Family Engagement in the Delivery of the Health Services Component in Head Start and Early Head Start

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INTRODUCTION

Family engagement is increasingly viewed as a cornerstone for high-quality early care and education (ECE) programs. High-quality ECE programs strive to incorporate families through programming (e.g., parent-teacher conferences, parent meetings, education), services (e.g., health screenings), special events (e.g., health fairs, family days), and other forms of outreach. The engagement of parents and guardians in their child's early education experience is a potentially critical avenue for healthy development (Baydar, Reid and Webster-Stratton, 2003; McWayne et al., 2004). Through participation in family engagement activities, parents can strengthen their parenting skills, foster high-quality interactions between themselves and their children, and reinforce and extend the learning day, thereby promoting their child's development, including academic achievement and social skills (Love et al., 2005, 2013). The importance attached to family engagement is evidenced by the inclusion of various indicators of family partnership in the majority of quality rating and improvement systems (BUILD Initiative, 2016). Federal policies also require family involvement in early childhood programs including Head Start and subsidized child care (U.S. Department of Health and Human Services [DHHS] and U.S. Department of Education [DoE], 2015).

The majority of research on family engagement in early childhood settings addresses how programming can engage parents with their child's academic and social skill

Head Start Health Manager Descriptive Study

From Head Start's origins, a central objective has been a "healthy start," stemming from the recognition that early health provides a critical foundation for school readiness and later school success. Indeed, the health services area is a major aspect of the comprehensive services provided by HS/EHS programs. In order to better understand this important component of Head Start, the Office of Planning, Research, and Evaluation within the Administration for Children and Families, U.S. Department of Health and Human Services, sponsored the 2012–2013 Head Start Health Manager Descriptive Study (HSHMDS) (Karoly, Martin, Chandra, and Setodji, 2016). The overall purpose of the study was to provide a current snapshot of health-related activities and programming within HS/EHS programs, to better understand the context in which the health service area operates and to identify the current needs of health managers and health staff as they work toward improving the health of HS/EHS children, families, and staff. The study also intended to provide information about services currently provided and the challenges that HS/EHS programs face. As a descriptive study, the HSHMDS was not designed to ascertain whether HS/EHS programs are meeting requirements set forth in the health-related Head Start performance standards.

The study designed and fielded a short online survey for HS/EHS program directors and a more in-depth online survey of the HS/EHS health mangers for whom directors provided a referral. All directors of HS/EHS programs in operation during the 2012–2013 program year were invited to complete a survey, including American Indian and Alaska Native (AIAN) and Migrant and Seasonal Head Start (MSHS) programs. In addition, the study team conducted semistructured interviews with a small number of health managers who completed the online survey and a small number of teachers, family service workers, and home visitors. A total of 1,465 health managers participated in the online survey, while 90 health managers and other staff took part in follow-up interviews. (See Appendix A for additional details on the survey methods and the characteristics of the responding health managers.)

development and support the development of a strong parent-child relationship. Another strand of research evaluates early childhood intervention models that seek to provide specific services for children with behavioral or health challenges or to provide preventative services, such as the use of the Incredible Years curriculum (Posthumus et al., 2012; Webster-Stratton, Reid and Hammond, 2004). However, little is known about how ECE programs work to engage parents in domains of child health. Additionally, research has focused on parents' perspectives of involvement and family engagement from the perspective of early childhood providers is less well understood.

The term "family engagement" is used frequently in practice and research and can encompass parental involvement in ECE programming, such as volunteering in the classroom, or participating in joint activities in the classroom and at home. Family engagement is also enhanced by services and supports for parents that focus on promoting their self-sufficiency, advancing their education, or linking them to job training and employment. In this brief, we focus on family engagement—using the definition provided in the DHHS and DoE joint policy statement on family engagement (DHHS and DoE, 2016)—as "the systematic inclusion of families in activities and programs that promote children's development, learning, and wellness" (p. 1).

This brief uses this definition because it is especially applicable to the federally funded Head Start (HS) and Early Head Start (EHS) programs. HS/EHS programs focus not just on providing enriching academic environments, but also delivering comprehensive services to families, including health-related services such as health promotion activities; screenings, referrals, and follow-ups; and routine health care. Since the origination of Head Start in 1965, an emphasis on parent engagement has been a central feature of the program serving low-income preschool-age children. Parents of children attending HS and EHS have the option to receive services from the program such as family goal setting and access to community services, including employment and continuing education programs, and health resources (Office of Head Start, 2014).[1] Also, the Head Start Program Performance Standards require HS/EHS settings to be open to parents during business hours and to provide opportunities for volunteering and participation in the classroom. To support this goal, the Performance Standards specify that parents are to be included in multiple dimensions of programming. With the emphasis on the "whole child," HS/EHS programs seek to engage families with multiple aspects of their child's development, including their child's physical, mental/behavioral, and oral health.

The 2012–2013 Head Start Health Manager Descriptive Study (HSHMDS) provides a unique opportunity to examine issues of family engagement in the context of health-related services in

[1] This research and brief are based on the 1998 Head Start Program Performance Standards (Office of Head Start, 2014). The 2016 Head Start Performance Standards are not referenced or included. Please refer to Office of Head Start (2016) for current regulation.

HS/EHS programs (see the text box).[2] In this brief, we use data from the study to address the following questions:

1. In what ways do EHS and HS programs support family engagement in health-related aspects of program services?
2. What are the barriers to family engagement from the health manager perspective?
3. To what extent do the barriers to family engagement differ by program or health manager characteristics and the populations served?
4. What are the implications of the HSHMDS findings and the current knowledge base regarding family engagement for the HS/EHS health services area?

To address the first two questions, we review descriptive findings from the Health Manager Survey component of the HSHMDS regarding the strategies HS/EHS programs use to engage parents or guardians in health-related services and programming and the reported barriers that health managers encounter. Where possible, we integrate more qualitative information gleaned from the interviews that followed the structured survey. To address the third question, we extend those findings to examine the factors associated with family engagement as one of the key barriers cited by HS/EHS health managers. In answering the final question, we conclude the brief with insights from the broader family engagement literature and how research can inform approaches to family engagement in the context of health-related services in Head Start.

How HS/EHS Programs Support Parent Engagement in Health-related Aspects of Program Services

Health-Related Services in the Head Start Context

In addition to the more general parent and family engagement requirements that HS/EHS programs have, there are specific health-related family engagement standards. For example, HS/EHS grantee and delegate agencies are required to engage parents in various ways—by consulting with parents when child health or developmental problems are suspected or identified; by ensuring that parents understand the results of diagnostic and treatment procedures and ongoing care; and by encouraging parents to be active partners in their children's health care process, among other requirements (Office of Head Start, 2014, standard 1304.20 (e)). Included in this requirement is that parents are informed of the health needs of their child and that parents are provided with opportunities to ask questions and receive additional information. An example

[2] Comprehensive findings from the HSHMDS are available in Karoly et al. (2016). Other topical briefs based on the HSHMDS focus on overweight and obesity (Martin and Karoly, 2016b); mental health, behavioral health, and social and emotional well-being (Karoly and Martin, 2016), and oral health (Martin and Karoly, 2016a).

of this standard in practice is a HS/EHS program providing nutritional information and classes for parents to promote healthy eating on the part of the child and the rest of the family. Additionally, HS/EHS programs work with parents to provide information on preventative care, such as training in first aid, information on common health issues, and home safety practices. Correlational evidence suggests that Head Start does make a difference in children's health. For example a recent study found that HS attendance was positively related to children's likelihood of visiting the dentist and having healthier eating habits compared with children who did not attend Head Start (Lee et al., 2013).

