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Program and Practice Elements for Placement Prevention: A Review of Interventions and Their Effectiveness in Promoting Home-Based Care

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Preventing unnecessary out-of-home placement for youth with behavioral and emotional needs is a goal of several public child-serving services, including child welfare, juvenile justice, and child mental health. Although a small number of manualized interventions have been created to promote family driven and community-based services and have empirical support, other less established programs have been initiated by local jurisdictions to prevent out-of-home placement. To synthesize what is known about efforts to prevent placement, this article describes the common program and practice elements of interventions described in 37 studies (published in 51 articles) that measured placement prevention outcomes for youth at risk for out-of-home care because of behavioral or mental health needs. The most common program elements across published interventions were program monitoring, case management, and accessibility promotion. The most common clinical practice elements for working with youth were assessment and individual therapy; for caregivers, problem solving skills were most frequently included; and family therapy was most common for the family unit. Effect size estimates for placement-related outcomes (decreased out-of-home placement, decreased hospitalization, decreased incarceration, and decreased costs) were calculated to estimate the treatment effectiveness of the interventions in which the program components and clinical practices are embedded.

Serving children and adolescents effectively in their homes and communities is a goal of many public youth care systems. For youth with mental health needs, the Child and Adolescent Service System Program (CASSP) established principles of care that call for accessible, community-based services with family supports and involvement so that youths can remain in their homes and communities (Stroul & Friedman, 1986). In the child welfare system, the principle of least restrictive placement mandated by the

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Adoption Assistance and Child Welfare Act of 1980 (PL 96–272) further underscores the importance of allowing youth to remain in their natural home environments with their families whenever possible. Even juvenile justice interventions have become more home and community based in an effort to keep youth connected to their families and communities (Brown, 2012; Greenwood, 2008).

This emphasis on family care in lieu of out-of-home placement has not surprisingly coincided with a decreasing incidence of placement. In 2000, there were 552,000 youth in out-of-home care in the child welfare system, compared with only 408,425 youth placed in out-of-home care 10 years later, representing a decrease of more than 25% (Child Welfare Information Gateway, 2012). Mental health placements have similarly declined in both number and duration (Case, Olfson, Marcus, & Siegel, 2007). Additionally, data trends from the National Center for Juvenile Justice (2011) demonstrate that the number of youth in residential custody placements has decreased steadily over time; in 1997, 356 per 100,000 juveniles were in custody compared with 225 per 100,000 in 2010, a 37% decline.

Successfully maintaining youths in their homes and communities has advantages beyond maintaining the cohesiveness of the family unit. Preventing out-of-home placement is also associated with monetary savings. Although the costs for out-of-home placement vary by placement setting, overall placement costs are substantial. About one third of the $12 billion spent on child mental health services are for inpatient (out-of-home) care (Ringel & Sturm, 2001). Child welfare out-of-home care expenses have been estimated at $10 billion (Scarcella, Bess, Zielewski, Warner, & Geen, 2004). In juvenile justice, over $5 billion was spent in 2007 to provide residential placements for committed youth (Justice Policy Institute, 2009).

The costs of placing youth out-of-home may exceed the price of alternative diversion efforts. An evaluation by Washington State Institute for Public Policy found that Functional Family Therapy and Multisystemic Therapy (MST) offer alternatives to placement that are cost-effective when considering the total monetary benefits (Lee, Aos, Drake, Pennucci, Miller, & Anderson, 2012). In addition to the cost savings of in-home services, some evidence has suggested that out-of-home placement may be iatrogenic (Dodge, Dishion, & Lansford, 2006; Ryan, Marshall, Herz, & Hernandez, 2008), although findings have been mixed (Lee & Thompson, 2009).

The decision to place a youth in out-of-home care is often complex. Placement decisions have been conceptualized as being driven by clinical and safety needs of the youth, caregiver capacity, and service system factors, including the availability of alternative services and supports (Whittaker & Pfeiffer, 1994). In consideration of these constructs, preventing out-of-home placement would likely be promoted through addressing youth clinical and safety concerns, improving caregiver skills, and providing access to community-based resources. In this article, we explore the role of these constructs in existing research on placement prevention interventions.

In-Home Interventions

Because of the advantages of maintaining youth in-home, several interventions have been developed specifically to minimize the need for out-of-home placement. These in-home programs often promote the caregiver capacity to care for the youth in the home as well as equip the youth with skills and supports to be successful in their home environment. The scientific rigor supporting these efforts varies considerably. Some efforts have been rigorously tested in randomized clinical trials (RCTs) whereas other programs—often home grown through local practice wisdom held within an individual agency or setting—have been tested only using single-group designs. We briefly describe a few of the established placement prevention programs below.

One of the most prominent evidence-based manualized intervention protocols to prevent out-of-home placement is Multisystemic Therapy (MST). Multisystemic Therapy is an in-home intervention for youth with delinquent behavior (Henggeler, Melton, & Smith, 1992; Henggeler, Melton, Smith, Schoenwald, & Hanley, 1993), although it has also been used for youth experiencing psychiatric emergencies (Henggeler et al., 1997). MST is a family based intervention delivered by a clinician who works with a youth and family to promote positive interactions across multiple life domains including school, peers, community, and the home. The provider plays multiple roles with the family, serving as family therapist, mentor, and skills trainer to promote growth in youth and family functioning. This program has been recognized as a model program by *Blueprints for Healthy Youth Development*, Substance Abuse and Mental Health Services Administration's (SAMHSA) *National Registry of Evidence-based Programs and Practices* as well and by several other registries (e.g., the California Evidence Based Clearinghouse for Child Welfare). MST has been rigorously assessed with multiple randomized clinical trials and replication efforts around the world (Ogden & Hagen, 2006; Ogden & Halliday-Boykins, 2004). However, the body of evidence supporting MST is not without some controversy, as concerns have been raised about subjective outcome measurement, attrition reporting, and publication bias (Littell, 2005, 2008).

