

The Match Between Family Needs and Services for High-Risk Neglecting Families

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ABSTRACT. Child neglect is characterized by a complexity of family problems and needs. Whether families' needs are actually matched to the appropriate services is a critical area for study, although little empirical work exists. In this study, we examine the match between needs and services for a sample of high-risk neglecting families, using cluster analysis to identify clusters of services and previously identified need clusters. We examine need-service match from two perspectives: 1) how well services are allocated to family need, and 2) how well family needs are covered by available services. Some service clusters are well allocated to corresponding needs, such as intensive drug court and family preservation services to substance-abusing

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This research could not have been completed without the expertise, dedication, and generosity of the staff at Colorado El Paso County Department of Human Services. In particular, they wish to thank both David Berns and Barbara Drake for their vision, wisdom, and support for this project. The authors also want to express their thanks and admiration to the front line staff, supervisors, and managers who were willing to provide the time, expertise, and knowledge that was required for this study.

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families; however, other service patterns are much less coherent. With regard to how well needs are covered by available services, although approximately one-third of substance-abusing families receive the intensive drug court intervention, another one-third receive the low-service cluster of services. Poor match is particularly evident for the mental health/economic need/domestic violence group, in which more than half are represented in the low-service cluster, and only one-fourth in the high-service/economic/domestic violence service cluster. Attention to need-service matching is an important feature of evidence-based practice from both the perspective of case planning with families and the design of services for subgroups of families. Implications for practice and policy are discussed.

KEYWORDS. Child welfare, child neglect, need service match, cluster analysis

Child neglect is characterized by a set of overlapping family problems and needs. Broadly speaking, child neglect is more likely to occur if families experience poverty-related concerns, such as unemployment, inadequate housing, and lack of transportation (Chaffin, Kelleher, & Hollenberg, 1996; Coulton & Pandey, 1992; Garbarino & Kostelny, 1992), and mental health problems, such as depression and substance abuse (Bishop & Leadbeater, 1999; Dubowitz & Black, 2002; Ethier, Lacharite, & Couture, 1995; Walker, Zangrillo, & Smith, 1994; Zuravin & DiBlasio, 1992). Neglecting families typically receive an array of services, which may include family preservation, parenting instruction, case management, and economic assistance. The child welfare system's commitment to individualized case planning creates a service environment where varying packages of services are expected (Ryan & Schuerman, 2004).

Whether families' needs are actually matched to the appropriate services is a critical area for study. Understanding needs-services matching is essential to intervention research; however, research on matching is surprising minimal (Littell & Schuerman, 2002). Studies have typically focused on the overall effectiveness of child welfare programs consisting of multiple interventions and, occasionally, on which specific services are related to outcomes, but rarely on whether the family's needs were actually matched to specific, relevant services (Berry, 1994; McCroskey & Meezan, 1997). The few studies focusing on matching examine match for maltreating families in general, with little attention paid to differing types of maltreatment, such as child

neglect (Ryan & Schuerman, 2004). This is an important point because child abuse and neglect are increasingly understood as distinct problems. Child neglect is conceptually different from abuse, with its own set of causes and consequences (Smith & Fong, 2004).

Building on prior research that identified clusters of need for high-risk neglecting families (Chambers, 2006; Chambers & Potter, in press), this study addresses the following research questions: 1) What are the clusters of services provided to high-risk neglecting families? and 2) What are the relationships between these services clusters and family needs?

LITERATURE REVIEW

Research on whether families' needs are matched with the appropriate services is almost non-existent in the field of child welfare. A few studies from the family preservation literature have touched on this question, but most focus on types and duration of services rather than investigating if families' needs were matched to an appropriate service (Cash & Berry, 2002). Studies addressing the question of match have taken somewhat different approaches. Some examine the match between plans for services and actual service delivery (Bagdasaryan, 2005; Tracey, Green, & Bremseth, 1993), whereas others examine the match between conceptually derived sets of problems and services (Cash & Berry, 2002; Littell & Schuerman, 2002). One study has considered services provided in response to one specific problem area (Ryan & Schuerman, 2004).

Tracey et al. (1993) examined the correspondence between services planned and those delivered for a sample of 500 randomly selected child welfare cases representing all types of child maltreatment. There were large service gaps between planned and delivered services. For example, planned substance abuse assessments were not delivered in 36.6% of cases, and 32.7% of planned outpatient substance abuse services were not delivered. Other large service gaps existed for parenting classes (43.7%), protective day care (38.3%), homemaker or home health (34.1%), diagnostic (28.7%), emergency shelter (25.8%), employment training (25%), and counseling (24.7%). The Tracey et al. study (1993) also found that environmentally oriented services were planned and offered much less frequently than were clinical services. Perhaps most importantly, "there was little one-to-one direct correspondence between the service need and the service offered, with similar services being offered in response to seemingly different needs" (p. 26).