One way that HS/EHS programs meet the health-related standards is through a staff member designated to be the health manager. The health manager and other HS/EHS staff work with families, health care providers, and other community agencies and resources to help ensure that all children enrolled in their programs are up-to-date on a schedule of age-appropriate preventive and primary health care (i.e., medical care, including immunizations, dental care, and mental health care) with any necessary follow-up; have health insurance; receive health and developmental-related screenings; have access to mental health services as needed; and practice a wealth of health promoting behaviors with children and families including handwashing, toothbrushing, nutrition, physical activity, and safety (Karoly et al., 2016). Although other program staff are tasked with engaging families in HS/EHS programming and services, health managers are ultimately responsible for providing parents with health information and contacting them regarding any child specific needs.

The explicit focus on promoting child and family health, and the concerning health trends facing the population served by HS/EHS (e.g., obesity and asthma as documented in Alaimo et al., 2001; Claudio, Stingone and Godbold, 2006; Pickett et al., 2005) situates HS/EHS programs in a unique position to provide parents with tools, information, resources, and supports for managing health and making healthy choices at home. Because of the opportunity to provide parents with information they may not be receiving elsewhere, it is important to understand the successes and challenges programs face in order to ensure health communication and activities are effective. We now turn to evidence from the HSHMDS to identify the ways HS/EHS programs engage parents in their children's health and the perceived barriers health managers face in the delivery of health information and services to families.

Health-Related Parent Communication and Engagement

A series of questions in the Health Manager Survey centered on methods for communicating with parents about their child's health and specific strategies used to engage parents, particularly around health promotion topics. Specific questions included the following:

- How often do you or your health team communicate with parents or guardians about their child's health and developmental status, on average?

- What is the most common method you use to share information with parents or guardians about the health of their child?
- What method(s) do you most often use with families to share health promotion information?
- Does your program do any of the following [activities] to encourage parents/guardians to take part in health-related activities or events?
- How often are the following efforts made to encourage parents or guardians to attend follow-up evaluations?

The first two questions were core survey questions asked of all responding health managers, whereas the other three questions were asked in a supplement administered to about one-fourth of health manager respondents. Responses are weighted to be representative of HS/EHS programs (i.e., grantees and delegate agencies).

Results indicate that health managers are in fairly frequent contact with parents regarding their child's health, with the majority reporting that they communicate with parents every month or more (63 percent), some as often as weekly (17 percent) (Table 1). There is some indication that the frequency of contact is even higher in EHS programs compared with HS programs, which may reflect a general practice of more frequent updates with parents of infants and toddlers compared with parents of preschool-age children. Health managers are engaging with parents to share health-related information using a variety of methods, with the reliance on written communication as the main method about as common as the use of in-person communication at drop-off or pick-up (about 30 percent each), followed by phone calls as the third most common main method used (23 percent) (Table 1). Interestingly, email was rarely used as the most common or main method of communication, although it may be used as a secondary method.

Table 1. Frequency and Methods for Communicating with Parents About Their Child's Health: By Program Type

Measure	All Programs	HS Programs Only	EHS Programs Only
Frequency of communication with parents/guardians about child's health and developmental status (% distribution)			
Once a year	1.6	1.5	1.8
Twice a year	5.8	6.4	4.9
Every two to five months	16.1	16.4	15.6
Every month	23.0	23.6	21.8
Several times a month	23.7	23.6	24.0
Weekly	16.5	14.4	20.3
Other	13.2	14.1	11.7

Table 1. Frequency and Methods for Communicating with Parents About Their Child's Health: By Program Type, *Continued*

Measure	All Programs	HS Programs Only	EHS Programs Only
Most common method used to share information with parents/guardians about child's health (% distribution)			
Formal meetings	6.0	5.8	6.3
Phone calls	23.0	25.6	18.2
Email/electronic communication	0.3	0.5	0.2
Written communication	31.0	31.8	29.6
In-person communication at drop-off or pick-up	28.7	27.8	30.4
Other	11.0	8.5	15.3
Number of health manager respondents (core)	1,465	1,264	795
Number of programs represented (core)	1,902	1,176	726

SOURCE: Authors' analysis of Head Start Health Manager Descriptive Study's Health Manager Survey.
NOTES: Results are weighted to the HS/EHS program level and account for survey nonresponse. Percentages and percentage distributions are computed for nonmissing cases and percentage distributions might not sum to 100 because of rounding. Health managers may serve both HS and EHS programs.

With regard to engagement in health-related activities, health managers in HS/EHS programs reported using various methods to share health promotion information (Table 2). Written materials were almost universally cited as a common approach for sharing information (90 percent), followed by multiple in-person training sessions (56 percent), and a one-time, in-person session (45 percent). A variety of strategies are used to encourage participation in health-related activities or events such as serving food (78 percent), providing child care (65 percent), and offering incentives, such as door prizes or samples of products (62 percent). Other common approaches include providing interpreters (50 percent) and transportation (44 percent). HS and EHS programs use these various strategies at similar rates.

These results indicate the HS/EHS programs rely on multiple strategies for communicating with parents about their child's health, for drawing attention to health-related matters, and for encouraging parents and guardians to participate in the programming the program offers. Other survey questions likewise demonstrated that HS/EHS programs deploy a range of supports for parents' direct engagement in their child's health in such areas as following-up on the results of health-related screenings and subsequent developmental testing or treatment (Table 3). As reported by health managers responding to the online survey, these supports frequently include providing information on what a screening, testing, or treatment will entail; helping to schedule appointments; providing interpreters during a provider visit; assisting with access to insurance; and, somewhat less often, providing transportation to appointments.

Table 2. Methods Used to Engage Parents in Health-Related Activities: By Program Type

Measure	All Programs	HS Programs Only	EHS Programs Only
Methods used most often to share health-promotion information with the families served (%, more than one may apply)			
Written materials (e.g., newsletters)	89.5	89.4	89.6
A one-time, in-person session	45.0	44.5	45.9
Multiple in-person training sessions	56.0	56.1	55.9
Parent to parent	21.3	22.1	19.9
Phone-based sessions	31.9	32.8	30.2
Electronically (e.g., email, web-based information)	24.2	25.7	21.6
Methods used to encourage parents/ guardians to take part in health-related activities or events (%, more than one may apply)			
Offer incentives, such as door prizes or samples of products	62.3	63.1	61.1
Provide transportation	44.0	43.9	44.3
Provide child care	65.0	66.0	63.1
Provide interpreters	50.2	48.6	52.9
Serve food, such as snacks or dinner/supper	77.9	78.6	76.7
Number of health manager respondents (survey supplement)	357	305	200
Number of programs represented (survey supplement)	465	286	179

SOURCE: Authors' analysis of Head Start Health Manager Descriptive Study's Health Manager Survey.
NOTES: Results are weighted to the HS/EHS program level and account for survey nonresponse. Percentages and percentage distributions are computed for nonmissing cases and percentage distributions might not sum to 100 because of rounding. Health managers may serve both HS and EHS programs.

Table 3. Supports Offered to Encourage Parents or Guardians to Attend Follow-Up Evaluations: All Program Types

	Percentage Distribution					*[Missing, Don't Know, or Not Applicable]*
Support Type	**Never**	**Rarely**	**Sometimes**	**Often**	**Always**	
Provide on-site evaluation	5.3	6.1	32.6	28.7	27.5	*8.4*
Provide information to parents/guardians on what evaluation will entail	0.2	0.9	10.7	30.1	58.2	*6.1*
Provide transport to appointments	13.8	11.3	40.9	20.8	13.1	*8.3*
Staff (e.g., family advocates) go with families to appointments	7.9	16.4	44.9	21.1	9.6	*7.1*
Schedule evaluation time to accommodate parent/guardian schedule	0.3	2.6	18.2	37.0	41.9	*8.7*
Provide child care	26.8	18.7	25.5	14.7	14.3	*15.1*
Provide interpreters	4.4	8.8	23.6	25.1	38.0	*10.2*
Home visits	0.4	4.3	22.5	31.7	41.0	*5.0*
Provide help accessing insurance	0.0	1.1	16.2	28.9	53.8	*6.2*

SOURCE: Authors' analysis of the Head Start Health Manager Descriptive Study's Health Manager Survey.
NOTES: Based on 359 health manager respondents for 470 programs. Results are weighted to the HS/EHS program level and account for survey nonresponse. Percentage distributions are computed excluding cases that are missing, unknown, or not applicable and might not sum to 100 because of rounding. Health managers may serve both HS and EHS programs.

