Contract No.: LC91015001
MPR Reference No.: 8014

THE COST OF DROPOUT PREVENTION PROGRAMS

September 1995

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A Research Report from the School Dropout Demonstration Assistance Program Evaluation

Submitted to:

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ACKNOWLEDGMENTS

The authors wish to acknowledge the important contributions that others made to this paper. Detailed data on the costs of the targeted demonstration projects and the regular schools at the project sites were collected by four members of the evaluation team in addition to the authors: Phillip Gleason and Michal Mazur of Mathematica Policy Research, Inc. (MPR) and Lynde Paule and William Savard of RMC Research Corporation. They received excellent cooperation and support from the project directors and other staff at the project sites. Mark Dynarski, principal investigator at MPR for the overall evaluation, gave valuable guidance and comment on the analytical approach. Audrey Pendleton, project officer for the U.S. Department of Education, made insightful comments on an earlier draft that helped improve the presentation of results. Joanne Pfleiderer edited the report, and Jill Miller handled production. Any faults in the analysis and results, however, remain the property of the authors.

THE COST OF TARGETED DROPOUT PREVENTION PROGRAMS

Efforts to prevent students from dropping out of school require resources. To help local schools address the dropout problem, the U.S. Congress in 1991 authorized $147 million for the U.S. Department of Education (ED), under the School Dropout Demonstration Assistance Program (SDDAP), to provide grants to local dropout prevention projects over a four-year period. The SDDAP funded 85 projects, for three or four years, to support a variety of approaches to retaining at-risk youths in school or to return dropouts to an educational setting. ED selected Mathematica Policy Research, Inc. (MPR) and its subcontractors, Policy Studies Associates, Inc. (PSA) and RMC Research Corporation (RMC), to conduct a comprehensive evaluation of the SDDAP.

Understanding the cost of dropout prevention is one objective of the evaluation. This report--one in a series issuing from the evaluation--describes the cost of the interventions implemented by 15 of the 85 SDDAP grantees. This information can provide useful guidance to planners of new dropout prevention and retrieval services.

The 15 grantees selected for the cost analysis implemented "targeted" interventions to serve explicitly identified groups of at-risk students. The targeted interventions were designed to prevent at-risk students from dropping out of school or to attract students who had already dropped out back into school in an alternative setting. These 15 projects were chosen for the cost analysis because they are the focus of a rigorous impact analysis; estimates of cost and impacts are essential to the cost-effectiveness analysis.[1]

[1]Ten additional projects were included in a comprehensive in-depth evaluation but are not included in the cost analysis. Three such projects implemented targeted interventions but were unable to fulfill the rigorous sampling requirements for the impact analysis and were therefore excluded from the cost analysis. Seven SDDAP grantees implemented restructuring projects--efforts to reshape the overall educational environment for all students in a cluster of schools. Because these restructuring projects were long-term strategies for change rather than interventions serving specific students, any effects they may have on measurable student outcomes are likely to be indirect and to emerge over a long term. Given the difficulty of linking the costs of restructuring to effects on identified students, these projects were also excluded from the cost analysis.

MAJOR FINDINGS

The analysis of targeted project costs resulted in the following findings:

- ***Most targeted interventions cost more than regular schools.*** The regular school programs that students might have attended in the absence of the SDDAP project spent an average of $460 per month, per student, in school year 1992-1993. The programs the SDDAP students attended spent an average of $612 per student month.

- ***Incremental costs varied widely.*** Increases in cost per student month above the cost of regular school programs ranged from $33 to $702. In a few cases, cost per student month for SDDAP students was actually lower than in the regular school programs they might have otherwise attended.

- ***The incremental cost of serving SDDAP students depended heavily on whether the project affected all or only part of students' school days.*** For example, two full-day alternative high schools were 119 percent and 49 percent more costly than the regular school programs students might otherwise have attended. One half-day program increased costs by 27 percent, and another was 12 percent less costly than the regular local school program. The least intensive project intervention affected students for only one hour per week and added 10 percent to regular school costs.

- ***Reducing class sizes dramatically affects incremental cost.*** Programs that had small classes generally had high incremental cost. In one project, for example, decreasing class size and adding a classroom aide increased regular school cost per student month by 83 percent.

- ***The incremental cost of SDDAP interventions amounted to a cost per student hour ranging from about $1.50 to as much as $16.00.*** Programs that enhanced most or all of the school day program or created full-day programs incurred relatively low incremental cost per hour. Programs that affected only a few hours per week or month incurred high fixed costs and were less cost-efficient.

Findings concerning the cost of dropout prevention programs should not, of course, be used alone as a basis for assessing whether they are a good investment. Later results of the impact analysis, combined with cost findings, will provide some indication of program cost-effectiveness, and thus a basis for balancing the cost of these interventions against their effects.

