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Current-Generation Youth Programs

What Works, What Doesn't, and at What Cost?

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Preface

Growth & Justice, an economic think tank in Minnesota, is encouraging state policymakers to take a broad and ambitious view of the state's investment in education. As Growth & Justice moves into the second phase of the *Rethinking Public Education Initiative,* which seeks to create an evidence-based consensus on how to invest in getting more Minnesotans to obtain post-secondary degrees, it and a committee of state stakeholders are considering cost-effective alternative program investments, including youth programs, to improve key measurable educational outcomes for Minnesota's youth. Such alternatives are viewed as "critical gateways" to attaining post-secondary education. As part of this effort, Growth & Justice commissioned papers to explore what is known about the costs, impacts, and cost-benefit of each alternative. This is one of the papers. It is intended for policymakers and for programs that are considering funding, implementing, or modifying youth programs. This research was sponsored by Growth & Justice and was conducted by RAND Education, a unit of the RAND Corporation. Any opinions, findings and conclusions, or recommendations expressed in this material are those of the author and do not necessarily reflect the views of Growth & Justice.

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Introduction

Policymakers nationwide must decide how to best invest in education and related opportunities, such as out-of-school-time programs, for their youth populations—how to allocate their investments across alternative opportunities according to the respective costs and benefits of each opportunity. In this paper, we review the costs, benefits, and cost and benefits relative to one another for one alternative type of investment: youth programs that are offered during the time that students are not in school. Such programs are often viewed as a mechanism for addressing working parents' needs for care of their school-age children, for improving the developmental outcomes of youth, and for reducing the gap in academic achievement between advantaged youth and disadvantaged youth.

Most of the programs considered in this paper are targeted to at-risk groups, such as students in low-performing schools or children from low-income families, to some extent. Some are more targeted than others, usually providing more-intensive programming, such as a case manager, and involving fewer youth. The youth programs we consider are before-school and after-school programs, enrichment programs, specialized after-school programs (such as mentoring and tutoring), summer learning programs, and intervention programs to prevent dropouts and other teen problems.

What Do We Know About the Reported Costs of Youth Programs?

In determining alternative investments in social programs, cost is an important factor. All else being equal, policymakers would prefer a program that serves a larger number of people at the same cost as a program that serves either fewer people or a fixed number of people at lower cost. Recognizing that cost will feature in the decision of whether to fund new programs or to expand or close existing programs, more and more creators of youth programs have included cost information in their evaluations and descriptions. We reviewed the costs associated with many of the more prominent youth programs. To compare program costs, we computed the cost per hour of service per youth.

We found that most cost data exclude key cost elements and, thus, underestimate the full cost of replicating a program. Most of what is known about program costs relates to operating costs, which, at the program level, are likely to account for the majority of costs—between 60 and 80 percent of total costs by some estimates. In most cases, even published operating costs of youth programs are incomplete, tending to ignore in-kind resources (e.g., volunteer mentors, community speakers) and to omit components of key operating costs (e.g., use of donated

facilities and janitorial services). Of further concern is the variation in the level of incompleteness in the operating costs across the programs, making it difficult to compare costs from one program with those from another.

Given this situation, our estimated cost per hour of service for the youth programs should be viewed as incomplete and comparisons should be done with care.

Excluding enrichment programs, the lowest-cost programs are the basic before- and after-school programs (and the funding streams that support them): By our best estimates, their cost per hour ranges from $1.17 to $2.57, excluding the two programs that provide a fuller set of services—Beacon's Initiative and Extended Services Schools Initiatives (which contained several Beacon's programs). The costs of these two programs were estimated to be $4.03 and $7.03 per hour per child, respectively.

The specialized after-school programs, summer learning program, and the youth dropout/intervention programs tend to be much more expensive per hour of service than the lower-cost after-school programs. The lowest cost per hour per child of these programs is for group mentoring programs ($3.32); the others range from $5.36 (Children's Aid Society–Carrera Adolescent Pregnancy Prevention Program) to $8.36 for one-on-one mentoring.

If the aim is to replicate programs throughout a state, then the costs of individual programs might not be a good indicator of total program costs across multiple sites. For example, as the program is scaled, operating costs as a proportion of total costs may decrease. Additional costs might be incurred—for example, to monitor the training and performance of programs. Inclusion of the oft-omitted in-kind resources is particularly important if the goal is to replicate a program in many sites, including some sites at which it will be difficult to rely on volunteers and donated space. In addition, the costs associated with scaling-up, such as additional training of personnel or acquisition of resources, would need to be considered.

What Do We Know About the Positive (and Negative) Effects of These Programs?

Our update of an earlier RAND research synthesis of the effects of group-based youth programs on youth participants supports the same broad conclusions: *The current generation of youth programs can provide modest positive impacts on academic achievement, academic attainment, and social behaviors, such as pregnancy*, and *most of the benefits of youth programs are concentrated in programs that are more resource-intensive*.

The current synthesis relies on results from evaluations that use the most rigorous design (a controlled experiment) whose integrity (the essential features of the original rigorous design; often, one or more essential features of the design are violated at some point) was maintained throughout the full evaluation, to avoid a bias toward positive results. Research suggests that weaker study designs, such as quasi-experimental and correlation associations, tend to yield more false positives: They are more likely to result in positive results than the more rigorous experimental designs, which remove self-selection and other non-observable factors that can contribute to the positive effect. Our synthesis is restricted to evaluations screened for inclusion on either of two Web sites: The Coalition for Evidence-Based Policy's *What Works and What Doesn't Work in Social Policy? Findings from Well-Designed Randomized Controlled Trials* and the Promising Practices Network on Children, Families, and Communities, which lists studies assigned a "Proven" rating. While many after-school programs have undergone less-rigorous

outcome evaluations, only the evaluation of the 21st Century Community Learning Centers (CCLCs) had a rigorous evaluation design. A key characteristic of 21st CCLC is that, as with other low-cost after-school programs we reviewed, 21st CCLC is more of an after-school funding stream than a specific after-school program model: Each Center is allowed to design its offerings within some broad guidelines, which means that the results of its evaluation may be considered more akin to what an average (rather than a model) after-school program might expect.

Participation in the 21st CCLC program had an overall *negative* effect on the participants themselves. In the second year, participants were more likely to be suspended from school and to have been disciplined in school (e.g., missed recess or sent to the hall), and their teachers were more likely to have called parents about behavioral problems.

Why might children who participate in average after-school programs act out during school? There are several hypotheses: Students may be tired from spending so much time in school, the programs may tolerate behavior that would not be tolerated in school, or the programs are poorly designed and implemented for the effect desired. Further research is necessary to understand what may be happening here, whether this finding is generalizable to other after-school programs, and, if it is, under what circumstances.

Interventions targeting at-risk youth tend to be more research-based (since they are developed by researchers in the field) and have a longer history of careful program evaluation; for either or both these reasons, more-convincing evidence of positive behavioral impacts can be found among targeted (specialized) programs. The Big Brothers Big Sisters of America (BBBSA) program yielded promising results. This program involved matching the intervention group with a volunteer mentor (usually with a college degree) who agreed to meet with the youth (ages 10–16) at least once a week (in most sites) for at least three hours. After 18 months in the program, participants were less likely to have started using illegal drugs or alcohol and less likely to report having hit someone or having skipped school.

