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"I Don't Know What They Know": Knowledge transfer in mandated referral from child welfare to early intervention

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ABSTRACT

Maltreated children face disproportionate risks for developmental delay and behavior problems. Federal legislation passed in 2003 and 2004 mandates referrals of maltreated children under the age of 3 years to Early Intervention (EI) services. This mandate has been variably implemented within and across states. Knowledge transfer is highlighted in this paper as a conceptual framework to understand mandated referral to EI services for young children with open child welfare cases. In-depth, semi-structured qualitative interviews and focus groups were conducted with child welfare workers, EI providers, and public health department officials. These data were used to examine barriers to and facilitators of referral and service use for this population. Specifically, provider perspectives were solicited on how organizational culture, structures and standard operating procedures, and resources can support the mandated referral process. Findings highlight the importance of facilitating knowledge transfer within and between human service organizations, a process that requires an understanding of the various attributes of each participating system. This paper contributes to current knowledge by considering both intra- and inter-system barriers to knowledge transfer, extending examinations of mandated referral to consider downstream service provision, and informing future actions taken to address the developmental needs of young children in child welfare.

1. Introduction

Maltreated infants and toddlers face increased risks for developmental, behavioral, and emotional problems compared to the general population of young children[1] (Barth et al., 2007; Leslie et al., 2005; Stahmer et al., 2005). Research has shown that early intervention (EI) programs, which provide family-centered services delivered by multi-disciplinary teams, can improve developmental and behavioral outcomes for vulnerable young children (Beckwith, 1988; Dunst, 1993; Guralnick, 1998). New research is demonstrating the benefits of EI services specifically directed at young children involved with child welfare (Dozier et al., 2006; Smyke, Zeanah, Fox, & Nelson, 2009).

In recent years, national panels of child development experts affiliated with the National Research Council and the Institute of Medicine have come to a consensus that there is a pressing need for "coordinated, functionally effective infrastructures to reduce the long-standing fragmentation of early childhood services and programs" (National Research Council & Institute of Medicine, 2000, p. 402), particularly for young children who experience maltreatment during a critical period of brain development (National Research Council & Institute of Medicine, 2000, p. 402). In 2003, this research and advocacy culminated in a passage to the federal Child Abuse Prevention and Treatment Act that required all state child welfare agencies to put policies and procedures to put policies and procedures in place to refer abused and neglected children under three years of age to federally-funded EI programs (Keeping Children and Families Safe Act, 2003, Sec. 114(b)(1)(B)(xxi)). Only children with substantiated cases of abuse and neglect are required to be referred by child welfare agencies, but research has shown that rates of developmental delay are not significantly lower for children whose abuse or neglect claims are not substantiated.[2] The *Individuals with Disabilities Education Act* was amended in 2004 to reiterate this mandate to EI programs in the context of a broader requirement to provide services

Abbreviations: EI, Early Intervention; DCF, Department of Children and Families; DPH, Department of Public Health.

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[1] In this article, "young children" refers to children between birth and three years old.

[2] See Hussey et al. (2005) and Casanueva, Cross, and Ringeisen (2008).

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to all children with developmental delays (Individuals with Disabilities Education Improvement Act, 2004, Part C, Section 637(a)(6)(A and B)).[3] These two pieces of legislation aimed to mitigate the effects of abuse and neglect on young children (National Research Council & Institute of Medicine, 2000),[4] which is a significant issue given that children from birth to three years represent one third of all substantiated cases of abuse and neglect in the United States (Administration for Children and Families, 2010). The needs of these vulnerable children were further recognized with the passage of a 2011 law that requires states to report activities undertaken to address the developmental needs of young children in child welfare (Child and Family Services Improvement Act, 2011).

A growing body of research suggests that mandated referral legislation has not resulted in consistent EI referral or service utilization by maltreated children (Derrington & Lippitt, 2008; Robinson & Rosenberg, 2004; Zimmer & Panko, 2006). Using data collected prior to the mandated referral policy, calculations based on a nationally representative sample of maltreated children indicated that only a small proportion of eligible children received EI services, with estimates ranging anywhere from one-tenth to one-third (Casanueva et al., 2008; Stahmer et al., 2005; Zimmer & Panko, 2006). There is little data on referral rates after implementation of this policy, but many speculate that rates have not significantly improved since 2003.[5] This has been attributed to contextual and procedural factors, including considerable variability in state implementation (Stahmer, Sutton, Fox, & Leslie, 2008), resistance from unions representing child welfare workers (Mills, 2006), and EI eligibility criteria and guidelines that fail to meet the unique needs of maltreated children and families (McDonald, 2006). An additional line of inquiry has included assessing EI provider perceptions around willingness to serve families referred from child welfare due to concerns with staff resources, mission fit, and parent involvement (Herman-Smith, 2009, 2011).

This paper contributes to the literature on mandated referral to EI by considering both intra- and inter-system barriers to referral and extending these findings, where pertinent, to include downstream service provision. In other words, we are concerned with social, cultural, financial, and ecological barriers to direct EI services, which encompass not only the required referral, but also the eligibility assessment and provision of home- or center-based services.[6] The approach is inspired by a systems-thinking perspective, defined as

> …a paradigm or perspective that considers connections among different components, plans for the implications of their interaction, and requires transdisciplinary thinking as well as active engagement of those who have a stake in the outcome to govern the course of change. (Leischow & Milstein, 2006, p. 403)

Systems thinking has been used to address complex public health issues in general (Leischow et al., 2008), and has been advocated in the fields of child health (Halfon, DuPlessis, & Inkelas, 2007), child welfare (Pecora, 2000), and child development (National Research Council & Institute of Medicine, 2000). Using Rogers (2008) methodology for classifying aspects of social problems or interventions as simple, complex, or complicated, [7] mandated referral appears to be a simple task: child welfare workers make a referral and EI workers complete an assessment, providing services if indicated. However, mandated referral becomes a complicated problem because of the idiosyncratic intra- and inter-system factors that prevent necessary information from being transmitted from child welfare agencies to EI and back again, warranting a systems thinking approach.