THE SDDAP AND THE NATIONAL EVALUATION

In the past few decades, the overall incidence of school dropout has declined, but certain segments of the student population continue to drop out at alarming rates. Dropout rates exceed 50 percent in many cities, and children from low-income families are three times as likely as children from middle-income families to drop out of high school before graduation (National Research Council 1993). Concern about the dropout rates of minority youths has grown as data continue to show that they persistently drop out at rates higher than nonminority students (National Center for Education Statistics 1992).

To bolster the federal role in dropout prevention, Congress created the SDDAP in 1988, under Title VI of the Hawkins-Stafford Elementary and Secondary School Improvement Amendments of 1988 (PL 100-297). SDDAP grantees were expected to replicate or expand successful intervention programs already in operation, and to operate in schools or areas with very high numbers of dropouts. Three-year discretionary grants were awarded in 1988 to 89 dropout intervention programs to establish and demonstrate the effectiveness of:

- Early interventions designed to identify at-risk students
- Programs to identify potential dropouts and prevent them from dropping out
- Programs to identify dropouts and encourage them to reenter school and complete their education
- Model systems to collect and report information on students who dropped out and on their reasons for dropping out

Congress created a new SDDAP program in 1991. Grants were awarded to 65 projects to pursue the same broad objectives listed above. In this second cycle of grants, however, ED reserved 80 percent of SDDAP funds for grantees whose plans, as described in their applications, incorporated ED specifications for two types of projects:[2]

[2]The remaining 20 percent of funds was allocated for innovative field-initiated projects that were not required to include any ED-specified components. ED awarded grants to an additional 20 field-initiated projects in the second year of the 1991 SDDAP.

- ***Targeted projects*** were to provide services to a defined population of eligible youths within a school or community organization. These projects were expected to include (1) accelerated learning strategies; (2) challenging and interesting curricula; (3) systematic monitoring of attendance; (4) culturally sensitive outreach to parents; (5) counseling, social support services, and coordination of services with other agencies; (6) linkages and greater communication between school levels; and (7) career awareness preparation.

- ***Restructuring programs*** were to undertake systemic reform to improve the overall learning environment of schools attended by large numbers of disadvantaged students. These efforts were to focus on (1) autonomy for school administrators and teachers to determine curriculum and instructional strategies; (2) challenging and interesting curricula; (3) efforts to create a positive school climate; (4) systematic monitoring of attendance; (5) coordination of services for at-risk students; (6) linkages and greater communication between school levels; (7) efforts to increase parental and community involvement; and (8) staff training to administer these components.

The SDDAP evaluation focuses on 25 projects (18 targeted and 7 restructuring) selected for in-depth analysis among the 65 projects funded for the 1991-1992 school year. It has two basic parts. An implementation analysis has been conducted of the 25 projects, based on three site visits in fall 1992, spring 1993, and fall 1993 (Hershey et al. 1994). An impact analysis is being conducted of 15 targeted and 5 restructuring projects.[3]

For the targeted projects--the focus of this cost analysis--the impact analysis employs an experimental design. Students who applied or were identified by project staff as suitable for these interventions during the 1992-1993 and 1993-1994 school years were randomly assigned to program or control group status, and only the program group was eligible to receive the services made possible by the SDDAP grant. Estimates of project impacts will be based on comparisons of student outcomes for the program and control groups during a follow-up period of two to three years.[4]

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[3]The impact analysis, which will be the subject of a later report, focuses on fewer projects than the implementation analysis for two reasons: (1) three targeted projects are excluded because of inadequate sample size or inability to carry out evaluation procedures; and (2) two rural restructuring projects are excluded because no comparison schools were available in their school districts.

[4]For restructuring projects, a comparison design is being used, since the SDDAP project activities were designed to affect all students in the schools. Outcomes for students in the restructuring schools will be compared with outcomes for students in similar schools selected as comparison

(continued...)

Estimates of project costs are important for understanding both project implementation and impacts. Measures of these costs are useful indicators of the resources required for various approaches to addressing dropout problems. In addition, cost estimates, in conjunction with estimates of impacts on student outcomes, are the basis for measures of cost-effectiveness.

PROJECTS INCLUDED IN THE COST STUDY

The cost analysis included 17 intervention programs in the 15 targeted project sites (Table 1).[5] The targeted programs represent five program intervention models:

1. ***Elementary/middle school enrichment programs*** provided extra educational or support services to students during the school day or after school.

2. ***Middle school accelerated programs*** delivered intensive, full-day services to students who had been retained in grade, to prepare them to rejoin their age peers.

3. ***High school enrichment programs*** provided additional educational or support services to students during the regular school day or after school.

4. ***Alternative high schools*** gave students a comprehensive, full-day program, located apart from the regular school setting, and in some cases used alternative curriculum or instructional approaches.

5. ***Alternative secondary programs*** gave students who had dropped out another chance to continue their education, through General Education Development (GED) preparation classes or a transition program back to high school or vocational classes.