Follow-up telephone interviews with health managers and program staff (namely teachers, family service workers, and home visitors), revealed other strategies programs use to connect with parents regarding their child's health. For example, health managers reported turning to other program staff such as teachers or family service workers to engage parents regarding specific health needs, knowing that those staff are already likely to be visiting with families and often have a trusted relationship with the family. At the same time, staff reported struggling with the time involved for such engagement, as well as the challenges of communicating with parents about sensitive health matters.

Barriers Reported by Health Managers in the Health Services Area

One of the goals of the HSHMDS was to understand the barriers that health managers face in delivering health-related services in HS/EHS programs. Questions related to barriers were asked in several sections of the survey as part of the survey supplement, namely in regards to communicating with parents about their child's health, and also in working with parents to obtain needed screening and treatment services for their child.

Barriers Regarding Communications with Parents

Health managers were asked about 13 specific barriers that may make it difficult to communicate with parents and guardians about the health of their child. On average, health managers reported close to five barriers (Table 4). To ascertain patterns in the specific barriers mentioned, we have organized the 13 barriers listed in the survey into four categories: those related to (1) parent literacy, language, or culture; (2) parent contact information or schedules; (3) understanding of health services and sensitivities around health topics; and (4) time on the part of parents or HS/EHS staff. One of the most prevalent barriers mentioned can be viewed as an issue of the third category—understanding of health services and sensitivity of communicating about health issues—specifically that the parent "resists or doesn't understand the importance of screening/treatment" (65 percent). In a related response, almost half of HS/EHS programs find parents' reluctance to speak with staff about health issues to be a barrier as well (46 percent). Another top barrier fell in the second category concerning contact information and schedules, namely families changing their phone numbers a lot (64 percent). Somewhat less prevalent in that category was parents not dropping off or picking up their children which limits contact with program staff (39 percent). Barriers related to literacy, language, and culture were much less common, with parents' reading ability or health literacy affecting 3 in 10 programs, while language barriers were relevant for 2 in 10 programs. Health managers were also less likely to mention barriers related to time, either on the part of parents (36 percent) or the program staff (21 percent).

Table 4. Barriers Health Managers Face in Communicating with Parents About the Health of Their Children: By Program Type

Measure	All Programs	HS Programs Only	EHS Programs Only
Average number of barriers reported	4.6	4.6	4.7
Specific barriers (%, more than one may apply)			
Barriers related to literacy, language, or culture			
Literacy barriers (reading ability or health literacy level of parent or guardian is low)	30.2	29.7	30.9
Language barriers between HS/EHS staff and families	21.3	22.4	19.4
Not having health-related materials at an appropriate literacy or reading level	16.5	14.7	19.8
Not having health-related materials in the appropriate language	13.9	13.1	15.3
Cultural or religious beliefs or barriers	12.7	10.9	16.0
Barriers related to contact information or schedules			
Families change their cell or telephone numbers a lot	64.3	66.0	61.4
Parent/guardian does not drop off/pick up (e.g., rides bus), which limits how much I see or talk to families	39.0	41.6	34.3
Families move a lot/mailing addresses are not current	32.2	30.6	35.0
Parent/guardian does not have a telephone	27.3	28.3	25.5
Barriers related to understanding of health services and health sensitivities			
Parent/guardian resists or does not understand importance of screening/treatment	64.7	65.5	63.3
Parent/guardian resistance or reluctance to speak with staff about health issues	46.2	46.5	45.7
Barriers related to time			
Parent/guardian does not have time	36.0	36.3	35.5
Lack of staff time to follow up	21.0	21.2	20.5
Number of health manager respondents (survey supplement)	376	323	204
Number of programs represented (survey supplement)	483	298	185

SOURCE: Authors' analysis of Head Start Health Manager Descriptive Study's Health Manager Survey.
NOTES: Results are weighted to the HS/EHS program level and account for survey nonresponse. Percentages are computed for nonmissing cases. Health managers may serve both HS and EHS programs. Response options have been reordered from how they appeared in the online survey.

Barriers Regarding Health Screening and Treatment Services

In addition to barriers regarding communication with parents, health mangers were asked about barriers they face when trying to secure and/or provide screening or treatment services for children. Health managers were asked to report on three different health domains – physical, behavioral/mental, and oral health. In each case, a common set of 21 barriers was offered and health managers could select multiple barriers. To simplify the presentation, we have excluded nine barriers where the incidence was never higher than 25 percent across all programs or

separately for HS or EHS programs.[3] For purposes of presentation, the remaining 12 barriers that health managers were asked about are organized into six categories, four of which parallel those used in Table 4, along with two other types of barriers relevant for accessing health services: those related to health providers and health insurance.

Similar to communication barriers, health managers report approximately six barriers (out of 21 total), on average, when trying to obtain needed screening and treatment health services, regardless of the health domain. The same specific barriers that rose to the top with respect to parent communication were also most prevalent with respect to working with parents regarding screening and treatment for physical health, mental/behavioral health, and oral health. Again, the top barrier selected was the parent "not understanding the importance of, not wanting to talk about, or resisting screening/treatment," with 70 percent to 74 percent of program health managers citing this barrier depending on the health domain. Likewise, the second most common barrier was the HS/EHS program not having a family's current phone numbers, a somewhat more prevalent issue for physical health at 68 percent, compared with behavioral/mental health or oral health at 52 percent to 57 percent, respectively. Transportation was another commonly cited barrier, more so for physical health and oral health (52 percent of programs) compared with mental/behavioral health (39 percent of programs). Other barriers were less common, although health managers in four in ten programs selected parents' lack of time and insurance issues as important barriers, as well. Literacy-related barriers, while again less prominent of a concern, were more often cited in the context of physical health (27 percent), compared with mental/behavioral and oral health (19 to 20 percent). In most instances, HS and EHS programs were similar in terms of the frequency with which a given barrier was identified by the health manager.

Overall the survey responses indicate that HS/EHS programs face multiple barriers in their efforts to help parents obtain the necessary health treatment and follow-up services their child needs. Although there is much variability across programs in the barriers that health managers identify to be most relevant, most programs share a common concern with parent health-related understanding and sensitivities as captured in the most frequently selected barrier response category: "Parent/guardian does not understand the importance of, does not want to talk about, or resists screening/treatment" (Table 5). Another common issue is the challenge of keeping parent contact information current.

[3] See Karoly et al. (2016) for the full set of responses. The omitted response options are: cultural or religious beliefs or barriers, language barriers between HS/EHS staff and families, lack of child care, lack of available generalist providers, lack of culturally competent providers, language barriers between families and providers, limited Medicaid transferability across state lines, lack of staff time to follow up, and HS/EHS staff lack knowledge of resources.

