



Early Warning Implementation Guide:

***Using the Massachusetts Early Warning Indicator System (EWIS)
and Local Data to Identify, Diagnose, Support, and Monitor
Students in Grades 1-12***

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**Created by the American Institutes for Research and the Massachusetts
Department of Elementary and Secondary Education**

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 Education Data Services
 Edwin Analytics
 Learning Support Services
 Tiered Systems of Support Planning, Research, and Delivery
 School Improvement Grant Programs
 District and School Assistance Centers
 Student Assessment Services

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About This Guide

Introduction

Using data to make decisions about students is challenging. For many years, educators have been asked to use their professional judgment, without readily available data, to determine student needs. The amount of data available to inform these decisions has increased exponentially; still, the sheer amount and access to these data continue to make using data to identify student needs a challenge. The Massachusetts Department of Elementary and Secondary Education (ESE) is focused on supporting educators in the use of data; to this end, ESE developed an Early Warning Indicator System (EWIS) that rolls many student data variables into a single indicator that provides educators with information about which students are at low, moderate, or high risk of missing key academic milestones as they enter school each fall.

Annually, the Massachusetts EWIS provides information about students' risk levels for every student in grades 1–12 who attended a public school in Massachusetts in the year prior. EWIS is based on several years of research that examined student data and identified the combination of data points that most accurately predict the likelihood that a student will reach or fall short of achieving a key educational milestone. The risk levels of students are provided to Massachusetts' districts and schools in the late summer each year. EWIS data provides educators with critical information about whether students are on track for the next important academic milestone. Identifying students early on in the school year allows educators to take action to make schoolwide changes to minimize risk, provide appropriate interventions and supports to identified students when they first enter school in the fall, and monitor student progress throughout the school year to ensure that students stay on track.

Purpose of the Guide

The purpose of this guide is to provide information on how to use early warning data, including the Massachusetts Early Warning Indicator System (EWIS), to identify, diagnose, support and monitor students in grades 1-12. It offers educators an overview of EWIS and how to effectively use these data in conjunction with local data by following a six-step implementation cycle.

Because no two districts, schools, or students are alike, we purposely developed this guide as a flexible tool to help educators customize their use of EWIS to fit their individual needs, interests, and resources. We hope that this guide will help you with the important work you do every day in your classrooms, schools, and districts.

This guide is divided into the following four main sections:

- **Section 1. What are Early Warning Data?** This section defines early warning data and provides background information on the Massachusetts EWIS, including how it was developed, how it works, and instructions for accessing EWIS data. Districts/schools new to EWIS will find this section particularly helpful for understanding EWIS, and getting ready to use early warning data for school improvement and student support purposes.
- **Section 2. The Six-Step Early Warning Implementation Process.** This section introduces schools and districts to a six-step early warning implementation process and is organized into subsections for each step in the cycle. Each subsection briefly describes the step, anticipated outcomes, and the tasks and processes schools and districts can use to implement the step. *“Notes from the Field”* anecdotes derived from Massachusetts districts and schools that have piloted an early warning implementation process, are included to offer readers promising approaches, lessons learned and concrete examples for implementation from varying district and school contexts. *“Build off Your Foundation”* includes prompts that encourage schools and districts to build upon the systems and practices that are already in place when using early warning data. Each step includes a set of guiding questions to help you move through the implementation process and outlines some of the ways in which districts can support early warning data use. Finally, each step concludes with some tools that may be helpful for implementation of the step.
- **Section 3. Additional Resources.** This section provides information and links to additional Massachusetts and other resources that may be beneficial.
- **Section 4. Appendixes.** This section provides additional information to support implementation and understanding of early warning data.

Section 1. What are Early Warning Data?

Across the United States, districts and schools are using early warning data to predict the likelihood that a student will meet or miss key academic milestones, such as graduating from high school. Research has found that readily available student data sources such as attendance, behavioral records, and course failures, can be used as *early warning indicators* to identify students who are at academic risk. For example, data on student attendance, when combined with a research-based threshold such as missing 10% of school days, can be used to “flag” students who are at risk of not graduating from high school. Early warning data also includes locally determined indicators and *diagnostic data*, such as local benchmark assessments and demographic information, that schools and districts use to identify and diagnose the needs of students, provide interventions and supports, and track student progress throughout the year. Districts and schools also use early warning data to inform schoolwide strategies to address student needs, and to examine long-term, school-level patterns to address systemic issues that may impede a school’s or a student’s ability to meet academic milestones. Although a key aspect of using early warning data is the identification of students, it is essential that such identification does not result in another label for students but rather in actionable information that leads to support for students in need. (For more information on early warning data, see <http://www.earlywarningsystems.org/services/resources-tools#proj2-tab>). In Massachusetts these data are integral to the implementation of the Massachusetts Tiered System of Support (MTSS): <http://www.doe.mass.edu/mtss/>

Implementation Tip:

Learn More About EWIS

Is your district or school new (or relatively new) to the use of early warning data? This section of the Guide will be especially helpful in preparing you and your team to understand EWIS and be ready to use early warning data in your school or district.

About the Massachusetts EWIS

The Massachusetts EWIS is an early warning system that identifies students who are at risk of missing key academic milestones in grades 1–12. EWIS student risk levels are computed annually at the end of each summer as students begin the school year. The Massachusetts EWIS was developed in direct response to educators’ requests for information that enables them to identify students who may be at risk at earlier grade levels and throughout high school. Working with American Institutes for Research (AIR), ESE intentionally designed EWIS to rely solely on data available through existing statewide collections of multiple data sources. Using a rigorous statistical method, researchers created a valid EWIS model for each grade level, from elementary school through high school.² The EWIS development process was several years in the making. The EWIS risk models reflect national research and promising practices. Extensive testing of possible data sources, and statistical modeling using longitudinal Massachusetts data, were used to create three student risk levels that comprise the current EWIS. (For more information on the development of the EWIS model and risk levels, see Appendix A or <http://www.doe.mass.edu/edwin/analytics/ewis.html> for the technical documentation.)

EWIS Academic Milestones

Massachusetts EWIS student risk levels are predictive of relevant academic milestones. A student’s EWIS risk level predicts the likelihood that the student will or will not meet a particular academic milestone.

In EWIS, student risk is organized by four grade level groupings. These age groups are as follows: early elementary, late elementary, middle grades, and high school. For each age group, a student’s EWIS risk level predicts the likelihood that the student will or will not meet an academic milestone identified for that particular age group. The academic milestones that have been identified for each age group are developmentally appropriate, based on available state data, important to the success of Massachusetts’ students, and meaningful and actionable for adult educators who work with the students in each grade grouping (Exhibit 1). For example, the early elementary age group encompasses grades 1–3 and assesses risk based on the academic milestone of achieving a score of *Proficient* or *Advanced* on the grade 3 English Language Arts (ELA) state assessment test. Scoring *Proficient* or *Advanced* on the grade 3 ELA State Assessment is a proxy for reading by the end of grade 3 and is a developmentally appropriate benchmark for children in the early grades.

Exhibit 1. Massachusetts Age Groups, Grade Levels, and Academic milestones or Milestones

Age Groups	Grade Levels	Academic milestone (Expected Student Outcome for Each Age Group)
Early elementary	1–3	Reading by the end of grade 3: <i>Proficient</i> or higher on the grade 3 ELA State Assessment
Late elementary	4–6	Middle school ready: <i>Proficient</i> or higher on the grade 6 ELA and mathematics State Assessment
Middle grades	7–9	High school ready: Passing grades in all grade 9 courses
High school	10–12	High school graduation: Completing all local and state graduation requirements in four years.

The academic milestones for early elementary, late elementary, and the middle grades also are positively associated with high school graduation (the high school academic milestone). For example, research points to the importance of reading by the end of grade 3 as an important milestone for students to be on track for ultimately graduating from high school.³ Students who do not score proficient on the third grade state assessment are 3.7 times less likely to graduate from high school.

EWIS Student Risk Levels

There are three risk levels in EWIS: low, moderate, and high. These risk levels relate to a student’s predicted likelihood for reaching his or her age group’s defined academic milestone. A risk level quickly provides information to educators about the likelihood that an individual student will or will not achieve an academic milestone. In other words, the risk level indicates whether a student is currently on track to reach the

upcoming academic milestone. For example, a student who is identified as low risk is predicted as likely to meet the academic milestone.

The EWIS risk levels are determined by using data from the previous school year. A risk level is assigned to every Massachusetts public school student for whom there are state-level data from the prior year. The risk levels are determined on an individual student basis and are not based on a student's relative likelihood of reaching an academic milestone when compared with other students. As a result, there are no set amounts of students at each risk level. For example, it is possible to have all students in the low-risk category. Exhibit 2 overviews the EWIS risk levels.

Exhibit 2. EWIS Student Risk Levels

Low Risk	Likely to reach the upcoming academic milestone. <i>Approximately <u>90 percent of students</u> who are at low risk will meet this academic milestone within each age group.</i>
Moderate Risk	Moderately at risk for not reaching the upcoming academic milestone. <i>Approximately <u>60 percent of students</u> at moderate risk meet this academic milestone within each age group.</i>
High Risk	At risk for not reaching the upcoming academic milestone. <i>Approximately <u>25 percent of students</u> at high risk meet this academic milestone within each age group.</i>

For more information about EWIS, including the data included to determine risk and the background of the development of the EWIS, see Appendix A.

Accessing EWIS Data

EWIS data for Massachusetts students are available to districts and schools through Edwin Analytics¹. ESE developed a range of EWIS reports to facilitate educators' use of this information. EWIS data also can be exported to Excel and combined with other student data sources. EWIS data are made available in late summer of each school year and provide information on each student who attended a Massachusetts public school in the prior year. Districts and schools can access EWIS data through Edwin Analytics, which is found by using the ESE website security portal, available through the drop-down menu on the upper right side of the ESE website: <http://www.doe.mass.edu/>. The data also can be directly accessed at

Implementation Tip:

Accessing EWIS Data

- Access EWIS reports in Edwin Analytics:
<https://gateway.edu.state.ma.us/>
- Contact your district's directory administrator to request access:
<http://www.doe.mass.edu/infoservices/data/diradmin/list.aspx>

¹ Edwin is a comprehensive system that includes Edwin Analytics, available to all MA districts.

<https://gateway.edu.state.ma.us/>. Each district's directory administrator provide staff access to Edwin Analytics. The list of directory administrators can be found at <http://www.doe.mass.edu/infoservices/data/diradmin/list.aspx>. For more information about using Edwin and the EWIS data and reports, see Appendix B or <http://www.doe.mass.edu/edwin/analytics/>.

About Monitoring Indicators

EWIS student risk levels offer districts and schools information on students based on the prior year's data. Monitoring indicators, which use readily available local data, can complement the use of EWIS data. After receiving the EWIS risk levels for students at the beginning of the year, monitoring indicators are a means by which educators can track student progress and flag students as *in need* during the course of a school year. For example, a grade 2 student who is identified by EWIS as being at high risk of not scoring *Proficient* or higher on the grade 3 ELA State Assessment may be provided with reading support at the beginning of the school year. The team may then use attendance, disciplinary data, and reading benchmark data as monitoring indicators several times during the year to make sure this student stays on track. In addition to using monitoring indicators to observe the progress of individual students, districts and schools may use monitoring indicators to identify trends in student needs and make recommendations for schoolwide improvements such as changes in schedules, curriculum, or instructional approaches. Tool 3 in Step 1 overviews potential monitoring indicators and indicates whether they are research based or commonly used but need to be locally validated. Teams will select monitoring indicators as part of their work in Step 1: Get Organized.

Early Warning Implementation Key Terms

Having a common language for talking about, understanding, and using early warning data to support student needs may help your team use early warning data more effectively. Throughout the guide there are several key terms that are used, which are described in Box 1.

Box 1. Early Warning Implementation Key Terms

Early warning data: Early warning data is a general term that refers to data used to predict, diagnose, and monitor student risk for not meeting academic milestones. Early warning data refers to EWIS student risk levels and other data found in the EWIS reports, as well as local data sources which include monitoring indicators and diagnostic data.

Early warning implementation: The multi-step process that districts and school can follow to effectively use early warning data to identify at-risk students, explore underlying causes for risk, provide interventions and supports, monitor student progress, and make schoolwide improvements to lower risk for all students. This multi-step process is a key foundation for the Massachusetts Tiered System of Support (MTSS).

Massachusetts Early Warning Indicator System (EWIS): The early warning system created by the Massachusetts Department of Elementary and Secondary Education that identifies students who are at risk of missing key academic milestones in grades 1–12. The four key academic milestones are reading by the end of third grade, middle school ready, passing all grade 9 courses, and high school graduation. The EWIS provides student risk levels at the beginning of each school year. Student-level and aggregate EWIS information is available through five reports in Edwin Analytics.

EWIS Student Risk Level: Each student who attended a Massachusetts public school in the year prior is assigned a level of risk of low, moderate, or high. A student's risk level indicates how likely it is that the student will miss the key academic milestone for their grade level, such as passing all their 9th grade courses or graduating from high school. EWIS student risk levels are based on statistical formulas that are applied to multiple sources of readily available data from the prior year. Students who are assigned a student risk level of high are predicted to be most off-track for reaching the next key academic milestone. Conversely, students who are assigned a risk level of low, are predicted to be on-track for reaching the next key academic milestone.

Local Data: Schools and districts can complement their use of EWIS with local data sources. There are two types of local data sources: monitoring indicators and diagnostic data.

- **Monitoring indicators.** Monitoring indicators rely on data that are available during the school year. Data sources such as attendance, academic performance, and behavior have been identified in research as strong predictors of student risk for missing key academic milestones. Monitoring indicators complement the use of EWIS student risk levels. After receiving EWIS student risk levels at the start of the school year, Massachusetts' districts can use monitoring indicators to flag students who are at risk and track student progress at multiple times throughout a single school year. Monitoring indicators can either be research-based or locally determined.
- **Diagnostic Data.** Additional data sources, such as demographic data, benchmark data, and state-level student data available through Edwin, is used by schools and districts in combination with EWIS student risk levels and monitoring indicators. These supplemental data sources can help schools and districts better understand underlying causes of student risk, and track student progress in interventions.

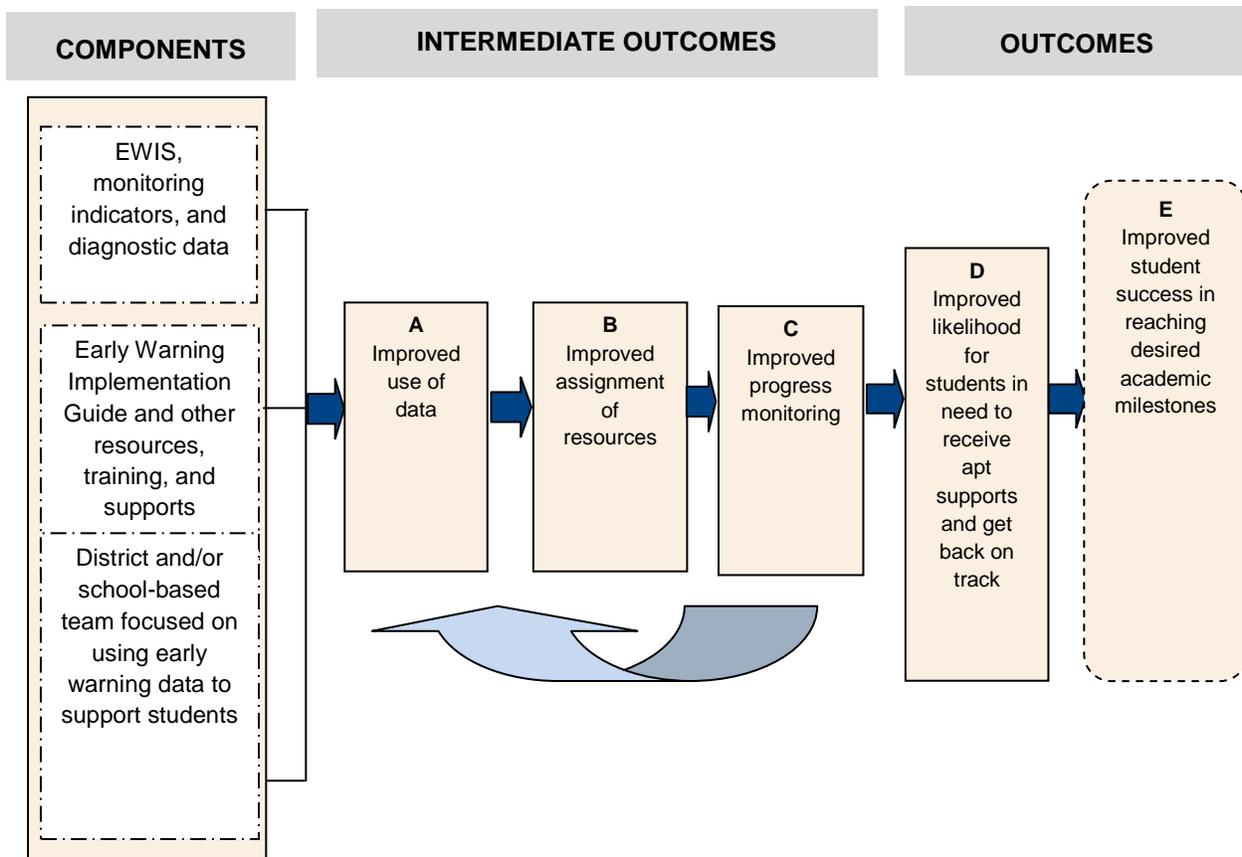
Section 2: The Six-Step Early Warning Implementation Process

To maximize the value of early warning data, educators can use early warning data within the context of a multistep, data-driven implementation process. This allows educators to use early warning data to match interventions and supports to student needs, monitor student progress to ensure that students stay on track and are responding to interventions, and strengthen schools along the way.

The Early Warning Implementation Theory of Action

Exhibit 3 illustrates the early warning implementation theory of action and how it is intended to support student success. The implementation process is supported by three components (as shown in the left column of Exhibit 3): (1) EWIS, monitoring indicators, and diagnostic data; (2) the Early Warning Implementation Guide and other training, resources and supports; and (3) the district and/or school team dedicated to the use of these data. Exhibit 3 illustrates how these components contribute to improved student outcomes.

Exhibit 3. Theory of Action for Early Warning Implementation



It is expected that the combined use of these components will (1) improve educators' use of data to identify students who are at risk for not meeting academic milestones, (2) improve educators' ability to

efficiently and effectively match interventions and supports to meet student needs and make broader schoolwide improvements to reduce risk for all students, and (3) improve educators' ability to monitor student progress over time. The arrow at the bottom of the illustration represents an expected cycle, where progress through the pathway from A to C yields continued improvements in these intermediate outcomes. The intermediate outcomes, in turn, are expected to promote critical student outcomes, particularly students' likelihood of getting back on track by meeting EWIS benchmarks (D) and, ultimately improved student success in meeting academic milestones (E).

Getting Ready for Early Warning Implementation: Team Exercise

Before learning more about the six-step early warning implementation process, staff may want to become more familiar with early warning data, and consider how its use will best fit with what they are already doing in their district or school. The following two activities may help you get ready to use early warning data effectively as you work to support students and drive improvements.

Box 2. Getting Ready for Early Warning Implementation: Team Exercise

Explore EWIS: Take a spin through your current EWIS data and reports in Edwin Analytics. Start by running the EWIS District View Report (EW301). What did you notice about the extent of risk for your district or school? Which school or grade had the highest proportion of students at risk? The lowest? Did you see anything in your EWIS data that was surprising? What new questions did you have after reviewing your EWIS data? What other uses can you foresee for your EWIS data? Who might want to use it—why and when?

Where does early warning implementation fit? Consider the various ways that your district or school is already using student data? How is data used to determine Tier 2 and Tier 3 supports and interventions and/or to evaluate their effectiveness? Which individual staff members, committees, or teams use data to identify and support students? Which committees or teams use (or could use) data to inform decisions about school improvement efforts? Considering your existing data uses, committees, teams, and improvement initiatives—where and how might early warning implementation fit? Would early warning data add value or focus to these existing efforts? Are you better off convening a new and separate group to specifically focus on using early warning data? What are your next steps for determining who, when, and how you will use early warning data in your school or district?