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[4](...continued)
schools. For both restructuring and targeted projects, outcomes will be measured using data from baseline and follow-up surveys of students' educational experiences and students' school records.

[5]Two of the 15 targeted projects operated distinct components for students of two different age groups, resulting in 17 discrete interventions. In Miami, both were included in the impact study. In Albuquerque, only the Middle School Leadership Program was included in the impact analysis, but students could later enroll in the high school Stay-in-School program, so cost data were collected for both interventions.

TABLE 1

CHARACTERISTICS OF SDDAP TARGETED PROJECTS

Program/Location	Sponsor	Project Approach	Expected Duration of Participation	Intensity
Elementary/Middle School Enrichment Programs				
COMET Program Miami, FL	CBO with school district	Reduced class size, full-time teacher's aide, in-class career labs, enhanced social services, mentoring	1 year	Full day
Twelve Together Program Chula Vista, CA	School district with local foundation	Weekly peer discussion groups with volunteer counselors	1 year	After school
Up with Literacy Long Beach, CA	School district	In-class and after-school tutoring and homework assistance, enhanced counseling	1-3 years	Extra services during/after school
Early Identification and Intervention Project Rockford, IL	School district	General studies class for homework assistance and self-esteem session, enhanced counseling services	1 year	1 class period per day
Middle School Leadership Program Albuquerque, NM	CBO with school district	Leadership workshop	1 year	1 class period (every other week)
Middle School Accelerated Programs				
Project ACCEL Newark, NJ	School district	Team teaching, extra counseling	1-2 years	Full day
Accelerated Academics Academy Flint, MI	School district	Nontraditional instruction, thematic curriculum	2 years	Full day
Griffin-Spalding Middle School Academy Atlanta, GA	CBO	Small classes	1 year	Full day
High School Enrichment Programs				
Stay-in-School Program Albuquerque, NM	CBO	Math and/or English classes of reduced size, increased counseling, available work experience	1-4 years	1-2 class periods per day
School-Within-a-School at Wells Academy Chicago, IL	University/ school district	Block scheduling, group activities, and team teaching, with additional transition programs for eighth graders	1-4 years	1-4 class periods per day
Alternative High School Programs				
Corporate Academy Miami, FL	CBO with school district	Small classes, enhanced social services, mentoring	1-3 years	Full day
Middle College High School Seattle, WA	School district	At community college campus, team teaching, thematic curriculum, specialized counseling and peer groups, available work experience	1-3 years	Full day

TABLE 1 *(continued)*

Program/Location	Sponsor	Project Approach	Expected Duration of Participation	Intensity
JFY High School and University High School Boston, MA	CBO	Competency-based curriculum, enhanced social services	1-3 years	Half day
Horizon High Schools Las Vegas, NV	School district	Flexible enrollment policies, enhanced social services, accelerated credit accumulation	1-3 years	Half to full day
Alternative Secondary Programs				
Student Training and Re-Entry (STAR) Tulsa, OK	Vocational school district	At a vo-tech campus, nine weeks of skills reinforcement, career planning, and counseling, leading to reentry to high school or vocational training	9 weeks	Half day
Metropolitan Youth Academy St. Louis, MO	CBO	GED program offering enhanced social services and a work experience program	1 year	Half day
Flowers with Care Queens, NY	CBO	GED program with intensive counseling component	1-2 years	Full day

SOURCE: Site visit reports of the SDDAP national evaluation.

The targeted programs varied along four key dimensions. First, the sponsors differed. Most programs were sponsored by school districts, but others were sponsored by community-based organizations (CBOs) or partnerships between school districts and CBOs. Second, the projects took diverse approaches to helping students. For example, some programs focused on smaller classes and other types of classroom reforms, whereas others featured additional social support services. Third, the projects differed in the expected duration of participation by individual students, which ranged from nine weeks to four years. This diversity in sponsorship, program approach, and duration of participation was evident even within each of the five program intervention models.

Programs also varied in the intensity of the intervention, as reflected in how much of participants' school day or week was affected. Some were high-intensity, full-day programs equivalent to a regular school program. At the other extreme, low-intensity programs typically affected only one or two class periods per day, or in some cases even less. For example, the Twelve Together Program in Chula Vista, CA was primarily a weekly discussion session of a few hours, and the Albuquerque middle school program provided only weekly discussion groups for one school period. Between these two extremes were programs of medium intensity that required half-day attendance or affected several class periods per day. In Long Beach, CA, for example, students received after-school tutoring several days per week and also had tutors available to help them in their last two afternoon classes.

High-intensity, full-day programs typically involved students for 120 hours per month or more, whereas the interventions offered by some low-intensity programs affected students 15 hours or less each month. This variation in program intensity will be a key factor explaining variation in program costs.