Family preservation interventions were developed for the child welfare system as intensive short-term, in-home services for families at risk of having one or more children removed. There are both "name-brand" (e.g., Home Builders, Intensive Family Preservation Services) and generic versions of family preservation services; however, most of these interventions have common program design characteristics, including case management, 24-hr on-call availability, brief services, and low caseloads for workers (McWey, Humphreys, & Pazdera, 2011; Nelson, Walters, Schweitzer, Blythe, & Pecora, 2009). Several reviews of the family preservation literature have been conducted. In a recent review of six empirical studies of family preservation, effect sizes ranged from small to large, with placement rates one year later ranging from 19%–51% (Nelson et al., 2009). However, the empirical literature supporting family preservation has struggled with ensuring that the samples are actually at risk for imminent placement, fidelity of the intervention, and lack of randomized assignment. As a result, there has been a call for increased knowledge building to identify the effective components of the intervention that are associated with success (Nelson et al., 2009).

Wraparound is a team-based process for planning and coordinating services for youth with behavioral and emotional challenges. In wraparound, a care coordinator facilitates a collaborative approach to goal-setting, planning, and service delivery that encourages family voice and choice, with reliance on natural supports within the family and community. In a national survey,

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88% of states reported having a wraparound program available with an estimate of almost 100,000 youth nationwide being served by wraparound (Bruns, Sather, Pullmann, & Stambaugh, 2011). Akin to family preservation, wraparound interventions draw on a wide array of specified techniques and vary in their fidelity to the wraparound model (Bruns, Sather, & Leverentz-Brady, 2006). Many studies of wraparound provide insufficient detail about the services youth and families receive (Suter & Bruns, 2009). Conclusions from a recent meta-analysis of wraparound that identified significant positive effects of the approach for maintaining family placement also acknowledged the wide variation in the quality of study design and outcome measurement (Suter & Bruns, 2009).

Home-grown interventions and initiatives to provide and promote in-home services have proliferated. State efforts to implement a family driven, youth-guided, and community-based service system have been evaluated to assess the effects on access to needed services and the use of out-of-home placement (Bickman, 1996). Scholars have described individual state initiatives of additional in-home service interventions that have been generated (Daleiden, Pang, Roberts, Slavin, & Pestle, 2010; Lindsey, Lee, & Sullivan, 2009; Woolston, Adnopoz, & Berkowitz, 2007). These interventions often include clinical components like crisis response, skills training, auxiliary individual or family therapy, mentoring, engagement in prosocial activities, and connections to community supports. Although these efforts have not been empirically tested in experimental designs that allow for attribution of causation, they are developed from widely held principles of effective treatment and a collection of clinical tools. The programs may also be fluidly structured to adjust to the constraints and opportunities of available local funding and personnel.

Barriers to Implementation

Despite the development and growing awareness of manualized evidence-supported interventions, there are notable barriers to implementation that hamper their adoption. For one, many of these programs are copyrighted and thus, the origination costs of these programs (in terms of financial and workforce issues for training, materials, and fidelity monitoring) can be prohibitive. These costs must be considered in planning for the implementation of any intervention model. Program-level activities like fidelity monitoring also require significant infrastructure and administrative capacity, which add to the costs of ongoing services and impede uptake of several of the interventions outlined above. Understanding whether there are core elements of these programs that can be taught and assembled into interventions that have a more generic quality could have the advantage of broadening the availability of evidence-informed models. At least, developers of new approaches will have the opportunity for a more informed selection of program components.

A second implementation challenge is related to the growing complexity of treatment approaches in interventions to reduce out-of-home placement. As outlined above, there is no shortage of interventions that aspire to reduce the need for out-of-home placement. Although having increased services options available to reduce placement is advantageous for the field, the increasing proliferation of available services creates a complexity problem that can serve as a barrier to successful implementation (see Chorpita, Becker, & Daleiden, 2007; Chorpita et al., 2011). Simply stated, with more and more treatment options available for therapists, the more difficult it becomes to know which treatments to select and administer.

Common Elements Approach

In response to this concern, Chorpita, Daleiden, and Weisz (2005) devised a methodology—known as the "distillation and matching model"—that identifies *common practice elements* (i.e., discrete clinical techniques or strategies) extrapolated from a larger set of related treatment manuals. Through this approach, the contents of a treatment manual can be "distilled," or separated into distinct techniques. The identified "common elements" may be presented to end users (e.g., therapists, service settings) for more feasible implementation. This common elements approach also lends itself to a modular approach to service delivery (e.g., Chorpita, 2012), allowing clinicians to individualize treatment content to match a specific client's needs. In a recent trial among clinic-referred youth with depression, anxiety, and disruptive behavior problems, the modular common elements approach was associated with significantly greater therapist likability (Borntrager et al., 2009), and significantly more favorable youth outcomes (Weisz et al., 2012), compared with both usual care and the standard manualized treatment approaches to service delivery. Given these demonstrated advantages associated with this approach, the distillation and matching model has more recently begun to be applied to other areas—such as treatment engagement—in efforts that are ongoing (Becker et al., 2013; Lindsey et al., 2013).

The Present Study

Despite the noted advantages of the distillation and matching model approach to identifying common elements among a complex array of service options, no efforts have yet aggregated and distilled information related to the available interventions to prevent out-of-home placement. The present study used the common elements framework to identify the clinical intervention practice elements and program elements that have been associated with preventing out-of-home placement for youth. Specifically, we pursued the following research questions:

1. What are the practice elements and program elements most commonly found in effective interventions for out-of-home placement prevention?
2. What are the effect sizes associated with interventions that use those common program and practice elements for outcomes specific to placement prevention?