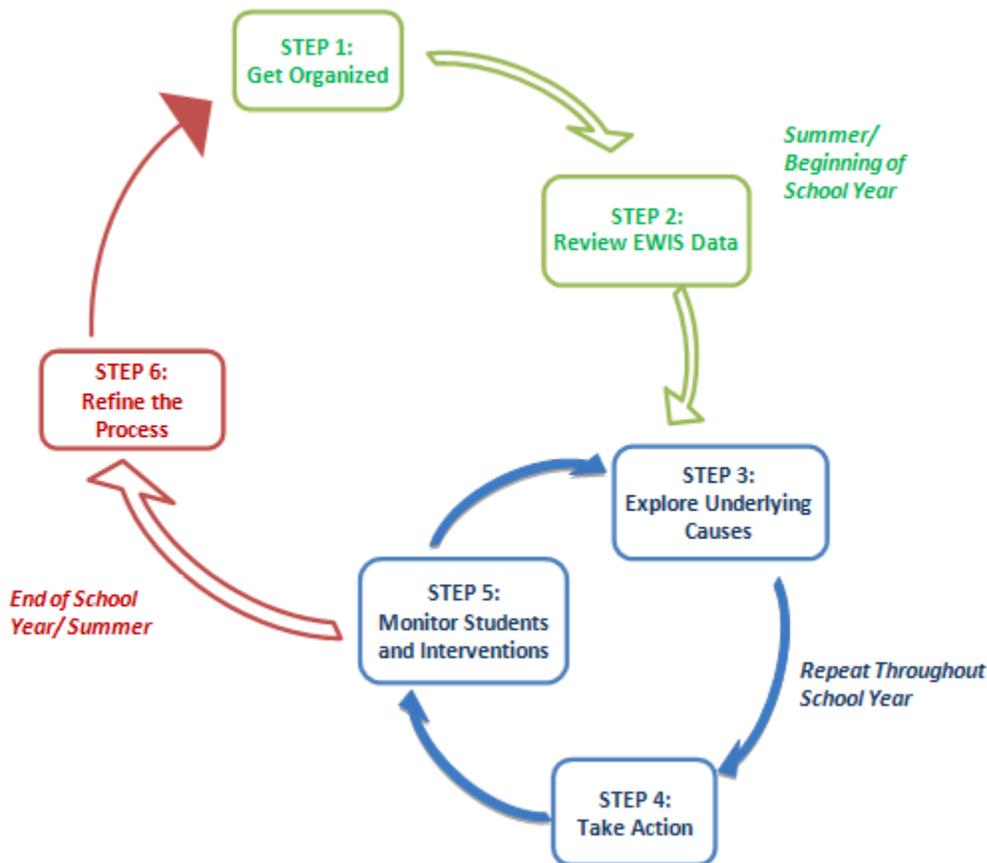
Overview of the Six-Step Early Warning Implementation Cycle

This guide outlines a six-step EWIS implementation process adapted from AIR's National High School Center publications on early warning system implementation.⁴ The process draws on research on data use in districts and schools⁵ in the context of implementing an early warning system, such as EWIS, and

is similar to a cycle of inquiry, such as the one outlined in the Massachusetts *District Data Team Toolkit* (<http://www.doe.mass.edu/apa/ucd/ddtt/Knowledge.pdf>).

In this guide, the six steps are presented in a sequence, but they are intended to be cyclical. Exhibit 4 illustrates the cycle. At the core of this data-driven, decision-making process, the steps focus users on using EWIS data in combination with local data, including monitoring indicators (e.g., attendance, behavior, course performance) to identify which students are showing signs of risk of missing key academic milestones and diagnostic data which helps teams know how to take action. Teams use data to identify, diagnose, assign, provide, and monitor interventions and supports for individuals and groups of students as well as make schoolwide improvements to lower the risk for all students. The six steps guide users through a straightforward process that supports informed decisions based on these data and other information.

Exhibit 4. Six-Step Early Warning Implementation Process



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The remainder of Section 2 of this guide outlines the tasks and the processes for implementing each step in the cycle. The guide is intended to be a flexible tool to help educators customize their use of early warning data to fit their school's individual needs, interests, and resources. No two schools are alike, so early warning implementation may vary across districts and even among schools within a district. For example, some schools or districts may find that they have a high percentage of students who are identified as being at risk. For these schools and districts, their focus may be primarily on schoolwide changes in addition to interventions and supports for individual students and groups of students identified as being in need. Another district may find that they have very few students who are identified as being at risk. This district may focus its efforts primarily on providing support and interventions to meet the needs of individual students.

Implementation Timeframe

The early warning implementation process is carried out during the course of a school year and is aligned with the academic calendar. Specific steps are undertaken at defined periods of the year, many in a recurring or a continuous manner. As the timeline shown in Exhibit 5 illustrates, teams begin to organize their work prior to the start of the school year (Step 1). Typically, teams will implement Steps 2, 3, and 4 during the first six weeks of the school year. After student interventions and supports have been assigned (Step 4), teams periodically review monitoring indicators to ensure that support strategies and interventions are responsive to student needs and use monitoring indicators to ensure that all students remain on-track (Step 5). As shown, it is recommended that teams monitor students at the end of each grading period. In the spring, teams use monitoring indicators data to inform the planning of summer supports for students. Finally, at the conclusion of the school year, teams refine their approach to using early warning data (Step 6).

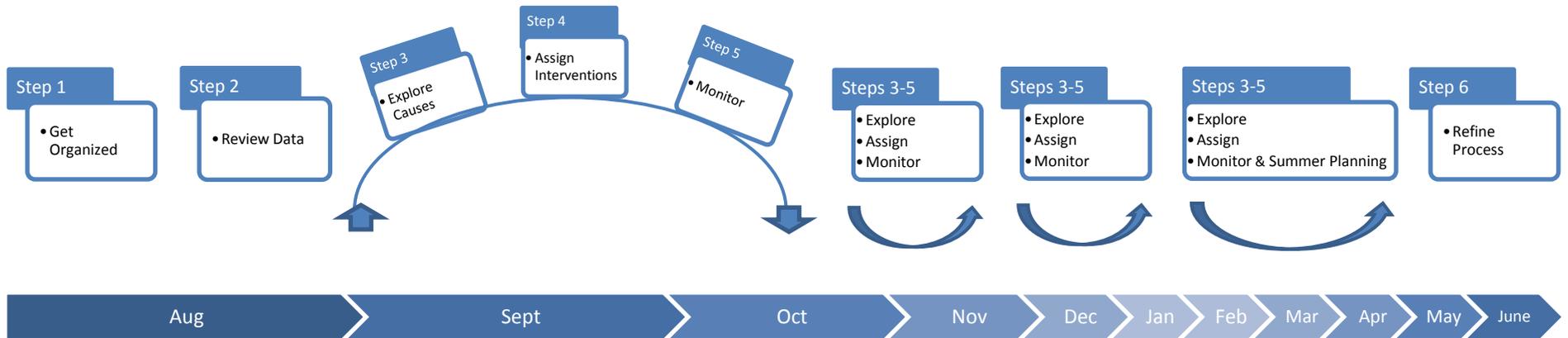
Implementing the Six-Step Process

The following subsections offer detailed, step-by-step information to guide implementation efforts through the six-step implementation cycle. Each step includes the following:

- What you need to implement the step
- Description of the step
- Anticipated outcomes
- *Notes from the Field*, anecdotes and concrete examples for early warning implementation in Massachusetts
- *Build on your Foundation*, ideas for how your team might build upon current systems and practices
- School and district roles
- Guiding questions
- Tools, such as step implementation checklists, worksheets, and action planning tools



Exhibit 5. Early Warning Implementation Timeline



Step 1: Get Organized

What You Need for Step 1

- Interest and commitment from appropriate administrators and staff from the school and/or the district who are able to meet regularly as a team to use early warning data to identify and support students in need
- Sufficient time to meet regularly throughout the school year (at a minimum, a monthly meeting lasting one to two hours)
- Access to EWIS data and reports within Edwin Analytics

Description of Step 1

There are three critical parts to getting organized.

1. Convening a team or group (existing or new) that will be responsible for reviewing early warning data and making decisions about supporting students in need.
2. Devising the plan for the year, including your teams' goals, meeting times and frequency, data import schedule, and how you will communicate and coordinate with others.
3. Getting ready to use early warning data including accessing EWIS student risk levels in Edwin Analytics and identifying which data your team will use to monitor students over the course of the school year.

A. Convening the Team(s)

A diverse, well-informed team is essential to the effective use of early warning data for identifying and supporting students. The team designated as responsible for using EWIS data and other early warning data, such as monitoring flags, to identify and support students may be established as a new team. Alternatively, a school or district may choose to build upon the work of an existing team (e.g., the school data team, the school improvement team, the tiered system of support team, and/or the student support team). Regardless of whether the team is newly formed or integrated with an existing team, the team should include a broad array of staff within the school and/or district and should be prepared to dedicate sufficient meeting time to reviewing, interpreting, and acting on student early warning data. To help you get organized, refer to Tool 4 in Step 1.

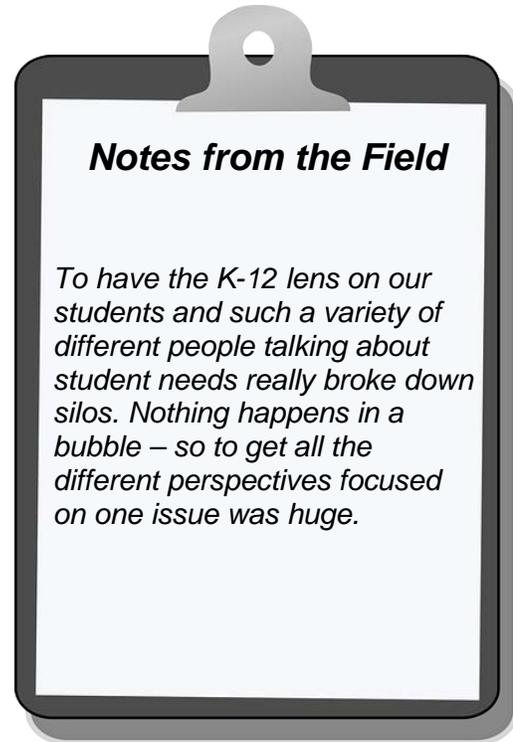
Build Off Your Foundation

- How do you currently identify and support students in need?
- How do you currently monitor student progress?
- How can you integrate the use of EWIS and other early warning data into the work of your current teams/committees?
- Are there ways you can merge EWIS data and other early warning data with your current data systems?

STEP 1

Anticipated Outcomes for Convening the Team

- The identification of an existing team(s), or the convening of a new team(s) at the school and/or district level
- The selection of team members who have a diverse set of knowledge and skills and are committed to the use of early warning data for identifying and supporting students
- Clarification of roles and responsibilities of the team, including the identification of one or more individuals to serve as chair and co-chair, logistical support, and a data specialist (who is responsible for importing and managing early warning data)



Structuring the Team

Early warning implementation requires the engagement of stakeholders at multiple levels. Although much of the action of identifying underlying causes and supporting students in need occurs within school-level teams, the district has an important role to play. Teams may vary in structure, number, and composition, depending on the size of the district. Large districts with many schools may have one school-based team at each school as well as a district-level team with both school and district representation. Smaller districts may have one school-based team in each school with both school and district representation. For example, in one school, the school-based team may be composed of a content area teacher (e.g., reading or mathematics), a school counselor, a technical/data person, and a principal or an assistant principal. The school team may meet monthly, and the district administrator may attend every other month. Such a scenario streamlines communications between the district and the school regarding implementation and allows team members to identify implementation challenges that are best resolved or addressed by the district.

The following briefly describes the role of both the school and the district in the implementation process associated with using early warning data.

School Role. The primary role of each school is to use EWIS and other early warning data to identify and support students within the school, and to help these students meet desired academic milestones. Within each school, the team will draw on available information, coordinate and collaborate with existing committees and groups, and bring together additional educators and specialists to explore schoolwide changes. The team, in consultation with other stakeholders, including students and family members, can match individual students to appropriate interventions and supports and develop programs and supports to meet the needs of groups of students. Each school also may want to be in regular communication with its feeder school(s) to facilitate transitions and assist district administrators

in coordinating efforts across the district. The intensity and the frequency of activities and communication associated with the use of early warning data will vary by school but are likely to be greatest in the fall.

District Role. The role of the district is to support efforts within schools to use and respond to early warning data, facilitate communication and coordination across schools (particularly for school transitions), and identify and address system-wide concerns. For example, a district might observe that many students coming from specific elementary schools are more likely to be identified as being at high or moderate risk after the first year of middle school. The district may want to examine the underlying causes for this pattern. Perhaps one feeder elementary school is not preparing its students for middle school in the same way that other elementary schools are. Or perhaps the particular needs of these students are addressed in elementary school but are not sufficiently addressed in the first year of middle school. In addition, district administrators play a key role in establishing a mission, goals, and a direction for the early warning work, and are well-placed to communicate the importance of EWIS and other early warning data. The district also can play a critical role in ensuring that school teams have access to data, resources, training, and other supports necessary for effective implementation.

Team Composition

Strong teams include a diverse, broad, and layered membership that represents a range of skills and expertise (e.g., leadership, technical expertise, instructional expertise, social/emotional, and mental health expertise.) It is suggested that the team(s) consist of personnel who have both the authority to make decisions about interventions and supports, staff, and students, and familiarity with a diverse array of students, including students with disabilities and students who are English language learners. In addition, it is critical to have at least one individual with the skills to access and analyze EWIS data (in Edwin Analytics) and the ability to import and analyze additional early warning data from other student data. Over the long term, membership on the team will likely evolve and shift. Although it is good to rotate and engage more staff in the process over time, it is helpful if some individuals continue to serve on the team across multiple years to ensure continuity and consistency.

Implementation Tip:

Potential Team Members

School-based team (may include district, school and community reps):

- School principal or assistant principal
- Representatives from feeder schools (i.e., elementary, middle)
- District office representative
- Special education teachers
- English language learner (ELL) instructors
- School counselors
- School psychologist or social worker

- Content area teachers
- Data specialist (or someone proficient in using the school's student data systems)
- Afterschool director

District-based team (may include district, school and community reps):

- Superintendent or assistant superintendent
- Data specialists
- Testing/assessment/accountability administrators
- Curriculum and instruction representatives
- Pupil personnel/ student support administrators
- Special education administrators
- ELL administrators
- Principal/administrator or another administrator from each school
- School counselors and/or social workers
- Classroom teacher representatives
- Others (e.g., members of other district and school teams and committees)

Team Roles and Responsibilities

Whether the school or district team is integrating early warning implementation work into an existing committee, team, or group, or forming a brand new team, it will be important for the team to function effectively, efficiently, and professionally. One of the most important initial steps is to determine the roles and the responsibilities of the team members. It is suggested that the team designate a chair and a co-chair to provide leadership, facilitate meetings, and serve as the primary liaisons to stakeholders outside the group. Many teams also may want to designate an individual to provide logistical and administrative support to the team. Finally, most teams dedicated to using early warning data will want to designate at least one individual, either on the team or in support of the team, who will act as the primary data specialist. This should be someone with proficiency in using and linking student data systems with other databases, and someone who has sufficient time available to manage the importing of student data, and production of early warning data reports.

Guiding Questions for Convening the Team

- Will the team be a newly established group or integrated into an existing committee, team, or group?
- Will there be a separate district-level team or only district representation on school teams?
- What types of staff need to be represented on the team (e.g., district administrators, counselors, teachers, and/or data specialist)?

- What types of knowledge and expertise do team members need to have (e.g., knowledge of student needs, diverse student populations, awareness of family and cultural factors, data analysis strategies, existing supports, and/or dropout prevention programs)?
- How might the composition of the team differ across school levels within a district (e.g., should membership be different at the elementary versus middle versus high school levels)?
- Who will serve in key roles on the team (e.g., chair, administrator/manager, note taker, data specialist)?

B. Devising the Plan

Effective teams articulate clear goals and procedures for effective team functioning and meetings, establish regular meeting times, and devise a plan for communicating and coordinating with others.

Anticipated Outcomes for Devising the Plan

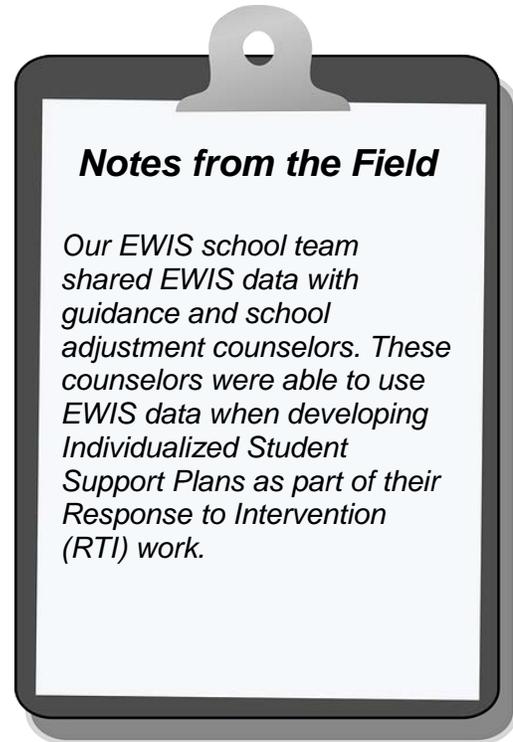
- Clarity and consensus regarding how the team will conduct its work (e.g. clear, written goals and objectives, and plans for how the group will conduct effective meetings)
- Schedule of regular meeting times to review, interpret, and act on early warning data throughout the school year.
- Clear plan for how the team will communicate and coordinate with others outside the team, including how the team will protect the confidentiality of student data.

Team Goals and Functioning

The team(s) dedicated to the use of student early warning data will meet to review student data, explore the underlying causes of risk, and align students in need with appropriate interventions and supports. The team also may want to explore group or schoolwide changes that may meet the needs of a broader range of students. Throughout the year, continuous monitoring of students who display risk flags will improve the team’s ability to assign appropriate interventions or supports and will allow midcourse corrections if a particular student or a group of students does not respond to an intervention or support. The team can facilitate its functioning and enhance effective communication throughout the school by doing the following:

- **Setting clear written goals and objectives for the work of the team.** This will be particularly important in the first year of implementation. Many teams have found it helpful to narrow the focus and expectations for their work during the first year to allow them to refine team functioning and effective use of early warning data before attempting schoolwide implementation.
- **Establishing rules and procedures for protecting the confidentiality of student data.** Teams will need to determine who will have access to sensitive student data and include written instructions and provisions for protecting confidentiality on reports and other documents containing sensitive information.

- Communicating with individuals and groups outside the team.** Teams may want to share information with a range of other individuals and groups in their efforts to support students, including other school and district committees and teams, teachers and specialists, and social service agencies, and community based organizations such as afterschool providers, who are already, or could be providing services to students identified as at risk. For example, teams may want to communicate regularly with school and district leadership about students in need, intervention or support effectiveness, and team-identified needs for support. Teams also may want to provide teachers with regular updates about students in their classes who are displaying risk flags, as well as information about supports available to teachers in working with these students. Teams may want to collaborate with afterschool providers to align in and out of school support for at-risk students. Teams may want to establish procedures and rules regarding how, when, and with whom they will communicate information associated with their activities and findings and how they will protect the confidentiality of student information being shared.
- Communicating and collaborating with students and families.** In some cases, the team may want to communicate with students and families about their concerns, or convey these concerns through a teacher. Collaborating with students or families may help to ensure that students are adequately supported and that all interested parties have a chance to help the student get back on track. Of critical note, the team should share concerns about students with sensitivity; sharing specific data about EWIS risk levels is not advised. It is important to ensure that any shared information is used to prompt action and support, not give labels that carry stigma.

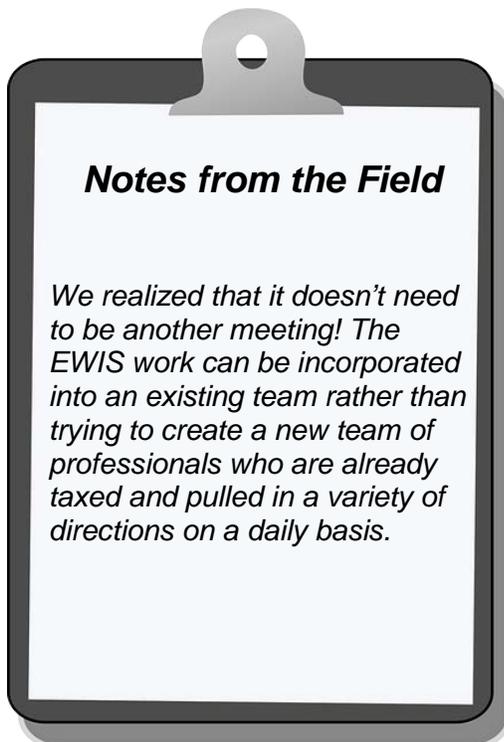


For example, a student with an EWIS student risk level of “high” may have consistently poor attendance in the new school year. Rather than sharing with the student and the family that the student is “high risk,” a more productive and specific approach is to inform the student and the family that the poor attendance is likely contributing to being off track for meeting an important academic milestone (e.g., passing all grade 9 courses). This approach allows for a discussion for possible reasons for poor attendance that may be addressed.

