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Dropout Prevention and   
Intervention Strategies

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# Background on Categorizing Dropout Prevention and Intervention

To prepare all students for college and career success, school district leaders need to create preparatory pathways that begin in early childhood and continue through twelfth grade. The National Dropout Prevention Center/Network (NDPC/N) uses three categories to characterize dropout prevention strategies that guide students along these pathways: prevention, intervention, and recovery/reentry. In this report, we review evidence for the effectiveness of different strategies of each type, using Colorado’s Response to Intervention (RtI) framework to organize the review.

The Colorado RtI framework, a multi-tiered model of instruction and intervention (Colorado Department of Education, n.d.), parallels the three-tiered model for dropout prevention programming proposed by Mac Iver and Mac Iver (2009). Both models rely on a pyramid of education programs for increasingly fewer students who need increasingly specialized services. As shown in Table 1, both models include universal, high-quality general education for all students as the foundation for engaging students in learning and succeeding in school. Also in both models, the second tier includes targeted supports and interventions for students identified as struggling academically or who have poor attendance or behavior issues. The targeted supports and interventions of the second tier are distinguished from the more intensive strategies of the third tier, which focus on meeting the needs of students for whom the targeted interventions are ineffective.

Although the RtI and three-tiered dropout prevention model share commonalities, they also differ in important ways. First, the goal of RtI is to appropriately identify students for special education, while the goal of the three-tiered dropout prevention model is to help students stay on track to graduate (Mac Iver & Mac Iver, 2009). Second, while both models emphasize use of data for early identification and progress monitoring, the models have different purposes for data and different indicators. In RtI, the data and indicators address academic achievement and criteria for disability diagnoses, while in the three-tiered dropout prevention model, the data and indicators address the ABCs of attendance, behavior, and course performance in order to identify students at risk for dropping out (Mac Iver & Mac Iver, 2009).

**Table 1. Multi-tiered Models of Instruction and Intervention for Dropout Prevention**

|  |  |  |
| --- | --- | --- |
| **Tier** | **Colorado Response to Intervention Framework** | **Mac Iver and Mac Iver (2009) Three-tiered Dropout Prevention Model** |
| 1 | Universal “Research-based, high quality, general education for all students that incorporates universal screening, progress monitoring, and prescriptive assessment to design instruction.” | Primary “District- and school-wide reforms aimed at providing high-quality instruction that promotes engaged learning and successful high school completion for every student. This stage includes a whole-school approach to encouraging regular attendance and other positive behaviors. These primary prevention strategies alone often succeed with a large majority (two-thirds to three-quarters) of students.” |
| 2 | Targeted “Interventions provided to students identified as at-risk of academic and/or social challenges and/or students identified as underachieving who require specific supports to make sufficient progress in general education.” | Secondary “Targeted interventions in small groups of students who need additional supports beyond the school-wide reforms to address attendance, behavior, or academic struggles.” |
| 3 | Intensive “Provided to students with intensive/chronic academic and/or behavior needs based on ongoing progress monitoring or diagnostic assessment.” | Tertiary “Intensive intervention (often delivered one-on-one to students by specialists in social work, mental health, and so on) for the five to 10 percent of students who need more clinical support.” |

*Note:* Definitions for each level of the Colorado RtI framework are based on Colorado Department of Education (n.d.). Definitions for each level/stage of the Mac Iver and Mac Iver (2009) model are based on Mac Iver & Mac Iver (2009, p. 10–11).

The National Dropout Prevention Center/Network (NDPC/N) has identified 15 effective strategies for reducing dropout rates. This identification was based on research and program evaluation and staff expertise developed over approximately 15 years as a national clearinghouse on dropout prevention and increasing graduation rates. The NDPC/N categorizes these strategies into four types: (1) strategies promoted from a whole school and community perspective, (2) early intervention strategies, (3) basic core strategies, and (4) strategies aimed at making the most of instruction (see Figure 1). The effectiveness of the strategies is enhanced when used together in an improvement plan that integrates most or all of them (National Dropout Prevention Center/Network, 2010).

**Figure 1. Four Categories of 15 Effective Strategies for Reducing Dropout Rate (National Dropout Prevention Center/Network, 2010)**

# Methodology

To review evidence of strategy[[1]](#footnote-1) effectiveness, we relied on the What Works Clearinghouse (WWC) website’s intervention reports on the effects of different dropout programs and strategies (WWC’s Dropout Prevention Topic, n.d. ) and the companion practice guide, *Dropout Prevention* (Dynarski, Clarke, Cobb, Finn, Rumberger, & Smink, 2008). Next, we searched for relevant research on the websites of two clearinghouses that are national resources for research, publications, and information on helping students stay on track to graduate: the National Dropout Prevention Center/Network and the National High School Center. Additionally, we searched bibliographic databases, including ERIC and selected journals (i.e., *Journal of Education for Students Placed at Risk*). The question that informed this literature review was:

*Within each type of strategy (Tier 1, 2 and 3), which particular strategies and programs appear to be the most effective based on the best available evidence?*

# Sample

The strategies and programs included in this report were identified in the literature that we reviewed and in the WWC Dropout Prevention topic review of intervention studies. In WWC’s Dropout Prevention Topic review (WWC’s Dropout Prevention topic, n.d.), we identified four programs as Tier 1, fifteen programs as Tier 2, and six programs as Tier 3.[[2]](#footnote-2) A program was categorized as Tier 1 if the program was a preventative approach for district- or school-wide use and intended for all students. A program was categorized as Tier 2 if the program was a targeted intervention for students at risk of dropping out of school. A program was categorized Tier 3 if it was intended to re-engage students who have already dropped out (see Table 2).

