

Child Maltreatment and Prenatal Exposure to Alcohol and Other Drugs: Some Preliminary Findings

Introduction/Purpose

The Juvenile Protective Association in Chicago is currently engaged in a longitudinal study of high risk families. This research is part of a much broader nationwide effort to track approximately 1500 families for 20 years. The Consortium for Longitudinal Studies, funded by the Administration on Children, Youth and Families, National Center on Child Abuse and Neglect, was formed to develop and administer a study of families representing a continuum of risk from moderate to high (Runyan, Curtis, Hunter, Black & Kotch, 1995). The foci of the shared data protocols include delineating adverse outcomes associated with different types of child maltreatment, evaluating the continuum of interventions with regard to impact on children and families, and defining mediating child, parent, family and cultural factors for the child victim.

The Capella Project, located at the Juvenile Protective Association in Chicago, Illinois, is a study of high risk families characterized by households with a history of child maltreatment, extreme poverty, infants prenatally exposed to alcohol and other drugs (AOD), and high exposure to neighborhood violence (Curtis & Schneider, in press). Unlike the other four projects that make up the consortium, the Capella baseline is infancy. Site-specific measures include videotaped, in-home observations of mother and infant social competencies during the first and fourth years.

Method/Procedures

The study is a longitudinal quasi-experiment and was designed to address long-standing, methodological weaknesses in prior studies of the developmental consequences of child abuse and neglect (Howing, Wodarski, Gaudin & Kurtz, 1989; National Research Council 1993). Enhancements include an adequate sample size, comprehensive descriptions of subject characteristics, type and severity of maltreatment behaviors, type, frequency, and length of

Patrick A. Curtis, Ph.D.

*Director of Research
Child Welfare League of America
440 First Street NW
Washington, DC 20001
202/942-0294 Fax 202/638-4004
E-mail 73632.1017@compuserve.com*

Mary Wood Schneider, Ph.D.

*Director of Research
Juvenile Protective Association
1707 North Halsted
Chicago, IL 60614
321/440-1203 Fax: 312/440-9563
E-mail 74740.621@compuserve.com*

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service interventions, the use of direct observations of mothers and infants, the use of neighborhood controls, multiple-criterion outcome measures, and long-term follow-up.

Utilizing a broad-based ecological and developmental perspective of risk and protection—including infant, caregiver, and the neighborhood environment—it was hypothesized that both child maltreatment and prenatal exposure to AOD would be related to:

1. lower family income.
2. lower parenting scores.
3. higher scores of depressive symptoms and somatic complaints.
4. fewer social supports.
5. perinatal risk factors such as premature birth and low birth weight.
6. infant temperament.
7. developmental delays in infancy.

Other risk and protective factors not supported by the literature, but available for analysis, included mothers' history of victimization, family satisfaction, stressful life events, and satisfaction with the quality of the neighborhood. Parenting was measured using the Adult Adolescent Parenting Inventory (AAPI; Bavolek 1984).

The sample consists of 300 mothers and infants. All children must be less than 18 months of age when they enter the study. In order to control for geography and SES, all household units are located within the state child protective services (CPS) Northern District boundaries for Chicago and have household income below federal poverty thresholds. Mothers and infants are recruited into one of three sub-samples:

1. Maltreated with Clinical Interventions: Subjects with at least one substantiated report

of child abuse or neglect within the family household in the past twelve months. Subjects were identified for the study by social service agencies after referral for long-term (three to 18 months), relational based clinical interventions such as supportive counseling or psychotherapy.

2. Maltreated with State CPS Interventions: Subjects with at least one substantiated report of child abuse or neglect within the family household in the past twelve months. Subjects were identified for the study by state CPS workers from the Northern District Office for Chicago.
3. Non-Maltreated, No Interventions: Subjects with no substantiated reports of child abuse or neglect within the family household in the past twelve months. Subjects were identified for the study by local, community-based health and social service agencies.