In a case record review of 488 families who received family preservation services, Bagdasaryan (2005) also examined the match between planned services and those delivered. Service gaps ranging from 17% to 44% were identified. Some of the largest service gaps were related to concrete services, such as auxiliary funding (44%), housing (42%), child care (34%), and transportation (27%), though clinical services such as counseling, parenting training, substance abuse, and mental health services were also not delivered for 17% to 22% of families.

Cash and Berry (2002) examined the relationship between family problem categories (environmental, parenting, household, relationship, and compounding) and the extent to which concrete, educational, and clinical services were provided for a sample of 115 families served in a family preservation program. The authors found that "matching of services to problems was clearest when problems and services were of a concrete nature" (Cash and Berry, 2002, p. 505). Important gaps were also noted, with child behavior problems not being well matched to parent education as well as skills training not well matched to parenting problems.

Littell and Schuerman (2002) examined service provision for subgroups of maltreating families in a sample of 1,911 cases from the Illinois family preservation experiment. Subgroups were identified using caseworker feedback regarding groups considered to be distinct from other kinds of cases, taking into account ideas related to relevance of problems, ease of identification, and risk for placement or subsequent maltreatment. These groups were cocaine-exposed infants, other cocaine problems, housing problems only, housing and cocaine problems, parent mental illness, and childcare skill deficits. Specific services examined included substance abuse treatment, housing assistance, individual counseling, family counseling, psychiatric services, parent education, and homemaker services. Some fits between problem subgroups and services were apparent, especially for substance abuse treatment, which was provided in 82% of cases with cocaine problems, and 80% of cases with both cocaine and housing problems. Interestingly, only 28% of this latter group also received housing assistance. However, housing assistance was offered in half of cases with housing problems only. Families with mental health problems were most likely to receive individual counseling (74.3%), parent education (64.9%), and family counseling (51.9%). Parents with childcare skill deficits were most likely to receive parent education (77.5%) and individual counseling (63.6%). Homemaker services were allocated roughly equally to all subgroups. Examination of the relationship between services and outcomes (subsequent maltreatment, placement,

and case closure) for the groups relied on duration of services, caseworker and parent aide contact, and numbers of concrete services (Littell & Schuerman, 2002). None of these structural service indicators was a significant predictor of case outcomes. The authors suggest that attention to problem-service match is important in future research.

Ryan and Schuerman (2004) approached the question of service matching by focusing on one problem—difficulty paying bills—for a sample of 292 families and 886 children served in the Evaluation of Family Preservation and Reunifications Programs (US Department of Health and Human Services, 2001). Whereas the bulk of the analyses were focused on which services predicted outcomes, information on service matching for this one problem area was examined. "It should be noted that there was considerable variation within service categories. For example, some families received no concrete services, while others received more than 30 concrete service related contacts" (US Department of Health and Human Services, 2001, p. 358). Thus, even when focusing on a single service need, these authors find wide variation in how services are targeted to that need.

The findings from this small literature review on needs-services matching do not provide sufficient evidence to draw strong conclusions. All of these studies used samples in which multiple types of maltreatment are represented. Each study identifies significant service gaps and whether these gaps are evident in comparisons of problem areas and service packages, or simply in the comparison of services planned and services delivered. The evidence is mixed for whether clinical or environmental services are better matched to family needs (Bagdasaryan, 2005; Cash & Berry, 2002; Tracey et al., 1993), and studies that have examined the relationship between services and child and family outcomes have found few significant associations (Littell & Schuerman, 2002). No studies are known that used measures of the degree or appropriateness of matching to predict outcomes, and no studies have used empirically derived groups of needs and services to examine match.

METHODS

Sample and Data Collection Procedures

The research reported here is part of a larger study of child neglect and service integration (Chambers, 2006). The overall study examined how the El Paso County, Colorado, Department of Human Services

integrated child welfare and economic assistance programs. The study also explored the relationships between family needs, services, service integration levels between child welfare and Temporary Assistance for Needy Families (TANF), and case outcomes (out-of-home placement, length of case, and change in income). This article reports the results of analyses that focused on clusters of services and the match between services and family needs.

The study sample included all families in the county who had a substantiated child neglect allegation from November 1, 2002, to July 31, 2004. To obtain the sample, a computer-generated list of all substantiated cases of child maltreatment for this 20-month time period was created. This list contained 1,292 families. Each case was then entered into the child welfare database to see if the family had a substantiated child neglect allegation. From this list, all substantiated child neglect cases ($N = 160$) were selected for the study.

The number of child neglect cases among all substantiated cases in this study was surprisingly low, especially given the fact that more than 60% of confirmed child maltreatment cases in the US are for neglect (US Department of Health and Human Services, Administration on Children Youth and Families, 2005). One possible reason for this discrepancy may be that most neglecting families were generally offered voluntary services by this agency. The county had established an innovative partnership program between TANF and child welfare that served these diverted, voluntary child neglect cases. Consequently, this sample is considered a high-risk, multiple-problem sample.

