Chapter Five

Interventions in Early Childhood

Baby Steps—Continued Innovations in Early Identification and Service Access

Russell Lyman

Introduction

This Blue Cross and Blue Shield of Massachusetts Foundation (BCBSMA) Baby Steps Building Bridges in Children's Mental Health initiative, conducted by the Guidance Center, Inc. in Cambridge, Massachusetts, investigates ways to best conduct universal screening and service access. Our research questions included: What are barriers to screening and service for very young children? When is the best time to screen, with what tools, and what does screening reveal?

Timely identification and intervention can dramatically change developmental trajectories in key components of early childhood mental health. The brains of infants and toddlers grow faster than at any other time of life, with 85% of core brain development occurring by age 3. Empirical studies have shown that brain structure and function can be permanently altered by early experiences (Shonkoff & Phillips, 2000), with potentially lasting effects on learning and behavior.

National studies support our findings that parents have concerns about their young children. For children ages 4-35 months, between 38% and 48% of parents have concerns about behavior; communication; emotional well-being; getting along with others; and learning preschool skills (National Center for Health Statistics, 2000). The President's New Freedom Commission on Children's Mental Health (2003) calls for periodic universal screening in health care for young children, yet this is not happening.

Method

In baseline assessment, parent focus groups and provider surveys were conducted, targeting the use of screening tools as well as strengths and barriers in the early childhood service system. The Parents' Evaluation of Developmental Status (PEDS; Glascoe, 1997) was administered in three settings - WIC, the Windsor Street Health Center, and city child care settings (N = 262) with parents of children under age six. Settings were specifically selected to reflect urban, low-income, cross-cultural populations—those commonly facing the most significant risks to developmental and social-emotional wellness, and least likely to have access to services. The PEDS is a brief, validated 10-item parent questionnaire targeting various areas of development, including two areas we identified a priori as pertaining to mental health (Behavior and Social-Emotional).

Retrospective analysis was also conducted on Denver II (Denver Developmental Materials, 1992) screens collected across five years of universal screening with children ages 0-3 (N = 350) in primarily low income Cambridge and Somerville city child care settings. The Denver II is a validated instrument that is completed in direct interaction with the child, and was done in this study by Early Intervention (EI) developmental specialists. Our hypotheses were that developmental concerns would be more common in boys than in girls, that there would be a relationship between social-emotional concerns and concerns about language, and that the incidence of both types of concern, as well as their co-occurrence, would be more common in boys than in girls.

Results

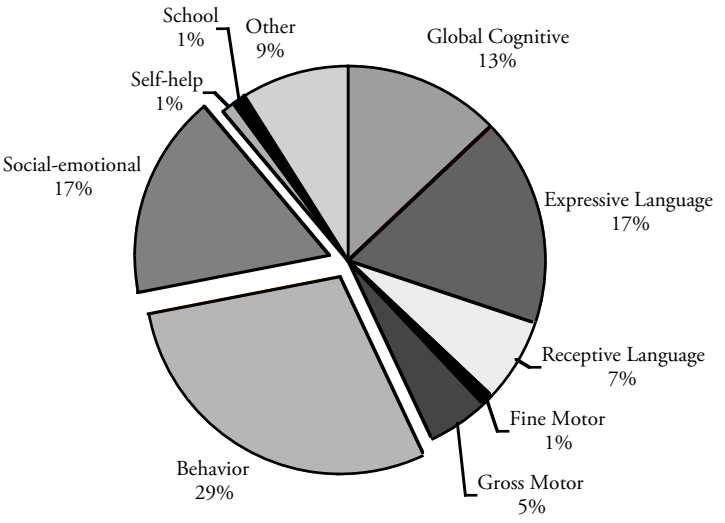
Parent reports. Baseline focus group study with parents of children ages 0-5 in child care, WIC mental health EI and primary care services included groups in Portuguese, Haitian Creole and Spanish. Cross-cultural parents articulated significant language and reimbursement barriers to service access. Haitian parents in particular voiced a strong need for services, resource information and advocacy in their native language. They pointed to particular difficulty during brief pediatric check-ups in describing

problems their child might be having. Both language and cultural differences in understanding child behavior were reported barriers. Consumers of developmental, pediatric and mental health services clearly articulated difficulties in dealing with health insurance systems. Most parents appeared to be receptive to being asked, especially by pediatricians, about how their children were doing developmentally and psychologically, though some wariness was also evident amongst Haitian speakers. Many parents reported being told to "wait and see" when they raised concerns with their child's doctor.