**Table 2. Programs in WWC Dropout Prevention Topic Review Categorized by Tier**

|  |  |  |
| --- | --- | --- |
| **Tier** | **Description** | **Programs with Studies included in WWC Dropout Prevention Topic Review** |
| 1 | District- or school-wide approaches for all students (prevention) | Career Academies  First Things First  New Century High Schools  Talent Development Middle Schools and High Schools |
| 2 | Targeted interventions for students at risk for dropping out | Accelerated Middle Schools  ALAS  Check & Connect  Coca-Cola Valued Youth Program  Financial Incentives for Teen Parents to Stay in School  High School Puente Program  High School Redirection  I Have a Dream  Middle College High School  Project GRAD  Quantum Opportunity Program  Summer Training and Education Program (STEP)  Talent Search  Twelve Together  Wyman Teen Outreach Program (TOP) |
| 3 | Re-engagement strategies and programs for students who have already dropped out | Job Corps  JOBSTART  National Guard Youth ChalleNGe Program  New Chance  Service and Conservation Corps  YouthBuild |

# Effectiveness Data

To identify which particular strategies and programs appear to be most effective based on the best available evidence, we transferred data from the WWC’s Dropout Prevention intervention reports, specifically the improvement index values and extent of evidence ratings, to an Excel spreadsheet. The WWC Dropout Prevention reports include improvement index values for up to three categories of outcomes per intervention, including:

1. *Progressing in school*—whether students are on track to graduate; number of credits accumulated; grades promoted; highest grade completed,
2. *Staying in school*—whether enrolled in or dropped out of school at follow-up, and
3. *Completing school*—whether a student earns a high school diploma or GED certificate.

The improvement index is a standardized measure of impact representing “the change in an average student’s percentile rank that can be expected due to the intervention” (WWC Glossary, I, improvement index). Because the improvement index is standardized, values can be compared among different interventions.

# Data Analysis

For each intervention’s outcome, we computed a weighted improvement indexvalue to represent both the size of the intervention’s impact and the extent of evidence from which it was derived. We used WWC’s scheme for categorizing extent of evidence[[3]](#footnote-3), and gave more weight when the evidence involved a large number of students and schools (i.e., multiplied the improvement index by a factor of 2), and less weight when the evidence involved only a small number of students and schools (i.e., multiplied the improvement index by a factor of 1). Then, since each intervention reviewed by WWC had different numbers of outcome measures (between one and three), we computed an overall average weighted improvement index. An intervention’s overall average weighted improvement index is the sum of the weighted terms across outcomes for each intervention divided by the sum of the extent of evidence weights.

# Interpretation

For each intervention reviewed by WWC in Table A1 in the Appendix of this report[[4]](#footnote-4), the overall weighted average improvement index values are presented from the highest positive value to the highest negative value. Among the interventions reviewed by WWC, ALAS had the highest overall average weighted improvement index at 30.5, and Project Grad had the potentially most detrimental impact with an overall average weighted improvement index of -3.50 (see Table A1). The improvement index tells us how much, and in which direction, an intervention will move an average student from the 50th percentile on a normally distributed set of scores. For example, the overall average weighted improvement index of 30.5 for ALAS indicates that the average student in the ALAS group is likely to end up at the 80.5th percentile while the control group average student stays at the 50th percentile. With an improvement index of -3.50, the average student in Project Grad is likely to end up at the 46.5th percentile while the control group average student stays at the 50th percentile. In the Findings section of this report below, we present the overall average weighted improvement index values for interventions within each Tier, beginning with Tier 1, followed by Tier 2 and 3.

Additionally, to provide a more practical indication of the effectiveness of an intervention, we present and discuss student gains according to the original outcome measures included in the Appendices of each of WWC’s intervention reports. While the weighted improvement index allows comparison across programs, and thus the relative potential of different interventions for making a difference, the original outcome measures provide an indication of the effect in practical terms. For example, based on the evidence reviewed by WWC, the average student in Career Academies earned 13.7 more credits toward graduation than the average student in the control group (WWC’s Career Academies Intervention Report, Appendix A3.2). As another example, among Check & Connect participants, 30% completed high school or earned a GED on time compared with 29% of the control group (WWC’s Check & Connect Intervention report Appendix A3.3).

# Findings

### Tier 1: Dropout Prevention Strategy Effectiveness

Tier 1 dropout prevention programs and strategies are universal, school- or district-wide approaches designed and implemented to provide quality instruction that engages students in learning and promotes successful high school completion (Mac Iver & Mac Iver, 2009). At the school level, Tier 1 strategies include high school restructuring strategies designed to re-organize large comprehensive high schools into smaller learning communities. Also at the school level, Mac Iver and Mac Iver (2009) recommend “school staff teams meet to discuss students, plan, and update interventions for students with early warning indicators” (p. 2).

“The dropout problem is not one that can be addressed exclusively at the middle or high school levels; by then it is too late for some students.”

(National Dropout Prevention Center/Network, n.d.)

At the district level, quality preschool is a proven strategy. The evidence supporting the effectiveness of early education is strong, which means that multiple studies of preschool education using comparison groups yielded positive effects on school progress, including high school completion (Camilli, Vargas, Ryan, & Barnett, 2010; Reynolds, Temple, Robertson, & Mann, 2001; Schweinhart & Weikart, 1997). For example, in the High/Scope Perry Preschool Study for economically disadvantaged youth, randomly assigned High/Scope and Nursery School participants were more likely to complete high school on time than randomly assigned Direct Instruction preschool program participants (64% for High/Scope, 72% for Nursery School, and 47% for Direct Instruction) (Schweinhart & Weikart, 1997). Recent analyses suggest that the cognitive and academic skills gained in preschool, combined with an increased motivation to stay in school, help explain the school completion effects of these early interventions.

Camilli et al. (2010) found mixed or no effects for additional services in preschool—such as health screening, nutrition, and materials for home use—and recommends that policy makers and program designers ensure that the additional services do not compete with instructional time. The literature suggests implementing strategies that are aimed at developing school readiness, since higher-level skills cannot be obtained without these foundational skills (e.g., letter recognition). If not developed early, later interventions have the added burden of “overcoming accumulated deficiencies in academic ability” (Belfield & Levin, 2007, p. 30).

