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Overview of Out-of-Home Placements and Placement Decision-Making in Child Welfare

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Child welfare literature emphasizes heavily on the bi-directional relationship between out-of-home placements and outcomes. To provide a new perspective on this critical topic, this literature overview addresses: (1) the significance and challenges of out-of-home placement decision-making, (2) the need to standardize placement criteria, and (3) matching children's needs to appropriate placements. This overview will also examine viable models of out-of-home placement decision-making such as multidisciplinary teams and decision support algorithms. Further, decision-making mechanisms from other disciplines that can be modeled after are distilled. To assist practitioners and researchers as decision-makers of out-of-home placements, relevant policy and research recommendations are presented.

KEYWORDS child welfare, out-of-home placement, decision-making, outcome, decision support, state

The majority of children who enter the child welfare system are predisposed to behavioral and psychosocial vulnerability (Rubin, O'Reilly, Luan, & Localio, 2007). Many of these children have experienced trauma, abuse, neglect, domestic violence, family dysfunction, or unstable home environments (Armour & Schwab, 2007; Barth et al., 2007; Hyde & Kammerer, 2009). The early entry of young children into the child welfare system has also consistently predicted long-term stay in care (Stott & Gustavsson, 2010). When the length of stay in care is conceptualized as the cumulative stay

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in one or more out-of-home placements, the developmental trajectories of children in child welfare then partially become a function of the types of out-of-home placements experienced. Indeed, as the length of stay in care increases, so does the number of out-of-home placements (Stott & Gustavsson, 2010). According to the national child welfare statistics from the Adoption and Foster Care Analysis and Reporting System, from 2005 to 2010, both the number of children entering care (from 311,000 to 254,375 children, respectively) and the number of children in care (from 513,000 to 408,425 children, respectively), and the mean length of stay in care (from 35.2 to 28.6 months, respectively) have decreased (U.S. Department of Health and Human Services, 2006, 2008, 2009b, 2009c, 2010, 2011). However, this reduction in the prevalence and incidence of the child welfare population is tempered by a decreasing mean age at entry (from age 10.6 to 9.2 years) (U.S. Department of Health and Human Services, 2006, 2008, 2009b, 2009c, 2010, 2011). Further, there is significant difficulty in attaining placement stability, such as no more than two placement changes per episode of care, especially for children in care for longer periods of time (U.S. Department of Health and Human Services, 2009a). In 2009, the median percentage of children who were in care at least 12 months but less than 24 months, and with more than two placements was 39.2%; the median percentage of children who were in care at least 24 months with more than two placements was 69.5% (U.S. Department of Health and Human Services, 2009a). Collectively, these national statistics show that the total number of out-of-home placements might have decreased over time in recent years, though children are entering care at a young age, and once in care, placement instability persists.

Over the past decades, key federal legislation has sequentially emerged, including the Adoption Assistance and Child Welfare Act of 1980 (P.L. 96-272), the Adoptions and Safe Families Act of 1997 (P.L. 105-89), and the Fostering Connections to Success and Increasing Adoptions Act of 2008 (P.L. 110-351) to help shorten the length of stay in care and achieve child welfare outcomes, including permanency, reunification, and improved child and family well-being. Concurrently, research efforts have focused on implementing child welfare-focused interventions and characterizing child welfare outcomes (Aarons, Hurlburt, & Horwitz, 2011). In outcome research, there is a general consensus on the mutual influence between out-of-home placement instability and functional outcomes (e.g., child well-being, clinical functioning) in child welfare, although the direction of causality can be difficult to ascertain (Aarons et al., 2010; Barth et al., 2007; Berger et al., 2009; Farmer, Mustillo, Burns, & Holden, 2008; Leathers, 2006; Rubin et al., 2007). This relationship between placement stability and functional outcome is further complicated by the diverse types of out-of-home placements (Aarons et al., 2010; Berger et al., 2009; Connell et al., 2006). Given that placement changes precipitated by child behavior are usually more common the longer

the child remains in care (James, 2004), it could mean that longer stay in care is needed in order to remediate the damage of a prior inappropriate placement. This phenomenon is indicated by findings that see youth with a long tenure in care and aging out of care tend to have experienced some of the highest rates of placement instability and correlates of behavioral problems (Stott & Gustavsson, 2010).

As the knowledge base on outcomes and placement stability continues to grow, there is a need to introduce a new perspective on the relationship between out-of-home placement outcomes and stability. Toward this goal, this paper proposes to re-ignite a focus on out-of-home placement decision-making as a precursor to outcome and stability during a child's stay in care. The contributing factors of effective out-of-home placement decision-making are discussed, including the significance and challenges of building best practice for placement decision-making, the need to standardize placement criteria as a mean to match children's need to appropriate placements at every milestone during the children's stay in care. Further, to aid child welfare practitioners and researchers in the role as placement decision-makers, exemplar models of placement decision-making are presented, and elements of decision-making mechanisms from other disciplines are highlighted to improve child welfare practice.

SIGNIFICANCE AND CHALLENGES OF OUT-OF-HOME PLACEMENT DECISION-MAKING

Since the decision to remove a child from an unsafe home environment is of paramount significance in child welfare, placement decision-making that follows removal has somewhat undertaken a secondary role. Historical and pivotal decision-making literature in child welfare suggests that there is a significant responsibility and a far-reaching impact associated with out-of-home placement decision-making for children in care (Briar, 1963; Schuerman, Rossi, & Budde, 1999). Current child welfare practice equally values valid and reliable decision-making, especially in identifying imminent and predicting future risk at each stage of a child welfare case (Bay Area Social Services Consortium, 2005, 2007; Johnson et al., 2008; Rycus & Hughes, 2005). Changes in placements entail changes in geography, living situation, and educational and psychosocial environments (James, 2004). To complicate the placement decision-making process, placement moves may be justified by system- or policy-related reasons (e.g., interim placements), especially for children who just entered state custody (Barber & Delfabbro, 2003). To cycle repeatedly throughout this imperfect process of placement changes can therefore be demoralizing to the children whose perspectives are often overlooked (Hyde & Kammerer, 2009). It can also be overwhelming to lose significant interpersonal relationships that accompany each placement change (Stott &

Gustavsson, 2010). Further, the variability in the types of out-of-home placement between different levels of care and within the same level of care adds another dimension of complexity in selecting the best placement (Armour & Schwab, 2007; Doran & Berliner, 2001; Duppong Hurley et al., 2009).