Surveys of providers. Baseline surveys of Cambridge education, child care and pediatric providers are consistent with national data. The use of formal screening tools is inconsistent, especially in screening for mental health (69% of respondents do not use them). Only 31% of providers screen parents informally for mental health issues, and no providers reported using a parent mental health screening tool. The use of formal developmental screening tools was reported by 75% of providers; however none of these were pediatricians. Less than 25% of those children screened are referred. Major barriers to successful referral were identified as: language or culture match, lack of agency follow-up (more than half of those referring receive follow-up calls never or rarely), and family hesitation.

PEDS results. Our studies indicate that 31% to 39% of parents of children age 0-5 (N = 262) reported at least one significant concern on the PEDS, with relatively consistent patterns across settings. In Windsor Street Health Center, 31% of parents reported at least one significant concern; and 46% of reported concerns were mental health concerns (see Figure 1). In WIC, where 32% of parents reported significant concerns, 31% of all concerns were about mental health. In preschool, 39% of parents reported significant concerns, and 39% of all reported concerns were about mental health. In other words, about 1 in 3 parents reported a significant concern about their child, regardless of setting, and a third to nearly half of all concerns reported were about mental health issues, depending on the setting.

Figure 1
Windsor Street Pediatrics Pilot I & Pilot II Areas of Concern in Children with PEDS Concerns



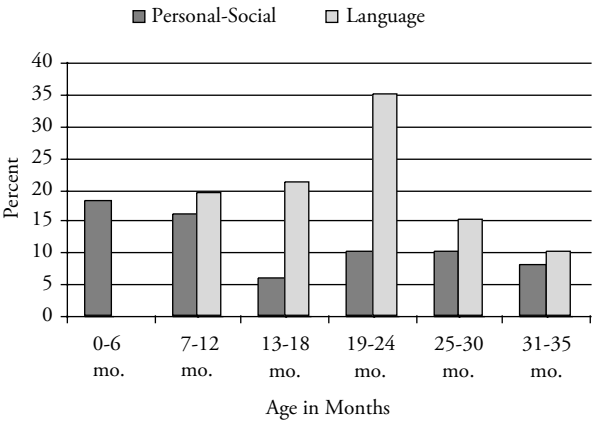
In tracking referral patterns, comparison to retrospective baseline of referral patterns during a similar time period revealed that referrals were dramatically increased, but still remained surprisingly low. Referrals in pediatrics were reported to have increased, and referrals during 2 months of screening in WIC increased from 0 to 10.

Denver II results. In our Denver II work, (N = 350), screenings indicated a need for referral for 39% of the children. It should be noted that this incidence is higher than in the general population, both because of the low-income status of the settings, and because child care providers and practitioners tended to select the children they were most worried about for screening first. The Denver II has 4 domains, Personal-Social, Fine Motor, Gross Motor and Language, which are assessed as advanced, normal, of concern, or delayed. In the Personal-Social domain, 18% of children showed a concern or delay. In the area of Language, 31% showed concerns or delays; in Fine Motor, 18%; and Gross Motor, 20%. What is most troubling, however, is that of the 135 children for whom referral was indicated (either by test scores or by clinical judgment), only 48% completed the process of referral to our Early Intervention (EI) program. More than three quarters of the children evaluated by EI met developmental risk or delay criteria (25% delay) for EI service.

Pearson Chi-Square analysis did find a significant relationship between being a boy and having delays (χ^2 = 9.265, p = .002). No significant relationship was found between delays in Language and delays in Personal-Social areas, but a significant relationship between being male and having Language Delays/ Cautions was found (χ^2 = 4.12, p < .05). Girls in fact showed more co-occurring delays in Language and Personal-Social (26% of those with any delay) than boys (16%), but this relationship was not significant.

The question of when in child development social-emotional problems appear and can be identified is a critical one for screening efforts. The answer in our data is: *It is never too early to screen*. In 11 children ages 0-6 months found with delays, 34% of these delays were in the Personal-Social realm. Personal-Social delays were found in every 6-month age span across the first 3 years of life (see Figure 2).