Previous informal reviews of the literature describe existing interventions to prevent placement, including core activities and practices that are found across programs and protocols. However, no formal systematic reviews have yet been published in this area to fully understand the extent to which these practices overlap among efforts targeting placement prevention. To this end, we identified the practice elements and program elements described in empirical studies of placement prevention efforts. Although some manualized interventions (e.g., MST, wraparound) described previously have existing meta-analyses, these meta-analyses do not

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distill and aggregate by practices. Including studies of diverse placement prevention efforts rather than just single treatment protocols offers an advance in knowledge-aggregation across interventions to uncover the elements that are common among them and may have the greatest salience.

Method

Sample Selection

To identify eligible studies in the placement prevention outcomes literature, we searched for empirical articles that satisfied the following inclusion criteria: (a) published in peer-reviewed journals; (b) included an outcome related to successfully maintaining youth at home (e.g., a measure of placement prevention rate); (c) included a sample of youth whose ages ranged from 0–18-years-old; and (d) youth in the study exhibited problem behaviors, although an explicit *DSM* diagnosis was not required for inclusion. We defined problem behaviors broadly, including delinquent behaviors, attention issues, serious emotional disturbance, and any evidence the youth was receiving or needing behavioral health services. Studies that focused only on addictions or substance use behaviors were excluded; however, studies that met the inclusionary criteria above, and included youth in the study sample with addiction or substance use problems, were included.

We used the following multipronged process to identify articles for inclusion. First, we searched electronic databases (PsycInfo and SocIndex) with the following constraints: (a) keywords that included service*, interven* OR treatment with the subject headings risk factors OR at risk populations; (b) keywords of family based intervene* OR family based serv* OR family based treat*; (c) author-supplied keywords of placement prevention, family treatment, intervention, family based intervention, family based prevention, family based therapy, family based treatment; and (d) keywords of service* OR intervene* OR treatment AND risk factors OR at risk populations with a limit to childhood or adolescence age groups. These searches yielded 1,788 articles. We eliminated duplicates and read through the abstracts and articles to determine whether they met the inclusion criteria stated above. We then conducted a search of the references of the included articles and the subsequent articles that cited these included articles to identify any additional potential studies. We also consulted with intervention developers of the included articles to solicit recommendations for other articles that would meet our inclusion criteria. For the included articles, we identified the study being depicted in the article and searched for any other publications that included the same study population. Multiple articles that were published on the same study population were collectively counted as a single study. As a result, this project included 37 studies reported across 51 articles.

Sample Description

Unlike prior common elements efforts (Becker et al., 2013; Chorpita & Daleiden, 2009; Lindsey et al., 2013), we did not limit inclusion to only RCTs. We broadened our study design inclusion criteria because (a) RCTs have also been noted to be associated with limitations that warrant the inclusion of other study design types (see Grossman & MacKenzie, 2005; Vincent, 2010); (b) nonrandomized studies have also been shown to have the ability to yield valid results worthy of review (e.g., Shadish, Clark, & Steiner, 2008); (c) in the field of placement prevention, the RCT literature is quite narrow and limiting; and (d) as our initial phase of common treatment aggregation in this area of the literature, we were interested in identifying common practices associated with at least some empirical support (as supported by treatment effects in peer-reviewed, single-group study designs, and nonrandomized multiple group study designs) in addition to RCTs.

This analysis included 20 randomized controlled trials as well as 17 studies from other research designs (nine quasiexperimental, seven one-group pre/posttest, and one one-group posttest only). The articles were published between 1985 and 2011. Sample sizes ranged from 24 youths to systems-wide interventions that included over 30,000 youth. In total, the 37 studies included 64,750 youth. The mean age (in years) of participants in each study ranged from 7.44 (SD = 3.55) to 15.86 (SD = 2.47). Of the 24 studies that reported gender, the average percent of male participants was 58.83% (SD = 29.74). There were 30 studies that reported race and within these studies, 33.69% of youth were White (SD = 33.43), 24.67% were African American (SD = 28.14), and 6.28% were other minority groups (SD = 13.06). Of the 32 studies that reported location, 29 studies were U.S. based. It should be noted that although the samples represented by these studies are diverse, the outcomes reported by each study may not have been equally achieved by all participants; some subgroups may have achieved better outcomes than others, which we could not account for in this analysis.

Placement prevention efforts in this study were administered by child welfare, juvenile justice, and child mental health systems. In the 36 studies that reported system involvement, 25.6% included child welfare-involved youth, 46.2% included at least some youth with juvenile justice involvement, and 35.9% included youth with other system involvement. Behavior problems of youth were reported in 35 studies (89.7%). The most common presenting problems were willful misconduct/delinquency (51.3% of studies included youth with this issue), substance use (25.6%), and maladaptive family functioning (20.5%).

Coding Process

Each included article was coded by two (from a team of seven) doctoral-level coders using an adapted version of the PracticeWise Clinical Codebook (PracticeWise, 2009). Information extracted from each study included sample characteristics (based on the full study sample as well as on each study group), research design, the intervention and its components, outcome measures and results. Of specific interest was the identification of practice elements and program elements for each intervention. *Program elements* included aspects of the program design or service delivery system that might impact results (e.g., 24/7 on-call support, access to flexible funding). These program elements describe the structure and resources of the program. *Practice elements*, on the other hand, are distinct techniques delivered by the interventionists to promote positive outcomes (e.g., modeling, social skills training). The main modification to the PracticeWise Clinical Codebook (PracticeWise, 2009) was the addition of 19 program elements to capture intervention components common to those aiming to re-

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duce out-of-home placement. Definitions were developed for each new code and were sent to five scholars in the field of placement prevention to solicit their feedback regarding the definitions and suggestions for additional elements. Definitions of the program and practice elements we report in this article are provided in Table 1.