Measures

Using the ecological model (Bronfenbrenner, 1979) as a guide for selecting the variables, a case-reading instrument was developed. We identified five categories of variables: 1) family, parent, and child characteristics (demographic information, household composition, educational level, and number of children in the household); 2) child neglect characteristics (type of neglect, numbers of previous reports, and placements); 3) family, parent, and child needs (parental substance abuse, domestic violence, and poor mental health); 4) family economic needs (unemployment, inadequate transportation, and housing); and 5) outcome indicators, including process indicators, such as length of services, and case indicators, such as child residence, family income, and risk levels at closure and follow-up. The case record files for each family and databases for the child welfare and economic assistance

divisions provided the necessary information for the completion of the instrument. Inter-rater agreement of the instrument was established at (94.5%) by using two independent case readers, both rating 10 cases, and examining the percentage of items rated identically.

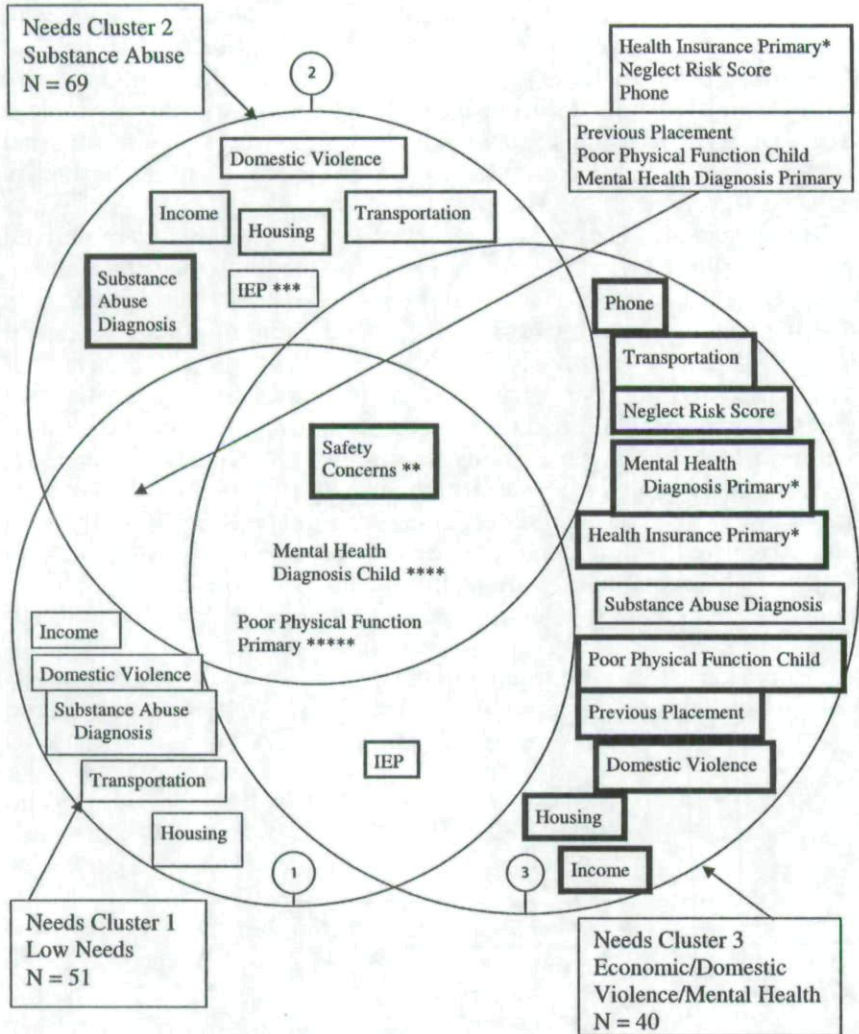
For the cluster analyses reported here, variables measuring *services* that the family received during the life of the case were used. Table 1 describes these variables, all of which are measured at the nominal level. Child services were coded as present if any child in the family received the service.

Bivariate analyses also use clusters of *family need* that were derived from a previous phase of this research for the same sample (Chambers, 2006; Chambers & Potter [unpublished data]). These previously identified family need clusters are depicted in Figure 1 and described in text. The first previously identified need cluster ($n = 51$), the Low Needs Cluster, was characterized by low percentages of group members with needs in most areas (income, domestic violence, transportation, substance abuse, housing, previous placement of a child, physical child functioning, and mental health problems of caregiver and child). Cluster 1 shared moderate percentages of group members with needs for health insurance, access to phone, and the medium neglect risk assessment score with Cluster 2; also Cluster 1 shared moderate percentages of individualized education plans for children with Cluster 3. Cluster 2 ($n = 69$), the Substance Abuse Cluster, was characterized by high percentages of substance abuse and moderate percentages of income problems, transportation, housing, and

TABLE 1. Services Provided to Families During the Life of the Case ($n = 160$)

Service	%
Food stamps	66.7%
Substance abuse treatment	63.0%
Home based services	60.4%
Transportation	53.5%
Housing	28.5%
TANF benefits	22.9%
Mental health treatment	16.7%
Drug court	16.7%
Domestic violence treatment	15.3%

FIGURE 1. Family needs clusters.