Table 5. Barriers in Working with Parents to Obtain Necessary Child Medical Screenings and Treatment: By Program Type

Measure	Physical Health Screening and Treatment			Behavioral/Mental Health Screening and Treatment			Oral Health Screening and Treatment		
	All Programs	HS Programs Only	EHS Programs Only	All Programs	HS Programs Only	EHS Programs Only	All Programs	HS Programs Only	EHS Programs Only
Average number of barriers reported	6.2	6.2	6.3	5.5	5.4	5.7	5.9	6.0	5.8
Percentage for each barrier (%, more than one may apply)									
Barriers related to literacy, language, or culture									
Literacy barriers (reading ability or health literacy level of parent or guardian is low)	27.0	22.9	34.2	18.9	16.0	24.0	19.8	19.8	19.7
Barriers related to contact information, transportation, or schedules									
Families change their cell or telephone numbers a lot/phone numbers are not current	68.2	69.8	65.2	51.5	53.9	47.2	56.5	59.2	51.5
Lack of transportation/distance to provider office	52.1	49.9	56.1	38.7	34.4	46.2	52.1	49.9	55.9
Families move a lot/mailing addresses are not current	41.8	39.8	45.2	31.5	30.6	33.1	30.5	31.3	28.9
Appointment times not available to fit parent/guardian schedule	30.4	28.8	33.2	27.2	25.4	30.3	30.3	30.4	30.0
Parent/guardian does not have a telephone	30.2	31.1	28.6	24.8	24.9	24.7	19.7	20.5	18.1
Not getting parental/guardian consent (permission) for screening or treatment services	19.0	20.7	16.1	33.3	36.5	27.6	18.9	21.8	13.7
Barriers related to understanding of health services and health sensitivities									
Parent/guardian does not understand importance of, does not want to talk about, or resists screening/treatment	74.2	76.3	70.5	69.8	70.6	68.2	70.4	70.3	70.7
Barriers related to time									
Parent/guardian lack of time	40.7	40.6	41.1	34.2	32.7	36.8	40.3	40.9	39.2
Barriers related to health providers									
Long wait times to get services once at provider's office	34.3	31.7	38.9	21.9	19.2	26.6	25.8	25.5	26.3
Lack of specialist providers	21.2	22.8	18.4	23.4	25.9	18.9	27.6	29.0	25.1
Barriers related to insurance									
Insurance and out-of-pocket costs (e.g., no health insurance, Medicaid not accepted, out-of-pocket expenses too high)	39.7	42.0	35.6	29.8	30.0	29.5	39.7	40.3	38.7
Number of health manager respondents (survey supplement)	359	205	186	359	305	186	357	305	200
Number of programs represented (survey supplement)	470	292	178	470	292	178	465	286	179

SOURCE: Authors' analysis of Head Start Health Manager Descriptive Study's Health Manager Survey.

NOTES: Results are weighted to the HS/EHS program level and account for survey nonresponse. Percentages are computed for nonmissing cases. Health managers may serve both HS and EHS programs. Response options have been reordered from how they appeared in the online survey.

Factors Associated with the Most Prominent Engagement Barrier

In identifying barriers to communicating with parents and accessing screening and treatment services, the issue of health-related understanding and sensitivities consistently rose to the top among the barriers selected by health managers, i.e., that the parent/guardian does not understand importance of, does not want to talk about, or resists screening/treatment.[4] This barrier may reflect underlying issues with health literacy or with various psychosocial factors that affect parents' communication and decisionmaking regarding health issues.[5] Given the apparent importance of this barrier, we undertook a more in-depth investigation of the factors that make it more likely that this barrier is mentioned by the HS/EHS health manager.

In particular, we examined the barrier in relation to whether it was associated with the characteristics of the local community, the children and families served by the program, the health manager, and the HS/EHS program. We included several county-level characteristics (e.g., urban/rural status, young child poverty rate) which were matched to the HS/EHS programs. In addition, we merged the survey data with data from the Head Start Program Information Report (PIR) that HS and EHS programs complete each year. The PIR data allowed us to examine program-level demographic information for the participating children and families. Health manager characteristics such as sex, age, race, ethnicity, English proficiency, education level and degree fields, and health manager experience were collected as part of the online HSHMDS Health Manager Survey. Program characteristics also collected in the Health Manager Survey included information on health manager training and program communication strategies.

The outcome measure for our analysis was an indicator set to 1 if the program health manager selected "parent/guardian resists or does not understand the importance of screening/treatment" as a barrier to parent communication and set to 0 otherwise (see Table 4). We performed a step-wise linear regression analysis where we entered one set of variables at a time until we had a fully controlled regression model. The sets of variables were: (1) county-level characteristics and child and family characteristics from the PIR, (2) HS/EHS health manager demographic and other background characteristics, (3) HS/EHS program characteristics, (4) communication frequency and methods used to share information with parents (see Table 1), and (5) health manager trainings attended in the past three years. Summary statistics and model coefficients are provided in Appendix B.

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[4] The issue of changing phone numbers is also a consistently salient barrier for health managers. However, since it is less amenable to policy, we do not focus further on that barrier.

[5] See, for example, work by Kelly et al. (2005) examining the influence of psychosocial factors such as health care beliefs, norms about caregiver responsibility, and caregiver health care experiences in parent's accessing preventive dental care for their Medicaid-enrolled children.

Results from this analysis, summarized in Table 6, indicate that there are several demographic features of children and families in the HS/EHS program, as well as health managers, that are related to health managers citing parents' health-related understanding or sensitivities as a barrier to health-related communications. In Table 6, the plus sign (+) indicates that the characteristic or feature is *positively related to health managers reporting health-related understanding or sensitivities as a barrier.* For example, the larger the percentage of families in the HS/EHS program where the highest parent education is a high school degree or less, the more likely the health manager was to report that parents resisted or did not understand the importance of screening/treatment. The minus sign (–) in the table shows the variables that *are negatively related to a health manager selecting health-related understanding or sensitivities as a barrier.* For instance, the results indicate that in programs where the health manager indicated that "the program has teachers, staff members, or consultants who are available to provide guidance on ethnic customs, culture, traditions, and values that may relate to the health, behavioral health, and oral health of the children and families in the program," the health manager was less likely to report that health-related understanding or sensitivities was a barrier to parent communication. All characteristics and features listed in Table 6 are statistically significant predictors of the barrier.

Table 6. Significant Predictors of Top Reported Barrier by Health Managers

Covariate	Coefficient Sign
Program, child and family, and health manager characteristics	
Program is in a medically underserved area	–
Children served: Percentage black or African American	–
Children served: Percentage Asian or South Asian	–
Children served: Percentage whose primary language at home is English	+
Families served: Percentage highest parent education is high school degree or less	+
Health manager: Age 35 to 44 [reference group is 55 years or older]	+
Health manager: Speaks English well or very well	–
Health manager: Has a health-related license	+
Program communication with families	
Communication frequency with parents: Twice a year or less [reference group is communication is every month]	–
Program staff training and partnerships	
Program has teachers, staff members, or consultants who provide cultural guidance (i.e., on ethnic customs, culture, traditions, and values that may relate to the health, behavioral health, and oral health of the children and families in the program)	–
Health manager received child development training	+
Ability of provider partnerships to handle mental/behavioral health needs is adequate or very adequate	–

SOURCE: Authors' analysis of Head Start Health Manager Descriptive Study's Health Manager Survey matched to geocoded data and HS/EHS program data from the 2012–2013 PIR.
NOTES: The model is based on a sample of 488 health managers representing 447 programs. All variables included in this table significantly predicted the outcome at $p < .05$.A minus sign (–) indicates the variable was *negatively* related to the outcome and a plus sign (+) indicates variable was *positively* related to the outcome. See Appendix B for descriptive statistics and regression model results, including for the other covariates in the model.

