Enhancing cross-system collaboration for caregivers at risk for depression

Kerry A Reynolds, PhD,¹ Lisa M Sontag-Padilla, PhD,¹ Patricia Schake, MSW, LSW,² Jilan Hawk, BS,³ Dana Schultz, MPP,¹

¹RAND, Pittsburgh, PA, USA

²Community Care Behavioral Health Organization, Pittsburgh, PA, USA

³The Alliance for Infants and Toddlers, Pittsburgh, PA, USA

Correspondence to: K A Reynolds
kreynold@rand.org

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ABSTRACT

In the United States, many health care systems function independently from one another. Increasing coordination across systems has the potential to vastly improve services and patient outcomes, yet implementing these changes can be challenging, requiring increased communication, interaction, and coordination across systems that typically function independently. Parental depression is one health issue that could benefit greatly from a comprehensive systems approach. The *Helping Families Raise Healthy Children* initiative is a cross-system quality improvement initiative aimed at improving identification and treatment of families faced with the dual challenge of caregiver depression and early childhood developmental delays. Four main techniques were used to foster and sustain cross-system collaboration and communication: cross-system trainings, regular meetings of collaborative partners, a cross-system learning collaborative for service providers, and two cross-system facilitators. The initiative achieved successful cross-system collaboration, suggesting that these methods may be used in other initiatives to foster similar types of collaboration across systems.

KEYWORDS

Cross-system collaboration, Maternal depression, Early intervention, Behavioral health, Early childhood, Quality improvement

INTRODUCTION

Practices based in team science provide potential solutions to complex health issues by promoting cross-disciplinary collaborative processes that integrate diverse perspectives and address deficiencies unable to be addressed by a single discipline or system [1]. Collaborative team science approaches have been found to be effective in promoting increased service use, streamlining referral processes, and ultimately improving outcomes in healthcare settings [2–4]. Despite the promise of this approach, implementation of such practices across health care systems and community agencies is relatively rare.

In the United States, many systems of care function independently from one another, creating silos of care delivery. Increasing coordination across

Implications

Practice: Cross-system collaboration is an attainable goal that can improve service delivery for individuals needing services in multiple systems.

Policy: Policies that support cross-system collaboration and communication between the early intervention, physical health, and behavioral health systems should be enacted.

Research: Further work should explore cross-system collaboration in a variety of system settings to better understand the commonalities and unique challenges that occur when systems intersect.

systems has the potential to vastly improve services and patient outcomes [5], yet implementing these changes can be extremely challenging, requiring increased communication, interaction, and coordination across systems that typically function independently. Although there are many health care issues that could benefit from improved cross-system coordination, a recent Institute of Medicine Consensus Report suggested that the issue of parental depression deserves particular attention and could benefit greatly from a comprehensive systems approach [6]. Specifically, the report called for a comprehensive systems approach using a two-generation (i.e., parent and child) response that also addresses the unique needs of vulnerable populations and families experiencing other comorbidities or family adversity [6]. The current paper focuses on a cross-system approach to this issue.

THE PROBLEM: CAREGIVER DEPRESSION AND HEALTH SYSTEMS

Estimates of maternal depression range from 10 % to 42 % [7–11], with low-income women disproportionately affected [12–14]. Depression also occurs in fathers, but is much less common [15]. Although depression among fathers can play a critical role in child development and the parent–child relationship, depression among mothers is more strongly associated with poor child outcomes [16]. Due to

the higher frequency and increased child consequences of maternal depression, the current project focuses primarily on maternal depression.

Maternal depression poses a serious risk to healthy child development by compromising the quality of the parent–child relationship during critical years of development [17–21]. Moreover, a child’s developmental delays can increase maternal stress, ultimately increasing risk for depression [22–24] and perpetuating a cycle that affects both mother and child. As such, the dual challenges of maternal depression and child developmental delay pose unique threats to both the mother and child. Children with developmental delays may require greater levels of responsiveness and engagement from mothers to meet the daily challenges associated with physical health problems, cognitive delays, and behavioral problems, but depression may hinder a mother’s ability to provide these additional supports. Furthermore, the stress of managing the added needs of a child with a developmental delay, as well as concern about long-term outcomes may exacerbate or prolong depression in mothers. Initiating treatment for maternal depression early in a child’s life may offset this negative cycle and improve outcomes for mothers and children. Furthermore, a two-generation approach that focuses on the needs of parents, children, and their relationship can assist mothers in coping with parenting challenges and depression while offering enhanced support for the child.