Results

The following analysis was conducted on 267 mothers and infants. There were significant differences between the three sub-samples in annual family income as seen in Table 1. Defined as family income less than \$5,000 per year, 33.8% of the entire sample was "super poor." The proportion of super poor families across sub-samples and between mothers with infants prenatally exposed to AOD compared to mothers whose infants were not exposed was similar. However, more mothers with infants prenatally exposed to AOD were living on AFDC compared to mothers whose infants were not exposed (see Table 2).

There were no differences between maltreating mothers and neighborhood controls in any of the AAPI domains: inappropriate expectations of children, empathy, attitudes toward the use of corporal punishment, or family

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Table 1
Mothers and Infants in the Capella Project by Sub-Sample
(N = 267)

	1. Maltreated with Clinical Interventions <i>n</i> = 63	2. Maltreated with CPS Interventions Only <i>n</i> = 95	3. Neighborhood Controls <i>n</i> = 109	Total <i>N</i> = 267
Age of the Mother	26.4 years	25.9 years	22.7 years	24.7 years **
Percent Minority	77.9%	74.7%	75.2%	75.7%
Percent Completed High School	36.7%	28.4%	32.2%	31.8%
Family Income	\$9,667	\$8,351	\$11,745	\$10,038 *
Percent Super Poor (< \$5000 per year)	31.7%	38.3%	31.1%	33.8% *
Age of the Infants	8.4 months	7.7 months	9.0 months	8.4 months
Percent Infants Female	50.0%	51.1%	54.2%	52.1%
Percent Premature Births (< 37 weeks gestation)	28.8%	22.6%	19.3%	22.6%
Percent Low Birth Weight	23.0%	19.4%	22.4%	21.5%
Percent Delayed Development	16.4%	20.9%	24.0%	21.1%

* $p < .05$, ** $p < .01$

Table 2
Mothers and Infants in the Capella Project by Prenatal Exposure to AOD
(N = 267)

	Prenatal Exposure to AOD <i>N</i> = 65	No Known Prenatal Exposure to AOD <i>N</i> = 202	Total <i>N</i> = 267
Age of the Mother	27.9 years	23.6 years	24.7 years **
Mother Receives AFDC	87.7%	76.5%	79.3% *
Risk of Alcoholism	.81	.43	.52 **
Percent Premature Births (< 37 weeks gestation)	23.0%	22.5%	22.6%
Percent Low Birth Weight	20.6%	21.7%	21.5%
Percent Delayed Development	18.0%	22.1%	21.1%

* $p < .05$, ** $p < .01$

role reversal. No differences were discovered in the parenting scores of mothers with children prenatally exposed to AOD compared to mothers whose children were not.

Neither maltreatment nor AOD predicted differences in depressive symptoms as measured by the Center for Epidemiological Studies - Depression Scale (Radloff 1977) or differences in somatic complaints as measured by the Health Opinion Survey (Macmillan 1957). However, as measured by the CAGE (King 1986), mothers with children prenatally exposed to AOD scored significantly higher for risk of alcoholism compared to mothers whose infants were not exposed.

Social supports were measured using the Duke-UNC Functional Social Support Questionnaire (Broadhead, Gehlbach, Degruy & Kaplan, 1988). Mothers in sub-sample 1, maltreated with clinical interventions, reported fewer social supports than mothers in the CPS sub-sample or the neighborhood controls. AOD was not related to social supports.

Of the entire sample, 22.6% were reported by mothers to have been born prematurely (less than 37 weeks gestation), 21.5% were low birth weight, and 16.3% required oxygen at birth—however none of these risk factors were related to maltreatment or prenatal exposure to AOD.

Neither maltreatment nor AOD were related to infant temperament as measured by the Infant Characteristics Questionnaire (Bates, 1980).

Infant development was measured using the Battelle Screener (Newborg, Stock, Wnek, Guidubaldi & Svinicki, 1984). Battelle Screener results include scores that represent standard deviations from the mean of the normal population. Of the total Capella sample, 21.1% scored at least one standard deviation below

normal while 7% scored two standard deviation units below normal indicating serious developmental delays. There were no significant differences between the three sub-samples, but developmental delays were found in all three, including the neighborhood controls.

