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Beyond The Indicators:

An Integrated School-Level Approach to Dropout Prevention

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An Integrated, School-Level Approach to Dropout Prevention

Martha Abele Mac Iver and Douglas J. Mac Iver

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Executive Summary

Despite decades of school improvement initiatives, many young people still do not cross the finish line of secondary education with the credential that signifies success—a high school diploma. Thousands of young people give up on school and on themselves, or schools give up on them. Without effective support from schools, communities, and families, many at-risk students fall through the cracks and eventually drop out.

Persistent high dropout rates are particularly troublesome in large, urban high schools and in poor and rural districts. Young people who drop out of school have few prospects for earning a living wage, which takes an economic and societal toll that cannot be sustained in a competitive nation.

Recently, stemming the tide on these "dropout factories," where upwards of 50 percent of students do not graduate, has become a national, state, and local priority. In its Fiscal Year 2010 budget request, the Obama administration proposes a $50 million High School Graduation Initiative to promote innovative strategies for increasing high school graduation rates.

This report summarizes the research on *why* students drop out of school, explains the research implications for *how* to create an integrated dropout prevention strategy, and highlights an innovative pilot project that yielded results in a matter of months—a *how-to* example that works.

Why Do Students Drop Out?
A quarter-century of research identifies student engagement as the key element in students' decision to stay in school—or not. Both individual (student) and institutional (school, family, and community) factors contribute to student engagement:

- **Individual Factors: The ABCs of Disengagement.** Student disengagement in school generally manifests itself behaviorally in high absenteeism, behavior problems, and course failure, including the failure both to complete assignments and to pass courses. These three factors—the ABCs—are the strongest predictors of dropping out and are often interrelated. Ninth grade is a pivotal year, but behaviors in sixth grade (spotty attendance, course failure in English or mathematics, and a record of misbehavior) predict as least 50 percent of eventual dropouts.

- **Institutional Factors: Organizations, Relationships, and Practices.** Supportive relationships, high academic expectations, and coherent and relevant instructional programming are among the factors that contribute to student success. Schools that fail to provide a learning environment characterized by these factors put their students at risk of dropping out. High concentrations of high-needs students exacerbate this risk.

How Can Schools Prevent Dropouts?
Dropout prevention and recovery approaches typically focus either on comprehensive school reform or on programs targeted to individual students. Research suggests that it is crucial to combine the best components of *both* approaches. There is evidence, in fact, that only a few dropout prevention programs are effective in addressing three important outcomes:

- **Staying in school**
- **Progressing in school**
- **Completing school**

The strongest student indicators of dropping out of school—attendance, behavior, and course failure, or the ABCs—offer a starting point for developing a more effective dropout prevention strategy.

This report presents an integrated model for dropout prevention, which brings together the ABCs, comprehensive school reform, *and* targeted intervention. This dropout prevention model echoes the public health prevention model, which encompasses three stages of prevention:

- **The primary stage—**District- and school-wide reforms aimed at providing high-quality instruction that promotes engaged learning and successful high school completion for every student
- **The secondary stage**—Targeted interventions for small groups of students who need additional supports to address attendance, behavior, or academic struggles
- **The tertiary stage**—Intensive intervention, often delivered one-on-one by specialists, for students who need more clinical support

How to Implement an Early Warning System with Tiered Interventions
Two high-poverty middle schools in Philadelphia piloted a teacher-friendly early warning and tiered-response system that alerts teachers and administrators as soon as students begin demonstrating behaviors that could push them off the path to graduation. The system includes:

- **Data on early warning indicators** (every student's attendance, behavior, course failure, reading level, and math and reading proficiency scores)
- **Meetings of school staff teams** to discuss students, plan, and update interventions for students with early warning indicators
- A **"second team of adults"** to assist with interventions for at-risk students

The two middle schools yielded positive results—including double-digit reductions in the numbers of students failing math and literacy or exhibiting poor attendance or behavior—in a matter of months.

The pilot project provides strong evidence that an integrated, tiered intervention strategy, grounded in research and best practices, could help schools keep more students on the path to graduation.

Stemming the Tide of Dropouts

> *"Teachers never paid no attention to me. I didn't like school or the teachers, and so I cut out. … [When] I made an effort to get to school on time … I still failed. So I said I have to stop going. I'm not getting anywhere. Just keep getting left behind"* (Fine, 1991, p. 77).

Two decades after Michelle Fine heard these words from a female dropout in New York City, they still echo throughout the inner cities and poor rural districts of America. Thousands upon thousands of young people are being left behind and then abandoning schools that have either actively failed them or failed to successfully extend a lifeline to help them recover once they fall off track to graduate. Although the Bush administration devoted its education policy to the principle of "no child left behind," one of the unintended consequences of the No Child Left Behind Act and its narrow emphasis on test score results was to encourage high schools to quietly ignore those dropping out—or even actively push out students who would lower the test scores for which schools were being held accountable (Darling-Hammond, 2006; McNeil, Coppola, Radigan, & Heilig, 2008).

Growing awareness of the economic costs of the high dropout rate, as well as the need for uniform measurement of graduation rates and accountability measures that include significant improvement in these rates, has moved the dropout issue to the front burner of U.S. education policy (Alliance for Excellent Education, 2007, 2008; Swanson, 2009). Building on recent work of the National Governors Association (2005, 2008) and organizations such as Achieve and its American Diploma Project, President Obama is now actively leading the charge for all students to graduate college- and career-ready: "Dropping out is quitting on yourself, it's quitting on your country, and it's not an option—not anymore" (Obama, 2009, p. 1). President Obama's leadership on this issue is not only symbolic; he emphasizes specific policy directions: "Stemming the tide of dropouts will require turning around our low-performing schools. Just 2,000 high schools in cities like Detroit and Los Angeles and Philadelphia produce over 50 percent of America's dropouts. And yet there are too few proven strategies to transform these schools. And there are too few partners to get the job done" (Obama, 2009, p. 1).

How will this be accomplished? As Rumberger and Lin (2008) point out, there has been a quarter-century of research on the dropout issue in the United States. This research has been thoroughly reviewed by researchers—so we know a lot about why students drop out of school. The challenge now is to do something about it.

This report summarizes the research and then focuses on the practical application of the findings within a systematic, integrated dropout prevention model. Our goal is to equip school leaders with the tools they need to reduce the number of students who drop out. Or, to put it more positively, we aim to make sure that EVERYONE GRADUATES from high school equipped for postsecondary education and employment in the 21st century economy.

What We Know about Why Students Drop Out of School

> Substantial research identifies specific individual and institutional factors that are strong predictors of dropping out. For students, high absenteeism, behavior problems, and course failure—the ABCs of disengagement—are the telltale signs. For schools—especially large, urban, and public schools that concentrate high-needs students into low-level classes—organizational structures contribute to inadequate relationships, expectations, and instructional support for students.

