

Cost-Efficacy Analysis of Out-Of-District Special Education Placements:

An Evaluative Measure of Behavior Support Intervention in Public Schools

Robert F. Putnam, Ph.D., and James K. Luiselli, Ed.D., ABPP, BCBA
The May Institute Inc. and The May Center for Applied Research

Kenneth Sennett, Ph.D., and Joanne Malonson, M.Ed.
Brockton Public Schools

- **Public schools frequently respond to discipline problems by placing students in out-of-district educational programs.**
- **A cost-efficacy analysis of out-of-district special education placements can be used as an evaluative index of behavior support intervention.**
- **A large urban school district within Massachusetts that had developed a system-wide approach to behavioral intervention was compared to 14 similar school districts relative to out-of-district placement expenditures.**
- **The criterion school district had the lowest per capita cost for, and lowest percentage of total school budget consumed by, out-of-district placements. In addition, it had the highest proportion of students with special needs who participated in inclusive educational classrooms.**
- **When incorporated with other outcome measures, out-of-district placement costs can be a useful metric by which to evaluate the effectiveness and efficacy of behavior support intervention in public schools.**

Student discipline problems are a major concern confronting teachers and administrative personnel in the public schools (Elam, Rose, & Gallup, 1996; Dwyer, Osher, & Warger, 1998; Walker, Colvin, & Ramsey, 1995). The presence of disruptive, defiant, and negative social behaviors interferes with academic instruction. Serious behavior disorders such as property destruction, weapons possession, harassment, and violence create an unsafe learning environment (Mayer, 1999). Furthermore, frequent and persistent discipline problems demand significant time and attention from educational personnel who otherwise could devote their energies toward other objectives.

One approach to effective student discipline is the design of behavior support interventions. As presented by Sugai, Sprague, Horner, and Walker (2000), there are three levels of behavior support applicable in public school settings. One approach is to implement intensive plans that target individual students who present the most difficult discipline problems. A second strategy is to institute classroom

programs that include groups of students as opposed to single individuals. The third level is the establishment of whole-school or "universal" intervention packages. With this orientation, the entire school population becomes the focus of discipline practices.

Several studies have reported improved student discipline as an outcome from comprehensive behavior support in the public schools (Lewis, Sugai, & Colvin, 1998; Mayer, 1995; Walker, Horner, Sugai, Bullis, Sprague, Bricker, & Kaufman, 1996). These interventions have incorporated several measures to document program effectiveness, including (1) reduction in exclusionary discipline practices (e.g., suspensions, office referrals, drop-outs); (2) decrease in disruptive behaviors; (3) increase in students' social skills; and (4) improved academic performance. However, despite the positive effects that can result from the systematic application of behavior support interventions, it is not uncommon for school districts to respond to discipline problems by sending students to out-of-district placements. Typically,

these settings are private day-schools or residential-care facilities that may be sought because a public school district is unable to provide appropriate educational services, is confronted with extreme challenging behaviors, or is uncertain whether sufficient resources can be marshaled to address discipline concerns. Although out-of-district placements may be indicated in some cases, they are costly and put significant financial burden on school districts. For example, in Massachusetts the mean cost for public education each year is \$6,684 per student contrasted to a mean yearly out-of-district placement cost of \$30,000-\$120,000 per student (Commonwealth of Massachusetts, 2000). Additionally, transportation and ancillary costs can inflate tuitions as much as 30%. Another disadvantage to out-of-district placements is that once a student leaves the public schools, the majority do not return but instead, continue to receive educational services in private programs.

.....
Several studies have reported improved student discipline as an outcome from comprehensive behavior support in the public schools...

The preceding discussion suggests that the financial costs of out-of-district student placements provide an indirect measure to evaluate the effects from behavior support practices in the public schools. This index of resource allocation could function as an efficacy measure by showing reduced out-of-district expenses relative to the types of behavioral intervention instituted in the schools. In effect, a cost-efficacy analysis could be included with intervention outcome data (e.g., grades, achievement scores, office referrals, suspensions/expulsions) when evaluating school discipline practices.