* Primary caregiver of the household.
 ** Cluster 1 - 92.2%; Cluster 2 - 100%; Cluster 3 - 97.5%.
 *** Individualized Education Plan for child.
 **** Significance p = 0.067.
 ***** Significance p = 0.146.

— = Low — = Medium — = High

domestic violence. A low percentage of children in this cluster are served by special education through an individualized education plans. Cluster 3 ($n = 40$), the Economic/Domestic Violence/Mental Health Cluster, was characterized by high percentages of need in all clinical areas, caregiver mental and physical health, domestic violence, and child mental and physical health. The cluster was also distinguished by high need levels in all economic areas. Finally, this cluster had the highest neglect risk-assessment scores and was the most likely to have had a child placed previously. Moderate levels of substance abuse are also observed (Chambers & Potter [unpublished data]). For bivariate analyses, need cluster membership was the measured variable.

Analytic Approach

Our first research question was focused on whether stable and coherent clusters of services could be derived using cluster analysis. Cluster analysis procedures are used to identify homogeneous subgroups (or clusters) within complex data sets. Specifically, "a clustering method is a multivariate statistical procedure that starts with a data set containing information about a sample of entities and attempts to reorganize these entities into relatively homogeneous groups" (Aldenderfer & Blashfield, 1984, p. 7). The purpose of cluster analysis is to identify groups of members who are at once similar as possible to each other within a group, and who are also as contrasting as possible between groups (Hair & Black, 2000). *K*-means cluster analysis (Everitt, 2001) was chosen because of the iterative nature of the analysis. In *k*-means clustering, cases may move between clusters as the final model is developed through multiple iterations. This procedure allows for all cases to support the development of the model, rather than having early cases determine model structure, as is the case in hierarchical clustering techniques. *K*-means clustering is appropriate for use with dichotomous or scale/ratio level data (Aldenderfer & Blashfield, 1984). *K*-means clustering requires that models for differing numbers of clusters be developed and examined as to their ability to separate the sample into groups that are distinct from one another, and that relate in understandable ways to external variables not used in the cluster analysis.

For this analysis, *k*-means clustering was used with the nine service variables included in Table 1. Once clusters were identified, we related those clusters to the previously identified family needs clusters using chi-square analyses. Although this latter analysis is simple in nature,

it provides information about a question that is seldom asked in child welfare research: How do patterns of family needs relate to patterns of services? We examined this issue from two perspectives: 1) how services are allocated across needs clusters, and 2) the percentage of families in a needs cluster who received relevant services from a services cluster.

RESULTS

Sample Characteristics

Tables 2 and 3 present demographic and child maltreatment characteristics for this sample. Most of the families had two biologic parents present in the home, whereas one-third were single parent, mother-headed households, with a variety of other family compositions making up the remainder. Most were Caucasian, with 15% of families being Latino/a and 8.8% African American. A high school education was achieved for 53% of the primary caregivers and 41% of secondary caregivers. Less than one-quarter of primary caregivers were employed. Employment of primary caregivers did not vary significantly across types of family structure (single or multiple caregivers present), $\chi^2(3, n = 160) = 3.11, p = .374$.

Most families (56%) had cases open for moderate levels of child neglect. Child neglect related to injurious environment was the most common type of neglect (58%), with lack of supervision comprising 17% of cases and multiple forms of neglect comprising almost 19% of cases. Failure to protect was found in a smaller percentage of families (5.6%). Approximately three-quarters of cases were opened as a result of the first child maltreatment report, whereas 22% of families had one prior report. A previous placement of a child was experienced by 19% of families, thus, a high percentage of this study's sample of families with previous reports resulted in placement. All families had one or more safety concerns identified in the Colorado Safety Assessment. Most (56%) scored at high risk on the Colorado Risk Assessment, with the remainder scoring at medium risk. These characteristics are consistent with the identification of this sample as a high-risk, neglect sample.

Services Delivered

Table 1 presents services delivered to these families during the life of the case. Food stamps, substance abuse treatment, and home-based

TABLE 2. Demographics of the Study Sample (N = 160)

Variables	Mean N	%
Household composition		
Two biological parents	90	56.3%
Single parent (mother)	51	31.9%
One biological parent and one parental figure	10	6.3%
One parent and extended family	7	4.4%
Single parent (father)	1	0.6%
Extended family only	1	0.6%
Ethnicity of the primary parent		
White	110	68.8%
Latino	24	15.0%
African American	14	8.8%
Asian/Pacific Islander	4	2.5%
American Indian	4	2.4%
Other (mixed races)	4	2.4%
Education (obtained high school diploma)		
Primary caregiver		53.0%
Secondary caregiver		40.7%
Income source		
Primary caregiver		
Employed	26	16.3%
Employed and receiving other sources of income	11	6.9%
Unemployed and receiving other forms of assistance	81	50.6%
Unemployed and not receiving any other income assistance	42	26.3%
Secondary caregiver		
Employed	50	46.7%
Employed and receiving other sources of income	6	5.6%
Unemployed and receiving other forms of assistance	21	19.6%
Unemployed and not receiving any other income assistance	30	28.0%
Average number of children in household	2.1	

intervention were received by approximately one-third of families. More than half of (53.5%) families received transportation services in the form of bus passes. Approximately a quarter of families received housing (28.5%) or TANF benefits (22.9%), with less than 20% receiving mental health, drug court, or domestic violence services.