Several results from this analysis help shed light on ways the Office of Head Start and HS/EHS programs can support health managers in potentially addressing the top barrier identified by health managers. First, it appears that providing staff with cultural guidance or having a staff member who can support health managers in this area may help alleviate the communication barrier pertaining to health-related understanding and sensitivities on the part of parents. Although the need for cultural guidance was not noted as a common barrier, among health managers who did indicate it was an issue, qualitative data from the small number of follow-up interviews suggest it was an important concern. Providing cultural guidance may support health managers and other HS/EHS program staff in reaching parents in a way in which they will be responsive to health information and other health-related communication. Our analysis was not able to test this hypothesis, and future research should explore this area to determine the relationship between health-related cultural guidance and parent engagement.

Another way that programs might be able to support health managers in addressing parent health-related understanding and sensitivities is by having strong partnerships with health service providers in the community (e.g., doctors and nurses—generalists and specialists—in private practice, state or local health departments, or Federally Qualified Health Centers) to help handle the health care needs of children and families. Health managers who rated their community partnerships' abilities to handle the mental/behavioral health needs of the HS/EHS children they serve as adequate or very adequate were less likely to report that parents resisting or not understanding the importance of screening/treatment was a barrier to communication.

The analysis also provides results that were not in the expected direction. For example, the statistical model estimates indicate that programs where the health manager received training in child development in the past three years are more likely to report parent health-related understanding or sensitivities as a barrier. However, it is important to note that this may reflect the nature of the outcome measure, which is the health manager's perception that the health-related understanding or sensitivities are a barrier. Further, because we can only measure associations, program features may be a result of the prevalence of the barrier or the prevalence of the barrier may be the result of the program feature. For instance, less frequent communication with parents was associated with health managers being less likely to report parent health-related understanding or sensitivities as a barrier. It may be that where health managers perceive health-related understanding or sensitivities among parents, they increase the rate of communication as a possible solution. Likewise, health managers with a health-related license were more likely to indicate the barrier, which may reflect a greater awareness on their part of parent health-related understanding or sensitivities because of their training or that programs with this barrier are more likely to hire health managers with a health-related background.

It is also important to note that many of the characteristics or features we could examine were not significantly associated with whether health managers reported health-related understanding or sensitivities on the part of parents as a major barrier to communication. For example, it did not

differ for HS versus EHS, by the type of grantee agency, by program size, or by whether parents were included as members of the Health Services Advisory Committee (HSAC).

The HSHMDS data do not allow us to examine the factors that explain the patterns we see, thus future work should seek to develop a better understanding of the nature of the barriers to supporting family engagement in health-related matters and how those barriers may be related to HS/EHS program features, characteristics of health managers, and other factors. Other research could then examine the contribution that family engagement makes to the impacts that HS/EHS has on health-related child outcomes. In the next section we turn to potential practices health managers can employ to lessen barriers to communicating with parents about health-related topics and engaging families in the health-related topics and activities important for healthy development.

Research on Engaging Families in Health-Related Services, Supports, and Activities in ECE Programs

Research points to several benefits of family engagement during the preschool and elementary school years, including increased academic achievement (Miedel and Reynolds, 2000), improved social skills, and reduced behavioral problems (El Nokali, Bachman and Votruba-Drzal, 2010; McWayne et al., 2004). In addition to benefits for children, there are also advantages for the family in the form of improved home environments and parenting behaviors (Baydar, Reid and Webster-Stratton, 2003). A limitation of this research in the context of our current findings is that the main focus is on the cognitive domain of children's development and little is known about how parents are engaged in, or the barriers to being engaged in, other areas of children's development such as health. Given this knowledge gap, we examined other bodies of work to determine the best practices around engaging parents more generally, but also point to emerging evidence-based approaches to parent engagement in early childhood around health-related topics. Based on that research, we suggest potential ways HS/EHS health managers and other staff can work to engage parents in health activities and successfully provide health information and other supports. We begin with a conceptual framework drawn from the literature.

Conceptual Framework for Working with and Engaging Parents

Although specific evidence on best practices to engage parents in their child's health is limited, recent work has developed a conceptual framework for effectively engaging parents in children's early learning (see Forry et al., 2012 for a recent literature review). One perspective is *family-centered care* (also known as *family support*) (Allen and Petr, 1996; Dunst, 2002). This type of care is defined by the "move away from professional-centered models" (Forry et al., 2012, p. 6) and acknowledges that the family, not just the child, is the focus of care and services. Family-

centered care is prevalent in health care fields and has been adapted to early intervention and ECE settings, particularly in the context of special education services or behavioral interventions (Dempsey and Keen, 2008; Dunst, 2000; Dunst, 2002; Shaw et al., 2006). Dempsey and Keen (2008) summarize four key points of family-centered care:

1. Families, not professionals, are a "constant in the child's life" (p. 42);
2. Families understand their children best and are in a position to make decisions for their well-being;
3. Helping the family helps the child (including understanding family context and circumstance);
4. Family strengths and capacity to make decisions about their children are emphasized.

This framework recognizes that barriers to family engagement are often more relational (e.g., fear, motivation) rather than structural (e.g., a lack of time or access to transportation).

The family-centered care model is potentially highly relevant for HS/EHS programs given they are tasked with providing wrap-around services to children and families. Health managers can use this framework to work with parents in making decisions regarding their child's health and build on strengths of the families when seeking to provide health information or to engage parents in activities. For example, health managers can apply a key principle of family-centered care, which is providing or providing access to clinical services using a high degree of professionalism and skill—such as suggesting appropriate screenings and treatments—while also allowing for greater flexibility with parents (e.g., offering health information during informal meetings or at times convenient for parents) and for parent input (Forry et al., 2012). ECE programs typically operate with professionalism and appropriate clinical skills, but may not consistently allow for flexibility, parent involvement, or individualized practices with families (Dunst, 2002; Forry et al., 2012).

In addition to research that is developing and implementing the family-centered care model, HS/EHS programs can look to evidence-based models regarding health-related communication and activities in ECE settings. The Health Care Institute (HCI) at the University of California, Los Angeles offers one such model (e.g., Herman et al., 2013; Herman and Jackson, 2010; Herman and Mayer, 2004). Herman and colleagues work with HS staff to provide trainings on how to deliver health information and engage parents in health activities (Herman et al., 2013). The HCI train-the-trainer (TTT) model consists of discussions around ways to engage parents and present health information, barriers to parent involvement and ways to reduce those barriers, and strategies to make HS staff and parent trainings more effective. The health trainings for staff and parents consist of three modules covering common childhood illnesses, oral health, and obesity prevention/reduction, with additional modules currently in development (Herman et al., 2013). The HCI trainings and the multi-component method of delivery—the TTT model, staff and parent training sessions, home visits or workshops, distribution of health information, and

frequent health discussions and activities in classrooms—have been found to be effective at promoting positive health practices and other outcomes, including:

- Decreases in emergency room and clinic visits (Herman and Jackson, 2010; Herman and Mayer, 2004);
- Reduction in staff, parent, and children's body mass index and increases in nutritional knowledge (Herman et al., 2012); and
- Reduction in number of workdays the primary caregiver missed and number of school days missed by the child (Herman and Jackson, 2010).

The results of these studies are extremely encouraging and suggest that more HS/EHS programs should consider the health information delivery practices included in the HCI health interventions. However, it appears that providing all aspects of the multi-component intervention is important for promoting sustained change in health behaviors and practices. Just the provision of information alone, through the health materials, is not sufficient for producing favorable change (Herman et al., 2013).

Potential Practices for Engaging with Parents and Eliminating Barriers

Our findings indicate that HS/EHS health managers are engaging with parents in a variety of ways, but are experiencing barriers in communicating about health-related matters and in supporting access to health-related information and services, particularly as a result of health-related understanding or sensitivities on the part of parents. Based on these results, we suggest ways to gather more information on barriers and strategies for engaging parents and identify additional sources of information that health managers and other ECE practitioners may find useful.