MEASURING PROGRAM COSTS

Costs of targeted projects were estimated in a three-step process for all sites, although the details of the process had to vary from site to site to accommodate diverse project designs. First, we estimated the overall cost of delivering the total educational program to SDDAP program group students. Second, we determined incremental program cost--the difference between SDDAP program costs and the cost of the regular school program that SDDAP students would most likely have attended if the demonstration project had not been available. Third, we reduced this incremental program cost to a unit cost measure--the incremental cost per student month.

Overall program cost included all resources for program services, regardless of funding source

The SDDAP grants that supported the targeted projects were only a starting point for examining program costs. Four factors explain why overall program cost often differs from the amount of the SDDAP grants.

First, some grantees combined SDDAP funds with funds from other sources, such as the regular school district budget or corporations, to support their dropout prevention intervention. For example, many SDDAP projects used grants to add services to the existing school program for SDDAP students. In such instances, the overall program cost includes not only the SDDAP project costs but costs associated with the portions of the regular school program attended by the SDDAP students.

Second, some resources that supported SDDAP projects were in-kind contributions. In some cases, staff members were provided by the local school district or CBO, and the cost of those resources, although not paid for by the SDDAP grant, was included in our cost estimates. Some projects made substantial use of volunteers to deliver core SDDAP services. For example, the Twelve Together program in Chula Vista relied heavily on volunteers to lead the weekly discussion groups that formed the core of its intervention. We estimated the value of the volunteer time to ensure that our cost estimates fully reflected the resources required for the key intervention services.[6]

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[6]The imputed cost of volunteer services was included in our basic estimates only when volunteers (continued...)

Third, some SDDAP grants supported services other than the intervention that is the focus of our impact analysis. Some projects had received SDDAP and other funding to implement distinct interventions for students in different age groups or at different locations. We focused on costs associated with the particular intervention whose impact we will analyze.[7] Achieving this aim required excluding from the cost calculations any portions of staff time and other resources that were devoted to other interventions.

Fourth, some project resources were devoted to supporting the national evaluation and could not be properly viewed as costs of delivering program services. Project staff members helped the evaluation chiefly by administering student questionnaires and assembling school records data for the analysis. The estimated portions of staff time devoted to such activities were excluded from the calculation of program costs.

The analysis focused on how much SDDAP interventions added to regular program costs

Students in the SDDAP projects would have consumed educational services even in the absence of the SDDAP project. The true cost of achieving program impacts is the *incremental* cost of SDDAP services--the difference between the overall cost of the SDDAP program and the costs of programs students would have otherwise attended. Program options available to the control group in each site were used as an indication of the services that SDDAP students would most likely have received if the SDDAP project had not been undertaken.

The simplest measure of this cost increment is the difference between overall SDDAP program costs and the cost of the regular public school program. In presenting estimates of incremental SDDAP cost, we focus on this difference because the regular school program was the most likely path for students who were eligible for the SDDAP but were assigned to the control group. In most

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[6](...continued)
performed functions that were critical to the intervention design, as in Chula Vista. In several other sites, volunteers donated time for functions that were more ancillary to the basic design--such as serving as mentors. Results later reported exclude the imputed value of those volunteer roles, but table notes indicate how cost estimates would change if volunteer time, as estimated by project staff, were included.

[7]In Albuquerque, where the SDDAP grant supported a middle school intervention and a high school intervention, the impact analysis focuses only on the middle school program, but costs were also estimated for the high school program because it represented a potential extension of the intervention for the middle school sample. In Miami, the impact analysis looks at both the elementary school COMET program and the high school Corporate Academy, and costs are estimated for both.

sites, students were attending the regular school program when they were assigned to the evaluation sample. Even at dropout recovery project sites, the most commonly available education option for students not selected for the SDDAP project was returning to high school.

To focus on incremental cost, we carefully identified SDDAP program costs that would have been incurred for SDDAP students even in the absence of the project. Some grants supported the salaries of teachers in special classes created for SDDAP participants. Because such classes often replaced classes the students would have attended otherwise, the teacher salary costs could not be treated as "new." For example, the SDDAP grant for the Albuquerque Stay-in-School program funded teaching positions for special classes in math and English. Since students would have taken math and English classes even in the absence of the intervention program, only the additional costs of coordinating the program, reducing class size, and increasing counseling opportunities were included in our estimate of the incremental costs of the program.

Incremental costs were incurred in different ways

Implementation of the targeted projects entailed either enhancing regular school programs or creating separate, stand-alone programs (Table 2). The projects we have classified as enrichment programs at the elementary, middle, or high school level enhanced regular school programs; the overall SDDAP program cost includes all or part of the regular school program and the cost of enhancements. Alternative high schools, other alternative secondary programs, and two middle school acceleration programs, in contrast, operated apart from the regular school programs. As stand-alone programs, their costs did not include any of the resources provided through the regular public school programs (except in most cases for central administrative support). This distinction between projects that enhanced the regular school program and those that operated apart from it affected the methods required to determine incremental cost.

