A Collaborative Approach to Early Identification and Referral of Children Who are in Family Childcare Settings, Birth to Five, Born to Teenage Mothers

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Abstract: Children of teenage mothers are at high risk for developmental delays, intellectual and learning disabilities, behavior disorders and school related problems [1]. Early identification and referral into prevention or early intervention programs may ameliorate that risk. Children of teen mothers who are in family childcare may not have access to routine developmental and behavioral screenings that would lead to early identification and referral. Members of an early childhood advisory board collaborated to conduct a screening event using the ASQ-3® and the ASQ:SE® at a local children's museum for 26 children of teen mothers who had no previous access to developmental screenings. Parents completed the questionnaires while playing with their children at the museum. Nine of the children scored well within the range of typical development and 17 scored at or beyond the cut-off scores on the ASQ-3 and/or the ASQ:SE. Each child who scored at or beyond the cut-off received referrals for evaluation, parent and child programming and/or family support services. When there were concerns, families also received care coordination while all families received activities and a child's book. The implications for this study suggest that collaborative efforts are effective in providing access to developmental screenings and referral into subsequent services for at-risk young children who are in family childcare settings.

Keywords: Screening, development, young children, infants, toddlers, preschool-age, collaboration, teenage parents, at-risk, family childcare.

In 2012, nearly 68,000 children, or 8.4% of the school-age population (age 6-21) received services under the Individuals with Disability in Education Act (IDEA) [2]. During that same period, only 2.8% of infants and 6.0% of preschool age children received services [3]. The difference in number of children being served between early intervention, early childhood special education, and school-age special education raises a number of questions. One such question is whether the system is failing to identify and serve the youngest children who would benefit from intervention, and if so, how could those children be located. Recent research indicates that there is a monetary as well as social cost of failing to provide the necessary educational supports to the youngest children [4-6]. Current efforts at early identification and referral of young children who are at risk for developmental and/or behavioral delays may reduce later negative impact to our education and social systems. This project provided developmental and behavioral screening to a population of at-risk infants, toddlers, and preschool-age children, specifically children of teenage parents who are in family childcare, and when indicated by the screening results, enrolled those children into services.

THE NEGATIVE IMPACT OF RISK ON DEVELOPMENT

The impact of the first few years of a child's life on subsequent academic, behavioral and health outcomes can no longer be disputed. Researchers, policymakers, and even economists have focused on the importance of positive and nurturing environments as critical to healthy brain development which leads to school success and other skills important for becoming productive members of society [5, 7-9]. Conversely, children who do not experience positive and nurturing environments are at risk for a host of poor outcomes including language delays, intellectual and emotional disabilities, and poor physical health [10-18]. Many factors can undermine the environment within which young childrens' brains and subsequent behavior and learning potential are shaped. Some of these factors are attributed to the child's social ecology (e.g., maltreatment, exposure to violence, and compromised parenting), whereas others stem from a child's compromised health, biology, or temperament [19-26].

The correlation between the number of risk factors and negative outcomes is also well established [9, 19,

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27-29] suggesting a cumulative effect of experiencing multiple risk factors. As part of the Adverse Childhood Experiences Study (ACES), Dong *et al*. [30] found that 81% – 98% of individuals who experience one risk factor also experience additional risk factors. For example, an infant born prematurely to a single teenage mother who is living in low income housing may also be exposed to high levels of lead. The mother may be experiencing depression that compromises her parenting skills. If the infant is hard to soothe, the parent may not have the resources to provide positive and nurturing care.

AMELIORATING THE IMPACT OF RISK AND DISABILITY

Even before empirical research demonstrated the effect of a child's environment on their developing brain, social scientists theorized that biological and environmental risk factors (e.g., low birth weight, maltreatment) negatively impacted development. As a result, programs were developed to both assess the impact of risk and address the needs of children considered to be at high risk for poor educational and social outcomes [4, 25]. Current data from longitudinal research highlight the benefits of those early prevention programs. For example, the Abecedarian Project reported that program participants, at age 40, demonstrate higher levels of education, better employment, less criminality and use of public assistance, and fewer chronic health-related issues than control groups [4, 31, 32]. Relatively recent programs such as Early Head Start, Parents as Teachers and nurse visitations also demonstrate positive benefits to participants including improved cognitive and language development, school readiness, higher scores on state tests at the third grade level, lower rates of aggression, and fewer school related disciplinary concerns [33, 34].