Another modification to the existing PracticeWise Clinical Codebook (PracticeWise, 2009) was the identification of the recipient (i.e., youth, caregiver, family) relevant to each practice element, as opposed to simply the clients involved in the intervention as a whole. These categories were not mutually exclusive; hence, a practice element such as *problem solving* might be designated as having been used with the youth (to help the youth with problem solving in the youth's life) as well as with the caregiver (to help the caregiver with problem solving in the caregiver's life).

For each study, two trained coders independently read and extracted information that was recorded on coding forms. Subsequently, an expert third coder with several years of coding experience using the PracticeWise Clinical Codebook (PracticeWise, 2009) compared the codes from the two coders with his

Table 1. *Definitions of Program and Practice Elements*

	Definition
Program element name	
24/7 access	24/7 availability via hotline, pager, or on-call crisis support.
Accessibility promotion	Any strategy used to make services convenient and accessible.
Case management	Coordination and oversight of multiple therapeutic supports, both formal and informal, for an identified youth.
Convenient meeting locations	Holding sessions at the location of the youth's/family's choice.
Ecological focus	Assess in a comprehensive way; treat the person as part of a whole system.
Flexible scheduling	This might include after-hours or drop-in appointments.
Program monitoring	Repeated measurement of a target behavior or construct.
Provider fidelity	Strategies used to measure and provide (corrective) feedback regarding intervention fidelity/adherence to the provider(s) while the case is still active.
Provider plays multiple roles	Family works primarily with one individual who serves in multiple capacities: case manager, therapist, skill trainer, liaison, etc.
Practice element name	
Anger management	Strategies intended to teach a youth how to control feelings of anger.
Assessment	Measurement of an identified target through the use of any of a variety of methods, including interviews, questionnaires, observation, record reviews, etc.
Cognitive	Any techniques designed to alter interpretation of events through examination of the youth's or family's reported thoughts, typically through the generation and rehearsal of more realistic, alternative counter-statements.
Commands	Training for caretakers in how to give instructions or commands in such a manner as to increase the likelihood of child compliance.
Communication skills	Training for youth or caretakers in how to communicate more effectively with others to increase positive functioning, increase consistency, or minimize stress.
Crisis management	Problem solving approaches for immediate resolution of urgent or dangerous events.
Exposure	Techniques or exercises that involve direct or imagined experience with a target stimulus, performed gradually or suddenly, and with or without the therapist's elaboration or intensification of the meaning of the stimulus.
Family therapy	A set of approaches designed to shift patterns of relationships and interactions within a family, typically involving interaction and exercises with the youth, the caretakers, and sometimes siblings.
Functional analysis	The study of antecedents and consequences of a youth's behavior to yield a functional understanding of behavior.
Goal setting	The explicit selection of a therapeutic goal for the purpose of working toward achieving that goal.
Individual therapy	Any therapy designed directly to target individual (nondyadic) psychopathology.
Maintenance	Exercises and training designed to consolidate skills already developed and to anticipate future challenges that might arise after termination or reduction of services.
Marital therapy	Techniques used to improve the quality of the relationship between caregivers.
Monitoring	Training a caretaker, teacher, or other member of the youth's social ecology in the repeated measurement or observation of some target mood or behavior.
Natural consequences	Training for parents or teachers in (a) allowing youth to experience the negative consequences of poor decisions or unwanted behaviors (e.g., getting cold for not wearing a hat), or (b) delivering consequences in a manner that is of appropriate level and type for the behavior performed by the youth.
Praise	The training of parents, teachers, or others involved in the social ecology of the child in the administration of social rewards to promote desired behaviors.
Problem solving	Training in the use of techniques, discussions, or activities designed to bring about solutions to targeted problems, usually with the intention of imparting a skill for how to approach and solve future problems in a similar manner.
Rapport	Strategies to increase the quality of the relationship between the therapist and the client.

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own codes, reconciled any differences, and provided feedback for enhanced consistency in the coding process. The results presented here are based on the final codes of the expert coder.

Sufficient reliability has been demonstrated for the existing practice elements that were included in this study (see Becker et al., 2013; Chorpita & Daleiden, 2009). For the newly created program elements, kappa coefficients were calculated to assess how well one or both of the initial coders agreed with the expert coder. Of the 12 program elements that were coded in at least 10 studies, nine elements had $\kappa > .60$ between the expert coder and at least one of the initial coders. Only four program elements had high reliability ($\kappa \geq .60$) between the final coder and both of the initial coders, although three additional elements had $\kappa = .59$. To insure adequate reliability in the program element coding, only the nine elements with $\kappa \geq .60$ between the expert coder and one of the initial coders were retained in the data analysis.

It is important to note that the aggregated effect sizes reported in this article pertain specifically to the level of the *treatment protocol(s)* (i.e., all practices used together as examined in a treatment study), as opposed to the level of *individual* practice components. As noted earlier, however, we have reported effect sizes associated with each practice element. We have done so given that (a) effect sizes pertaining directly to each individual practice component cannot be obtained based on the extant literature, and (b) effect sizes reported in this way may provide readers with an approximate index of "effectiveness" for each individual practice element. This is just a rough approximation of effectiveness, and should not be interpreted as a direct measure of effectiveness for any given individual practice component. Rather, effect sizes reported in relation to individual practices should be interpreted as an index of the effectiveness of the treatment protocols from which the practice component was derived. In the absence of a more specific index of "effectiveness" for individual practices, we have decided to report effect size information in this way.