This report describes an evaluation of out-of-district placement costs for the 15 largest, urban public school districts within Massachusetts. A comparison was made of the financial expenditure of one school district that had developed a systematic program of behavior support to other districts that had similar demographic features. The evaluation yielded data on the percent of total budget consumed by out-of-district placement costs and the per capita amount of out-of-district placement costs for

each school district. The inclusion status of students with special needs in the school districts also was examined. The objective in conducting this analysis and presenting the findings is to demonstrate how an evaluation of out-of-district expenditures can be used as an outcome measure of large-scale behavioral intervention within public schools.

Method

Data Collection and Analysis

The data on expenditure costs for the 15 school districts during fiscal year 1995 (FY'95) and fiscal year 1997 (FY'97) were gathered from statistics published by the Massachusetts Department of Education. The FY'95 data and the FY'97 data were made available in the state's Department of Education per Pupil Expenditure Reports for 1995 and 1997 respectively. The measures included in this analysis were (1) the number of students enrolled in the school district, (2) the per capita dollar amount for out-of-district placements, and (3) the percent of yearly public school budget consumed by out-of-district placements.

An additional measure targeted the inclusion status of students with special needs in the 15 school districts. These data were compiled by the Urban Special Education Leadership Collaborative (2000) and represented a composite presentation of student enrollment numbers across districts for the 1999 academic year. The information was quantified as the percent of students with special needs who received services in the regular education classroom in excess of 80% of the school day.

.....
For example, in Massachusetts the mean cost for public education each year is \$6,684 per student contrasted to a mean yearly out-of-district placement cost of \$30,000-\$120,000 per student...

Out-of-district placement costs were defined as the tuition dollar amount for any student who was enrolled in a private day-school or residential-care facility. Students who comprised this data base had to have been identified as having "special needs" according to state regulatory guidelines and a completed Individualized Education Program (IEP).

Selection of School Districts

The criterion school district was from an urban community of approximately 93,000 residents with an enrollment of more than 16,000 students. In total, the district was comprised of 25 schools. The administration of the district had committed itself to developing effective services to meet the needs of students who were most at risk for alternative placement because of learning and behavior challenges. To this end, the school district had instituted a comprehensive system of behavior support that extended to its elementary, middle, and secondary school programs. For approximately 13 years, and continuing to the present, consultation services were provided by the senior author and associates to assist the school district in several general areas: (1) identifying at-risk students; (2) developing interventions to decrease discipline problems; (3) training educators in program implementation; and (4) reducing out-of-district placements through the application of effective in-school supports. A variety of consultation services were established within the school district to address these priority areas. Table 1 presents the types of services that comprised the districtwide approach toward behavior support.

Table 1: Service Components of Districtwide Approach Toward Behavior Support

Functional behavioral assessment (FBA)
Preparation of written behavior intervention plan (BIP)
Social skills assessment
Social skills training
Data-based progress monitoring
Parent training
Competency-based staff training
Classroom-based behavioral intervention
Schoolwide behavioral intervention

The other districts included in this evaluation were selected because, when combined with the criterion school district, they represented the 15 largest urban systems in the state. The information about the 14 comparative school districts was based exclusively on the out-of-district placement cost data