Research focused on explaining why students drop out of school builds on the theoretical construct of student engagement in school (e.g., Fredricks, Blumenfeld, & Paris, 2004). Simply put, students who are engaged in school are less likely to drop out. Student engagement has emotional, behavioral, and cognitive components, which are sometimes classified as social and academic engagement (Wehlage, et al., 1989). Disengagement can be differentiated—sometimes triggered by early school failure, which degenerates into problem behaviors, and sometimes characterized by lack of participation, which leads to lack of engagement (Finn, 1989). Contributing to student engagement are both individual (student) factors and institutional (school, family, and community) factors. Understanding how these factors contribute to students dropping out allows us to recognize early warning signals and begin interventions that can keep students on track for graduation.

Individual Factors: The ABCs of Disengagement. The process of disengagement generally manifests itself behaviorally in high absenteeism, behavior problems, and course failure, including the failure both to complete assignments and to pass courses. These three factors—the ABCs—are the strongest predictors of dropping out and are often interrelated. Prior retentions in grade, associated with overage-for-grade status, have been linked repeatedly to higher probabilities of a dropout outcome (Rumberger & Lin, 2008). Course failures prior to high school, often associated with retentions, also have a close association (much closer than test scores) to a dropout outcome. Chronic absenteeism, often beginning at the elementary level, is a strong predictor of course failure, and course failure, particularly in ninth grade, is a strong predictor of dropping out (Allensworth & Easton, 2007; Chang & Romero, 2008; Finn, 1989; Lan & Lanthier, 2003; Lee & Burkam, 2003; Neild & Balfanz, 2006a, 2006b; Neild, 2009a; Roderick & Camburn, 1999; Schargel & Smink, 2001).

At the high school level, ninth grade is a pivotal year. Ninth graders who fail one or more courses fail to earn the credits needed for graduation. Longitudinal studies support the hypothesis that academic failure has a direct effect on student motivation, which in turn has a direct effect on dropout behavior (e.g., Kaplan, Peck & Kaplan, 2001). Ninth-grade failure does not occur in a vacuum—it is related to prior patterns of failure in the earlier grades and low attendance in middle grades. Balfanz, Herzog, and Mac Iver (2007) have shown that behaviors manifested in sixth grade (spotty attendance, course failure in English or mathematics, and a record of misbehavior) predict as least 50 percent of eventual dropouts. Attending early to students at risk of

dropping out is important, since it is extremely difficult to bring students who are off track in the ninth grade back on track to graduation.

Institutional Factors: Organizations, Relationships, and Practices. Many factors leading to student disengagement are related to how schools are organized. For example, after controlling for the demographic composition of the school (particularly ethnicity and poverty), attendance, and school resources, dropout rates are higher in schools that are large, located in urban centers, and public (Rumberger & Thomas, 2000). Dropout rates are lower at schools with more personal relationships among teachers and students, and less curriculum differentiation among students (Bryk & Thum, 1989; Croninger & Lee, 2001; Lee & Burkam, 2003; Wehlage & Rutter, 1986).

Findings from research conducted in the Chicago Public Schools indicate that students' course performance is related to relationships with teachers, the relevance of classroom instruction to their perceived future, and "how teachers work together in the school" (Allensworth & Easton, 2007, p. 33). Failure rates are lower at schools where "students report high levels of trust for their teachers and … teachers provide personal support to them" (Allensworth & Easton, 2007, p. 30). Domagala-Zysk (2006) has shown that failing students are significantly less likely than successful ones to view teachers as helpful and motivating. In addition, failure rates are lower at schools that "make the connection between high school and students' futures" and have "school-wide press for all students … to have high aspirations, work hard, and plan for the future" (Allensworth & Easton 2007, p. 32). The role of teachers' relationships with one another, including their sense of joint responsibility for student success and the degree of "coherence in instructional programming" across the school, are also significantly related to student attendance and course performance (Allensworth & Easton, 2007, p. 33).

The research literature also sheds some light on possible barriers to effective school and teacher practices. Schools need to overcome these barriers to prevent student failure and increase the number of students passing courses and staying on track to graduation. Urban high schools that have a high concentration of students at risk of failure face a double challenge. Within these schools, it is extremely difficult to organize instruction without further concentrating high-need students in certain classrooms. For example, schools often track students into different level classes (e.g., algebra), leaving some teachers with a high concentration of high-needs students (Neild & Balfanz, 2006). Given the relationship between teacher self-efficacy, instructional quality, teachers' persistence in helping struggling students, and student achievement, teachers in these classes may not have the support needed to provide high-level instruction or the kinds of interventions these students need (Allinder, 1994; Guskey, 1988; Gibson & Dembo, 1984; Kurz & Knight, 2004; Ashton & Webb, 1986).

Providing personal support or intervention for students whom teachers perceive as difficult or unmotivated is another challenge. Experimental studies of teacher responses to student failure on tests confirm that teacher perceptions of students matter. Teachers do indeed make distinctions between students who fail tests due to perceived lack of effort and students who fail due to perceived lack of ability or other mitigating circumstances. Thus, teachers feel less responsibility and show less inclination to intervene and more inclination to give failing final marks in response to lack of effort

(Matteuci & Gosling, 2006; Weiner, 2003). Teachers' independent approaches to grading and the widespread use of the "zero" also contribute to student failure (Reeves, 2004, 2008; Guskey, 2000). Motivating students to exert the effort on homework and studying that are crucial for academic success also remains a challenge for teachers (Natriello & McDill, 1986; Smerdon, 1999). Reducing the incidence of course failure will require simultaneous attention to all of these issues.

Research on Dropout Prevention and Recovery Initiatives

> Dropout prevention and recovery approaches typically focus either on comprehensive school reform or on programs targeted to individual students. Research suggests that it is crucial to combine the best components of *both* approaches.

Approaches to dropout prevention and recovery include both whole, or comprehensive, school reform and dropout prevention programs aimed at individual students or groups of students. Research suggests that only a few dropout prevention programs are effective. In a review of recent evaluations of federal dropout prevention programs, Dynarski and Gleason (2002, p. 44) conclude that "most programs did not reduce dropping out," primarily because the programs were not sufficiently tailored to the particular needs of particular students.

There is some evidence to suggest that some school-centered initiatives focused on middle and high schools serving at-risk students have an impact on keeping students in school. A recent review by the Institute for Education Sciences What Works Clearinghouse (WWC) (U.S. Department of Education, 2009) identified studies of 29 dropout prevention programs,[1] including programs focused on restructuring an entire school as well as programs targeted to individual students (either at regular high schools or in alternative GED/job training programs). The review addressed three outcome variables:

- **Staying in school** (measured by enrollment)
- **Progressing in school** (measured by credit accumulation or grade promotion)
- **Completing school** (measured by earning a diploma or GED certificate)

Of the five[2] school-centered initiatives reviewed, there was evidence that three had a positive effect on either staying or progressing in school (but not on school completion[3]):

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[1] The Web page noted "Count=30," but one program was counted twice. Six of these were identified as "report pending." Three others had "no studies meeting evidence standards." Available at www.whatworks.gov

[2] WWC did not find evidence of positive effects for First Things First or Middle College High School.

- Career Academies (small learning communities with a combination of academic and vocational courses, often including work-based learning opportunities)

- Talent Development High Schools (a reform model that includes organizational/management components, curricular/instructional innovations, professional development, and parent/community involvement

- Accelerated Middle Schools (a model that provides additional instruction and support to students who are working below grade level)

Students also were likely to complete two occupational training programs, Job Corps and Job Start, which had associated GED programs.