Figure 2
Percentage of Personal-Social and Language Delays by Age
(*N* = 350)



Conclusion

Data from two independent projects using different screening tools consistently indicate that, in high-risk urban settings, at least one in three children show indications of need for developmental or mental health services. Results also demonstrate that parent reports can be a useful way to screen, and that they yield patterns of incidence that are similar to those shown when trained developmental specialists screen children directly. For identified children, access to services often meets with significant barriers when recommendations for referral are made to parents.

Our work confirms results from early childhood screening initiatives that are springing up in selected states around the country. All of these initiatives underscore the need for broad systems change, in

which early identification is mandated and also supported through appropriate cross-system training, collaboration and funding streams. There is a need to make an investment similar to what many states have done in systems of intensive wraparound care for older children. Starting early is a critical element in reducing the need for more intensive service later in development. The time to start using validated tools to identify developmental and mental health problems starts in the first months of life. And the time is now to develop a national system that provides this opportunity for every child, on a regular and periodic basis.

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Multi-Level Determinants of Effective Mental Health Consultation in Early Childhood Settings: Results from a National Survey

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Introduction

In response to the increasing need to better support children with emotional and behavioral challenges in childcare settings, mental health consultation in early childhood programs is a rapidly proliferating intervention strategy (Brennan, Bradley, Allen, Perry, & Tsega, 2005; Gillam & Shahar, 2006). As defined by Cohen & Kaufman (2000) early childhood mental health consultation is a "problem-solving and capacity–building intervention (p. 4)" involving a collaborative relationship between a mental health consultant and teachers in a preschool or childcare setting. Consultation can be *child or family (individual) level*, providing direct work with particular children (e.g., screening, assessment, therapeutic intervention). Alternatively, consultants may provide *program level* consulting, which supports programs through training, coaching, and organizational support (Cohen & Kaufman, 2000).

Despite the growing popularity of the consultant model, the empirical evidence for its effectiveness is limited. In their review of 31 (mostly unpublished) studies of mental health consultation, Brennan et al. (2005) conclude that there is mixed evidence for its effectiveness. They suggest that the lack of consistently positive findings may be related to a lack of consensus and information about what consultants do, how they work with staff, and which strategies are most closely linked to outcomes. The current study begins to address this gap, and seeks to answer the following research questions:

- What characteristics of mental health consultants (MHCs) are most strongly associated with the reported effectiveness of consultation?
- What activities are associated with the reported effectiveness of consultation?
- Is the quality of the staff-MHC relationships associated with effectiveness?
- What is the relative importance of MHC characteristics, activities, and quality of relationships to effectiveness?

Methodology

Sample

Head Start programs. A stratified random sample of Head Start programs was selected[1]; 79 programs agreed to participate. 1,273 surveys were sent to a random sample of 12-18 staff at each program plus the program director, the mental health services coordinator, and the mental health consultant. 816 surveys were returned (64%). 74 programs had sufficient information (e.g., returned surveys from the program director and mental health counselor) to be included in the analyses.

Respondents. 528 direct service, 130 administrative staff, and 68 consultants were included in the analysis. There were 327 teachers (47% of respondents), 114 assistant teachers (16%), 112 family advocates (16%), 74 program directors (11%), 60 (8%) program coordinator/managers, and 62 (8%) consultants. Head Start staff and managers were almost entirely female (96%). Twenty-seven percent were African American (27%); 51% were white/Caucasian; 11% were Hispanic/Latino; and 8% were of other ethnic backgrounds.

[1] *Migrant, tribal, and Early Head Start programs were excluded.*

The 62 mental health consultants (MHCs) were primarily White (61%); 4 (5%) were African American, and 6 were Hispanic/Latino. The majority were female (59%). Thirty-seven percent had a PhD (23); 36 (58%) had a master's degree and 3 (5%) had a bachelor's degree.

Survey Instrument

1. ***MHC Characteristics.*** MHCs reported on their education, race/ethnicity, their workplace, and the length of time they worked with the program. Program directors reported the number of hours of consultation time for the overall program and the percentage of budget spent on mental health consultation.
2. ***MHC Activities.*** Respondents reported the frequency of different activities, from 1, *rarely or never*, to 5, *weekly or more*. Two subscales were created, *individual level activities* (e.g., conducting screenings of individual children, etc.) and *program level activities* (e.g., providing staff training, etc.). Reliability was high (alphas = .89, .91, respectively) and the scales were positively correlated (r = .71).
3. ***Quality of Relationships.*** We developed six items to measure the quality of MHC-staff relationships (e.g., "The MHC works as a partner with staff to meet children's MH needs"). Items were rated on a 4-point scale, 4 = *strongly agree*, 1 = *strongly disagree*, and had good reliability (alpha = .84).