TABLE 3. Child Maltreatment Characteristics

Variables	N	%
Severity of neglect		
Severe	31	19.4%
Medium	90	56.2%
Minor	39	24.4%
Type of neglect at intake		
Environment injurious	93	58.1%
Lack of supervision	28	17.5%
Failure to protect	9	5.6%
More than one type	30	18.8%
Prior substantiated neglect investigations		
0 investigations	114	71.2%
1 investigations	36	22.5%
2 investigations	7	4.4%
3 investigations	3	1.9%
Previous placement of any child in household		
Yes	31	19.4%
No	129	80.6%
Safety decision at intake		
One or more concerns	152	96.2%
No safety concerns	6	3.8%
Risk assessment level at intake		
High risk	88	55.7%
Moderate risk	70	44.3%

Cluster Analysis of Needs

Three-, four-, and five-cluster models were specified and evaluated. Squared Euclidian distance is a measure of separation between clusters; these distances were largest for the four-cluster model. In addition, the four-cluster model had the largest number of need variables varying significantly across clusters in chi-square analyses. Only one service variable was not differentially distributed across the clusters—mental health services. Thus, the four-cluster model provided the best statistical separation between the clusters. See Tables 4 and 5 for cluster distances and chi-square analyses.

TABLE 4. Squared Euclidean Distances for the Four-Cluster Service Model

	Cluster 1	Cluster 2	Cluster 3	Cluster 4
Cluster 1	—	1.531	1.083	1.612
Cluster 2	—	—	1.447	1.114
Cluster 3	—	—	—	1.207

Because chi-square analyses do not provide a step-down analysis to determine significant differences across individual cells, we assigned low, medium, and high designations for each service to each group based on the following rubric. If there was at least a 10% difference in prevalence of the service across groups, those groups were designated as being different from one another. If the absolute difference was smaller than 10%, the groups were characterized as being the same. The low, medium, and high designations are relative to the overall distribution in the sample for each variable, not to a standard percentage applied across variables. For example, drug court services were offered to 16% of the sample overall; however, 0% of Clusters 1 and 2 (low), 14.3% of Cluster 3 (moderate), and 73.9% of Cluster 4 (high) received drug court services.

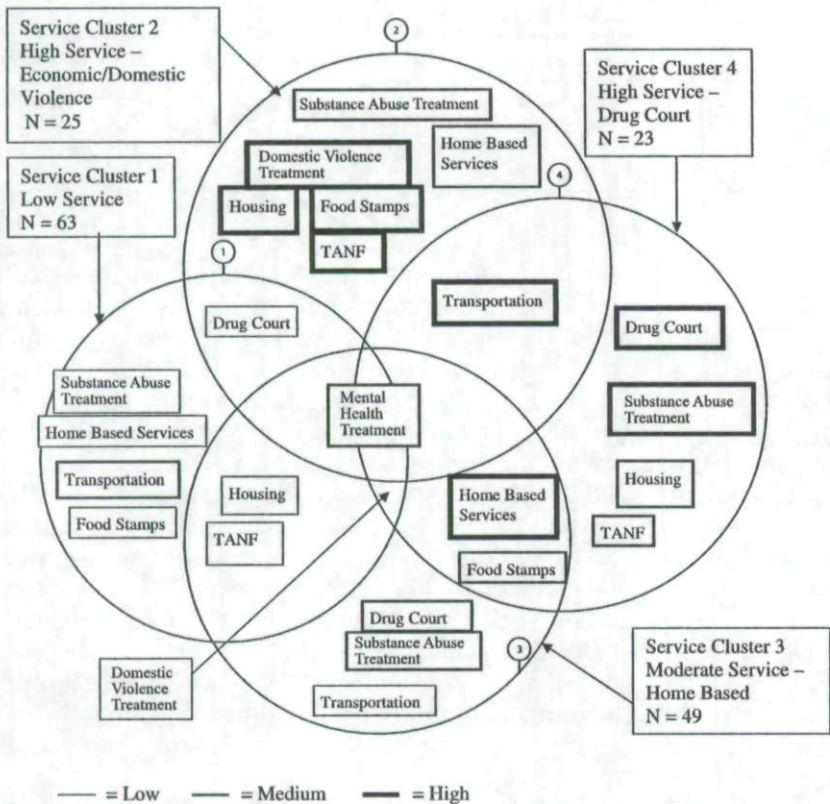
Figure 2 illustrates the cluster characteristics of the four groups using these low, medium, and high designations. Specifically, the