Using logistic regression, of all the domains reported in this analysis, only low birth weight predicted risk of developmental delays. Low birth weight infants were twice as likely to be developmentally delayed as normal weight infants. A series of interactions were also tested, e.g. low birth weight and child maltreatment, low birth weight and AOD, low birth weight and premature birth, but only low birth weight predicted developmental delays.

Family satisfaction, stressful life events, and satisfaction with the quality of the neighborhood were not related to child maltreatment or prenatal exposure to AOD.

Although history of victimization was not related to child maltreatment, mothers whose infants were prenatally exposed to AOD were significantly more likely to report that, as children or teenagers, they were either hit, slapped, shaken, or burned by a parent or someone else and that, prior to age 13, someone had tried or succeeded in having sexual intercourse with them, compared to mothers whose children were not exposed.

Discussion

Although some linkages between child maltreatment and AOD have been established in the literature (Curtis & McCullough, 1993; Famularo, Kinscherff, & Fenton, 1993), neither child maltreatment nor prenatal exposure to AOD were related to several perinatal risk factors, infant characteristics, or observable developmental delays in infancy. No relationships were discovered

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between AOD and parenting practices, maternal depression, somatic complaints, or infant temperament. No interactions between AOD, poverty, and infant development were uncovered.

However, several risk factors related to prenatal exposure to AOD were discovered among the mothers. Mothers with infants prenatally exposed to AOD were, by self-report, at greater risk of alcoholism and consistently reported a greater history of personal violence than mothers whose infants were not exposed.

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Evaluation of the Total Family Strategy Program

Introduction

The Total Family Strategy program (TFS) funded by the Juvenile Welfare Board of Pinellas County provides early intervention services to at-risk families in Pinellas County. The program is designed to prevent and ameliorate costly social problems through family empowerment, competency building, and counseling.

The program is centered on an empowerment and competency based model. This model is founded on a belief in the inherent strengths and abilities of family members. The model focuses on enabling families to identify resources in their own family and the community to resolve their problems. To help families accomplish their goals, the TFS program offers individualized services to all members of a family. Services may include in-depth assessments, case management, counseling, family therapy, parent skill building, job training, mental health, aftercare, follow-up services, and temporary financial assistance.

This program is provided by four agencies in Pinellas County. These agencies have the responsibility for organizing their program and hiring and supervising the case workers and supervisors who provide services. The agencies work with the Juvenile Welfare Board to ensure that staff are appropriately trained in the principles of family empowerment and family based service.

Method

Participants

A total of 181 families who were referred by social service agencies, schools or self-referrals were admitted to the program. Eligible families, as determined by a risk factor checklist, typically have low incomes, are usually headed by a single parent, and have histories of poor coping, domestic violence, alcohol, or substance abuse. Thirty-eight percent of the families served by the program received their primary income from AFDC, and 79% had a total income of less than \$1,000 per month. Among the 388 children served by the program, 69% were in families of two or more

Liang Wu Ed.S.

*Coordinator of Statistical Research
813/974-6406 Fax: 813/974-4406
E-mail: wu@hal.fmhi.usf.edu*

Oliver T. Massey, Ph.D.

Associate Professor

*Department of Child and
Family Studies
Florida Mental Health Institute
University of South Florida
13301 Bruce B. Downs Blvd.,
Tampa, FL 33612-3899*

children with 72% of the children under the age of seven. Presenting problems for families in the program included defiance and problems at home and school on the part of the children, and lack of parenting skills on the part of the parents.

Procedures

The evaluation of the Total Family Strategy program (TFS) was conducted through the collection and analysis of qualitative and quantitative information. Case workers collected information using the following instruments: (a) demographic face sheet; (b) a risk factor checklist which defined the eligibility of the family for the TFS program; (c) a subset of the Child Well Being Scales and the Family Risk Scales; (d) pre and post-intervention summaries which detailed specific and unique goals, expectations, and accomplishments identified and defined by family members and the case workers.

Information was also obtained from family members regarding their attitudes and expectations toward the TFS program. Qualitative data were obtained from family members participating in the program through the use of focus groups and personal interviews. To help assess change over time, quantitative data were collected when the family entered the TFS program and at six month intervals. Qualitative interviews and focus groups were conducted at the end of the evaluation period.