Data Analysis

To describe placement prevention efforts and identify program and practice elements associated with improved placement prevention outcomes, we analyzed the data from the coding sheets using SPSS version 21. Frequencies and cross-tabulations were conducted to provide descriptive information about the studies including the most common program and practice elements and placement prevention outcomes. Study information was provided on a study-level ($n = 37$); intervention information and results were specific to the intervention groups ($n = 74$), that is, the individual treatment arms of a multigroup intervention.

For each intervention group, we assessed the raw frequency of how many times these elements were used as well as how often these elements were found in "winning" treatment groups. We defined "winning" as significantly outperforming a comparison group on any placement prevention outcome. For studies that used one-group designs, there was not a comparison group to outperform. As such, one-group studies with statistically significant improvement over time was considered a "time win."

Study Outcomes

Across the 37 studies, 79 outcomes measured related to out-of-home placement. These outcomes were quite diverse. For simplicity, we assigned each outcome to one of the following domains: decreased placement costs, decreased hospitalization, decreased incarceration, and decreased out-of-home placement. Some outcomes were measured at multiple time points or compared with multiple treatment groups, yielding a possible 94 outcomes at unique time points. To estimate the effects of the intervention on placement prevention outcomes, standardized Cohen's *d* effect sizes were calculated for each placement outcome. For 21 of the 94 outcomes, there was not sufficient information in the article to calculate the effect size. For the remaining 73 placement outcomes (found in 23 studies), calculated effect sizes were assigned to the program and practice elements identified within the interventions. We calculated weighted mean and median effect sizes across the four outcome categories for each program and practice element. In this article, we report the weighted median because it generally provided a more conservative estimate of the effect. For interpretation, we followed Cohen's (1988) scale of .2 = small, .5 = medium, and .8 = large.

Results

Several different placement prevention outcomes were measured by the studies. Of the 79 placement outcomes, 30 (38%) measured presence and duration of any out-of-home placement, 12 (15%) were specific to incarceration, eight (10%) specific to hospitalization, five (6%) specific to residential treatment, and two (2%) measured treatment foster care. In addition, 10 (13%) outcomes were specific to costs and four (5%) assessed placement changes. To measure these outcomes, several sources were relied upon in the original articles, including administrative records (89%; $n = 70$) and surveys (11%; $n = 9$). Some of the 79 outcomes were measured at several time points or compared with multiple groups. As a result, there were 195 group-specific results assessed for these 79 outcomes.

Within these 195 group comparisons, 42 groups were winning (meaning they significantly outperformed another group), and two groups showed significant improvement over time (in the absence of a comparison group). These 44 groups were collectively considered the winning groups. Of the remaining 153 groups, 102 showed no significant difference between groups, 39 groups did worse than a comparison group, and 10 groups did not provide adequate evidence to assess statistically significant differences.

Several studies included established program protocols (i.e., manualized interventions or similar packaged sets of activities or principles), such as Multisystemic Therapy or Family Preservation. Table 2 depicts the frequency for which these protocols appear in the 74 groups included in the reviewed studies. In addition, the table displays the rate at which the protocol resulted in significantly better outcomes than a comparison compared with the number of times the protocol was used as well as contingent on the number of winning groups in the review sample. For example, Systems of Care (Table 2, row 4) appeared in two studies (Table 2, column 1) and outperformed a comparison group only once (Table 2, column 2), yielding a

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Table 2. *Frequency of Program Protocols and Proportion of Wins by Times Used and as a Proportion of Winning Groups (N of groups = 74)*

Protocol	Frequency[a]	Frequency wins[b]	Proportion of wins per times used[c]	Proportion of appearances among the 44 winning groups[d]
Family preservation	18 (24%)	5	28%	11%
Functional family therapy	1 (1%)	1	100%	2%
Multisystemic treatment	19 (26%)	13	68%	30%
Systems of care	2 (3%)	1	50%	2%
Wraparound	6 (8%)	4	67%	9%

[a] Refers to the proportion of groups out of a total 74 groups with a protocol. [b] Refers to the total number of the protocol outperformed a comparison group. [c] Refers to the rate at which protocol resulted in significantly better outcomes than comparison group relative to the number of times it was used. [d] Refers to the rate at which protocol resulted in significantly better outcomes than comparison group relative to the number of winning groups in the review sample.

50% success rate based on all times that Systems of Care was used (Table 2, column 3). Systems of Care also appeared in 2% of all winning groups (Table 2, column 4). As shown in Table 2, two protocols made up half of the study groups (MST: 26%; and Family Preservation: 24%). Considering their frequency of use, they were also the most common protocols among the winning groups (MST: 30%; Family Preservation: 11%). However, among the studies where they were used, MST outperformed a comparison Group 68% of the time and Family Preservation "won" only 28% of the time.

Table 3 displays how often each program element was coded as appearing as well as the number of times it outperformed a comparison group, the proportion of times it won and the proportion of winning groups that included this element. For brevity and ease of interpretation, the table included only program elements that met the following criteria: had reliability of $\kappa > .60$, appear in at least 10 studies and either (a) won more than 70% of the times used (i.e., win in at least seven studies) or (b) were present in more than 25% of the winning groups. We used this set of criteria to ensure that the elements were commonly used and were well represented in winning interventions. This yielded nine program elements.