In enhancement programs, SDDAP participants attended the same schools and sometimes the same classes as control group students, but their overall program differed in two possible ways:

1. ***Additional Services.*** In some projects, SDDAP students were enrolled in the regular school program but received extra classes or services, such as counseling or tutoring, during or after school hours. For example, participants in the Long Beach Up with Literacy program attended the regular school program but got extra tutoring

attention from "college aides" during the last two periods of the school day and after school.

2. ***More Intensive Resources.*** In other projects, SDDAP students participated in special classes or activities that were similar to those of the regular school program but tailored to at-risk students. They got the benefit of more intensive resources in the form of smaller classes, more counseling, and more computers in the classroom. For example, students in the Early Identification and Intervention Project (EIIP) in Rockford had the same course load as control group students, but their EIIP class was half the size of non-EIIP classes. Special counselors were made available to work just with SDDAP students at much lower student-to-counselor ratios.

TABLE 2

ELEMENTS OF INCREMENTAL COST IN TARGETED SDDAP INTERVENTIONS

Program	Elements of Costs	Intervention Type
Elementary/Middle School Enrichment Programs		
COMET Program Miami, FL	• Increased teacher-to-student ratio • In-class career labs • Part-time caseworkers • Part-time mentoring coordinator • Student incentives and special events	Enhancement
Twelve Together Program Chula Vista, CA	• Trained volunteers as counselors (in-kind costs) • Annual weekend retreat for all students • Local foundation as subcontractor to school district to coordinate program	Enhancement
Up with Literacy Long Beach, CA	• Paid college students as tutors • Part-time instructional assistants to coordinate activities • Overtime for regular teachers for enrichment activities • Community liaison workers • Field trips and student incentives	Enhancement
Early Identification and Intervention Project Rockford, IL	• One reduced-size class per day • One program counselor per school	Enhancement
Middle School Leadership Program Albuquerque, NM	• Program coordinator for weekly discussions	Enhancement
Middle School Accelerated Programs		
Project ACCEL Newark, NJ	• Small class sizes • Extra time of school counselor • Discretionary funds for each school's project teachers	Enhancement
Accelerated Academics Academy Flint, MI	• Small class sizes • Program counselor and student advocates	Stand-alone

TABLE 2 *(continued)*

Program	Elements of Costs	Intervention Type
Griffin-Spalding Middle School Academy Atlanta, GA	• Teaching staff for academy	Stand-alone
High School Enrichment Programs		
Stay-in-School Program Albuquerque, NM	• Reduced class size in math and English • Monthly life skills workshops • Counselors and job developers • Student wages for work experience component	Enhancement
School-Within-a-School at Wells Academy Chicago, IL	• Full-time attendance coordinator • Services of two local counseling agencies • University monitoring	Enhancement
Alternative High School Programs		
Corporate Academy Miami, FL	• Reduced class sizes • Part-time caseworkers • Part-time mentoring coordinator	Stand-alone
Middle College High School Seattle, WA	• Increased teacher-to-student ratio • College students as paid tutors • Special counseling staff	Stand-alone
JFY High School and University High School Boston, MA	• Case manager and job developer on staff • Small class size • Teachers provided by school district • Bus passes for students	Stand-alone
Horizon High School Las Vegas, NV	• On-site social workers and attendance monitors • Reduced class size • Child care services	Stand-alone
Alternative Secondary Programs		
Student Training and Reentry (STAR) Tulsa, OK	• High staff-to-student ratio • Extensive use of computer-assisted instruction	Stand-alone
Metropolitan Youth Academy St. Louis, MO	• Computer-assisted instruction • GED instructors • Two on-site counselors • Transportation vouchers	Stand-alone
Flowers with Care Queens, NY	• GED instructors • Intensive counseling services • Lunches provided • Supervision of afternoon recreation period	Stand-alone

SOURCE: Site visit reports of the SDDAP national evaluation.

Stand-alone targeted programs operated independently of and apart from the regular school programs attended by control group students. These programs provided a complete educational experience, including academic classes and counseling. For example, Middle College High School in Seattle offered participants a complete full-day educational program in a facility located on a community college campus.

Cost measurement required different approaches for these different project types. In stand-alone programs, we measured total program costs. These costs usually included funds from the SDDAP grant plus additional funds and sometimes in-kind contributions from other sources. Total program cost was then compared with the total cost of the regular school program typically attended by control group students. The difference between the two program costs was used as the incremental cost of the project intervention.

When enhancement programs simply added extra services to a student's regular school day, incremental costs were the costs of the added activities. For example, students in the Twelve Together program attended the regular school program and extra project activities (a weekend retreat and weekly discussion groups). The SDDAP incremental cost was the cost of providing these additional activities. When enhancement programs provided more intensive resources, we measured the cost of this "extra intensity." For example, a program that provided two special classes per day with a different curriculum might not represent significant incremental costs, other than for extra classroom materials and teacher training. However, if the two classes also featured substantially smaller class sizes--as in the Albuquerque Stay-in-School Program or the Miami COMET Program--then the incremental cost included the additional classroom resources represented by the extra share of the teacher's time devoted to each student.

