar (Ed.), *Resilience and vulnerability: Adaptation in the context of*

- childhood adversities* (pp. 364–391). New York, NY: Cambridge University Press.
- Schorr, L. B. (2009, August 25). Innovative reforms require innovative scorekeeping. *Education Week*. Retrieved from <http://www.edweek.org/ew/articles/2009/08/26/01schorr.h29.html>
- Shonkoff, J. P. (2010). Building a new biodevelopmental framework to guide the future of early childhood policy. *Child Development*, *81*(1), 357–367. doi:10.1111/j.1467-8624.2009.01399.x
- Shonkoff, J. P., & Hauser-Cram, P. (1987). Early intervention for disabled infants and their families: A quantitative analysis. *Pediatrics*, *80*(5), 650–658.
- Shonkoff, J. P., & Phillips, D. A. (Eds.) (2000). *From Neurons to Neighborhoods: The Science of Early Childhood Development*. Washington, DC: National Academy Press.
- Sloper, T., & Beresford, B. (2006). Families with disabled children: Social and economic needs are high but remain largely unmet. *BMJ*, *333*(7575), 928–929.
- Squires, J., Bricker, D., & Potter, L. (1997). Revision of a parent-completed development screening tool: Ages and Stages Questionnaires. *Journal of Pediatric Psychology*, *22*(3), 313–328.
- Sroufe, L. A. (2005). Attachment and development: A prospective, longitudinal study from birth to adulthood. *Attachment & Human Development*, *7*(4), 349–367.
- Sroufe, L. A., Carlson, E. A., Levy, A. K., & Egeland, B. (1999). Implications of attachment theory for developmental psychopathology. *Development and Psychopathology*, *11*, 1–13.
- Taylor, C. (2012). *Cost benefits of “de-medicalizing” childhood developmental and behavioral concerns: National replication of Help Me Grow policy brief*. Hartford, CT: Help Me Grow National Center, Connecticut Children’s Medical Center.
- Waters, E., & Sroufe, L. A. (1983). Social competence as a developmental construct. *Developmental Review*, *3*, 79–97.
- Webster-Stratton, C., & Taylor, T. (2001). Nipping early risk factors in the bud: Preventing substance abuse, delinquency, and violence in adolescence through interventions targeted at young children (0–8 years). *Prevention Science*, *2*(3), 165–192.
- Werner, E. E. (1984). Resilient children. *Young Children*, *1*, 68–72.
- Werner, E. E., & Smith, R. (1982). *Vulnerable but invincible: A study of resilient children*. New York, NY: McGraw-Hill.
- Wickrama, K. A. S., & Kaspar, V. (2007). Family context of mental health risk in tsunami exposed adolescents: Findings from a pilot study in Sri Lanka. *Social Science and Medicine*, *64*, 713–723.
- Yates, T. M., Egeland, B., & Sroufe, L. A. (2003). Rethinking resilience: A developmental process perspective. In S. S. Luthar (Ed.), *Resilience and vulnerability: Adaptation in the context of childhood adversities* (pp. 243–266). New York, NY: Cambridge University Press.