The challenges of finding the right out-of-home placements may affect the feasibility of ensuring optimal outcomes (i.e., reunification, permanency, or adoption) in the shortest length of stay in care possible (Bass, Shields, & Behrman, 2004; Pardeck, 1983). Although the aforementioned child welfare mandates such as the Adoption Assistance and Child Welfare Act of 1980, Adoptions and Safe Families Act of 1997, and the Fostering Connections to Success and Increasing Adoptions Act of 2008 clearly strive for these optimal outcomes, there are competing demands that make optimizing placement decision-making to meet individual needs as a means towards these outcomes difficult to accomplish. First, on the caseworker level, emergency, interim, and long-term placements are sometimes made due to pressure from service agencies, previous placement breakdown, or heavy caseloads (Doran & Berliner, 2001; Jones, 1993; Knapp, Baines, Bryson, & Lewis, 1987). As a result, efficiency of securing any placements may trump the procurement of an appropriate placement. Second, the principle of least restrictive setting enforces the lowest level of care possible for the children, which may discourage needed changes of placement (Berrick, 2011). For example, the Hawaii Legislative (2008) rewrote their state statute to indicate that all things being equal, children should be placed in kinship foster care or non-relative foster care (i.e., the least restrictive setting compared to institutional or group placements) (Blakey et al., 2012). In turn, residential settings often become a placement of last resort because alternative placements are unavailable or multiple living arrangements have failed (Foltz, 2004; McCurdy & McIntyre, 2004; Pfeiffer & Strzelecki, 1990). Meanwhile, the opportunity to place a child at the optimal level of care at the outset, regardless of restrictiveness, might be lost for the sake of procuring the least restrictive setting (Sunseri, 2005). Thus, improving the decision-making mechanism of out-of-home placement in order to improve placement stability and child welfare outcomes presents an enormous challenge, which may be easily overlooked but must be addressed.

Criteria for Out-of-Home Placements

To improve out-of-home placement decision-making merits a review of the criteria on which decisions are based. Unfortunately, the vast circumstances that result in a placement or in a change of placement have presented significant challenges to operationalize and standardize the criteria for out-of-home placements. With the ultimate aim of providing what is best for a child, placement decision-making should be multi-faceted by considering factors such as the child's behavior, caregivers' or children's preferences, geography, administrative requirements, funding guidelines, political climate,

demographic factors, and caseworker education and turnover (Crea, Wildfire, & Usher, 2009; Fanshel, 1982; Lindsey, 1992; Merritt, 2008; Sicoly, 1989).

In a comprehensive review of how states are addressing placement stability in child welfare, there are as many as six different approaches: (1) using specialized caseworkers for placement (11 states); (2) placement based on availability (five states); (3) using assessment tools (four states); (4) placement based on capabilities of foster parents (three states); (5) using a placement matrix system (three states); and (6) using specialized placement units (two states) (Blakey et al., 2012).

This diverse collection of placement-matching strategies suggests that each strategy entails its own idiosyncratic criteria. Bickman, Karver, and Schut (1997) measured the inconsistency of placement decision-making when it is contingent on individual, expert discretion. In a study of 18 clinicians' independent recommendations for 47 children based on their clinical profiles, inter-rater reliability was near zero. Even with a possible consensus among experts or specialized placement units regarding the necessity of out-of-home placement, there is little agreement on how to define the admission thresholds for the substitute placements (Schuerman et al., 1999). When the availability of placements determines what is best for the child, it may simplify the complex decision-making process into filling the gaps, and minimizes the voice and the perspective of the child (Hyde & Kammerer, 2009; Merritt, 2008). When the specialized knowledge of caseworkers or placement units is utilized, it seems unclear as to how such knowledge can produce the best fit between the child and the variety of placements, ranging from, for example, independent living, transitional living, kinship or non-kinship care, specialized foster care, group home, and residential treatment center (Fulton, 2005).

Although it is conceivable that decision-makers can acknowledge the different permutations of factors that need to be considered in making an informed placement decision, to systematically carry out the decision-making process in practice while accounting for these factors can be difficult, as evidenced by the small number of states that adopt specialized placement units (Blakey et al., 2012). Without a clear direction, the sheer volume of contributing factors might obscure the decision-making process. This conundrum calls for child welfare workers and policymakers to restore the focus on the best interest and the needs of the child in crafting standardized placement criteria. Indeed, there is a valuable opportunity for the child welfare system to intervene by improving placement decisions to affect placement stability and latter outcomes if and only if the severity of the children's behavioral and mental health problems upon entering are accounted for (Rubin et al., 2007). As continuing efforts are made to disentangle stability and outcomes (Aarons et al., 2010; Blakey et al., 2012), somehow a clinical focus based on the needs of the child should be explicitly emphasized in out-of-home placement criteria to help navigate the complex placement decision-making process.

Matching Out-of-Home Placements With Clinical Needs

There are numerous factors that may complicate the standardization of placement criteria, including the variation in policy-informed placement decisions across state child welfare systems (James, Landsverk, & Slymen, 2004) and the wide-ranging organizational and circumstantial factors (i.e., caseworker education and turnover, caseload size, supervisor availability, placement history, availability of placements, demographics, caregiver's preferences) that fluctuate in salience depending on the context (Crea, Wildfire, et al., 2009; Doran & Berliner, 2001). However, before taking the logical leap to match needs with placements, there should be an acknowledgement that the prevalent use of a continuum of care across child welfare systems (Fulton, 2005) means that out-of-home placements differ between levels of care and even within the same level of care (Handwerk, 2002; Lyons, Terry, Martinovich, Peterson, & Bouska, 2001).

There are diverse out-of-home placements across the continuum of care, from the least restrictive to the most restrictive settings. Independent living and transitional living programs generally target education, employment, life skills, and self-sufficiency in order to facilitate reintegration in the community (Kroner & Mares, 2009; Naccarato & DeLorenzo, 2008; Rashid, 2004). Foster home, as the default placement of choice for most children after entering care, is usually supplemented with most community-based, evidence-based child welfare treatments such as behavioral management, parent partner interventions, and home visiting programs (Aarons, Hurlburt, & Horwitz, 2011). When more intensive care is needed while preserving a home-like environment and providing a low-cost alternative to institutional care, specialized foster homes or therapeutic foster homes "professionalize" foster parents with licensing and special training to serve children with special needs such as medical problems that compromise their health or particular behavioral problems that make them unsuitable for regular foster homes (Barth, Courtney, Berrick, & Albert, 2010; Bryant, 2004). Small-size group homes emerge as the placements typically for the more troubled youth in child welfare, juvenile justice, and mental health systems (Lee & Thompson, 2008), and youth who step up from less restrictive settings due to psychiatric or substance abuse problems, or youth who step down from inpatient psychiatric hospitals (Duppong Hurley et al., 2009). As the most restrictive setting below inpatient hospitals, residential treatment centers typically are large-scale, 24-hour facilities that provide intensive treatment for children and youth with severe behavioral and emotional disorders, limited community support systems, and risks for danger to self or other (Foltz, 2004; James, Landsverk, Leslie, Slymen, & Zhang, 2008). While differences in these various placement options are common child welfare knowledge, they have not necessarily translated into the nuances in the placement decision-making process.