Results and Implications

Results from quantitative assessments through comparisons of pre- and post family data indicate improvement in broad areas of family stability and parenting. Repeated measures MANOVAs of case managers' ratings of family well being and *t*-tests of rating changes over time are provided in Tables 1 and 2. These results were confirmed in focus groups and case interviews with family members. More stable family functioning was reflected in

significant improvement in the quality of life for families and in the security of residence. The money management skills of family members were also significantly improved.

A consistent finding of qualitative data collection efforts was the degree to which the TFS program empowered and valued parents as part of the treatment process, provided a broad range of specific services to address unique family needs, gave flexible financial assistance, and was positively experienced by the program participants. One of the most consistent concerns identified was the negative impact of case worker turnover for some families, and the need for more targeted counseling services for children.

The evaluation of the Total Family Strategy program emphasized multiple sources of data to test the appropriateness and accomplishments of the program. A wide variety of problems identified for families, such as housing, employment, education, parenting skills, children's behaviors, and schooling were confirmed in family and focus group interviews. The TFS services placed value and emphasis on flexible financial support, in home counseling, and a variety of assistance for parents and children. Results of the qualitative and quantitative research indicate the strongest effects appear to be associated with improvements in the functioning of parents as care-givers. Parents have benefited both from parent-skills training and related services as well as from the reassurance, support, and hope case workers offer. The overall effect of the program in improving the quality of the participants' lives was reflected in focus group and parent interviews. Parents and case workers agree that there has been a significant improvement in the families quality of life.

Future evaluation and program reviews may focus specifically on issues related to program

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effects for children, long term impact on families who have graduated from active care, and a comparison of the effectiveness of the TFS program to alternative service interventions.

Table 1
Family & Child Assessment Results

Scale	Pre - intervention	6 month follow-up	12 month follow-up	Significance
Security of residence	2.02	1.61	1.27	$F(2,80)=8.78^{**}$
Availability of utilities	1.25	1.30	1.10	$F(2,78)=1.42$
Parental capacity for child care	1.54	1.27	1.32	$F(2,80)=3.30^*$
Mental health care	2.03	1.50	1.47	$F(2,66)=5.21^{**}$
Money management	1.63	1.44	1.29	$F(2,80)=3.97^*$
Parental motivation to solve problems	1.67	1.50	1.50	$F(2,82)=.89$
Parental cooperation with case planning	1.48	1.48	1.43	$F(2,82)=.11$
Support for principal caretaker	2.52	1.74	1.64	$F(2,82)=10.10^{**}$
Availability/ accessibility of services	1.93	1.40	1.33	$F(2,78)=13.83^{**}$
Parental acceptance of/ affection for children	1.81	1.53	1.46	$F(2,80)=3.88^*$
Parental expectations of children	2.24	1.73	1.51	$F(2,80)=16.65^{**}$
Parental consistency of discipline	2.25	2.00	1.83	$F(2,78)=4.91^*$
Child family relations	2.05	1.63	1.45	$F(2,78)=12.18^{**}$
Coping behavior of children	2.45	2.45	2.38	$F(2,78)=.14$
Adult relationships	2.32	2.14	1.75	$F(2,54)=5.12^{**}$
School adjustment	2.79	2.04	1.61	$F(2,54)=8.96^{**}$
Home related behavior	1.97	1.67	1.33	$F(2,76)=13.45^{**}$

(* $p < .05$, ** $p < .01$)

Note: Results are average rating

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Table 2
Follow-up Comparisons