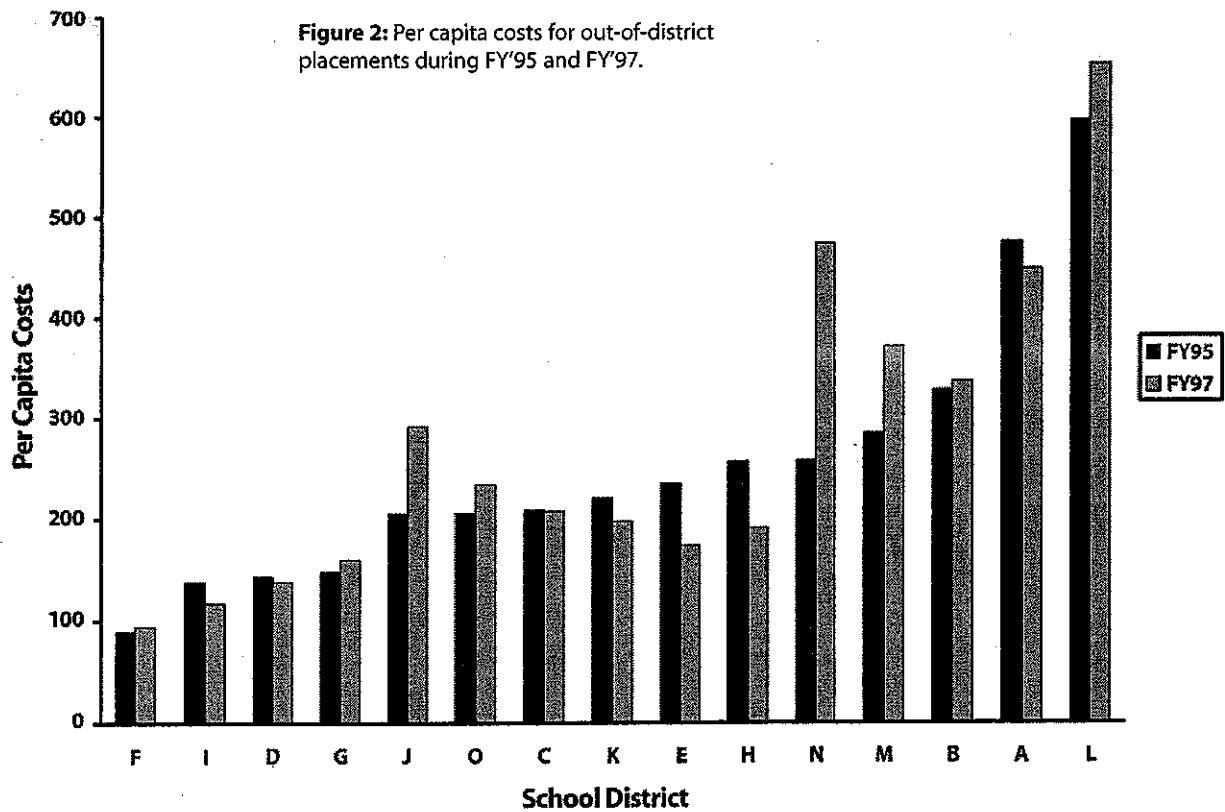
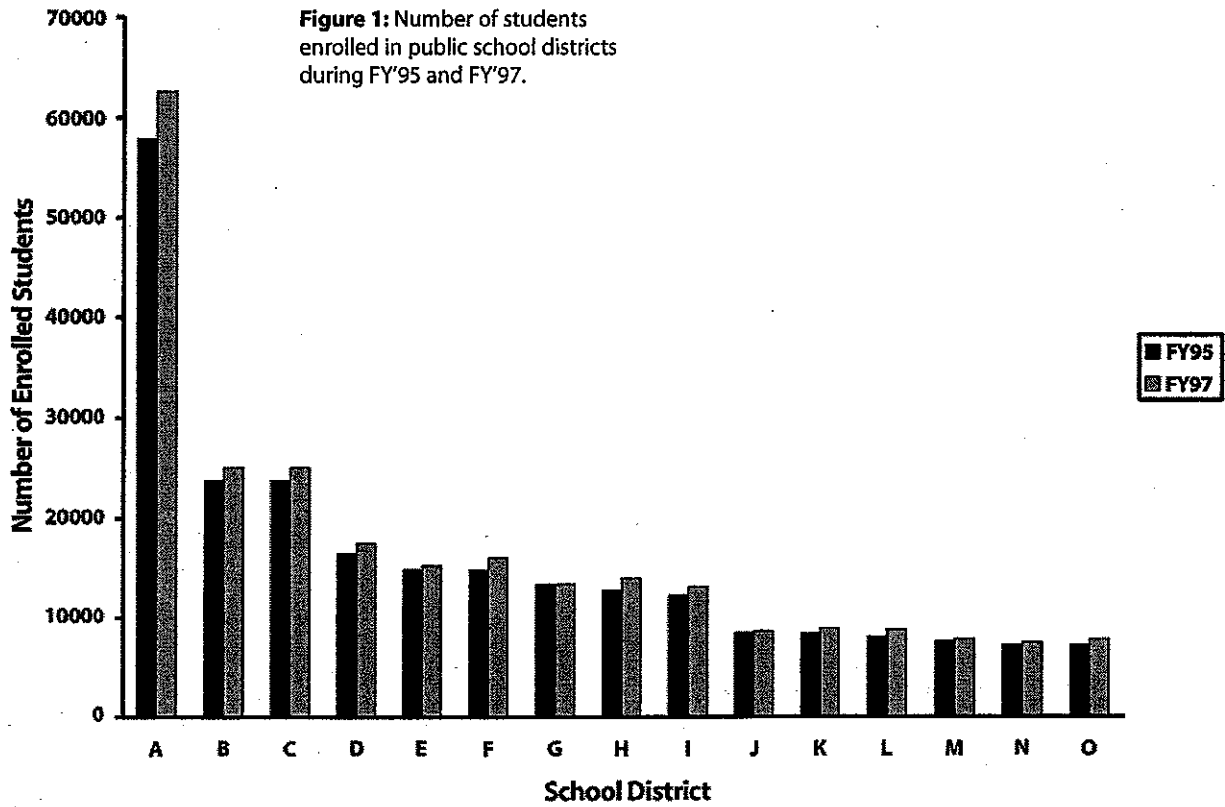
discussed earlier. We did not have descriptions, nor can comment on, the behavior support practices in these school districts.