The disconnection between placements and needs is underscored by the dearth of child-level clinical data that allows for linkage to modeling of placement decisions (James et al., 2004). Child behaviors as a precipitant of placement moves are likely to become more common the longer the child remains in care (James et al., 2004). Further, a child's psychosocial functioning as a criterion for placement decisions has been inconsistently used (Doran & Berliner, 2001), likely due to the unclear thresholds of behavioral problems appropriate for different out-of-home placements while the child is in care (Curtis, Alexander, & Lunghofer, 2001).

Thus, child welfare is faced with the dilemma in which matching out-of-home placements with clinical needs is both a challenge and a necessity. There is a paucity of research that exists in this area (Fields & Ogles, 2002). If the relationship between restrictiveness of care and level of functioning is non-existent, then it is nearly impossible to justify the use of restrictive settings such as group or residential care in the first place (Fields & Ogles, 2002). In a comprehensive review of empirical studies on the association between restrictiveness of treatment settings and child's functioning (e.g., Child Behavior Checklist [CBCL]), the strength of this association varied from moderate to strong, especially in more recent studies (Fields & Ogles, 2002). For example, in one study, a positive association was found between aggressive disorders and restrictiveness; in another study, more restrictive placements tended to have more severe behavioral and emotional ratings, with the differences most profound at opposite ends of the continuum of care (Fields & Ogles, 2002). Although these selective empirical data suggest that placement case mixes are relatively consistent with clinical needs in extreme cases, it is still unclear how the placement decision-making process can facilitate and ensure this consistency across all placements in a standardized manner.

A second implication is that out-of-home placements as treatment settings can be as important as the treatments for particular problems. Although child welfare agencies may be limited in their ability to directly address children's behavioral issues coming into care, they might be able to use better standardized assessments to directly match children's behavioral issues with the appropriate level of care (Crea, Wildfire, et al., 2009). For example, services at a residential institution are expected to be vastly different from services at a foster home. Recent state child welfare policies, however, have begun to enable lower levels of care to treat the more severely disturbed children, provided the appropriate services are available (Los Angeles County Department of Children and Family Services, 2009; Wisconsin Department of Children and Families, 2011a, 2011b).

In addition to these internal callings from child welfare practitioners and researchers to improve the goodness-of-fit between placements and needs, there is also external pressure from managed care to characterize case-mix groups based on clinical profiles, needs, and associated costs through level-

of-care schemes (Uehara, Srebnik, & Smukler, 2003). This movement towards accountability is not surprising given the use and linkage of administrative child welfare data, Medicaid claims data, and state financial report data to categorize program and service types (Rubin et al., 2004). As costs, expenditures, and revenues are inherently tied to types of out-of-home placements, without knowing the intensity of services provided at these placements, it will be difficult to assess the financial impact on consumers, providers, payers, and state systems. For example, the National Association of State Mental Health Program Directors Research Institute (2010) relies on accurate categorizations and descriptions of placements and services to generate the child welfare portions of state profile reports on expenditures and revenues. These data inform state child welfare policymakers on the differences in financing across placement types, and provide a glimpse into the complex cost-benefit analysis for out-of-home placement options.

VIABLE MODELS OF PLACEMENT DECISION-MAKING IN CHILD WELFARE

As there is enough evidence that highlights the critical relationship between appropriate placements for appropriate treatment needs, it becomes clear that improving placement decision-making by standardizing clinically focused placement criteria can directly fortify this relationship. Blakey et al. (2012) illustrated the disproportionately small number of states that either utilizes systematic placement units or assessment tools to place children who are in care. Since serving a child's best interest is the foundation of child welfare practice, the safety and risk assessment is a main reason for using assessment tools to determine appropriate placement options at the outset of a child welfare care (Bay Area Social Services Consortium, Bay Area Social Services Consortium, 2005, 2007; Rycus & Hughes, 2005). In identifying current and predicting future risk of maltreatment, there are well-researched decision support tools that fall under the broad categories of actuarial or consensus tools (Bay Area Social Services Consortium, 2005). Overall, despite concerns about fidelity and consistency of usage by caseworkers, actuarial tools that statistically predict probability of a future event using weighted factors in a decision-making model are generally more superior in validity, consistency, and reliability, than consensus-based tools that rely on shared clinical judgment (Rycus & Hughes, 2005). This finding in the child welfare literature corroborates with the classical comparison between actuarial approach versus clinical judgment initially postulated by Dawes, Faust, and Meehl (1989).

The progress made in initial and ongoing risk assessment has benefitted assessment specifically for out-of-placement decision-making. As presented below, there seems to be two main placement decision-making approaches

in child welfare: (1) multidisciplinary team decision making; and (2) using a decision support algorithm based on clinical ratings. Additionally, to help advance the field, (3) the mechanisms from select decision-making models in related fields such as adult mental health, substance abuse, nursing, and decisions science will be discussed regarding their transportability potential in child welfare placement decision-making.

Multidisciplinary Team Decision-Making

The child welfare movement toward multidisciplinary team decision-making seems to stem from the growing concerns about the quality and reliability of placement decision-making (Bickman et al., 1997). Through better assessments to match behavioral problems with the appropriate level of care, team decision-making can provide better gatekeeping of out-of-home placements to prevent adverse placement outcomes (Crea, Wildfire et al., 2009). Historical literature highlights the advantages of pooled expertise of team members over individual knowledge in decision-making (Steiner, 1966), including increased diversity of perspectives on the referred children, and decreased individual discretion in decision-making (Jones, 1993; Yoshida, 1983). This shift of paradigm is evidenced in landmark education reforms such as the individualized education plan (IEP) program. When teams include the to-be-placed children in the decision-making process, it empowers children to be part of the conversation that determines their future. For these purposes, the Children Act of 1989 and the United Nations Convention on the Rights of the Child both proposed such child inclusion (Bass et al., 2004; DeMuro & Rideout, 2002; Leeson, 2007; Lewandowski & GlenMaye, 2002). Empirical data suggest that team decision-making also facilitates linkage and referral of mental health services better than individual decision-making as usual (Weigensberg, Barth, & Guo, 2009). However, there are limitations to the expert consensus approach, especially in making decisions at "major decision points" such as placement decisions, which require the highest standards and formal methods (Munro, 2005). For example, cognitive bias and errors, such as favoring confirmatory information about a child and rationalizing disconfirmatory information, developing false beliefs in associations between variables (without any statistical or empirical basis), could interfere with decision-making (Benbenishty & Chen, 2003; Dawes et al., 1989; Gambrill, 2005; Monnickendam, Savaya, & Waysman, 2005; Munro, 2005; Rycus & Hughes, 2005). Additionally, placement decision-making, whether team- or individual-based, is subject to external influences such as overwhelming caseloads and pressure to make a decision on crisis placement (Doran & Berliner, 2001; Jones, 1993; Knapp et al., 1987).