Outcome Measures

1. ***Effectiveness in Helping Child Outcomes.*** Respondents rated the extent to which the program's mental health consultant was helpful in reducing three internalizing behaviors and four externalizing behaviors, and increasing four positive social behaviors. Each behavior was rated from 4, *helped a lot*, to 1, *hasn't helped*, and combined to create three subscales (alphas > .85).
2. ***Staff Wellness.*** Staff were asked four questions about the extent to which they felt professionally supported (e.g., "Our program provides me with the emotional and personal support I need to do my job most effectively"). Items were rated on a 4-point scale (4 = *strongly agree*; 1 = *strongly disagree*, and the scale was reliable (alpha = .86).

Results

General Analytic Strategy

Because individual staff responses are nested within programs served by specific consultants, a statistical method that can take into account these non-independent effects and appropriately model program-level variables was needed. Hierarchical Linear Modeling (HLM, Raudenbush, Bryk, Cheong, & Congdon, 2000) is one such technique. In the models tested, outcomes (level 1 variables) reported by Head Start staff and managers were nested within 74 programs with their associated organizational (e.g., size, urban/rural status, etc.) and MHC characteristics (level 2 variables). Information about staff perceptions of the consultant (frequency of activities, quality of relationships) were aggregated at the program level and included as level 2 variables.

Covariates were identified by modeling each of the program organizational characteristics (target population demographics, urban/rural setting, program size, number IEPs, number of mental health referrals made, and staff turnover) on the four primary outcomes (internalizing, externalizing, positive behaviors, and staff wellness). Significant predictors were included in the models (see Table 1).

Effects of MHC Characteristics, Activities, and Quality of Relationships on Perceived Effectiveness

Separate hierarchical models were analyzed modeling the effect of each of the level-2 MHC characteristics; the frequency of program and individual consulting activities; and the quality of relationships on each of the four outcome variables. These results are shown in Table 1. The *only* measured MHC characteristic that was significantly associated with outcomes was whether the MHC was in private practice. Staff within programs that worked with consultants in private practice reported generally more positive outcomes for each of the four areas. Further, the more frequently the MHC

Table 1
Results of Individual Predictor HLM Models
for MHC Characteristics, Activities, and Quality of Relationships

Dependent Variable	*Independent Variable (n=74)*	*Individual Predictors (Standardized B)*
Reducing Externalizing Behavior		
	Private practice vs. other	.174*
	Freq. Program Consulting	.222**
	Freq. Individual Consulting	.250**
	Quality of Relationship	.688***
Reducing Internalizing Behavior		
	Private practice vs. other	.202**
	Freq. Program Consulting	.113*
	Freq. Individual Consulting	.139*
	Quality of Relationship	.461***
Increasing Positive Behavior		
	Private practice vs. other	.165*
	Freq. Program Consulting	.206**
	Freq. Individual Consulting	.192**
	Quality of Relationship	.574***
Staff Wellness		
	Private practice vs. other	.127
	Freq. Program Consulting	.175**
	Freq. Individual Consulting	.180**
	Quality of Relationship	.55***

Note: All models control for the total number of children in the program, number of centers, number of mental health referrals made, and number of children on IEPs (level 2) and for respondent race/ethnicity (African American vs. any other ethnicity) and position (management vs. staff) (level 1).

*$p < .05$; **$p < .01$; ***$p < .001$

engaged in both types of activities, the more helpful the mental health services were perceived to be by program staff. More frequent consulting was also associated with increased reports of staff wellness. Finally, results showed that the more positive the relationships between staff and MHCs, the more likely those staff were to report that mental health services were effective, and that the program helped them to feel supported in their work.

What is the Relative Importance of MHC Characteristics, Activities, and Relationships to Perceived Effectiveness?