Specific to intellectual disability, Hall *et al*. [35] found that quality preschools mitigate the negative impact of risk, and act as a protective factor to prevent cognitive decline. A report compiled by the Rand Institute lists just over 50 early childhood programs that are 'proven or promising practices' at overcoming risk and facilitating positive developmental outcomes in young children [36]. Children from birth through age five who are already identified with developmental delays or disabilities benefit from additional services under IDEA [37]. Efficacy studies show that the earlier children who have disabilities are identified and receive services the greater their chance for success in a general education kindergarten program and they are less likely to need additional supports. According to the Final Report of the National Early Intervention Longitudinal Study (NEILS), 81% of children who received services under IDEA prior to school entry attended kindergarten at their local or a parochial school and only 6% went to a special day school. Thirty nine percent of the children spent most of the time in the general education class and 32% of those children no longer met eligibility criteria for special educations services [38]. Recent efficacy studies for young children identified as having Autism Spectrum Disorders (ASD) indicate that the earlier these children are identified and receive services the better their overall outcome [6, 39]. For example, in one study, children with ASD who received early intervention between the ages of 18 and 30 months made gains in intellectual ability, adaptive behavior, and had fewer challenging behaviors and severe symptoms two years after the intervention ended [40].

EFFORTS TO IDENTIFY YOUNG CHILDREN AT RISK FOR POOR OUTCOMES

The importance of identifying, referring and serving young children who are at risk or who have developmental delays and/or disabilities is a national priority as "child-find" is an explicit requirement of IDEA, states are required to locate and evaluate young children who are at risk at no cost to families and to widely disseminate information that alerts the public to the availability of those services. Additionally, states are required to develop a central directory of resources related to child-find activities and services that support the development of young children. Likewise, the Department of Human Services requires early identification under the Child Abuse and Prevention and Treatment Act [41] and the American Academy of Pediatrics recommends that all children receive an evidence based developmental screening at the ages of nine months, 18 months and 24 or 30 months [42]. Developmental screening is widely used across systems for complying with the above mentioned requirements for early identification and is defined as the use of a formal assessment that is easy and quick to administer. The purpose for developmental screening is to differentiate children who are typically developing from those who are at risk for developmental delay and who should be referred for a more thorough evaluation [43-45].

Despite legislation, and the importance of early identification and referral, many children never receive

a developmental screening. In part, this may be due to inconsistency between geographic, economic and ethnic access to developmental screenings [43]. Pediatricians are also inconsistent in their rate of early identification and referral. In a survey of 1,617 pediatricians with a 55% response rate, only 23% reported that they used an evidence based screening tool in accordance with the AAP policy [46]. Furthermore, pediatricians who use screening instruments do not consistently refer the children for evaluation or services [47]. To ensure that all children within a community, especially children who experience risk factors, have access to timely and periodic developmental and behavioral screening, it is important for local early childhood collaborative councils to identify specific populations who have been excluded from known screening initiatives. The following sections of this paper will highlight the work of one such council in identifying and screening children of teen-age parents who are in family childcare while their parents are in school.

IDENTIFYING A GAP IN EARLY IDENTIFICATION OF YOUNG CHILDREN AT RISK

Healthy Development Services (HDS) is a program in San Diego County California, funded by First 5 San Diego, which distributes tobacco tax dollars to support early childhood services. The mission of First 5 San Diego is to promote "the vital importance of the first five years of life to the well-being of children, families and society" [48]. The purpose of HDS is to screen children throughout the County, refer and provide care coordination and evaluation services, offer parent training, support, education, and coaching services, and to provide parent and child classes to support the development of young children [49].