Specifically, the program features most frequently used to prevent out-of-home placement included program monitoring for the program (found in 45% of intervention groups), accessibility promotion (41%), and case management (41%). Other program features were less commonly used, but when used were more frequently associated with outperforming an alternate condition or time point. These program features included providers who play multiple roles, convenient meeting locations, maintaining an ecological focus, and monitoring and fidelity efforts, which were associated with treatments that were "winning" at least two thirds of the times they were used. In exploring the median effect sizes for these program elements, none of the program elements was associated with a large median effect size (i.e., .80 or greater). In regards to decreased incarceration, all of the nine most frequent program elements demonstrated a median effect in the medium range (ranging from .52 to .62). Median effect sizes were smaller for decreased psychiatric hospitalization, with most elements ranging from .05 to .09. In regards to broader out-of-home placement outcomes, median effect sizes ranged from .36 to .71, with the strongest effects being found for having an ecological focus and a program where a provider plays multiple roles with the

Table 3. *Frequency of Program Elements and Proportions of Wins and Appearances in Winning Groups (N of groups = 74)*

Program element	Frequency[a]	*N* of wins[b]	Proportion of wins per times used[c]	Proportion of appearances among winning Groups[d]	Decreased out-of-home placement[e]	Decreased hospital[e]	Decreased incarceration[e]
Accessibility promotion	30 (41%)	16	53%	36%	.60	.09	.62
Case management	30 (41%)	16	53%	36%	.53	.09	.52
24/7 access	26 (35%)	14	54%	32%	.60	.09	.62
Flexible scheduling	20 (27%)	12	60%	27%	.36	.09	.52
Convenient meeting locations	18 (24%)	12	67%	27%	.60	.05	.52
Ecological focus	18 (24%)	12	67%	27%	.71	.05	.52
Program monitoring	33 (45%)	22	67%	50%	.38	.09	.52
Provider fidelity	24 (32%)	16	67%	36%	.53	.05	.62
Provider plays Multiple roles	17 (23%)	12	71%	27%	.71	.05	.52

[a] Refers to the proportion of groups out of a total 74 groups with a each program element. [b] Refers to the total number of times the program element outperformed a comparison group. [c] Refers to the proportion of times the program element won relative to the number of times it was used. [d] Refers to the proportion of winning groups that included each program element. [e] Refers to the median effect size for each outcome measure.

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family. The fourth outcome domain (i.e., costs) was measured in only a small number of studies ($n = 2$) and was found to have the same median effect size for all the program elements. The median Cohen's *d* for decreased placement costs for any of the program elements was .21. Because of the lack of variation, this column is not included on the table.

Next, we assessed the frequency of the clinical practice elements (i.e., techniques used by clinicians) found in the studies. Table 4 reports the frequency of each element's appearance, as well as the number of times it appeared in a winning group as a proportion of total times used and as proportion of the winning groups that included this element. There were 46 elements that appeared in at least 10 of the 74 intervention groups. For brevity and ease of interpretation, the tables are organized based on the target recipient (i.e., youth, caregiver, or family) and include only elements that (a) appeared in winning groups more than 70% of the time, and (b) appeared in more than 25% of the winning groups. The median effect sizes for the placement prevention outcomes specific to decreased incarceration, decreased hospital utilization, and decreased out-of-home placement generally are also listed. As with the program elements, the median effect size for the outcome of decreased placement costs was constant at .21 across all the practice elements.

For practice elements directed toward youth, the most common clinical techniques included assessment and individual therapy (included in 40% and 36% of treatment groups, respectively). The elements included in treatments with the highest rates of winning included goal setting (winning 73% of the time) and exposure (winning 71% of the time). For caregiver-directed clinical elements, problem solving was most commonly included (in 24% of protocols) and was included in the winning treatment two thirds of the time. Teaching caregivers to monitor youth behavior had the highest rate (73%) of inclusion among winning treatments. For family directed practice elements, family therapy was most common (found in 39% of protocols). The elements with the highest rates of inclusion in winning treatments were goal setting (73%) and building a support network (71%).

For all practice elements, median effect sizes for the outcome categories were most robust for decreased incarceration (ranging from .43 to .62). Generally small and very small effects were demonstrated for decreased hospitalization (ranging from .05 to .22) and decreased placement costs (.21). The median effects for

Table 4. *Top Rated Youth, Caregiver and Family Practice Elements and Winningness With Median Effect Sizes for Key Outcomes (N of groups = 74)*

Practice element	Frequency[a]	*N* of wins[b]	Proportion of wins per times used[c]	Proportion of appearances among winning groups[d]	Decreased out-of-home placement[e]	Decreased hospital[e]	Decreased incarceration[e]
Youth-directed							
Anger management	21 (28%)	12	57%	27%	.60	.05	.52
Assessment	30 (40%)	18	60%	41%	.36	.22	.52
Crisis management	19 (26%)	12	63%	27%	.53	.09	.43
Exposure	14 (19%)	10	71%	23%	.60	.05	.52
Functional analysis	15 (20%)	10	67%	23%	.60	.05	.52
Goal setting	15 (20%)	11	73%	25%	.60	.05	.52
Individual therapy	27 (36%)	15	55%	34%	.60	.05	.62
Problem solving	16 (22%)	11	69%	25%	.60	.05	.52
Rapport	15 (20%)	10	67%	23%	.60	.05	.52
Supervision	23 (31%)	14	61%	32%	.60	.05	.52
Therapist monitoring	19 (26%)	12	63%	27%	.60	.05	.52
Caregiver-directed							
Cognitive	14 (19%)	10	71%	23%	.60	.05	.52
Commands	14 (19%)	10	71%	23%	.60	.05	.52
Maintenance	17 (23%)	12	70%	27%	.38	.05	.52
Marital therapy	14 (19%)	10	71%	23%	.60	.05	.52
Monitoring	11 (15%)	8	73%	18%	.38	.05	.62
Natural consequences	14 (19%)	10	71%	23%	.60	.05	.52
Praise	17 (23%)	12	71%	27%	.38	.05	.52
Problem solving	18 (24%)	12	67%	27%	.38	.05	.52
Response cost	14 (19%)	10	71%	23%	.60	.05	.52
Rewards	17 (23%)	12	71%	27%	.38	.05	.52
Support network	17 (23%)	12	71%	27%	.60	.05	.62
Family-directed							
Communication skills	22 (30%)	12	54%	27%	.60	.09	.52
Assessment (family-level)	22 (30%)	12	55%	27%	.71	.05	.52
Family therapy	29 (39%)	13	45%	29%	.36	.09	.52
Goal setting	15 (20%)	11	73%	25%	.60	.05	.52
Support network	17 (23%)	12	71%	27%	.60	.05	.62

[a] Refers to the proportion of groups out of a total 74 groups with a each practice element. [b] Refers to the total number of times the practice element outperformed a comparison group. [c] Refers to the proportion of times the practice element won relative to the number of times it was used. [d] Refers to the proportion of winning groups that included each practice element. [e] Refers to the median effect size for each outcome measure.