In addition to early education, we have included initiatives from the school and community perspective in the Tier 1 category. The National Dropout Prevention Center/Network identified school and community-wide initiatives as among the 15 most impactful dropout prevention and intervention strategies. These types of initiatives (for example, creating a safe learning environment) include whole-school strategies or systemic renewal efforts that focus on improving the quality of the school climate, the organizational capacity of the school, and the school’s instructional effectiveness for all students. These strategies, which are implemented by district and school leadership teams, focus on continually specifying and evaluating goals and objectives, removing barriers to improvement, and providing a system of structures that support change and innovation. The adoption and implementation of an early warning system would help inform and direct such systemic renewal, and is recommended in the Institute of Education Sciences’ (IES) Practice Guide on dropout prevention (Dynarski, Clarke, Cobb, Finn, Rumberger, & Smink, 2008).

Another type of Tier 1 dropout prevention strategy is providing students with rigorous and relevant instruction, which is a *Dropout Prevention* Practice Guide recommendation based on moderately strong evidence of effectiveness[[5]](#footnote-5) (Dynarski et al., 2008). These instructional improvements involve making changes in “core academic courses as well as career and technical courses, aligning material and academic strands, and demonstrating the relevance of the academic courses to students” (Dynarski et al., 2008, pp. 35–36). The Practice Guide recommends providing teachers with ongoing learning opportunities for improving their practice, including professional development workshops facilitated by grade-level team leaders, school-based coaches, or outside consultants that are designed to give teachers time to collaborate on curriculum development and classroom teaching (Dynarski et al., 2008). Career days, college visits, and assignments that engage students in applying academic skills to work-world problems are recommended as specific strategies to make instruction rigorous and relevant.

Dynarski and colleagues (2008) also recommend personalizing the learning environment. High school reforms that create smaller learning communities are one example of such an effort. Levine (2010) reviewed the evaluation results of four approaches to smaller learning communities, including Gates-supported conversion high schools (to smaller learning communities), First Things First (FTF) high schools and middle schools, Talent Development (TD) schools in Philadelphia, and the small schools involved in the Chicago High School Redesign Initiative (CHSRI). The evaluations compared matched comprehensive high schools, with mixed results. After two or three years of implementation, seven of the 22 comparisons showed more favorable outcomes for the smaller learning communities—for example, of three comparisons on graduation rates, two showed possible improvements and one showed definitive improvement for smaller learning communities (Levine, 2010). Of six academic achievement outcomes, four showed no significant differences for the smaller learning communities as compared to the control groups, one showed a slight advantage, and one showed improvements in both reading and mathematics.

Additional analyses indicated that if smaller learning communities were to improve student achievement, three challenges would need to be addressed: (1) finding solutions to pressing logistical and administrative issues in order to focus on improving curriculum and instruction, (2) avoiding unintended stratification to ensure rigor and equity (e.g., unintentional creation of homogeneous groups of students within smaller learning communities), and (3) overcoming school history and entrenched culture (Levine, 2010). Levine (2010) recommends remaining focused on the theories of action underlying smaller learning communities in order to design and implement improvements hypothesized to bolster the emerging early results.

With respect to effectiveness evidence reviewed by WWC, there are three Tier 1 interventions with evidence included in the WWC Dropout Prevention topic review. A comparison of their overall weighted average improvement index suggests that Career Academies and Talent Development High Schools are both more effective than First Things First for helping students stay on track to graduate (see Table 3).

To read Table 3, the overall average weighted improvement index column provides a comparable measure of effectiveness. From top to bottom, programs are listed according to their overall average weighted improvement index (from highest positive to highest negative). Therefore, among Tier 1 programs whose studies were reviewed by WWC and met WWC standards, Career Academies appears the most effective and First Things First appears the least effective. The negative improvement index value for First Things First means the experimental group performed below the control group on the outcome measure.

In addition, the Progressing in School improvement index in Table 3 refers to standardized measures that are comparable across programs. In this case, each value is weighted the same because each outcome is based on the same extent of evidence (a small extent which has a value of 1). The Progressing in School improvement index values indicate that Career Academies, with a value of 13, is more effective for helping students progress in school than Talent Development High Schools, which has a value of 7 (Progressing in School outcomes were not measured for First Things First). The Staying in School improvement index values show that Career Academies were more effective for this outcome than First Things First. The Completing School improvement index column shows that Career Academies had a zero impact on completing school; this outcome was not measured for Talent Development or First Things First.

**Table 3. Tier I** **Dropout Prevention/Intervention Program Effectiveness Results for those with Studies Reviewed by WWC**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Overall Average Weighted Improvement Index** | **WWC-reported Improvement Index Values and Extent of Evidence Rating by Outcome** | | | | | |
| **Progressing in School** | | **Staying in School** | | **Completing school** | |
| **Improvement Index** | **Extent of Evidence** | **Improvement Index** | **Extent of Evidence** | **Improvement Index** | **Extent of Evidence** |
| Career Academies | 8.67 | 13 | 1 | 13 | 1 | 0 | 1 |
| Talent Development High Schools | 7.00 | 7 | 1 |  |  |  |  |
| First Things First | -1.00 |  |  | -1 | 1 |  |  |

*Note:* The overall average weighted improvement index was calculated by multiplying each outcome improvement index by its extent of evidence rating, summing across outcomes, and dividing by the sum of the extent of evidence ratings. Progressing in School is measured by the number of credits accumulated, grades promoted, or highest grade completed; Staying in School is measured by whether a student is enrolled in school; Completing School is measured by whether a student earned a high school diploma or a GED. The extent of evidence is rated by WWC using two categories: “small,” which is defined as evidence that includes “only one study, or one school, or findings based on a total sample size of less than 350 student and 14 classrooms (assuming 25 students in a class),” and “medium to large” which is defined as evidence that includes “more than one study, more than one school, and findings based on a total sample of at least 350 students or 14 classrooms” (What Works Clearinghouse, n.d.). Blank cells indicate that no information was available or the information did not meet WWC evidence standards.