Regular program budgets were adjusted to focus on costs of serving at-risk students

Regular school program costs had two uses. For enhancement programs, regular school costs were a component of overall SDDAP program cost. For both enhancement and stand-alone programs, regular school costs also served as a basis for comparison.

In general, costs of the regular school program could be represented by overall school budgets (with appropriate inclusion of central office administrative overhead). However, two adjustments were made to school budgets to arrive at more appropriate estimates of the program costs that would have been incurred for SDDAP students in the absence of the project.

One adjustment was required in enhancement project sites because regular school budgets typically included the cost of resources devoted specifically to SDDAP students. We deducted from the regular school budget the cost of services to SDDAP students--such as teachers dedicated to their classes, special counselors, and project equipment. These excluded costs were allocated to SDDAP program costs.

A second adjustment was required because SDDAP students would have had access to services for at-risk students that are included in regular school

budgets. The budgets for these other services, when spread across the entire student body, often would have little effect on spending per student. However, because these services are typically targeted to the at-risk segment of the student body, they can represent a substantial increase in spending per at-risk student. To avoid underestimating the cost that would have been incurred for SDDAP students in the absence of the SDDAP project, we identified each site's at-risk programs, their costs, and their student capacities. We then adjusted overall cost per student in the regular school program, taking account of the cost per student served in these other at-risk programs and the likelihood that an at-risk student could be served in them.[8]

Cost per student month was the key cost measure

Because the SDDAP projects varied widely in their scale and design, it was important to standardize overall program costs and incremental costs. The number of students served and the duration of their participation were used to calculate a standard unit cost measure--the cost per student month of participation in school year 1992-1993. For regular school programs, this measure was computed as total annual school cost (adjusted as described earlier) divided by the sum of the school's monthly enrollments over the school year. For the SDDAP programs, cost per student month was calculated as total program cost divided by the total reported student months of participation during the school year. Incremental cost per SDDAP student month is the difference between overall SDDAP and regular program costs per student month.

This approach yielded cost measures that were sensitive to variations in program intensity. Some SDDAP projects involved students for only a few hours a week and consumed few resources, whereas others were full-day intervention programs offering students complete educational programs. Much of the variation in cost per student month across sites reflects this wide divergence in program intensity.

DATA COLLECTION

The cost analysis focused on the 1992-1993 school year for two reasons. First, the 1992-1993 school year was the second year in which projects were operating with funds provided by the SDDAP, so projects were well

[8]Cost per student in these other programs was multiplied by the probability that an at-risk student would gain access to them. This probability was computed as the total number of slots for at-risk students (as defined for the SDDAP project), divided by the total number of at-risk students in the student population who were not part of the SDDAP project.

established.[9] Second, the first cohort of students selected for the impact analysis sample was chosen in the 1992-1993 school year. As a result, a large portion of the sample used in the impact analysis received services from the intervention projects during the period for which costs are estimated.

Site visitors relied on a variety of sources to collect cost data. Program directors provided data on project resources and school and project budgets in a survey administered by MPR. To the extent possible, actual cost data were used to calculate total program costs. These data were most often reported by the project director or other project staff members, or taken from reports on program expenditures.

In some instances, the data had to be pieced together when resources were provided for the program from multiple sources. For example, costs for the Griffin-Spalding Middle School Academy in Atlanta were gathered from the Cities in Schools staff, school district officials, and the academy staff. When the actual reported costs of the resources were not available, approximations were used based on budgets for the 1992-1993 school year.

For some projects, evaluation staff had to interpolate the data for the reference period or estimate the cost of a particular intervention program resource. For example, staff of the STAR program in Tulsa did not devote 100 percent of their time to the recovery program, the project's main intervention. They spent part of their time on a summer program, a mediation training program, and ad hoc consultation services. Because no project records were maintained to distinguish project staff time spent on these various activities, we relied on project staff to estimate the time they devoted to the STAR recovery program.

FINDINGS OF THE COST ANALYSIS

Findings of the cost analysis clearly reflect the diversity of the SDDAP targeted projects. Programs varied with regard to intervention approach, the intervention's relationship to the regular school, the services delivered, the program intensity, and the participation rates of students. To some extent, costs for SDDAP students also reflect variations in the cost of regular school programs.

[9]In fact, all but one of the targeted in-depth study programs were already providing services prior to the 1991 SDDAP.

Regular school costs at the SDDAP sites varied widely

The resources spent on students in the absence of the SDDAP projects varied widely across project sites. Regular program costs were below $350 per student month in Tulsa, Miami elementary schools, and Albuquerque. At the highest, regular program costs exceeded $600 per student month in Flint, Atlanta, and New York.