Team Meetings

Strong teams set aside adequate time to accomplish their work and establish a consistent meeting schedule, space, and set of procedures. The following are a few strategies to support effective and efficient team meetings.

- Meet regularly to monitor student progress.** The team will want to meet regularly (within the first 30 days of school and at least at the end of each grading period) to monitor progress as it strives to improve the educational outcomes for students. Many teams find that they need to meet more frequently in the fall in order to implement the initial steps in the implementation cycle. This portion of the cycle ensures that students identified as at-risk at the start of school can be assigned to appropriate interventions. It will be important to schedule meetings around the availability of student data, allowing sufficient time for these data to be entered and analyzed prior to the team's meeting date.
- Conduct well-organized and documented team meetings.** Clear agendas are important to ensure that each meeting has goals and a focus. At least some agenda items will likely be routine, such as a review of student data, actions taken for individual students or groups of students, a review of previous meeting action items (ongoing or completed), and communication with staff and leadership. Meeting minutes or notes can help teams to document decisions and organize any additional information that has been gathered and/or analyzed by the team, and help them keep track of action items and assigned tasks.
- Establish procedures for making team decisions and assigning work.** Team members have many responsibilities, and limited time is often an impediment to reaching team goals. Having procedures in place for making team decisions fairly and efficiently will help meetings to go more smoothly. In addition, many teams find that having clear roles, responsibilities, and procedures for delegating tasks enhances the team's effectiveness.



Notes from the Field

We realized that it doesn't need to be another meeting! The EWIS work can be incorporated into an existing team rather than trying to create a new team of professionals who are already taxed and pulled in a variety of directions on a daily basis.

- Implement the steps outlined in the implementation cycle.** Once organized, the work of the team will focus on implementing the steps outlined in the implementation cycle (i.e., generating early warning data reports, reviewing and interpreting early warning data, assigning interventions and supports, and monitoring student progress). Team members should be knowledgeable about this cycle and receive training on how to implement key steps associated with the use of student early warning data.

Guiding Questions for Devising the Plan

- What are the team's priorities, principles, and expectations regarding how the team will conduct its work (i.e., what is the group's process)?
 - How frequently and on what specific dates should the team meet?
- What does the school-level team hope to accomplish? What does the district-level team hope to accomplish?

- How will the team members ensure they have sufficient time and resources to meet and conduct their work outside EWIS meetings?
- What types of technical support and/or professional development are needed to train and support the team(s) at the school and district levels)?
- How and with whom will the team communicate about the team’s mission, activities, and progress?

C. Getting Ready to Use Early Warning Data

An early warning system uses readily available student data to identify students who are at risk of not meeting desired academic milestones. To launch your early warning implementation process you will need to identify and access the student data the team will use to identify, support, and monitor the progress of students in need of support.

Anticipated Outcomes for Getting Ready to Use Early Warning Data

- Access EWIS data and reports
 - At least one member of each team will have proficiency in: accessing EWIS data (through Edwin Analytics); using the various reporting options for examining student risk information; and exporting EWIS student-level data (EW601) to Excel for further analysis.
 - All members of each team will understand the four academic milestones in EWIS, be familiar with the types of data underlying the risk levels, and have the ability to understand the various EWIS reports.
- Preparing for the monitoring of student risk
 - The team will have identified which student data sources will be used to monitor student risk throughout the year.
 - The team will have established thresholds that will be used to “flag” students as being at risk based on these data sources.
 - The team will have selected (or set up) the data system or tool that will be used for monitoring student risk flags.
 - At least one member of the team, or someone supporting the team, will have proficiency in updating monitoring indicator data and generating reports using the monitoring indicators database system or tool.

Notes from the Field

Prior to EWIS, we relied only on guidance counselors and teachers to identify students having academic difficulty and bring them to the Instructional Support Team. The EWIS data has inspired us to develop our own academic warning system, which expanded upon the EWIS tool by incorporating additional data points. This system allows us to systematically combine data on all students, including professional perspectives.

Accessing EWIS Data and Reports

EWIS data reports in Edwin Analytics provide information on students' risk-level status at the beginning of each school. The team will need to access these data to understand the extent of student risk at the beginning of the school year. EWIS data and reports provide information to districts and schools on students' risk levels based on data from the prior year. ESE applies risk formulas to existing data for all Massachusetts public school districts, resulting in an assigned level of risk for every student. Within Edwin Analytics, districts and schools can view their EWIS data through five report options:

- District View (EW301)
- Graphical View (EW302)
- Risk Level Indicator Analysis (EW317)
- Subgroup Analysis (EW318)
- Student List (EW601)

Within each option, districts and schools can filter the data in numerous ways (e.g., select specific schools, grade levels, and/or student subgroups) to gain varying perspectives on their data. These reports allow districts and schools to understand the scope, the depth, and the nature of student risk levels. EWIS data are accessed from Edwin Analytics, which is available through ESE's Security Portal. The Security Portal can be found in the drop-down menu on the upper-right side of the ESE website (<http://www.doe.mass.edu/>) or directly at <https://gateway.edu.state.ma.us/>. For more information about accessing Edwin Analytics and the EWIS data and reports, please see Appendix B or <http://www.doe.mass.edu/edwin/analytics/>.

Exporting EWIS Data

All reports in Edwin Analytics may be exported to PDF or Excel formats, which may be helpful for sharing and further analysis. Some districts may want to expand their capacity to examine EWIS data beyond the reporting options offered from Edwin Analytics and therefore may choose to export their student-level EWIS data (Edwin Analytics report EW601) into Excel. After the EWIS data are exported, districts and schools can combine these student-level data (which includes all of the data points that were used to assign a student to a particular risk level) with other sources of district and/or school data and/or generate a wider range of data reports.

Preparing to Monitor Students

One of the keys for using early warning data is the frequent monitoring of student progress using readily available data. Monitoring indicators can be used during the school year to flag students in need, and track progress. Data such as attendance, academic performance, and behavior have been identified in research as strong monitoring indicators. Monitoring indicators can complement the use of EWIS data by enabling teams to flag students who become or continue to be at risk during the school year. Monitoring indicators can also be used to track students' responses to interventions or supports at

multiple times throughout a single school year and thereby assist teams in making decisions regarding interventions and supports. Diagnostic data, another local data source, such as benchmark assessment data, student focus groups, and staff professional opinions, can be used in conjunction with research-based monitoring indicators. Diagnostic data is particularly helpful in exploring the underlying causes for student risk, and tracking student progress in interventions.

Getting Ready to Monitor Students and Interventions

During Step 1, teams prepare to use early warning data, including monitoring indicator data before or during the early part of the school year. These steps need to be completed prior to monitoring students and interventions:

- Select which student data sources the team will use to monitor student risk throughout the year.
- Establish thresholds to “flag” students as being at risk using these data sources (e.g., students who miss 10 percent or more of school days).
- Establish a system or tool your team will use to monitor students.
- If using a data system or tool, make sure that at least one member of the team has proficiency in importing, updating, and generating reports using the database system or tool that contains student data.
- If using a data system or tool, establish a data import and review schedule for analyzing data and reports with up-to-date student monitoring indicators data throughout the school year.
- Verify that all members of the team understand the data sources for monitoring student progress and the various monitoring indicator reports.

Implementation Tip:

Go Slow

Proceed slowly when generating data reports to avoid an overload of information. Remember, data are useful only when team members can understand and make use of the information provided.

Selecting Monitoring Indicators

Teams can select from one or more monitoring indicators. Decisions about monitoring indicators should be grounded in research or local validation of data. A monitoring indicator draws from readily available data that can be observed at many points during the school year. As shown in Tool 3 below, monitoring indicators are data sources with identified thresholds, defined in research or locally validated whereby users can observe whether a student is flagged because he or she met or exceeded this predetermined threshold. For example, if the data source is attendance and the threshold for flagging students is missing 10 percent of school days, then any student who misses 10 percent or more of school days would be flagged as at-risk. The frequency with which flags are examined is dependent on the schedule set by the team.

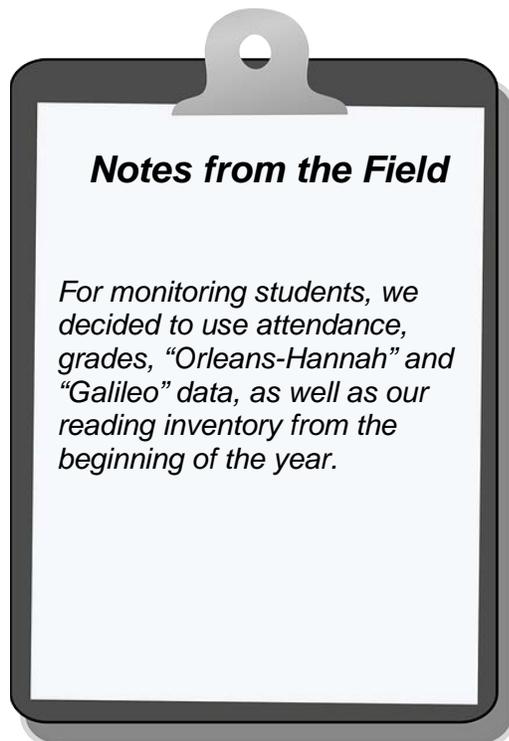
Selection Considerations. Before, or at the start of the school year, districts and schools must select the specific monitoring indicators they will use to track student progress throughout the year. The guiding principles for selecting monitoring indicators are as follows:

- (1) Indicators are research based or locally validated.
- (2) The indicator is based on readily available data that can be updated and accessed several times throughout the school year.
- (3) More than one, but no more than four indicators per grade level, are used by the team to monitor student risk throughout the year. Remember, monitoring indicators are used to identify students who are displaying symptoms of need, not to diagnose need.

After considering the list of possible monitoring indicators in Tool 3, some districts and schools may also want (or need) to use other local data sources to flag and track student progress using data that is more closely aligned with the needs and practices of their district, schools, and/or students. For example, if a district or a school uses a commercially available benchmark assessment tool, to determine students' academic progress in reading, then this information may be a source of data that can be used to identify at-risk students and track student progress during the year. Some schools and districts may want to select data sources and establish performance thresholds more closely associated with particular supports to monitor student progress in these interventions.

Implementation Tip:
Be Discerning in Your Selection of Monitoring Indicators

Each grade level should only use 2-4 monitoring indicators since these indicators are used just to flag students throughout the school year (not to diagnose their needs). If you are new to using monitoring indicators, you may want to start with only 1 or 2 monitoring indicators per grade level. Using attendance as a monitoring indicator is often a good place to start. Attendance can be a powerful monitoring indicator and easily accessible.



Data Systems for Monitoring Students and Interventions

It is recommended that the team identify or establish a system before, or early on in the school year, to manage the data that will be used to track monitoring indicators. The team has various options for managing these data. For instance, districts and schools may wish to use their own student information systems for monitoring students. Districts and schools may choose to use an existing system for monitoring students, such as AIR's *National High School Center EWS High School Tool* or *EWS Middle School Tool*⁶ which is available for free, or other commercially available monitoring indicator tools. Note that in these cases there must be a person who is dedicated to importing student data into the tool several times over the course of the school year. In either case, the team must ensure that it

has access to needed student data throughout the year, and has a schedule for data access.

Guiding Questions for Getting Ready to Use Early Warning Data

- EWIS Data and Reports
 - Do all team members understand the academic milestones for the age groups on which the team is focused? Do all team members have a general understanding of how the risk levels were determined?
 - Is there someone on the team who knows how to access EWIS information and generate a range of reports? Who will be responsible for generating the EWIS reports?
 - Does the team have an interest in generating more reports or combining EWIS data with other student data? Does the team have someone who knows how to export EWIS data and merge these data with other data systems?
 - With whom will EWIS data be shared? How will student confidentiality be protected, as required by district policies? Who will provide reports to other stakeholders?
- Monitoring Indicators
 - Which data sources make the most sense for our school to use to monitor its students? Will our team use the research-based indicators from Tool 3? Should we use our own locally validated indicators?
 - What thresholds will the team set to determine when students should be “flagged” as at risk? Are these selected data sources and thresholds research-based or can they be validated locally?
 - Does the team want to use any diagnostic data sources to track student progress in assigned interventions, such as available benchmark assessment data?
 - What data systems or procedures does the school already have in place for tracking student progress? Does the team want to use its own data system or import data into a commercially available monitoring indicator tool? How frequently will the team examine risk flags based on these data sources?
 - Who will be responsible for obtaining the data to monitor students? Who will generate data reports showing students flagged as at-risk, for the team?
 - With whom will these data be shared? How will student confidentiality be protected, as required by district policies? Who will provide reports to other stakeholders?

District Role in Step 1

The role of the district and/or the district team is to identify system-wide concerns and develop and recommend districtwide changes that address such concerns. District administrators also play a key role in establishing a mission, goals, and direction for the early warning work and communicating the importance of early warning data, including EWIS, within and across schools. District administrators can

participate in the work of school teams, provide professional development, and support and oversee school-level efforts. To maximize the impact of the district role, we recommend the following:

- Engage in school-level meetings or routinely communicate with teams to increase attention to efforts and signify the importance of using early warning data. For example, on one team, a district administrator might participate in a team meeting at designated times during the school year. This allows the team to share information about students in the school and identify challenges and needs based on their use of early warning data. The district administrator benefits by having the opportunity to hear about challenges facing the team and consider ways in which the district may support this work. For example, the district administrator might assign a data specialist to provide the team with information in a particular, more user-friendly manner, or connect the team with a school that has had success in supporting students.
- Provide professional development to team members on using EWIS or other student early data. This training can enhance the work of the team and decrease variation in the quality of the team's work. For example, a district may offer professional development to new school-level team members at the end of each school year or during the summer to prepare them for the work ahead.
- Arrange for school-level team members to have release time, coverage, or other supports to enable them to participate in meetings and related work.
- Ensure that school-level teams have been prepared for and have access to student-level data (e.g., knowledge of confidentiality procedures/guidelines, passwords, and instructions for accessing).
- Monitor school efforts to use early warning data throughout the school year and over the course of multiple school years to ensure that schools are improving outcomes for students. This allows the identification of promising practices and areas of need in the district as a whole. Districts may monitor and track early data use and implementation by participating in meetings or requesting presentations on school-level work. This gives the district the opportunity to identify common needs across schools and develop districtwide strategies for allocating resources or sharing practices.
- Ensure that teams have access to EWIS data and reports in Edwin Analytics.
- Ensure that at least one or more members have been trained in using Edwin Analytics.
- Provide technical support (either directly or through a third party) to team members in accessing and modifying the current data system to track specified indicators or in learning how to use existing monitoring indicator tools (if preferred).
- Work with school-level teams on selecting the student data sources and thresholds that will be used to monitor student progress that allow districts to have the desired consistency in data collection across schools.

If there is a district-level team in place, this team may meet less frequently than school-based teams (e.g., two to four times per year) to discuss: persistent problems and challenges; resources and strategies for supporting students; and systemic, organizational, and policy changes that may be needed. School-level representatives can help the district team develop new districtwide strategies for

students in need (e.g., new policies, schedules, partnerships, curriculum, or training for teachers and students).

Tool 1 – Step 1: Checklist**The Team**

- Determine team structure (e.g., new team or existing team? School level, district level, combined, or both?)
- Determine team composition (who will be part of the team?)
- Determine team roles and responsibilities (e.g., leader, data designee, logistics)

The Plan

- Determine rules and expectations related to the team's group process (decision-making, conflict resolution, and ground rules)
- Communicate with the district to clarify goals and expectations (district and school)
- Set team goals, objectives, timeline and tasks
- Construct a team communication plan
- Set team meeting schedule (timing, frequency, and length)

The Data

- Confirm EWIS data access
- Select locally meaningful monitoring indicators for observing changes in student risk over the course of the school year
 - Confirm that monitoring indicator data sources are accessible and readily available
- Assign responsibility for providing the team with monitoring indicator data and reports in preparation for team meetings
- Identify other local data sources to be used in diagnosing student needs and tracking progress in interventions

Tool 2 – Step 1: Where Are You Now?

Directions: Form small groups of 3-4 people. Share with each other where you are now with your use of data and your current approaches for identifying and supporting students in need. You may discuss all the questions, or focus on one or two in more depth.

Discussion Questions:

1. How do you currently identify and support students in need?

- What types of data do you use to identify students in need?
- Do you use EWIS data to identify students in need? If yes, how do you use these data?
- Do you use other student data? How do you use these data?
- Who is responsible for identifying students in need and ensuring that support is provided to these students? Is this the role of one individual, several individuals, or a team?

2. How do you currently monitor student progress?

- Do you examine data to identify students in need during the school year?
- How frequently do you monitor the progress of students who are identified as in-need?
- What database are you currently using to organize these data?

3. How can you integrate the use of early warning data, including EWIS, with your current practices?

- Which aspects of your current approaches for identifying and supporting students in need do you feel are adequate or good?
- Are there changes or modifications you would like to make to your strategies for identifying and supporting students in need? What are they?
- How do you think your use of early warning data and the early warning implementation process can be integrated with or strengthen your current practices?

Tool 3 – Step 1: Potential Monitoring Indicators by Grade Level

Directions: The table below contains possible monitoring indicators to use throughout the school year for each grade level. Each grade level includes attendance, behavior, and academic performance potential monitoring indicators flags students that are on or off track. Some of these monitoring indicators are more strongly supported by research (marked in the “Research Supported” column), while others are commonly used but need to be locally determined and validated to establish an appropriate threshold. In the “Consider Using?” column, check of which monitoring indicators your school or district could potentially use and note the data source and possible threshold for the monitoring indicator. If you are new to using monitoring indicators, you may want to start with only 1 or 2 monitoring indicators per grade level.

Academic milestone	Grade	Potential Monitoring Indicator	Threshold	Research Supported	Locally Determined	Consider Using?	Notes – existing data source, possible threshold, etc.
Early Elementary							
Proficient or higher on grade 3 ELA State Assessment	1	Attendance	Locally defined		x		
		Behavior	Locally defined behavior grade, office discipline referrals		x		
		Academic performance	Locally defined performance levels on Benchmark assessments	x			
	2	Attendance	Locally defined		x		
		Behavior	Locally defined behavior grade, office discipline referrals		x		
		Academic performance	Locally defined performance levels on Benchmark assessments	x			
	3	Attendance	Locally defined		x		
		Behavior	Locally defined behavior grade, office discipline referrals		x		
		Academic performance	Locally defined performance levels on Benchmark assessments	x			

Additional notes about possible monitoring indicators for grades 1, 2, and 3:

Academic milestone	Grade	Potential Monitoring Indicator	Threshold	Research Supported	Locally Determined	Consider Using?	Notes – existing data source, possible threshold, etc.
Late Elementary							
Proficient or higher on grade 6 ELA and mathematics State Assessment	4	Attendance	20% or more school days missed	x			
		Behavior	Locally defined behavior grade, office discipline referrals		x		
		Academic performance	Locally defined performance levels on Benchmark assessments	x			
	5	Attendance	20% or more school days missed	x			
		Behavior	Locally defined behavior grade, office discipline referrals		x		
		Course performance	Failing grade mathematics and/or ELA	x			
		Academic performance	Locally defined performance levels on Benchmark assessments	x			
	6	Attendance	20% or more school days missed	x			
		Behavior	Locally defined behavior grade, office discipline referrals		x		
		Course performance	Failing grade in mathematics and/or ELA	x			
		Academic performance	Locally defined performance levels on Benchmark assessments	x			

Additional notes about possible monitoring indicators for grades 4, 5, and 6:

Academic milestone	Grade	Potential Monitoring Indicator	Threshold	Research Supported	Locally Determined	Consider Using?	Notes – existing data source, possible threshold, etc.
Middle School							
Passing grades in all grade 9 courses	7	Attendance	20% or more school days missed	x			
		Course performance	Failing grade in mathematics and/or ELA	x			
		Behavior	Suspensions, office discipline referrals		x		
	8	Attendance	20% or more school days	x			
		Course performance	Failing grade in mathematics and/or ELA	x			
		Behavior	Suspensions, office discipline referrals		x		
	9	Attendance	10% or more school days missed	x			
		Course performance	Failing one or more grading period	x			
		Credits	Enough credits for promotion to next grade	x			
		Behavior	Suspensions, office discipline referrals		x		

Additional notes about possible monitoring indicators for grades 7, 8, and 9:

Academic milestone	Grade	Potential Monitoring Indicator	Threshold	Research Supported	Locally Validated	Consider Using?	Notes – existing data source, possible threshold, etc.
High School							
High school graduation	10	Attendance	10% or more school days missed	x			
		Course performance	Failing one or more grading period	x			
		Behavior	Suspensions, office discipline referrals		x		
	11	Attendance	Locally defined percentage of school days missed		x		
		Course performance	Locally defined number of course failures		x		
		Behavior	Suspensions, office discipline referrals		x		
	12	Attendance	Locally defined percentage of school days missed		x		
		Course performance	Locally defined number of course failures		x		
		Behavior	Suspensions, office discipline referrals		x		

Additional notes about possible monitoring indicators for grades 10, 11, and 12:

Tool 4 – Step 1: Early Warning Implementation Action Planning Tool

Directions: The following template is designed to support your early warning implementation efforts for Step 1. Teams can identify the key objective or task, and then identify the resources available, actions needed responsible parties, and when the task needs to be completed.

