

MENTAL HEALTH EARLY INTERVENTION PROGRAM FOR YOUNG CHILDREN COST OF FAILURE STUDY

INTRODUCTION

In Unclaimed Children, a 1982 nationwide study of children in need of mental health services, Jane Knitzer presents compelling evidence that most states expend money in costly and restrictive settings rather than creating more cost effective community-based alternatives. In 1982, only twelve states had services to identify early mental health needs and care for children before problems intensified. Colorado was not among them.

Today, the situation is beginning to change. Nationwide and in Colorado there is a growing recognition of the importance of helping children get a good start in life by addressing emotional and behavioral difficulties before school begins.

What, how and how much children learn in school will depend in large part on the social and emotional competence they have developed as preschoolers. ... Children who do not begin kindergarten socially and emotionally competent are often not successful in the early years of school - and can be plagued by behavioral, emotional, academic, and social development problems that follow them into adulthood. (CMHFAN, 2000)

Colorado's Early Intervention Program for Young Children was instituted in FY97-98 to provide mental health services for children with emotional or behavioral problems who are at increased risk of negative outcomes and potential costly multiple system involvement. Without intervention many of these children will experience:

expulsion from child care settings,
lack of readiness to enter school,
school failure,
out-of-home placement,
commitment in a juvenile justice facility, and
later involvement in mental health, criminal justice and welfare systems (Knitzer, 1997).

Sponsored by Colorado Mental Health Services, the Mental Health Corporation of Denver and the Mental Health Center of Boulder County, the Early Intervention Program places mental health clinicians in child care centers and preschools that have a high percentage of low-income families. Zero to Three, a national organization concerned with early growth and development, presents a good rationale for mental health consultation in childcare settings.

The essence of good childcare for infants and toddlers lies in the quality of relationships between and among caregivers, parents and children. Mental health consultation, whether it focuses on a particularly difficult child or an equally distressing but more general program issue, is centered upon and conducted through those relationships. (Zero to Three, 1990)

These programs work by reducing risk factors (for example, by identifying and treating developmental problems) and improving the environment through increased parent and caregiver competencies. Children helped are those whose problems, although transitory, could worsen with mishandling, and those whose problems show a potential for long-term continuation without intervention. Two authors support this type of approach.

Difficult behavior, such as tantrums, noncompliance, over activity or difficulty with peers may be an indicator of emerging behavior problems or an age-appropriate, short-lived manifestation of stress. ... Researchers agree that parental behavior and other aspects of environment may account for some of these differences in development. (Campbell, 1997)

It is the accumulation of risk that is the most predictive of adult dysfunction. Study after study shows that the prevalence of poor adult outcomes increases geometrically in children exposed to two or more risk factors. (Doll & Lyon, 1998)

The goal of the Early Intervention Program for Young Children is to improve outcomes for children and their families. The objectives of the program are:

- reduction of problem behaviors,
- improvement in classroom quality,
- early identification of risk factors,
- establishment of referral network, and
- increase in parental effectiveness.

If these objectives are achieved, children will be able to benefit from their childcare experience and move forward in school ready to learn. In addition, there is the potential benefit of future costs savings in public systems that deal with troubled children and with adolescents and adults whose life problems began when they were very young.

The FY 1999 - 00 Long Bill Footnote, attached to the funding for the Early Intervention Program for Young Children, requires a report to the Joint Budget Committee demonstrating progress toward reducing costs in other systems..... which should include, but not be limited to, out-of-home placement, psychiatric hospitalization, and education. The purpose of this report is the documentation of the costs of the Early Intervention Program for Young Children and its

projected cost-savings.

CONSEQUENCES OF EARLY CHILDHOOD EMOTIONAL AND BEHAVIOR PROBLEMS

It is tempting to view the emotional or behavioral problems of young children as transitory situations to be tolerated or contained until the child grows out of them. There is ample evidence, however, for the disruption to learning and relationships, which can occur because of childhood emotional or behavioral problems. There is also evidence for the linkage of childhood emotional and behavioral disturbances to later adolescent and adult social problems (Luby & Morgan, 1997). Emotional and behavioral problems in young children can lead to school failure, child abuse, delinquency, and mental illness.