Overall and incremental costs for SDDAP students varied widely

Overall cost per student month varied substantially. Cost per student month--the sum of regular school and incremental SDDAP costs--ranged from $375 in Albuquerque's Middle School Leadership Program (MSLP) to over $950 in the Newark Project ACCEL and Tulsa STAR programs (Table 3). The lowest costs were observed when low-intensity and low-cost SDDAP interventions were implemented in sites with relatively low-cost regular school programs, as in the Albuquerque MSLP. High costs were observed when regular program expenditures were high and a full-day enhancement was implemented, as in the Newark Project ACCEL program.

Some programs added large increments to regular school costs, while others added very little cost. The elementary and middle school enrichment programs added from 10 to 109 percent to the costs of the regular school programs in which students were enrolled. In the middle of this range was the unit cost of the Long Beach enrichment program, which added 48 percent to the cost of the regular program. Programs with modest interventions added little to regular school costs; Albuquerque's MSLP, for example, added only 10 percent. Projects with more ambitious interventions, like the COMET Program, added more than 100 percent to regular school costs.

Costs of the stand-alone programs--the middle school academies, alternative high schools, and other alternative secondary programs--were also disparate. Some of these programs actually cost less per student month than the regular school programs. For example, the cost per student month of Atlanta's Middle School Academy was calculated at 76 percent of the cost of the regular school program, and the Horizon High Schools in Las Vegas cost 86 percent of the regular high schools. Other stand-alone secondary programs, such as the Corporate Academy and STAR, provided services that were two to three times as costly as the regular local school programs.

More intensive programs cost more

With some exceptions, more intensive programs had higher costs. Programs that affected students for 110 to 154 hours per month (Table 3) generally cost more in absolute terms and in relation to regular program costs than the

TABLE 3

COSTS OF TARGETED PROJECTS, COMPARED WITH COSTS OF REGULAR SCHOOL PROGRAMS

	Estimated Costs per Student Month					
	Regular School Program	Overall SDDAP Program	Incremental Cost	Incremental Cost as Percentage of Regular School Cost	Hours/Month per SDDAP Participant	Added Cost per Affected Hour [f]
High-Intensity Programs						
Miami/COMET Program	$345	$721 [c]	$376	109	120	$3.13
Newark	$573	$955	$382	67	120	$3.18
Flint	$650	$790	$140	22	120	$1.17
Atlanta	$650	$493	($157)	(24)	130	NA
Miami/Corporate Academy	$374	$820 [d]	$446	119	120	$3.72
Seattle	$465	$692	$227	49	154	$1.47
Las Vegas	$432	$373	($59)	(14)	110	NA
NYC/Flowers with Care	$603 [b]	$215	($388)	(64)	110	NA
Medium-Intensity Programs						
Long Beach	$368	$546	$178	48	48	$3.71
Chicago	$474	$588	$114	24	80	$1.43
Boston[a]	$520	$696	$176	27	60	$2.93
Tulsa	$321	$959	$638	199	60	$10.63
St. Louis	$540 [b]	$495	($45)	(8)	80	NA
Low-Intensity Programs						
Chula Vista	$440 [b]	$660 [e]	$220	50	13	$16.92
Rockford	$386	$527	$141	37	15	$9.40
Albuquerque/MSLP	$342 [b]	$375	$33	10	4	$8.25
Albuquerque/SIS	$342 [b]	$505	$163	48	30	$5.43

SOURCE: The cost data were collected by national evaluation site visit staff during site visits to projects in fall 1993.

[a] Costs are based on the JFY program only; costs of the similar ABCD program were not available.

[b] Costs for this school district are from the National Center for Education Statistics Digest of Education Statistics, 1991, for the 1989-1990 school year.

[c] Excludes site estimates of donated time and services, because they were not part of the core intervention. Including these costs would have increased cost per student month to $886.

[d] Excludes site estimates of $851,372 of donated time and services, because they were not central to the intervention. Including these costs would have increased cost per student month to $1,485.

[e] Includes imputed cost of volunteer counselors, who were an integral part of the core intervention.

[f] Incremental cost per student hour is reported only where SDDAP program cost exceeded regular school costs.

lowest-intensity programs. High-intensity programs such as the Miami COMET Program, the Newark Project ACCEL, and the Miami Corporate Academy added between $376 and $446 dollars per student month, and 67 to 119 percent to regular program costs. In contrast, the programs that affected just a few program hours per month added from $33 to $220 and 10 to 50 percent of regular school costs. The relationship between intensity and cost is less obvious in the intermediate range of medium-intensity programs.

Program design affected costs. In some cases, programs involved substantial hours of attendance but were less intensive or used fewer program resources levels than regular school programs. For example, the Las Vegas Horizon High Schools and the Atlanta Middle School Academy, although providing a full school program, cost less than the corresponding regular schools. The Flint academy, similarly, added a much smaller increment to regular school costs than other full-day programs.