In this paper we argue that knowledge transfer within and between child welfare and EI is a primary systems barrier to, and potential facilitator of, EI referral and service use for maltreated young children. By knowledge transfer we mean the movement of information from one organization to another.[8] Data are drawn from a study of child welfare and EI worker perceptions of access to and utilization of EI services for maltreated children. In-depth, semi-structured qualitative interviews were conducted with child welfare workers, EI providers, and public health department officials in the greater Boston metropolitan area. By synthesizing the information gleaned from these interviews with existing literature on child welfare, child development, public health, and organizational theory, this paper will provide informed analysis and feasible suggestions to improve the provision of EI services for maltreated children.

2. Conceptual framework: knowledge transfer

Calls for the adoption of a systems approach suggest that increased attention must be paid to "how new knowledge is gained, managed, exchanged, interpreted, integrated, and disseminated" (Leischow et al., 2008, p. S198). The elements of knowledge transfer include the movement of knowledge from one place, person, ownership, etc. to another; involves two or more parties; and has a source and a destination (Major & Cordey-Hayes, 2000; Syed-Ikhsan & Rowland, 2004). This is the key mechanism at work in the mandated referral process, and a necessary first step in the successful referral of maltreated children to EI services. Systems thinking and knowledge transfer can be mutually beneficial, as the former can enhance the latter "through its ability to depict complex, dynamic processes and thus enhance understanding and the ability of knowledge management initiatives to respond" (Rubenstein-Montano et al., 2001, p. 6). And, unlike other tangible assets and goods, "knowledge grows when used and depreciates when not used" (Sveiby, 2001, p. 346; see also Syed-Ikhsan & Rowland, 2004, p. 95).

Extensive literature has discussed the difficulties in facilitating knowledge transfer *within* a single institution (see Bjørkman, Barner-Rasmussen, & Li, 2004; Reagans & McEvily, 2003; Tsai, 2001). The key elements that contribute to knowledge transfer *between* organizations can be hypothesized to include organizational culture, organizational structure and standard operating procedures, and fiscal, technological, and human resources (Syed-Ikhsan & Rowland, 2004; Walsh & Ungson, 1991). These barriers to knowledge transfer are multiplied when this process requires sharing knowledge both within and between multiple organizations. While increasing attention has been drawn to this issue in a management context, specifically around learning from other firms to keep pace with competition (Easterby-Smith, Lyles, & Tsang, 2008; Van Wijk, Jansen, & Lyles, 2008), there has been little work done on how this process occurs between government agencies and other public or nonprofit institutions in the United States.[9]

[3] State governments are not mandated to provide EI services. However, any state that accepts federal funding for developmental services under Part C of the Individuals with Disabilities Act is required to meet federal guidelines. All 50 states currently receive Part C funding and provide EI services.

[4] The National Research Council and Institution of Medicine report called for *all* children reported to child welfare for suspected abuse or neglect, regardless of whether the claims went on to be substantiated. Analyses of large, nationally representative datasets suggest that there are no differences in the rates of delay for children whose cases are not substantiated (Casanueva et al., 2008).

[5] An amendment to CAPTA passed in 2010 requires that all states submit reports on the number of children that were eligible and the number that were referred to Early Intervention under the 2003 mandated referral provision (CAPTA Reauthorization Act, 2010, Sec. 106(d)(16)).

[6] While CAPTA does not require that EI provide services to all children referred from child welfare, the 2004 mandated referral legislation and existing IDEA Part C regulations requiring EI programs to provide developmental services to eligible children were combined to provide a mandate for referring *and* serving this population.

[7] See also Glouberman and Zimmerman (2004) for the original typology.

[8] This should not be confused with "transfer of learning" or "knowledge transfer" in a child welfare practice context, which involves using new skills or knowledge on the job. See Curry, Caplan, and Knuppel (1994).

[9] Hartley and Allison (2002) and Hartley and Benington (2006) have studied this phenomenon in the United Kingdom.

2.1. Organizational culture

Organizational culture has been defined as "a pattern of shared basic assumptions that was learned by a group as it solved its problems of external adaptation and internal integration, that has worked well enough to be considered valid and, therefore, to be taught to new members" (Schein, 2004, p. 17). This concept comprises shared values, assumptions, beliefs, and behavioral norms (Deshpande & Webster, 1989, p. 4; Ouchi & Wilkins, 1985; Van Maanen & Schein, 1979). Workers in human service agencies have been found to have a shared sense of the impact of successes or failures, frustration at organizational barriers to success, and motivation to do the core work (Glisson, 2000; Hasenfeld, 2009). Although employees in child welfare and EI are broadly classified as public sector human service workers, key differences exist in the organizational cultures of these agencies that impact internal and external knowledge transfer.