Nevertheless, multidisciplinary team decision-making is a popular approach among state child welfare systems in addressing placement moves and placement decision-making (Blakey et al., 2012). For example, there are

specific team decision-making mechanisms in state departments of California (Los Angeles County Department of Children and Family Services, 2009), Hawaii (Daleiden, 2004), Illinois (Illinois Department of Children and Family Services, 2010), and Wisconsin (Wisconsin Department of Children and Families, 2011a, 2011b), though they have not been systematically studied. Further, since 1992 the Annie E. Casey Foundation's Family-to-Family initiative has been implemented in more than 60 child welfare agencies in 17 states with a large degree of consistency in implementation fidelity and adherence indicators (Crea, Usher, & Wildfire, 2009). In particular, their team decision-making (TDM) strategy involves not just foster parents and caseworkers, but also birth families and community members in all placement decisions to establish a network of support (Annie E. Casey Foundation, 2002). TDM meetings are convened whenever any placement change is contemplated, to prevent disruptions and unplanned moves in placement, and to ensure all less restrictive options are exhausted before considering a more restrictive setting (Annie E. Casey Foundation, 2002). Thus, these core principles of multidisciplinary team decision-making address issues regarding out-of-home placement proactively, consider the wide-ranging factors that contribute to a placement decision with the help of multidisciplinary expertise, and most importantly, value the fact that the child and the family are experts in placement needs.

The theory of change behind the TDM model suggests that the quality of the decision-making process directly influences out-of-home placement recommendations and associated outcomes (Crea, Wildfire, et al., 2009). The focus on relating placement decision-making with outcomes in child welfare (Lyons, 2004) has encouraged implementation and empirical studies of the TDM in recent years. First, longitudinal placement data in Colorado, Ohio, and Alaska showed that in the years following the implementation of the TDM, there was a general decrease in the proportion of initial placements in institutional care and an increase in family-like settings across sites, and an overall decrease in the number of children entering care (Crea, Crampton, Abramson-Madden, & Usher, 2008). Second, analysis of TDM administrative data across sites found that more than half of the birth parents attended TDM meetings that involved change of out-of-home placements and that children were twice as likely to attend change-of-placement meetings than in removal-from-home meetings (Crea, Usher, et al., 2009). From the service provider side, guardians ad litem and court-appointed special advocates attended most of the change-of-placement meetings; from the child welfare agency side, ongoing caseworkers attended most of the change-of-placement meetings (Crea, Usher, et al., 2009). Further, in establishing the relationship between TDM and placement outcomes, the presence of a foster parent or a relative caregiver in TDM meetings significantly lowered the odds of a recommendation for a placement change; the duration of a child using the TDM model significantly increased the odds of a recommendation for a less

restrictive placement. However, African American children and the number of friends and neighborhood supports in attendance significantly decreased the odds of a recommendation for a less restrictive placement and for a placement with the same level of restrictiveness, which suggested that racial minority consideration and social support do not necessarily ensure the least restrictive setting principle is implemented by the teams (Crea, Wildfire, et al., 2009). Collectively, these empirical data attest to the feasibility and viability of the multidisciplinary team decision-making model as related to changes in out-of-home placement across the continuum of care. However, these data also point to the complex permutations of factors within a well conceptualized and implemented model, including the number of attendees in the decision-making process and who the attendees are, as well as demographic characteristics of the children.

While multidisciplinary team decision-making in child welfare is not a novel concept, its implementation is new in some jurisdictions. For example, since 2005, the Illinois Department of Children and Family Services (2010) has implemented the Child and Youth Investment Team (CAYIT) as the multidisciplinary decision-making mechanism to manage placement moves of children in Illinois state custody. The CAYIT is a regionally based, multidisciplinary team consisting of designated IDCFS staff and professionals and others who have relevant information about the child seeking a placement change. Most importantly, children who are age 12 years or older are expected to participate unless deemed clinically inappropriate. Similar to the Annie E. Casey Foundation's TDM, the CAYIT serves a critical function in recommending a less restrictive placement, a more restrictive placement, or a change of placement on the same level of care depending on the triggers for the CAYIT staffing (Illinois Department of Children and Family Services, 2010). Similarly, since 1997, the Georgia Division of Children and Family Services has implemented the First Placement Best Placement (FPBP) initiative, which requires multidisciplinary team staffing to recommend and justify a placement (Georgia Department of Human Services, 2003). Since the FPBP team recommendations are not binding on the public agency, the teams are able to conduct tailored child and family assessments. Children not placed per the FPBP team recommendations have shown a significantly greater propensity towards placement disruption (Doran & Berliner, 2001). In other states, the use of multidisciplinary teams extends beyond initial placement to include ongoing placement and service planning until permanency, finalized adoption, guardianship, reunification, and emancipation. This is evident in West Virginia (West Virginia Legislature, 2011), Florida (Children's Network of South Florida, 2007), and Iowa (e.g., Clinical Assessment and Consultation Teams that assess children's eligibility for rehabilitative placements [Doran & Berliner, 2001]). These state-implemented team decision-making models share an emphasis on the assessment of a child's clinical needs as a requirement prior to making a placement recommendation

(Children's Network of South Florida, 2007; Doran & Berliner, 2001; Illinois Department of Children and Family Services, 2010; West Virginia Legislature, 2011).

Despite the growing trend in child welfare to utilize multidisciplinary team decision-making, there are several caveats. First, in a review of more than 1,800 hypothetical case readings, defining team consensus across contexts can be difficult, even among child welfare experts and social workers (Schuerman et al., 1999). Second, with the exception of states that have a long history of implementing team-based decision-making, implementing large-scale team decision-making in practice from the ground up can be challenging, for example, due to limited resources and funding (Crampton, Crea, Abramson-Madden, & Usher, 2008; Doran & Berliner, 2001). Third, coordinating the multidisciplinary decision-making process that involves as many key stakeholders as possible can be onerous, considering the variation in the timing and frequency of the meetings, and the diverse composition of teams within the same decision-making initiative (Crea, Usher, et al., 2009).