	Pre and 6 Month Comparisons				Pre and 12 Month Comparisons			
	X_{pre}	X_{6m}	df	t Value	X_{pre}	X_{12m}	df	t Value
Employment	1.55	1.58	64	0.70	1.65	1.51	36	1.71
Weekly working hours	20.20	31.9	45	*2.61	21.24	30.62	20	1.65
Satisfaction with job	2.85	2.48	36	1.22	2.69	2.23	12	0.94
Stress on job	4.54	3.41	36	*2.44	2.92	3.07	13	0.50
Income sufficiency	3.65	2.84	61	**3.09	3.66	2.59	31	*2.85
Quality of home life	2.62	2.54	67	0.41	2.70	2.08	36	*2.66
Satisfaction with the relation with family member	2.52	2.38	62	0.90	2.46	2.63	34	0.88
Satisfaction with the relation with children	2.33	2.07	66	1.70	2.14	1.97	35	0.64
Getting around the community	2.22	2.07	65	1.00	2.49	2.08	36	1.49
Satisfaction with the day care services	3.19	1.56	31	**3.19	3.95	1.60	19	**2.86
Child's school problems	2.70	2.40	56	1.43	2.48	2.03	28	1.66
Behavior problems	3.12	2.79	66	2.29	2.73	2.51	36	1.28

Note: * $p < .05$, ** $p < .01$

The Public Mental Health and Head Start Partnership in the Ventura County System of Care

Introduction

Since 1985, the Ventura County system of care has served a defined group of children and adolescents for whom local public agencies have a mandated responsibility, viz., court wards, court dependents, and special education students who are at risk for out-of-home placement. Although they represent the most significant cost for public agencies, these youngsters represent a fraction of those with *subthreshold* problems (Costello & Shugart, 1992), who, if not served or underserved, could eventually require more intensive and costly services such as hospitalization and residential treatment. This paper describes work in progress whose long-term goal is to link local early childhood efforts with the existing system of care and, by doing so, broaden the target group served by the system. An important part of this effort is a developing partnership between the Ventura County Mental Health Department (VCMH) and Child Development Resources of Ventura County (CDR), administrator of the countywide Head Start program. This collaboration seeks to improve services to at-risk children who are younger and demonstrate less impairment than the current target population but who could eventually become involved with local public agencies.

Local Head Start Program

Program Structure and Services

Organization of the local Head Start program reflects goals and service requirements set forth in federal performance standards (U.S. Department of Health and Human Services [DHHS], Administration

Donald W. Kingdon, Ph.D.

Chief, Child and Adolescent Services

Ventura County Mental Health Department

300 Hillmont Avenue

Ventura, CA 93003-1699

805/652-6737 Fax: 805/652-6160

Craig K. Ichinose, Ph.D.

Senior Research Psychologist

Ventura County Mental Health Department

300 Hillmont Avenue

Ventura, CA 93003-1699

805/652-6097 Fax: 805/652-6160

Alicia V. Ramirez, B.S.

Program Manager

Child Development Resources of Ventura County, Inc.

2500 Vineyard Avenue, Suite 200

Oxnard, CA 93030

805/485-7878 Fax: 805/278-0775

Kingdon, Ichinose & Ramirez

for Children, Youth and Families, 1992; 1993). The program offers center- and home-based options. Most children participate in the center-based program which includes 49 part-day classes (i.e., 3.5 hours per day, 5 days per week) at 17 centers throughout the county. Classes are staffed by a teacher, teacher aide and parent volunteer(s). Average class size is 18.5. A family service specialist (FSS) is also assigned to each center. The average FSS caseload is 60.

The home-based option includes five home-based groups each comprised of a teacher and 12 children. Teachers visit each child at home once a week for a 90-minute session and supervise two group events each month. Unlike the center option where a FSS provides family support, the home teacher initiates all family services.

Enrolled children and families receive services in five program areas: education (regular and special education), health (medical, dental, and mental health), nutrition (provide part of child's daily nutritional needs and parent education), parent involvement (parent education and participation in program planning/operation), and social services (family needs assessment, referral, and community outreach).

Population Served

Data from the Head Start Program Information Report (PIR) for 1993-94 reveal that the local program enrolled 1,167 children from 1,062 families (funded enrollment for the year was 966 children). This group included nearly twice as many 4-year-olds (746; 63.9%) as 3-year olds (421; 36.1%) and nearly the same number of males (582; 49.9%) and females (585; 50.1%).