The other programs reviewed by WWC were targeted, focusing on individual students rather than whole-school reform. There was strong evidence that only one of these programs, Talent Search, helped students complete school and graduate. There was evidence that another program, New Chance, helped students complete a GED or job training program. There was also strong evidence that several other programs—including Check and Connect, Achievement for Latinos through Academic Success (ALAS), Financial Incentives for Teen Parents to Stay in School, and Twelve Together—helped students stay in and progress in school. However, there was no strong evidence that these programs lead to increased graduation rates.

Other reviews, using less stringent criteria for evidence than WWC, identified other promising dropout prevention programs. Fashola and Slavin (1998) examined effective dropout prevention programs for Latino students (using unpublished reports as well as peer-reviewed articles). They identified two programs that had positive effects on school completion: the Coca Cola Valued Youth Program and ALAS, which have been successfully implemented in schools with large numbers of Latino students. In addition, Fashola and Slavin identified four other programs that increased college attendance (as well as high school graduation with college readiness) among Latino students: AVID (Advancement Via Individual Determination), Project GRAD (Graduation Really Achieves Dreams), Upward Bound, and SCORE. Finally, several reviews of research on dropout prevention have noted the positive impact of preschool or elementary interventions on a positive high school dropout outcome (e.g., Meyer, 1984; Temple, Reynolds, & Miedel, 2000; Prevatt & Kelly, 2003; Belfield & Levin, 2007).

These reviews of existing programs indicate some potentially effective strategies for schools to pursue in reducing their dropout rates and increasing their graduation rates. However, the evidence of positive effects generally was only moderate at best—and the programs generally did not represent a comprehensive, integrated approach to the problem.

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[3] However, external evaluations that did not meet all the stringent WWC criteria suggested that Career Academies and Talent Development High Schools had a potentially positive effect on graduation rates (and reduced dropout rates) for students at high risk of dropping out (Kemple & Snipes, 2000; Kemple, Herlihy, & Smith, 2005).

Implications of the Research on Dropout Prevention

The research on dropout prevention can be used to develop an early warning indicator system to identify students at risk of dropping out—and to intervene and get them back on track to graduate.

The strongest student indicators of dropping out of school—attendance, behavior, and course failure, or the ABCs—offer a starting point for developing a dropout prevention strategy. Figure 1 summarizes the important research-based "early warning indicators" at both the middle and high school levels that will require school-based interventions to assure that at-risk students will successfully graduate and are prepared for the workplace and postsecondary education.

Figure 1. Early Warning Indicators of Eventual Dropout Outcome

Early Warning Indicator	Grade Level	
	Middle School	**High School**
Attendance	Less than 80 percent attendance is a strong predictor of dropping out and requires intensive intervention Missing more than two days of school per month (**less than 90 percent attendance**) should prompt targeted intervention (even though many students with this level of attendance manage to graduate in urban districts)	
Behavior	An **unsatisfactory behavior grade or suspension**	**Suspension in ninth grade**
Course Failure	**Failing mathematics** **Failing reading/language arts**	**Any two semester course failures in ninth grade** (particularly in core academic courses required for graduation) **Any one semester failure** probably should prompt intervention and, ideally, a pattern of course performance likely to lead to a failing report card grade would prompt intervention from the classroom teacher to **prevent failure and off-track credit status**

Although there is not yet indisputable evidence of causal connections, prior research findings suggest that prevention of dropout outcomes will require schools to focus on:

- **Decreasing absenteeism,** which is strongly linked to course failure

- **Addressing root causes of high absenteeism** (and intervening effectively during the middle school years to increase attendance)
- **Addressing root causes of behavior problems** (and intervening effectively during the middle school years to improve behavior)
- **Providing academic interventions in middle school** so that students enter ninth grade prepared for high school coursework
- **Reducing the number of students failing courses,** thereby increasing the percentage of students earning high school credits on time

At the same time, research findings indicating that school-level factors (particularly personalization, coherence of instructional programming, and relevance of curriculum to students' futures) impact dropout rates suggest that schools and districts need to combine systemic and comprehensive approaches to school reform with the best components of individually focused programs for the most at-risk students. Comprehensive reforms focused on school practices will need to address the problems of absenteeism, behavioral problems, and course failure for the majority of students, while additional, individually focused efforts will be necessary for students with more intensive needs.

Creating Integrated, Whole-School Reforms and Student Supports

A systematic plan for dropout prevention integrates research-based recommendations into a coherent model. The model offers a three-tiered approach, with district- and school-wide reforms focused on dropout prevention for all students, targeted intervention strategies for at-risk students, and more intensive intervention for students who need more support. With its coherent, integrated strategy, this model goes beyond lists of research-based recommendations for addressing the dropout problem (IES, 2008; Hammond et al., 2007; Hoyle & Collier, 2006; Martin, Tobin, & Sugai, 2002; Montecel, Cortez, & Cortez, 2004; Schargel & Smink, 2001; Smink & Schargel, 2004).

Emerging themes in education research (e.g., Balfanz, Herzog, & Mac Iver, 2007; Communities in Schools, 2008) echo the public health prevention model, which encompasses three stages of prevention (primary, secondary, and tertiary). For dropout prevention, the three-tiered model is as follows:

- **The primary stage,** or foundation, of the prevention model involves 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

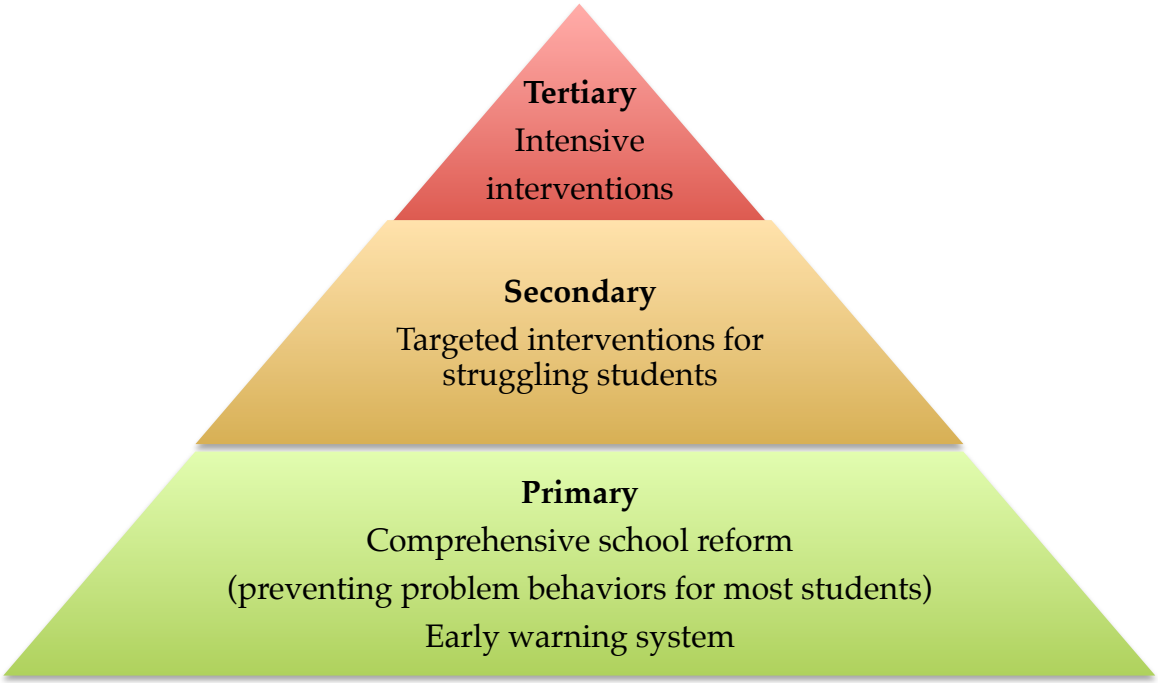
other positive behaviors. These primary prevention strategies alone often succeed with a large majority (two-thirds to three-quarters) of students.