Decision Support Algorithm

In light of the absence of placement criteria and the importance of matching a child's needs with the appropriate placement, best practice in placement decision-making hinges on the use of clinical assessment and level-of-care criteria (Doran & Berliner, 2001) that are needs- and strengths-centered, rather than diagnosis- or history-of-service-based (Lyons & Abraham, 2001). Clinical assessment is not only crucial to the team decision-making model, it is also the basis for major decision support algorithms in placement decision-making that makes use of level-of-care criteria. Specifically, in child welfare placement, an algorithm is "a logical set of criteria that describes the clinical characteristics of children and families that would be best served by the available decision options relevant to the algorithm" (Lyons, 2004, p. 158). A conventional approach to developing a decision support algorithm involves three stages: defining a continuum of care, defining level-of-care criteria or indicators of needs, and constructing an algorithm that links the criteria to different levels of care (Durbin, Cochrane, Goering, & Macfarlane, 2001; Srebnik, Uehara, & Smukler, 1998). Focus groups comprised of administrators, researchers, mental health providers, case managers, and social workers often assume the development responsibility, as evidenced in Illinois, Ontario, Canada, and Washington state (Durbin et al., 2001; Lyons, 2004; Srebnik et al., 1998). Typically, levels of restrictiveness are standard across placement agency databases, though variability exists (Crea, Wildfire, et al., 2009).

In practice, however, there are few decision support algorithms that are based on clinical assessments and placement guidance (Srebnik et al., 1998). In the past, Match and Match II were examples of decision support tools with good discriminant validity that targeted consistency of placement decision-

making by standardizing established admission criteria from more than 100 descriptors of admitted children to various placements (Schwab, Bruce, & Mcroy, 1984; Schwab et al., 1986). Placement Consultant for Child Welfare (PLACECON) was developed after Match I and Match II as an experimental "expert system" that delineated the placement planning thought process of a child welfare worker by means of a decision tree and "if-then" statements (Schuerman & Vogel, 1986). Using a placement knowledge database of rules, PLACECON allowed users to enter data and answer logical questions about a specific placement problem throughout the life of a case (e.g., subsequent placement alternatives). It asked users for facts needed to make a placement recommendation (e.g., long term placement needed?). Questions about how and why a specific placement was derived could be answered by PLACECON's rules, facts, and the probabilities associated with the particular conclusion (Mutschler, 1990). In recent child welfare history, there has been scant evidence that decision support algorithms built upon clinical assessments have been consistently implemented in state child welfare systems. Doran and Berliner (2001) summarized the four possible combinations of clinical assessment and level-of-care criteria used by states: (1) Formal assessment with level-of-care criteria (e.g., Tennessee, California); (2) Formal assessment without level-of-care criteria (e.g., Georgia, Texas); (3) Level-of-care criteria without formal assessment (e.g., Arizona); and (4) No formal assessment and no level-of-care criteria. Although each state system has its idiosyncrasies that might explain the difficulty in implementation, variability in the implementation efforts, feasibility, and sustainability are important concerns. For example, in California, there was some concern that the "sophisticated match between a child and a facility envisioned was highly unlikely to occur" (Doran & Berliner, 2001, p. 14).

Given the lack of available decision support algorithms to operationalize placement criteria and to assist placement decision-making, it is important to examine those that have been in use to help advance the field:

1. *Child and Adolescent Needs and Strengths (CANS) Algorithm.* In Illinois, the CANS 1. Algorithm is built upon clinical ratings on the CANS measure, which assesses a child's functioning from the time the child enters Illinois state custody over time across various Illinois Department of Children and Family Services (IDCFS) programs and placement such as residential care (Weiner, Schneider, & Lyons, 2009). Information gathered in the CANS assessment determines the recommended level of care (Lyons, 2004; Weiner et al., 2009). The CANS Algorithm is an advisory tool to Illinois DCFS' multidisciplinary team decision-making. Focus groups comprised of IDCFS policymakers, mental health services researchers, community providers, and clinicians developed the specific level-of-care criteria (e.g., CANS items and rating thresholds). The CANS Algorithm can recommend one of six levels of care of increasing restrictiveness: independent living

option, transitional living program, foster care (i.e., foster home), specialized foster care, group home, and residential treatment center. Because of the CANS' reliability and field validity in its eight clinical domains and additional domains on caregivers' needs and strengths (Anderson, Lyons, Giles, Price, & Estle, 2003; Lyons, 2009; Lyons, Rawal, Yeh, Leon, & Tracy, 2002), the CANS Algorithm demonstrates high decision validity in terms of concordance with expert recommendations for residential placement and consistency with standard practice (Lyons, 2009). Additionally, in a preliminary analysis of children who are placed in residential treatment centers, outcomes differences in emotional needs and risk behaviors were reported over time, favoring children who were in the concordant group rather than the discordant group (Chor, McClelland, Weiner, Jordan, & Lyons, 2012).

2. *Child and Adolescent Level of Care Utilization System (CALOCUS)/Child and Adolescent Service Intensity Instrument (CASII)*. The CALOCUS/CASII consists of eight clinical dimensions: risk of harm, functionality, co-morbidity (psychiatric, substance abuse, development disability and medical), environmental stressors, environmental supports, the child's resiliency, and the child and family's willingness to engage in treatment (Sowers, Pumariega, Huffine, & Fallon, 2003). The CALOCUS/CASII links clinical ratings with one of six standardized levels of care: recovery maintenance and health management, outpatient services, intensive outpatient services, intensive integrated services, non-secure, 24-hour psychiatric monitoring (including group home or residential facility), and secure, 24-hour psychiatric monitoring (Sowers et al., 2003). When tested at four sites in four states, the CALOCUS/CASII demonstrated excellent reliability when using clinical vignettes (Fallon et al., 2006). When using children and adolescents in live system of care clinical settings, the CALOCUS/CASII demonstrated reasonable validity when compared with the Child Global Assessment Scale and the Child and Adolescent Functional Assessment Scale (Fallon et al., 2006). CALOCUS/CASII has been available since 1999 (Sowers et al., 2003) and is used by the Arizona Department of Human Services to determine service intensity for children entered into care.
3. *Level of Care Assessment (LCA)*. The LCA instrument matches the assessed needs of abused and neglected children in out-of-home care with specific types of placements. As a result of a legislative mandate, the California Department of Social Services pilot tested the LCA in 10 county child welfare agencies, with the ultimate goal of developing an assessment tool that would facilitate child welfare worker decision-making regarding where a child in need of out-of-home care should be placed (Courtney, 1998). A work group consisting of state child welfare department staff, county-level child welfare and probation department personnel, and a university-based researcher developed a number of child behavior descriptors from a commonly used child behavior profile in use in Texas,