These childhood problems have recognized adolescent and adult correlates involving multiple costly public service systems. For example, school failure is often associated with grade retention, special education, dropping out, and later, teen pregnancy, unemployment, and welfare dependency. Some children who experience abuse go on to be abusers themselves, repeating the cycle of violence. Others who are placed in foster homes as a result of abuse, experience numerous episodes of homelessness. Conduct disorders in young children can lead to youth and adult crime. Mental illness can impose a life long burden involving hospitalization, unemployment, and dependency.

School Failure - Special Education

Externalizing symptoms at preschool age, including hyperactivity, concentration difficulties, discipline problems, tantrums, attention seeking behavior and poor peer relationships were especially pronounced in the children whose problems continued in elementary school. These children continue to show a range of behavioral, learning and academic difficulties. (Campbell, 1995)

Preschool emotional and behavioral problems have been shown to be relatively stable, to correlate significantly with other problems, and to predict negative outcomes in future development. (Fantuzzo *et al.*, 1999)

Child Abuse

Studies of children with behavior problems suggest that they rarely receive positive pro-active parenting, either because parents are unable to provide it or because they themselves are more likely to elicit less optimal parenting strategies. (Campbell, 1997)

Certain patterns of child behavior are apt to be high risk for abuse. The irritable child; the negative child; the demanding, overly dependent child; the hyperactive

child; the unresponsive child impose greater burdens on and offer fewer satisfactions to the parent. ... Some children provoke more negative reactions than others. ... While not excusing the parent for abuse, we cannot, if we want to fully understand the abuse event, dismiss the child's contribution as an inconsequential factor. (Kadushin & Martin, 1981)

Delinquency

There is a high degree of continuity between childhood conduct problems, delinquency, and later criminal behavior. (Greenwood, 1996)

Children identified as hard to manage at ages 3 or 4 have a high probability (probably somewhere around 50:50) of continuing to show difficulties throughout the elementary school years and into early adolescence. (Campbell, 1995)

Once problems persist from preschool to school entry, they are even more likely to continue into adolescence. (Campbell, 1997)

Mental Illness

Preschool psychopathology may show marked stability and is often predictive of later psychopathology. In fact, early age of onset may portend a more protracted illness. (Rose *et al.*, 1989)

Children with conduct disorders have impaired functioning in many areas of their lives, such as school and peer relationships. In addition, they have a poor adult prognosis; half of them have serious psychosocial disturbances into adulthood. (USDHSS, 1990)

PREVALENCE OF EMOTIONAL/ BEHAVIORAL PROBLEMS IN YOUNG CHILDREN

Estimates of the extent of emotional and behavioral problems in young children range from between 5 and 24 percent (Children's Mental Health, 1987; DHHS, 1999; Institute of Medicine, 1989; Kelleher *et al.*, 2000; National Plan, 1990). The range is due to varied definitions and degrees of severity used by different researchers.

There is often some reluctance to diagnose emotional or behavioral problem in preschool children. A reflection of this reluctance to label young children is the fact that although they are a high risk group, only seven percent of Head Start children are identified as having emotional or behavioral problems (Fantuzzo, 1999).

The 1999 estimated population of Colorado children less than eight years of age is 533,959 (Colorado Health Information Data Base). If only 10% of them had emotional and behavioral problems, 53,396 would be at risk of negative outcomes and costly public system involvement.

DIRECT COSTS OF MENTAL ILLNESS AND OTHER SOCIAL PROBLEMS

A number of studies have attempted to attribute costs to mental illness and other social problems that could be prevented. The costs come primarily from intensive and restrictive care provided by public systems. The following will serve as just a few examples.

Mental illness

A Colorado study (Shern *et al.*, 1990) found that 198 chronically mentally ill adults (largely white, unmarried, male, and middle-aged) cost the state and federal government an average of \$24,000 each in health and psychiatric treatment, hospitalization, and public benefits in the 12 months between June 1987 and July 1988.