Based on the information presented in Table 3, Career Academies is the most effective of these three Tier 1 programs. To understand in practical terms what it means for Career Academies to be the most effective, the original outcome results—before the information was transformed into a standardized measure—are helpful. The original outcome results are presented in the Appendices of each WWC intervention report. The Career Academies WWC Intervention Report Appendix A3.2 (“Summary of Study Findings including the rating for the Progressing in School domain”) shows that the average high-risk youth[[6]](#footnote-6) in the Career Academies experimental group earned an average of 13.7 credits more toward graduation than that earned by average high-risk youth in the control group. This finding indicates that one practical benefit of participating in Career Academies is earning an average of 13.7 credits toward high school graduation.

### Discussion

Expertise and the best evidence available suggest that effective Tier 1 dropout prevention programs start early. With early education, children can develop the foundational skills and knowledge necessary for later academic success. In the later grades, Mac Iver and Mac Iver (2009) and the IES *Dropout Prevention* Practice Guide (Dynarski et al., 2008) recommend team use of early warning systems to discuss, plan, and implement supports and interventions for students at risk for dropping out. Tier 1 personalization in school structure/interactions and relevant, rigorous instruction can also bring about positive results for at-risk youth, as indicated by the research reviewed in the IES practice guide (Dynarski et al., 2008) and by the Career Academies and Talent Development High Schools research reviewed by What Works Clearinghouse. However, it is important to bear in mind the conditions in which the WWC results were obtained. Specifically, the Career Academies that produced the WWC results enrolled heterogeneous groups of students—that is, the enrollment included both high-risk and low-risk youth. It is not known if the same results would be obtained with a homogeneous group of only high-risk students (WWC Career Academies Intervention Report, n.d.).

### Tier 2: Dropout Intervention Strategy Effectiveness

Tier 2 dropout prevention programs are more targeted than general education (Tier 1) practices. Tier 2 strategies and programs directly address students’ reasons for dropping out, and the resources needed for them to graduate. Some experts contend that failure to succeed academically is the main source of dropout, although life events or being pushed out of school may seem like the most common reasons (Rosch & Owen, 2008). Based on the Chicago Schools Consortium experience, researchers contend that tutoring, summer school, and other opportunities for students to master course content and accumulate credits have great potential for increasing graduation rates (Allensworth & Easton, 2007). In addition, for students with two course failures in a semester, it is estimated that effective targeted academic tutoring assistance that results in passing two more courses will increase graduation rates from 55% to 85% (Allensworth & Easton, 2007).

Finding moderately strong evidence of effectiveness, authors of the IES *Dropout Prevention* Practice Guide recommend providing targeted academic skill tutoring and individualized academic assistance and enrichment to students when such support is needed (Dynarski et al., 2008). These strategies address “skill gaps and offsetting a cycle of frustration,” as well as “enriching the academic experience of students who may be bored or disengaged” (Dynarski et al., 2008, p. 22). Specific recommendations for implementation include offering individual and small-group instruction and support in test-taking; study skills; reading, writing, and mathematics; and extra study time and opportunity for credit recovery and accumulation through after-school, Saturday school, and summer school.

Additional evidence on Tier 2 type strategies and programs is available in the WWC Dropout Prevention topic review. Of the 15 Tier 2 programs reviewed in the WWC Dropout Prevention topic, eleven had studies that met WWC standards or met WWC standards with reservations and had outcome measures included in the WWC review (i.e., Progressing in School, Staying in School, and/or Completing School). These eleven Tier 2 programs and their overall average improvement index are presented in Table 4, along with the improvement index values and extent of evidence ratings for each different outcome result.

To read Table 4, the second column shows the relative size and direction of the overall impact of these Tier 2 programs on outcomes included in the WWC Dropout Prevention topic review. The second column of Table 4 shows four programs with relatively high overall average weighted improvement index values (i.e., 17 or greater), as well as seven programs with relatively low overall average weighted improvement index values, including four programs with values between 4.80 and 3.00 and three with values between -0.50 and -3.50.

In Table 4, the improvement index for each particular outcome (i.e., Progressing in School, Staying in School, and Completing School) is presented in the remaining columns of the table, as well as each outcome’s extent of evidence rating. The Progressing in School columns show that all but two programs had results for this outcome, and that two programs (Accelerated Schools and High School Redirection) had a medium to large extent of evidence (with a weight of 2). The Staying in School columns show that all but one program had results for this outcome, and that three programs (Accelerated Middle Schools, Financial Incentives for Teen Parents to Stay in School, and High School Redirection) had a medium to large extent of evidence. The Completing School columns show that seven programs had results for this outcome, and that three programs (Talent Search, Financial Incentives for Teen Parents to Stay in School, and High School Redirection) had a medium to large extent of evidence.

Following Table 4 in the present report, we present and discuss program specific information for Tier 2 programs with the highest overall average improvement index values.

**Table 4. Tier 2 Dropout Prevention/intervention Program Effectiveness Results for those with Studies reviewed by WWC Review**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Overall Average Weighted Improvement Index** | **WWC-reported Improvement Index Values and Extent of Evidence Rating by Outcome** | | | | | |
| **Progressing in Schoola** | | **Staying in Schoolb** | | **Completing schoolc** | |
| **Improvement Index** | **Extent of Evidenced** | **Improvement Index** | **Extent of Evidence** | **Improvement Index** | **Extent of Evidence** |
| ALAS | 30.50 | 19 | 1 | 42 | 1 |  |  |
| Accelerated Middle Schools | 26.50 | 35 | 2 | 18 | 2 |  |  |
| Check & Connect | 18.67 | 30 | 1 | 25 | 1 | 1 | 1 |
| Talent Search | 17.00 |  |  |  |  | 17 | 2 |
| Financial Incentives for Teen Parents to Stay in School | 4.80 | 4 | 1 | 6 | 2 | 4 | 2 |
| High School Redirection | 4.67 | 4 | 2 | 6 | 2 | 4 | 2 |
| Twelve Together | 3.50 | -6 | 1 | 13 | 1 |  |  |
| Quantum Opportunity Program | 3.00 | 2 | 1 |  |  | 4 | 1 |
| Middle College High School | -0.50 |  |  | -3 | 1 | 2 | 1 |
| Summer Training and Education Program (STEP) | -2.00 |  |  | -2 | 1 |  |  |
| Project GRAD | -3.50 | -4 | 1 |  |  | -3 | 1 |