Although the dual challenges of parental depression and children’s developmental delay frequently co-occur, systems of care in the United States typically identify and treat them separately. Early intervention services traditionally focus on addressing the specific developmental delays experienced by children and may not consider the emotional impact on parents or the adult’s need for support and services. Conversely, behavioral health providers, physical health providers, and community agencies that serve adults with depression often do not consider the impact of parental depression on young children in the family or recognize the value of the adult’s role as a parent. Furthermore, the lack of systematic practices for identifying maternal depression in settings focused on children (e.g., pediatric offices or early intervention programs) and the lack of coordinated referral pathways between pediatric and adult systems of care impede the ability of providers to connect depressed mothers with appropriate services. As a result, many mothers do not receive the supports and services they need to manage both their depression and their child’s developmental needs, which may place the health and well-being of the entire family at risk.

In this paper, we describe a cross-system initiative developed in Allegheny County, PA that focused on improving screening, referral, and treatment engagement for caregivers at risk for depression, with emphasis on those with children at risk for

developmental delays. This initiative was highly successful in engaging a wide variety of community partners across systems and building ties that facilitated identification of depression and referral to services that addressed maternal depression in the context of the parent–child relationship. Preliminary data show screening, referral, and engagement rates of 60 %, 76 %, and 62 % (85 % for family-centered, relationship-based services), respectively, reflecting the high level of cross-system engagement [25]. The goal of the current paper is to describe and document the cross-system relationship-building efforts that contributed to the initiative’s success.

HELPING FAMILIES RAISE HEALTHY CHILDREN INITIATIVE

Description of initiative

Early intervention (EI) programs, authorized under Part C of the Individuals with Disabilities Educational Act (IDEA), provide services to children from birth to 3 years who have, or are at risk for, developmental delays. Each year, more than 3,000 infants and toddlers in Allegheny County, PA are referred for early intervention services due to concerns about cognitive, social/emotional, or developmental issues (The Alliance for Infants and Toddlers). Studies of similar populations of mothers with children at risk for developmental delays demonstrate higher than average rates of depressive symptoms [22–24].

Consistent with the recommendations of the Institute of Medicine Consensus Report on depression, parenting, and child development [6], *Helping Families Raise Healthy Children* is a two-generation (i.e., parents and their children) cross-system quality improvement initiative aimed at improving outcomes for families dealing with the dual challenges of caregiver depression and early childhood developmental delays. The goal of this community-based collaborative was to build a sustainable cross-system infrastructure that would improve local capacity to identify these families and engage them in services. The initiative has three main objectives: (1) improve the identification of mothers at risk for depression by screening for caregiver depression in the early intervention system; (2) enhance access to support and services by establishing a cross-system referral process and bolstering cross-system communication; and (3) better serve families affected by depression by offering integrated treatment options that address the needs of both caregivers and young children in the context of the parent–child relationship.

Overview of project procedures

To achieve these objectives, a project team composed of leaders from the EI and BH systems as well as a research support team secured funding from national and local sources (six local funders that include health care organizations, local foundations, and a local government agency) to lay the ground-

work for the initiative. The project's initial phase included capacity building, relationship-building among partners, and cross-system training on screening, referral, and family-centered treatment for caregiver depression. During the second phase—implementation—screening, referral, and data collection activities began.

A formal depression screening protocol was implemented with EI service coordinators. Service coordinators conducted depression screenings using the Patient Health Questionnaire—2- and 9-item versions (PHQ-2 and PHQ-9) [26–28] with parents whose children were being evaluated for possible developmental delay. Both mothers and fathers were eligible for screening, but mothers were more often involved in the EI uptake process and were thus screened more often. Fathers also were rarely identified as depressed during formal screening or through self-identification, likely reflecting previously documented lower rates of depression among fathers [15] and men in general [29] as well as gender norms and comfort about revealing depressive symptoms. Caregivers who screened positive, self-identified as depressed, or were referred from community partners because of depressive symptoms received referrals to a variety of services according to both child and caregiver needs. Cross-system facilitators located within the EI agency assisted in connecting caregivers with services in the behavioral health (BH) system. Services provided to caregivers included a wide variety of options, ranging from EI services for the child that included a focus on the parent–child relationship to in-home therapy for the caregiver's emotional and parenting needs. Caregivers who were identified as at risk for depression were re-screened at 6-month intervals to assess their progress.