A 1991 study (Dresser) documented the career use and cost of human services (public health, mental health, social welfare, special education, and juvenile justice) for 10 San Francisco children and adolescents with severe emotional disturbance and high multi-system involvement. The average annual cost per child was \$50,246, and the career cost average per child including all systems except special education was \$2,154,475. The children ranged in age from 5 to 15.

A Michigan study (Wolff, 1995) estimated the societal costs of community mental health care for a sample of very difficult to treat clients. Average societal costs, which included maintenance (cash and shelter), mental health treatment, human services, health care, legal, judicial, and family burden, averaged almost \$30,000 per year per client.

A Colorado study (Shockley *et al.*, 1996) of 21 youth committed to the Colorado Office of Youth Services (in which twenty of the 21 youth had prior special education, out-of-home placement, or psychiatric treatment expenditures) found an average total pre-commitment expenditure of \$42,385. The youth were predominately male with an average age of 16 at the time of commitment.

Other Social Problems

Researchers estimate that the national direct costs associated with adolescent childbearing are \$6.9 million each year, with another \$19 million annually in indirect costs (Maynard, 1996).

Every class of dropouts earns about \$237 billion less during their lifetimes than an

equivalent class of high school graduates (NGA, 1992).

The estimated minimal annual cost of child maltreatment nationally is \$9 billion (Healthy Families America, 1995).

THE EFFECTIVENESS OF EARLY INTERVENTION PROGRAMS AND THE POTENTIAL TO ACHIEVE SAVINGS FROM REDUCED SOCIAL PROBLEMS

There is ample research evidence that early intervention and prevention efforts have the potential to save money by averting later costly social problems. The benefits of these programs span the domains of cognitive and behavioral outcomes, educational attainment, economic resources and health. ... They generate at least four types of significant savings to government: increased tax revenues; decreased welfare outlays; reduced expenditures for education, health and other services; and lower criminal justice system costs (Karoly, 1998, p. 84).

Two of the best examples of this research are the Elmira Prenatal/Early Infancy Project and the High Scope/Perry Preschool Project. Both studied participants long enough for actual benefits to accrue. Both programs achieved their greatest return on investment with the most high-risk participants.

The Elmira Prenatal/ Early Infancy study (Olds *et al.*, 1993) demonstrated that an intensive nurse home visitation program with poor, unmarried teen mothers could produce government savings of \$3,498 per family by the time the children were 4 years of age. Within two years after the program ended, the program cost for these families was recovered with a dividend of \$180 per family. The savings were in the areas of reduced child abuse and neglect, fewer emergency room visits, and increased participation in employment for the mothers. A follow-up when the children were 15 years old, found that the net savings to government was \$18,611 per child, over three times the cost of the program for each participant (Karoly, 1998).

The High Scope/Perry Preschool offered low-income children a high quality preschool program with intensive parental involvement. The study followed participants from early childhood to adulthood. Participants (as contrasted with the control group) showed improved intellectual performance in early childhood, and lower rates of special education placement and grade retention in elementary school. In adolescence, participants showed a lower rate of delinquency and teen pregnancy, a higher rate of high school graduation, and a higher rate of employment after graduation. By age 27, participants had half as many criminal arrests, higher earnings and property wealth, and greater commitment to marriage than did the similar age cohort who did not participate (Barnett, 1996).

The total net benefit per participant was projected to be over \$88,000 for taxpayers and potential crime victims. Benefits accrue from lower cost for special education, welfare, justice system and crime as well as taxes on earnings. The public received an estimated \$7.16 for every dollar

originally invested (Barnett, 1996)

EFFECTIVENESS AND COST SAVINGS FROM EARLY INTERVENTION IN CHILDREN'S MENTAL HEALTH

Few evaluations of prevention and early intervention alternatives for young children with emotional or behavioral problems have focused on the potential cost savings. One notable exception is in the area of autism.

Children with autism are usually identified early, and until recently, the future for these children inevitably involved costly special schooling and lifelong supervision or residential care. A recent study (Jacobson *et al.*, 1998) reports on a promising early intensive behavioral intervention for autistic children with the potential for cost savings. Those children who benefit sufficiently may ultimately participate in regular education and function independently.