- **The secondary stage** targets interventions on small groups of students who need additional supports beyond the school-wide reforms to address attendance, behavior, or academic struggles.

- **The tertiary stage** provides 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.

This three-tiered prevention model directly addresses the ABCs of attendance, behavior, and course failure. The model can be depicted graphically as a pyramid, as shown in figure 2:

Figure 2. Three-Tiered Dropout Prevention Model for Districts and Schools



Primary Stage: A Solid, School-Wide Instructional Foundation
The foundation of the prevention pyramid is school-wide instructional excellence and coherence, as well as school-wide positive behavior systems that foster student success and prevent dropout outcomes. It is crucial to deliver high-quality instruction in classrooms each day for all students, and to put in place school-level structures to promote positive behaviors—including high attendance—and a positive learning environment. Several school-wide components ensure a strong instructional base, including:

- Equipping teachers to provide **high-quality instruction**
- Developing a culture that promotes a **personalized and orderly learning environment**
- Building **strong connections** to students' families

Some schools can achieve this strong foundation without external help. Schools with specific challenges may choose to adopt a comprehensive school reform model as a means of achieving a solid, school-wide instructional foundation. The school-wide components of dropout prevention are discussed below.

Equipping teachers for high-quality instruction. The quality and skills of the teaching staff are paramount to providing all students with high-quality instruction. Teachers must be provided with collaborative professional development opportunities that focus specifically on the content and pedagogy relevant to the classes they are teaching. Effective professional development strengthens content learning, opportunities for active learning, and coherence with other learning activities—and it is delivered in a sustained format to a collective group of teachers from the same grade, school, or subject (e.g., Elmore, Peterson, & McCarthey, 1996; Garet, Porter, Desimone, Birman, & Yoon, 2001; McLaughlin & Oberman, 1996). Continual technical assistance and follow-up also are crucial.

In addition, teachers need high-quality instructional materials that are relevant to students' lives, including standards-based curricular materials, engaging lesson plans, and assessment materials that will enable teachers to tailor instruction to student needs. The importance of relevant curriculum that keeps students engaged and motivated cannot be overemphasized; in focus groups, dropouts cite "uninteresting classes" as contributing to their dropout decisions (Bridgeland, DiIulio, & Morison, 2006).

Growing evidence indicates the importance of school-wide consistency and coherence in curriculum and instruction, rather than the hodgepodge of materials—both within the same grades and across grades—found in many schools (Newmann, Smith, Allensworth, & Bryk, 2001).

Developing a personalized and orderly learning environment. To be effective, instruction must take place in a "personalized and orderly learning environment" (Herlihy & Quint, 2009, p. 1). School leaders need to be equipped to provide a supportive learning climate for both students and teachers so that achievement can be maximized. The Positive Behavioral Interventions and Supports (PBIS) program—which supports students' social competence, academic achievement, and staff behavior and decision making—provides an increasingly research-based public health model for implementing a school-wide prevention program (Barrett, Bradshaw, & Lewis-Palmer, 2008; Muscott et al., 2004; Reinke, Splett, Robeson, & Offutt, 2009).

Building strong school–family connections. Building a positive school climate necessarily involves building strong connections with students' families. Involving families continues to challenge secondary schools (Mulhall, Mertens, & Flowers, 2001; Juvonen et al., 2004) since parents tend to lessen their involvement in their children's

schooling as they grow older. Some organizations, such as the National Network of Partnership Schools, have made progress in helping schools reach out to parents (Epstein et al., 2002). More middle and high schools must make intentional outreach to families a high priority. To see results in students' academic progress, attention to the school learning environment and outreach to families must happen simultaneously and be integrated in a systematic way (Keltner, 1998; Miron, St. John, & Davidson, 1998).

Comprehensive school reform models. Some schools cannot create a strong school-wide foundation on their own. High-poverty schools, those with high mobility, and schools where a majority of ninth graders enter with one or more at-risk indicators often require considerable technical assistance. "Overstressed" high schools have considerable difficulty adapting to such overwhelming needs (Herlihy & Quint, 2009, p. 1). For these schools, technical assistance often comes from comprehensive school reform (CSR) models as well as district initiatives. Some schools and districts implement reform structures without any formal association with external CSR providers—but high-quality, ongoing professional development and in-classroom coaching for teachers is crucial to successfully implementing district reform.

CSR models address common problems faced by many low-performing schools, including a "lack of coherence among instructional and related activities" and "lack of information, knowledge, and skills needed for effective reform" (Aladjem & Borman, 2006; Borman, Hewes, Overman & Brown, 2003). Middle and high school models share many key principles (e.g., personalization, creating small learning communities, improving instructional practice through extensive professional development), but they often differ considerably in the extent to which they provide specific curriculum and instructional support to teachers.

At the middle grades level, Talent Development Middle Grades and Success for All offer considerable curriculum support that includes a positive, behavior-focused curriculum as well as professional development and coaching for teachers in the core academic subjects. In contract, other models focus primarily on providing holistic professional development in key reform principles (improving school organization and climate, curriculum, instruction, and assessment, professional development, leadership, and parent/community involvement).

At the high school level, models such as Talent Development High Schools provide extensive curriculum support and ongoing professional development, while models such as High Schools that Work focus primarily on articulating key reform principles and providing professional development aimed at increasing the rigor and engaging quality of classroom instruction (see Mac Iver, 2007, for a more detailed discussion).

Herlihy and Quint (2009) summarize specific practices from four high school models (Talent Development, Career Academies, First Things First, and Project GRAD) that work with high-poverty schools to improve student achievement and graduation rates (with varying rates of success thus far):

- To address the goal of "creating a personalized and orderly learning environment," a widely regarded "best practice" in high school reform (Legters, Smerdon, & Early, 2009), these models advocate **small learning communities,**

including theme-based (and career-based) communities, and (for Talent Development) separate ninth-grade academies. Talent Development emphasizes small learning communities with **interdisciplinary teams of teachers** who share responsibility for a group of students. Several models connect students to **a faculty advisor or other adult advocate** in the school. These practices appear to be necessary but not sufficient for improving student achievement. They increase students' sense of attachment to school—but not necessarily their achievement.