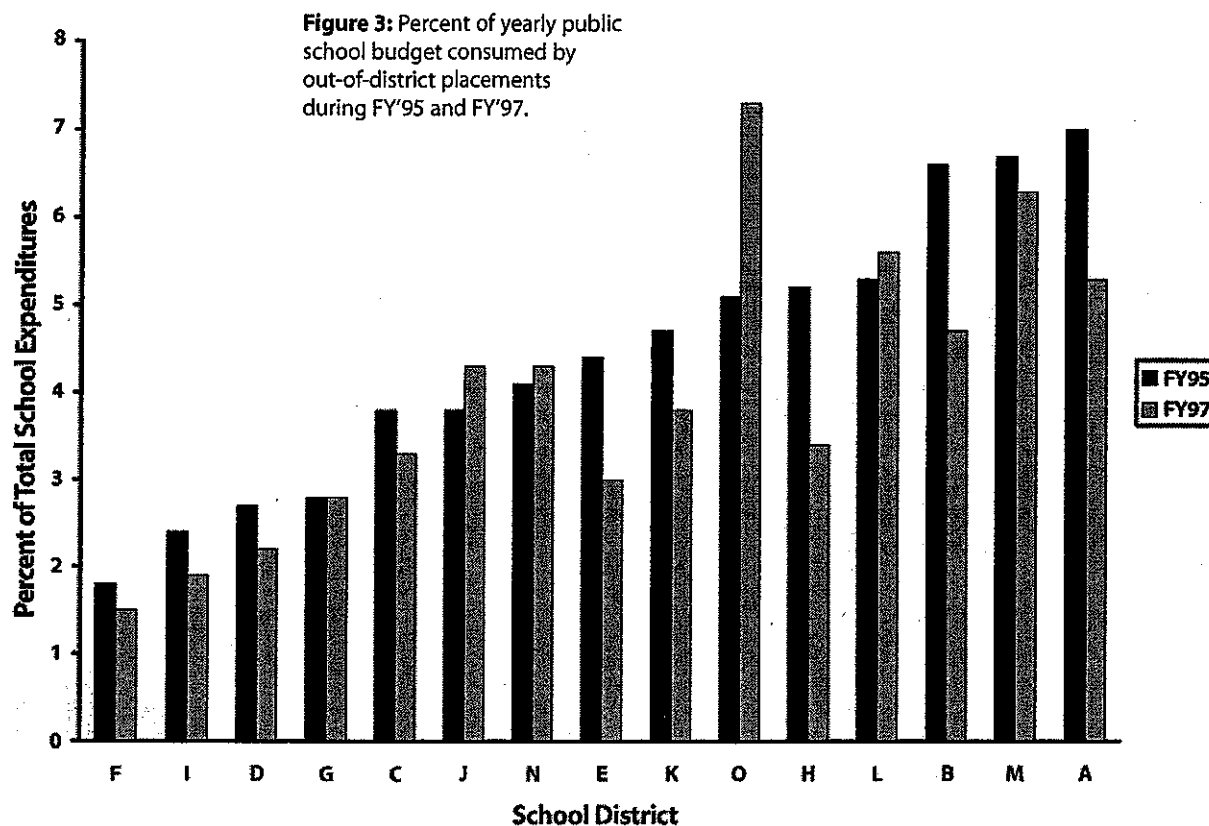
Results

On average, public school districts in Massachusetts spent 14.5% of total expenditures on special education costs in FY'97, with 4.1% dedicated to out-of-district placements. For the 15 public school districts comprising our analysis, the average was 17% of total expenditures for special education and an identical 4.1% allocated for out-of-district placements. By contrast, the criterion school district spent 1.6% of total expenditures on out-of-district placements, or about \$94 per student compared to an average of \$286 per student for the other 14 districts.