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decreased out-of-home placement ranged from .36 to .71, all within the small to medium range.

Conclusion

The purpose of this article was to use a common elements approach to identify common program and practice elements across interventions successful at reducing out-of-home placement. These elements offer clinicians and systems a more delineated and structured, yet diverse menu of discrete clinical interventions to learn and employ. As hypothesized in the conceptual model, the practice elements included techniques to address the youth's clinical needs as well as promote caregiver functioning and capacity. In addition, the program elements suggested aspects of service delivery that could enhance the effectiveness of community-based services and negate the need for out-of-home care.

This study identified nine program elements most commonly associated with effective placement prevention efforts. For jurisdictions that are looking to develop or refine efforts to prevent out-of-home placement, these program elements may provide the building blocks of program features that should be considered in the design of new efforts. Common program elements were often holistic (including an ecological focus, case management, and provider playing multiple roles), suggesting that preventing out-of-home placement requires a focus beyond working solely with the identified patient. Specifically, efforts to make the program accessible (through flexible scheduling, convenient locations, and 24/7 access) and program efforts to monitor progress and demonstrate fidelity to an intervention were commonly found in winning treatments.

In regards to specific practice techniques, we identified 11 youth-directed elements, 11 caregiver-directed elements, and five family directed elements. Youth techniques included clinical interventions like anger management, exposure, and crisis care that help the youth develop skills to minimize and manage their mental health symptoms. Caregiver techniques were more focused on behavioral strategies to be used with the youth (commands, maintenance, praise, response cost, rewards) as well as those strategies to provide interpersonal support directly for the caregiver (marital therapy, support network). Family-directed techniques included assessments, working on communication skills, goal setting, building a support network, and family therapy. In training workers to provide in-home services, an understanding of who the client is (youth, caregiver, or family) should guide the selection of clinical techniques. The skills that youth need to be successfully maintained in their home may be quite different than what the caregiver may need to feel confident in supporting the youth at home. A clinician serving these diverse stakeholders would need to be proficient in a wide range of tools to build client competencies in these areas.

In this article, we focused on global placement prevention efforts. However, findings suggest that some techniques are found in interventions with larger effect sizes for preventing incarceration or general placement, with lower effect sizes associated with inpatient hospitalization. Youth assessment was the only practice element that was associated with even a small effect on decreasing hospitalization; even crisis management only was associated with a median effect of .09. This finding may suggest that youth in need of inpatient-level treatment may need more intensive services than these primarily cognitive–behavioral techniques. In contrast, medium effects for decreased incarceration and general placement were found for interventions using the behavioral practice elements like problem solving, goal setting, and response cost. Yet, caregiver monitoring had a greater effect for decreasing incarceration than decreasing the need for out-of-home placement more generally. The specific placement type for which the youth is assessed to be at risk should guide treatment planning in the application of these practice elements.

Limitations

The findings of this study should be viewed in light of several key limitations. First, the sample included only studies that could be located in peer-reviewed journals. Undoubtedly, placement prevention efforts are pursued in many jurisdictions and not systematically evaluated or results are not publicly available. Like other systematic reviews, the "file drawer" bias as well as other publication biases likely limits what can be fully known (McLeod & Weisz, 2004).

In identifying the program and practice elements for the interventions, we were limited in coding only content that we could access. The description of the intervention that is included in empirical articles (or in the few cases where we had access to additional materials like a treatment manual) may not fully reflect what occurred in actual practice for the intervention. The quality of delivery of some practice elements by some practitioners likely varied widely. Therefore, some interventions may have used practice elements that were not described in the empirical research and other interventions may have reported using practice elements that were not implemented as intended or as we understood them. This is a significant limitation and a concern that underscores the importance of the common elements approach provision of a common language for codifying practice techniques.

The study design types included in our review were also diverse. Some of the studies were randomized clinical trials, but others were quasi-experimental or one-group designs. We did not control for the type of study designs when assigning wins or calculating effect sizes. In other words, outperforming a randomly selected control group was given equal weight to outperforming a comparison group that may have been different in some characteristics or a group provided an intervention that was less robust or intense. Including time wins for single-group studies among the winning groups is also a limitation. For example, it is unclear what caused the "time win" because the change may have been because of a combination of several unknown factors including time and regression to the mean. Nonetheless, these time wins comprised only 5% of the winning groups, and while contributing to the other overall results, any bias that may be associated with these single-group studies would not substantively alter the results.

This study included all articles related to placement prevention that included youth with any behavioral or emotional problems. We made no distinction for inclusion between preventing placement because of mental health need, juvenile delinquency, or family incapacity; however, there may be real differences in the needs within these families that should be considered when designing clinical interventions. At times, out-of-home placement may be the most appropriate treatment intervention for a youth, so

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preventing placement may not always be the goal for all families. At other times, funding peculiarities or other system configurations may result in placement decisions that are not congruent with improved outcomes—this study could not assess how often this occurs or how much it would disturb the results.