- To provide high-quality instruction, many models specifically address improving instructional content and practice. In addition to **high-quality professional development,** some models (particularly Talent Development) also provide **curricula and lesson plans** so that teachers faced with overwhelming numbers of underprepared students do not have to spend additional time finding materials to create their own lessons.

- To assist schools with large number of students entering high school with poor academic skills, some models (particularly Talent Development) offer **elective "catch-up" courses** in reading and mathematics and encourage double-blocked (90-minute) class schedules to give students more time to master core skills. Students participating in catch-up classes earn full credits toward graduation. Talent Development Middle Grades schools also offer catch-up courses.

- To "prepare students for the world beyond high school" (Herlihy & Quint, 2009, p. 6), three of the four models offer **career academies** or small learning communities with career-focused courses. Some have developed curriculum with specific connections to future careers (e.g., Talent Development's "Freshman Seminar" and "Reading and Writing in Your Career"). Some models provide career awareness activities and internships through structured partnerships with employers. Project GRAD, for example, offers the opportunity for summer coursework on college campuses as well as college scholarships.

- To implement the models, overstressed high schools need **skilled leadership, district support,** and, often, **additional technical support from external service providers.**

The important role of the central office in supporting particularly overstressed schools recently has received more focused attention (e.g., Hightower, Knapp, Marsh, & McLaughlin, 2002; Mac Iver & Farley, 2008). Lessons learned from some of the comprehensive school reform models (e.g., Mac Iver & Balfanz, 2000; Herlihy & Kemple, 2003) have begun to be scaled up to the district level in cities like **Philadelphia** (Mac Iver & Mac Iver, 2006); **New York District #2** (Elmore & Burney, 1997; D'Amico, Harwell, Stein, & van den Heuvel, 2000); **San Diego** (Darling-Hammond et al., 2002; Hightower, 2002); and others (e.g., Snipes, Doolittle, & Herlihy, 2002). The increase in Philadelphia's graduation rate (Swanson, 2009) may be due, at least in part, to district adoption of these comprehensive reform practices (Neild, 2009b).

There is growing evidence that comprehensive school reform is associated with higher rates of attendance, course passing, and high school graduation (e.g., Balfanz, Herzog, & Mac Iver, 2007; Kemple, 2004; Kemple & Snipes, 2000; Kemple, Herlihy, & Smith,

2003; Mac Iver et al., in press; Quint, Bloom, Black, Stephens, & Akey, 2005; Snipes, Holton, Doolittle, & Sztejnberg, 2006). Even so, as Herlihy and Quint (2009) point out, there remains a long way to go to increase graduation rates for urban students.

In short, schools in which large numbers of students are falling off-track to graduate probably will need support from the district or external partners (e.g., CSR model developers, state department of education technical assistance teams) to build a strong primary foundation providing excellent instruction in every classroom, every day. A continual process of evaluating the instructional experience of students (not just their test score achievement outcomes) and taking action to make the necessary improvements is a crucial component of establishing a strong primary foundation in this dropout prevention model (Mac Iver & Farley-Ripple, 2009).

Incorporating an early warning system into the school-wide foundation. No matter how good the classroom instruction and school climate, some students who exhibit one or more of the early warning indicators of dropping out—the ABCs of poor attendance, poor behavior, and course failure—will need additional supports. If not addressed, many if not most of these students will slip through the cracks in most schools.

For this reason, it is essential for schools to add a data-based early warning system as a foundational, school-wide practice aimed at identifying which students are displaying the early warning indicators and are at risk of failing to graduate. When these students are identified, interventions at the secondary and tertiary stages of the dropout prevention model can be effectively carried out.

The research reviewed earlier laid the groundwork for the components of early warning systems, which typically include **data on prior attendance, school suspensions, and course failures** (Gewertz, 2009; Pinkus, 2008). Some systems include student test score data, although test scores are less predictive of dropping out. Ideally, the data would be available in electronic files that could be manipulated (allowing administrators and teachers to sort on different fields).

Early warning systems need to be coupled with an effective intervention system at the secondary and tertiary stages of this three-tiered model. When early warning systems indicate that more than 25 to 30 percent of students need secondary or tertiary interventions, further reforms to the primary foundation are still needed (probably at feeder schools as well). Stronger school-wide efforts aimed at preventing early warning indicators from developing are essential, since resources for carrying out interventions for more than 30 percent of students are unlikely to be available.

Secondary and Tertiary Stages: Interventions for At-Risk Students

As in public health models, universal practices aimed at dropout prevention (at the primary stage) are successful for the large majority of students. But secondary and tertiary levels of intervention are essential to address the needs of students who are not successful with whole-school practices alone.

The three-tiered model assumes that schools will first address problems with targeted interventions at the secondary stage, moving to more intensive interventions at the tertiary stage only when those at the secondary stage do not prove effective. The model

also provides a way to coordinate all types of interventions. This integrated approach replaces the patchwork of independent programs that often allow students to fall through the cracks, or even work at cross-purposes with one another in a fragmented, ineffective fashion. While tiered intervention is similar to the Response to Intervention (RTI) and PBIS models, the dropout prevention model emphasizes an integrated approach to academic and behavioral problems that generally is not seen in RTI or PBIS implementations. Researchers and practitioners are only beginning to link these interventions systematically (Sandomierski, Kincaid, & Algozzine, 2009; Sugai, 2007; Sugai & Horner, 2007).

As Duffy (2007) notes, RTI primarily has been used at the elementary level to identify students with learning disabilities. More broadly, however, "the RTI approach means students are more regularly monitored to determine progress, and scientifically based instruction and intervention are more regularly customized to meet individual student needs" (Duffy, 2007, p. 2). The standard approach to RTI involves "a series of steps—assess, identify problems, intervene, and assess" (Duffy, 2007, p. 5). While this process usually is focused on discrete skills, it also has been used to identify students reading below grade level. Once identified, these students then are assigned to a core literacy workshop when they enter ninth grade.

One challenge in implementing and scaling up our proposed three-tiered intervention model will be helping principals and teachers distinguish between the RTI goals of "identification for special education services" and the provision of sequential interventions designed to help students stay on track to graduate from high school. In addition, they will need to move away from a discrete, skills-based approach (the most common use of RTI). Instead, dropout prevention interventions must focus on students' ability to integrate skills and knowledge and produce intellectual products of value—skills that are not captured by the kind of testing currently used in RTI (and in state-mandated testing more generally).

PBIS also uses a three-tiered public health prevention model, with secondary and tertiary stages of intervention for students who do not respond positively to school-wide initiatives (Reinke et al., 2009). The secondary stage provides small-group interventions, while the tertiary stage provides interventions to individual students. Collaboration with families is a crucial component of the PBIS model, particularly at the secondary and tertiary stages.

The "Check and Connect" program, reviewed favorably by the WWC studies of dropout prevention (U.S. Department of Education, 2009; Sinclair, Christenson, Lehr, & Anderson, 2003) is another tiered intervention program. Based on close monitoring of student performance, it provides interventions for the ABCs of attendance, behavior, and course performance. This combination of monitoring and intervention in all three areas begins to address the needs of schools for an integrated approach that we develop more fully in the next section. Our integrated model for dropout prevention adds the strong primary foundation of comprehensive reform practices not included in the Check and Connect program.