.....
 On average, public school districts in Massachusetts spent 14.5% of total expenditures on special education costs in FY'97, with 4.1% dedicated to out-of-district placements.

Figure 1 presents the number of students enrolled in the 15 public school districts during FY'95 and FY'97. School district "A" had a significantly higher enrollment in both years in contrast to the other districts. The criterion school district, labeled "F," was the sixth largest urban district in the state. With regard to the per capita cost for out-of-district placements, Figure 2 shows that the criterion school district had the lowest expenditure during FY'95 and FY'97. Similarly, Figure 3 reveals that this school district also had the lowest percentage of yearly budget consumed by out-of-district placement costs for both fiscal years.





The percent of students with special needs who received educational services in the regular classroom more than 80% of the school day during academic year 1999 is depicted in Figure 4 (see following page). The criterion school district had the highest percentage of students participating in inclusive education when compared to the school districts where data were available.

A statistically significant correlation was not found between population size of the public school districts in this analysis and the percent of total school expenditures for out-of-district placements ($r = .39$), per capita costs for out-of-district placements ($r = .36$), and percent of total school expenditures for special education services ($r = -.14$) (see Table 2, next page). The percent of total school expenditures for special education services correlated both with the percent of total school expenditures for out-of-district placements ($r = .55$) and the per capita costs of out-of-district placements ($r = .66$). The per capita costs of out-of-district placements also was correlated with the percent of total school expenditures for out-of-district placements ($r = .90$).

Discussion

This report described cost-efficacy analysis as one component of comprehensive program evaluation of public school behavior support services. Specifically, the financial expenditure committed by public school systems to educate students with special needs in out-of-district settings was proposed and illustrated. Within the limitations of this evaluation (discussed below) a school district that had developed a system-wide model of behavior support had the lowest per capita cost and lowest percentage of total budget consumed by out-of-district placements when compared to 14 similar school districts. This school district also had the largest proportion of students with special needs who participated in inclusive education services (i.e., classroom learning with typically developing peers). Interpreted broadly, these findings suggest that system-wide applications of behavior support can be of value in maintaining students who have challenging special needs within their school districts.