and other items that were based on the combined experience of the work group (Courtney, 1998). The LCA consists of items on child characteristics (e.g., demographic information, placement history), family characteristics (e.g., perceived parental availability and cooperativeness), child's internalizing and externalizing behavior at the time of the placement (from a 13-item internalizing scale and 25-item externalizing scale similar to the internalizing and externalizing dimensions of the Child Behavior Checklist), and information about the placement worker's ideal placement for each child in need of placement, and the child's actual placement, ranging from treatment foster care home, group home facility, or foster family home or kinship foster home (Courtney, 1998). Pilot testing of the LCA has shown validity and reliability based on child welfare workers' assessments of child behavior (Courtney, 1998). Using regression analyses, placement workers' odds for preferring treatment foster care and group home facilities over traditional foster care were predicted by significant behavioral ratings (Courtney, 1998).

Across these three decision support algorithms designed for child welfare placements, several shared themes emerge. First, standardized clinical assessments are the building blocks for any feasible decision support algorithms. Second, a key function of a decision support algorithm is to link clinical assessments with placement criteria, whether it is through defining thresholds and selecting key items (e.g., CANS Algorithm, CALOCUS/CASII) or through clinical dimensions from other measures (e.g., LCA). Third, decision support algorithms should be tested and validated so that fulfillment of different placement criteria matches different types of out-of-home placement and predicts differential outcomes. The extensive groundwork in validating decision support tools in risk assessment, which guides the selection and application of tools at different stages of a child in care (Bay Area Social Services Consortium, 2005), provides further evidence that matching clinical needs with the appropriate placement must also occur throughout a child's journey in care.

Decision-Making Models From Other Fields

While the tenets of a decision support algorithm for child welfare placement are important, they have not been standardized across state systems. It is important that the child welfare field expand its placement decision-making knowledge base from other disciplines. Although the target populations and their conditions and symptoms experienced are significantly different in these disciplines, child welfare can benefit from the innovative elements and mechanisms in these disciplines from the perspective of decision-making. Below are placement decision-making models that have been tested and implemented in varying degrees in adult mental health, substance abuse,

nursing, and decision science. Their relevance to placement decision-making in child welfare is highlighted:

Adult mental health

In Ontario, Canada, the Ministry of Health of Ontario commissioned the development of a continuum of levels of care, development of criteria and decision rules, and comprehensive needs assessment (Durbin et al., 2001). The planning model defined five levels of care representing increasingly intensive and more restrictive supports and six clinical domains from the Colorado Client Assessment Record (Durbin et al., 2001). This placement algorithm considered patients' level of risk and level of severity and patients' strengths and protective factors (Durbin et al., 2001). To be consistent with mental health reforms, severity and risk thresholds for the highest level of care were the most narrow and difficult to reach compared to lower levels of care, and there were multiple pathways to the least restrictive setting in order to increase its use over more restrictive settings (Durbin et al., 2001). In a sample of 307 inpatients and 284 outpatients, the placement algorithm successfully redistributed inpatients into less restrictive care while maintaining outpatient distributions across the continuum of service levels; further, the placement algorithm was validated by independent indicators of service need and severity indicators such as prior hospitalizations, which were both positively correlated with the intensity of the levels of care recommended by the placement algorithm (Durbin et al., 2001).

In Washington State, the Level of Need-Care Assessment (LONCA) was field-tested in a random sample of 1,034 adults from one county mental health system with severe and persistent mental illness (Srebnik et al., 1998). Panels of clinical managers and agency administrators developed four clinical domains of placement criteria based on the 22-item Problem Severity Summary scale that factored into eight levels of care (Srebnik et al., 1998). The LONCA demonstrated strong inter-rater reliability among case managers and proportions of placement that resulted in low rates in brief intervention and residential care; further, the LONCA demonstrated concurrent validity with independent clinical indicators such as psychiatric hospitalizations, arrests, and residential moves in the expected direction (Srebnik et al., 1998).

In Missouri, in an effort to use community residential facilities as alternatives to inpatient psychiatric care, the state mental health system designed the Missouri level-of-care instrument (MLC) to help utilize eight broad levels of care (Kramer, Massey, & Pokorny, 1990). The MLC contained specific questions about patients' behavior, psychiatric symptoms, living skills, and medical and security needs. Disciminant analysis of placements made using the MLC correctly predicted placement type for 57% of the 778 patients, with the strongest prediction for Apartment placements. Overall, the discriminant solution correctly predicted the recommended placements for 43% of the validation sample (Kramer et al., 1990).

Substance abuse

The American Society of Addiction Medicine constructed the Patient Placement Criteria to match alcoholism patients to recommended levels of care (Magura et al., 2003). The criteria consisted of the most prominent set of professionally developed guidelines for matching addiction patients to suitable levels of care. In a sample of 248 alcohol dependent or abusing at New York hospital, patients matched to recommended levels of care were associated with less alcohol use at follow-up than those under-treated per the criteria; further, there was a significant expert overlap between the algorithm recommendations and clinicians' recommendations (Magura et al., 2003).

Nursing

Six patient assessment systems with explicit decision criteria for replicating team judgments on level of care were compared in a sample of 679 older adults, nursing home residents in New York State (Foley & Schneider, 1980):

- Two additive logic screening instruments (i.e., decision rule on level of care is based on selected threshold values for total points assigned to various patient descriptors):
  - Long-term Care Program Placement Review Form, Colorado Foundation for Medical Care, and
  - New York State DMS-1 Patient Assessment Form;
- Two maximum need logic instruments (i.e., decision rule on level of care is based on the maximum indicated level in some dimension of the patient's need):
  - Sandoz Pharmaceuticals System, and the
  - Massachusetts Long-term Care Algorithm; and
- Two multiple contingency instruments (i.e., decision rule on level of care is based on dual consideration of a total score and scores in patient need dimensions):
  - Illinois Evaluation of Need for Care, and the
  - New York Department of Mental Hygiene Level of Care Survey (Foley & Schneider, 1980).

Results showed that the agreement between the six algorithms on the recommended levels of care for the same sample was better than random, though the agreement was not high. Thus, the level of agreement was acceptable given the diverse nature of the algorithms, yet it was low considering the implications for planning and regulation of long-term care facilities on the national level (Foley & Schneider, 1980).