To gather more information on strategies and barriers, several methods can be considered that are aligned with successful interventions, including those implemented by Herman and colleagues (Herman and Jackson, 2010). First, during informal or formal in-person meetings with parents at the beginning of the programming year, ECE staff—particularly those that will work with the families to deliver health information (e.g., health managers)— can seek input on methods of communication that work best for parents and determine the health domains or topics that they would be interested in receiving information on or the types of activities they would be interested in participating in. The in-person meetings may help establish a personal connection between parents and ECE staff prior to the development of a health concern or issue. This approach may lead to parents being more receptive and willing to participate in health-related activities. Additionally, during the meetings ECE staff can underscore the importance of health information and what past studies have shown are the benefits of participating in activities and receiving health information for both parents and their children.

Second, a more formal way to gather this information is by a survey or other tool that allows parents and ECE staff to indicate their preferences for receiving and providing health information, and potential barriers each party faces in receiving or providing information (e.g., child care, transportation, perceived lack of interest, inadequate training). Parents could be brought on as partners when designing the survey, so parental input can be incorporated such as asking the right questions to determine family needs and including all relevant response options. Then, ECE programs can use the information to determine which strategies are best aligned between parents and staff and implement plans and policies to eliminate perceived barriers (e.g., lack of parental interest or knowledge of the importance treatments and screenings) and actual barriers (e.g., child care, transportation, professional development). The development of such a tool could be useful for HS/EHS programs, as well as other ECE programs or initiatives, interested in delivering health-related information, programming, or services. Subsequent evaluation could determine how successful this approach is and provide additional guidance for HS/EHS programs.

Finally, an important source of information on health topics in ECE and best practices in working with parents and including them in programming in a meaningful way is the National Center on Early Childhood Health and Wellness (2016) website. This website contains information on multiple domains of health (e.g., physical, mental, oral), with tips and strategies for delivering information to parents and implementing curricula in centers and home-based settings. ECE staff can use this website when deciding which health curriculum to select and when planning health-related activities for families. In addition, the website can be used as a source of information on best practices for ECE programs around numerous health topics.

Appendix A. Head Start Health Manager Descriptive Study

As described more fully in Karoly et al. (2016), the HSHMDS was guided by an organizational framework that was shaped by an understanding of the key stakeholders involved in planning for, implementing, and participating in the Head Start health services area, as well as how those stakeholders work together to inform and implement components of the health services area, including health management of children (e.g., administering medication), screening (e.g., vision and hearing), referrals for health services (e.g., referrals to specialists or behavioral health services), prevention and health-promotion activities (e.g., hygiene, safety), staff wellness (e.g., weight management, smoking), and facilitation of community linkages (e.g., with providers). The organizational framework was used in the development of the instruments for primary data collection.

Director and Health Manager Surveys

Based on contact information available in the Head Start PIR, directors for HS/EHS grantees and delegate agencies as of November 2012—including Region XI AIAN programs and Region XII MSHS programs—were invited to complete the short (15-minute) online Director Survey to obtain basic information about the HS/EHS program and the activities in the health services area. The questions covered the special populations served by the program; the overall budget and budget for the health services area; the director's role with the HSAC; and the director's education, training, and demographic characteristics. The director was also asked to provide the names and contact information (i.e., email address) for the health managers in her or his program. The survey was administered using RAND's Multimode Interviewing Capability (MMIC™) survey system, a computer-assisted data-collection program. Respondents using the MMIC interface were given a unique login and password, so the status of their surveys could be tracked. Respondents were able to begin the survey online, save responses, and return later to the instrument if they were not able to complete the survey in one session.

As directors completed their surveys, the contact information they provided for one or more health managers was used to invite them to complete the online Health Manager Survey. The Health Manager Survey questionnaire took about 45 minutes to complete and covered more-detailed information about the health manager and that role, the role of other HS/EHS staff, management of health conditions among children and families, screening and referral processes, health promotion and disease prevention, staff wellness, and community linkages. The Health Manager Survey instrument included core questions administered to all respondents and a set of supplemental questions, divided into four modules. Respondents were stratified and then randomly assigned to respond to one of the four supplements, so about one-quarter of the respondents answered each set of supplemental questions.

Responses and Analytic Weights

In total, 2,778 HS/EHS programs (grantee and delegate agencies) active in the 2012–13 program year were eligible for the survey. Based on the PIR for 2011–2012, which was the latest PIR information available in November 2012 when the list of directors was identified, the eligible programs were headed by 1,965 unique directors. Those directors were invited to take the Director Survey. A total of 1,627 directors responded to the online survey and provided a referral to one or more health managers, for an 83 percent response rate among the unique directors. Because some directors were responsible for more than one program (e.g., an HS program and an EHS program), the responding directors represent 84 percent (2,330) of the 2,778 HS/EHS programs active in the 2012–2013 program year.

For the 1,965 health managers invited to take the Health Manager Survey, a partial survey was received for 124 health managers, and 1,341 health managers completed the full online survey. Thus, the response rate for the Health Manager Survey, including the partial respondents, was 73 percent among eligible health managers. Some health managers serve the same program; others serve more than one program (e.g., an HS program and an EHS program administered by the same agency). On balance, the 1,465 responding health managers represented 1,902 programs, or 68 percent of the 2,778 eligible HS/EHS programs.

Although the goal was to obtain as close as possible to a 100 percent response for the online surveys, we anticipated that there would be some degree of nonresponse and that analytic weights would be needed to account for any selectivity in which directors and health managers responded to the survey. With key characteristics of all HS/EHS programs known a priori through information available in the PIR, we constructed nonresponse weights based on a subset of those program characteristics (e.g., program type, size, and region). These weights were used when calculating means or percentage distributions across survey responses. By using weights, we can generalize study findings to all health managers or all HS/EHS programs as follows:

- Weighting with the health manager as the unit of analysis. As noted, a single health manager may have been responding for more than one HS program or EHS program. Analyzing the health manger as the unit of analysis is equivalent to analyzing the health manager workforce as the population of interest, rather than the population of HS/EHS programs.

- Weighting with the program as the unit of analysis. Tabulations in the body of this brief treat the HS/EHS program—grantee or delegate agency—as the relevant unit of analysis. The survey responses are weighted to be representative of all HS/EHS programs.

The weighted tabulations provided in this document are all based on the Health Manager Survey responses and results are reported for HS/EHS programs in all regions combined and, in some cases, separately for HS programs and EHS programs.

Characteristics of HS/EHS Health Managers

As shown in Table A.1, the vast majority of HS/EHS health managers are female, white and speak English at a proficient level. Additionally, the majority (66 percent) of health managers have a bachelor's degree or higher and approximately 70 percent have experience working as a health manager for more than two years. The demographic characteristics are similar across HS/EHS programs in part because there is overlap between the two groups of respondents, as some health managers are responsible for both types of programs.