Program sponsorship affected costs. In the Metropolitan Youth Academy in St. Louis, participants attended for only a few hours each day for GED-preparation classes and life-skills seminars. Flowers with Care (FWC), in contrast, provided intensive services to its students from 9 A.M. to 2 P.M. over the entire school year. Despite its more intensive format, FWC actually registered lower overall costs per student month. FWC costs may have been lower in part because, as an affiliate of the Archdiocese of New York City, FWC paid relatively lower salaries and had lower overhead costs than public school districts.

Programs with high staff-to-student ratios were more costly

Intervention programs with large staffs tended to have higher costs. This was evident in programs that stressed smaller class sizes as a key intervention, as well as those that added other nonteaching personnel to work with students.

The STAR program in Tulsa, one of the most costly we studied, had a high ratio of staff members to students. It employed six full-time staff members to operate the STAR recovery program as well as several other minor components. At any given time, the program served a small group of about 45 students. Even after the other program components' share of staff time was excluded, services to these STAR participants cost about $959 per student month.

Reducing class size was usually associated with higher cost per student month. Teachers' salaries are typically a major portion of school costs, so decreasing the number of students per teacher dramatically increased costs per student. The effect of reduced student-to-teacher ratios was seen most

clearly in several middle school and high school enrichment programs that provided special small classes during the regular school day:

- If the Miami COMET Program had maintained the regular class sizes of the elementary schools (about 30 students per instructor), its incremental cost would have been $91 per student month instead of $376. Increasing the staff-to-student ratio increased costs by 83 percent.

- The incremental cost per student month of the Rockford Early Identification and Intervention Project, which provided for only one reduced-size class in each of four middle schools, would have been $110 rather than $141 if the program's resource classes had maintained the schools' average class size of 25 students.

- Class size was reduced considerably in the Albuquerque SIS program, but less so in the Chicago Wells Academy School-Within-a-School. This difference contributed to a higher incremental cost per student month in Albuquerque ($163) than at Wells Academy ($114).

Cost per affected hour varied, suggesting possible differences in cost-efficiency of interventions

Comparing the incremental costs of the SDDAP interventions with the amount of students' classroom time affected by the intervention reveals some variation in how projects spent their resources. Cost per student hour (Table 3) reflects differences in program design but may also reflect differences in program scale and organization.

In general, high-intensity and medium-intensity programs that affected all or a substantial portion of the school day had low cost per hour. Their costs ranged from approximately $1.20 to $3.75 per hour. For example, the Miami COMET Program, which affected students' entire school day or 120 hours per month, increased costs by $3.13 per hour. The Seattle Middle College High School spent $1.47 more per hour on its students than the regular schools did. Cost per program hour affected also fell in this range in Newark's Project ACCEL, the Miami Corporate Academy, and the Las Vegas program, and in the medium-intensity programs in Long Beach, Chicago, and Boston.

Program interventions that affected only a small portion of students' school lives were more costly per hour. The Twelve Together Program in Chula Vista, the Rockford EIIP, and the Albuquerque middle school program affected students only 4 to 13 hours per month. Their incremental costs ranged from $8.25 to $16.92 for each student hour affected. This high cost

probably reflects in part the substantial fixed cost inherent in overseeing and coordinating any program, whether it involves only an hour per week or the entire school program.

High cost per hour, however, also reflects features of program organization. This was evident in the Chula Vista and Tulsa programs:

- The Chula Vista Twelve Together Program was a collaboration between the school district and a local foundation. Even if the value of volunteer time (imputed at $6.50 per hour) had been excluded, the incremental cost would have been $190 per student month, or $14.61 per student hour. In addition to the inefficiencies involved in operating a program that affects students only a few hours per month, substantial administrative costs seem to have been incurred in running the program as a joint effort between the two organizations.

- High costs in the Tulsa STAR program also seem to reflect its organizational structure and the nature of its services. As a nine-week transitional program, STAR spent substantial resources on recruiting and assessing new students and conducting followup with departing students to encourage their entry to the next educational or employment step. In addition, STAR staff members had to maintain communications with 14 different school districts in the catchment area from which they drew students. These demands probably contributed to the high cost per hour; STAR spent $959 per student month, or $15.98 per student hour, compared with the $321 or $2.68 per hour spent in the local regular public schools.

Staffing instructional functions with part-time or paraprofessional staff can contain costs. The Up with Literacy program in Long Beach hired college students in educational programs, at $8.08 per hour, to tutor program students and run enrichment activities. Using regular teachers in these positions would have substantially raised the observed cost of $3.71 per student hour.

These findings concerning cost efficiency must be interpreted cautiously. They present distinctions only about costs, without regard to program effects. The cost-effectiveness analysis, to be conducted when final program impacts are estimated, will help determine whether any general guidelines can be offered about the relative wisdom of investing in high-cost or low-cost programs.

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