TABLE 5. Results of Chi-Square Comparisons Between Service Clusters

Services	Cluster 1 <i>n</i> = 63 (39.4%*)	Cluster 2 <i>n</i> = 25 (15.6%*)	Cluster 3 <i>n</i> = 49 (30.6%*)	Cluster 4 <i>n</i> = 23 (14.4%*)	χ^2	<i>p</i>
Substance abuse treatment	41.3%	52.0%	61.2%	100.0%	24.379	.001
Domestic violence treatment	7.9%	40.0%	8.2%	13.0%	17.62	.001
Home-based services	0.0%	64.0%	100.0%	95.7%	132.927	.001
Drug court	0.0%	0.0%	14.3%	73.9%	78.159	.001
Mental health treatment	14.3%	24.0%	16.7%	4.3%	3.728	.292
Housing	1.6%	88.0%	10.2%	56.5%	87.77	.001
TANF	1.6%	72.0%	6.1%	47.8%	70.943	.001
Food stamps	42.9%	100.0%	57.1%	69.6%	25.424	.001
Transportation	42.9%	92.0%	14.3%	87.0%	56.345	.001

Note: *Percent of total cases (*N* = 160)

FIGURE 2. Services clusters.



distance between the centers of each circle of the diagram represent the Squared Euclidean distances established by the *k*-means cluster analysis, and the radius of each circle represents the average distance of the members of each cluster from the center of their cluster. As shown in Figure 2, the clusters shared variance (areas of overlap) and also exhibited large areas of unique variance.

Service Cluster 1 ($n = 63$), the Low Services Cluster, was characterized by low percentages of cluster members receiving the following services: substance abuse treatment, food stamps, and home-based services; and moderate levels of transportation services. Like Cluster 2, Cluster 1 was characterized by low levels of drug court involvement.

Like Cluster 3, Cluster 1 was characterized by low levels of housing service and TANF receipt.

Service Cluster 2 ($n = 25$), the High Services/Economic/Domestic Violence Cluster, was characterized by high levels of economic services, such as housing, food stamps, TANF receipt, and high levels of domestic violence treatment. Moderate levels of substance abuse treatment and home-based services were present. Like Cluster 1, there were low levels of drug court involvement. Like Cluster 4, there were high levels of transportation service.

Service Cluster 3 ($n = 49$), the Moderate Services/Home-based Cluster, was characterized by moderate levels of drug court and substance abuse treatment, coupled with high levels of home-based services. Moderate levels of food stamp receipt and low levels of other economic services, such as transportation, housing, and TANF, were also observed.

Service Cluster 4 ($n = 23$), the High Services/Substance Abuse/Drug Court Cluster, was characterized by high levels of drug court and substance abuse treatment, combined with a high level of home-based services, and moderate levels of economic services, such as housing, food stamps, transportation, and TANF receipt.

Relating Services Clusters to Needs Clusters

Relating the service clusters to the previously derived need clusters required examining cluster overlap from two points of view. The first point of view was concerned with the question: "What percent of service is allocated to relevant family needs?" The second was concerned with the question: "What percent of need is covered with relevant services?" Tables 6 and 7 display our chi-square analysis results. Table 6 presents the column percentages that addressed the first question, and Table 7 presents the row percentages that addressed the second question.

Table 6 presents the results of analyses from the allocation point of view. The Substance Abuse service cluster corresponds almost exclusively to the Substance Abuse need group (91.3%). Approximately one-third of each of the other service clusters also corresponded to the Substance Abuse need group, including 34.9% of the Low Services Cluster. Indeed the Low Services Cluster was equally represented across all the need clusters. Needs Cluster 3, with high needs in the domestic violence and economic areas, did correspond to a greater proportion of the High Economic/Domestic Violence service group

TABLE 6. Results of Chi-Square Comparison Between Needs and Services Clusters: Service Allocation Across Need Clusters

Needs Clusters	Service Clusters			
	1 Low Services	2 High Services/ Economic/ Domestic Violence	3 Moderate Services/ Home-based	4 High Services/ Substance Abuse/Drug Court
1) Low Needs	31.7%	28.0%	49.0%	0.0%
2) Substance Abuse	34.9%	32.0%	36.7%	91.3%
3) Economic/Domestic Violence/Mental Health	33.3%	40.0%	14.3%	8.7%
	100%	100%	100%	100%

Note: $\chi^2 = 35.187$; $p < 0.001$.

(40%), but 60% of those in this service cluster belonged to other need groups, including 28% to the Low Needs group. The results in Table 6 also show that the High Economic/Domestic Violence service cluster was spread across all need groups. The Moderate Services/Home-based service cluster was also distributed across need groups, with 49% of those in the Moderate Services/Home-based Cluster corresponding with the Low Needs group.

Table 7 presents the row percentages describing the percentage of families in a need cluster that received services from the service

TABLE 7. Results of Chi-Square Comparison Between Needs and Services Clusters: Percentage of Families in Needs Clusters Matched with Services Clusters

Needs Clusters	Service Clusters				
	1 Low Services	2 High Services/ Economic/ Domestic Violence	3 Moderate Services/ Home-based	4 High Services/ Substance Abuse/Drug Court	
1) Low Needs	39.2%	13.7%	47.1%	0.0%	100%
2) Substance Abuse	31.9%	11.6%	26.1%	30.4%	100%
3) Economic/Domestic Violence/Mental Health	52.5%	25.0%	17.5%	5.0%	100%

Note: $\chi^2 = 35.187$; $p < 0.001$.

clusters. This analysis addresses our second match question: "What percent of family need is covered by relevant services?" Approximately 40% of the Low Needs families received the Low Services package of services; however, almost half of them received the Moderate Services/Home-based package of services. None received the intensive High Services/Drug Court intervention.