Three dropout and teen intervention programs have been rigorously evaluated. The Children's Aid Society–Carrera Adolescent Pregnancy Prevention Program reduced teen pregnancy and births among female participants after four years and increased high school graduation and college enrollment (seven years following program start and three years after program conclusion). The Quantum Opportunities Program (QOP) is described as a development program for economically disadvantaged youth. Youth, who are called "Associates," receive year-round services, including comprehensive case management, for high school years. Associates engage in 250 hours of education, development, and community-service activities each year and receive financial incentives for doing so. Compared with the control group, Associates were more likely to graduate from high school, more likely to be in post-secondary school, and less likely to be high school dropouts (Hahn, 1999).

CASASTART (Striving Together to Achieve Rewarding Tomorrows) is a substance abuse and delinquency prevention program serving high-risk young adolescents and their families. It also involves schools, law enforcement agencies, and social service and health agencies. One year after program completion, CASASTART participants were significantly less likely to have used drugs in the past month, less likely to have reported having ever sold drugs or engaged in drug-sales activity in the past month, and less likely to have committed a violent crime in the year following program completion (Harrell, Cavanagh, and Sridharan, 1998, 1999).

The evaluations for each of these three dropout and teen intervention programs suggest potentially powerful impacts if the programs can be replicated in other settings.

What Do We Know About the Costs Relative to the Benefits of These Programs?

Policymakers need to decide how to allocate scarce resources among alternatives. Done well, cost-benefit analysis, a methodology that calculates and compares long-term benefits of a program to society and its participants, to total program costs, provides useful information for choosing among programs. We review the results of cost-benefit analyses completed on the four youth programs for which rigorous evaluations have revealed positive effects and conclude there is evidence that youth programs may produce benefits that outweigh costs. But limitations in the information available to analysts who wish to conduct cost-benefit analysis restrict their ability to quantify by how much and how consistently effective programs are worth their costs. Primarily, evaluations vary widely in the range of the short-term and long-term outcomes they measure. For example, reductions in crime and grade repetition and increases in high school graduation each translate into substantial monetized benefits, yet no evaluation measured all three outcomes.

We recommend that future rigorous evaluations of youth programs seek to measure a larger (and consistent) set of outcomes to facilitate cost-benefit analysis.

How Should Policymakers Proceed in Deciding Whether and How to Invest in Youth Programs Relative to One Another and to Other Alternatives?

At this time, there is enough evidence to suggest that some carefully crafted and implemented youth programs can improve important youth academic and behavioral outcomes. They can reduce drug and alcohol use (BBBSA, CASASTART), violence (BBBSA), crime (CASASTART), and teen pregnancy and births (The Children's Aid Society–Carrera Adolescent Pregnancy Prevention Program), and they can improve high school graduation rates and enrollment in post-secondary schools (QOP, The Children's Aid Society–Carrera Adolescent Pregnancy Prevention Program).

At this time, the evidence from all these program evaluations, which are based on at-risk groups, is strongest for programs that are costlier and provide more-intense resources to youth. We lack evidence that such programs will benefit youth who are not at-risk or who are less at-risk. Because these programs were designed to provide services for at-risk youth and because other youth are more likely to obtain the needed services elsewhere (such as from families and schools), we would expect weaker, if any, effects for the average youth.

We also lack evidence that less-expensive, less-resource-intensive programs, such as after-school programs, benefit youth. Although evidence from nonrigorous evaluations is largely positive, the one rigorous evaluation of 21st CCLCs suggests that this initiative can produce negative short-term outcomes among program participants, especially boys and children with behavioral problems. More research is needed to assess lower-cost programs and to assess whether there are ways to reduce short-term adverse effects, such as those seen in the 21st CCLCs.

These results do not generalize to the larger population of after-school programs, including those that serve higher-income neighborhoods or those that provide more-intensive services (which may include some 21st CCLCs).

Our conclusions about alternative youth programs should be considered preliminary and should be revised as we learn more about the cost and impacts of youth programs. Thus far, only one experimental design evaluation of one after-school program and one specialized after-school programs has occurred. Given the increasing recognition of the need of additional rigorous evaluation designs in education, such youth programs are likely to use rigorous evaluation designs in the coming years.

Other considerations that policymakers can use in deciding how to allocate across youth programs are as follows:

- Investments can be made to support or improve the quality and content of existing programs.
- To reduce the chance of a program's doing harm, investments could be made to understand the circumstances in which after-school programs may contribute to adverse behavioral outcomes. It may be useful to establish model programs as laboratories in which practitioners and program developers can observe student behavior and pilot different approaches to avoiding problem behavior and as sites for evaluation of enrichment and other activities before those activities are implemented across multiple programs.
- For school-based programs, one can also imagine establishing a continuous quality improvement system that involves monitoring school-based behavioral problems of participants and nonparticipants to immediately identify unintended program consequences, design an intervention to address the problems, and track programs' success.
- Finally, policymakers should keep in mind that moving forward requires advancing the youth-programming field and learning what does and does not work. The field will benefit primarily from rigorous and well-done evaluations of large-scale (e.g., statewide) initiatives.

CHAPTER ONE

Introduction

The confluence of five interrelated factors has called attention to the potential role that youth programs offered outside of the regular schoolday can have in addressing the social and economic realities facing American families:

- Because of the long-term rise in households headed by single parents and women who work, fewer children have a parent at home after school or during the summer, raising concerns about the safety and well-being of unsupervised youth. One study reveals that employees in *Fortune* magazine's "100 Best Companies to Work For" list report anxiety about their children's after-school arrangements as a factor that affects their self-reported job performance and well-being (Barnett and Gareis, 2006).
- Studies tracking youth crime suggest a spike in the number of youth arrested between 3:00 p.m. and 6:00 p.m. on schooldays and between 8:00 p.m. and 10:00 p.m. on weekends. A report issued jointly by the Department of Education and Department of Justice (2000) says that the "period of time between the school bell and the factory whistle is a most vulnerable time for children."
- Youth development experts note that many youth lack key characteristics or "developmental assets," such as a relationship with a caring and supporting adult (National Research Council and Institute of Medicine, 2002), that lead to better long-term social and economic factors.
- Time spent out of school, such as during summer break, exacerbates the achievement gap between advantaged and disadvantaged students (Cooper et al., 1996; Alexander, Entwisle, and Olson, 2007).
- Recent trend data show that the proportion of time children spend outside of home and school is growing rapidly (Sturm, 2005). Outside-of-school programs, after-school programs, and a type of youth program are the most common places for children to congregate during the school year (Sturm, 2005).

For these reasons, youth programs have been identified as a mechanism to address the array of issues that families with children face and, proponents hope, the long-term social and economic outcomes of American youth as they enter adulthood. If effective, youth programs present a potentially powerful policy lever by which policymakers can address the short- and long-term needs of families and youth, and society more generally.

Throughout the country, policymakers face an array of options for improving the educational outcomes of children and youth, including investments in youth programs. This paper provides policymakers with information about investments in youth programs. In what fol-

lows, we describe the range of youth programs and their costs. We also discuss what we know about the impacts of such programs on participants and what is known about the costs relative to the benefits of these programs. We conclude with a recommendation for how policymakers might proceed in deciding whether and how to invest in youth programs.

CHAPTER TWO

What Are Youth Programs?

By *youth programs*, we mean programs intended for youth (approximately 5–18 years old) that are delivered before or after school, on weekends, or over the summer and that seek to improve one or more student or family outcomes.