Child welfare agencies operate within a dichotomy, on the one hand, embracing an ultimate goal of family preservation (Cole, 1995; Stehno, 1986), and on the other hand they are also mandated to assure child safety (Pecora, 2000). This duality in mission can result in ambivalent, and often adversarial, perspectives with regard to a biological parent. In addition, because of the high media attention to stories of maltreated children, research has characterized these agencies as having "passive–defensive cultures," which "require extensive documentation, supervisory approval, and conformity as protection against intense public criticism, administrative sanctions, and frequent litigation" (Hemmelgarn, Glisson, & James, 2006, p. 76). Conversely, the organizational culture of EI providers flows from the legislative history of early childhood special education that has focused on a family-driven, strength-based approach, with an emphasis on a collaborative relationship (Dunst, Trivette, & Deal, 1994; Florian, 1995; Sexton, 1994). Key reforms in the late twentieth century led to providing services to children at risk for developmental delays, multidisciplinary service teams, and recognition of the need for well-qualified personnel (Burton, Hains, Hanline, McLean, & McCormick, 1992).

2.2. Organizational structure and standard operating procedures

While organizational cultures are often tacit, invisible, and unspoken, an organization's structure and standard operating procedures are often explicit, visible, and stated, and play an equally important role in inter-organizational knowledge transfer (Osterloh & Frey, 2000; Walsh & Ungson, 1991). Studies of public sector agencies have emphasized the hierarchical and bureaucratic nature of these organizations, which inhibits effective knowledge transfer (Liebowitz & Megbolugbe, 2003). Child welfare and EI have both been broadly characterized as "agencies" for the purposes of this paper, but public organizations differ in ownership, funding, and authority (Perry & Rainey, 1988). An organization's standard operating procedures — "the logic that guides the transformation of an input…into an output" (Walsh & Ungson, 1991, p. 65) — can inhibit knowledge transfer within and between organizations. Child welfare agencies have been found to place a premium on bureaucratized process (Hemmelgarn et al., 2006) while EI programs in the United States, for the most part, have decentralized governance structures that lack uniform policies and procedures (see Brager & Holloway, 2002, pp. 72–73).

2.3. Fiscal, technological, and human resources

While the organizational cultures and standard operating procedures of workers in child welfare and EI differ, the shared external environment and available resources can determine the success or failure of any inter-organization initiative. Wamsley and Zald (1973) posit that organizations have an "internal economy," and that "public organizations, like private, must…allocate resources in order to produce an output that satisfies relevant others" (p. 69). Research has found that implementation of political mandates is more likely to be successful when initial and sustained funding is assured (Mazmanian & Sabatier, 1981; Rauktis, McCarthy, Krackhardt, & Cahalane, 2010). However, financial resources are a necessary but insufficient condition of knowledge transfer. Technological and human resources have been identified as key factors in successful knowledge transfer within public organizations (Syed-Ikhsan & Rowland, 2004, p. 102).

Knowledge that is to be transferred within and between organizations — especially tacit knowledge — often resides in the individuals that make up an organization (Argote & Ingram, 2000, p. 153). In general, the effectiveness of knowledge transfer depends on the background, training, and turnover of an organization's human resources (Argote & Ingram, 2000; Meier & Hicklin, 2008; Syed-Ikhsan & Rowland, 2004). The combination of background and organizational training can have a multiplicative effect: "as [individuals] interact with the organization, they draw on [their] experience to develop their skills and knowledge further, thus adding to their human capital and to the value of the organization" (Bogdanowicz & Bailey, 2002, p. 126). In knowledge transfer between organizations, potentially critical roles are those of "boundary spanners", or "positions that link two or more systems whose goals and expectations are at least partially conflicting" (Miles, 1980, p. 62; see also Steadman, 1992).

We posit that the concept of knowledge transfer lies at the heart of many well-intentioned public policies that aim to connect people to valuable and needed services. We argue, however, that the process is often not straightforward and requires understanding various aspects of each participating system in order to ensure necessary communication. A lack of attention to knowledge transfer may deter, delay, or defeat efforts to facilitate inter-organization collaboration.

3. Methods

This paper provides an in-depth analysis of some of the barriers to and potential facilitators of knowledge transfer across two human service organizations. Qualitative methods were used to assess referral to and utilization of EI services for young children involved with child welfare in Massachusetts. Given the unexplored nature of knowledge transfer in mandated referral, a qualitative study was best suited to explore the "values, language, and meanings attributed to people who play different roles in organizations and communities" (Sofaer, 1999, p. 1105). Methods included one-on-one interviews with EI providers, child welfare caseworkers and supervisors and focus group interviews with EI providers. Data were collected several years after the passage of amendments to CAPTA in 2003 and IDEA in 2004, when early implementation issues could be differentiated from more enduring barriers to knowledge transfer.

3.1. Semi-structured interviews and focus group

An in-depth qualitative, semi-structured interview guide was developed to administer to providers involved with the mandated referral process.[10] The semi-structured interview guide expanded on a national survey of child welfare conducted by Stahmer et al. (2008) that inquired about the EI referral process for children with open child welfare cases, coordination of screening and evaluation procedures, service delivery and tracking methods, continuity of services and care for children in foster care, and consent procedures. Additional areas of inquiry for the one-hour interviews included elements of organizational culture; daily tasks and routines; access to computers; employee background, knowledge, and in-service training needs; and fiscal resources dedicated to the mandated referral initiative.

A focus group guide was developed to explore a subset of challenges that were identified during early interviews with regard to

[10] Caregivers of DCF-involved children were also interviewed. These data are under analysis and will be published in the near future.

differences in the EI referral process for biological and non-relative caregivers of young children involved with the state's child welfare agency. The guide was designed to elicit characteristics of caregivers of maltreated children, unique needs of children receiving EI services while living with child welfare-involved parents as compared to the needs of children formally placed with non-relative foster parents or kin, issues with children who transition between their parents' homes and other living arrangements (i.e. foster care, kinship care), and barriers to EI services for this subset of the child welfare population. Focus group interviews lasted approximately 45 minutes.