Decision science

Multiple Criteria Decision-Making (MCDM) is a function of analysis, measurement, and search for multiple criteria aimed at managing, resolving, or dissolving the conflict of trade-offs in any decision-making environments (Zeleny, 2011). Decision-making becomes a complex, reiterative process of selecting criteria (and their measures), determining alternative options, collecting and processing information, reconsidering criteria, alternatives, and information, until a decision has been reached (Zeleny, 2011).

MCDM has been examined in different disciplines of economics, management sciences, business, and technology research. In technological and economic projects (e.g., purchasing an office building), applicable alternatives are developed. Then the criteria of attributes in analyzing the alternatives are established. Based on experts' judgment, the weights of the criteria are determined and the concordance of expert judgments is validated. Weights can be calculated using a variety of methods (e.g., methods of similarity to ideal solution, simple additive weighting, multiple criteria complex proportional assessment of alternatives) to determine the preference order of alternatives (Ustinovichius, Zavadskas, & Podvezko, 2007). In forest management and planning, there is an extensive use of MCDM and its subsidiary techniques (e.g., multi-attribute value theory, multi-attribute utility theory, analytic hierarchy process) to assist decision-makers to evaluate different criteria (from non-linear, discrete, to linear) and to construct their preferences on available alternatives (Ananda & Herath, 2009). In the contemporary trend of migrating intelligence from internet networks to mobile devices, MCDM is used to help users optimize criteria (e.g., quality of service, execution duration per alternative, and cost of the alternative) and select handover and protocol stack reconfiguration alternatives (Spapis, Patouni, & Alonistioti, 2009).

Lessons learned from other fields on decision-making

There are several lessons child welfare placement decision-making can learn from these disciplines individually and collectively that make use of a decision support algorithm:

1. Adult mental health: Since no two children end up at the same placement for the exact same reason under the same circumstances, child welfare placement decision-making should explore multiple pathways to the least restrictive settings that adult mental health decision-making advocates. Placement criteria can be constructed to allow for different permutations and combinations of factors that contribute to a particular placement decision. Also, decision-making tools with concurrent validity and predictive validity with clinical indicators will make important contributions to each stage of a child welfare case.

2. Substance abuse: Comparisons of existing decision-making models in substance abuse treatment provided important implications on treatment planning. Decision data from expert clinical judgment and decision support algorithms create valuable opportunities for naturalistic experiments and for informing current practice using predicted outcomes. State child welfare systems often roll out innovative initiatives to improve decision-making in child welfare (e.g., TDM). Preliminary work in this area using decision data from these innovative initiatives compared to routine or existing practices can provide a deeper understanding of placement decision-making (Chor et al., 2012). Also, agreement and disagreement between decision-making models, and their impact on child welfare outcomes, also deserve a better understanding due to the lack of relevant literature (Chor et al., 2012).
3. Nursing: Historically, placement decision-making in nursing used a wide variety of decision logics. Comparatively, there are few options for decision-making models in child welfare besides risk assessment. Specifically, additive logic, or translation of empirical research findings into simple decisions tools, can benefit placement decision-making in child welfare (Rycus & Hughes, 2005). It is important that child welfare explore empirical methods for determining the best out-of-home placement and subsequent placement changes while the child is in care.
4. Decision science: In any dynamic, decision-making environment, it is rare that the best option is attainable. Finding alternatives is equally important. Thus, in addition to finding the best needs-based placement, it seems important to determine the next best placement given the variables that could interfere with securing the best placement. In this regard, child welfare placement decision-making can learn from the MCDM by continuously refining placement criteria and clarifying placement alternatives such that each alternative placement can be prioritized and evaluated in terms of key attributes.
5. Overall: Decision support algorithms can be simple (e.g., total scores) or complex (e.g., multiple criteria decision making methodology) depending on the context and the need of the decision-making process. This versatility could potentially be tailored to the diverse needs of different child welfare systems. Child welfare should move towards crafting context-specific placement criteria and constructing decision support algorithms, and focus less on standardizing a universal placement decision-making model across systems.

Additionally, a decision support algorithm needs to be associated with reliable and valid assessments of factors associated with its intended purpose. In order to maximize its utility, a decision support algorithm must rely on valid input from decision-makers. This speaks to the inherent interdependence between clinical and actuarial tools (Dawes et al., 1989), and the

fact that the effectiveness of any tools can be compromised by inappropriate and inconsistent usage by decision-makers (Rycus & Hughes, 2005).

Further, difficulty in the implementation and sustainability of decision support algorithms is common across decision-making environments. However, this does not diminish the viability or utility of a decision support algorithm. Rather, key literature in innovation adoption (Aarons et al., 2011; Greenhalgh, Robert, Macfarlane, Bate, & Kyriakidou, 2004) would suggest that buy-in from target adopters from frontline caseworkers to agency administrations must be achieved before any enhancement or modification of current practice can be implemented with an acceptable level of fidelity.

SUMMARY

In the past two decades, with the emergence of child welfare laws and an awareness of the detrimental effects of long-term care in state custody, the child welfare population has decreased in size and in length of stay accordingly. However, children are entering care at a younger age and placement instability is a persistent issue. While child welfare literature has made tremendous strides on evidence-based treatments and the mutual influence of placement stability and child welfare outcomes such as functioning, permanency, adoption, or reunification, there is an overlooked gap in the pivotal role of out-of-home placement decision-making as a precursor to these outcomes. Thus, placement decision-making is a complicated process, as it is the culmination of a wide array of factors that contribute to a child's placement (e.g., placement availability, caregivers' preferences, administrative requirements, funding guidelines). Additional challenges include the pressure to place children efficiently, the inflexible use of the least restrictive setting principle that might take away a child's opportunity to receive more restrictive but clinically appropriate care at the outset, and most importantly, limited consideration of the child's perspective. As a result, standard placement criteria of out-of-home placement decision-making remain elusive. State data suggest that few child welfare systems address placement stability through the use of standardized assessment and placement-matching strategies. Unfortunately, a child's needs based on clinical functioning and behavior can be masked by the more obvious circumstantial contributing factors (e.g., caseworkers' attributes, a child's placement history, availability of placement, caregiver's preferences) towards placement decision-making.

Matching out-of-home placements with clinical needs can explicitly restore a clearer direction and a focus on the best interest of the child in placement decision-making. The continuum of care from the least restrictive (e.g., independent living options) to the most restrictive (e.g., residential treatment center) generally corresponds to an increase in intensity of treatment and services. Thus, out-of-home placements themselves can be as

important as the treatments that are tailored to particular problems while a child is in care. There is also external pressure from managed care and financial accountability to characterize case-mix profiles based on placement types, and associated costs through level-of-care schemes.