Youth programs can take place at school; at community-based organizations, such as Boys and Girls Clubs and YMCAs and YWCAs; and at park and recreational facilities. These youth programs can be offered by these same institutions in any setting, including in the home, and they do not include lessons (e.g., private music lessons) or competitive team sports. Conceptually, it is helpful to distinguish among different types of programs, which vary in their objectives (i.e., provide a safe and supervised setting for children, create academic- or cultural-enrichment opportunities for youth, or prevent youth from engaging in risky behaviors or dropping out of school), although the distinction among these categories is sometimes blurred. Programs also vary in how targeted or aimed to specific populations they are. Most programs considered in this paper are targeted to some extent; however, some are more targeted than others, providing more-intensive programming, such as a case manager, and involving fewer youth.

Finally, our definition of *youth programs* does not include interventions that are primarily implemented during the regular schoolday with some additional community components; such interventions describe many substance abuse prevention and some tutoring programs (such as those that pull students out of the regular classroom during the regular schoolday).

Table 1 lists program types and provides examples of well-known programs for which cost information is available. The table also indicates which programs have completed a rigorous evaluation of the impact of program participation on participant outcomes and a cost-benefit analysis, as well as those for which less-rigorous evaluations have been conducted.

Before- and After-School Programs

Of the youth programs, after-school care programs have received the most attention this past decade. Almost all before- and after-school care programs share the goal of providing a safe and supervised setting when school is not in session for all elementary school students and, less often, middle school students attending the school. Other objectives might include academic or cultural enrichment. The typical after-school care program has a student-staff ratio of approximately 12-1 (Kane, 2004). Staff may consist of a regular-schoolday teacher, certified aide, parents, local college students, or others; prior experience and training vary consid-

Table 1
Youth Programs Considered in This Paper, by Type

Program and Program Description	Available Program Information		
	Costs	Rigorous Evaluation	Cost-Benefit
Before- and After-School Programs			
21st Century Community Learning Centers Optional after-school care programs operated in elementary schools serving low-income communities. Free to families (Dynarski et al., 2003).	√	√	
After School Education and Safety Program California's state-funded school-based after-school programs. Programs must provide (1) tutoring or homework assistance and (2) educational enrichment (Naughton and Teare, 2005).	√	[a]	
After School Matters (drop-in centers) Drop-in recreation program for high school students (Proscio and Whiting, 2004).	√		
Beacon's Initiative Offers programming before school, during lunch, and after school; case management and counseling in elementary, middle, and high schools (Walker and Arbreton, 2004).	√		
Extended Services Schools Initiative Includes programs based on one of four after-school program models (Beacon's, Bridges to Success, Community Schools, and West Philadelphia) (Grossman et al., 2002).	√		
LA's BEST Housed in elementary schools located in low-income, high-crime neighborhoods or low-performing Los Angeles Unified School District schools. For children kindergarten through 5th or 6th grade; free to all students (Goldschmidt and Huang, 2007).	√	[a]	
Making the Most of Out-of-School-Time Initiative Agencies and organizations providing after-school programs in Seattle, Chicago, and Boston (Halpern, Spielberger, and Robb, 2001).	√		
San Diego "6 to 6" Out-of-School-Time Program The first citywide program that provides school-based before- and after-school programs to all elementary and middle school students (NIOST, 2003).	√	[a]	
The After-School Corporation 3–6:00 p.m. every day school (K–12 grade) is operating. Includes homework help, enrichment activities (academic and cultural), health, and social development (e.g., drug prevention) (Friedman and Bleiberg, 2002).	√	[a]	
Youth-Program Enhancement			
AfterSchool Kidzlit K–8 reading-enrichment curricula, which includes books and guides for staff and students (Developmental Studies Center, 2007).	√	[a]	
Boys & Girls Club Teen Initiatives New staff, increased staff, and more academic and other programming to keep youth involved as they transition from age 12 to 13; secondarily, to recruit new teenage members (Herrera and Arbreton, 2003).	√		

Table 1—Continued

Program and Program Description	Available Program Information		
	Costs	Rigorous Evaluation	Cost-Benefit
Youth-Program Enhancement—Continued			
CATCH Kids Club A curricula that includes nutritional-education component (15–25 minutes per week), physical-activity component (that includes warm-up, main activities, physical activities), and snack component to be administered in after-school programs (Kelder et al., 2005).	√		
Specialized After-School Programs			
After School Matters clubs Collaboration among schools, parks, and libraries to provide apprenticeship opportunities (with stipends and requirements) for high school youth (Proscio and Whiting, 2004).	√	[a]	
Big Brothers Big Sisters of America Pairs unrelated adult volunteer with youth from single-parent households (Tierney and Grossman, 2000).	√	√	√
Summer Learning			
Building Educated Leaders for Life Literacy and math instruction, trips to community, and community speakers for elementary school students (Chaplin and Capizzano, 2006).	√	[b]	
Dropout and Teen Intervention Programs			
CASASTART A substance abuse and delinquency prevention program serving high-risk young adolescents and their families (Harrell, Cavanagh, and Sridharan, 1997, 1998).	√	√	√
Children's Aid Society–Carrera Adolescent Pregnancy Prevention Program Year-round after-school program with a work-related intervention (Job Club); an academic component; comprehensive family life and sexuality education; arts component; and sports. Also includes mental health care and medical care (Philliber et al., 2002).	√	√	√
Quantum Opportunity Program Using a comprehensive case-management approach, the program provides year-round services to youth throughout the four years of high school (Hahn, Leavitt, and Aaron, 1994).	√	√	√

[a] A quasi-experimental evaluation has been completed.

[b] An experimental evaluation exists that has not been included on either the Coalition for Evidence-Based Policy's *What Works and What Doesn't* or the Promising Practices Network's *Proven Practices* lists.

erably. Most programs operate three to five days a week, although the best data (most reliable data provided in the literature [Bodilly and Beckett, 2005]) suggest that the average program participant attends twice a week (elementary school) or once a week (middle school).

After-school programs are typically open to all children who attend the school or community center or other organization, although most of the public and philanthropic support for after-school programs, including the 21st Century Community Learning Centers (CCLCs),

the largest single source of federal funding for after-school programs, is for low-performing schools or schools in low-income neighborhoods. Funding for California's Proposition 49 (the After School Education and Safety Program Act of 2002), which supports after-school programs statewide and gives priority to low-performing schools, will supplement funds provided by California's Before and After School Learning and Safe Neighborhoods Partnerships Program, legislation intended to help schools and school districts provide safe and educationally enriching alternatives for children and youth during non-school hours. For high school students, we include drop-in centers (e.g., *After School Matters* drop-in centers in Chicago) in this category because their purpose is primarily to provide a setting with adult supervision.

Youth-Program Enhancements

A second type of youth program is better referred to as *enhancements to existing programs*, such as a reading enrichment curriculum, which can be incorporated into any existing program. Other enhancements might be an expansion of services to target a particular group.

Specialized After-School Programs

Other after-school programs are specialized and targeted to a subset of students. Mentoring and tutoring programs are perhaps the most common of these programs, and sometimes they are incorporated into larger programs. Traditional mentoring, such as Big Brothers Big Sisters of America (BBBSA), involves one-to-one matching of an adult volunteer with a target youth for several months to a year or longer. The primary goal of such matching is to provide youth with a caring adult friend. A new generation of mentoring programs is also experimenting with group mentoring, peer mentoring, and e-mentoring (Herrera, Vang, and Gale, 2002). Tutoring is similar to mentoring in that an adult or older youth works one-on-one with a student, but the work is focused on an academic subject, such as reading or math. For older students, specialized programs might offer apprenticeship opportunities (e.g., *After School Matters* clubs).