A. Team Structure, Roles, and Responsibilities

Key Tasks:

- Determine whether team will be newly formed, or integrated into an existing committee or team.
- Determine team structure (school level, district level, or combined school and district level membership).
- Determine team composition (who will be part of the team).
- Determine team roles and responsibilities (e.g., team facilitator, data management designee, interventions specialist, team logistics).
- Determine meeting schedule (timing, frequency, and length).
- Clarify team’s group process (decision making, conflict resolution, and ground rules).
- Communicate with district leadership to clarify goals and expectations (district and school).
- Set team goals, objectives, tasks and timelines.
- Construct a team communication plan.

Objective or Task	What do we have in place? What expertise and/or resources do we already have?	What additional actions and resources are needed?	Who will be responsible?	What is the time frame?

B. Get Ready to Use Early Warning Data

Key Tasks – EWIS Data and Reports:

- Designate a person to manage EWIS data and generate EWIS reports.
- Obtain permission to access EWIS data
- Ensure that district and/or school student data are up-to-date.
- Determine how student confidentiality will be protected.
- Ensure that team members understand EWIS (risk levels, academic milestones) and how to interpret data.

Key Tasks – Monitoring Indicators:

- Designate a person to manage monitoring indicator data and generate reports.
- Determine final list of monitoring indicators.
- Establish thresholds for locally determined monitoring indicators.
- Determine how student confidentiality will be protected.
- Set schedule for updating monitoring indicator data and generating reports.
- Ensure that team members understand how to interpret monitoring indicator data and reports.

Objective or Task	What do we have in place? What expertise and/or resources do we already have?	What additional actions and resources are needed?	Who will be responsible?	What is the time frame?

Step 2: Review EWIS Data

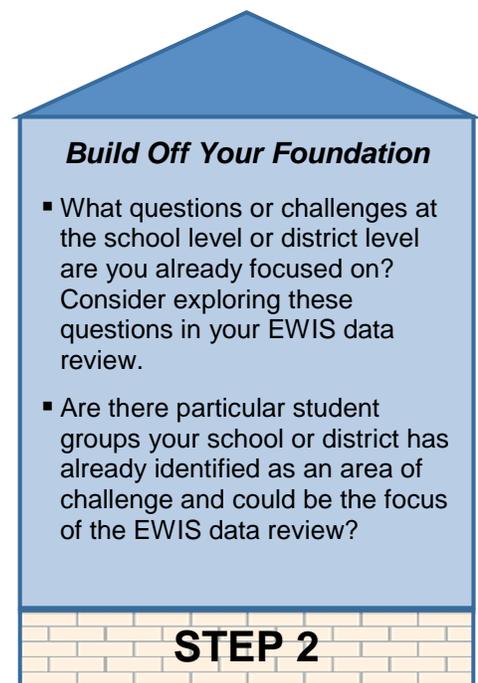
What You Need for Step 2

- Access to Edwin Analytics for generating EWIS reports
- Exploring your Early Warning Data Worksheet (see Tool 7 in Step 2)
- Sufficient time for team members to analyze existing data and reports and generate additional reports

Description of Step 2

In Step 2, the team explores EWIS data to answer important questions about students in need and understand patterns in student engagement and academic performance within a school and/or district. The data reports in Edwin Analytics are tools for seeking answers to the team's questions.

When teams first start looking at the EWIS data, it can be overwhelming. It takes time to develop a strategy to review the information. During the first year of implementation, this can take a substantial amount of time; as the team becomes familiar with the process and the data, this will become more efficient. If EWIS data for students entering school are available, Step 2 may be started before the beginning of the school year. The process of reviewing data through questions outlined in Step 2 is critical when using any type of early warning early data. For example, when it is time to review monitoring indicators data (Step 5), it is recommended that your team use this same approach to reviewing data. The following represents some guidelines for how teams may want to approach the data analysis process.



Anticipated Outcomes for Step 2

The following outcomes are anticipated for Step 2:

- An understanding of the nature and the scope of district and schoolwide student EWIS risk levels (i.e., the percentages of students at low, moderate, and high risk)
- An understanding of patterns associated with risk levels for students across the district and within and across schools (e.g., how risk levels vary by grade, gender, disability status, race or ethnicity, and other characteristics)
- Identification of individual and/or groups of students who show signs of risk of missing desired academic milestones

- An understanding of patterns across a district, schools, and groups of students that allow the team to consider how to best allocate and direct interventions and supports to best meet student needs at the individual, group and schoolwide levels
- Initial hypotheses related to potential underlying causes of student need
- Tentative decisions about the scope and the focus for exploring underlying risk and identifying the types of additional information that the team may want to collect

Exploring Data Through Questions

Teams will want to begin by generating EWIS reports. It is important to recognize that EWIS (and, later on, monitoring indicators) reports can quickly yield a lot of information. As a result, it is very easy for the team to become overloaded with data and subsequently not be able to make sense of how to use the data or even what the data are telling them. As shown in Exhibit 6, teams can make the data exploration process more manageable by using three levels of examination:

- **Get the big picture.** Examine data by broad dimensions and main categories.
- **Dig deeper.** Examine data by subgroups or subcategories.
- **Deep dive.** Examine data for individual students.

This multilevel examination can provide a context for understanding student needs within a district or a school and can help the team break down the information into manageable pieces that can be sorted, organized, and prioritized so that the team can take action. (See Tools 7 and 8 below for worksheets to guide your team’s data review.)

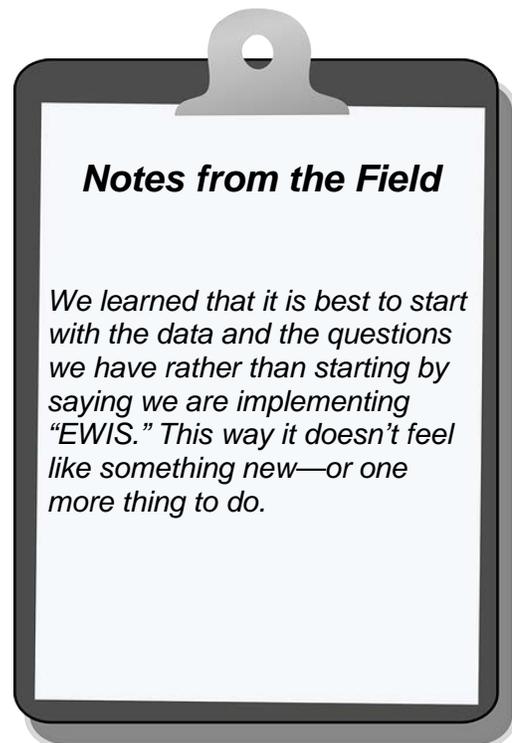
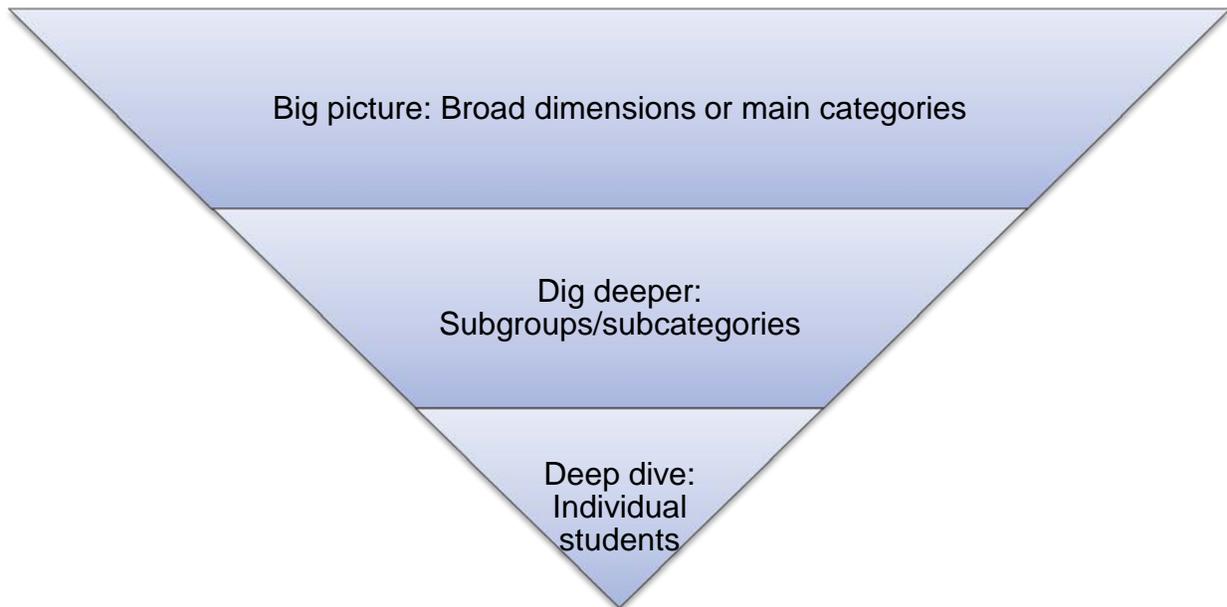


Exhibit 6. The Multilevel Approach to Exploring Data

Get Ready. Before getting started, the team develops a plan for how they will review their EWIS data (e.g., which questions to answer, how to focus analyses [whole school, subgroups, and individual students], and who will be responsible for reviewing which reports). For most districts and schools, it is not feasible to fully analyze all of the EWIS data; therefore, it is helpful to have specific goals and questions in mind to more clearly define the task.

Get the Big Picture: Examine Data by Broad Dimensions. The team may want to begin reviewing its EWIS data by generating data reports that offer the big picture of student risk within a district or a school, such as the EWIS District View report (EW301).

It is important to acknowledge that in some schools, a high percentage of students may be identified as being at risk. In these schools, the team must decide how best to proceed in understanding and addressing student needs and how to allocate time with respect to understanding and addressing the needs of specific groups of students and individual students.

Examples of broad dimensions (main, single categories) for reviewing EWIS student risk levels by:

- School
- Grade level
- Academic milestone

Some big picture questions are as follows:

- What proportion of the district's or school's students are at low risk? Moderate risk? High risk?
- Are there differences across schools serving similar grade levels?
- What student groups may warrant further exploration?

Before moving on to the next level of analysis (dig deeper), the team summarizes what has been learned so far and what questions still need to be answered in the next phase of analysis.

Dig Deeper: Examine Data by Subgroups or

Subcategories. After the team has a sense of the broad landscape (overall nature and scope of need), it is time to dig deeper into the data to uncover patterns of risk by each subgroup of students (e.g., gender, race or ethnicity, ELL status, special education status, grade level), and patterns of students by subcategories of risk

(EWIS student risk levels, academic milestone, or by data used to determine EWIS student risk levels). This deeper analysis of EWIS data helps the team identify patterns associated with EWIS risk levels for particular subgroups of students across the district and across and within schools (e.g., how EWIS risk levels vary by grade, student subgroups). The team may also want to explore patterns associated with

particular data points that were used to determine the EWIS risk levels (e.g. How many students flagged as EWIS high risk failed mathematics last year? What is the attendance pattern for our high and moderate risk students?). During the Dig Deeper phase, the team begins to identify sub-populations of students of concern or gathers more information about a student group already identified.

Implementation Tip:

Start with EWIS District View Report to get a Big Picture of Your Data

Edwin Analytics EWIS District View Report (EW301) is particularly helpful for illustrating the big picture of student risk for your school or district. By broadly examining EWIS data, the team is able to assess the nature and the scope of student risk levels within the overall student population of interest, before delving more deeply into the needs of specific cohorts of students or individual students. Using the district view report offers the team a context in which to understand the extent of student risk within the district or school, as well as inform decisions about the future allocation of time and resources.

Notes from the Field

We worked as a team to look at the data. First, our principal pulled the data and did a cursory analysis of trends. Next our team decided which subgroup to target, and we pulled info on those students so we could look at individual students. Next we asked how many high risk students are already assigned an intervention? For those students who weren't already receiving any supports, we assigned a staff person to follow up to find out more.

Examples of subgroups or subcategories for examining EWIS data include:

- Patterns of EWIS risk levels across and/or within student groups:
 - Student demographic characteristics
 - Student language and learning needs
 - Within each grade, age group category (e.g. late elementary)
- Patterns across data points used to determine EWIS student risk levels:
 - Attendance patterns
 - Suspension patterns
 - State assessment results
 - Course performance patterns

Examples of subgroup or subcategory questions include:

- **District level.** How do student EWIS student risk levels differ across schools? For example, is the breakdown of low, moderate, and high risk consistent across grade 3 in our elementary schools? Are there EWIS student risk level differences among student subgroups, attendance patterns, etc. across the schools in the district?
- **School level.** What are the characteristics of students who have been identified as being at risk? What percentage of these students are ELLs, special education, and/or low income? What are the suspension patterns of students identified as high risk across the grade levels at our school?

Important Note: For some districts and schools, a high percentage of students may be identified as being at high or moderate risk. In these cases, after districts and schools understand patterns associated with risk, they may choose to focus most of their efforts on addressing student needs on a schoolwide basis or providing supports for targeted subgroups of students.

Before moving on to the next level of analysis (deep dive), the team summarizes what has been learned so far and what questions still need to be answered in the next phase of analysis.

Implementation Tip:
Take Advantage of the EWIS Report Options in Edwin Analytics

Three of the EWIS reports in Edwin Analytics may be particularly helpful for the “dig deeper” level of examination:

- Subgroup Analysis (EW318) shows the breakdown of EWIS student risk levels by student subgroups, as well as a state comparison for the student subgroup populations
- Risk Level Indicator Analysis (EW317) provides attendance, behavior, state assessment, and course patterns for students in each EWIS student risk level for a selected grade level
- Graphical View (EW302) includes two line charts that provide two different longitudinal views for the selected students

Deep Dive: Examine Data for Individual Students. By now, the team should have a clearer understanding of which groups of students are in need. The deep dive requires that the team look beyond EWIS student risk levels (low, moderate, or high risk) to begin to examine the potential factors that may be contributing to the student’s risk for not meeting key academic milestones.

Teams can begin by using Edwin Analytics to examine the specific data points (e.g. attendance, course performance, suspensions) that contributed to a student being flagged as moderate or high risk. For example, the EWIS student view report (EW 601), provides all of the data points that were used to provide an EWIS student risk level for a given student. For one student considered high risk, the team

may find that the student failed math the previous year and attended school less than 90 percent of the school year. While these data points do not necessarily explain *why* a student is at risk, uncovering this additional information can help the team begin to formulate hypotheses that will guide the gathering of additional data to improve the team’s diagnosis of the reason a student is in need and thereby make decisions about interventions and supports.

Examples of school-level deep-dive questions:

- Who are the individual students identified as being at high risk from our EWIS data?
- What else can we learn about these individual students by looking at their individual data points in Edwin Analytics (report EW601)?
- Do we see any patterns in the data that can guide us in gathering more information?

Preparing for Step 3

After the team has a sense of the overall nature and the scope of student risk based on their review of the EWIS data, it is time to begin considering the reasons why students may be at risk and determine whether and what types of additional information may be needed to gain a more complete

Notes from the Field

We used EWIS data to gain the big picture on freshman repeaters. We dug deeper to identify that there were ELA course scheduling issues for many students. In addition, we did a deep dive to talk about the needs of individual students by providing guidance counselors with data on their assigned students.

Notes from the Field

Our team took EWIS and sorted into four different data files (by grade) and proceeded to color-code each grade level based upon students who had: already dropped out, had SPED services, had outside services, or who are in alternate programs. Anyone not color-coded and in the high risk group, were then the kids who had no one monitoring them. These were the kids who could possibly fall through the cracks.

understanding of the factors that may be contributing to this risk. The team should decide if that nature of student need warrants exploring full district and/or school changes, interventions and supports for subgroups of students, and/or additional study for individual students.

It is suggested at this point that the team begin to generate initial hypotheses to explain underlying causes of risk and needs and articulate follow-up questions in each area of greatest concern. This process can be done for each of the three levels (whole school or district, subgroups of students, and individual students), or the team may decide to focus on only a few areas or with only a targeted group of students. For those districts and schools using early warning data for the first time, it is advisable to start small.

Before moving on to Step 3, it is recommended that the team identifies its priorities, and make tentative decisions about the scope and the focus for exploring underlying causes. It also is helpful to develop a strategy for how the team will divide up responsibilities for gathering, reviewing, and interpreting additional data as they implement Step 4.

District Role in Step 2

The use of EWIS data has immediate implications for staff and students in a school; however, at the district level, there is an opportunity to examine EWIS data to illuminate broad trends in student risk that may influence how resources are allocated or policies and strategies are implemented to focus on issues that are particular to groups of students within a district. For example, what district-wide changes could be made to reduce the high numbers of incoming grade 9 students who are identified as high risk?

Implementation Tip: **Start Small**

Districts and schools using early warning data for the first time may want to learn more about EWIS and early warning implementation before attempting to serve the needs of all students identified as being at high or moderate risk in the district or the school.

There are several ways to start small. Some schools may want to begin by focusing on those students who will be transitioning to a new school, such as grade 6 students entering middle school. Others may want to address the needs of a particular cohort of students (e.g., ELLs) or concentrate on those students who were identified as being at high risk. Keeping the scope manageable will allow the team to spend time refining its process so that it is able to operate efficiently and effectively, serving larger numbers of students in later years.

Guiding Questions for Step 2

- What are the overall nature and the scope of districtwide and schoolwide EWIS student risk levels (i.e., the percentage of students at low, moderate, or high risk)?
- What patterns are associated with student risk levels for subgroups of students across the district and within and across schools (e.g., how risk levels vary by grade, gender, race or ethnicity, and other characteristics)?
- Which groups of students require further digging? What are their characteristics (e.g., grade, gender, and ELL status)? What data points (e.g., attendance and course performance) are most

concerning for these students? How have patterns of risk changed over time for the district, schools, subgroups, and individual students?

- Given our assessment of student risk, what additional questions and information will we need to gather at the district, school, subgroup, and individual student levels to more fully understand the potential underlying causes for students' risk and schoolwide needs?

Tool 5 – Step 2: Checklist

Get Ready:

- Confirm scope and goals for reviewing EWIS data (e.g. are there particular district or school priorities you want to consider when reviewing your data)
- Develop a plan for how you will review EWIS data (e.g., which questions you will answer, how you will focus your analyses)
- Determine who will be responsible for generating reports, reviewing report

Get the Big Picture:

- Generate District View Report (EW301)
- Review district or schoolwide data to determine schools, grade levels or sub groups of interest for further exploration

Dig Deeper:

- Generate Graphical View (EW302), Risk Level Indicator Analysis (EW317) and Subgroup Analysis (EW318) reports
- Explore patterns related to student risk for sub groups of students
- Identify subgroups and individual students of concern

Deep Dive:

- Generate Student List (EW601) reports
- Review data for individual students and small sub groups of students
- Identify specific students and data related to these students that the team would like to better understand

Generate Hypotheses and Set Priorities:

- Identify any schoolwide risk patterns
- Identify subgroups of students at-risk, and identify any patterns associated with risk for these groups of students
- Confirm the list of students and student groups the team is concerned about, and articulate the team's theories about what may be contributing to risk for these students
- Establish the team's priorities for exploring underlying causes of risk
- Identify any additional questions and information the team will need to gather to more fully understand potential underlying causes for students' risk and schoolwide needs

Tool 6 – Step 2: Practice Generating Reports

Directions: Generate one EWIS report for each of the five reporting options: District View (EW301), Graphical View (EW302), Risk Level Indicator Analysis (EW317), Subgroup Analysis (EW318), and Student List (EW601).