*Note:* The overall average weighted improvement index was calculated by multiplying each outcome improvement index by its extent of evidence rating, summing across outcomes, and dividing by the sum of the extent of evidence ratings. Blank cells indicate that no information was available, or that the information did not meet WWC evidence standards.

a Progressing in School is measured by the number of credits accumulated, grades promoted, or highest grade completed.

b Staying in School is measured by whether a student is enrolled in school.

c Completing School is measured by whether a student earned a high school diploma or a GED.

d The extent of evidence is rated by WWC using two categories: “small” which is defined as evidence that includes “only one study, or one school, or findings based on a total sample size of less than 350 student and 14 classrooms (assuming 25 students in a class),” and “medium to large” which is defined as evidence that includes “more than one study, more than one school, and findings based on a total sample of at least 350 students or 14 classrooms” (What Works Clearinghouse, n.d.)

### ALAS

ALAS (Spanish for “wings”) is a Tier 2 program that assigns counselors/mentors to individual students in grades 7, 8, and 9. The counselor/mentor acts as an adult advocate; monitors students’ attendance, behavior, and academic achievement; and coordinates the provision of interventions and resources to students, their families, and teachers. ALAS also includes training for students and parents. Students are trained in problem solving, self-control, and assertiveness. Parents are trained in parent-child problem solving, school participation, and contacting teachers and administrators to address issues. The staffing for ALAS, for a program serving 107 students, included a half-time supervisor, three counselors, and a half-time clerk (What Works Clearinghouse *ALAS Intervention Report*, n.d.).

As shown in Table 4 above, the available evidence indicates that ALAS had an impact on Progressing in School and Staying in School. To understand the impact in practical terms, we accessed the What Works Clearinghouse *ALAS Intervention Report* Appendices to retrieve the original data and results before we transformed these data into a standardized measure for comparative purposes.

The original outcome measure for Progressing in School in the ALAS WWC report appendices was percentage of students on track to graduate. The original outcome measure for Staying in School, was percentage of students enrolled in school (vs. dropped out). Table 5 presents these results for the ALAS and control groups in the studies reviewed by WWC. The results presented in Table 5 indicate that the likelihood of ALAS participants staying on track to graduate and staying enrolled in school is always higher than that of controls, but that the advantage for ALAS participants diminishes over time.

**Table 5. Comparison of ALAS and Control Group Outcomes at end of 9th, 10th and 11th Grade**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Progressing in School**  **(percentage on track to graduate)** | |  | **Staying in School**  **(percentage enrolled)** | |
|  | ALAS | Control |  | ALAS | Control |
| End of 9th grade | 72% | 53% |  | 98% | 83% |
| 75% | 44% |  |
| End of 10th grade | 44% | 22% |  | 86% | 69% |
| End of 11th grade | 33% | 26% |  | 75% | 67% |

### Accelerated Middle Schools Program

The Accelerated Middle Schools program is a targeted intervention (Tier 2) that operates as a school within a school, or as a separate school, at the middle school level. In either case, the intervention is designed to help students “catch up” by covering curriculum at an accelerated pace, with students engaging in additional core academic instruction and enrolling in relatively few electives. Also, instruction across disciplines is often linked thematically, emphasizes experiential learning, and uses smaller class sizes; additional supports include tutoring, attendance monitoring, counseling, and family outreach. Program costs for a school district exceed traditional middle school costs by $2,000 to $5,000 as of 2007.

The research indicates that Accelerated Middle Schools has an impact on both Progressing in School and Staying in School (see Table 5). For the average student, the actual benefit in Progressing in School varied depending on the study (three studies were included in the WWC review). The average student in the experimental group progressed from three-tenths to seven-tenths of a grade level more than the average student in the control group. The actual benefit after two and three years later—in terms of Staying in School (which in these studies was defined as percentage of students enrolled in school vs. percentage who had dropped out)—ranged between 1, 4, 7, 8, and 14 percentage points. For example, after three years in the Michigan study, 85% of the experimental group of students were still enrolled, as compared with 81% of the control group (N = 296 students in total sample). After three years in the New Jersey study, 97% of students in the experimental group were still enrolled, as compared with 83% of students still enrolled in the control group (N = 76 student in total sample) (What Works Clearinghouse, n.d.).

### Check & Connect

Check & Connect is a supplemental dropout prevention program for high school students that uses mentoring, case management, monitoring, and other supports. Check & Connect has two components/responsibilities for the mentor/case worker: “check,” which involves the mentor continually assessing each student’s engagement through school performance and progress indicators, and “connect,” which involves individualized attention through partnering with family members, community service providers, and key school staff for each individual student. Although the WWC review focuses on two studies involving ninth grade students in special education, Check & Connect has also been used in elementary and middle schools to target truancy (What Works Clearinghouse, n.d.).

Services within Check & Connect are tailored and intensified to meet individual student needs. The mentor provides basic intervention involving twice-monthly, one-on-one discussions about school progress, conflict resolution, and coping with challenges. The mentor provides/coordinates more intensive interventions as needed in areas such as problem solving (e.g., mediation, social skills training), academic support (e.g., tutoring, schedule changes), and recreation and community service exploration.

Check & Connect mentors in the studies reviewed by WWC were grade students, or community members with a bachelor’s degree or equivalent experience in human services-related fields. The schools’ special education coordinator, psychologist, or a resource teacher oversaw the program and supervised the mentors. The program cost to the school or district is about $1400 per student per year as of the 2001/2002 school year.