Healthy Development Services (HDS) in North San Diego County operates through the developmental services division of Palomar Health. One medium size city in North San Diego County has an estimated population of around 150,000. Approximately 50% of the population self-identify as Hispanic, 39% as White, 6% as Asian/Pacific Islander, 2% as Black and less than one percent as Native American [50]. Approximately 8% of the population is under the age of five compared to 6.8% for the state of California. About 28% were born in a foreign country and 48% of the population speaks a language other than English at home. The percentage of the population who are high school graduates is 10% lower than the state rates and the median household income is approximately $12,000 less than the state median. The following provides demographic information about teen parents in California, and in the school district of the city mentioned above. The remaining sections of this paper will discuss how a community collaborated to provide a screening event for the children of teen parents who are in family childcare.

In 2010, California had the highest rate of teen pregnancy in the nation (80,970). Furthermore, the birthrate for Hispanic teenage girls (48%) in California is much higher than for Non-Hispanic white teenagers (14%) [51]. In one mid-sized city in North San Diego County, 3% of teenage girls enrolled in the local school district are mothers, and 101 are participants in the California-School Age Family Education program (Cal-SAFE). Fifty-seven of 164 children of the teen parents participate in the early childhood centers located at the high schools. Developmental screening is a requirement of the local program offered by Cal-SAFE and the children enrolled in the center receive routine screenings to ensure that their development is on target for their age. However, 107 children of parents enrolled in the Cal-SAFE program use family providers and do not receiving routine screening through childcare (R. Asman, Personal Communication 9/8/2015). Children of teen parents fall into the category of children born with multiple risk factors and are more often born premature and at a low birth rate for their gestational age, which is associated with risk for intellectual, behavioral and learning disabilities [15, 52, 53]. They are also more likely to live in poverty and to be victims of child maltreatment [15]. Additionally, they are 50% more likely to repeat a grade, less likely to complete high school and perform below other children on standardized tests [1]. Environmentally, teenage mothers are more likely to live in poverty, and to have used alcohol and drugs during their pregnancy [15, 52, 53].

PLANNING AND IMPLEMENTING THE SCREENING EVENT

An HDS advisory board meets monthly to provide updates and to assess community needs. Membership on the advisory board is interdisciplinary and open to all city and county providers who are involved or interested in services to young children. The advisory board is hosted by the coordinator for HDS (Palomar Health). Members include, but are not limited to, representatives from First 5 San Diego Quality Preschool Initiative, San Diego County Office Of Education Early Childhood Division, California Early

Start (Part C services under IDEA), California Regional Center (B sec.619 services), local School Districts, Early Head Start and Head Start programs, Cal-SAFE (pregnant and parenting teens), WIC, pediatricians from local Community Clinics, public health nurse programs, San Diego County Child Welfare Services, County of San Diego Developmental Screening Enhancement Program, San Diego Discovery Children's Museum and faculty from Brandman University, a local higher education partner. During a recent monthly advisory board meeting, information was shared by the higher education member about the efforts of a unique screening initiative implemented by The Pretend City, a children's museum in Orange County California (S.Yockelson, personal communication, September 10, 2014). Among the many different avenues for screening, the Pretend City hosts screening days, during which parents are offered the Ages & Stages Questionnaire-3rd Edition (ASQ-3), a parent completed screening questionnaire, to complete while they play with their child at the museum. Once complete, professionals score the questionnaires and provide activities to the parents and/or referrals if indicated by the screening results.

Following the advisory board meeting, the Cal-SAFE director of the mid-size city described above approached the convener of the advisory board, the educational director of the Discovery Children's Museum, and the higher education partner to propose a collaboration based on the Pretend City's model to screen a hard to reach population of young children who were at risk due to environmental factors, specifically the children of teenage parents who participated in Cal-SAFE but were not receiving services through the childcare center located on the high school campuses (R. Asman, Personal Communication, October 15, 2014).