Next, we tested several models to assess the relative importance of MHC characteristics, activities, and relationships to outcomes. HLM models were analyzed for each outcome and includied each of the predictors in Table 1 entered simultaneously (including covariates). Because of the high correlation between program and individual-level consultation, these two variables were combined into a single index of frequency of MHC activities. These results are shown in Table 2. Only the quality of relationships remained a significant predictor of outcomes. Finally, because the frequency of activities was reduced to non-significance when the quality of relationships was included in the model, we tested a mediational model, and found that the influence of the frequency of activities on outcomes was due to its influence on quality of relationships (Baron & Kenny, 1986).

Table 2
Results of Full (all predictors) HLM Models

Dependent Variable	*Independent Variable (n=67)*	*Full Model (includes all predictors) Standardized B*
Reducing Externalizing Behavior		
	Private practice vs. other	.003
	Frequency of Consulting	-.045
	Quality of Relationship	.501***
Reducing Internalizing Behavior		
	Private practice vs. other	.002
	Frequency of Consulting	-.045
	Quality of Relationship	.502***
Increasing Positive Behavior		
	Private practice vs. other	.004
	Frequency of Consulting	.017
	Quality of Relationship	.558***
Staff Wellness		
	Private practice vs. other	.004
	Frequency of Consulting	-.053
	Quality of Relationship	.600***

Note: All models control for the total number of children in the program, number of centers, number of mental health referrals made, and number of children on IEPs (level 2) and for respondent race/ethnicity (African American vs. any other ethnicity) and position (management vs. staff) (level 1).

*$p < .05$; **$p < .01$; ***$p < .001$

Discussion

These results suggest that in planning mental health consultation interventions, significant attention should be paid to building positive, collaborative relationships between staff and consultants. The characteristics of consultants and amount of consultation were less important to outcomes. The effect of the frequency of activities was mediated by the quality of relationships, suggesting that consultants who are engaged in more frequent on-site activities may be better able to build these positive relationships.

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Early Childhood Mental Health Consultation: A Logic Model Based on Theories of Change

Mary Dallas Allen

Introduction

This presentation depicted a logic model of early childhood mental health consultation that was developed through examination of theories of change and the results of a synthesis and review of research on mental health consultation. Mental health consultation, as a problem solving and capacity building intervention in early childhood settings, has the potential to improve the mental health outcomes of young children (Cohen & Kaufmann, 2000). Although mental health consultation has been identified as an important component of many early childhood programs, program implementers and evaluators have not reached consensus on the necessary components of consultation or the outcomes to be evaluated. This logic model is intended to provide researchers and early childhood programs with a systematic, visual representation of the relationship between the program resources, inputs, and activities of mental health consultation so that program implementation and outcomes can be effectively evaluated (W.K. Kellogg Foundation, 2004).

From such a logic model, early childhood mental health consultation program implementers, evaluators, and researchers can gain an analytic perspective about the necessary resources, inputs, and activities for developing and implementing an effective mental health consultation program. They can examine how inputs, activities, and outcomes can be tied to a theory of change for mental health consultation. Finally, they can tie short-term and long-term outcomes to consultation program activities.

This logic model can contribute to the evidence base for mental health consultation. During a national conference on early childhood mental health consultation (Establishing the Evidence Base for Early Childhood Mental Health Consultation, 2005), prominent researchers in early childhood mental health consultation identified developing a logic model as an important step in building the evidence base of mental health consultation. In a review of the recent research on early childhood mental health consultation, Brennan, Bradley, Allen, Perry, and Tsega (2005) found that although mental health consultation is associated with positive staff and program outcomes, a logic model and a theory of change based on empirically sound constructs can ensure that program evaluators are measuring the components of mental health consultation that produce the desired staff and program outcomes.

Method

The logic model was developed as part of an academic program in social problem anaysis. The first or three development phases consisted of reviewing the current research literature on mental health consultation, including 24 empirical studies (Brennan et al. 2005), which provided valuable information on the inputs, activities, and short-and long-term outcomes of mental health consultation. In the second phase, the author identified the theories of change for early childhood mental health consultation. The theories of change make explicit the beliefs and assumptions of mental health consultation that guide program implementation and produce the desired change (Hernandez & Hodges, 2003). Finally, the author developed the logic model, which incorporated program resources, inputs, activities, outputs, short- and long-term outcomes, and impact to provide an illustration of mental health consultation.