1. **District View (EW301):** Select a school in your district and generate a report for all grades in this school. Scan your report to find out which grade has the highest percentage of “high risk” students and which grade has the lowest percentage of “high risk” students.
2. **Graphical View (EW302):** Select a grade level and/or student group of interest. Generate a graphical view report. Find out how this group compares with the overall district and state. Find out how risk levels for the current group of students in this grade have changed over the past year. Find out how risk levels for this grade, generally, have changed. Are risk levels for this group of students getting better? Worse? Staying the same?
3. **Risk Level Indicator Analysis (EW317):** Select a grade level of interest, and run a Risk Level Indicator Analysis report. What attendance, suspension, assessment results, or course performance patterns do you observe for this grade level?
4. **Subgroup Analysis (EW318):** Select a grade level and/or student group of interest, and run a subgroup report to display how risk levels for this grade and/or student group vary across the subgroups. Which of these subgroups shows the highest level of risk?
5. **Student List (EW601):** For your selected grade and/or subgroup of students, generate a Student View report to view some of the individual students who are at high risk. What additional information do you observe when viewing the individual students?

Tool 7 – Step 2: Exploring Early Warning data by Broad Dimensions/Main Categories

- A. Big Picture:** Here are some sample “Big Picture” questions. You may choose questions from the list below to explore, or devise your own questions.

Sample Broad Questions	EWIS Data & Reports	EWIS Data Output Percent or Number of Students		
1. What proportion of our student body is at low, moderate, high risk?	District View Report (EW301)	High	Moderate	Low
2. How do our student risk levels vary by school level (elementary, middle, and high school), by school, or by grade across or within schools?	District View Report (EW301)	High	Moderate	Low
3. How do our students’ risk levels differ by risk level indicator categories? <ul style="list-style-type: none"> ▪ Attendance ▪ Suspensions ▪ MCAS results ▪ Course performance 	Risk Level Indicator Analysis (EW317)	High	Moderate	Low
4. How have student risk levels changed over the past year? Over the past two years?	Graphical View Report (EW302)	High	Moderate	Low
5. How do risk levels differ according to student characteristics, across or within schools? <ul style="list-style-type: none"> ▪ Gender ▪ High-need students ▪ ELL students ▪ Students with disabilities ▪ Overage students ▪ Other 	Subgroup Analysis (EW 318)	High	Moderate	Low

Use the *Data Exploration Summary Chart* to reflect on what you have you learned. Which grades, student groups, or indicator categories would you like to explore further?

B. Dig Deeper: Exploring EWIS Data by subgroups/sub-categories

Directions: Identify one student group, school, or grade, of concern to explore further (e.g., middle school boys or students flagged due to attendance.) Here are some sample “Dig Deeper” questions for exploring the data related to your target group of concern. You may choose from the questions listed below, or devise your own questions. **Important Note:** Repeat this step for each targeted group of concern.

Sample Subgroup/Category Questions	EWIS Data & Reports	EWIS Data Output Notes Percent or Number of Students		
1. How do risk levels for _____ (selected student group) vary by additional student characteristics (e.g., gender, income, ELL status, disability status.)	Subgroup Analysis (EW318) Risk Level Indicator Analysis (EW317)	High	Moderate	Low
2. Within our student group of concern, how many individual students are identified as “high risk”? As “moderate risk”?	District View (EW301)	High	Moderate	Low
3. How have risk levels for our student group of concern changed over time?	Graphical View (EW302)	High	Moderate	Low

Use the *Data Exploration Summary Chart* to reflect on what you have learned from reviewing your EWIS data. Which particular students are you most concerned about?

C. *Deep Dive*: Exploring early warning data by individual students

Directions: Identify individual students of concern to explore even further.*

Individual Student-Level Questions	EWIS Data & Reports	EWIS Data Output Notes about Students
<p>1. Looking at the refined subgroup of students identified, what can we learn about their shared risk level indicators?</p> <ul style="list-style-type: none"> ▪ Attendance ▪ Behavior ▪ Course performance ▪ State assessment test performance ▪ Previous year's risk level 	<p>Risk Level Indicator Analysis (EW317)</p> <p>Student View (EW601)</p> <p>Export data to Excel to explore shared risk level indicators for groups of individual students you are concerned about.</p>	
<p>2. What can we learn about patterns in the characteristics of these students?</p> <ul style="list-style-type: none"> ▪ Grade? ▪ Learning and language profile? ▪ Other demographics (e.g. race/ethnicity) ▪ Other student characteristics? 	<p>Subgroup Analysis (EW318)</p> <p>Student View (EW601)</p> <p>Export data to Excel to explore shared grade/age or other learning or demographic characteristics for groups of individual students you are concerned about.</p>	

Use *Data Exploration Summary Chart* to reflect on what you have you learned.

*When preparing for Step 3, schools will also want to identify students by name and classroom to explore potential underlying causes for risk.

Tool 8 – Step 2: Early Warning Data Exploration Summary Chart for EWIS Data

Directions: Use this chart to take notes as you examine your EWIS data.

	Key Findings	Areas of Concern
Big Picture: Main Categories		
<ul style="list-style-type: none"> ▪ Overall risk levels ▪ Comparison with state ▪ Comparison with district 		
<ul style="list-style-type: none"> ▪ By grade ▪ By school ▪ By year 		
District and/or schoolwide by student groups and characteristics: <ul style="list-style-type: none"> ▪ Gender ▪ Race/ethnicity ▪ Low income ▪ ELL ▪ FELL ▪ SPED ▪ High Needs subgroup 		
District and/or schoolwide by risk level indicator category: <ul style="list-style-type: none"> ▪ Attendance ▪ Suspensions ▪ State Assessment performance ▪ Course performance 		

	Key Findings	Areas of Concern
Dig Deeper: Subgroups/Sub-Categories		
By student groups within and across grades: <ul style="list-style-type: none"> ▪ Gender ▪ Race/ethnicity ▪ Low income ▪ ELL ▪ FELL ▪ SPED ▪ High Needs subgroup 		
By risk level indicator category within and across grades: <ul style="list-style-type: none"> ▪ Attendance ▪ Suspensions ▪ Course subject Pass/ Fail ▪ State Assessment test performance 		
By student groups within/across other student groups and categories (<i>e.g., ELL/SPED students with low MCAS</i>): <ul style="list-style-type: none"> ▪ Gender ▪ Race/ethnicity ▪ Low income ▪ ELL ▪ FELL ▪ SPED ▪ High Needs subgroup ▪ Attendance ▪ Suspensions ▪ Course performance ▪ State Assessment performance 		

Deep Dive: Individual Students		
<p>Shared risk indicators and/or shared characteristics of individual students of concern:</p> <ul style="list-style-type: none">○ Gender○ Race/ethnicity○ Low income○ ELL○ FELL○ SPED○ High Needs○ Attendance○ Suspensions○ Course subject Pass/ Fail○ State Assessment performance○ Other characteristics:		

Tool 9 – Step 2: Early Warning Implementation Action Planning Tool

Directions: The following template is designed to support your early warning implementation efforts for Step 2. Teams can identify the key objective or task, and then identify the resources available, actions needed responsible parties, and when the task needs to be completed.

Key Tasks:

- Generate EWIS data reports.
- Determine key questions and/or focus for data exploration.
- Determine the data analysis plan (who will participate in exploring data, when, for which data?).
- Examine data at multiple levels (Big Picture - district and/or school level; Dig Deeper - subgroups; Deep Dive - individual students).
- Identify patterns and summarize key findings (e.g., complete the data summary chart).
- Identify schoolwide/district-wide groups of students, and/or individual students of concern.
- Articulate initial theories or hypotheses related to the findings.
- Identify follow-up questions to be answered with existing and/or additional data.

Objective or Task	What do we have in place? What expertise and/or resources do we already have?	What additional actions and resources are needed?	Who will be responsible?	What is the time frame?

Step 3: Explore Underlying Causes

What You Need for Step 3

- EWIS data and reports
- When available: Monitoring data and reports showing student risk flags
- A list of follow-up questions raised by the EWIS data analysis conducted in Step 2
- Potential Underlying Causes Worksheet (See Tool 11).
- A strategy for how the team will divide up responsibilities for gathering, reviewing, and interpreting additional data
- Sufficient time for the team to meet and review additional student data and discuss findings

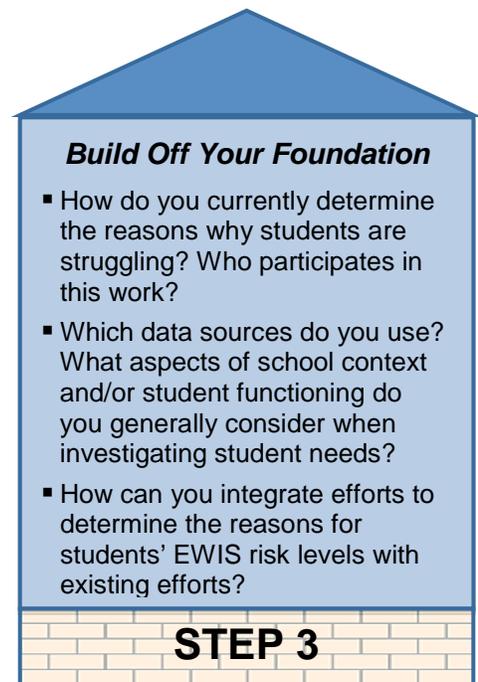
Description of Step 3

Step 3 is about uncovering the reason(s) *why* students are at risk for not meeting academic milestones. It is important to acknowledge that EWIS risk levels and monitoring flags are merely signs or symptoms of deeper and likely more complex problems related to student achievement. Thus Step 3 builds on the review of early warning data by encouraging the team to explore potential underlying causes for individual students, groups of students, the school, and the district. Step 3 relies on a combination of data and professional judgment in assessing student needs.

Anticipated Outcomes for Step 3

The following outcomes are anticipated for Step 3:

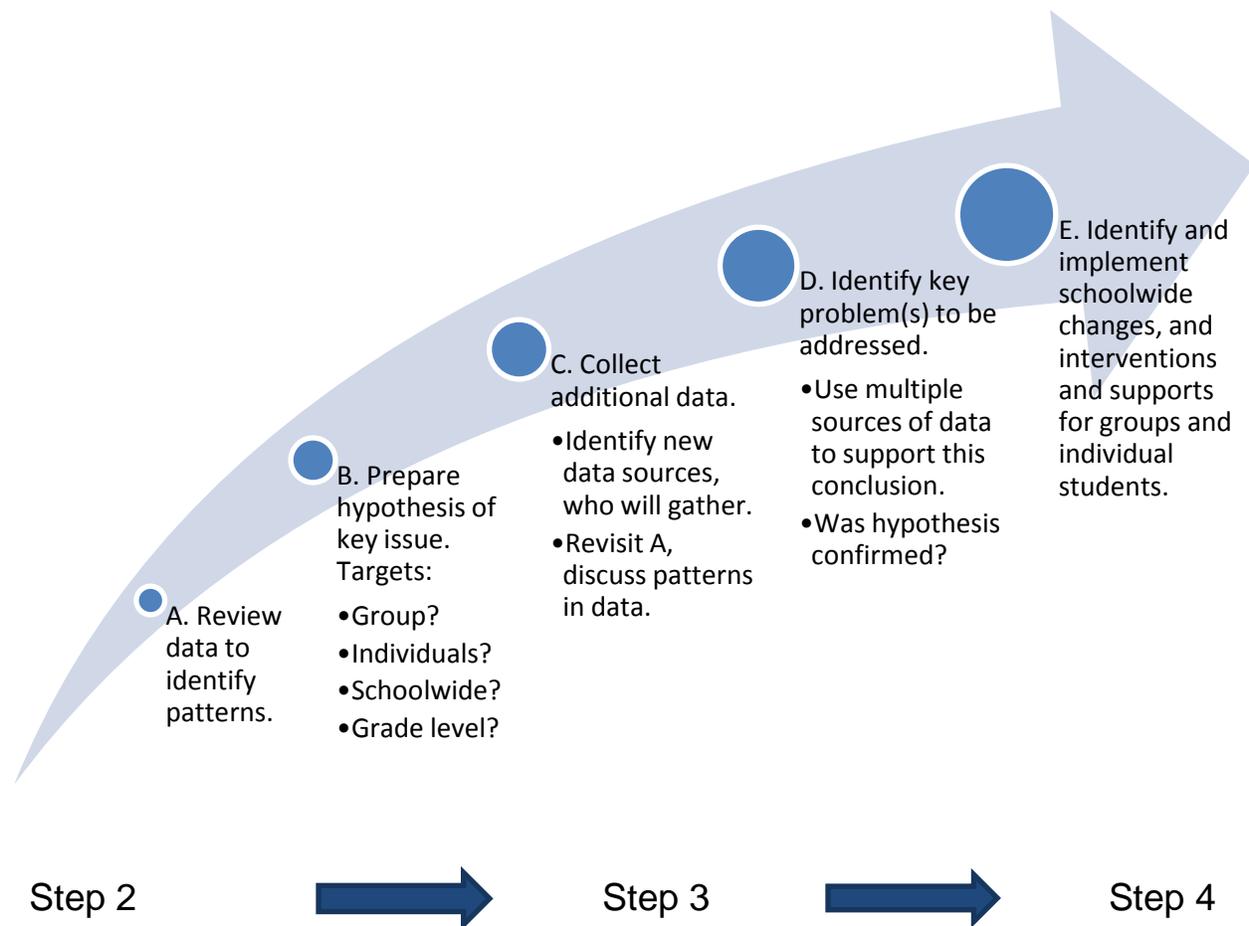
- Additional diagnostic data for individual students or groups of students identified in Step 2, which can be used to discern the most likely underlying causes for risk
- A better understanding and evidence to discern the underlying reasons that individual students or groups of students may be at risk of not meeting academic milestones
- Identification of individual and common needs among groups of students and schoolwide
- Initial ideas related to the nature or the types of interventions and supports students may need to help them get back on track



Moving From Data to Action

As shown in Exhibit 7, Steps 2, 3, and 4 are about moving from data to action for students. In Step 2, the team reviewed EWIS data to identify patterns (A) and formulated initial ideas and follow-up questions (B). As shown in Exhibit 7, the team engages in two key tasks in Step 3: gathering and interpreting additional diagnostic data to identify likely factors contributing to underlying risk (C) and using these data as evidence to confirm likely causes of risk and the likely needs of students (D). In Step 4, the team takes action by making schoolwide changes, and assigning individual and group supports (E).

Exhibit 7. Moving From Data to Action



Identifying Potential Factors Underlying Student Risk

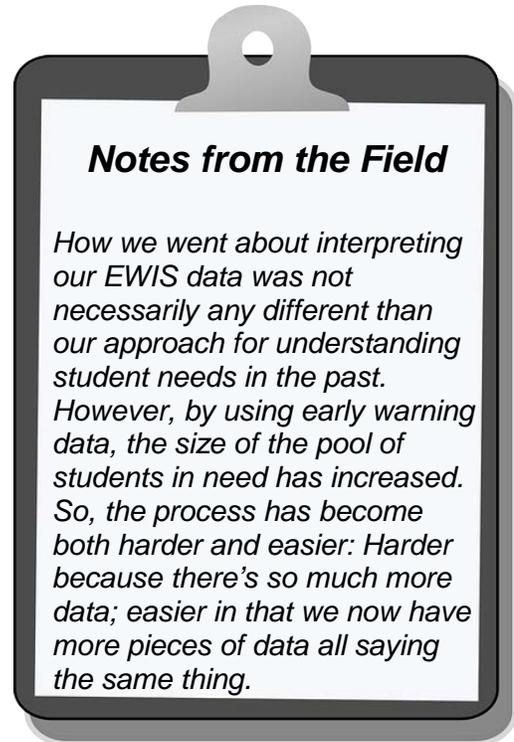
After the team has identified students in need (schoolwide, groups, or individual students), the team then explores the potential underlying reasons for student need by examining student strengths and challenges, the nature of their classroom or school environments, and, potentially, outside contextual factors.

This exploration takes into account that student success is dependent on more than just academic knowledge and skills. The reasons why students struggle or thrive in school stem from a



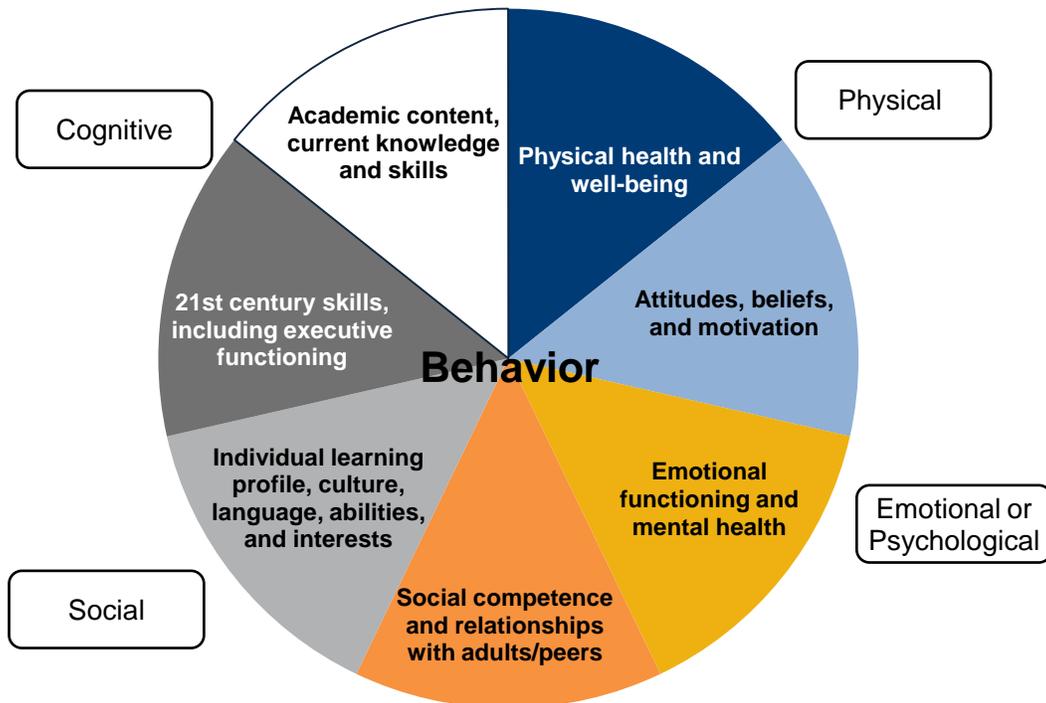
complex interplay of individual; social; emotional; instructional; organizational; and other

contextual factors, such as families, peers, and communities.⁷ Research on factors that contribute to resiliency,⁸ skills needed for the 21st century,⁹ and emerging research on the brain¹⁰ further support the notion that learning and student performance are dependent on the complex interaction between multiple domains of development and functioning. These, in turn, interact with contextual factors. For instance, five students all identified through EWIS data as high risk and all with attendance issues may have five distinct reasons (individual and contextual) for displaying symptoms of need and may require five different interventions to meet these needs.



As the team explores the potential underlying causes for student risk, the team may find it beneficial to consider the range of student needs and the abilities that contribute to school success. As shown in Exhibit 8, individual development can be conceptualized as encompassing four key domains: physical, intellectual or cognitive, psychological or emotional, and social.¹¹ Exhibit 8 also illustrates a sample framework for identifying students' specific strengths, abilities, attitudes, and functioning within each area that may be contributing to or inhibiting school performance. As the team explores the potential underlying causes of student need, a conceptual model such as this one may help the team understand the needs of students and become more strategic about efforts to collect additional data.