The Substance Abuse need group was served by all service clusters. Thirty percent of these families received the High Services/Drug Court intervention, but 31% received the Low Services package, while a quarter received the Moderate Services/Home-based intervention. Relatively few of this group received the High Services/Economic/Domestic Violence group of services. For the Mental Health/Economic/Domestic Violence need cluster, 52% of families were served by the Low Services Cluster, 25% were served by the High Services/Economic/Domestic Violence Cluster of services, and less than 20% by the Moderate Services/Home-based Cluster of services.

Limitations

The study has several important limitations. We do not model all possible services in the cluster analysis; inclusion of other services could affect cluster identification. These services are measured at the nominal level; there were no measures of service intensity or duration that could help distinguish service intensity across service clusters. The sample is not a broad child neglect sample, but rather a high-risk, high-need group of families; thus, findings should not be generalized to all neglecting families.

DISCUSSION

Availability of Specific Services

Research on child neglect has established that neglectful families most often live in impoverished conditions and have severe economic needs such as unemployment, food instability, and poor transportation (Chaffin et al., 1996; Chambers, 2006; Sidebotham et al., 2002). Given the high level of economic needs found in other studies and in this sample, we would hope to see these families receiving a significant amount of support. However, families received minimal income support (23%). There are two probable explanations for the low income-

assistance figures. The first is that this is clearly a *working poor* sample—employment rates are relatively high; however, food stamp receipt (75%) indicates significant poverty. Secondly, child placement, with kin and in foster care, was used frequently during the course of these cases. This likely interferes with TANF eligibility for the most impoverished families. Housing services followed a similar pattern. A number of studies show that families who experience homelessness or live in public subsidized housing communities are more likely to be involved with the child welfare system (Culhane et al., 2003; Shook, 1999). Our results indicated that only 28.5% received housing assistance. This may not be surprising given that there was a 2-year waiting list for affordable housing in this county. Unaddressed housing needs may also be related to use of kinship and foster care placements.

Our findings have implications for income and housing assistance policies for families in general. Many of these families would face fewer stressors if such assistance were available in our society. However, the primary implications are for income and housing support when child welfare involved families are experiencing temporary placement of children. Although more than two-thirds of families in our sample experienced placement of children during the intervention, less than 15% were in that situation at case closure. Policies that support the ability of parents to maintain income and housing during child placement and child welfare intervention may be crucial to supporting family success in reunification.

Cluster Analysis

The cluster analysis successfully identified four distinct clusters. Nevertheless, as Figure 2 illustrates, the clusters do overlap with one another in a number of areas. A comparison with Figure 1 makes it clear that we achieved less robust separation in the services clusters than we did in the previous need-focused analyses. It may well be that the process of service planning in child welfare, individualized in some ways, and constrained by structural resource limitations in others, makes for a less coherent packaging of services than might be optimal. This may be particularly true when considering the pairing of economic and clinical resources. It may also be true that caseworkers are not thinking of service provision in terms of packages of interventions, but rather as a relatively discrete process of matching a few services to a few high-priority needs. In any case, the cluster picture is muddier for services than it is for family needs.

Nevertheless, these service clusters are coherent. The Low Services Cluster represents low delivery of all types of services relative to the other clusters. Only food stamps, transportation, and substance abuse services are delivered with any frequency to this group. This cluster may represent an approach to service delivery that relies on caseworker contact as the primary intervention, with the addition of substance abuse or mental health services if deemed appropriate. Cluster 2 represents the highest delivery of economic services; these families receive TANF, housing, food stamps, and transportation, and the highest levels of domestic violence and mental health services, though these latter services are not plentiful. Cluster 3 is characterized primarily by 100% home based services paired with significant substance abuse services, while Cluster 4 is primarily comprised of the package of drug court services that includes home-based services, with significant linkages to economic supports.

Needs-Services Match

Considering these service clusters in the light of the previously identified needs clusters, we might expect to see significant overlap between the Low Needs and Low Services groups and between the Economic/Domestic Violence/Mental Health needs group and the Economic/Domestic Violence service group. We might also expect that the large Substance Abuse need cluster would be largely served by the Moderate Service/Home-based and Drug Court clusters, which contain the highest proportion of substance abuse services. Our examination of needs-services match does not reveal a clean connection between needs and services. Our findings related to allocation of services support the conclusion that the drug court intervention that integrates drug court, substance abuse treatment, and home-based services is well targeted to an appropriate needs cluster (substance abuse). Other patterns of allocation are much less coherent, with the other three services clusters being allocated roughly evenly across all need groups.