All semi-structured interviews and focus groups interviews were audio-recorded with the respondents' permission, transcribed, and reviewed for accuracy.

3.2. Sample

Recruitment began in December 2008, with Institutional Review Board approval granted by Tufts Medical Center, Brandeis University, the Massachusetts Department of Children and Families (DCF), and the Massachusetts Department of Public Health (DPH). In the Commonwealth of Massachusetts, EI programs fall under DPH and not under the Department of Education or Department of Developmental Disabilities as may occur in other states. Massachusetts and metro Boston were chosen as the setting due to early efforts to regularize referrals from child welfare to EI following the passage of CAPTA and IDEA[11] that addressed earlier implementation issues with EI referral prior to this study.

Child welfare workers, EI providers, and DPH officials were recruited via announcements and direct outreach in EI and DCF offices throughout the metro Boston area to ensure inclusion of at least one type of worker from each catchment area. The research team endeavored to have DCF workers from the intake, assessment, and ongoing social work teams and EI providers from various disciplines (e.g., developmental specialist, social workers, mental health providers) to capture variation in the referral process. In addition, recruitment aimed to interview both front-line workers and supervisors to understand the management and service delivery aspects of mandated referral to EI.

A total of 37 individuals took part in interviews and focus groups. Interview respondents included 15 EI providers from eight local programs, 11 DCF workers from seven DCF area offices in the metro Boston area, and two state-level DPH officials. An additional nine EI providers took part in targeted discussions regarding the needs of biological parents accessing EI services through child welfare. Interview subjects were predominantly female, with only two males in the 37 respondents. This was reflective of the composition of the child welfare and EI workforces. EI providers represented a range of disciplines that routinely interact with maltreated children, including developmental specialists, social workers, and psychologists. Eight of the 37 respondents were supervisors and 25 were front line workers.

3.3. Analysis

Transcripts were coded and analyzed using a process of coding consensus, co-occurrence, and comparison. A sample of interviews was used to develop an initial codebook, which involved five research team members identifying major areas of inquiry from the interview guide and additional topics that emerged from the interviews. The codebook included *a priori* themes such as the awareness and understanding of the mandated referral process, provider reports of barriers and facilitators to referral, tools and methods for linking child welfare and EI, and training needs. Additional themes emerged from the interviews (Charmaz, 2006), including organizational culture, boundary spanners, family needs, and confidentiality concerns. The research team then came to a consensus on definitions for each code. This process was repeated at least once each month during data collection, with interim discussions resulting in seven iterations of the codebook. The hierarchical codebook includes 14 major categories, with each category containing anywhere from one to eight subcategories. Relevant categories include Professional Background; Organizational Description; EI Process and Practice; Economics; Challenges; and Model Practices and Recommendations.

Interviews were coded using the final version of the codebook. At least three research team members coded a sample of interviews with EI providers, and resolved differences through discussion. This process was repeated with the child welfare interviews. Once the team felt that there was consistency in coding, the lead author coded all remaining interviews. All electronic transcripts were imported into NVivo 8, a qualitative software program that facilitates data management and coding. Codes were applied to text segments using this program, with more than one code being applied to text when appropriate. Reports on key areas of interest were generated and reviewed in the course of analysis.

During the interviews, respondents were not asked specifically about the concept of knowledge transfer. However, the elements of knowledge transfer identified in this conceptual framework (organizational culture, organizational characteristics and procedures, and fiscal constraints) were present in the earliest versions of the codebook and respondents spoke spontaneously about how the mandate to cooperate was inhibited by a lack of shared knowledge across the two systems. These responses were initially flagged as “free nodes” in NVivo and subsequently were identified as a unifying theme across all interviews.

4. Results

These data yielded important contributions to the understanding of mandated referral and the role that knowledge transfer plays in this process. Interviews identified that differences in organizational culture and structure, combined with a shared lack of fiscal, technological, and human resources, have created difficulties in referring and serving maltreated children and families (see Table 1). Both intra- and inter-organizational factors seemed to underlie the success of knowledge transfer within and between both organizations.

Below we present qualitative findings that elucidated critical barriers and facilitators to knowledge transfer, noting key points in the mandated referral process these barriers were most likely to arise. Recommendations for reducing these barriers are provided.

4.1. Organizational culture

Workers in both agencies emphasized key similarities and differences in norms, values, and behaviors that underlie the missions of DCF and EI. A DCF worker clearly identified the common thread tying both programs together, *“We are [both] here for one reason — one reason only — the families. To help the families: and this is why we do the work that we do.”* However, significant differences were found in organizational culture and respondents suggested that families receiving services had very different reactions to a DCF worker compared to an EI worker. An EI worker reflected that, *“For most families, we're pretty non-threatening and the people who work here are pretty low-key. We're baby people, you know. We bring toys. It's a nurturing kind of thing that goes on.”* On the other hand, a DCF worker felt that there was animosity toward child welfare workers because “*people think we just take kids away and we don't help.*”

[11] The Massachusetts Early Childhood Linkage Initiative (MECLI) was introduced in 2002 as a pilot program to link Early Intervention and child welfare services, with funding from government and private foundations. This program provided training, coordination, and funding for service delivery for both systems in three cities in Massachusetts, with the aim of ensuring that all children under age three be referred from child welfare to a local Early Intervention agency (Roper, 2007).

Table 1
Elements of inter-organizational knowledge transfer in mandated referral.