Exhibit 8. Domains of Student Development and Functioning



Students do not function in isolation. Rather, research suggests that student performance is the result of each individual's interaction with his or her environment.¹² Effective learning environments are composed of a complex combination of factors.¹³ For instance, research suggests that learning is more likely to take place in a supportive social environment.¹⁴ Research also suggests that learning is enhanced with appropriate structure (i.e., when clear rules, routines, and expectations are balanced with opportunities for choice and autonomy). Students also learn best in an environment that offers ample opportunities for challenge and skill building, which will help students stay engaged and focused on their learning.¹⁵ Teams may want to consider all of these factors as they explore underlying causes of student risk. Given the complexity of potential underlying individual and contextual causes, the team may then want to focus on the areas in which a school or its teachers have the greatest opportunity to make a positive change in student

Notes from the Field

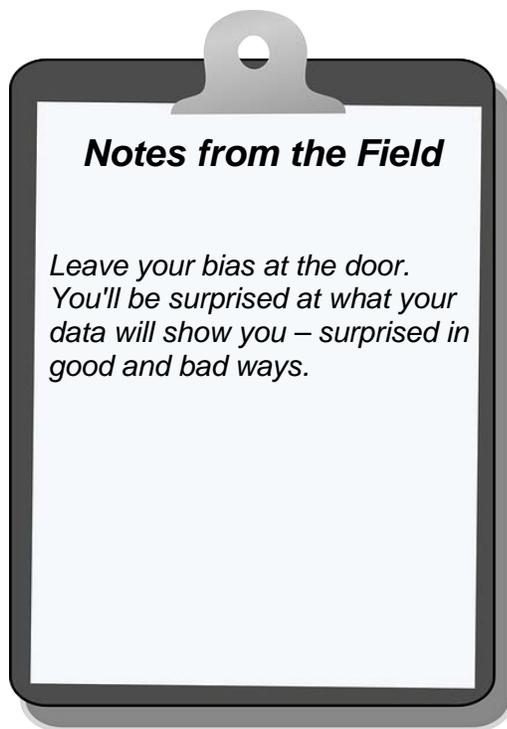
We were able to add a qualitative flavor to our data interpretation by including survey data from teachers for the 30 at-risk kids we had identified. Using this additional data we could now talk about individual student performance and we could drill down deeper to better understand why students were at-risk by looking at information such as their attendance, whether they were doing their homework, and if they were completing long-term projects.

performance. (See Tool 11, Potential Underlying Causes reference sheet.)

Gathering Additional Information

To fully understand underlying factors in student risk, typically, the team needs to gather more data. However, before gathering further data, each team will want to be clear about its priorities, focus, and available time. To know where to start when collecting data, the team may want to begin by generating hypotheses for potential underlying reasons for risk related to its priority areas of concern—whether schoolwide, for groups of students, for individual students, or all three. To guide data collection, these hypotheses can be translated into questions the team would like to answer. For instance, a school that discovers a disproportionate number of grade 3 students at high risk may hypothesize that more needs to be done in grades K-2 to enhance students' literacy skills. So this team might ask the following questions:

- What does our K-2 literacy benchmark data tell us about student performance in key literacy skill areas?
- Which students in grades K-2 need additional literacy supports—and in what areas?
- How are we currently supporting student literacy in K-2?
- Is our reading curriculum and appropriate for our student population?



Next, the team needs to determine the methods and the sources of information the team will use to collect data to answer its questions. To manage the amount of time required, the team identifies those responsible for gathering this additional information. In some cases, this may mean asking others outside the team to assist. The team also may want to establish a timeline for bringing the group together to examine findings, along with additional sources of data in preparation for Step 4.

Schoolwide Data Collection. During Step 2, the team identifies a focus, priorities, and the scope of further study. For instance, a school with large numbers of students in need may have decided that data collection will focus on understanding factors that influence the whole-school environment. This school may want to conduct a learning walk-through, where educators select an area of inquiry and systematically collect data to answer their schoolwide questions

(see <http://www.doe.mass.edu/apa/dart/walk/>) or conduct a focus group with school counselors.

Subgroup or Cohort Data Collection. Another school might discover in Step 2 that many of its students who are at high risk failed mathematics the previous school year, and monitoring flags also point to concerns with mathematics in the current school year. As a result, the team may gather additional information about the current mathematics curriculum, methods of instruction, teacher quality, and the supplemental supports that are available.

Individual Student Data Collection. For schools with fewer students in need, or where students are not responding positively to interventions and supports, the team may want to obtain additional information to help diagnose the specific needs of individual students. Many teams begin by gathering information about students directly from those adults who interact with these students on a regular basis (e.g., classroom teachers, school counselors, and specialists). For example, for students who are identified as they enter grade 1 as being at high risk for not being able to read by the end of grade 3 (scoring *proficient* or *higher* on the grade 3 ELA State Assessment), the team may need to gather information on students' kindergarten performance from the prior year's teacher. Often, a team also accesses existing information that is available through school data systems and locate other performance or assessment data for the student.

**Implementation Tip:
How Much Data Are Enough?**

It is easy to keep identifying additional questions and data sources that the team would like to gather. To manage this process and avoid amassing too much data, aim for gathering three sources of information for each student or group of students and be sure the team is clear about what questions it hopes each source of data will answer.

Finally, in some cases, the team may determine that it is appropriate to conduct (or work with classroom teachers to conduct) one-on-one meetings with individual students, their family members, or both as appropriate. In-person data-gathering efforts with educators, students, and families shed light on the reasons students are identified as being at high or moderate risk or are flagged for a monitoring indicator and also can spark interest and opportunities to engage students and the adults who interact with them in providing additional interventions and supports. If the school is implementing Individual Learning Plans (ILPs) with students, the ILP process is an opportunity to have a meaningful discussion with the student (and possibly also the family) to learn more about the student's needs, strengths, and barriers.

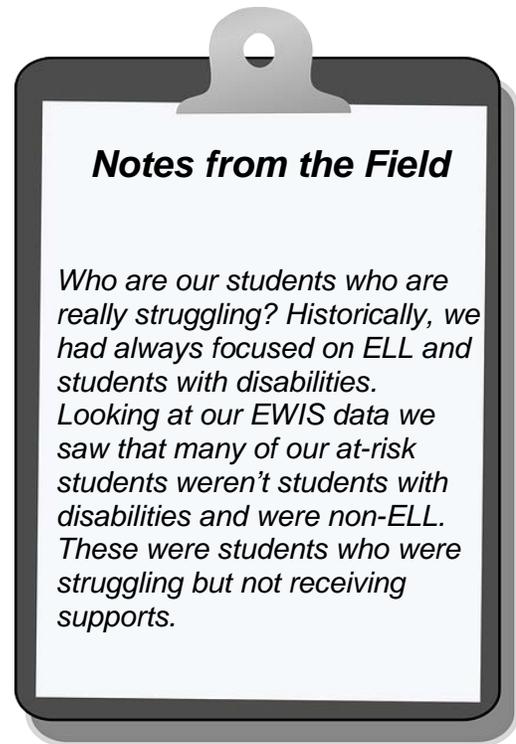
Most importantly, the additional information gathered during Step 3 improves the team's understanding about why students are identified as being at risk. The guiding questions for Step 3 suggest a sequence of inquiry steps.

Interpreting Data

It is easy to confuse a symptom with the cause for that symptom. For instance, when a child exhibits disruptive behavior in the classroom, a teacher is likely to implement a behavior management plan. However, simply addressing the behavior itself is unlikely to be effective in the long run if the reasons for a child's behavioral struggles are not fully understood. Perhaps the child is bored, is overwhelmed, has a disability, is having difficulty understanding the material, or is distracted by teasing from peers.

Until educators can systematically and thoroughly interpret the early warning data they have gathered so that they can better understand the underlying causes for student difficulties, appropriate interventions and supports cannot be devised. In addition, although individual students respond to stressors in unique ways, it is likely that the underlying cause(s) for one student is linked to broader areas in need of improvement in a classroom, a school, or a district that, if addressed, would benefit many students.

After gathering additional information, the team needs to interpret what the data mean. To begin, the team reviews its original EWIS reports, (and when available monitoring flags) for schools, groups of students, and/or individual students. Teams combine these data with additional diagnostic data that has been gathered to discern potential underlying causes of student need. As the team reviews data and conducts the analysis, it is suggested that the team openly discuss any previously held assumptions about individuals or groups of students and replace those assumptions with ideas about likely underlying causes that are based on factual evidence.



Confirming Student Needs by Using Evidence

During Step 3, it is likely that the team will develop new ideas for the underlying cause(s) for student risk. On the basis of these investigations, the team should be able to identify some common and individual needs among students and prepare to identify and implement appropriate intervention strategies (Step 4). Therefore, the last three tasks in Step 3 are to: (1) clarify and confirm that the team's hypothesis is based on the collected evidence; (2) identify specific support goals for students, groups of students, or the whole school; and (3) establish initial priorities for how student and schoolwide needs will be met. It is critical to designate enough time for these tasks. Some teams may want to designate subgroups or work with other educators and/or classroom teachers to address particular students or groups of students and then reconvene as a full group to make final decisions and plan action. Before moving on to Step 4 it is important that the team establishes priorities for meeting student needs so decisions about the use of available resources needed for interventions can be made most efficiently.

Important Note: The first time the team meets to discuss underlying causes of student risk will require a substantial amount of time. As the team clearly identifies sources for student information and questions to consider for understanding student needs, it will become more skilled at the process, so the time needed to conduct Step 3 will decrease.

District Role in Step 3

Districts have an important role to play in supporting a school's additional data collection efforts. Often, schools need to access information beyond the EWIS information housed in Edwin Analytics and/or the monitoring indicator system. For instance, a school may want data from its feeder schools. District administrators can support these efforts by meeting with teams to understand and support their local data collection and developing policies that give the team members or designees access to information so that they can efficiently and independently gather information. In some cases, the district may want to participate in data collection efforts or conduct its own (additional) data collection efforts. A district also can support its school-level teams by providing sufficient time and staff coverage to allow the school-level teams to engage in the time-intensive process of exploring the underlying causes of risk for students.

Guiding Questions for Step 3

- Overall guiding questions
- About which student(s) are we most concerned? What do we already know about them?
- What are the team's initial theories or hypotheses about the most likely underlying causes of student need?
- Are there schoolwide concerns related to patterns in student risk?
- What are the team's next steps for collecting additional information?
 - What types of information will be most helpful in better understanding the most important underlying causes for the risk status of students?
 - What sources (e.g., learning walkthroughs, teachers, school counselors, assessment data, student interviews) will the team gather information from?
 - Who will collect the information and when?
- Based on the evidence collected, what does the team believe are the most important underlying causes of student need?
 - For individual students
 - For groups of students
 - At the school level
 - At the district level
- What are initial ideas for potential interventions and supports for the whole school, groups of students, and individual students? How will you prioritize these needs?

Tool 10 – Step 3: Checklist**Define the Target:**

- Confirm which at-risk student(s) the team is most concerned about
- Clarify and document what the team already knows about these students
- Articulate hypotheses related to causes of risk for these students

Gather Additional Data:

- Identify what additional information needs to be collected to better understand underlying causes of risk for identified students
- Determine which data sources will yield the best information to set data collection priorities
- Determine how and who will collect these data (i.e. create a *Data Collection Plan*)
- Review and analyze the additional data

Confirm Likely Underlying Causes and Student Needs:

- Determine what has been learned about underlying causes of risk from new data or evidence; confirm likely cause(s)
- Determine what at-risk student(s) need (define the problem to be solved)
- Generate initial ideas for appropriate interventions and supports

Tool 11 – Step 3: Potential Underlying Causes of Risk and Associated Data Sources Reference

Directions: Use this optional reference sheet to help identify the potential underlying causes of risk for a student or group of students of concern. Causes of risk may due primarily to individual student, contextual or other factors or a combination of factors. Once you have identified potential causes of risk, select the data sources you will use to further explore the likelihood that these factors are contributing to risk for a student or students.

Potential Underlying Factors: <i>Student-Level</i>	Potential Data Sources	
	Existing Data Sources We Could Use	New Data We Might Collect
<p>Are academic or cognitive factors contributing to risk?</p> <ul style="list-style-type: none"> ○ Academic skills or content knowledge (by subject) ○ Transferable learning skills (e.g., organization, problem solving, decision making) ○ Learning profile (preferred learning modes or methods, information processing) ○ Language proficiency ○ Special learning needs (academic, cognitive, or executive functioning) ○ Other 	<ul style="list-style-type: none"> ○ EWIS student risk levels ○ Student data in other Edwin reports ○ Monitoring Indicator Flags ○ Student attendance ○ Grades (current and prior) ○ Teacher progress reports ○ Grade retention ○ State Assessment scores ○ Benchmark assessment data ○ Subject area tests ○ Language proficiency tests ○ Special education testing results ○ Other 	<ul style="list-style-type: none"> ○ Teacher conversations or interviews ○ Student interviews or surveys ○ Family interviews or surveys ○ Additional academic assessments ○ Afterschool or community program staff interviews or surveys ○ Other
<p>Are emotional or psychological factors contributing to risk?</p> <ul style="list-style-type: none"> ○ Attitudes and beliefs about self and own competencies ○ Intrinsic motivation ○ Growth versus fixed mindset ○ Mental health issues (anxiety, diagnosed mental health condition or issue) ○ Witness to or victim of a traumatic event ○ Special needs (emotional, psychological, behavioral) <p>Are social competence and relationship factors contributing to risk?</p> <ul style="list-style-type: none"> ○ Lack of social skills or competencies ○ Difficulty understanding social norms for school and classroom ○ Difficulty relating to peers ○ Difficulty relating to teachers and other adults 	<ul style="list-style-type: none"> ○ Teacher progress reports ○ Special education testing results ○ Results of other assessments ○ Suspensions ○ Behavioral records ○ Student attendance ○ School counselor records ○ Medical reports ○ School nurse reports ○ Doctor reports or letters ○ Letters or notes from family ○ Other 	<ul style="list-style-type: none"> ○ School counselor, social worker, or psychologist interviews or reports ○ Teacher conversations or interviews ○ Classroom or other observation ○ Student interviews or surveys ○ Family interviews or surveys ○ Afterschool or community program staff interviews or surveys ○ Additional assessments ○ Other

Potential Underlying Factors: <i>Student-Level</i>	Potential Data Sources	
	Existing Data Sources We Could Use	New Data We Might Collect
<p>Are physical health or well-being factors contributing to risk?</p> <ul style="list-style-type: none"> <input type="radio"/> Chronic or acute health issues <input type="radio"/> Fatigue or insufficient sleep <input type="radio"/> Difficulty managing stress <input type="radio"/> Risky behaviors (drugs, alcohol) <input type="radio"/> Physical handicap or challenge 		

Potential Underlying Contextual Factors: <i>School or Classroom Level</i>	Potential Data Sources	
	Existing Data Sources We Could Use	New Data We Might Collect
<p>Classroom level</p> <ul style="list-style-type: none"> ○ Subject area ○ Level of rigor of class or classes ○ Curriculum/sequence for course ○ Teacher match to students' individual learning needs (e.g. personality, instructional approach, modality, level of challenge too difficult or too easy, pacing) ○ Relevance or match to student interests and goals, ○ Student-teacher ratio ○ Size or composition of class(es) ○ Classroom match to student learning, social and emotional needs ○ Time of day of class ○ Volume or type of homework ○ Peer mismatches ○ Other <p>School level</p> <ul style="list-style-type: none"> ○ Curriculum ○ School Schedule ○ Pace or transitions ○ Policies and procedures for matching students with teachers ○ Discipline policies ○ Protocols for managing students moving in, out, and between schools ○ Other 	<ul style="list-style-type: none"> ○ Teacher or classroom assignments ○ Academic aide assignments ○ Class size and composition ○ Student-teacher ratios by classroom or grade ○ Subject area level (e.g., remedial, standard, accelerated) ○ Curriculum and lesson plans for subject or class ○ School or class schedule ○ Teacher website ○ Homework assignments ○ School policies and procedures ○ Teacher attendance ○ Classroom attendance or participation records ○ Other 	<ul style="list-style-type: none"> ○ School or classroom <i>Learning Walkthrough</i> ○ Principal interviews or reports ○ Teacher conversations, focus groups, interviews, or surveys ○ Student focus groups, interviews, or surveys ○ Family focus groups, interviews, or surveys ○ Other

Potential Underlying Factors: <i>Other Factors</i>	Potential Data Sources	
	Existing Data Sources We Could Use	New Data We Might Collect
<p>Pragmatic or logistical issues:</p> <ul style="list-style-type: none"> ○ Transportation to and from school ○ Class scheduling conflicts ○ Lack of appropriate place or time for homework ○ Lack of access to internet ○ Outside work responsibilities such as caring for siblings, employment <p>Challenges outside of school:</p> <ul style="list-style-type: none"> ○ Mobility ○ Homeless ○ Issues with peers/gangs ○ Neighborhood crime or safety ○ Family stressors, issues ○ Other 	<ul style="list-style-type: none"> ○ Student attendance ○ School or class schedules ○ Bus schedule or pick up and drop off locations ○ Teacher website ○ Homework assignments ○ Mobility records ○ Other assessments (e.g., Youth Risk and Behavior survey) ○ Crime or police records or reports ○ Other 	<ul style="list-style-type: none"> ○ Principal interviews or reports ○ Other school administrator interview or report ○ Teacher conversations, focus groups, interviews, or surveys ○ Student focus groups, interviews, or surveys ○ Family focus groups, interviews, or surveys ○ Afterschool or community program staff interviews or surveys ○ Other assessments ○ Other

Tool 12 – Step 3: Early Warning Implementation Action Planning Tool

Directions: The following template is designed to support your early warning implementation efforts for Step 3. Teams can identify the key objective or task, and then identify the resources available, actions needed responsible parties, and when the task needs to be completed.

Key Tasks:

- Confirm students and/or target group(s) of concern.
- Clarify hypotheses and identify any questions to be answered with additional data.
- Identify suitable and sufficient data sources for each area, student, or group of concern.
- Determine who will collect these data and when. (How the team will divide up responsibilities for gathering, reviewing, and interpreting additional data?)
- Review existing and additional data to discern likely underlying cause(s) (i.e., root cause analysis).
- Confirm the problem to be addressed and cite evidence to support your conclusion.
- Identify student needs and support goals that the team plans to address.
- Identify initial ideas for the types of interventions and supports that will be needed.

Objective or Task	What do we have in place? What expertise and/or resources do we already have?	What additional actions and resources are needed?	Who will be responsible?	What is the time frame?

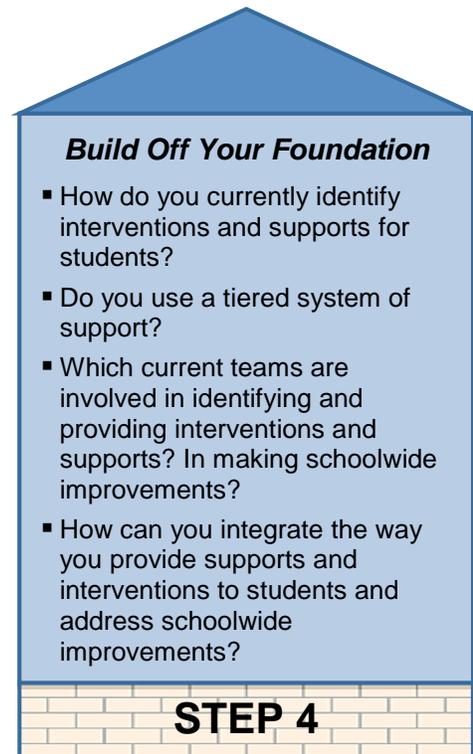
Step 4: Take Action

What You Need for Step 4

- An understanding of student needs in the school, based on evidence gathered by reviewing EWIS data and monitoring flags as well as additional information gathered in Step 3
- Identified support goals for students, groups of students, and/or schools
- Initial priorities for how student needs will be met
- If applicable, information regarding your district/school's procedures for implementing a tiered system of support
- Tools 14 and 15, Interventions and Supports Inventory and Review
- Appendix D: Targeted and Schoolwide Interventions Resources

Description of Step 4

Step 4 is about taking action. In this step, using the data from Step 3, the team identifies appropriate interventions and supports to align with the needs of students on an individual, group, and/or schoolwide basis. During Step 4, the team creates an inventory of available academic and non-academic interventions and supports in the school, the district, and the community and identifies and addresses any gaps in those supports. Next, the team considers how best to allocate and assign resources to meet student needs, which can be approached through a tiered continuum of academic and nonacademic supports. As the team identifies appropriate interventions and supports, the team may draw on available resources, adopt and offer new programs, and/or implement other schoolwide changes. Finally, the team works with district and/or school educators and students to ensure that there is sufficient intensity, oversight, and commitment for the interventions and supports to be successful.