The Regional Coordinator for HDS, director for the Cal-SAFE program, educational coordinator for the San Diego Children's Discovery Museum, and faculty member from Brandman University met to discuss the feasibility of holding a screening event at the children's museum using the ASQ-3 [45], and ASQ:SE [54] as the developmental and behavioral screening tools. The Ages & Stages Questionnaires are a series of parent completed questionnaires that use parent observation to identify child skill and behavior. An additional benefit to using The Ages & Stages Questionnaires is that the tool encourages parent-child interaction and may have an educational benefit for the parent [55]. The tool is widely regarded as being reliable and valid and accurately identifies children who are typically developing, those who would benefit from prevention services, and those who should be referred for an evaluation to determine eligibility for Early Intervention or Early Childhood Special [56-58]. Additionally, the ASQ-3 and ASQSE are the adopted screening tools for the SDCOE and the professionals involved in this project are experienced in scoring, interpreting and sharing the results with parents. Although San Diego County is very diverse, all of the teenage parents involved in this project were literate in English. The ASQ-3 and the ASQ:SE have been translated into numerous languages and used cross-culturally with success. To learn more about the validity, reliability and utility of the ASQ questionnaires in languages other than English, and in non-English speaking countries please see *Guidelines for Cultural and Linguistic Adaptation of ASQ-3 and ASQ:SE* [59] p. 7.

ANTICIPATING CHALLENGES

Potential challenges were discussed and methods for overcoming those challenges were proposed. Specific challenges included: incentives for the teen parents, time off of school, transportation, support for parents who might need assistance in completing the questionnaire (e.g., limited literacy), and providing specific materials that parents might need for trying activities with their child such as child proof crayons, puzzles, picture books and art supplies. To overcome those challenges, the school district arranged transportation for the teen parents and their children, boxed lunches, and an excused absence from school. The San Diego Children's Discovery Museum donated access to the museum for the day, and extra staff to support the expected number of children. HDS provided the actual questionnaires and follow-up activities, professional staff, and two interns to support parents in completing the questionnaires when requested and to score and review the questionnaires. HDS also provided books, which were paid for by First 5 San Diego and distributed by the California Chapter 3 of the American Academy of Pediatrics as an incentive to parents. Brandman University provided a faculty member who has expertise in ASQ-3 and ASQ:SE, and in communicating screening results to families.

IMPLEMENTATION ON THE DAY OF THE SCREENING EVENT

On the day of the screening event, school busses picked up the teenage parents (26 mothers & 3 fathers) and 26 children from their high school and drove them

to the San Diego Discovery Children's Museum. Once there, the parents were escorted with their children to a classroom that doubles as an art studio. Parents were given an explanation as to the purpose for developmental screening and were introduced to the ASQ-3 and ASQ:SE. They were asked to first complete the ASQ-3. Parents were encouraged to go out into the museum and play with their child using the various materials and spaces while completing the questionnaires. Once the ASQ-3 was completed, parents returned it to one of the professionals and were given an ASQ:SE to complete. Professionals and interns circulated through the museum offering help and/or modeling play to elicit behaviors if necessary. Once the questionnaires were completed, they were scored by the professionals in the classroom. All of the questionnaires were scored before the designated lunch time, and in advance of meetings with the parents. After lunch, the parents were encouraged to again play with their children while individual meetings to review the questionnaire results were conducted. The results of the screening were reviewed with one of four professionals who were in attendance. If the screening indicated that the child was at risk for delay or disability, they were immediately enrolled into HDS services either for further evaluation, parenting support or child development classes. All parents also received ASQ activities and an age appropriate book for them to use at home with their child.

SCREENING RESULTS

Of the 26 children who were screened that day, nine were well within the typical range on the ASQ in all areas, indicating no concern. Fifteen young children were near the cut-off and offered additional services, such as parent and child classes. Two children scored beyond the cut-off and were referred for further assessment. Of the referrals, one was eligible to receive physical therapy, and one moved into a different system of care. Additionally, each of the teen-age parents who had a child who screened beyond or near the cut-off on the ASQ-3 and/or ASQ:SE was assigned a care coordinator through HDS to assist in navigating the system, and received referrals to additional agencies as needed (e.g., basic needs, childcare and preschool).