The authors acknowledge that while some autistic children will achieve the full positive outcome from this intervention, others may receive only a partial benefit or have no gains at all. Estimating cost savings based on this range of success, they calculate that in special education, supported work, and residential care, from \$656,000 and \$1,082,000 could be saved per child between ages 3 - 55. The authors argue that on the basis of these figures, the annual program cost of \$3284 per child is justified, even if not all children achieve the full benefit.

ISSUES RELATED TO THE DEMONSTRATION OF COST SAVINGS IN HUMAN SERVICES

The Fiscal Note, which is the impetus for this report, asks for a demonstration that the Early Intervention Program is making progress toward reducing costs in other systems. ... which should include, but not be limited to, out-of-home placement, psychiatric hospitalization, and education. This expectation is understandable as one of the arguments for early intervention is reduced later cost.

One source of broader benefit is the potential savings the government (and thus the taxpayers) realizes when families participating in early interventions require lower public expenditures later in life. Participating children may spend less time in special education, or as adults, less time on welfare or under the jurisdiction of the criminal justice system (Karoly, 1998).

Identifying *potential cost savings*, however, is a more realistic activity for the Early Intervention Program than demonstrating *actual reduced public system costs*, because the children involved

are very young and the program is new. Most of the children who have benefited from the Program are not yet even in public school, and therefore, the actual cost savings remain to be accumulated. Several authors support this perspective.

Early interventions present the problem of all investments in growth - the dividends come later. (Shirr, 1989)

Even when benefits exceed costs, the costs accrue immediately, while the benefits are realized only as the years pass and children transition through adolescence to adulthood. (Greenwood, 1996)

STUDY OF COSTS AND COST SAVINGS IN HUMAN SERVICES

In the business world, the relationship between costs expended and results achieved is expressed as profit. In human services, other measures must be employed to look at the relationship between costs and outcomes. (Yates, 1996; Kee, 1994; Shern, 1990; Levin, 1983; Greer & Greer, 1982). It is important to understand the different approaches in order to appreciate the methods employed in this study. The different approaches are:

Unit Cost - looks at the costs per participant by dividing the total cost by the total number of participants.

If a program serves 100 children and the total cost of the program is \$40,000, then the unit cost or cost per participant is \$400. This approach is not concerned with how many of the children achieve a desired outcome.

Cost-Effectiveness - relates program costs to units of outcome achieved and is often used to compare programs.

Two public programs are designed to raise reading level and both achieve a one grade level average increase across all students. If one program cost \$100 per student while the other cost \$50 per student, taxpayers would probably choose to support the less costly program.

Cost-Benefit - attributes a dollar value to both program costs and benefits achieved.

The statement that \$500 per participant spent in Job Training results in a \$1000 average increase in annual salary reflects a cost-benefit ratio of 2 to 1 in the first year.

Cost-Savings - compares current expenditures with cost savings achieved by avoidance of later

problems.

The statement that every \$1 investment in prenatal care saves \$3.38 in the cost of care for low birth weight infants uses a cost-savings approach.

Cost of Failure - a specific type of cost-benefit and cost-savings approach, which compares the costs of effective early childhood intervention and prevention programs to the societal costs associated with a failure to prevent negative outcomes for children.

EXAMPLES OF COST OF FAILURE STUDIES

The cost of failure approach was developed by former Iowa state legislator Charles Bruner, PhD. to highlight the potential financial gains to be realized by preventing negative outcomes in very young children from high opportunity families (Bruner, 1993). This type of approach contrasts what Bruner calls deep end remedial and maintenance costs with the costs of early interventions to address preventable negative outcomes. Three variations of this approach are case studies, cohort analyses, and budget and expenditure analyses.

Case Studies - look at single situations (one individual, family, or neighborhood), either prospectively or retrospectively, and calculate the total actual social costs, which presumably occurred due to missed preventive opportunities. One example is the study of Allegheny County, Pennsylvania. It looked at the *actual* societal costs (related to crime, drug abuse, unwed parenting, and unemployment) in one high-risk neighborhood, which the authors postulated could be averted by a comprehensive family center approach (Bruner, 1995).