Summer Learning Programs

Summer learning programs (e.g., Bell Summer Accelerated Learning Programs) focus on improving academic performance; they are based on the observation, as noted above, that the achievement gap between advantaged and disadvantaged students widens over the summer, when school is not in session. Summer learning programs are similar to regular school in that they are run by regular schoolteachers, involve academic curricula, and may occur in the classroom. Other components of summer learning programs can include mentoring and recreational activities.

Dropout and Teen Intervention Programs

Dropout and teen intervention programs are multicomponent programs for adolescents at risk of dropping out of school, becoming pregnant, or engaging in criminal activities. They may include mentoring or other programmatic features discussed here. Some of these programs also offer extensive case-management services (CASASTART and Quantum Opportunities Program [QOP]).

Having categorized and discussed the various types of youth programs, we now turn to a discussion of what we know about their costs.

CHAPTER THREE

What Do We Know About the Costs of Youth Programs?

In determining alternative investments in social programs, agencies and policymakers focus on cost as an important factor. All else being equal, policymakers will prefer a program that serves either a larger number of people at the same cost as a program that serves fewer people or a fixed number of people at lower cost. Recognizing that cost will feature in the decision of whether to fund new programs or to expand or close existing programs, more and more creators of youth programs have included cost information in their descriptions and evaluations.

The four major cost elements are start-up costs, operating costs, capital costs, and infrastructure or capacity-building costs (Table 2). A limitation with most cost data, including those discussed here, is that they generally exclude key cost elements and, thus, underestimate the full cost of replicating a program (Lind et al., 2006). Table 2 adapts a table summarizing the cost elements of youth programs from the most-comprehensive review of the literature on youth program costs that is being conducted by The Finance Project and Public/Private Ventures.

Table 2
Various Cost Elements of Youth Programs

Cost Element	Description	What's Known About Cost Element
Start-up costs	Initial costs associated with planning and readying a program for operation	Little
Operating costs	Costs associated with running a program on an ongoing basis:	
	Staff compensation, benefits	The largest cost
	Facilities-related costs (rent, utilities, maintenance)	Generally, the second-largest cost
	Other costs (food, supplies, insurance, transportation)	Vary by program, but may range up to 20% of total costs
Capital costs	Costs related to building, expansion, renovation, and improvement of facility	Little
Infrastructure or capacity-building costs	Costs for system planning and evaluation; developing and operating system for training and licensing providers; coordinating resources, such as transportation services and referral information; providing technical assistance to programs to sustain or upgrade operations; providing financing or other support for capital improvements	Little

SOURCE: Adapted from C. Lind et al. (2006). *The Costs of Out-of-School-Time Programs: A Review of the Available Evidence*. Washington, DC: The Finance Project.

The rightmost column is pivotal: It succinctly states what is known about each element. What is troubling is that little is known about three of the four cost elements of youth programs.

Most of the costs reported in the literature are associated with operating costs. At the program level, operating costs are likely to account for the majority of costs; some estimates suggest that operating costs account for between 60 and 80 percent of total costs (Halpern, Spielberger, and Robb, 2001).

Table 3 displays the annual cost per participant from youth programs, our estimated number of annual hours of services provided, our calculated cost per hour per child, and a description of what is not included in the program cost estimates. We calculated total annual hours based on program descriptions or, when possible, directly from the program developer. Unless otherwise stated, we assumed that a school-based program, such as an after-school program, is open for three hours per day, 180 days a year, for a total of 540 hours per year. If the program is open before school, we assumed that it is open an additional one and a half hours per day. When multiple sites are included, we reported the midpoint (e.g., *After-School Matters* clubs). For CASASTART, the scope and mix of services are broad. We interpreted them locally, by each CASASTART program site, so there are no estimates of total hours of service (Murray, 2007). Costs per hour are presented in the original cost and in 2006 dollars (Bureau of Labor Statistics, 2007). The costs for such programs may increase at a higher or later rate than general inflation, so the inflated figures should be viewed as an approximation of the costs of program implementation in today's dollars. Where possible, we confirmed with the original source of cost information what is and is not included (e.g., in-kind donations).

Several observations can be made from Table 3. First, the lowest-cost program for which we compute cost per hour of service is the Boys & Girls Club Teen Initiatives ($0.52 per hour), a program that was really an effort (i.e., additional money to expand and adapt an existing program to better serve an age group not well served by the program prior to the "effort") to increase programming opportunities to retain a narrow age group (13-year-olds) that typically stops attending this particular Boys & Girls Club site. However, this rate does not cover any other costs associated with the Boys & Girls Club, such as the operating costs for the staff and programs that may serve these youth that were already in place when the initiative started. In other words, the estimate is of the costs of expanding programming to a (narrow) age group. The other two youth-program-enhancement costs involve the purchase of materials and limited technical support (by telephone) necessary to incorporate the curricula into an existing program.

Excluding youth-program enhancements, the lowest-cost programs are the basic before- and after-school programs (and the funding streams that support them): By our estimates, their cost per hour ranges from $1.17 to $2.57, excluding the two programs that provide a fuller set of services, including case management (for Beacon's Initiative) and Extended Services Schools Initiatives (which contained several Beacon's programs). The costs of these two programs were $4.03 and $7.03 per hour per child, respectively.

Third, the specialized after-school programs, summer learning program, and the youth dropout/intervention programs are much more expensive per hour of service than basic after-school programs, reflecting the greater resource intensity of these programs. The lowest cost per hour per child of these programs is for the group mentoring programs ($3.32). The others range from $5.36 (Children's Aid Society–Carrera Adolescent Pregnancy Prevention Program) to $8.36 for one-on-one mentoring. Note, however, that this latter cost estimate excludes in-

Table 3
Costs Estimates for Exemplar Youth Programs, by Type

Program/Source	Annual Cost/Year/ Child	Annual Hours[a]/ (2006) Dollars per Hour per Child	Costs Excluded
After-School Care Programs			
21st Century Community Learning Centers Dynarski et al., 2003	$978 (2005 dollars) $1,010 (2006 dollars)	540 hours/ $1.87	Start-up, capital, system-building costs; donated and in-kind resources.
After School Education and Safety Program (California) Naughton and Teare, 2005	$4,050 (2005 dollars) $4,180 (2006 dollars)	540 hours/ $2.21	Start-up, capital, system-building costs; donated and in-kind resources.
After School Matters (drop-in centers) Proscio and Whiting, 2004	$680 (2003 dollars; range: $350–$1,000) $745 (2006 dollars)	540 hours/ $1.38	Capital and system-building costs; some in-kind resources (although not much detail provided).
Beacon's Initiative (San Francisco) Walker and Arbreton, 2004	$7,160 average across 5 sites (2000–2001) $8,382 (2006 dollars)	2,080 hours[b]/ $4.03	Start-up, capital, and system-building costs; intermediary costs and some in-kind costs (e.g., janitorial services/ space). Unclear whether donated and in-kind resources are also excluded.
Extended Services Schools Initiative (after-school hours only) Grossman et al., 2002	$2,327 (2000 dollars) $2,724 (2006 dollars)	155 hours[c]/ $7.03	Start-up, capital, and system-building costs. Facility costs and some in-kind resources.
LA's BEST (Los Angeles) Goldschmidt and Huang, 2007	$598 (1998 dollars) $740 (2006 dollars)	630 hours[d]/ $1.17	Start-up, capital, and system-building costs. Appears to include donated and in-kind resources.
Making the Most of Out-of-School-Time Initiative Halpern Spielberger, and Robb, 2001	$4,000 (1997 dollars) $5,024 (2006 dollars)	2000[e]/ $2.51	Start-up, capital, and system-building costs; intermediary costs and some in-kind costs (e.g., janitorial services/ space).
San Diego "6 to 6" Out-of-School-Time Program Proscio and Whiting, 2004	$1,361 (2003 dollars) $1,491 (2006 dollars)	945 hours[f]/ $1.58	Not clear if includes all operational costs. Start-up, capital, and system-building costs; in-kind resources or donated space.
The After-School Corporation (New York City) Proscio and Whiting, 2004	$1,300 (2004 dollars) $1,387 (2006 dollars)	540 hours/ $2.57	Start-up, capital, system-building costs; in-kind resources and donations (supplies, equipment, volunteers, utility bills, custodial services).
Youth-Program Enhancement			
AfterSchool Kidzlit Personal communication with Megan Green, September 24, 2007	$2,020 for materials + expenses for trainers	108 hours[g]/ —	All costs except for those for materials and staff training.
Boys & Girls Club Teen Initiatives (Boston) 1999 Herrera and Arbreton, 2003	$449 (1999 dollars) $543 (2006 dollars)	1,040 hours[h]/ $0.52	Start-up, capital, and system-building costs; in-kind resources (e.g., social work and administrative staff, facilities, computers, supplies, and recreational equipment).
CATCH Kids Club Flaghouse, 2007	$195 for enrichment packet per program (2006)	202.5 hours/ —	All costs except those for materials and staff training.