The actual benefits accruing with Check & Connect are presented in Table 6. For example, by the end of ninth grade, the average Check & Connect student had earned 12.13 credits, which is 5.5 credits more than that earned by the average control student. At the end of twelfth grade, 39% of Check & Connect students had dropped out of school, as compared with 58% of the control. With regard to completing school, there was minimal difference between Check & Connect and control students; 30% of Check & Connect students completed high school or earned a GED compared to 29% of control students. We do not know if some participants continued into a fifth or sixth year of high school.

**Table 6. Comparison of Check & Connect and Control Group Outcomes**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Progressing in School**  **(average number of credits earned)** | |  | **Staying in School**  **(percentage who dropped out)** | |  | **Completing School (percentage who completed high school or earned GED on time)** | |
|  | Check & Connect | Control |  | Check & Connect | Control |  | Check & Connect | Control |
| End of 9th grade | 12.13 | 6.63 |  | 9% | 30% |  |  |  |
| End of 12th grade |  |  |  | 39% | 58% |  | 30% | 29% |

### Talent Search

Talent Search is a supplemental, targeted program (Tier 2) that uses a combination of services aimed at helping low-income and first-generation college students in eleventh and twelfth grade complete high school and gain access to college. The services include academic advising, test-taking and study skill assistance, tutoring, career development, visits to college campuses, and assistance with financial aid applications.

The measured benefit of Talent Search, defined as the percentage of students earning a high school diploma or GED within five years of entering ninth grade, was a gain between 9 and 14 percentage points for the experimental groups, depending on the study. In the Texas study, 86% of the experimental group completed high school, as compared to 77% of the control group (N = 8,054 students in total sample). In the Florida study, 84% of students in the experimental group completed high school, as compared with 70% of the control group (N = 1,800 students in total sample) (What Works Clearinghouse, n.d.).

### Discussion

Individualized and supplemental instruction can help students master course content and accumulate credits toward graduation. Tutoring, academic assistance, and enrichment provided during school, after school, or during summer school are effective Tier 2 strategies (Allensworth & Easton, 2007; Dynarski et al., 2008). Additionally, WWC reviews of evidence indicate that three Tier 2 programs (ALAS, Accelerated Middle Schools, and Check & Connect) each had a measurable impact on progressing in school (i.e., significant credit accumulation) and staying in school (e.g., 75% to 98% of participants stayed in school compared with 67% to 83% of control group participants). Additionally, Talent Search had a measurable impact on graduation; 84% to 86% of Talent Search participants completed high school compared with 70% to 77% of control group participants.

### Tier 3: Recovery/Reentry Strategies and Programs

Tier 3 recovery/reentry programs provide options for students whose situations, personalities, histories, and/or physical and health-related characteristics pose chronic and multiple challenges to school and career success. Daylight/Twilight High School is an example of a Tier 3 program designed for out-of-school youth who are over-age and under-credited (National Dropout Prevention Center/Network, n.d.). The program is open for business from 7:30 am to 7:30 pm and allows students to attend for a four-hour block of time. However, according to the National Dropout Prevention Center/Network model program database, the program has limited evidence of effectiveness, while five of the six Tier 3 programs included in WWC’s Dropout Prevention review had rigorous evidence on effectiveness (see Table 7).

The second column of Table 7 shows that two programs, National Guard Youth ChalleNGe Program and JOBSTART, have relatively high overall average weighted improvement index values (i.e., 22 and 14). Two other programs, New Chance and Job Corps, each had a positive but relatively small impact (with overall average weighted improvement index values of 8 and 5). Finally, one program had a negative but small impact (with an overall average weighted improvement index value of -2). Notably, the overall average for the top four listed programs in Table 7 is actually the weighted improvement index for the Completing School outcome (because the other outcomes, Progressing in School and Staying in School, were not measured in the studies reviewed by WWC for these interventions). Therefore, the Table 7 Completing School columns are relevant in comparing results within this set of Tier 3 type programs.

**Table 7. Tier 3 Dropout Prevention/intervention Program Effectiveness Results for those with Studies reviewed by WWC Review**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Overall Average Weighted Improvement Index** | **WWC-reported Improvement Index Values and Extent of Evidence Rating by Outcome** | | | | | |
| **Progressing in Schoola** | | **Staying in Schoolb** | | **Completing schoolc** | |
| **Improvement Index** | **Extent of Evidenced** | **Improvement Index** | **Extent of Evidence** | **Improvement Index** | **Extent of Evidence** |
| National Guard Youth ChalleNGe Program | 22.00 |  |  |  |  | 22 | 1 |
| JOBSTART | 14.00 |  |  |  |  | 14 | 1 |
| New Chance | 8.00 |  |  |  |  | 8 | 1 |
| Job Corps | 5.00 | -3 | 1 |  |  | 13 | 1 |
| Service and Conservation Corps | -2.00 |  |  |  |  | -2 | 1 |

*Note:* The overall average weighted improvement index was calculated by multiplying each outcome improvement index by its extent of evidence rating, summing across outcomes, and dividing by the sum of the extent of evidence ratings. Blank cells indicate that no information was available, or the information did not meet WWC evidence standards.

a Progressing in School is measured by the number of credits accumulated, grades promoted, or highest grade completed.

b Staying in School is measured by whether a student is enrolled in school.

c Completing School is measured by whether a student earned a high school diploma or a GED.

d The extent of evidence is rated by WWC using two categories: “small” which is defined as evidence that includes “only one study, or one school, or findings based on a total sample size of less than 350 student and 14 classrooms (assuming 25 students in a class),” and “medium to large” which is defined as evidence that includes “more than one study, more than one school, and findings based on a total sample of at least 350 students or 14 classrooms” (What Works Clearinghouse, n.d.).