	Child welfare	Early intervention
Organizational culture	• Mandatory, adversarial • Family-focused	• Voluntary, non-threatening • Family-driven
Organizational structure	• Salary model, entitlement • Case documentation • Confidentiality/releases for referral	• Fee-for service, reimbursement • Eligibility time standards • Documentation for assessments • Time-intensive maltreatment cases
Resources	• High caseloads • Layoffs/hiring freeze • Turnover, burnout • Email access	• Eligibility changes • Hiring freeze • Turnover, young workforce • Lack of computers

Another key cultural difference interviewees noted was the different focus of each organization. EI was described as a voluntary program with a family-driven approach, while DCF was perceived to be a mandatory, adversarial investigation-focused program that focused on family functioning. A DCF worker described her understanding of the family-focused mission of child welfare: *"…Our main focus is on the family…We feel like once we can help mom and dad get better… that's going to help them help their kids."* A DPH official with experience of both systems recounted the experience of moving from a family-driven, voluntary EI program to a child welfare organization that requires family engagement:

> There are pretty profound differences in the system. When I went [from EI] to DCF, I was used to writing family service plans with families where you sit down and families set their own goals. At DCF…most workers just picked what was appropriate and mailed it to the family. Well, I always did it with the family, and people thought I was nuts! And I was like "Oh, that's not the culture here."

These fundamental value differences between the two organizations were a recurrent theme in the interviews, underlying many of the conflicts and misunderstandings that frustrated the transfer of knowledge between DCF and EI providers in our sample. One DCF worker described the defensive culture of child welfare, saying, *"There are policies and there are rules, and a lot of times…it feels a lot like we have all these rules to cover our butt more than trying to help children out."* The mandatory, rule-driven culture described by DCF workers stands in contrast to the voluntary nature of EI services. These differences in orientation to families resulted in a number of misunderstandings between workers from both agencies. One EI provider emphasized, *"We're voluntary, and we let [the family] know that…. Here people say, 'Look, there's a mandated referral to us, but our service is voluntary.'"* Another EI provider noted that this problem is pronounced when a child is in foster care as the foster parent is perceived as the acting parent by the EI system: *"I think there is a bit of disconnect in terms of the voluntary piece… I think the DCF worker believes that they have the custody of the child, so they know what's best, and I think still we [need] the foster parent to buy into the service."* DCF workers, on the other hand, felt that EI is a mandated service, and thus should be on the plan of services to support families while they are involved with the agency, regardless of EI principles of voluntary engagement.

4.2. Organizational structure and standard operating procedures

Respondents noted many differences between the institutional structures and operating procedures of child welfare compared to EI, which flow from the differences in organizational culture. The aforementioned elements of organizational culture — mandatory vs. voluntary, family-focused vs. family-driven — were visible in the structures and procedures that governed how the DCF and EI workers who were interviewed went about their tasks. Given the shared status as organizations supported by government funding, workers in both agencies expressed a strong awareness of accountability in their daily workflow. Yet, while DCF workers struggled with accountability and documentation requirements based primarily on litigation concerns, EI providers had a heightened awareness of how DPH reimbursement that supports many EI programs affected their daily workflow. An EI provider emphasized that the fee-for-service model requires a great deal of paperwork because each quarter-hour of activity must be documented: *"DPH reimburses each EI program for a certain amount of work… It's very different. I mean, DCF has a budget, but ours is reimbursed through DPH and insurance, it's a very complicated reimbursement system of billing."* A DCF worker who had previously worked at an EI program noted: *"That was one of the reasons why I left…they were giving us so much more paperwork than we had when I first started."* The reimbursement fee structure for EI providers was criticized for not supporting outreach and care coordination often required for children referred to EI from child welfare:

> "[But] if we just wanted to meet with the DCF worker or talk to them for an extended period of time, we can't bill for that… these cases lots of times require more work, more intense interventions that we don't get reimbursed for. That's a problem… System-wise, that's a problem."

EI providers also suggested that DCF workers needed to know more about the time pressures in the days after a referral is made. One provider described the eligibility determination process:

> We have to get everything completed in 45 days. We have to contact them within ten days of the referral. So if I get the referral and I call the DCF worker… on Friday, and then I don't receive a call by Wednesday, I really have to schedule with the family… so that makes it hard. I end up having to contact [the family] on my own, go in blindly. I don't know what they know; I don't know what's been explained; I don't know how serious the situation is. And that doesn't set up the relationship in a positive way.

This inter-system communication difficulty is exacerbated when children are moved from temporary foster homes after a referral call is made, negatively impacting an EI provider's ability to connect with a child in need of services and ability to request reimbursement for the time spent in outreach.

Throughout the interviews, DCF and EI employees also spoke to differing perspectives around confidentiality that played a role in discouraging knowledge transfer regarding a child and his/her family during the mandated referral process. One DCF worker noted, *"I don't think it's anyone's business to know if you have an open case with the Department…I do think we have infringed on people's confidentiality [by making the referral to EI]."* However, a more common theme from EI providers was that confidentiality concerns inhibited information sharing from DCF to EI, frustrating EI providers in completing

an accurate assessment, submitting reimbursements to DPH, and planning for their own safety. One EI provider noted:

> DCF workers can probably give us more information about the child without giving a lot of information… in order to assess the risk to the kid, we've got to have a little bit more…"Tell me more about the kid, help me understand better what has gone on so we can make a more accurate assessment about the eligibility for this child."

While not endorsing refusal to make a referral on grounds of confidentiality, another EI provider emphasized that workers in both systems should exercise caution in sharing information to protect families and suggested targeted supervision as a potential strategy: *"These are high risk complex families and so when you're talking with someone else who knows the family, it is pretty easy to blurt out information that you yourself are struggling with. I think we need to make sure workers on both sides get adequate supervision to deal with that."* The influx of child welfare referrals also had an impact on the type of expertise needed by EI providers. Complicated cases not only required additional time and interventions to meet a child and family's needs, but targeted expertise. As one EI provider noted: *"We're getting a lot of cases around domestic violence, and that's changing… the thoughts that go into intervening in cases… we're going to need more staff to do the work and more staff involved more with issues of domestic violence and substance abuse*."