The key advantage of distinguishing between secondary and tertiary interventions is that schools avoid costly and intensive interventions by first attempting targeted

interventions with small groups of students sharing similar problems. For academic (course performance) issues, providing extra-help academic labs (elective replacement courses, particularly in math and literacy) for small groups of students (12 to 15) can head off costly one-on-one tertiary interventions.

For example, researchers at the Everyone Graduates Center at Johns Hopkins University developed, implemented, and evaluated several elective laboratory courses for students needing additional assistance in math or reading, such as Computer and Team-Assisted Math Acceleration (CATAMA), Accelerating Literacy for Adolescents (ALFA), and the Savvy Readers Lab. Students can take lab courses while they continue in their regular core classes (Roe, 2006; Mac Iver, Balfanz, & Plank, 1998; Mac Iver et al., in press).

Implementing an Early Warning System with Tiered Interventions

> How can educators organize middle and high schools so they provide the supports students need to keep them in school, behave appropriately, try hard, and succeed in their courses? An early warning system piloted in two middle schools yielded positive results in a matter of months.

In 2006, two high-poverty middle schools in Philadelphia began piloting a teacher-friendly early warning and tiered-response system, known as the Keeping Students on Track to Graduation/Early Warning Indicators Project (Herzog, 2009).

A joint effort of the Talent Development Program at Johns Hopkins University, the Philadelphia Education Fund, and the School District of Philadelphia, the system alerts teachers and administrators as soon as students began to demonstrate behaviors that—if left unattended—will push them off the path to graduation. The system combines prevention and intervention strategies and steadily increases the intensity of supports until students are back on track. The key components of this system are:

1. Providing **regularly updated data on early warning indicators** on each student (from routinely collected student data) to interdisciplinary teacher teams, support staff, and administrators

2. Holding **regular (bi-weekly) meetings of school staff teams** to discuss students with early warning indicators, plan interventions, and follow up on implemented interventions (making changes as indicated)

3. Organizing **a "second team of adults"** (including public service corps members, volunteers, and social services professionals) to assist in providing interventions for students showing early warning indicators

This pilot project led to the September 2008 creation of DIPLOMAS NOW (Everyone Graduates Center, 2009), a collaborative that added two local community partners—

City Year and Communities in Schools—to expand the targeted and intensive interventions available to the schools. DIPLOMAS NOW will expand its work to high schools and to additional cities in the 2009–10 school year.

The pilot project in the two Philadelphia middle schools demonstrates that it is possible to implement an early warning system with tiered interventions in large, high-poverty schools. Further, this system makes an immediate difference in reducing the number of students who continue to struggle with their attendance, behavior, or course performance. The three components of the early warning and tiered-response system—and the results of the pilot project—are discussed below.

Providing data on early warning indicators. Classroom teachers receive a report, generated from data collected by schools, summarizing information for all of their students. The report includes data on each student's:

- **Attendance** (prior year attendance, attendance so far this year)
- **Behavior** (number of negative behavior comments on the report card for the prior quarter)
- **Course failure** (math grades for the prior two quarters, literacy grades for the prior two quarters)
- **Reading level and math and reading proficiency scores** (from the most recently available information)

This information is designed to highlight students who are beginning to exhibit warning signs that could become obstacles to graduation—information that school staff can use to craft effective interventions. Figure 3 shows an example of a data spreadsheet that teacher teams receive. Administrators also keep abreast of the data, offering encouragement and support to teachers in interpreting and using the data.

Reviewing data and planning interventions at regular meetings. Interdisciplinary, grade-level teams have an early warning indicator/tiered-response meeting every two weeks. Team members come ready to discuss students who are showing early warning indicators (EWIs). An EWI facilitator(s) for the school leads the discussion and takes notes on each student discussed using a spreadsheet and a code directory (see examples in figures 4 and 5). The facilitator records any targeted or intensive interventions that the team decides are needed. At subsequent meetings, the team reviews the status of each student (whether the student's situation has improved, stayed the same, or gotten worse) and determines whether the interventions chosen seem to be working, need more time to work, or need to be supplemented or changed.

Organizing and deploying a second team of adults. Fundamental both to the success of an early warning system and to making teachers' and administrators' jobs more manageable is the recruitment of a second team of adults and near-peer young adults (e.g., AmeriCorps members, local college students, retired service organization members) who can help the school provide targeted and intensive supports to students at the needed scale.

For example, one of the Philadelphia middle schools has a City Year corps member for each homeroom to assist teachers in providing targeted supports to students throughout the school day and after school. The school also has a site coordinator from Communities in Schools who works with a school social worker to support students with community services that are integrated with the school program. Based on assessed needs, the site coordinator and school social worker offer school-wide prevention services and highly specialized and intensive interventions via case-managed student supports. They also bring in and monitor any additional organizations and individuals required to provide identified supports, make social service referrals, complete home visits, coordinate small-group and individual counseling sessions, develop peer support groups, and organize whole-school interventions (such as health screenings, career and college fairs, and motivational events) as indicated by the early warning system. Schools with fewer at-risk students would not need as many adults on the second team.

Figure 6 summarizes promising prevention and intervention strategies at each of the three stages for attendance, behavior, and course failure. Establishing three-tiered systems, with a strong primary foundation and effective tiered interventions tied to an early warning system, must begin in the middle grades (if not in the elementary grades as well). As research summarized earlier shows, as many as 50 percent of high school dropouts can be identified by the sixth grade. Timely interventions can significantly reduce a student's dropout risk. Students who begin slipping off the graduation path in seventh, eighth, or ninth grades need similar interventions. In ninth grade, course failure becomes especially powerful in throwing students off-track to graduation. The vast majority of students who are at risk of dropping out can be identified before the end of ninth grade. Still, it is crucial to continue an early warning and tiered-response system throughout the high school years—and to provide interventions for new or continuing problems students face after ninth grade.