Cohort Analyses - look, both prospectively and retrospectively, at critical opportunities for intervention for a group of individuals and calculate the *actual* public expenditures for the group. One example is the Colorado study which looked at 21 youth in the juvenile justice system where there were repeated failures to prevent delinquency (Shockley, 1996).

Budget and Expenditure Analyses - contrast *actual* prevention program expenditures with *projected* aggregate deep end public costs associated with the results of failing to prevent negative outcomes. One example is the 1995 Colorado study of the cost of failing to prevent child abuse and neglect (Gould, 1995). This study looked at the costs and success ratios of Colorado home visitation programs. These were contrasted with direct costs of child abuse and neglect (*i.e.*, hospitalization, foster care, courts) and indirect costs (extrapolated from the percentage of formerly abused children who appear in the juvenile justice, criminal justice, welfare, substance abuse, and mental health systems).

ASSUMPTIONS OF THIS COST OF FAILURE STUDY

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October 2, 2000

A cost of failure study is clearly the most appropriate response to the Long Bill footnote requirement for the Early Intervention Program because of the clear and costly consequences of childhood behavioral and emotional problems and the documented effectiveness of early intervention. Jacobson *et al.*, (1998) emphasize the importance of articulating the assumptions supporting such a study. The assumptions in operation here are:

Emotional and behavioral problems in young children interfere with peer and caregiver relationships, and impede children's ability to succeed in school.

Childhood emotional and behavioral problems, if unchecked, can place a child at risk for: expulsion, school failure, child abuse, out-of-home placement, and/or psychiatric hospitalization.

Early childhood emotional or behavioral problems can continue into later childhood, adolescence, and adulthood and can result in multi-system involvement for: delinquency, mental illness, unemployment, welfare dependency, substance abuse, and crime.

Early intervention and preventive programs can reduce the incidence of childhood emotional and behavioral problems, and can save money in the long term by diverting some children from costly adolescent and adult social problems.

ARTICULATION OF THE MODEL OF ANALYSIS

This cost of failure study will consider costs associated with the service elements of the Early Intervention Program; the percentage of children served who might, without intervention, be at risk for negative outcomes; and the percentage of children who show improvement in those behaviors that put them at risk. It will contrast those costs with the public expenditures associated with negative consequences, which could be averted through successful early intervention. The consequences which will be monetized or translated into dollars are: expulsion from child care and work disruption for parents; school failure as evidenced by the need for special education; child maltreatment as indicated by out-of-home placement; mental illness necessitating psychiatric hospitalization; and juvenile delinquency resulting in commitment.

This study will look at individual high-risk children who have been assisted by the Early Intervention Program and postulate how much the intervention probably saved in that specific situation. It will also look at the overall percentage of children who showed improvement in emotional and behavioral problems as a result of the Program, and apply that percentage to current state expenditures associated with preventable negative consequences.

It is important to note that the children and families identified and helped by the Early Intervention Program would most likely never seek assistance on their own. They would probably only come in contact with the mental health system when their difficulties brought them to the attention of

child welfare services or the public schools. At that point, the pattern of multi-system involvement would have already begun.

EARLY INTERVENTION PROGRAM DESCRIPTION AND COSTS

While the Early Intervention Programs at the Mental Health Corporation of Denver and the Mental Health Center of Boulder County have similar objectives, they do have important differences. Both place mental health clinicians in child care centers and preschools that have a high percentage of low-income families. The Denver program is in Head Start classrooms, while the Boulder program is in private for profit and non-profit centers. Both programs offer two types of services to the child care settings: center-based and child-specific.

Center-based services involve consultation to center directors and staff regarding overall classroom environment and quality improvements. Center-based activities could also include educational programs to which all parents are invited or classroom instruction in which all children participate. All children enrolled in the center benefit from these services. It is through these more general center-based services that children needing specific intervention are often identified.

Child-specific services include direct involvement with specific children and consultation with the parents and teachers of those children focused on reducing problem behaviors and encouraging social and emotional competence in that particular child. Child-specific services can also include referral for evaluation and other types of treatment.