4.3. Fiscal, technological, and human resources

A lack of resources created significant challenges to completing the mandated referral process, a problem raised by representatives of both systems. These shortfalls come at a difficult time for clients referred to child welfare and EI, as noted by a DCF worker: *"The families in the communities are feeling much more stressed out so whenever there is more stress on them, the service providers notice things and get more worried about kids. And that in turn increases the kids that come into care."* Although employees of human services agencies rarely (if ever) enjoy access to unlimited resources, the specific deficits and complications that DCF and EI work within were often raised as hindering the knowledge transfer process required by mandated referral. Resource challenges fell within three major categories: fiscal, technological, and human.

Interviewees commented that federal and state fiscal crises have diminished already scarce resources for child welfare agencies and EI programs, which already have no additional funds dedicated to mandated referral. For example, fiscal realities at the state level had led to recent changes to EI eligibility in order to contain costs. A DPH administrator explained:

> We have to stay within a certain budget, and we're constantly going over budget because we're an entitlement program yet we don't always have matching funds at the state and federal levels. We've had [to] streamline the eligibility to the 30 percent, that was in direct response to the fiscal crisis. Looking at established conditions, re-establishing eligibility every six months, are all results… of the current fiscal climate.

One EI worker familiar with the system noted that the "*new policies are going to be tough. A lot of kids referred from DCF will have a harder time being eligible*." A DCF worker suggested that these eligibility changes would have downstream effects: *"I feel like if you put [eligibility] higher and this kid is kind of behind, if we give him the services for a couple of months we could stop that. But, if not, then they're going to end up back 6 months later and need even more help."*

These fiscal strains also had impacted human resources. Layoffs, coming out of recent state budget cuts at DCF, had exacerbated existing workload problems: "*With high case loads we struggle to… see [the] families as much and have as close communication with them as I would have liked to. Once a month was never enough.*" As a state agency, DCF workers particularly commented on budget shortfalls and layoffs across the organization. A DCF worker highlighted the difficulties in adequately serving clients when "*the financial struggles of the department [mean] not having services or resources to get families what they needed. That's a challenge.*"

Interviewees also expressed concern that they will likely have less funding at the state level to support professional development of DCF and EI staff. Participants from both DCF and EI noted that the challenges of an inexperienced workforce added more stress and disruption to the care of struggling families and vulnerable children. One EI provider, who emphasized the importance of an experienced workforce to serving the population of at-risk children, was concerned that turnover and lack of training may negatively impact the ability of some programs to serve the client base: *"There are also a lot of young EI clinicians out there that don't have a lot of experience, and that worries me…I think a lot of stuff is getting missed because of that."*

With this general scarcity of funding, many respondents commented on the corresponding effect on technological resources. Respondents raised the issue of variability in terms of phone, computer, and email access in the office and while on the road, both within EI agencies and between EI and DCF. In general, EI providers were much less likely to have access to technological support; this had a clear effect on daily workflow and knowledge transfer. Some DCF workers were aware of the lack of computers for their EI counterparts, with one individual noting, *"here [at DCF] everything's on a computer, which I think makes it easier… with EI it's basically like you're writing your hand notes."* An EI worker emphasized that communication difficulties arose or were exacerbated because of the differing technological capacities: *"We just don't have enough computers for everybody, so that's a problem here. But everybody at DCF has them, and people at DCF communicate through email."*

Cooperation between EI and DCF also was challenged by the amount of time workers in both systems spent out in the field. A DCF worker noted the difficulty in attempting to coordinate services for clients given the nature of their work: "*We're not in the office, we're on the road often, with home visits and what not, sometimes it's frustrating with the call [and] playing the phone tag."* This frustration was also evident on the part of EI providers, who had difficulty making contact with DCF workers after the initial referral call and were often dependent on phone (and not email) communication: *"Another place we get stuck is that DCF caseloads are so big; we don't get called back as quickly as our clinicians want…"*

4.4. Knowledge transfer

Workers in both EI and DCF stressed the need for greater understanding and communication between the two systems (see Fig. 1). Knowledge transfer was noted to be critical with respect to information sharing about the children and families serviced, particularly by EI providers. One EI provider voiced this theme of "*more specific information for each case: what child's goals are, service plan, etc.*" EI providers reported that DCF-involved families were often difficult to engage in services, attributed in part to a distrust of mandated service providers as well as frequent placement changes. Lack of knowledge transfer, however, compounded these problems.

Without specific disclosures from DCF workers, EI providers relied on caregivers to self-report biological or environmental risk factors that may make the children in their care eligible for developmental services. Voluntary disclosure of these risk factors was rare, as one EI provider noted: *"Very few clients will say, 'Yes, I'm very depressed.' You can know it when you see them, but they are not going to acknowledge it. If it is a chronic illness like a mental illness, again they're not going to say, 'Hi, I'm crazy. Use that as a risk factor.'"* Without