Anticipated Outcomes for Step 4

The following outcomes are anticipated for Step 4:

- A compiled inventory of academic and nonacademic interventions and supports available to students within and outside of the school

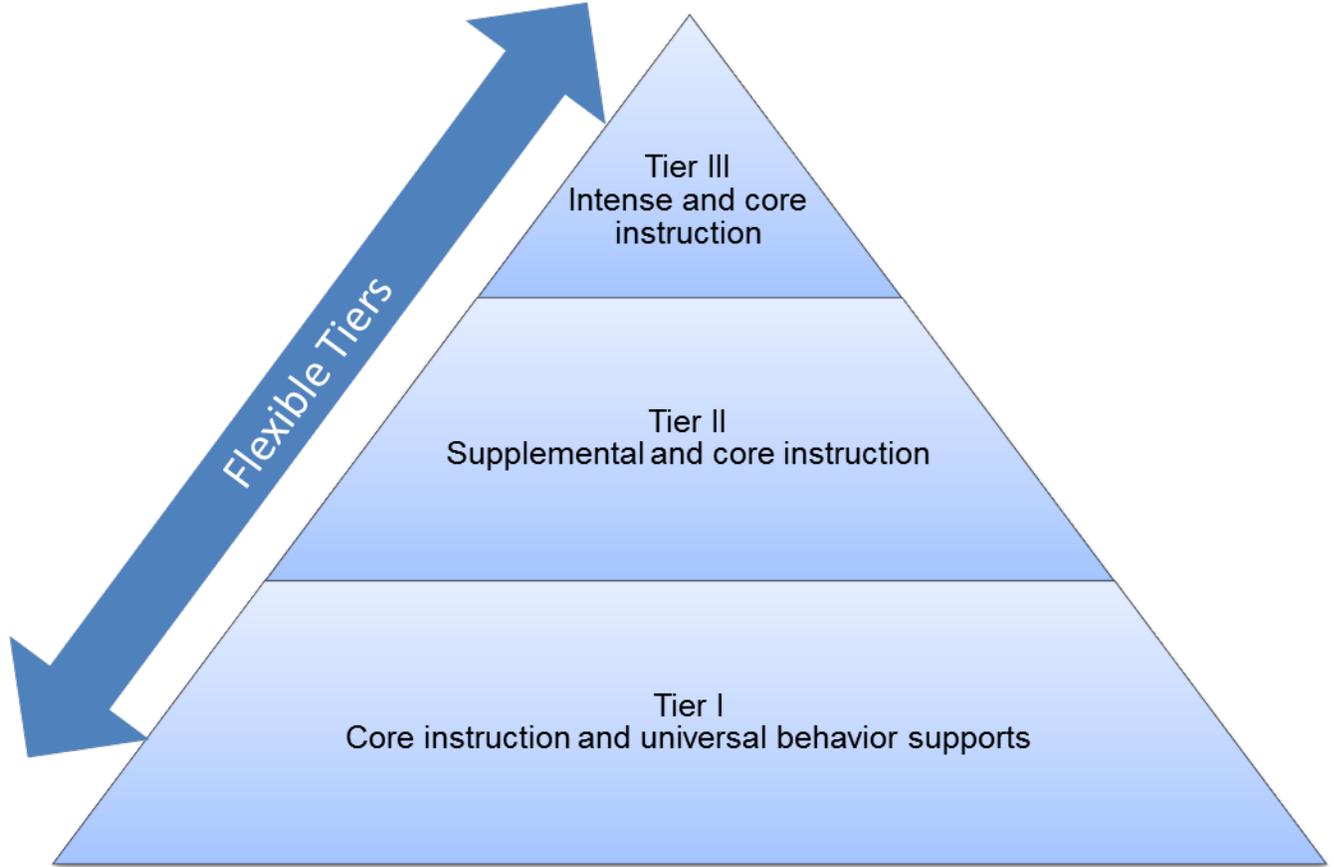
- The identification of gaps in the available interventions and supports for students and recommendations for new strategies
- Information regarding potential evidence-based interventions and supports for identified student needs (available or desired)
- The provision of interventions and supports on the basis of the student needs identified in Steps 2 and 3 (documented for each individual student). Districts/schools may integrate this with their approach to assigning universal, Tier II, and III supports and interventions through their tiered system of support
- A plan for tracking and assessing the success of interventions and the fidelity of implementation
- A plan for monitoring student progress and adjusting interventions and supports
- Recommendations for grade, schoolwide, and districtwide core or universal changes and support strategies aimed at addressing the most common student needs identified in Steps 2 and 3. Districts/schools may integrate this with their approach to Tier I interventions through their tiered system of support

Using a Systematic Approach to Assigning Interventions and Supports

In many schools and districts, interventions and supports for students are available but could be more systematically delivered and better coordinated. The use of EWIS data and monitoring indicators can be the foundation for developing or furthering a systemic approach to interventions. Schools and districts are increasingly organizing specific strategies or interventions into a continuum of supports that is based on the needs of the students and the intensity and the duration of the interventions or supports. One model of this approach is the Massachusetts Tiered System of Support (MTSS), which outlines a blueprint that is responsive to the academic and nonacademic needs of all students. MTSS offers a structure to provide students with access to high-quality core educational experiences in a safe and supportive learning environment and a continuum of services that provides increasing levels of support. The three tiers of MTSS are as follows:

- Tier I interventions and supports are the general education environments that are safe and supportive, the curriculum is rich and rigorous, and the instruction is designed to meet the variability of learners.
- Tier II interventions and supports are moderately intensive and are targeted toward small groups of students with similar needs who would benefit from similar interventions or supports (and sometimes individual students).
- Tier III interventions and supports are the most intensive and are provided to individual students with the highest levels of need.

Exhibit 9 is a graphical depiction of the flexible tiers for providing interventions and supports within MTSS. For more information on MTSS, see <http://www.doe.mass.edu/mtss>.

Exhibit 9. Flexible Tiered Approach to Student Support

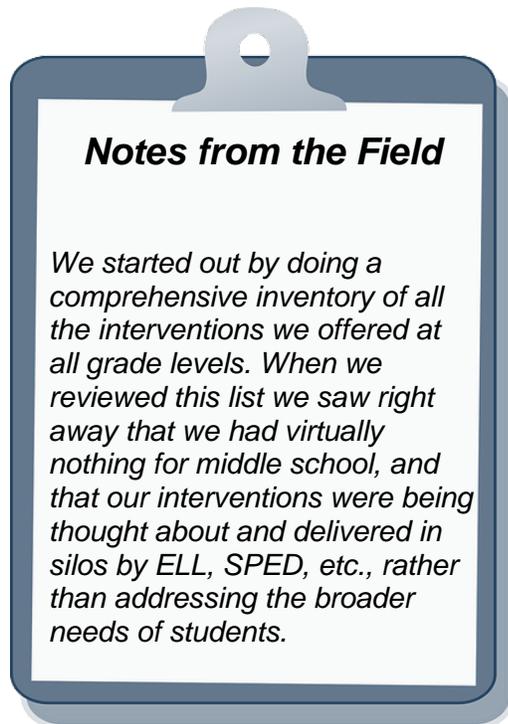
When adopting or adapting such a model for keeping students on track, schools and/or districts may consider the following:

- Clearly communicate the purpose of and define the tiers within the model so that stakeholders—including administrators, educators, families, specialists, school support staff, outside agencies, and students—easily understand the tiers and their flexibility.²
- Establish a protocol that enables students to move through the tiers seamlessly and efficiently as needs are identified and then change.
- Ensure that more intensive interventions and supports do not result in a label³ for students but result in actionable information that leads to appropriate support.

² For example, a student assigned intensive 1:1 academic support to reach a certain skill level, might be moved to a small group intervention over time. Eventually, that same student may not need either support, but, when he/she moves to a new grade or school, might be reassigned to more intensive or targeted supports.

It is assumed that those schools or districts using a tiered approach enables all students to have access to Tier I instructions and supports: broad, school, and/or districtwide changes and supports. Students in need also may receive Tier II or Tier III interventions and supports, or both, based on the assessment of need determined by a variety of factors and the team. In Step 5, the team monitors student progress and adjusts student assignments to interventions and supports as well as their movement through tiers, as needed. These features help schools and districts coordinate services and closely track the participation of individual students in interventions and supports and their responses to those supports. **Important Note:** Schools and districts that are not using a tiered model of support can still make good use of EWIS and monitoring data with their own systems of support for students in need.

Creating an Inventory of Available Interventions and Supports



Before providing interventions and supports to meet student needs, the team needs to identify what is already available and better understand the needs those interventions and supports are intended to address. By creating an inventory of existing programs, services, interventions, and supports, along with the personnel who will provide them in the school, the district, and, if possible, the community, the inventory is a valuable resource on which the team draws as it identifies students in need. Some districts and schools may already have information about available interventions and supports and may need to locate and combine this information from a variety of departments and other sources. Tool 14 provides a sample way to organize this information.

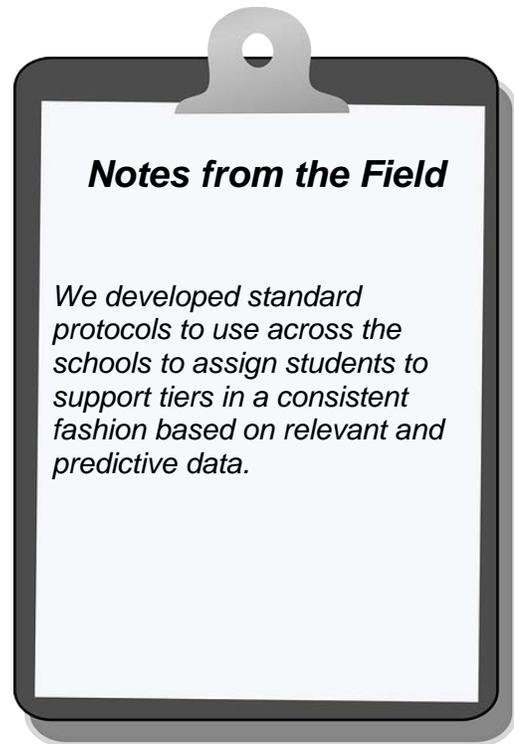
When conducting an inventory of existing interventions and supports, the team reviews available interventions and supports (see Tool 15). The following questions help teams

to organize and review these interventions and/or supports:

- What is the nature and the purpose of each intervention and/or support? What grades or age groups does each intervention serve?

³ Teams should ensure that students are not designated as Tier I, II, or III students; rather the interventions and supports are Tier I, II, or III. For example, students may receive universal supports (Tier I) for most aspects of their education, at the same time as receiving Tier II supports for math and Tier III supports for mental health services.

- Which student needs is each intervention and/or support primarily designed to address (e.g., academic, learning skills, social, emotional, attitudes and beliefs, behavior, health, student disability and/or learning profile, language proficiency)?
- What is the intensity of each intervention or support (e.g. Tier I, II, III)?
- What is the duration of each intervention or support?
- Where and when is each intervention and/or support being offered (e.g., which classrooms, schools, locations within the district or the community)?
- What is the current capacity of teachers, administrators, or specialists for implementing each intervention or support for identified youth?
- Are any of the students who have been identified as being at risk already participating in these interventions or supports provided outside the school day?
- Are the interventions and supports evidence based and known to be effective? For which profile of students are they effective? What is the evidence?
- Are there universal screenings and assessments in place that are valid and reliable predictors of future performance that are (or could be) used to provide interventions?
- What are the gaps in the currently available interventions and/or supports?



Providing Interventions and Supports

After the inventory is developed, the team needs to prepare to take action. The team considers how student needs identified in Step 3 can be addressed within the continuum of existing interventions and supports. The team may want to begin by identifying those programs that both meet identified needs and are currently available on-site at the school. For some teams, the inventory of interventions and supports will reveal that there are few interventions and supports available that can help meet identified student needs. If this is the case, the team needs to determine the nature, the level, and the type of new interventions and supports that are needed. For a listing of resources for Targeted and Schoolwide Interventions and Supports, see Appendix D. This list provides information on intervention types, the appropriateness of interventions by school levels, and the level of research review and rigor of evidence for listed interventions.

Often, the team begins by focusing on Tier I instruction and supports that can serve the greatest number of students in need, before assigning more intensive interventions or supports to groups of students and individual students. For instance, should a school adopt a new instructional approach, such as project-

based learning, to help engage students and align more effectively with students' learning styles? Are there school or district policies and practices that will help address student learning needs, such as new behavior management policies? Step 4 relies heavily on the data collected during Steps 2 and 3 to inform action, but team members are ultimately charged with using their professional judgment to evaluate data and upon which recommend specific interventions and supports.¹⁶ Remember, teams can always adjust and add interventions and supports throughout the year.

To help track student progress, it is recommended that the team document any small group or individual intervention and support assignments. As students receive interventions and supports, the team can monitor student progress and adjust the intervention or support on the basis of this information (see Step 5).

To ensure that each intervention or support is appropriate and effective, the team must:

- Secure leadership buy-in and support for intervention and support strategies to assist students.
- Collaborate with and secure buy-in and time from classroom teachers, school counselors, special educators, and other specialists to learn how to design, implement, and oversee interventions and supports.
- Ensure that planned interventions and supports will provide sufficient intensity and that participation or attendance in interventions and supports is documented.
- Secure buy-in from students and families (as appropriate). If the school is implementing Individual Learning Plans (ILPs) for students the ILP process is a place to discuss possible intervention and supports. These interventions and supports can also be documented in the ILP instrument.
- Devise a plan for tracking individual student responses to the interventions or supports. For example, use monitoring indicators to identify whether students in interventions continue to be flagged (Step 5).¹⁷

District Role in Step 4

The perspective of the district allows longer-term solutions and strategies across schools. The district can do the following to support its teams in identifying appropriate interventions and supports:

- Identify common needs of students across multiple schools.
- Pinpoint districtwide solutions for common needs across schools.

Notes from the Field

It's not always about the student when they are high risk. We used EWIS data to go to some teachers with high failure rates and ask them to tell us about what's happening in their classrooms. We were able to suggest shifts in instructional practices, use more formative assessments and embed instructional coaches in classrooms to offer more support for some teachers.

- Provide solutions for gaps in available interventions and supports.
- Allocate and/or reallocate resources on the basis of identified needs within specific schools.
- Support interventions to improve student readiness for key transitions (e.g., elementary school to middle school, middle school to high school, summer bridge programs).

Districts also have a role to play in identifying and promoting the use of promising intervention and support programs. By working with and as part of teams, district personnel can play key roles in identifying promising interventions and supports and share effective practices across schools.

Box 3. Examples of District Activities

The following are some specific activities that districts can use to support schools in Step 4:

- Develop policies, practices, and procedures for implementing a tiered system of support.
- Ensure that parents receive regular updates of their children’s interventions, goals, and progress.
- Demonstrate awareness and sensitivity to cultural, linguistic, and other aspects of family diversity.
- Engage community partners and providers with the school and families to provide access to social services and health, social, recreational, and supplemental educational services.
- Promote equity by distinguishing among the academic and/or nonacademic needs of individual schools and populations and allocating adequate resources to the schools and students with the greatest needs.
- Implement a review process to determine the cost-effectiveness of its programs, initiatives, and activities as it relates to student achievement.
- Actively seek ways to leverage resources and expand capacity through collaboration with external and community partners.
- Create a climate conducive to adult learning through effective communication, ongoing professional improvement, and joint responsibility for students' learning.
- Offer professional development programs and services based on district priorities, information about staff needs, student achievement data, and assessments of academic and/or nonacademic practices and programs at each school.

Guiding Questions for Step 4

- What needs has the team identified for individual and groups of students? Schoolwide needs?

- Do trends in the data identify the need for particular types of interventions and supports (e.g., professional development for teachers on instructional strategies, transition supports, or opportunities for extended learning beyond the school day)?
- What interventions and supports are currently implemented in the school? In other locations in the district? How successful do they seem to be? What changes could be made in curriculum and instructional practices? What additional professional development is needed for teachers?
- What evidence based interventions and supports are available to support identified student needs?
- What policies and structural quality features (as opposed to specific programs) currently exist (or could be implemented) to support students' academic and nonacademic needs (e.g., flexible scheduling, behavioral support, or attendance and truancy policies)?
- Which interventions and supports can the team identify that, if implemented, would serve the greatest number of students?
- If a tiered model is not already in place, is this an approach our team wants to use to provide supports? Are there other ways to coordinate services and prioritize the allocation of resources?
- Do the demographic characteristics (e.g., disability status, economically disadvantaged status, or ELL status) of the students identified as being at risk inform intervention and support decisions? Should they?

Tool 13 – Step 4: Checklist

Confirm Student Needs and Priorities:

- Confirm the list of individual and groups of students to which your team will assign interventions and supports
- Identify common needs across individuals and/or across groups
- Identify any schoolwide needs your team plans to address

Inventory of Interventions and Supports:

- Create an Inventory of current interventions and supports
- Compare the list of interventions and supports to identified student and schoolwide needs
- Identify any gaps between identified needs and available interventions
- Determine what new/additional interventions (across all three tiers) may need to be developed, offered, or identified

Matching Needs with Support and Interventions:

- Determine what approach your team will use to assign interventions and supports (e.g. How do you already assign interventions and supports? Do you have a tiered model of support in place? If not, is this an approach the team wants to explore?)
- Determine the broad policies and structural quality features (as opposed to specific programs) that could be implemented to support students' academic and nonacademic needs
- Determine which individual or group interventions and supports, if implemented, would serve the greatest number of students

Assigning Interventions and Supports:

- Determine which interventions and supports your team will assign—and to which students
- Determine who will communicate with students, staff, and parents regarding these proposed supports
- Identify who will oversee/manage interventions that are assigned
- Determine what data your team will collect regarding student participation and progress in interventions and supports
- Determine when/who will be responsible for providing these data to the team

Tool 14 – Step 4: Inventory of Interventions and Supports

Directions: Use the table below to develop a list (or inventory) of available supports and interventions in the school, the district, and the community that are available to meet students’ needs. Describe the focus of each intervention and support in column B. In column C, indicate the level of intensity – universal (U), supplemental (S), or intensive (I) – for which this applies within a tiered system of supports. Complete columns D–I to provide additional information and detail about each intervention or support to assist your team in matching the appropriate interventions and supports to the needs of students on an individual, group, or schoolwide basis.

Interventions and Supports Inventory

A	B	C	D	E	F	G	H	I
Name of Intervention or Support	Description	Intensity Level (U, S, or, I)	Type of Support (e.g., academic, behavioral)	Specific Skill Area the Support / Intervention Will Address (e.g., phonological awareness, self-regulation)	Format (schoolwide, class, small group, individual)	Age/Grades	Target Population (e.g., student need)	Frequency and Duration
<i>EX: Academic Tutoring Mass Vol Scholars</i>	<i>Volunteer tutors from local university</i>	<i>S</i>	<i>Academic, social-emotional</i>	<i>Math</i>	<i>Individual / small group</i>	<i>2nd-4th</i>	<i>Students failing 1st-3rd grade math benchmark assessments.</i>	<i>2 days / week each quarter</i>

Tool 15 – Step 4: Interventions and Supports Review

Directions: Use the table below to review and monitor each available intervention or support and use this information to (1) improve the team’s ability to match appropriate supports and interventions to the needs of students, (2) monitor the impact of interventions and supports, and (3) conduct a gap analysis of available supports and interventions to meet the needs of students.

List and describe the intervention or support in columns A and B. In column C, indicate the level of support for which this applies within a tiered system of supports. Use columns D–E to provide further information about each intervention or support. Use columns F–H as the team monitors interventions and supports to track information about cost, evidence of improvement, and notes about the type of student needs that the intervention or support meets.

A	B	C	D	E	F	G	H
Name of Intervention or Support	Description	Intensity Level (U, S, or, I)	Type of Support (e.g., academic, behavioral)	Age/Grades	Cost Per Student	Metrics to Track Evidence of Improvement	Notes: Fit Between Support and Student Needs
<i>EX: Academic Tutoring: UMass Volunteer Scholars</i>	<i>Volunteer tutors from local university</i>	<i>S</i>	<i>Academic, social-emotional</i>	<i>Gr 2-4</i>	<i>\$50</i>	<i>Tutor – teacher communication log, quarterly benchmark assessments, teacher progress reports</i>	<i>Many identified students do not speak English. Tutors are bilingual and speak the primary language of most students at the school.</i>

A	B	C	D	E	F	G	H
Name of Intervention or Support	Description	Intensity Level (U, S, or, I)	Type of Support (e.g., academic, behavioral)	Age/Grades	Cost Per Student	Metrics to Track Evidence of Improvement	Notes: Fit Between Support and Student Needs

A	B	C	D	E	F	G	H
Name of Intervention or Support	Description	Intensity Level (U, S, or, I)	Type of Support (e.g., academic, behavioral)	Age/Grades	Cost Per Student	Metrics to Track Evidence of Improvement	Notes: Fit Between Support and Student Needs

Tool 16 – Step 4: Review Your Inventory of Interventions and Supports

Directions: Now that you have completed your Interventions and Supports Inventory, explore the following questions.

Reviewing Your Inventory – Guiding Questions:

- Are there any interventions or supports that need to be added? Add any additional interventions or supports that are in place (e.g., districts supports, informal supports.)
- Thinking of students varying needs for intervention intensity (e.g. tiers) are there any areas in which you may not have adequate supports?
- Thinking of the early warning data for your students and your analysis, are there any supports that you may still need to develop? What are they?