Table 3—Continued

Program/Source	Annual Cost/Year/ Child	Annual Hours[a]/ (2006) Dollars per Hour per Child	Costs Excluded
	Specialized After-School Programs		
After School Matters clubs Proscio and Whiting, 2004	$2,520 (2003 dollars) $2,761 (2006 dollars)	390 hours (range: $240–$540)/ $7.08	Start-up, capital, and system-building costs; some in-kind resources (such as volunteer and other professional time).
Average across 52 programs/ sites, including BBBSA, Campfire programs, and stand-alone mentoring programs. Sites randomly selected from a snowball sample list. Fountain and Arbreton, 1999	$408 per youth for group mentoring (1999 dollars) Average $1,030 per youth for one-on-one mentoring (1999 dollars) $494 per youth for group mentoring (2006 dollars) $1,246 per youth for one-on-one mentoring (2006 dollars)	149 hours/ $3.32 (group mentoring); $8.36 (one-on-one mentoring)	Start-up, capital, and system-building costs. In-kind donations (volunteers) estimated to be $1 per $1 budget.
	Summer Learning Programs		
Building Educated Leaders for Life Chaplin and Capizzano, 2006	$1,500 (2005, Boston) $1,548 (2006 dollars, Minneapolis/St. Paul)	240 hours/ $7.04	Unclear.
	Youth Dropout/Intervention Programs		
CASASTART Harrell, Cavanagh, and Sridharan, 1999	$4,700 (1992 dollars) $6,400 (2005 dollars)	Unavailable	Unclear.
Children's Aid Society–Carrera Adolescent Pregnancy Prevention Program Michael Carrera (personal communication, October 20, 2007)	$4,020 (2007 dollars)	750 hours[i]/ $5.36	Start-up, capital, system-building costs; donated and in-kind resources (e.g., space, janitorial services), which vary across sites.
Quantum Opportunities Program Hahn, Leavitt, and Aaron, 1994	$3,025 (1993 dollars) $4,220 (2006 dollars)	750 hours[j]/ $5.63	Unclear.

SOURCE: Adapted from Coalition for Evidence-Based Policy (October 2007). *What Works and What Doesn't Work in Social Policy? Findings from Well-Designed Randomized Controlled Trials*; Promising Practices Network, *Programs That Work* page.

[a] Assumes 180 days of school per year, unless otherwise stated.

[b] Assumes open year-round, five days a week for 8 hours per day.

[c] Assumes 2.5 hours per day, 33 weeks per year, 4.7 days per week. The cost per day is $15 (2000 dollars).

[d] LA's BEST is open until 6:00 p.m. each weekday. We assume school lets out at 2:30 p.m., allowing up to 3.5 hours per day.

[e] A 50-week year; we assume 5 hours per weekday (before and after school.

[f] We assume 1.5 hours in morning, 3.5 hours in the afternoon.

[g] Three hours per week for 36 weeks (regular school year).

[h] Teen centers were open an additional 4 hours per weekday, year-round.

[i] Six days per week, 2.5 hours per day, 50 weeks per year.

[j] Annually, 250 hours each of education, development, and service activities.

kind donations, such as those made by the volunteer adult mentor. For one-on-one mentoring, such donations have been estimated to equal the observed costs (Fountain and Arbreton, 1999), which means that, if there were too few volunteer mentors for a traditional mentoring program and an organization had to pay mentors for their time, the estimated cost would be double what is presented here.

If the aim of a program is to replicate itself throughout a state, operating costs as a proportion of total costs may decrease, and costs accounting for capacity building may increase to monitor the training and performance of programs.

The operating costs listed in Table 3 are also incomplete. Cost estimates of youth programs tend to ignore in-kind resources (e.g., volunteer mentors, community speakers), which, as noted above for mentoring programs, can equal the paid-staff costs—and omit key operating-cost components (e.g., use of donated facilities and janitorial services). Such omissions are particularly important if the goal is to replicate a program in many sites, including some sites at which it will be difficult to rely on volunteers and donated space. These limitations in cost data are not unique to youth programs; for example, costs analyses of early childhood education are similarly limited (Lind et al., 2006).

Finally, available evidence based on mentoring programs suggests that economies of scale are very difficult to achieve in youth programs (Lind et al., 2006), although there may be ways to accomplish such returns through efficient staffing if common problems in youth programs, such as high staff turnover, can be addressed.

CHAPTER FOUR

What Do We Know About the Positive (and Negative) Effects of These Programs?

For this paper, we updated an earlier RAND research synthesis of the effects of group-based youth programs on youth participants (Bodilly and Beckett, 2005). There are two important differences between the two syntheses. First, we focus here on a broader range of youth programs; unlike the prior synthesis, this update includes youth programs that serve youth individually, such as traditional mentoring programs. Second, this time out we have a larger number of evaluations of youth programs that use a rigorous evaluation design (for reasons discussed in the next subsection).

Having said that, this update supports the same broad conclusions drawn from the prior synthesis: *The current generation of youth programs can provide modest positive impacts on academic attainment and social behaviors, such as pregnancy.* This review also concludes that *most of the benefits of youth programs are concentrated in programs that are more resource-intensive.*

Inclusion Criteria for This Review

To identify the potential impact of youth programs in the earlier RAND review of group-based youth programs, we examined the results from the small number of program evaluations that had moderately strong evaluation designs (Bodilly and Beckett, 2005). Only two of the evaluations we included in our synthesis had an experimental design whose integrity was maintained throughout the full evaluation; we include both evaluations in this update.

A key criterion is the use of random assignment. Attributing a real benefit to a program requires a convincing evaluation, such as a "gold standard" study, whereby some youth are randomly assigned to participate in a program while other youth are not. Over a few months, to a year, to many years, differences in how well the youth in the two groups are doing can be measured; if the youth were truly assigned randomly, changes in outcomes can be attributed to program participation.