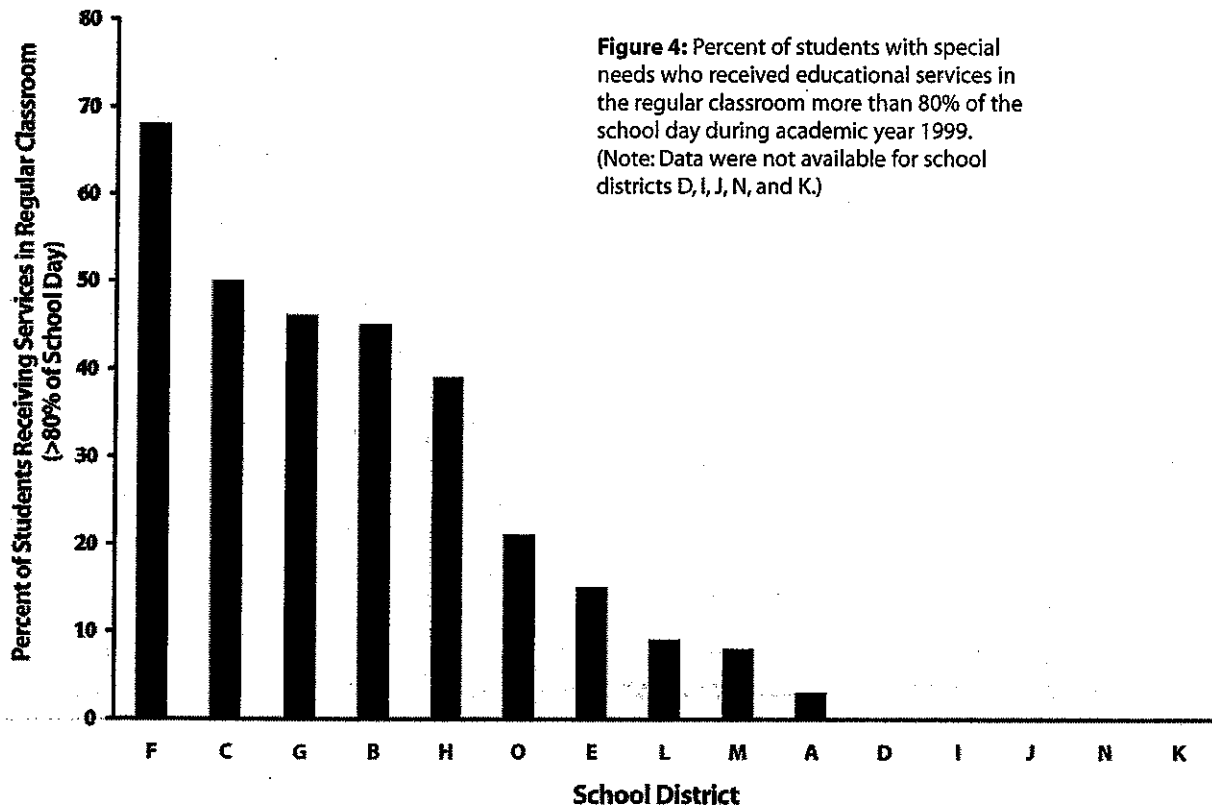


Figure 4: Percent of students with special needs who received educational services in the regular classroom more than 80% of the school day during academic year 1999. (Note: Data were not available for school districts D, I, J, N, and K.)

There was no correlation between population size of a public school district and out-of-district placement costs, either as a percent of total expenditures or per capita basis. The districts selected were the largest urban locations in the state and, therefore, extrapolating these findings to smaller rural districts may be problematic. Percent of total school expenditures for special education services was correlated

with percent of total school expenditures for out-of-district placement and per capita out-of-district placement costs. These data suggest that the management of out-of-district student placements through targeted and systemic interventions can lead to reduced overall special education costs.

It also should be emphasized that the percent of expenditures devoted to out-of-district placements by

Table 2: Correlation Statistics

Measure	Population Size of School District	Percent Total School Expenditures for Special Education Services	Per Capita Costs of Out-Of-District Placements
Percent Total School Expenditures for Out-Of-District Placements	0.39	0.55*	0.90**
Per Capita Costs of Out-Of-District Placements	0.36	0.66**	
Percent of Total School Expenditures for Special Education Services	-0.14		

* p < .02
 ** p < .002

the criterion school district was 1.6% of its total costs. This result represents substantial savings that can be used to strengthen in-district services for all students. For example, if on a statewide basis the target school district's percent of total expenditures for out-of-district placements was applied during FY'97, school districts within Massachusetts would have saved over 150 million dollars. Obviously, additional finances would have to be spent to improve the practices and supports within these public schools. This allocation, however, should improve considerably the intensity, comprehensiveness, and positive outcomes of special education services.

This cost-efficacy analysis clearly is limited by the fact that the behavior support practices of the comparative school districts were unknown. In effect, we cannot speak to the quality of behavioral intervention in these school districts and how they relate to resource allocation. It seems logical to assume, however, that school systems with high out-of-district placement costs are not devoting resources toward in-district program development. At the same time, it should be acknowledged that reduced out-of-district expenditure cannot, by itself, be used as an index of effective behavior support. That is, the quality of behavior support practices cannot be assessed solely by the number of students being educated in the public schools versus those placed in alternative out-of-district programs. Our suggestion is that like other dependent measures available to public school systems (e.g., office referrals, suspensions/exclusions, achievement test scores), the data on out-of-district expenditures can be used in combination with other indices to evaluate properly the effects from districtwide behavioral intervention.

.....
 This cost-efficacy analysis clearly is limited by the fact that the behavior support practices of the comparative school districts were unknown.

Because the criterion public school system in this analysis had the fewest number of students attending out-of-district programs, more students were able to participate in inclusive education. The data in Figure 4, in fact, support this contention. They revealed that nearly 70% of students in the criterion school district received educational services in regu-

lar classrooms for the majority of their school day. Again, these findings are correlational and cannot speak to the quality of behavioral intervention but they would seem to serve as an additional measure to judge the impact of support services.