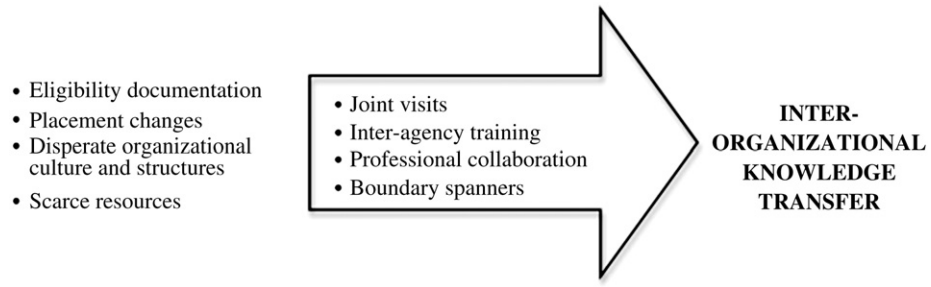

Fig. 1. Facilitators of inter-organizational knowledge transfer.

information about the family context or child-level concerns from DCF workers, many EI providers felt they did not have all the information needed to determine eligibility. In some instances, children are deemed to be ineligible even though their circumstances may warrant EI services, a situation that caused confusion and frustration on the part of DCF workers who had made a referral. EI providers also commented that they often do not receive notification of placement changes for DCF-involved children: *"We've had a couple times recently when kids get moved back with their biological parents from the foster home, and that transition doesn't go well…At least in the past year this has probably happened about three times, and we didn't know."* Joint visits to families by EI and DCF workers had been used by one region; one EI provider commented, "*There's a host of things when you're doing outreach and that kind of work, but I'm encouraging people to go out with the DCF worker."*

Knowledge transfer also was seen as essential for uniting these two organizations with disparate organizational cultures, organizational structures, and scarce resources toward the goal (and legal mandate) of providing early intervention services to maltreated children. Workers in both agencies asserted that serving vulnerable children and families was a key motivating factor in doing their jobs, however, differences and incompatibility in organizational culture, organizational structure, and fiscal, technological and human resources effectively created barriers to EI services for young children involved with the child welfare system. Interview subjects were mindful of the current fiscal climate and proposed simple, inexpensive strategies to improve knowledge transfer at a systems-level. Inter-agency training was suggested by individuals in both EI and DCF as a way of familiarizing workers with the culture and standard operating procedures of the other system. For example, one region had conducted joint training sessions for EI and DCF staff; another DCF office brought in EI staff to provide periodic trainings for their staff during staff meetings about developmental issues in young children and EI services.

The strengths of both agencies were noted to be the human resources that provide direct services to children and families. Professional collaboration through relationships was described as key to successful interagency coordination, particularly within the current fiscal constraints. For example, one DCF worker who had been in child welfare more than two decades emphasized the trust and dependability that she had built with EI providers over time: "*I know if I need something I can pick up the phone at 10 minutes of 5 on a Friday before a long weekend and I say I need a favor [and] before I even hang up the phone, it's done. We work well together."*

Another solution noted throughout the interviews was the use of "boundary spanners," individuals or positions that link two organizations. One EI worker suggested that her experience as a former DCF worker provided her with unique insights that were helpful in serving the mandated referral population: *"…because I have the background with DCF, I feel more confident with the cases. They don't bother me."* Similarly, DCF workers with previous EI employment experience reported that they were better able to engage with families and workers in both systems. Sometimes these cross-organizational boundary spanners were informal, the result of individual hires at a particular agency or program; other locations had specifically focused on developing positions or staff with expertise related to their sister program. For example, an EI provider in an urban area felt that their program benefitted from a staff that had expertise in social work and served informally as boundary spanners: *"We're pretty heavy on the social work staff, maybe more so than some of the suburban programs might be, and so having those social workers who have experience and understanding with how DCF operates…is probably really helpful."*

5. Discussion

Although an extensive body of literature has emerged on the disproportionate developmental delays and unmet service needs of maltreated young children (Barth et al., 2007; Casanueva et al., 2008; Leslie, Gordon, Ganger, & Gist, 2002; National Research Council & Institute of Medicine, 2000; Scarborough & McCrae, 2008; Zimmer & Panko, 2006), a lack of systems thinking has prevented recognition of the role that knowledge transfer plays in the mandated referral policy created to address the needs of this population. Data from our interviews highlight how a relatively "simple" mandate to refer young children involved with child welfare to EI services becomes complicated due to the variations in the institutional cultures, structures, and resources to support this knowledge transfer (see Rogers, 2008).

The key difference in the organizational culture between EI and DCF is the mandatory vs. voluntary approach to service provision. A lack of attention to this fundamental difference in culture has made it difficult for workers in these systems to work effectively together. Rubenstein-Montano et al. (2001) have stressed the importance of assessing the compatibility of "the strategic goals of the organization, the people involved in knowledge management activities, and the cultural context within which knowledge management is developed" (p. 7) when undertaking knowledge transfer activities. While the mandatory/voluntary divide has made collaboration and knowledge transfer difficult, common ground in the organizational culture of EI and DCF could be used to bridge this difference. Emphasizing shared aspects of organizational norms, values, and assumptions could open a dialogue about how to overcome differences in organizational culture that currently divide EI and DCF.

Organizational structures, particularly the policies and procedures regarding confidentiality and documentation, frustrate knowledge transfer in the mandated referral process. In their assessment of knowledge transfer in public sector organizations, Syed-Ikhsan and Rowland (2004) highlighted the importance of documenting the effect of confidentiality status on communication flows, an exercise that is relevant to mandated referral. As noted by both knowledge givers (DCF workers) and receivers (EI providers), confidentiality prevented DCF workers from disclosing biopsychosocial risk factors to foster parents and EI providers. Many of these risk factors are associated with eligibility criteria for EI services. Without a comprehensive understanding of the contexts in which children are living,

many children with open child welfare cases may not be receiving needed EI services.