Research suggests that weaker study designs tend to yield more false positives and are less likely to result in negative results than the strongest study designs (Weisburd, Lum, and Petrosino, 2001). Because there were very few well-done evaluations with a rigorous (i.e., experimental) evaluation design, we included in the earlier RAND synthesis some studies whose experimental design integrity was not maintained through the course of the study and some quasi-experimental designs, both of which tend toward more more-favorable results. In recent years, study designs using randomized experiments are becoming more of the norm in education-related research (Angrist, 2004). In 2000, the U.S. Department of Education

funded one randomized trial to assess the efficacy of preschool programs; in 2002 and 2003, it funded 12 such randomized trials (Angrist, 2004).

In discussing program impacts, we restrict the review to evaluations that are judged to have sufficiently strong designs to merit inclusion on either of two lists of evidence-based social programs with the most rigorous criteria. In the area of social programs, the gold standard for evaluations that provide strong evidence on program effectiveness are those that meet (1) most of the criteria posted by the Office of Management and Budget (2004) document (*What Constitutes Strong Evidence of a Program's Effectiveness*) and used by the Coalition for Evidence-Based Policy to identify studies for inclusion in *What Works and What Doesn't Work in Social Policy? Findings from Well-Designed Randomized Controlled Trials* (Coalition for Evidence-Based Policy, 2007) or that (2) are assigned a "Proven" rating by the Promising Practices Network on Children, Families, and Communities (2007).

Table 4 describes the domains covered by these criteria and gives examples of characteristics within those domains adapted from the *What Works and What Doesn't Work* Web site. The Promising Practices Network criteria for "Proven" programs are similar. Each of the two Web sites includes three youth programs shown earlier in Table 1, and one program (BBBSA) appears on both Web sites. The evaluations of these five programs (summarized in Table 5) form the basis of the update to the earlier RAND report on program impacts. The first column lists the designation of the social program as having a positive effect or no effects/adverse effects. The second column lists the population (program) evaluated. The third column summarizes the effects that are considered proven on either Web site; these effects and those discussed in the text that follows are statistically significant, unless otherwise noted.

Table 4
Selected Characteristics Constituting Strong Evidence of a Program's Effectiveness

Domain	Characteristic
Overall Study Design	Adequate sample size
	Random assignment at the appropriate level (child within site, site within multisite program)
	Evaluation in real-world setting and under conditions in which program would normally be implemented
Intervention and Control-Group Equivalence	Few or no systematic differences between intervention and control group prior to intervention
	Few or no control-group members who participate in intervention
	Outcome data collected in same way for two groups
	Outcome data collected in high proportion of sample members originally randomized
	Sample members retained in original group to which assigned (intention-to-treat analysis)
Study's Outcome Measures	Outcome measures highly correlated with true outcomes of interest
	Outcome measures are of policy or practical importance

SOURCE: Adapted from Coalition for Evidence-Based Policy (October 2007). *About This Site*.

Table 5
Programs with Strong Evidence of Effectiveness or Ineffectiveness

Designation	Population	Impacts
	After-School Programs	
Ineffective/ adversely effective	21st Century Community Learning Centers (elementary school)	After 2 years • 29% more likely to have been disciplined (22% versus 17%) • 22% more likely to have had their parents contacted by a teacher about a behavioral problem (28% versus 23%) • No impact on standardized reading scores or course grades • No effect on percentage of children in self-care (i.e., children caring for themselves, at home, without other supervision) • Lower percentage felt "not at all safe" after school (3% versus 7%)
	Specialized After-School Programs	
Effective	Big Brothers Big Sisters of America	After 18 months • 46% less likely to have started using illegal drugs • 27% less likely to have started using alcohol • 32% fewer incidents of hitting someone
	Dropout and Teen Intervention Programs	
Effective	CASASTART	After 1 year • 14% less likely to have used drugs in the past month • 11% less likely to use any drugs in the past year • Significantly less likely to report having ever sold drugs in past month or in lifetime • 19% less likely to have committed a violent crime in the past year
Effective	Children's Aid Society Society–Carrera Adolescent Pregnancy Prevention Program	After 4 years (average age: 17) • Females: –40% less likely to have ever been pregnant –50% less likely to have given birth –More than twice as likely to use a hormonal contraceptive • Males: No effects on causing pregnancy or fathering a child After 7 years (average age: 21) in New York only • Males and females: 30% more likely to have graduated high school or obtained a GED • 37% more likely to be enrolled in college
Effective	Quantum Opportunity Program	After 2 years • 50% more likely to graduate from high school • Nearly three times more likely to be in post-secondary school

SOURCE: Adapted from Coalition for Evidence-Based Policy (October 2007). *What Works and What Doesn't Work in Social Policy? Findings from Well-Designed Randomized Controlled Trials*; Promising Practices Network, *Programs That Work* page.

NOTE: GED = General Educational Development test.

After-School Programs

While many after-school programs have undergone less-rigorous outcome evaluations (see Table 1), only the evaluation of the 21st CCLCs had a rigorous evaluation design. 21st CCLCs are available at no cost to all families with students at the school in which the Center is located. On average, the staff is well trained: Three out of five program staff members were regular-schoolday teachers (Dynarski et al., 2003). As with other lowest-cost after-school programs in Table 1 (such as the After School Education and Safety Program and San Diego "6 to 6"), 21st

CCLC is more of an after-school funding stream than a specific after-school program model: Each Center is allowed to design its offerings (i.e., is homegrown) within some broad guidelines. Therefore, we might expect the results of its evaluation to be more akin to those of an average (rather than a model) after-school program.

Note that the impact estimates of random-assignment evaluation of after-school programs should be interpreted a bit differently than those of the other intervention programs considered in this review. With the other intervention programs, such as the dropout/intervention programs, the control group typically does not have access to any similar services. So the evaluation measures the effect of the intervention versus no intervention. But for after-school programs, such as 21st CCLC, most children in the control group do participate in some alternative type of after-school activities (e.g., homework assistance, free time, outdoor play, quiet reading time). Thus, the evaluations of after-school programs typically measure the incremental benefit of the services received by the program participants compared with those otherwise available in the community. We might expect such effects to be smaller than those for interventions that represent a larger incremental set of services over the status quo.

The evaluation of elementary 21st CCLCs randomly assigned students who were on a waitlist to be in the program or in a control group (no 21st CCLC) in all programs with a waitlist. In addition to random assignment, a key strength of this evaluation is that it was a multisite study (with 26 Centers); thus, the evidence is based on real-world effectiveness. Program participants and nonparticipants (those in the control group) were followed for two years; attrition in the study was small. Student and family outcomes were measured after one year and two years.

As shown in Table 5, program participation had an overall *negative* effect on the participants themselves. In the second year, participants were more likely to be suspended from school and to have been disciplined in school (e.g., missed recess or were sent out to the hall), and their teachers were more likely to have called parents about behavioral problems. Participation had no effects on academic outcomes, on social outcomes, on being supervised after-school (by a parent, other adult, or older sibling), or on homework completion.

The only positive effect on student outcomes was that participants in elementary CCLCs were more likely than nonparticipants to say that they felt safer after-school. The first-year evaluation also hinted at another potential positive effect: Mothers of elementary school participants were more likely to be in the labor force (which includes actively looking for a job) (Dynarski et al., 2003). While employment of mothers of school-age children may not directly improve student outcomes in the short run, maternal employment increases household income, which could, if sustained, increase the standard of living of children and others in the household; it also increases taxes paid. Unfortunately, in the 21st CCLC, the significant impact on maternal labor force participation observed in the first year disappeared in the second year, and it is unclear why this happened. Nonetheless, this finding is intriguing and suggests that after-school programs could potentially improve maternal employment outcomes.