### National Guard Youth ChallenNGe Program

The National Guard Youth ChalleNGe program is geared toward youth aged 16 to 18 who have dropped out of or been expelled from school (What Works Clearinghouse, n.d.). The program is a 22-week residential program with quasi-military activities and environment (e.g., barracks, uniforms, and military-style discipline) that offers GED preparatory classes, community service activities, and training in leadership and job skills. The WWC reported one National Guard Youth ChalleNGe program Improvement index (22) for completing school with a small extent of evidence. A comparison of the program and control group outcomes is presented in Table 8. Forty-eight percent of program participants earned a GED, as compared to 22% of non-participants.

**Table 8. Comparative School Completion Rates for National Guard Youth ChalleNGe program and Control Group**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | | **Earned a**  **High School Diploma** | |  | **Earned a**  **GED** | |
|  | NG | | Control |  | NG | Control |
| Self-report 21 months after program completion | 22% | | 16% |  | 48% | 22% |

*Note:* NG refers to National Guard Youth ChalleNGe program.

*Source*: What Works Clearinghouse (n.d.).

### JOBSTART

JOBSTART provides services to youth aged 17 to 21 who have dropped out of school. The core components of JOBSTART are “education and occupational skills training with support services to facilitate participation” (What Works Clearinghouse, n.d., p. 2). The education skills component involves self-paced workbook exercises for GED preparation, with individualized instruction from JOBSTART teachers. Participants also select and attend courses that offer vocational training. Support services include childcare as well as transportation and job placement assistance. For the research, JOBSTART was developed and implemented on sites already providing similar services (e.g., community-based organizations), but JOBSTART as studied is no longer available. However, the program is similar to youth programs funded with Workforce Investment Act and Job Corps monies (What Works Clearinghouse, n.d.). The cost in 2007 was estimated to be about $9,700 per participant. As shown in Table 9, the research results indicate that JOBSTART has an impact on school completion. The benefit of the program is an average 13.4 point gain in percentage of students who complete school or a GED.

**Table 9. Comparative School Completion Rates for JOBSTART and Control Group**

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | **School Completion**  **(Percentage who Earned a High School Diploma or a GED within 48 months of the beginning of program participation)** | |
|  |  | JOBSTART | Control |
| Self-report |  | 42% | 28.6% |

*Source*: What Works Clearinghouse (n.d.).

In collaboration with Communities in Schools (Hammond, Linton, Smink, & Drew, 2007), the NDPC/N identified 37 recovery/reentry programs with strong evidence of effectiveness. The NDPC/N defines strong evidence of effectiveness as meeting the following criteria: the program has been in existence for three years or more, and was “evaluated using an experimental design conducted by an external evaluation team, and has strong empirical evidence demonstrating program effectiveness in reducing dropout and/or increasing graduation rates and/or having significant impact on dropout-related risk factors” (Model Program Rating System, criteria for strong evidence of effectiveness). These 37 programs can be identified at the NDPC/N website by using the model program search function at <http://www.dropoutprevention.org/modelprograms/search-database> and selecting “Strong Evidence” for Rating and “Recovery/Reentry” for Emphasis of Program.

### Job Corps

Job Corps is a residential, federally funded program for economically disadvantaged youth offering remedial education, GED preparation, job training, and job placement assistance (WWC Job Corps Intervention Report, n.d.). By approximately 10 percentage points, more Job Corps participants earn a high school diploma or GED than control group participants (see Table 10).

**Table 10. Comparative School Completion Rates for Job Corps and Control Group**

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | **School Completion**  **(Percentage who Earned a High School Diploma or a GED within 48 months of the beginning of program participation)** | |
|  |  | Job Corps | Control |
| Self-report all participants |  | 47.3% | 34.4% |
| Self-report 16 to 17 year olds |  | 46.7 | 36.2 |
| Self-report 18 to 24 year olds |  | 47.9 | 32.3 |

*Source*: What Works Clearinghouse Job Corps Intervention Report Appendix A3.2 and A4.1 (n.d.).

### Discussion

Among the programs in the WWC Dropout Prevention topic review, three Tier 3 programs were found to effectively help youth earn a high school diploma or a GED, including National Guard Youth Challenge program, JOBSTART, and Job Corps. Between 40 and 48% of participants in these programs earned a high school diploma or a GED, which represented school completion rates 10 to 26 percentage points greater than the rates for control groups. Two of the programs (National Guard Youth Challenge and Job Corps) are residential programs; JOBSTART is no longer in operation. While these results support the effectiveness of National Guard Youth Challenge and Job Corps, it is important to note that for both interventions, the extent of evidence from which the impact was derived was small (i.e., based on one study for the National Guard Youth Challenge and one study for the Job Corps evidence).

# Conclusions

This report summarizes evidence on the effectiveness of dropout prevention and intervention strategies and programs. When available, we summarized evidence supporting the inference that a program or strategy caused improvements in student outcomes, including staying in school, making progress by grade promotion, passing courses, or accumulating credits toward high school graduation. Equally important was whether a strategy or program helped students earn a high school diploma or a GED.

We found that effective general education programs (Tier 1) start early in a student’s academic career. For economically disadvantaged youth, participation in preschool improves the likelihood of completing high school (Camilli Vargas, Ryan, & Barnett, 2010). For all grade levels, rigorous, relevant instruction is recommended as a critical component of dropout prevention (Dynarski et al., 2008). We also found effective targeted programs (Tier 2), which focused on addressing academic skill gaps, catching up students to grade-level expectations, and individualizing supports to facilitate school engagement. In particular, ALAS, Accelerated Middle Schools, and Check & Connect showed evidence of effectiveness (WWC’s Dropout Prevention Topic, n.d.). Among recovery/reentry programs (Tier 3), we found two programs with rigorous evidence of effectiveness: the National Guard Youth ChallenNGe Program and JOBSTART. Participants in both of these programs were significantly more likely to earn a high school diploma or GED than non-participants (WWC’s JOBSTART Intervention Report and Appendices, n.d., WWC’s National Guard YouthChalleNGe Intervention Report and Appendices, n.d.).