LESSONS LEARNED AND NEXT STEPS

The participating members from this screening program met shortly after the screening event to discuss successes and challenges. Foremost among the successes was the fact that 26 children attended the screening event with their parents. Seventeen children (65%) scored near or beyond the cut-off on the questionnaires and were immediately enrolled into services that would provide them with care coordination and follow-up services. An additional benefit to the screening event was that while at the museum, the teen parents engaged with their children while learning about their child's development. Professionals encouraged the parents, reinforced parenting strengths and modeled parent-child interactions when necessary. The professionals also showed parents how to elicit behaviors in their child and emphasized milestones and emerging skills. While reviewing the questionnaires, each parent met with a professional to discuss their child's development and had an opportunity to ask questions about their child's screening results. The opportunity also allowed teenage parents to connect with others who had similar life experiences, form friendships and possibly learn from each other. For example, during the course of the day, one mother was engaged positively with her child at a water center. She was encouraged by a professional and then other parents imitated her play. An unforeseen success was that following the screening event, 3 of the families who had previously used family based childcare transferred their children into the high school child development center so that their children could have access to routine developmental and behavioral screening (R. Asman, Personal Communication 9/7/2015).

Challenges included overall organization, timing (e.g., not pulling parents away from lunch) and increasing follow through on referrals. One issue that impacted organization was that to some parents it was not clear where in the museum to go, or how to engage their child in play while completing the questionnaires. Additionally, the ASQ-3 developmental questionnaires are broken up by domains. The parents followed the sequence of the questionnaire so there was competition for certain material or centers as they began looking at gross motor and fine motor tasks. Logistical challenges mostly revolved around timing and space. For example, some fathers came to the screening event, so it was difficult for everyone to fit in the classroom and some parents had to stand or sit on the floor. Because of the room configuration, this made it difficult for them to attend. A second logistical challenge was that a few of the children had been born prematurely therefore additional questionnaires had to be printed that were appropriate to the adjusted age of the child. A third challenge was finding an easy way for

the parents to physically record their responses. Parents carried around their questionnaires and pencils, but did not have a hard surface to write on, leading to crowding in places with flat surfaces.

The team decided that overall the event was a success and planning is in the process for the next screening event. Next steps correspond with the identified challenges. There will be a plan for more chairs and spaces for parents to sit during the initial orientation to the ASQ questionnaires and to the museum. To accommodate for previously unknown prematurity, additional questionnaires will be available that span the age intervals. Parents will be offered more explicit instructions on how to best use the ASQ questionnaires in the museum setting (e.g., follow your child and record what you observe). Suggestions on how to play with children at each center or area of the museum to elicit specific skills will be posted for parents to reference. Lunch will be served in shifts to maximize the time available to meet with parents and review results. Additionally, more materials and supplies will be made available for parents. Finally, a greater attempt will be made to locate nursing or child development students to assist throughout the day.

The collaborative screening event will be repeated now on a yearly basis. A next step to ensure sustainability of this event is to formalize the agreement between the agencies through a memorandum of understanding so that the process moves beyond the people involved and becomes an institutional event. A second area to explore relates to the actual results of this project. In conducting the ASQ-3 research, the developers found that approximately 52% of the normative sample scored within the typically developing range for development on the ASQ-3, while 33% scored in the monitoring zone and 15% in the referral zone [54]. The distribution of scores from this project had a very different result with only 35% scoring within the typically developing range and 65% scoring near or below the cut-off for risk. Although the small sample size is a limitation to generalizing information, it will be interesting to see if the distribution of scores is similar in the future screening events with this population. Another area for follow-up would be to compare the results of the children of teenage parents who are in family childcare to those who are receiving center based services at the high school. The information provided from such a study might add to the field's understanding of specific risk and protective factors for the children born to teenage parents.

In summary, local early childhood collaborative councils are a good avenue for determining what the local resources are, identifying each agencies mission and responsibilities, and surfacing any duplication or gaps in services. Furthermore, by understanding each program, partnerships can be built and agreements developed that utilize each programs' strengths and resources to better serve the community's children and their families. In the current instance, a gap was identified, specifically a lack of access to developmental and behavioral screening for the children of teenage mothers who did not utilize the on campus childcare center. Potential agency partners were identified and through a little bit of creativity, and problem solving, an event was hosted that successfully screened 26 children who may have gone undetected until school entry at age five. The impact of this and other similar screening events might further the field's understanding of risk and protective factors for the children of teenage parents.

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