How much weight should be placed on the 21st CCLC evaluation results? This evaluation has been criticized because, in many cases, Centers were evaluated during their start-up phase (after two years), before they had a chance to work out implementation issues. It is possible that, with more time, implementation issues may be worked out and students' behavioral problems reduced. In the meantime, it would be helpful to better understand what these implementation issues are so that after-school programs can focus resources on addressing them as quickly as possible.

A second argument is that these results are based on an evaluation of a single program (albeit a large, multisite evaluation). Yet, prior research suggests that congregating youth, especially boys or when some of the youth have a history of behavioral problems, in a setting in which they can interact with their same-age peers without organized activities, has been linked to a variety of poor outcomes (e.g., Dishion, McCord, and Poulin, 1999; Jacob and Lefgren, 2003).

Specialized After-School Programs

Interventions targeting at-risk youth tend to be more research-based and have a longer history of careful program evaluation; for either or both these reasons, more-convincing evidence of positive behavioral impacts can be found among targeted (specialized) programs. The BBBSA program yielded promising results (Grossman and Tierney, 1998). This program involved the traditional one-to-one matching of youth in the intervention group with a volunteer mentor (usually with a college degree), who agreed to meet with the youth (ages 10–16) at least once a week (in most sites) for at least three hours. Over two-thirds of these matches lasted for at least 12 months. After 18 months in the program, participants were less likely to have started using illegal drugs or alcohol and less likely to report having hit someone or having skipped school.

Dropout and Teen Intervention Programs

Three of these programs have been rigorously evaluated. The Children's Aid Society–Carrera Adolescent Pregnancy Prevention Program reduced teen pregnancy and births among female participants after four years and increased high school graduation and college enrollment (seven years following start of the program and three years after the conclusion of the program).

QOP is described as a youth development program for economically disadvantaged youth. Youth, who are called "Associates," receive year-round services, including comprehensive case management, for high school years. Associates engage in 250 hours of education, development, and community-service activities each year and receive financial incentives for doing so. In each of five demonstration sites (San Antonio, Philadelphia, Milwaukee, Oklahoma City, and Saginaw, Michigan), 50 students entering the ninth grade were randomly assigned to QOP or a control group. Compared with the control group, Associates were more likely to graduate from high school, more likely to be in post-secondary school, and less likely to be high school dropouts (Hahn, 1999).

CASASTART is a substance abuse and delinquency prevention program serving high-risk young adolescents and their families. It also involves schools, law enforcement agencies, and social service and health agencies. For the evaluation, youth ages 11–13 who were high-risk and who lived in severely disadvantaged neighborhoods were recruited in six U.S. cities. *High-risk youth* were defined as youths having three school risks (such as special education, grade retention, and poor academic performance), one family risk (such as family violence, family member who had committed an offense), or one personal risk (e.g., under juvenile-court supervision, mental illness, gang membership). One year after program completion, CASASTART participants were significantly less likely to have used drugs in the past month, were less likely to have reported having ever sold drugs or engaged in drug-sales activity in the last month, and

were less likely to have committed a violent crime in the year following program completion (Harrell, Cavanagh, and Sridharan, 1998, 1999).

The evaluation results for each of these three programs suggest potentially powerful impacts if they can be replicated in other settings.

CHAPTER FIVE

What Do We Know About the Costs Relative to the Benefits of These Programs?

Policymakers need to decide how to allocate scarce resources among alternatives. In the broadest sense, they need to decide whether resources should be allocated to programs targeting early childhood interventions, schooling, transition from high school to college, or youth interventions for school-age children and adolescents. More narrowly, among youth interventions, they need to decide how to allocate resources among programs. Cost-benefit analysis is one of several ways to evaluate program costs. It involves monetizing all benefits and costs and then comparing the cost-benefit ratio of alternatives (Karoly et al., 2001). Benefits that cannot be monetized (such as change in self-esteem) cannot be compared and are, thus, excluded from the calculation. For analyzing social programs, the costs and benefits considered are generally from the perspective of government and society as a whole. Done well, cost-benefit analysis provides useful information for choosing among programs.

We note that the cost-benefit analyses presented below are selected because they have been conducted with each of the youth programs described in Table 5—with one exception (21st CCLC)—and the general approach is more or less consistent. Nonetheless, as we note toward the end of this section, these cost-benefit analyses have limitations; consequently, they should be considered preliminary and subject to revision as additional costs and benefits data are collected more systematically and completely in the future.

Conducting Cost-Benefit Analyses of Youth Programs

Steve Aos and his colleagues used a systematic and consistent methodology to conduct extensive cost-benefit analyses of intervention programs that include each of the four programs designated as "effective" in Table 5 (Aos et al., 2004). In particular, their objective was to evaluate the costs and benefits of programs that have demonstrated the ability to affect seven outcomes: reduce crime, lower substance abuse, improve education outcomes (e.g., test scores and graduation rates), decrease teen pregnancy and births, reduce teen suicide attempts, lower child abuse or neglect, and reduce domestic violence. Benefits pertaining to outcomes that are not among the seven designated outcomes, such as improving general mental health measures or reducing low birth weights, were not assigned a value.

Program-effect sizes come from specific program evaluations. The authors used various methods to derive the shadow price, which includes the price or cost for outcomes that do not have a market value, for each given outcome in order to monetize a given program effect. For example, they obtained the shadow price of alcohol treatment and medical costs, motor vehicle

crashes, fire destruction, and welfare administration resulting from disordered alcohol use. In some cases, they projected the lifetime-earnings difference between a high school graduate and a dropout or the savings from reduced teen pregnancy. By combining long-run, model-based estimates with short-term evaluation results, they produce expected lifetime benefits and costs. All benefits and costs were discounted to the age of the person in a program.

A key advantage of their approach is that, as new programs and program evaluations become available and as the research base evolves, their model-based estimates of long-run effects can be updated (Aos et al., 2004).

Cost-Benefit Analysis of Targeted Programs

Table 6 summarizes the cost-benefit analyses done for the four youth programs that showed any positive effects. The last column estimates the monetary benefit per dollar of investment, for which a value less than $1.00 indicates a loss to society. Although each of these programs has multiple proven benefits, and, equally important, although there is evidence that these benefits can be reproduced if the program is replicated in other sites, there is wide variability in benefits relative to costs. These relative benefits range from a return of $0.21 for every dollar invested to about break-even (BBBSA).[1] However, because of limitations in the information that Aos and colleagues have available to them (described in the next section), we interpret these results as suggestive that the monetary benefits of youth programs may exceed their costs, although we cannot yet say by how much or for which programs.

Table 6
Summary of Benefits and Costs for Targeted Youth Programs with Strong Evidence of Effectiveness

		Measured Benefits per Youth		
Program	**Short-Term Outcomes**	**Benefits**	**Costs**	**Benefits per Dollar of Cost**
Specialized After-School Programs				
Big Brothers Big Sisters	Crime, test scores, initiation of alcohol/illicit drugs	$4,058	$4,010	$1.01
Dropout and Teen Intervention Programs				
CASASTART	Crime, initiation of illicit drugs	$4,949	$5,559	$0.89
Children's Aid Society–Carrera Adolescent Pregnancy Prevention Program	Sexual initiation, teen births/pregnancy, contraception	$2,409	$11,501	$0.21
Quantum Opportunity Program	High school graduation, public assistance	$10,900	$25,921	$0.42

SOURCE: Adapted from Aos et al. (2004). *Benefits and Costs of Prevention and Early Intervention Programs for Youth*. Doc. 04-07-3901. Olympia, WA: Washington State Institute for Public Policy.