Mandated referral processes were also limited by a lack of resources to support the knowledge transfer process. Limited fiscal resources had a negative effect on knowledge transfer, as legislation mandating referral from child welfare to EI did not provide dedicated funding to this initiative.[12] For EI providers, the lack of reimbursement for time spent connecting with DCF workers was a major impediment to the process, though this is necessary to gain a comprehensive understanding of a child's needs. For DCF workers, limited fiscal resources often translated into higher caseloads and less time available to talk with providers of supportive services. Although technology can help reduce these barriers, there were stark differences in access to basic communication technologies (e.g., email) between the two types of organizations. The formation of cross-organizational relationships can also facilitate knowledge transfer, but both agencies reported challenges with rapid turnover and burnout among staff.

Systems-level thinking involves acknowledging that each component represents part of a common, larger system (Leischow et al., 2008, p. S197) and facilitating knowledge transfer across silos. Providers in both systems suggested several methods for addressing the silos created by disparate organizational cultures and structures, accompanied by a lack of resources. Providers proposed focusing on the common aspects of these two disparate organizations to overcome these barriers. Specific solutions to facilitate the referral process included encouraging joint visits by DCF and EI workers, implementing interagency training to overcome a lack of understanding and cooperation toward knowledge transfer, and using informal and formal boundary spanners with knowledge of both systems. However, long tenure and cross-disciplinary or cross-agency experience were found to be an exception, not a rule, in these interviews.

One potential method for facilitating knowledge transfer takes advantage of the common routines of workers in both agencies. EI and DCF workers spend most of their time out of the office on home visits; by coordinating schedules to complete joint visits with families, EI and DCF workers would have access to the same information about family context. While coordinating already busy schedules could be difficult given the high caseloads and unique structures of daily tasks, the potential benefits make co-visiting a preferred method for facilitating knowledge transfer. Shared visits would also provide a means of addressing confidentiality concerns. Solutions such as shared memorandums of understanding or confidentiality agreements used in other parts of the country may also provide a mechanism for working around confidentiality issues (Leslie et al., 2005).

In addition, interagency training can directly address the lack of shared understanding experienced by workers in both agencies. Conducting joint training sessions would provide a forum for interagency linkages, encouraging "greater communication between agencies, heightened awareness of concerns that extend across organizational boundaries, simplified and streamlined referrals between agencies, and co-location of providers to increase sharing of information on specific cases" (Hurlburt et al., 2004, p. 1218). Consideration should also be given to expanding training to include representatives from juvenile and family courts as they also play an important role in decisions made about children and families involved with DCF. Each of these suggestions is hypothesized to have a positive effect on organizational efficiency and effectiveness (Cocozza et al., 2000; Konrad, 1996; Kusserow, 1991). Together, these changes could facilitate a greater degree of knowledge transfer for both the givers and receivers of mandated referrals.

Finally, employees with knowledge of and background in both systems can act as boundary spanners, with the ability to bridge differences between the systems to assure knowledge transfer. Although widely used in the organizational studies literature (Leifer & Delbecq, 1978; Levina & Vaast, 2005; Williams, 2002), this term was applied to a child welfare context by Glisson (2002), who focuses on boundary spanners as change agents, capable of "influence[ing] perceptions, attitudes, and decisions at individual, organizational, and community levels by providing technical information, feedback on outcomes, conflict resolution, and facilitating communication concerning the nature, progress, and success of the organization's core technology" (p. 246). Individuals with knowledge of, empathy for, and experience with these workers could champion mandated referral in the other system.

6. Conclusion

The introduction of mandated referral to EI services in 2003 responded to calls for a focused policy response to the developmental needs of maltreated children (National Research Council & Institute of Medicine, 2000). However, it also created additional challenges in obliging these fields with their own internal systems-level issues to cooperate toward a common goal. The referral legislation under CAPTA and IDEA has created a mandate for interagency cooperation by requiring child welfare workers to make referrals to EI providers. This research has framed the mandated referral process as fundamentally a problem of knowledge transfer. Within a systems framework that aims to understand "the complex adaptive systems involved in both causing and solving…problems" (Leischow et al., 2008, p. S196), inter-agency differences in organizational culture, organizational structure, and fiscal, technological, and human resources can be seen as key aspects that can either create barriers to or facilitate knowledge transfer. A systems perspective highlights barriers that would not be visible if EI or child welfare agencies were considered in isolation. This analysis has revealed several incongruities that inhibit knowledge transfer from child welfare to EI.

While this paper presents many novel contributions to the understanding of mandated referral to EI, there are several limitations to this research. This was a small, qualitative study with limited generalizability conducted in a policy area with geographically-specific policies and services. However, this necessarily exploratory analysis has generated important hypotheses that can and should be tested in future studies. Quantitative data is needed on the number of children eligible for a mandated referral, and the percentage of these children that are actually being referred to EI since the passage of legislative mandates in 2003 and 2004. Although 2010 amendments to CAPTA require states to begin submitting these data, data available on the federal Adoption and Foster Care Analysis and Reporting System (AFCARS) are often incomplete. Other efforts should be made to analyze pooled data from both child welfare and EI agencies and large, nationally representative datasets. While in-depth surveys of EI providers are being implemented (Herman-Smith, 2011), it is important to adopt a systems perspective and include perspectives of other partners in mandated referral, including child welfare, public health, education, medical providers, and juvenile and family courts. Future research should explore these barriers and other model practices to understand and facilitate knowledge transfer between child welfare and EI to meet the needs of maltreated children.

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[12] While there is no dedicated funding for the mandated referral process, this legislative directive is not considered an unfunded mandate because funding is identified for EI services in general within Part C of the Individuals with Disabilities Education Act (see Unfunded Mandates Reform Act, 1995).

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