Table One illustrates the funds allocated by each program to center-based and child-specific activities. The differences in per child costs are due to the emphasis placed on large group educational and intervention activities, as opposed to individual consultation and involvement with specific children and families.

Denver conducts many group interventions with parents, childcare center staff and children and sees fewer children individually. Denver’s center-based per child costs are low because the staff to child ratios are higher than for child-specific interventions. Boulder serves the center-based population through staff consultation rather than large group education. Boulder clinicians do more direct intervention with children and families.

Table One: Per Child Costs for Early Intervention Program - Year Ending 6/30/2000

| | Denver | Boulder |
|-----------------------------|------------------|-----------|
| Total Program Budget | \$390,212 | |
| Mental Health Center Budget | \$195,106 | \$195,106 |

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October 2, 2000

| | | |
|--|--------------|----------|
| Cost allocated to center-based services | \$57,321 | \$99,907 |
| Number of children receiving center-based services | 640 | 637 |
| Center-based per child cost | \$89.56 | \$156.83 |
| Average center-based per child cost | \$123 | |
| Cost allocated to child-specific services | \$137,785 | \$95,199 |
| Number of children receiving child-specific services | 98 | 138 |
| Child-specific per child cost | \$1405.96 | \$689.84 |
| Average child-specific per child cost | \$987 | |

Data on costs and numbers of children provided by the staff of DCMH and BMHC.

The differences in per child cost between the two programs are an artifact of the amount of resources allocated and the number of children served. These figures vary each year depending upon the relative number of children needing child-specific services vs. the number responding to center-based services. Because the objectives of the two programs are the same and the results are similar, the averages will be employed in the following discussion.

COSTS AVERTED BY EARLY INTERVENTION WITH CHILDREN AT RISK

In the absence of a longitudinal study, the most powerful way to understand cost savings from early intervention programs is by looking at actual children and what might have happened to them if they had not received assistance. The children and families, whose stories are told below, are actual recipients of services from the Early Intervention Programs in Denver and Boulder, Colorado. Their names have been changed because of confidentiality.

This analysis focuses on children who received child-specific services. These are the children at highest risk, and therefore the ones for whom it is possible to project the largest cost savings. Center-based services benefit all children, but the risks averted are more difficult to identify. Staff in the Colorado Department of Human Services provided the cost and utilization figures in the following sections. (See Personal Communication in the Reference List.)

Child at Risk of Expulsion and Parental Work Disruption

When children, deemed to be unmanageable, are expelled from an early childhood care and education setting, the consequences for the parent can be loss of income, loss of employment, and major family financial crisis.

Orlando is the younger of two children. His aggressive hitting, biting and refusal to follow directions caused him to be expelled from three childcare centers in four months. After the last expulsion, his single mother Evana lost her job. Unable to pay the rent, she was facing eviction. She was in the process of

applying for TANF (Temporary Assistance for Needy Families).

Orlando was enrolled in a center served by the Early Intervention Program. The clinician and teachers developed a behavior management program to control his behavior. The clinician also helped the mother manage Orlando's behavior at home. With more confidence about Orlando's childcare situation, Evana was able to return to work.

Evana worked at a minimum wage job of \$5.15 per hour and lost approximately \$40 for each day she missed work. Had her family needed to go on welfare, not only would the tax revenues on her salary be lost to government, but her family would cost the state \$356 per month in TANF funds and about \$150 in food stamps for a total of \$506. The cost of one year of Early Intervention services for Orlando would be off-set by saving just 2 months of public assistance for his family.

1 year of early intervention = \$987 OR 2 months of public assistance = \$1012

Child at Risk of Child Abuse and Out-of-Home Placement

Some children with emotional or behavioral problems are at increased risk of abuse and out-of-home placement. Other children, while not abused, may be placed out-of-home because their emotional or behavioral problems are beyond parental control.