[1] The costs of the BBBSA program in the cost-benefit analysis included the time cost of volunteers.

Limitations of Cost-Benefit Analysis of Targeted Programs

A key limitation of Aos et al. (2004) is that they do not model or monetize the long-term impacts arising from short-term outcomes that do not relate to one of the seven specified outcomes. Perhaps more important, they cannot monetize long-term effects from short-term outcomes that are not measured in the evaluation. For example, even small reductions in crime and increases in high school graduation translate into substantial monetized benefits, yet only one (QOP) measured both outcomes. If a program evaluation does not measure an outcome or has not followed up participants long enough to be able to measure such outcomes, then the monetized-benefits estimates for that program will be much smaller than they would be for a program whose evaluation measured the outcome (assuming there was an effect). Such limitations will *underestimate* the impacts of programs with positive effects.

Partially offsetting this limitation is that information on the operating costs are slightly incomplete, which would lead to an *overestimate* of benefits to cost. If one wanted to calculate a years-to-pay-back type of analysis, which large funders (such as a state) may want to do, then the costs are even more underestimated because of the lack of information on start-up and capital costs.

Moreover, because each evaluation differs in the short-term outcomes measured but not captured by this methodology and outcomes not measured, one cannot directly compare program results.

What can we say about these results? They likely (perhaps seriously) underestimate benefits to cost. Future evaluations of youth programs, of whatever type, should strive to measure the full range of short-term (and, ideally, long-term) outcomes that youth programs might affect (even if the outcomes are secondary or even incidental to the primary outcome of interest). Even if a program does not target a particular outcome, research on adolescents shows that many such outcomes, or risk factors, cluster together (Masten and Coatsworth, 1998). A reduction in one outcome may spill over into improvements in other behaviors. Also, future evaluations should strive to collect more detailed cost information. Both improvements would facilitate more precise and comparable cost-benefit analyses and, hence, allow for a more informed decision about how to select among competing alternative uses of limited resources.

CHAPTER SIX

How Should Policymakers Evaluate Youth Programs?

In this final chapter, we discuss how policymakers can use the findings detailed above in deciding whether and how to invest in youth programs.

Selecting from Among Youth-Program Alternatives

At this time, there is enough evidence to suggest that some youth programs can improve important academic and behavioral outcomes for youth. They can reduce drug and alcohol use (BBBSA, CASASTART), violence (BBBSA), crime (CASASTART), and teen pregnancy and births (The Children's Aid Society–Carrera Adolescent Pregnancy Prevention Program), and they can improve high school graduation rates and enrollment in post-secondary schools (QOP, The Children's Aid Society–Carrera Adolescent Pregnancy Prevention Program). At this time, the evidence is strongest for programs that are costlier and provide more-intense resources to youth. It is important to note that all evaluations of these programs are based on at-risk groups. We lack evidence that such programs will benefit youth who are not at-risk or who are less at-risk. Because these programs were designed to provide services for at-risk youth and because other youth are more likely to obtain the needed services elsewhere (such as from families and schools), we would expect weaker, if any, effects for the average youth.

We also lack rigorous evidence that less-expensive, less-resource-intensive programs, such as after-school programs, benefit youth. While evidence from nonrigorous evaluations is largely positive, the one rigorous evaluation of 21st CCLCs suggests that at least this program can produce negative short-term outcomes among program participants, especially boys and children with behavioral problems. There are several hypotheses for why children who participate in after-school programs act out during school: Students may be tired from spending so much time in school; they may be negatively influenced by peers; and after-school programs may tolerate behavior that would not be tolerated in school (James-Burdumy, Dynarski, and Deke, forthcoming). More research is needed to evaluate lower-cost programs to assess whether these results are replicated in similar programs and, if so, to understand why these children act out; and to assess whether there are ways to reduce short-term adverse effects.

These results do not generalize to the larger population of after-school programs, including those that serve higher-income neighborhoods or that provide more-intensive services (which may include some 21st CCLC programs). Nevertheless, we recommend that policymakers carefully consider investing in new after-school programs and, moreover, that they carefully monitor existing programs for evidence of behavioral problems as a result of participation in

the programs, particularly if the program is one that serves low-income communities and/or is lower-cost.

Even if measurements of comparable outcomes were available, it is important to recognize that, qualitatively, youth programs have very different goals and serve very different populations. As noted above, many dropout and youth intervention programs target youth who are at-risk of poor development or adult outcomes and zero in on some of the risk factors. That approach is very different from the diffuse targeting mechanism—providing a safe environment after school—used in an after-school program made available in low-income communities.

Limitations of Research Base

Our conclusions about alternative youth programs should be considered preliminary and should be revised as we learn more about the cost and impacts of youth programs. Thus far, only one rigorous evaluation has been done of an after-school program and a specialized after-school program, and none has been done of the youth-program enhancements. Given the increasing recognition of the need of rigorous evaluation in education, we expect such evaluations in the near future.

A second key limitation of the existing research base is inconsistency in the short- and long-term effects that are measured in program evaluations. While Steven Aos and his colleagues use a methodology that allows for a generally consistent cost-benefit analysis, such analyses cannot assign a value to direct and indirect benefits from unmeasured short-term outcomes. Future evaluations that have the resources and capacity to design and implement a rigorous model would be well advised to be more expansive in their outcome measures. Although a particular youth program may be designed to achieve one outcome, available research shows that positive (and negative) behaviors are highly clustered. If a program can change an outcome, there may be spillover effects. Conversely, unintentional and undesirable consequences may not be captured without a broader range of outcome measures.

Other Considerations in Allocating Resources Across Youth Programs

There are other considerations policymakers can use in deciding how to allocate across youth programs. In particular, investments can be made to support or improve the quality and content of existing programs.

To explore the question of how after-school programs may negatively impact participants and what changes can be made to the program to avoid these impacts, it may be useful to establish model programs. Model programs can be laboratories in which practitioners and program developers can observe student behavior and pilot different approaches to avoiding problem behavior. Model programs can also be used to evaluate program enhancements and other activities before implementing them across multiple programs. The pilots could assess, for example, the appeal such programs have for youth or what characteristics of the programs keep youth sufficiently occupied so that they do not exhibit problem behaviors during the program.

One should be open to the fact that, although many students are interested in academics or homework help, many (or even most) students might prefer a limited amount of time engaged in academic enrichment (perhaps just homework time) in favor of activities that are less available during the regular schoolday, such as games, physical activities, and cultural enrichment (e.g., arts and music).[1]

For school-based programs, one can also imagine establishing a system of continuous quality improvement that involves monitoring school-based behavioral problems of participants and nonparticipants to immediately identify unintended program consequences, design an intervention to address the consequences, and track the success of the programs.

Finally, policymakers should keep in mind that, in moving forward, it will be essential to advance the field and learn what does and does not work in youth programming. The field will particularly benefit from rigorous quality evaluations of large-scale (e.g., statewide) initiatives.

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[1] For example, in a recent telephone survey of students grades 6 through 12, 61 percent said that they were not interested in more academics after the schoolday is done; but 32 percent expressed interest in homework help, and 28 percent expressed interest in a program that focuses on academics (Public Agenda, 2004).

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