The data also suggest the importance of cultural, economic, and mobility issues in serving this population. For example, the children were predominantly Hispanic with the proportions of enrolled Caucasian and Hispanic children differing markedly from the distribution of ethnicity found in the general county population (see Table 1). Furthermore, 774 (66.3%) of the children were enrolled in Medicaid/EPSTD and 1,007 (94.8%) of the families had incomes at or below federal poverty guidelines. Finally, the PIR shows that 258 (34.6%) of the 4-year-olds had been enrolled during the previous year and that 196 (16.8%) of the children enrolled in 1993-94 dropped out after classes began during the year. Although the number of 3-year-olds enrolled in 1992-93 and the number of 4-year-olds in the 1993-94 program year who were enrolled in Head Start outside the local program are unknown, the data suggest that a number of children do not enroll for a second year.

Data obtained on 695 families at the beginning of the current 1994-95 program year indicate the presence of other risk factors. These include the numbers of single-parent families (301; 44.3%), families in which mother (521/672; 77.5%) or father

Table 1
Ethnicity for Children Enrolled in Ventura County
Head Start in 1993-94
(n = 1167)

Ethnicity	<i>n</i>	% of County Enrollment	% of Total Population
Caucasian	186	15.9	65.9
Hispanic	890	76.3	26.4
Asian/Pacific Islander	23	2.0	4.9
African American	57	4.9	2.2
Native American	11	0.9	0.5

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(122/385; 31.7%) is unemployed, families in which mother (350/670; 52.2%) or father (217/386; 56.2%) is not a high-school graduate, and families indicating a need for social services (884; 83.2% of family needs assessments completed).

Special-Needs Population

Federal performance standards (DHHS, Administration for Children, Youth and Families, 1993) specify that at least 10 percent of a program's funded enrollment be allocated to serve children with a professionally diagnosed disability and that such children receive services in accordance with an individual education plan (IEP). Of children enrolled locally in 1993-94, 112 (9.6%) had a professionally diagnosed primary disability. By far, speech/language impairment (73; 65.2% of diagnoses) was the most common disability (see Table 2). In contrast, only 3 children were

diagnosed with emotional/behavioral disorder (2.7% of diagnoses or 0.3% of enrolled children).

A concern is that the small number of emotional/behavior disorder cases identified may reflect assessment that uses a clinical approach that is too narrowly focused and that lacks an appropriate developmental perspective (Forness & Finn, 1993). Alternatively, assessment may need to focus on defining impairment in child functioning and identifying absence of family and community supports.

Program Linkage

Basis for Collaboration

Based on their shared interest in early intervention with young children, Ventura County Mental Health and Child Development Resources began a partnership to serve children in Head Start. The agreement was approved by the County

Board of Supervisors and called for VCMH to dedicate a full-time psychiatric social worker to serve as mental health consultant to the Head Start program for the 1994-95 program year. Since the social worker delivers services in accordance with federal performance standards for meeting the mental health needs of Head Start participants, the agreement was timely given recent recommendations for strengthening services to enrolled children (Piotrkowski, Collins, Knitzer, & Robinson, 1994). Also, the agreement allowed CDR funds that were designated for mental health

Table 2
Diagnosed Disabilities for Children Enrolled in Ventura County
Head Start During 1993-94
(n = 112)

Disability	n	% of Cases Diagnosed	% of Total Enrollment
Speech/language impairment	73	65.2	6.3
Learning disability	13	11.6	1.1
Health impairment	7	6.2	0.6
Hearing impairment/deafness	6	5.4	0.5
Mental retardation	6	5.4	0.5
Emotional/behavioral disorder	3	2.7	0.3
Orthopedic impairment	2	1.8	0.2
Other impairment	1	0.9	0.1
Visual impairment/blindness	1	0.9	0.1
Autism	0	0.0	0.0
Traumatic brain injury	0	0.0	0.0

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consultation to be leveraged with VCMH Medicaid billing where medical necessity could be established.