Timmy lived alone with his mother, Dawn, age 19. At three, he still wasn't potty trained. In childcare, he was in constant motion and wouldn't listen to the teachers. At home he was loud and demanding. Dawn worked two part time jobs and was always exhausted. She said Timmy drove her crazy and she just wanted to run away or make him stop! Dawn asked Timmy's father to take him for a little while, and she didn't know what she would do if he refused.

Timmy was enrolled at a center served by the Early Intervention Program. The clinician helped Dawn get a developmental evaluation for Timmy. Once they recognized that Timmy had ADHD (Attention Deficit/ Hyperactivity Disorder), his teachers were able to structure his day and reduce extra stimulation, calming him considerably. The clinician helped Dawn with a different diet for Timmy and more consistent rules. Dawn told the clinician that she was no longer feeling like she might lose control with Timmy or that she needed to send him away.

It is not possible to determine the number of children placed out-of-home because their emotional or behavioral problems resulted in abuse. It is possible, however, to look at those children for whom own behavior was the main reason for out-of-home placement. In FY1999, 165 children, birth to eight years of age, were removed from their homes because of their own behavior. If Timmy were one of those children, his out-of-home care at about \$1200 for one month (including maintenance, supervision, and treatment) would be more than the annual cost of his Early Intervention services.

1 year of Early Intervention = \$987 OR 1 month of foster care = \$1200

Child at Risk of School Failure and Special Education

Children with emotional and behavioral problems can experience negative relationships with peers and childcare providers. These children are at risk of school failure even if they have above average intelligence.

Abraham seemed both angry and sad. Although very bright and verbal, he was impulsive and immature. Change was difficult for him and he had temper tantrums at many points during the day. His teachers isolated him from the group when he had emotional outbursts, and the other children avoided him. He clung to his mother, Betty, when she brought him to childcare and kept telling her he didn't like it there. Abraham's father was terminally ill, but no one had discussed the situation with Abraham.

The Early Intervention clinician at his childcare center helped the teachers with techniques to handle Abraham, which did not separate him from the group. The clinician helped Abraham express his feelings of worry and anger about his father, and helped the parents give Abraham enough information so that he knew his father's problems weren't his fault. Once Abraham felt the center was a friendly place, he looked forward to going there each day.

If Abraham continued his negative feelings and problem behaviors into public school, he would be a likely candidate for special education at an excess cost of \$5,693 per year beyond regular education. One child diverted from Special Education would off-set the cost of five children served by the Early Intervention Program.

1 year of Early Intervention for 5 children = \$4,935 OR 1 year of special education = \$ 5,693

Child at Risk of Mental Illness and Psychiatric Hospitalization

Children need psychiatric hospitalization when less restrictive settings are unable to meet their needs. Early hospitalization is often a predictor of problems in later adjustment.

Kelly was living with grandparents after experiencing neglect at the hands of her mother, who suffered from anxiety and depression. At five, Kelly had never been to pre-school or had regular health care. Teachers thought her language and behavior were strange. She kept saying that she wanted to die. The childcare center staff was frightened of Kelly and of having her out of their sight. She injured herself repeatedly in the playground. She was exhausting her grandmother, Margaret, who felt ill equipped to

meet Kelly's needs. The grandparents argued about Kelly's care and the grandmother felt unsupported.

The Early Intervention clinician at her childcare center, worked individually with Kelly to express her feelings through play and art. Once the teachers understood Kelly's experiences and needs, they established a predictable, caring and safe environment for her. The strange behavior and language stopped and she was able to participate in learning activities. The grandparents were helped to see the importance of mutual support while they cared for Kelly. The clinician also helped them recognize that they could not continue to care for her and they needed to find ways to help their daughter safely resume Kelly's care.

Had Kelly needed to be placed in a psychiatric hospital, the cost of her care for only two days would have been more than her services for one year in the Early Intervention Program.

1 year of Early Intervention = \$987 OR 2 days of psychiatric hospitalization = \$1020
Child at Risk of Delinquency and Youth Corrections

Children with early and extreme behavioral problems are at high risk for continued difficulties including youth crime and acting out.

Owen often needed two teachers to handle him. He was loud, aggressive, and angry. He took things from other children, hit them, and yelled and cried when frustrated. He was destructive to property and defiant with teachers. Although he was younger than the other children in his preschool class, everyone was afraid of him.