With regard to how well the needs clusters are covered by the services clusters, we find that the Low Needs group is served primarily by the Low Services and Moderate Services/Home-based clusters of services. This appears to be an appropriate coverage of needs for this group. The Substance Abuse needs group is served by all service clusters. This too may be an appropriate needs-services match, since some level of substance abuse intervention is present in all service

clusters, though this is difficult to confirm without information about the levels of needs and services across both sets of clusters. The use of several service packages with the substance abuse need group may also represent a limitation in the availability of the strongest substance abuse intervention—drug court.

The match between needs and services is most troubling for the Economic/Domestic Violence/Mental Health needs group. This group is arguably the highest needs group identified in the service cluster analysis. It is characterized by high levels of need in all economic areas and most clinical areas, including domestic violence, caregiver mental health, and children's health and mental health functioning, with moderate levels of substance abuse. These families are the most likely to have had a previous placement of a child (37.5%), and are the mostly likely to experience placement of children during the case (82.5%), to use foster care resources as opposed to kinship care (42.5%), and to have children in foster care/adoption at case closure and at 1 year post-closure (30%) (Chambers & Potter [unpublished]). However, more than half of these families are served by the Low Services Cluster, the cluster providing the lowest level of economic services and very low levels of domestic violence and mental health intervention. Only one-quarter of these families are served by the High Services/Domestic Violence cluster of services, though this service cluster would appear to provide the strongest match to needs.

It is worth focusing on mental health service allocation specifically. Mental health services are not distributed differentially across the service clusters; that is, they do not *'hang together'* with other services from a cluster analysis standpoint. These services are in short supply for this sample; only 16% of families overall received this kind of intervention, yet they appear to be offered in a more random fashion than are other services. A cluster of families exists that is characterized by high needs for mental health intervention, but mental health services are not available in sufficient quantity to serve these families, nor are they allocated appropriately to the highest need group.

IMPLICATIONS

Further examination of both needs and services clusters in child neglect samples are warranted in order to determine whether our findings are replicable. It is especially important to examine this question with larger samples of neglecting families. Information about subgroups among neglecting families can be used in a number of ways, including

as a support to intervention development and intervention research, as an aid to policy advocacy for needed services, and as a framework supporting child welfare investigation, safety and risk assessment and case management.

As seen in this study and supported by other research findings (Dubowitz, 2007; Smith & Fong, 2004), the economic and clinical needs of neglecting families are numerous and require differing types of interventions. Services that are provided are not sufficiently available to meet the needs of these families, and child welfare cannot be viewed as a system that can meet all the needs of neglecting families. As a community, the problem of child neglect must be seen not only as an individual concern, but also as a societal problem requiring systemic intervention (Garbarino & Kostelny, 1992; Lindsey, 2004; Pelton, 1989, 1994). This will involve creating collaborative partnerships between child welfare, housing authorities, local business owners, and community members so that we can give these families the necessary economic resources to succeed. If families are to adequately engage in changing neglecting behaviors, even as they simultaneously seek to improve their economic situations, then it is also important that we provide properly targeted clinical services for caregivers and children.

If clusters of family needs and family services can be broadly established, child welfare program developers would do well to consider, from an evidence-based standpoint, how those service packages might be modified to offer the best hope for family success for specific need groups. Our research indicated that service clusters are not as coherently organized as would be optimal, nor are they targeted effectively. While it is important to consider each family's unique needs, it is also imperative to consider how best to package and/or integrate multiple services aimed at multiple needs. Progress in this area can be made by taking an intellectually rigorous approach to program development. Such an approach requires careful attention to evidence of effectiveness for interventions across multiple problem domains, including substance abuse, caregiver and child mental health, poverty programs, and domestic violence, as well as child neglect. It also requires an ability to think creatively about how to integrate, rather than simply stack, multiple interventions.

Few models for program development involving this level of integration of evidence exist. Fraser (2004; 2006) offers one such approach, which is rooted in the use of existing evidence and a focus on identifying mediating mechanisms for specific social problems. These mediating mechanisms become the targets for intervention.

The heart of this work lies in synthesizing existing evidence and translating that synthesis into robust, integrated intervention designs. Child welfare agencies are often not equipped in terms of time for this work; forming a team of creative practitioners and researchers may be useful. Certainly child welfare researchers should turn their attention more strongly to intervention research in child neglect, where few intervention studies have been published, though a few prevention programs have been rigorously tested (Ethier et al., 2000; DePanfilis & Dubowitz, 2005).

In the meantime, on the ground in child welfare practice, our research reinforces findings from the limited body of evidence on needs-services matching. Our results show we are not adequately or coherently matching services to family needs. Taking a look at subgroups of neglecting families served in a local child welfare setting and at the patterns of services provided need not wait for intervention model development and testing. A relationship with a local researcher and a good child welfare data system are enough for a group of supervisors or administrators interested in answering this question for the families they serve. This is an important step in taking an evidence-based approach to practice—understanding from both conceptual and empirical standpoints the nature of the problems that families face and the services child welfare professionals provide for them.

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RECEIVED: 07/01/08

REVISED: 12/12/08

ACCEPTED: 01/20/08

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