Cross-system collaboration building

The initiative represents a collaborative effort of multiple community partners that include the local behavioral health Medicaid managed care organization, the county early intervention (EI) service coordination agency and EI service providers (who provide assistance to children with developmental delays) behavioral health (BH) organizations and service providers, physical health care providers, community-based maternal and child health care organizations, behavioral health researchers, a family advisory council, and a consortium of funding agencies.

Because prior work indicates that cross-system collaboration is difficult to achieve [6], yet essential for ensuring positive outcomes and enduring change, the current initiative invested substantial effort toward achieving effective cross-system collaboration and coordination. Four categories of activities were designed to foster cross-system relationship building (Fig. 1). First, *cross-system trainings* provided opportunities for face-to-face introductions between EI service coordinators who assess, track,

and coordinate services for children involved with early intervention, EI service providers who provide therapy and services to address the child's developmental delays, and BH providers who provide adult mental health services. Second, periodic *initiative meetings with collaborative partners and funders* allowed for further development of cross-system relationships. Third, a *learning collaborative group* was established as a means to provide ongoing educational support, peer mentoring, and continued relationship building for the EI and BH providers. Finally, two *full-time facilitators* located at the EI agency provided ongoing support to build relationships between the EI and BH systems and to connect caregivers who screened at risk for depression with appropriate family-centered services in both the EI and BH systems. Each of these activities are described in more detail below.

Training—Community partner trainings focused on three primary objectives: (1) introducing depression screening and cross-system referral processes to EI service coordinators and supervisors, (2) training EI and BH providers in relationship-based, family-centered approaches to providing services, and (3) fostering relationship building across the EI and BH systems. Initial trainings introduced depression screening procedures and referral processes to EI service coordinators and supervisors. Formal attention to the caregiver's mental health status was a new component of their ongoing procedures, thus, initial trainings focused on recognizing typical symptoms of depression and the importance of screening for depression, developing comfort with screening and referral procedures, and providing information on available resources for managing mental health crises revealed during interactions with caregivers. Service coordinators were trained to screen for caregiver depression using standardized instruments, the Patient Health Questionnaire—2-item and 9-item versions [26–28]. During trainings, EI service coordinators reviewed and became familiar with the instruments and scoring procedures. They also were instructed about specific procedures for handling mental health crises (e.g., endorsement of the item assessing suicidal ideation and revealing current suicidal thoughts), which involved contacting a local crisis network and facilitating caregiver engagement with crisis intervention services. Though the screening process itself represented a limited increase in workload for service coordinators, caregiver referrals for depression increased service coordinator workload by approximately half an hour per depressed caregiver identified.

The second set of trainings focused on promoting relationship-based care and included EI service coordinators and providers as well as BH providers. Because the EI system focuses on young children and the BH system focuses on adult mental health issues, actively employing relationship-based techniques requires that providers in each system expand their view of their role and responsibility in

Fig 1 | Techniques for facilitating cross-system collaboration

addressing caregiver depression. EI providers must place greater emphasis on fostering the parent–child relationship in addition to attending to children’s other needs, and BH providers must place greater emphasis on the adult’s role as a parent and the impact of caregiver depression on the child. After attending an initial overview training in this perspective, EI and BH service providers selected and received training in one of three models employing relationship-based strategies. These models were selected because they reflected a two-generational perspective and had at least preliminary evidence suggesting effectiveness. The three models of care were: Promoting First Relationships [30, 31], Partners in Parenting Education [32–35], and Nurturing Parenting [36, 37]. Sessions employed both a traditional classroom lecture format and interactive activities designed to increase comfort in using relationship-based techniques and promote interactions between training participants. Interactive activities were arranged to ensure diversity of participants across systems in each group to facilitate interaction between providers from different systems. Because the use of relationship-based techniques represents a change in philosophy and style of interaction, rather than additional procedures, use of these techniques did not increase service provider workload.

After the initial training period ended, continued training was necessary as new providers entered the

EI and BH systems and as outreach efforts to community partners engaged new agencies. Furthermore, several agencies requested that the entirety of their staff be trained in these techniques, rather than a select number as was initially planned. The value of the training and the relationship-based approach spread throughout both systems by word of mouth and the efforts of project champions, resulting in additional requests for training. The initial goal was to train 90 service providers, but additional requests and outreach generated enough interest that over 300 service providers (representing both the EI and BH systems) were eventually trained.

Initiative meetings of collaborative partners—All-partners meetings were large meetings (approximately 60–90 attendees at each meeting) to which all community partners involved in the initiative were invited (i.e., EI service coordinators, EI providers, BH providers, physical health providers, project team members, and representatives of funding agencies). These meetings served to inform partners of the initiative’s current progress and achievements, to reinforce relationship building between community partners, and to maintain a high level of interest and excitement surrounding the initiative. Quarterly funders meetings also served to provide progress updates, maintain community involvement, and solicit assistance from local funders in supporting the goals of the initiative.