Figure 3. Sample Early Warning Indicator Data Sheet for Classroom Teachers

Student Name	2007-2008: Days Absent	2008-2009: Days Absent	Negative Behavior Comments	Math Grade 3/1/2008	Math Grade 6/1/2008	Literacy Grade 3/1/2008	Literacy Grade 6/1/2008	Reading Level 6/1/08	PSSA 2008 Math	PSSA 2008 Reading
Student A	53	0	10	D	D	F	F	5	Proficient	Basic
Student B	36	2	7	B	D	D	D	6	Basic	Basic
Student C	14	0	1	C	B	C	C	6.5	Basic	Proficient
Student D	5	1	6	C	B	D	C	7	Basic	Basic
Student E	18	0	7	C	C	D	F	5.5	Below Basic	Below Basic
Student F	29	2	1	D	C	D	D	6	Below Basic	Below Basic
Student G	6	0	8	D	D	F	D	5.5	Below Basic	Below Basic
Student H	46	2	3	B	B	D	F	5.5	Basic	Below Basic
Student I	41	0	4	D	C	D	D	3.5	Below Basic	Below Basic
Student J	17	0	1	B	B	C	D	2	Below Basic	Below Basic
Student K	61	4	7	C	F	D	C	7	Below Basic	Basic
Student L	24	0	10	F	F	C	D	6.5	Below Basic	Basic
Student M	18	0	2	B	D	D	C	3.5	Below Basic	Below Basic
Student N	3	0	6	B	B	B	C	7	Basic	Basic
Student O	2	1	5	C	D	D	D	5.5	Basic	Basic
Student P	15	1	4	D	D	F	D	5.5	Basic	Below Basic
Student Q	15	1	10	C	D	D	D	6.5	Below Basic	Below Basic
Student R	6	0	1	D	D	D	D	3	Below Basic	Below Basic
Student S	16	1	4	D	D	D	D	5	Below Basic	Below Basic
Student T	15	0	7	C	F	D	D	6	Below Basic	Basic
Student U	18	0	6	C	D	D	D	6.5	Below Basic	Below Basic
Student V	23	0	7	C	F	C	F	6	Below Basic	Below Basic
Student X	16	0	6	C	F	D	D	6.5	Basic	Basic
Student Y	18	1	3	B	C	D	D	6.5	Basic	Basic
Student Z	4	0	7	C	C	D	D	6.5	Proficient	Below Basic
Student AA	42	2	1	D	C	D	D	5.5	Below Basic	Below Basic
Student AB	13	0	2	D	D	D	C	4	Below Basic	Below Basic
Student AC	8	0	2	D	D	D	D	2	Below Basic	Below Basic
Student AD	22	1	8	C	F	D	D	6	Below Basic	Below Basic
Student AE	50	1	0	D	D	C	C	4.5	Below Basic	Below Basic
Student AF	18	0	6	C	C	F	D	5	Below Basic	Below Basic
Student AG	1	0	3	NG	D	NG	D	6	Below Basic	Basic

Figure 4. Sample Intervention Recording Sheet for Grade-Level Teams

Date	October 7, 2008
Grade Level	6th

Grade Group Team Members	K S	M. D	K C	E. Y	E T
	B. W	M. P		T B	
Meeting Facilitator	A. M , L. H				

Student	Presenting EWI from 6/08		EWI Today		Level of Concern	Student Strengths	(Tier)-Responder = Intervention	Status	CSAP Tier	Notes	(Tier)-Responder = New Intervention
	Code	Notes	Code	Notes							
Student A	B	3 neg comm in M	BML	F on 2 math quizzes	2	PA	(T)-MT=SGI				
		BRL -3.5				C					
		D in Math				T					
Student B	A	78% attendance	AB	Absent 5 days	3	C	(t)hrt & cy=ch				
							(t)hrt & cy=gbn				
							(t)hrt & cy=p/s/t c				
							(t)cy=ri				
Student C	Ac	F in M & L	DPA	Literacy	3	AS+	(t)cy=hs				
	B	6 neg comm 3&3	N/IH			AC+					
			NP			KBL					
			NGC								
Student D	A	79% attendance	LS	Behavior	3	FR	(t)hrt & cy=ch				
		BRL -3.5	CO				(t)hrt & cy =p/s/t c				
		D in M & L	AC				(t)cy =dc				
							(t) cy =ri				
Student E	B	12 neg comm 8&4	LS			WG					
	Ac	F in M	DA								
		BRL - 3.5	AC								
			CO								
			LS								
New Student											

Figure 5. Sample Intervention Code Sheet for Grade-Level Teams

CODE DIRECTORY

Presenting EWI		EWI Today		Level of Concern		Responder		Intervention-Service		Student Strengths	
A	Attendance	**ATTENDANCE - A**		1	Mild	ADMIN	Administrator	IN	Investigate deeply	AC+	Attends class on time
B	Behavior	AB	Absent two or more days betw grade group meetings	2	Moderate	C	Counselor	O	Other	AS+	95% attend.
Ac	Academics	LATE	Late two or more days betw grade group meetings	3	Severe	C & E	Consulationa & Evaluation	**ATTENDANCE/LATENESS**		C	Cooperative
		BEHAVIOR - B		**Intervention- Tier**		CA	Counseling Asst.	CH	Call home	DH	Does homework
		AC	Annoys classmate(s)			CD	CADE	DC	Daily check-in	FR	Friendly
		CO	Calls out	W	Wholeschool/ Classroom	CIS	Communities in Schools	GBN	Greet by name	KBL	Knows Basic Lit.
		DA	Disrespectful to adult	T	Targeted	CRL	Com Rel. Liaison	P/S/T C	Contract	KBM	Knows Basic Math
		DP	Defaces property	I	Intensive	CY	City Year	R/CM	Referral/case managemt	O	Other
		F	Involved in fight	**Status**		ELLT	ELL Teacher	RI	Rewards/Incentives	O+	On time to class
		LS	Leaves seat/classroom	1	Improved	ESRT	Empow Sch Resp Team	**BEHAVIOR**		PA	Poss. Attitude
		MAC	Makes inappropriate comments	2	Same	HRT	Homeroom Teacher	Start w/ Above Interventions		SA	Strong Art skills
		RH/S	Roams hallways/stairwells	3	Worse	JHU	JHU Content Advisors	CCUE	Clear consequences uniformly enforced	SC	Strong Computer
		U	Not in uniform			LS	Literacy Specialist	D S	De-escalate by adult	SLS	Strong Lit skills
		ACADEMICS -LITERACY/MATH - Ac				LT	Literacy Teacher	I/R	Incentive/Rewards	SM	Strong Music skills
		BML	Doesn't have basic math facts			MS	Math Specialist	IM	I-Messages	SMS	Strong Math skills
		BRL	Below reading level			MT	Math Teacher	PCW	Pre-class Work	SPE	Strong in Phys Ed
		DPA	Does not pay attention			N	Nurse	PF	Positive feedback	SS	Strong Science
		LBL	Low benchmark In literacy			OCT	Other Content Teacher	PR	Predictable routines	SSS	Strong SS skills
		LBM	Low benchmark In math			Par	Parent/Caregiver Support	**ACADEMICS -L/M**		T	Tries hard
		LODT	Low on other diagnostic assess.			PLCA	PLC Academic Dean	AEH	Aligned Extra Help	WG	Well groomed
		N/IH	No/incomplete homework			PLCD	PLC Discipline Dean	ASA	After-school Activity	WH	Good work habits
		NGC	Does not grasp concept[s]			PM	Peer Mediation	DI	Differentiate Instruction		
		NP	Not prepared for classwork			PO	Parent Ombudsman	GR	Guided Reading		
		RDA	Refuses to do assignments			RDGS	Reading Specialist	HS	Homework Support		
						SA	Student Advisor	MM	Math manipulatives		
						SET	Special Ed Teacher	SGI	Small group instruction in math		