Owen's father, Milton, was a quiet man who was very involved with his church. He worked as a factory foreman and came to the center every lunch hour. Owen's mother was a crack addict who had not seen her sons in two years. Milton's mother would watch Owen because of his violent temper. Milton said he did not have a problem with Owen at home.

The childcare center that Owen attended was involved with the Early Intervention Program. Owen and several other boys had anger management activities that helped them share, wait and express feelings verbally. The clinician also worked with Owen individually several times a week so that he could talk about his feelings of anger at his mother. The clinician helped the teachers set up a behavior management program that rewarded Owen's appropriate behavior and kept him from getting out of control. At the end of the year, Owen was no longer the focus of attention in his classroom and he could play along side other children.

If Owen's behavior had continued, he would be the type of youngster at risk for delinquency. If held in detention for the average 14-day period, a child like Owen would cost the state \$1820, almost twice the one year cost for his Early Intervention services.

1 year of Early Intervention = \$987 OR 14 days in detention = \$ 1820

PROGRAM COSTS OFFSET BY A DECREASE IN PROBLEM SEVERITY

Another way to look at the potential cost savings from the Early Intervention Program is look to at the percentage of children with serious emotional and behavioral problems who show improvement, and to apply that percentage to the costs associated with the deep end systems that deal with children whose problems continue. The following table shows the decrease in problem severity for a sub-group of children whose emotional and behavioral problems were evaluated before and after Early Intervention services. Denver tested 31 of its 98 children. Boulder had data on 33 out of 138.

This analysis focuses only on those children with severe problems at the start of the intervention. Severity of problem was determined by behavioral checklists, appropriate for young children, and completed by the children's teachers. The analysis employs averages derived from the results of both programs.

Table Two: Percentage Decrease in Problem Severity for Children with Severe Problems

| | Denver n = 31 | Boulder n = 33 |
|---|------------------|-------------------|
| Percentage of children with severe problems | 16% | 30% |
| Average percentage of children with severe problems | 23% | |
| Percentage of children with severe problems with a decrease in problem severity | 100% | 80% |
| Average percentage of children who showed a decrease in problem severity | 90% | |

Data provided by the internal evaluators for each program, Beth Doll and JoAnne Robinson.

Two hundred and thirty-six (236) children received child-specific services through the two Early Intervention Programs. Applying the percentages from the table above, 54 of them (23%) probably had severe emotional and behavioral problems. While the table above demonstrates a 90 percent decrease in problem severity, if approximately half of the children with severe difficulties (28 children) could be diverted from continuing problems and public system involvement, the cost of the Early Intervention Program would be off-set.

There is no way to predict the life course of these young children. **But \$390,212 could be offset if just:**

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October 2, 2000

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|---|----------|--------------------------|
| 11 children avoided one year in special education | | \$5693 x 11 = \$ 62,623 |
| 10 children avoided the average 6 month stay in foster care* | | \$7200 x 10 = \$ 72,000 |
| 4 children avoided the average 63 day stay in psychiatric hospital* | | \$32,130 x 4 = \$128,520 |
| 2 children avoided the average 15.6 month commitment for delinquency* | | \$58,500 x 2 = \$117,000 |
| 1 family avoided TANF for 20 months | | \$10,120 x 1 = \$ 10,120 |
| <hr/> | | <hr/> |
| 28 children for whom negative consequences are avoided | = | \$390,263 |

* Average length of stay data provided by individuals listed in Personal Communication

CONCLUSION

In the absence of a longitudinal study, case examples and percentages of decreased problem severity have been employed to show the cost effectiveness of the Early Intervention Program for young children with emotional and behavioral problems. The children and families identified and helped by the Early Intervention Program would likely never seek assistance on their own. They would probably only come in contact with the mental health system when their difficulties brought them to the attention of child welfare services or the public schools. At that point, the pattern of multi-system involvement would have already begun. The cost of failure to intervene early is far too high a price to pay when predictable negative outcomes can be prevented.

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