Table A.1. Demographic and Background Characteristics of HS/ EHS Health Managers: By Program Type

Characteristic	All Programs	HS Programs Only	EHS Programs Only
Female (%)	95.6	95.6	94.2
Race (%, more than one may apply)			
White	78.2	78.9	78.9
Black or African American	16.0	15.3	15.8
American Indian or Alaska Native	5.4	5.5	4.7
Asian or South Asian	2.8	2.6	2.1
Other	0.8	0.9	0.5
Hispanic origin (%)	15.1	15.1	15.0
Speaks English well or very well (%)	98.8	98.7	98.7
Speaks a language other than English at home (%)	18.0	17.0	19.0
Education level (% distribution)			
Up to high school diploma/GED	1.8	2.0	0.9
Some college	13.0	13.7	10.7
Associate degree	19.2	20.2	17.3
Bachelor's degree	36.2	35.6	36.9
Beyond bachelor's degree	29.9	28.6	34.2
Years of experience working as health manager in HS/EHS (% distribution)[a]			
None	3.0	2.8	4.1
Less than 2 years	27.5	26.6	27.3
3 to 5 years	23.3	22.7	25.8
6 to 10 years	17.5	17.9	14.1
11 to 24 years	23.5	24.0	22.6
25 or more years	5.3	6.0	6.2
Child attends/attended HS/EHS (%)	30.0	30.6	25.4
Number of health manager respondents (core)	1,465	1,264	795
Number of health manager respondents (supplement)	376	323	206

SOURCE: Authors' analysis of the Head Start Health Manager Descriptive Study's Health Manager Survey.
NOTES: Results are weighted to the HS/EHS health manager level and account for survey nonresponse. Percentages and percentage distributions are computed for nonmissing cases and percentage distributions might not sum to 100 because of rounding. Health managers may serve both HS and EHS programs.
[a] Question in survey supplement.

APPENDIX B. SUPPORTING DOCUMENTATION

This appendix provides additional documentation for the multivariate analyses summarized in Table 6. Descriptive statistics are presented in Table B.1. Regression results are reported in Table B.2.

Table B.1. Descriptive Statistics of Health Manager, Child and Family, and HS/EHS Program Characteristics

Measure	Mean	SD	Min	Max
Parent communication barrier: Parent resists or does not understand the importance of screening/treatment	0.70	0.46	0.0	1.0
Characteristics of the community of the HS/EHS program[a]				
In an urban area	72.0	31.5	0.0	100.0
Poverty rate of children under 5	26.4	10.0	0.0	74.7
In a medically underserved area	47.5	44.5	0.0	100.0
Characteristics of enrolled HS/EHS children[b]				
Percentage white	49.5	32.9	0.0	100.0
Percentage black or African American	20.2	26.7	0.0	99.1
Percentage American Indian or Alaska Native	6.1	19.1	0.0	100.0
Percentage Asian or South Asian	1.6	7.0	0.0	100.0
Percentage Hispanic	30.7	30.5	0.0	100.0
Percentage with ongoing source of health care	94.1	9.5	2.5	100.0
Percentage with ongoing source of dental care	84.7	20.5	3.5	100.0
Percentage with an Individualized education plan (IEP)	15.4	7.3	0.0	48.6
Percentage whose primary language at home is English	73.9	29.0	0.0	100.0
Characteristics of the families of enrolled HS/EHS children[b]				
Percentage single parent families	49.1	16.4	1.4	89.2
Percentage no parent employed	7.0	5.2	0.0	33.3
Percentage where highest parent education is high school degree or less	70.9	15.0	27.7	100.0
Characteristics of the health manager				
Female	0.92	0.27	0.00	1.00
Age [55 or older]				
Younger than age 34	0.15	0.36	0.00	1.00
35 to 44	0.22	0.41	0.00	1.00
45 to 54	0.33	0.47	0.00	1.00
Race [white]				
Black or African American	0.14	0.34	0.00	1.00
American Indian or Alaska Native	0.04	0.20	0.00	1.00
Other race	0.04	0.19	0.00	1.00
Hispanic	0.12	0.33	0.00	1.00
Speaks English well or very well	0.99	0.11	0.00	1.00
Speaks a language other than English at home	0.21	0.41	0.00	1.00
Has previous Head Start experience	0.65	0.48	0.00	1.00
Has a health-related license	0.52	0.50	0.00	1.00
Experience as Head Start health manager [3 to 10 years]				
Less than 2 years	0.30	0.46	0.00	1.00
11 or more years	0.29	0.46	0.00	1.00
Health-related education [health-related bachelor's degree or credentials]				
Health-related associate degree or credentials	0.22	0.41	0.00	1.00
No health-related education	0.15	0.36	0.00	1.00
Connected with other health managers in past year	0.83	0.37	0.00	1.00
Has other roles in program in addition to health manager role	0.72	0.45	0.00	1.00

Table B.1. Descriptive Statistics of Health Manager, Child and Family, and HS/EHS Program Characteristics, *Continued*

Measure	Mean	SD	Min	Max
Characteristics of the HS/EHS program				
Head Start program [Early Head Start program][b]	0.62	0.49	0.00	1.00
Agency type [private][b]				
Community Action Agency	0.35	0.48	0.00	1.00
Government	0.10	0.31	0.00	1.00
School-based	0.18	0.38	0.00	1.00
Program enrollment[b]	428.9	624.4	17.0	7469.0
Percentage of children receiving transportation[b]	30.1	35.4	0.00	100.0
Program does not offer transportation[b]	0.46	0.50	0.00	1.00
Has parent representation on HSAC	0.89	0.31	0.00	1.00
Communication frequency with parents [every month]				
Twice a year or less	0.11	0.31	0.00	1.00
Every 2 to 5 months	0.14	0.35	0.00	1.00
Weekly	0.21	0.41	0.00	1.00
Other	0.16	0.37	0.00	1.00
Most common communication method [in-person]				
Formal meeting	0.10	0.31	0.00	1.00
Phone call	0.26	0.44	0.00	1.00
Written communication	0.32	0.47	0.00	1.00
Other	0.08	0.28	0.00	1.00
Percentage of families who received health education[b]	0.95	0.20	0.00	1.00
Family service worker ratio[b]	56.9	51.2	0.00	542.0
Staff receive cultural guidance	0.77	0.42	0.00	1.00
Health manager received physical health training	0.92	0.26	0.00	1.00
Health manager received mental/behavioral health training	0.67	0.47	0.00	1.00
Health manager received oral health training	0.86	0.34	0.00	1.00
Health manager received child development training	0.63	0.48	0.00	1.00
Health manager received health literacy communication training	0.55	0.50	0.00	1.00
Number of processes used to ensure children receive follow-up services for physical, mental/behavioral, or oral health	4.28	1.26	0.00	7.00
Ability of provider partnerships to handle physical health needs is adequate or very adequate	0.88	0.32	0.00	1.00
Ability of provider partnerships to handle mental/behavioral health needs is adequate or very adequate	0.73	0.45	0.00	1.00
Ability of provider partnerships to handle oral health needs is adequate or very adequate	0.72	0.45	0.00	1.00

SOURCE: Authors' analysis of Head Start Health Manager Descriptive Study's Health Manager Survey matched to geocoded data and HS/EHS program data from the 2012–2013 PIR.
NOTES: *N* = 488. Results are weighted to the HS/EHS program level and account for survey nonresponse. Health managers may serve both HS and EHS programs. Reference group for categorical variables in brackets.
[a] Measure from geocoded data. For each HS or EHS program (i.e., grantee or delegate agency), county or census tract characteristics were first matched based to the program's centers and then averaged across all centers in the program to obtain the average characteristics for the program.
[b] Measure from HS/EHS program 2012–2013 PIR responses.