Figure 6. Comprehensive Plan for Keeping Students on the Graduation Path

	Focus of Intervention (ABCs)		
Type of Intervention	**Attendance**	**Behavior**	**Course Failures**
School-wide (all students)	Every absence brings a response Create a culture that says attending every day matters Positive social incentives for good attendance Data tracking by teacher teams	Teach, model, and expect good behavior Positive social incentives and recognition for good behavior Advisory Data tracking by teacher teams	Research-based instructional programs In-classroom support to enable active and engaging pedagogies Data tracking by teacher teams
Targeted (15 to 20 percent of students)	Two or more unexcused absences in a month brings brief daily check by an adult Attendance team (teacher, counselor, administrator, parent) investigates and problem solves (why isn't student attending?)	Two or more office referrals brings involvement of behavior team Simple behavior checklist students bring from class to class, checked each day by an adult Mentor assigned	Elective extra-help courses—tightly linked to core curriculum—preview upcoming lessons and fill in knowledge gaps Targeted, reduced class size for students whose failure is rooted in social–emotional issues
Intensive (5 to 10 percent of students)	Sustained one-on-one attention and problem solving Appropriate social service or community supports	In-depth behavioral assessment (why is student misbehaving?) Behavior contracts with family involvement Appropriate social service or community supports	One-on-one tutoring

Pilot project results. In September 2008, Feltonville School of Arts and Sciences in Philadelphia became the first middle school to begin implementing a full-featured early warning and tiered intervention system as part of the DIPLOMAS NOW collaborative. This middle school has three marking periods, with each trimester lasting about 12 weeks.

In October and November, the biweekly grade-level team meetings focused mainly on arranging targeted interventions or, in a few cases, intensive interventions for students who had one or more early warning indicators at the end of the previous school year.

As the year progressed, the teams also addressed the needs of students who had a rocky landing into their new grade and began manifesting early warning indicators for the first time.

Figure 7 shows how many students displayed each warning indicator either at the end of 2007–08 or during the first trimester of 2008–09, and how many of these students were still off-path by the end of the second trimester in March 2009. By March, the teams had reduced the number of students who were off-path in mathematics by 62 percent and in literacy by 74 percent. The attendance interventions helped 39 percent of chronically absent students to develop satisfactory or excellent attendance. The behavior interventions helped 38 percent of students with behavior problems attain satisfactory or excellent behavior.

Figure 7. Middle School Students Exhibiting Warning Signals

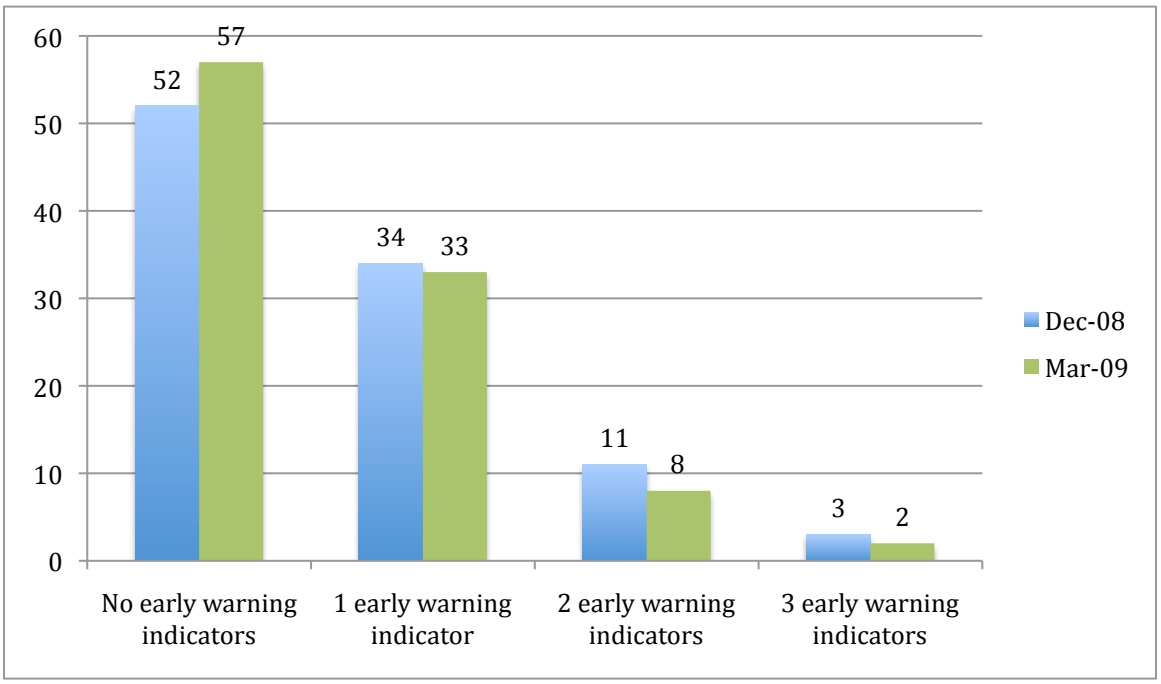
Early Warning Indicator*	Number of students off-path	Number of these students still off-path in March 2009	Percent reduction in the number of students off-path
Failed math	65	25	**62 percent**
Failed literacy	86	22	**74 percent**
Less than 80 percent attendance rate	38	23	**39 percent**
Three or more negative behavior comments on report card	409	225	**38 percent**

* Early warning indicators for June or December 2008

Figure 8 shows the effects of the tiered interventions on decreasing the number of students manifesting early warning indicators between December 2008 and March 2009. By March 2009, the school had increased the percentage of students on path (with no early warning indicators) from 52 percent to 57 percent of the student body and had reduced the percentage of students with multiple warning signs from 14 percent to 10 percent. End-of-year results were not available at the time of this report.

It is apparent from Figure 7 that far too many students were manifesting poor behavior for the school to handle them effectively with tiered interventions. Poor behavior could be linked to non-engaging instruction and to the absence of an effective, whole-school positive behavior program that teaches and consistently reinforces school-wide behavior expectations. The school must more effectively prevent misbehavior in the first place, because it is difficult and time-consuming to arrange effective targeted interventions combating misbehavior for so many students. While coaches have been actively seeking to help teachers implement engaging instruction in 2008–09, the school faculty has explicitly voiced the need for a school-wide behavioral program. School leaders are taking steps to assure that such a program is implemented for the fall of 2009. Further reports on the impact of this program will be available over the coming months and years.

Figure 8. Percentages of Students with Early Warning Indicators, December 2008 and March 2009



Summary and Conclusions

Dropping out of high school is no longer an option for young people in the 21st century economy, as President Obama has recently reiterated. And dropping out is an outcome that can be prevented if school leaders address the early warning indicators with effective interventions. The ABCs of attendance, behavior, and course failure knock students off-track to graduation, and schools can do something to intervene early if they are organized and supported to do this.

We have outlined a systematic and integrated public health prevention model for schools to reduce their dropout rates and improve their graduation rates. There is evidence that implementing this type of model and intervention strategy can yield results even in the first few months. It is essential that prevention and tiered interventions begin by sixth grade at the latest, because patterns of chronic absenteeism and failure can become so entrenched and widespread by ninth grade that effective intervention becomes more difficult. This is a doable task, even in times of scarce resources. The dividends—in terms of more high school graduates who are making a contribution to society— are well worth the effort and investment required.

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