The present report provides limited descriptions of each program. We recommend that school and district leadership or teams review full descriptions of programs to ascertain if they address their students’ needs. The present results also are limited to available evidence. We recommend that school and district leadership monitor intended outcomes and implementation in order to detect and address the need for adjustments to the adopted strategies and programs.

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**Table A1. Overall Average Weighted Improvement Index and Outcome Data for Programs in WWC’s Dropout Prevention Topic Review**

| **Program** | **Overall Average**  **Weighted Improvement Index** | **Progressing in School Improvement Index** | **Progressing in School**  **Extent of Evidence** | **Staying in School Improvement Index** | **Staying in School**  **Extent of Evidence** | **Completing School Improvement Index** | **Completing School**  **Extent of Evidence** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| ALAS | 30.50 | 19 | 1 | 42 | 1 |  |  |
| Accelerated Middle Schools | 26.50 | 35 | 2 | 18 | 2 |  |  |
| National Guard Youth ChalleNGe Program | 22.00 |  |  |  |  | 22 | 1 |
| Check & Connect | 18.67 | 30 | 1 | 25 | 1 | 1 | 1 |
| Talent Search | 17.00 |  |  |  |  | 17 | 2 |
| JOBSTART | 14.00 |  |  |  |  | 14 | 1 |
| Career Academies | 8.67 | 13 | 1 | 13 | 1 | 0 | 1 |
| New Chance | 8.00 |  |  |  |  | 8 | 1 |
| Talent Development High Schools | 7.00 | 7 | 1 |  |  |  |  |
| Job Corps | 5.00 | -3 | 1 |  |  | 13 | 1 |
| Financial Incentives for Teen Parents to Stay in School | 4.80 | 4 | 1 | 6 | 2 | 4 | 2 |
| High School Redirection | 4.67 | 4 | 2 | 6 | 2 | 4 | 2 |
| Twelve Together | 3.50 | -6 | 1 | 13 | 1 |  |  |
| Quantum Opportunity Program | 3.00 | 2 | 1 |  |  | 4 | 1 |
| Middle College High School | -0.50 |  |  | -3 | 1 | 2 | 1 |
| First Things First | -1.00 |  |  | -1 | 1 |  |  |
| Service and Conservation Corps | -2.00 |  |  |  |  | -2 | 1 |
| Summer Training and Education Program (STEP) | -2.00 |  |  | -2 | 1 |  |  |
| Project GRAD | -3.50 | -4 | 1 |  |  | -3 | 1 |
| Coca-Cola Valued Youth Programa |  |  |  |  |  |  |  |
| High School Puente Programa |  |  |  |  |  |  |  |
| I Have a Dreama |  |  |  |  |  |  |  |
| New Century High Schoolsa |  |  |  |  |  |  |  |
| Wyman Teen Outreach Program (TOP) a |  |  |  |  |  |  |  |
| YouthBuilda |  |  |  |  |  |  |  |

*Note:* The weighted average improvement index was calculated by multiplying each outcome improvement index by its extent of evidence rating, summing across outcomes, and dividing by the sum of the extent of evidence ratings. Progressing in School is measured by the number of credits accumulated, grades promoted, or highest grade completed; Staying in School is measured by whether a student is enrolled in school; Completing School is measured by whether a student earned a high school diploma or a GED. The extent of evidence is rated by WWC using two categories: “small” which is defined as evidence that includes “only one study, or one school, or findings based on a total sample size of less than 350 student and 14 classrooms (assuming 25 students in a class),” and “medium to large” which is defined as evidence that includes “more than one study, more than one school, and findings based on a total sample of at least 350 students or 14 classrooms” (What Works Clearinghouse, n.d.).

a When no information was available, cells were left blank. In these cases, none of the studies on a particular intervention met WWC standards, or the studies on the intervention did not include an outcome that was included in the WWC Dropout Prevention topic review (i.e., Progressing in School, Staying in School, or Completing School).

1. When used interchangeably, *strategy* and *program* both include initiatives aimed at helping students stay in and complete school. We also use the term *program* to refer to comprehensive multidimensional initiatives that involve a systematic, integrated use of multiple strategies. [↑](#footnote-ref-1)
2. The WWC Dropout Prevention Topic area posts 28 intervention reports on its website, including two reports on the same intervention (the National Guard Youth ChallenNGe Program) and two reports for which studies that met the WWC evidence standards were not identified. To meet WWC evidence standards, a study involving group comparisons must use random assignment of participants to groups, and/or sufficient and appropriate controls to refute plausible alternatives to the intervention being the cause of the effect (What Works Clearinghouse, 2011). [↑](#footnote-ref-2)
3. The WWC extent of evidence has two categories: “small” and “medium to large.” The “small” category is defined by inclusion of “only one study, or one school, or findings based on a total sample size of less than 350 students in 14 classrooms,” and the “medium to large” category is defined by inclusion of “more than one study, more than one school, and findings based on a total sample of at least 350 students or 14 classrooms” (WWC Glossary, E, extent of evidence). [↑](#footnote-ref-3)
4. Other potentially relevant intervention reports, such as the WWC intervention report on Advancement via Individual Determination (AVID) are available on the WWC, but not included in the present report. The present report focuses on interventions reviewed for the WWC Dropout Prevention topic. Intervention reports included under different topics (e.g., Adolescent Literacy, High School Mathematics, and Students with Disabilities) were not included in the present report. [↑](#footnote-ref-4)
5. Moderately strong evidence of effectiveness means that correlational and/or experimental research yielded a positive relationship between the practice and student outcomes, but generalization is limited and causality is uncertain (Dynarski et al., 2008). [↑](#footnote-ref-5)
6. High-risk youth in this study had one or more of the following characteristics: a grade point average of 2.0 or lower, absent at least 15% of school year, was over-age, received welfare or food stamps, and/or lived in a single-parent household (WWC Career Academies intervention report appendix, n.d.). [↑](#footnote-ref-6)