Resulting Model

The proposed logic model for mental health consultation was derived from two theories of change which describe the beliefs and assumptions of the service delivery system that guide mental health consultation program implementation and produce the desired change (Hernandez & Hodges, 2003). These two theories of change are based on two underlying explanatory theories: social learning theory and general strain theory. The first theory of change, which is based on social learning theory, identifies

the child and family as the focus of the intervention and proposes that mental health consultants implement activities that directly support the positive mental health of young children. Such child- and family-focused activities include modeling and supporting positive classroom interactions with children and early childhood staff, providing education about early childhood mental health to parents and to staff, and identifying and referring children and families needing additional mental health services (Cohen & Kaufmann, 2000). These child and family focused activities lead directly to child outputs and outcomes, such as decreased child challenging behaviors. The second theory of change, based on general strain theory, identifies the early childhood program as the focus of the intervention and proposes that mental health consultants should implement activities that assist staff and programs to support staff who work with children who experience challenging behaviors and to integrate mental health best practices through staff training and support (Cohen & Kaufmann). These staff and program level activities will lead to staff and program outputs and outcomes, such as decreased staff stress and increased staff retention.

Conclusion

Crafting a logic model of early childhood mental health consultation is an important step in establishing the framework upon which to build an evidence base to support and evaluate real-world practice; such a comprehensive logic model can serve as a guide to mental health consultation programs and evaluators. This current logic model clarifies how child- and family-focused and staff- and program-focused activities both contribute to positive early childhood mental health consultation outcomes. In order to determine if this model improves mental health consultation outcomes, it will be necessary for program evaluators to utilize the model to test the degree to which the identified activities contribute to the desired outputs and short- and long-term outcomes. Continued refinement of the model should include feedback from researchers in early childhood mental health and application in practice settings.

Table 1
Logic Model for Mental Health Consultation in Early Childhood Programs

RESOURCES	*ACTIVITIES*	*OUTPUTS*	*OUTCOMES*	*IMPACT*
In order to accomplish the set of activities, we will need the following:	*In order to address the problem, mental health consultation will accomplish these activities:*	*We expect that once accomplished these activities will produce the following evidence of service delivery:*	*Short Term: We expect that these activities will lead to the following changes in 1-3 years:*	*We expect that if accomplished these activities will lead to the following changes in 7-10 years:*
• Funding: To hire, train, support, and supervise qualified mental health consultants; to provide childcare, transportation, and food for parent trainings • Support from local schools (special education services), school districts, mental health programs, and family support programs • Community Partnerships: With early childhood programs who are willing and eager to work with mental health consultants, and with higher education system that educates professionals in early childhood mental health	• Hire, train, and provide ongoing supervision to early childhood mental health consultants who will: • Identify and implement a mental health screening tool for children birth to 5 in early childhood settings • Screen, evaluate, and refer children who may experience challenging behaviors • Provide parenting support and education for parents of children with challenging behaviors • Support early childhood program staff who work with children who experience challenging behaviors • Assist parents and early childhood staff to promote positive behaviors and transform negative behaviors in young children through education and modeling. • Support early childhood programs integrating mental health best practices into their program activities	• 100% of mental health consultants receive weekly supervision and regular training in early childhood mental health consultation • 100% of children in early childhood programs receive mental health screening • 100% of children and families identified as needing additional mental health services are referred by parents or teachers to mental health consultant • 100% of children and families identified as needing additional services are referred to appropriate community mental health services • Quarterly parent trainings provided by mental health consultant • Quarterly staff trainings per year provided by mental health consultant on early childhood mental health	• Decrease in children's internalizing and externalizing behaviors in early childhood setting and at home • Decrease in parent and staff stress • Increase in early childhood staff knowledge of early childhood best practices • Increase in staff ratings of competence in working with children with challenging behaviors • Decrease in expulsion rate in early childhood settings • Increase in child attendance rate in early childhood settings *Long Term: We expect that these activities will lead to the following changes in 4-6 years:* • Increase access to and availability of community resources for children with challenging behaviors • Increase in family and early childhood staff understanding of mental health services provided in early childhood settings • Increase in early childhood staff retention	• Young children will exit early childhood programs with the social, emotional, and educational skills necessary to be ready to enter kindergarten • Improved community mental health services for young children and their families • Reduction in incidence and severity of mental health challenges for school age children

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