There were also a few issues to make clear regarding the interpretation of these results. First, the practice and program elements identified reflect an attempt to aggregate knowledge across effective interventions. The resulting summaries should not be interpreted as supporting the use of practice or program elements in isolation to bring about the same outcomes demonstrated by the packaged interventions (Chorpita, Becker, & Daleiden, 2007). The current analyses provide no information about the necessary or active treatment components, but instead reflect frequently used practices in successful treatments. Second, the conditional probabilities and effect sizes presented in this article should not be interpreted as an indication of what one could expect if the practice element were used by an individual in clinical treatment, but only as a reflection of the available published literature, which has generally provided these interventions in a context of strong program support.

Finally, this method does not consider that the effects of an intervention may not benefit all participants equally. Youth characteristics (demographics, clinical needs, etc.) as well as family factors (caregiver motivation, functioning, etc.) may facilitate or impede the achievement of desired outcomes. Empirical studies with diverse samples only sometimes report subgroup analyses that assess whether all participants experienced equal benefit from an intervention. Further distillation efforts would be needed to better understand any differential effects by participant characteristics (see Chorpita & Daleiden, 2009).

Implications

Advancement of more effective interventions for youth likely requires multiple approaches. Relying on the use of programs from lists of model programs is one approach; implementing types of programs that have demonstrated, on average, to be effective is another strategy (Lipsey, Howell, Kelly, Chapman, & Carver, 2010). This article proposes another model; specifically that working to expand access to programs with the most likely effective components could enhance the effectiveness of services.

In considering how to better serve youth in their family settings and prevent out-of-home placement, it must be acknowledged that clinical interventions are only one piece of the puzzle. State and local policies also play a role in placement rates and decisions. Medicaid policies have certainly been shown to impact youth inpatient hospitalization rates (Raghavan et al., 2006) and readmission rates (Fontanella, Zuravin, & Burry, 2006).

Within a service jurisdiction, the infrastructure to support family care instead of placement may also vary widely. In places where community-based services are not well-developed, placements may occur to ensure access to needed therapeutic services. A Government Accountability Office (GAO, 2003) report suggested that more than 12,000 children in 32 states were voluntarily placed in the child welfare or juvenile justice systems by their parents to receive mental health treatment. Barth, Wildfire, and Green (2006) suggest that the number of children placed into child welfare services, when their principal need was mental health services, may be closer to 40,000. Other nonclinical factors affecting the availability of family foster care compared to residential placements or referral to outpatient services instead of residential settings include reimbursement rates (Duncan & Argys, 2007), being in state custody, low availability of local providers, and treatment providers (Fontanella, Early, & Phillips, 2008).

Unlike prior research and systematic reviews that focused on a specific intervention (Littell, 2005, 2008), this study aggregated knowledge across a diverse group of interventions (from manualized, structured treatments to more flexible, individualized approaches). Through this process, the most commonly used building blocks of interventions could be identified and assessed for their inclusion in treatments that yield positive outcomes. Further, by calculating effect sizes for each program and practice element, prioritizing what elements should be included in programs can be conducted in light of demonstrated effects. This knowledge can be used to create and evaluate best practices in placement prevention programs. These programs should, then, undergo rigorous testing.

Special attention should be given to the implementation and evaluation of treatment with specific subgroups of participants. Application of these elements in a cookie-cutter approach to all youth and their families is not likely to generate the greatest benefit. As illustrated in the trinity of evidence-based practice introduced by Sackett, Rosenberg, Muir Gray, Haynes, and Richardson (1996), research evidence must be integrated with clinical expertise and client characteristics, preferences, and values. In studying the effects of evidence-based treatments on ethnic minority youth, Huey and Polo (2008) found a dearth of studies with diverse samples for some problem areas, making it difficult to evaluate existing treatment evidence for all populations. When intervening with families in a culturally sensitive manner, helpful adaptations may include variability in the content being delivered as well as the interface (Ortiz & Del Vecchio, 2013). In regards to the program and practice elements identified in this analysis of effective placement prevention efforts, flexibility rather than a "one size fits all" application is encouraged.

To establish the utility of the program and practice elements in preventing placement, component studies are needed in which participants are randomly assigned to either a manualized intervention protocol or a placement prevention program composed only of the program and practice elements identified within this article. By assessing what elements were used in each intervention arm with each participant, we can gain a greater understanding of whether the common elements approach for placement prevention can perform equally as well as manualized interventions. Notably, an RCT recently demonstrated that a modular treatment approach based on the common practice model for treating youth problems related to anxiety, depression, and disruptive behavior was found to have significantly better outcomes than standard manualized treatment and usual care with respect to both therapist likability (Borntrager et al., 2009) and youth rates of progress (Weisz et al., 2012).

More research is also needed to understand the optimal sequence, intensity, and duration of elements needed to prevent placement. These characteristics, which are built into manualized efforts, remain unknown for common elements-driven work. The Managing and Adapting Practice (MAP) system leverages the common elements framework as a strategy to design interventions in real time, coordinating practice delivery through flowcharts to

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guide sequencing, selection, and intensity (Chorpita & Daleiden, 2014). Additional development of these sequencing flowcharts and expansion to new problem areas like placement prevention can help drive the delivery of critical practice and program elements to the families and youths who would most benefit.

Absent more specific guidance on how to package these program and practice elements to prevent out-of-home placement, it may be helpful to consider how many of the most common elements may collectively mimic the level of support provided in a placement setting. For example, an ecological model that delivers services across multiple settings (home, school, community) and includes a 24-hr crisis response service may be replicating some of the strengths that a residential program can offer. Coupling these program elements with practice elements that can extinguish youth problem behaviors (through effective clinical techniques) and empower caregivers with practical and emotional support may be a comprehensive method to intervene without removing the child from the home. The collection of practice elements should be driven by a specific client's needs, but the elements identified in this article may offer an initial menu of options.

Keywords: placement prevention; out-of-home care; evidence-based treatment; common elements

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