Table B.2. Health Manager and Program Characteristics Predicting Communication Barrier of Parent Resists or Does Not Understand the Importance of Screening/Treatment

Measure	Model 1		Model 2		Model 3		Model 4		Model 5	
Characteristics of the community of the HS/EHS program										
In an urban area	–0.001	(0.001)	–0.001	(0.001)	–0.001	(0.001)	–0.001	(0.001)	–0.001	(0.001)
Poverty rate of children under 5	–0.002	(0.003)	–0.000	(0.003)	–0.001	(0.003)	0.000	(0.003)	0.002	(0.003)
In a medically underserved area	–0.001*	(0.001)	–0.002*	(0.001)	–0.002**	(0.001)	–0.001*	(0.001)	–0.002**	(0.001)
Characteristics of enrolled HS/EHS children										
Percentage white	–0.000	(0.001)	–0.001	(0.001)	–0.001	(0.001)	–0.001	(0.001)	–0.002	(0.001)
Percentage black or African American	–0.003	(0.002)	–0.003	(0.002)	–0.003	(0.002)	–0.004	(0.002)	–0.006**	(0.002)
Percentage American Indian or Alaska Native	–0.001	(0.002)	–0.002	(0.002)	–0.000	(0.002)	0.000	(0.002)	–0.001	(0.002)
Percentage Asian or South Asian	–0.006**	(0.002)	–0.005*	(0.003)	–0.005*	(0.003)	–0.005	(0.003)	–0.007*	(0.003)
Percentage Hispanic	0.000	(0.002)	0.001	(0.002)	0.000	(0.002)	0.001	(0.002)	0.000	(0.002)
Percentage with ongoing source of health care	0.001	(0.002)	0.000	(0.003)	0.000	(0.003)	0.000	(0.003)	–0.000	(0.002)
Percentage with ongoing source of dental care	–0.002	(0.001)	–0.002	(0.001)	–0.002	(0.001)	–0.002	(0.001)	–0.002	(0.001)
Percentage with an IEP	–0.001	(0.003)	–0.002	(0.003)	–0.002	(0.003)	–0.002	(0.003)	–0.003	(0.003)
Percentage whose primary language at home is English	0.003	(0.002)	0.004	(0.002)	0.004*	(0.002)	0.004*	(0.002)	0.004*	(0.002)
Characteristics of the families of enrolled HS/EHS children										
Percentage single parent families	0.000	(0.002)	–0.001	(0.002)	–0.001	(0.002)	–0.000	(0.002)	0.000	(0.002)
Percentage no parent employed	–0.007	(0.005)	–0.006	(0.005)	–0.006	(0.005)	–0.006	(0.005)	–0.009	(0.005)
Percentage where highest parent education is high school degree or less	0.005**	(0.002)	0.005**	(0.002)	0.006***	(0.002)	0.005**	(0.002)	0.006**	(0.002)
Characteristics of the health manager										
Female			0.129	(0.081)	0.133	(0.083)	0.113	(0.095)	0.121	(0.098)
Age – Younger than age 34			0.036	(0.083)	0.029	(0.084)	0.053	(0.086)	0.097	(0.089)
Age – 35 to 44			0.120	(0.072)	0.121	(0.074)	0.105	(0.076)	0.152*	(0.075)
Age – 45 to 54			0.060	(0.057)	0.057	(0.057)	0.066	(0.059)	0.078	(0.060)
Race – Black or African American			0.022	(0.085)	0.023	(0.086)	0.036	(0.085)	0.052	(0.082)
Race – American Indian or Alaska Native			0.116	(0.124)	0.123	(0.121)	0.106	(0.136)	0.125	(0.135)
Race – Other race			–0.097	(0.158)	–0.099	(0.160)	–0.117	(0.155)	–0.058	(0.164)
Hispanic			0.073	(0.103)	0.086	(0.107)	0.071	(0.111)	0.014	(0.107)
Speaks English well or very well			–0.348	(0.183)	–0.467*	(0.204)	–0.534*	(0.214)	–0.472*	(0.209)
Speaks a language other than English at home			–0.011	(0.074)	–0.013	(0.074)	–0.005	(0.077)	0.039	(0.075)
Has previous Head Start experience			–0.003	(0.048)	–0.001	(0.048)	0.006	(0.050)	–0.023	(0.051)
Has a health-related license			0.144*	(0.058)	0.135*	(0.058)	0.129*	(0.058)	0.116*	(0.057)
Experience as Head Start health manager – Less than 2 years			0.010	(0.056)	–0.001	(0.056)	0.016	(0.057)	0.009	(0.058)
Experience as Head Start health manager – 11 or more years			0.131*	(0.057)	0.121*	(0.057)	0.125*	(0.059)	0.107	(0.060)
Health-related education – Associate degree or credentials			–0.006	(0.061)	–0.004	(0.062)	0.012	(0.064)	0.033	(0.061)
Health-related education – No health-related education			–0.034	(0.072)	–0.035	(0.072)	–0.054	(0.072)	–0.077	(0.074)
Connected with other health managers in past year			–0.002	(0.062)	0.004	(0.062)	0.016	(0.064)	0.022	(0.062)
Has other roles in program in addition to health manager role			0.006	(0.053)	–0.000	(0.054)	0.009	(0.054)	0.031	(0.052)

Table B.2. Health Manager and Program Characteristics Predicting Communication Barrier of Parent Resists or Does Not Understand the Importance of Screening/Treatment, *Continued*

Measure	Model 1		Model 2		Model 3		Model 4		Model 5	
Characteristics of the HS/EHS program										
Head Start program					0.016	(0.060)	0.016	(0.068)	0.038	(0.068)
Agency type – Community Action Agency					–0.019	(0.057)	–0.016	(0.056)	–0.053	(0.055)
Agency type – Government					–0.183	(0.096)	–0.188	(0.106)	–0.146	(0.105)
Agency type – School-based					0.004	(0.065)	0.001	(0.068)	0.033	(0.073)
Program enrollment					0.000	(0.000)	0.000	(0.000)	0.000	(0.000)
Percentage of children receiving transportation							0.001	(0.001)	0.000	(0.001)
Program does not offer transportation							0.047	(0.082)	0.007	(0.082)
Has parent representation on HSAC							0.040	(0.084)	0.032	(0.080)
Communication frequency with parents – Twice a year or less							–0.197*	(0.084)	–0.183*	(0.087)
Communication frequency with parents – Every 2 to 5 months							0.020	(0.075)	0.021	(0.076)
Communication frequency with parents – Weekly							–0.026	(0.067)	–0.024	(0.066)
Communication frequency with parents – Other							–0.086	(0.075)	–0.075	(0.073)
Most common communication method – Formal meeting							0.030	(0.096)	0.001	(0.095)
Most common communication method – Phone call							0.070	(0.072)	0.105	(0.073)
Most common communication method – Written communication							0.112	(0.071)	0.118	(0.069)
Most common communication method – Other							0.104	(0.091)	0.133	(0.094)
Percentage of families who received health education							0.051	(0.127)	0.059	(0.120)
Family service worker ratio							0.000	(0.000)	0.000	(0.000)
Staff receive cultural guidance									–0.143**	(0.054)
Health manager received physical health training									0.129	(0.097)
Health manager received mental/behavioral health training									0.066	(0.057)
Health manager received oral health training									–0.006	(0.081)
Health manager received child development training									0.122*	(0.056)
Health manager received health literacy communication training									–0.080	(0.049)
Number of processes used to ensure children receive follow-up services for physical, mental/behavioral, or oral health									–0.003	(0.020)
Ability of provider partnerships to handle physical health needs is adequate or very adequate									–0.058	(0.071)
Ability of provider partnerships to handle mental/behavioral health needs is adequate or very adequate									–0.115*	(0.053)
Ability of provider partnerships to handle oral health needs is adequate or very adequate									0.001	(0.061)
Intercept	0.507	(0.345)	0.593	(0.382)	0.724	(0.407)	0.622	(0.467)	0.666	(0.447)
Number of health manager respondents (survey supplement)	488		488		488		488		488	
Number of HS/EHS programs represented	447		447		447		447		447	
R-squared	0.09		0.17		0.18		0.21		0.29	

SOURCE: Authors' analysis of Head Start Health Manager Descriptive Study's Health Manager Survey matched to geocoded data and HS/EHS program data from the 2012–2013 PIR.

NOTES: Results are weighted to the HS/EHS program level and account for survey nonresponse. Health managers may serve both HS and EHS programs. See Table B.1 for the reference group for categorical variables. Statistically significant at ***p<0.001, **p<0.01, *p<0.05.

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