In the movement towards linkage of child's needs to placements, two viable decision-making approaches emerge: multidisciplinary team decision-making and the use of a decision support algorithm. Empirical data in the team decision-making literature in child welfare suggest that this model can lead to relevant outcomes such as a decrease in the use of restrictive and costly placements, an increase in caregivers' and children's participation in the decision-making process, and a decrease in inappropriate placement changes. Despite the feasibility and viability of the multidisciplinary team decision-making model, its implementation varies by jurisdictions. Examples include Illinois' Child and Youth Investment Teams (CAYIT), Georgia's First Placement Best Placement (FPBP) initiative, and also general team decision-making modalities used in West Virginia, Florida, and Iowa. Decision support algorithms are generally founded on clinical ratings on valid, reliable measures to inform level-of-care criteria. Examples include the Child and Adolescent Needs and Strengths (CANS) Algorithm, the Child and Adolescent Level of Care Utilization System (CALOCUS)/Child and Adolescent Service Intensity Instrument (CASII), and the Level of Care Assessment (LCA). Further, the variety of decision support algorithms in adult mental health, substance abuse, nursing, and decision science can help inform the construction and application of decision support algorithms in child welfare.

Policy and Research Implications

This overview illuminates the juncture at which placement decision-makers, including caseworkers, practitioners, researchers, and policymakers should recognize the missing pieces in the landscape of child welfare placements. The following questions stemming from this overview are germane to relevant policy and research implications:

1. *What are the differences and similarities among the different types of out-of-home placements?* Although common knowledge and conventional wisdom in the field suggest that decision-makers are aware of the distinct natures and purposes of various out-of-home placements, yet the mismatch between a child's needs and a placement continues to complicate the feedback loop of placement instability and unfavorable outcomes. Policy- and decision-makers can, therefore, benefit from appreciating the nuances between and within placement types. While level of care is a useful, guiding concept, the child welfare field must make further efforts to understand the nuances between the least and the most restrictive settings. Research to date tends to examine a specific level of care. Future

research should consider comparisons between levels of care in order to appreciate the challenges placement decision-makers face in choosing one placement versus another for any given child.

2. *How can advancing the knowledge of out-of-home placements improve the delivery of treatments and services?* The continuum of care implies a continuum of intensity in treatments and in services. However, how the intensity of placement interacts with the intensity of treatments and services is not entirely clear. For example, a child with serious behavioral and emotional needs who has a strong relationship with his foster parents might benefit from intensive community services in his foster home, as opposed to a residential placement that can address severity of his symptoms yet remove the protective factor of the relationship. Circumstances like this are likely to steer a placement recommendation towards foster home rather than a residential setting. Precisely for this reason, multidimensional treatment foster care (MTFC) has not only been effective in treating children with severe behavioral problems, but it has also enabled the children who might otherwise be placed in residential settings to remain in the community (Chamberlain, Brown, & Saldana, 2011). Thus, decision-makers should make an informed judgment based on the combined effects of placement restrictiveness and intensity of services (Lyons & Abraham, 2001; Weiner, 2009). For example, decision-makers should make explicit their rationale for recommending any of these possible combinations: high/low placement restrictiveness with high/low intensity of services. With the promising findings in MTFC, future research should explore other effective child welfare-focused interventions that can be delivered in community settings, so that placement in restrictive setting is not singly dictated by the complexity and severity of a child's problems.
3. *How can standardized criteria and valid, reliable assessments bridge the gap between a child's needs and the appropriateness of a placement?* This overview illuminates a critical factor that is often undermined in the placement decision-making process, which is the accurate measurement of a child's clinical needs. Although no one single factor should ultimately determine the best placement for any given child, a clinical focus must be restored to clarify the ultimate goal of finding the best placement, that is, to provide a stable treatment environment until permanency, reunification, or adoption. When the decision-making process is dominated by the perspective of the system, such as following administrative guidelines, filling bed space of available placements, or aiming for efficiency of decision-making, the perspective of the child in terms of clinical needs can be overshadowed. Future research should expand the perception of a child's needs beyond clinical needs, as a child's perspective on placement moves and their overall experience with out-of-home placements is often overlooked in the decision-making process (Unrau, 2007).

4. *How can viable models of decision-making such as multidisciplinary team decision-making and the use of a decision support algorithm improve placement decision-making?* This overview presents exemplar models of placement decision-making both in child welfare and in other disciplines. However, there is a considerable lag in implementation efforts and sustainability despite promising empirical data. Perhaps an implementation science framework can help understand the use of evidence-based decision-making similar to the use of evidence-based treatment. For example, is cost, training, collective buy-in, or fidelity a concern? Decision-makers' resistance or receptiveness to these innovative models should be further explored in quantitative, qualitative, and mixed methods research. In child welfare, there is promising evidence that organizational frameworks such as the Availability, Responsiveness, and Continuity (ARC) model can address social context factors (e.g., organizational culture) on quality improvement of children's services (Glisson & Schoenwald, 2005). Additionally, qualitative and mixed methods have been used to understand service provider perspectives on the implementation of evidence-based practices in child welfare (Aarons & Palinkas, 2007), which should also incorporate evidence-based placement decision-making.
5. *How can the link between placement decision-making and child welfare outcome be strengthened?* There is a disconnect between child-level clinical data and placement data in child welfare (James et al., 2004). If placement decision-making can be treated as a proactive, preventive process as opposed to a reactive, remedial action, there is significant potential to demonstrate that improving placement decision-making can improve child welfare outcomes, including child well-being, and traditional indicators of child welfare success (e.g., reunification, permanency, adoption, length of stay in care). Indeed, a critical feature of using a decision support algorithm is to demonstrate differential outcomes, such that following an algorithm-based recommendation should lead to better pre-identified outcomes than not following the recommendation (Lyons, 2004; Lyons et al., 2001). These explicit, divergent pathways from improving versus not improving an existing placement decision-making process need to be established in research. In return, empirical evidence on decision-making and child outcomes can inform child welfare systems to actively engage in placement planning and monitoring.

CONCLUSION

This overview shows that out-of-home placement decision-making has many areas of improvement and facets of policy and research implications. To advance the current state of placement practice and research, state child

welfare systems should approach out-of-home placement decision-making as an ongoing, ever-changing activity, and from an angle of prevention to better future child welfare outcomes. There are active ingredients in existing decision-making models, both expert-team judgment and decision support algorithms, that can help advance this agenda. Concurrently, child welfare policymakers and researchers can improve their work by extracting these active ingredients of placement decision-making in crafting placement protocols, and by examining the patterns of placement decisions made and their impact on child welfare outcomes.

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