From its perspective, VCMH is anticipating the impact of a statewide initiative to manage mental health services for Medicaid recipients. Under the plan, Medicaid funding for services to the chronically ill and for outpatient and acute care will be consolidated at the county level. In the process, state treatment dollars and the responsibility for serving all Medicaid-eligible children and their families (including most Head Start families) will shift to counties. Since funding will eventually be capped, a county can minimize the risk of exhausting its fund by developing a managed care system that minimizes expensive, out-of-home services and maximizes the effectiveness of less expensive, early intervention services like Head Start.

Head Start VCMH Consultant

The social worker provides all mental health services specified in Head Start performance standards: (a) consults with teachers and family service specialists; (b) biannually observes all children in a classroom setting; (c) assists in providing assessment, treatment, referral and case management services to referred children; and (d) works with parents to help achieve the goals of the mental health program. Wherever appropriate, service delivery is arranged to meet VCMH Medicaid billing requirements for assessment, treatment, and case management.

Referred Cases

The 31 referrals received by the social worker since implementation of the agreement have come from teachers (20; 64.5%), family specialists (7; 22.6%), public health clinics (3; 9.7%), and parents (1; 3.2%). Three centers with a total enrollment of 156 referred no children and one center with an enrollment of 40 referred 4 (10%) children. More of the referred children were male (17; 54.8%) and

most were Hispanic (21; 67.7%), 4 and 5 years-old (26; 83.9%) and Medicaid-eligible (21/30; 70.0%). Presenting problems most frequently identified by the referral source were emotional/behavior problems (12; 38.7%), parent concerns (6; 19.4%), and family problems (5; 16.1%). It is noteworthy that none of the referred children could be given a DSM Axis I primary diagnosis and only one could be given a diagnosis on Axis 2.

Important family characteristics of referred children are reflected in the numbers of single-parent families (16; 51.6%), families without a wage-earner (14/30; 46.7%), AFDC-eligible families (21/28; 75.0%) and families previously investigated by child protective services (8/28; 28.6%). Spanish was the primary language in the home for 7 (22.6%) of the children and 7 (22.6%) resided in homes that were bilingual.

These results raise a number of key issues. First, the referral process must be developed to insure that the consultant serves those children who are most in need. Important steps here include: (a) developing explicit guidelines for referral; (b) training staff in these guidelines; and (c) encouraging parent participation in the referral process so that problems in non-school settings are identified. Second, revenue has not been generated as expected since none of the 31 referred children met the medical necessity criteria for mental health services under Medicaid. While these children continued to receive services from the social worker beyond the 60-day period for determining medical necessity, an important element in the partnership has not been realized so far. This result indicates the need to learn more about the mental health and other needs of this population and to arrange service delivery in a way that satisfies the respective priorities of Head Start agencies and public mental health.

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Implications

Early intervention seeks to build upon the network of resources that support a child's growth at earlier points in the developmental process. As a practical matter, introducing early intervention in an existing system of care whose services constitute tertiary prevention requires a significant expansion in focus. In particular, criteria for a broader target population must be developed (Jordan & Hernandez, 1990) since few children in early childhood programs such as Head Start meet the criteria for the current target population (i.e., psychiatric diagnosis, significant functional impairment, and out-of-home placement risk). The expanded criteria may well include critical events that reflect early public agency involvement, age-appropriate norms for functional impairment, and the absence of key family and community supports.

New outcomes and services must also be developed and integrated within the existing system. Change resulting from this process must be seen as a systematic extension of the *deep-end* of the system toward its *shallow-end*, rather than as an unrelated patch. Indeed, as change is introduced, the enhanced system must continue to monitor and manage outcomes for its population with SED (e.g., out-of-home placement) since it is the avoidance of the cost of deep-end services that assures funding for the early identification and community-based treatment.

Achieving these goals will require a research agenda which includes various tasks: (a) develop a management information system that provides easily retrievable data on child and family characteristics, referrals made, services delivered, and outcomes obtained; (b) develop and test a developmentally appropriate model for identifying children with serious functional impairments; (c) develop a set of outcomes to be assessed annually (e.g., increase the number of children who return

from the previous year's enrollment and reduce the number of children who leave the program during the year); and (d) develop a model for transitioning children from Head Start to elementary school programs and tracking of their subsequent involvement with public services over time.

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