Learning collaborative—In response to trainees' requests for additional support in implementing relationship-based techniques in their interactions with clients, a learning collaborative of EI and BH providers was formed. The purpose of the learning collaborative was to provide peer support and feedback and to discuss successes and failures related to implementing relationship-based techniques. Additionally, the learning collaborative provided the opportunity for service providers in the EI and BH systems to continue to interact and build relationships. Some of the learning collaborative meetings were held in person and others were held by teleconference to balance convenience and the benefit of personal interaction. Learning collaborative meetings were well-attended by participants in both the EI and BH systems: typical attendance was around 30 participants per meeting. Meetings included a variety of topics and formats chosen by learning collaborative participants. Some meetings focused exclusively on peer support and discussion of providers' successes and failures implementing relationship-based techniques; other meetings included continuing education on a variety of topics (e.g., cultural competency, motivational interviewing, trauma self-care) in addition to opportunities for discussion.

Cross-system facilitators—Two cross-system facilitators with expertise in infant mental health and knowledge of the EI system were situated within the EI service coordination agency. These facilitators assisted in helping EI service coordinators connect caregivers at risk for depression with appropriate services in the EI and BH systems and conducting outreach to physical health providers in the community. Once a caregiver was identified as at risk for depression, EI service coordinators often relied on the facilitators to assist in identifying an appropriate service or provider. In urgent cases, facilitators would make a personal phone call to the provider to ensure that the provider was aware of the incoming referral and would follow up with the client to indicate the name and agency of the provider who would be contacting them. This assisted in streamlining the referral process and helped achieve high uptake of referrals. Cross-system facilitators' activities also included support and mentoring for service coordinators, visiting potential local partners (e.g., pediatrician offices) to describe the initiative and establish relationships, and repeated follow-up efforts to continue to facilitate partner participation. Outreach activities were designed to increase cross-system referrals by informing health care providers that BH services could be accessed through the EI system, a pathway that had not been previously available.

DISCUSSION AND IMPLICATIONS FOR OTHER INITIATIVES

The *Helping Families Raise Healthy Children* initiative is an interdisciplinary, cross-system effort designed to improve coordination and communication be-

tween the EI and BH systems to improve the identification, referral, and treatment engagement of caregivers at risk for depression. The success of this initiative has hinged on the ability to foster and facilitate coordination and communication across systems that typically function independently and serve distinct populations. Four primary methods were used to achieve success: cross-system trainings, initiative meetings with collaborative partners and funders, a learning collaborative composed of service providers from the EI and BH systems, and two cross-system facilitators.

Several important lessons emerged from each of these collaborative processes. First, cross-system trainings were essential for introducing the concept of relationship-based methods because this perspective was new to both EI and BH providers. These trainings also offered opportunities to initiate interaction between individual providers working in different systems and for providers to begin to learn about the procedures and approaches employed in different systems. These elements were essential for fostering a sense of connection and understanding across systems. Second, periodic initiative meetings served to facilitate the formation and maintenance of personal relationships among providers and kept partners engaged and interested in the initiative activities. Meetings with local funding partners provided opportunities for those partners to give input on the initiative's progress and to take the information they learned back to their supporting organizations. Third, the cross-system learning collaborative was a useful complement to the initial trainings offered by the initiative because it provided additional opportunities for interaction across systems and peer support among providers. Finally, cross-system facilitators provided ongoing support to assist in relationship-building across systems and facilitated connections between individual caregivers in the EI and BH systems. The efforts of these facilitators were an essential component in initiating and maintaining relationships across the involved systems.

In summary, this cross-system initiative was able to achieve success in identifying caregivers at risk for depression and connecting them with appropriate services in both the EI and BH systems. The key component in ensuring the success of the initiative was the building of relationships and the creation of new pathways across systems. With only modest start-up costs associated with training and building relationships between systems, the BH system is now more easily accessed for those already engaged in the EI system. Moreover, physical health providers are able to help patients connect to the BH system by referring them to the EI system. The initiative is currently working toward implementing a sustainable future that maintains cross-system collaboration without ongoing external funding. The success of the initiative in achieving effective collaboration across independent health systems

suggests that policies promoting cross-system collaboration and communication should be supported as these efforts can help ensure the future success of families in need.

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