Professionals in the field of child and adolescent mental health have emphasized the importance of cost-saving and cost-efficacy analyses when evaluating the effectiveness of community-referenced alternatives in favor of traditional (i.e., hospital-based) therapeutic services (Burns, 1991; Henggeler, Melton, & Smith, 1992; Schoenwald, Ward, Henggeler, Pickrel, & Patel, 1996). Similarly, we posit that the type of resource allocation analysis presented in this report should be incorporated by behavioral specialists who are responsible for assisting public school systems in designing districtwide interventions to support students who have special education needs and challenging behaviors. Reduced out-of-district placement costs should provide a meaningful measure that reflects improved in-school behavior supports and the financial advantages of targeting preventive interventions.

References

- Burns, B. J. (1991). Mental health service use by adolescents in the 1970s and 1980s. *Journal of the American Academy of Child and Adolescent Psychiatry, 30*, 144-150.
- Commonwealth of Massachusetts (2000). Listing of Chapter 766 approved private school programs. Boston, MA: Commonwealth of Massachusetts.
- Dwyer, K. P., Osher, D., & Warger, W. (1998). *Early warning, timely response: A guide to safe schools*. Washington, DC: U.S. Department of Education.
- Elam, S. M., Rose, L. C., & Gallup, A. M. (1996). The 28th annual Phi Delta Kappa/Gallup poll of the public's attitude toward the public schools. *Phi Delta Kappan, 78*, 41-59.
- Henggeler, S. W., Melton, G. B., & Smith, L. A. (1992). Family preservation using multisystemic therapy: An effective alternative to incarcerating serious juvenile offenders. *Journal of Consulting and Clinical Psychology, 60*, 953-961.
- Lewis, T. J., Sugai, G., & Colvin, G. (1998). Reducing problem behavior through a school-wide system of effective behavioral support: Investigation of a school-wide social skills training program and contextual interventions. *School Psychology Review, 27*, 446-459.
- Mayer, R. G. (1999). Constructive discipline for school personnel. *Education and Treatment of Children, 22*, 36-54.

- Schoenwald, S. K., Ward, D. M., Henggeler, S. W., Pickrel, S. G., & Patel, H. (1996). MST treatment of substance abusing or dependent adolescent offenders: Costs of reducing incarceration, inpatient, and residential placement. *Journal of Child and Family Studies, 5*, 431-444.
- Sugai, G., Sprague, J. R., Horner, R. H., & Walker, H. M. (2000). Preventing school violence: The use of office discipline referrals to assess and monitor school-wide discipline interventions. *Journal of Emotional and Behavioral Disorders, 8*, 94-101.
- Urban Special Education Leadership Collaborative (2000). *Special Education Enrollment Analysis-December 1999*. Newton, MA: Education Development Center.
- Walker, H. M., Colvin, G., & Ramsey, E. (1995). *Antisocial behavior in the school: Strategies and best practices*. Pacific Grove, CA: Brookes/Cole.
- Walker, H. M., Horner, R. H., Sugai, G., Bullis, M., Sprague, J. R., Bricker, D., & Kaufman, M. J. (1996). Integrated approaches to preventing antisocial behavior patterns among school-age children and youth. *Journal of Emotional and Behavioral Disorders, 4*, 193-256.

About the Authors

Robert F. Putnam, Ph.D., is vice president of Consultation and School Support Services, The May Institute Inc., One Commerce Way, Norwood, MA 02062. E-mail: rputnam@mayinstitute.org

James K. Luiselli, Ed.D., ABPP, BCBA, is vice president for Applied Research and Peer Review, The May Institute Inc., One Commerce Way, Norwood, MA 02062. Requests for reprints should be directed to Dr. Luiselli. E-mail: jluiselli@mayinstitute.org

Kenneth H. Sennett, Ph.D., is senior director of Pupil Personnel Services, Brockton Public Schools, 43 Crescent Street, Brockton, MA 02301. E-mail: ksennett@ci.brockton.ma.us

Joanne Malonson, M.Ed., is director of Special Education, Brockton Public Schools, 43 Crescent Street, Brockton, MA 02301. E-mail: malonson@ci.brockton.ma.us

Correspondence to:

James K. Luiselli, Ed.D., ABPP, BCBA, Vice President-Applied Research and Peer Review, The May Institute Inc., One Commerce Way, Norwood, MA 02062. Telephone: (781) 440-0400; Fax: (781) 255-1754; E-mail: jluiselli@mayinstitute.org