Assigning Supports – Guiding Questions:

- What is the range of interventions and supports we have available?
- What gaps can we see between student needs and available supports and interventions?
- What do we know about the proven effectiveness of these supports and their suitability for identified student needs?
- Which interventions or supports, if implemented, could serve a group of students? Which would serve the greatest number of students?
- What changes to grade- or school-level policies, procedures, scheduling, professional development, or curriculum could we make to meet common student needs?

Tool 17 – Step 4: Early Warning Implementation Action Planning Tool

Directions: The following template is designed to support your early warning implementation efforts for Step 4. Teams can identify the key objective or task, and then identify the resources available, actions needed responsible parties, and when the task needs to be completed.

Key Tasks:

- Confirm the priorities for student needs and support goals – particularly common needs across individual students, groups of students, and/or all students within the school/district.
- Determine how decisions will be made about providing supports (e.g., tiered system of support).
- Create and/or build on existing inventory of student supports (e.g., complete the interventions and supports inventory).
- Review how student needs could be addressed through existing interventions and supports and identify which interventions and supports would serve the greatest number of students.
- Identify any gaps and determine whether additional interventions and supports are needed.
- Determine any school /district-wide policies and procedures and/or other broad curricular changes that could help address common needs.
- Communicate with teachers, specialists, students, and families about the assigned interventions and supports.
- Assign and document assigned interventions and supports.

Objective or Task	What do we have in place? What expertise and/or resources do we already have?	What additional actions and resources are needed?	Who will be responsible?	What is the time frame?

Step 5: Monitor Students and Interventions

What You Need for Step 5

- The most up-to-date student data from the district’s or the school’s student information or other database or system that will be used to monitor student progress
- A list of students previously identified as at-risk and their assigned interventions
- Access to additional student data sources for students who are not showing progress
- An inventory of interventions and supports
- Tool 14 – Interventions and Supports Inventory
- Tool 15 – Interventions and Supports Review

Description of Step 5

Monitoring indicators are both research based and locally determined sources of student data available during the school year that are used to flag students in need. Indicators such as attendance, academic performance, and behavior have been identified in research as strong monitoring indicators. Monitoring indicators can complement the use of EWIS data by enabling teams to track student needs and students’ responses to interventions or supports at multiple times throughout a single school year.

Tool 19 in Step 5 lists a set of commonly used monitoring indicators by age group and grade. Each data source and monitoring indicator threshold, or the point at which a student is flagged as in need, is determined when a research base is available. These indicators are shown to be research supported and marked as such in the fourth column of Tool 19. In instances where an indicator has been used in practice but there is no consensus on a threshold, or if the threshold is dependent on the instrument used (e.g., benchmark assessment), then the fifth column in Tool 19 shows that the indicator must be locally determined by the school or district.

It is recommended that teams decide before—or early on in the school year—which student data sources they will use to examine student risk throughout the year, set thresholds that will “flag” students as being at-risk, and set up a data system that can be used to monitor students.

Build Off Your Foundation

- How do you monitor student progress?
- Which sources of data do you use? Which data systems do you use to organize this information?
- How can you integrate EWIS data into your current data systems?
- How can you align your review of monitoring indicators with the timing and data work being done by existing groups?

STEP 5

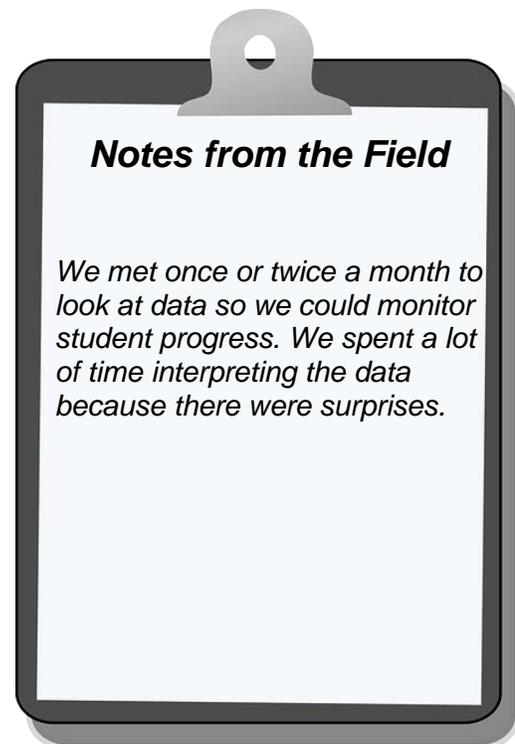
In Step 5 teams assess student progress, improve the effectiveness of interventions and supports, and identify any new students that are flagged as at-risk. The team uses monitoring indicators data to see whether students are beginning to get back on track (i.e., not flagged for a monitoring indicator), or whether they are still showing (or newly showing) signs of risk. For students flagged as at-risk, the team will assign, re-assign, and/or adjust interventions and supports, as needed. Monitoring flags are also used to observe any students, who were not originally identified as EWIS high or moderate risk, who may be showing symptoms of need.

During Step 5 the team generates and reviews up-to-date information on student risk. As part of monitoring, teams revisit Steps 3 and 4, Explore Underlying Causes of Risk and Take Action so that teams can interpret the meaning of risk flags, and adjust or match students with new or different interventions and supports. Step 5 also helps the team examine trends in student responses to assigned interventions that may allow a district or a school to assess the effectiveness of certain interventions and supports for certain students or groups of students. Finally, the regular monitoring of students and schoolwide interventions and supports allows the team to engage in planning for summer and other extended day programs and supports using data.

Anticipated Outcomes for Step 5

The following outcomes are anticipated for Step 5:

- Identification of students who are newly flagged as at-risk, or who are continuing to be flagged as at-risk
- Knowledge about individual student, subgroup, and whole school progress in addressing student risk
- Identification of gaps in the available interventions and supports for students, recommendations for new intervention strategies, and prioritization of new interventions and supports based on monitoring flags
- Increased awareness of how well interventions and supports are working, and which interventions and supports appear to be most effective in helping students get back on track
- Enhanced understanding by appropriate stakeholders about student needs, the impact of existing interventions and supports, and the need for additional interventions and supports, if applicable

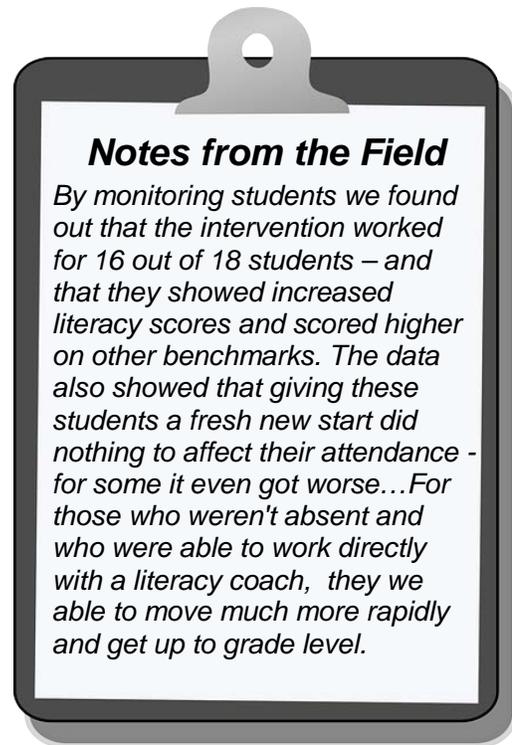


Preparing to Monitor Students and Interventions

During Step 1: Get Organized, teams prepare to use early warning data, including research-based and locally determined monitoring indicator data before or during the early part of the school year. These steps need to be completed prior to monitoring students and interventions:

- Select which student data sources the team will use to monitor student risk throughout the year.
- Establish thresholds to “flag” students as being at risk using these data sources (e.g., students who miss 10 percent or more of school days).
- Establish a system or tool your team will use to monitor students’ early warning data.
- If using a data system or tool, make sure that at least one member of the team has proficiency in importing, updating, and generating reports using the monitoring indicators database system or tool.
- If using a data system or tool, establish a data import and review schedule for analyzing data and reports with up-to-date student monitoring indicators data throughout the school year.
- Verify that all members of the team understand the data sources for monitoring student progress and the various monitoring indicator reports.

Teams can select from one or more monitoring indicators. As previously mentioned, a monitoring indicator draws from readily available data that can be observed at many points during the school year. To review or revise your monitoring indicators, please see Tool 19 below. It is recommended that the team identify or establish a system before, or early on in the school year, to manage the data that will be used to monitor student risk flags. The team has various options for managing these data. For instance, districts and schools may wish to use their own data systems for monitoring students. Or, districts and schools may choose to other available systems for monitoring students, such as AIR’s *National High School Center EWS High School Tool* or *EWS Middle School Tool*¹⁸ which is available for free or other commercially available monitoring indicator tools.



Data Import and Monitoring Schedule

A key aspect of monitoring is the timely access and review of student data to determine which students are “flagged” as at-risk, and for which indicators students are “flagged”. The pre-set thresholds associated with monitoring indicator data sources are grounded in research that specifies particular timeframes for these thresholds. For example, the research on the relationship between attendance and student risk found that students who missed more than 10% of instructional days during any given

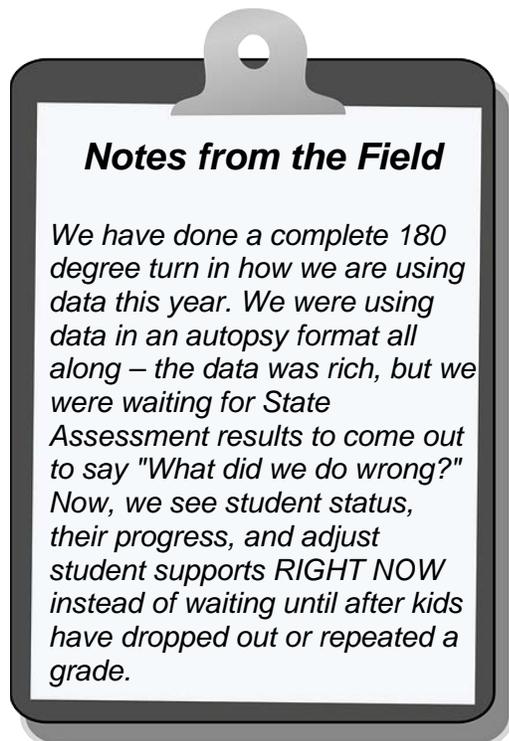
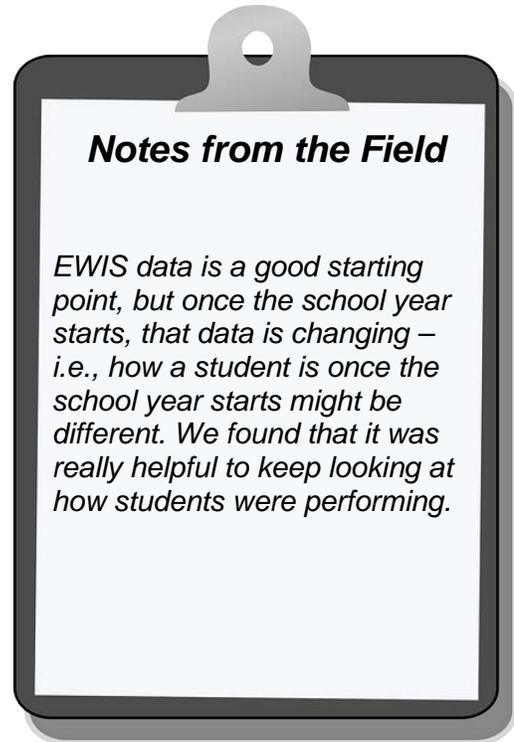
marking period were more likely to drop out of high school. Given these research-based timeframes, typically, teams examine monitoring indicators following each grading period. In addition, many teams examine student attendance after the first 20-30 days of school—another timeframe identified through the research.

The team and the data designee should work together to establish a data import and review schedule for analyzing data and reports with up-to-date student monitoring indicators data throughout the year. It is important to leave sufficient time between the end of each grading period and the scheduled team meetings so the team's data designee has sufficient time to import, analyze and generate reports for the team to review to track student progress.

Monitoring Student Progress in Interventions and Supports

The team can use the following strategies to monitor student progress:

- **Have a Data Designee.** Each team should designate at least one member who has data access, and who has the proficiency and the time to take primary responsibility for importing, updating and generating grading period reports that will be used for monitoring students throughout the year. In addition, it is recommended that the data designee take the time to help all team members understand the data sources being used to monitor student progress, and how to accurately interpret monitoring indicator reports.
- **Generate up-to-date information on risk.** A team needs current monitoring indicators data before meeting to track student progress. In Step 1, the team establishes a system to use monitoring indicators and establishes a schedule and a person responsible for importing student data at these specific time points e.g. attendance and course performance data after each grading period.
- **Review current monitoring indicators data to identify students who are flagged as at-risk.** For the monitoring of individual students and groups of students, the review of data should focus on two sets of students: (1) students who were previously at risk and assigned to one or more interventions or supports, and (2) students who were NOT previously identified



as at risk, but are now showing risk flags. The review of data for previously identified students should determine student progress (i.e., Have students improved or do they continue to be flagged as at-risk?). For example, if a group of students identified as being at high risk for failing their 9th grade classes were assigned to an afterschool tutoring program, do first-term grades for these particular students show any improvement? See Tool 20 in Step 5 for a worksheet on exploring your monitoring indicators data.

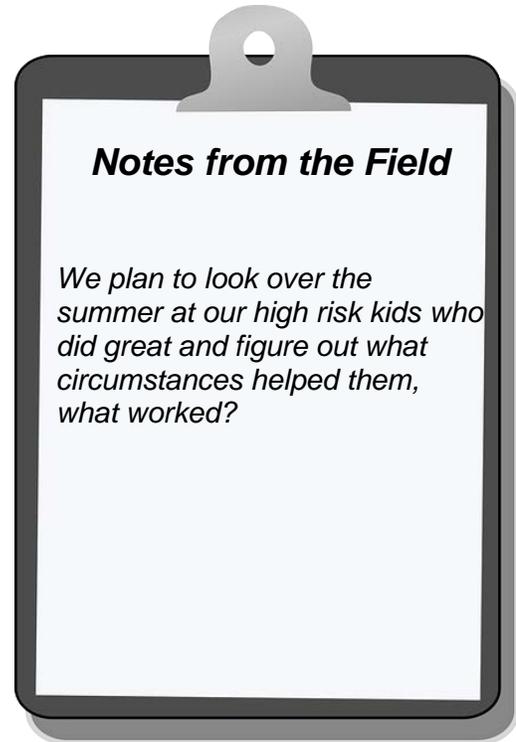
Many teams review monitoring indicator data for all students each month or following each grading period. This monitoring should be done as part of the team's routine review of student data and incorporated as a regular item on the team's agenda. How and how often this monitoring is conducted depends on the level and the nature of interventions and supports that were implemented in Step 4. Keep in mind that students participating in Tier 3 interventions should be monitored frequently.

- **Identify student needs that are not being met—and explore underlying causes for signs of risk.** Students who are receiving interventions and supports may continue to show signs that they are at risk for not meeting academic milestones. It is possible that their needs are not being addressed by the interventions or supports for any number of reasons. Regular monitoring allows these issues to be identified quickly. The team may need to collect additional information—particularly data related to student participation in assigned interventions and supports to understand why an intervention or a support is not working. After Step 5, the team is likely to revisit Step 3 for students who are not showing progress or who are newly flagged at risk to identify the nature of unmet student needs, and likely underlying causes of risk.
- **Adjust or assign new or additional interventions or supports to meet student needs.** The team may need to identify new or additional interventions or supports that are not currently available to students identified as being at risk. To accomplish this, the team should revisit Step 4 activities (i.e., conduct a search and update the list of available interventions and supports that may serve identified student needs, and assign the appropriate interventions or supports). In some cases, the team is able to find existing interventions and supports that meet student needs; in other cases, new interventions and supports will be needed or broader, schoolwide changes will be implemented. Any new interventions and supports should be tracked and captured on the interventions and supports inventory (created in Step 4).
- **Communicate with educators, specialists, students and families.** As noted in Step 4, teams will want to communicate with educators, specialists, students, and their families to best support students who are at risk for not meeting academic milestones. Educators, specialists, and families should be given guidance on how they can best support these students and be informed when students appear to make improvements and when there is a lack of improvement or further decline.
- **Review current monitoring indicators data to track schoolwide interventions.** For monitoring districtwide and schoolwide interventions and supports, the team may want to identify which indicators or other data sources to track schoolwide progress. For instance, if a new mathematics curriculum has been introduced, the team may want to examine midterm mathematics grades.

- **Examine the effectiveness of the interventions or supports.** In addition to tracking the progress of individual students and schoolwide interventions, Step 5 also encourages the team to better understand the effectiveness of particular interventions and supports. Long term, this process improves the team’s understanding of which interventions and supports are best at addressing particular student needs and enables the team to strengthen the process of matching students to the right interventions and supports (see the district role for Step 5).

District Role in Step 5

The monitoring of individual students and groups of students occurs at the school level, but the district can play a key role in enhancing the availability of appropriate interventions and supports. For example, a district can monitor specific interventions and supports in which



Implementation Tip: **Planning Supports for the Summer**

The team needs to meet multiple times throughout the year to track student progress and make adjustments in interventions and supports. In the spring, the team can consider which students may need or benefit from interventions and supports during the summer. The team can then identify which students will need summer support, devise a plan for how to prioritize student needs, assess available summer programs and/or supports, and consider resources. The team may want to invite administrators for summer school programs to meetings to help make these assignments.

students participate and identify the scenarios in which these interventions and supports seem to work to get students back on track. The district also may examine whether a specific intervention or support works well for certain groups of students (e.g., students who are failing ELA classes or ELL students at risk). In cases where an intervention or a support does not seem to be working, the district can examine whether fidelity of implementation is the issue or if the intervention or the support needs to be dropped from the array of student interventions and supports.

By collecting districtwide information on interventions and supports implemented in its various schools, a district is in a unique position to understand which interventions and supports are most effective at meeting the needs of particular students and subsequently

allocate the resources (e.g., staff and/or funds) on the basis of student and school needs.

Guiding Questions for Step 5

- Do students who are identified as at-risk by EWIS data in the beginning of the year continue to be identified as at-risk based on monitoring indicators?

- What are the most prevalent monitoring indicators for which students are flagged (e.g., attendance, course failures, behavior)?
- Are students (at the individual, group, and whole-school levels) who are participating in interventions and supports showing improvement? If so, will these students need to continue participating in the interventions or supports to maintain their progress and improved outcomes?
- Are students who are participating in interventions or supports continuing to be identified as at-risk?
- What are the likely reasons for the continued risk for students not showing progress?
 - Did the team adequately assess the underlying reasons for student risk during its initial review (Step 3)?
 - Are students fully participating in the assigned intervention(s) or support(s)? Are there problems with how the interventions or supports are being implemented?
 - Are the assigned interventions or supports appropriate for the nature and the severity of need?
 - Should the frequency and/or intensity of the interventions or supports be increased?
 - Have new needs or issues emerged that need to be addressed?
 - What additional information needs to be gathered (Step 3) to achieve a better fit between each intervention or support and student needs (Step 4)?
- Are any new students flagged as at-risk that had an EWIS student risk level of low or moderate at the beginning of the school year? What are the likely underlying causes of risk for these students? Which additional sources of data should we collect to better understand their needs? What interventions and supports are appropriate for meeting their needs?
- With whom and how should our team communicate about student progress or concerns to maximize support for students in need (e.g., teachers, specialists, parents, students, administrators, community agency staff)?
- Are organizational or structural changes needed in the school or the district to support students?
- As interventions and supports are implemented, what happens to the nature, the level, and the number of students with identified needs? Has the number of students in need for each indicator changed since the new interventions and supports have been put in place?
- Are resources (e.g., staff time, funds, transportation) sufficient to implement the desired interventions and supports? If not, how might additional resources be identified?
- What are we learning about the effectiveness of the interventions the supports?
 - Which interventions and supports seem to consistently get students back on track?
 - What interventions and supports seem to work for which students?
 - What interventions and supports do not seem to work for students? How might these be improved? Should these be eliminated?

Tool 18 – Step 5: Checklist**Generate up-to-date information on student risk:**

- Confirm data import schedule and individual responsible for importing these data and generating reports for the team prior to the meeting
- Confirm the team meeting schedule allows for sufficient time for reviewing data
- Generate monitoring indicator reports for all students

Review current monitoring indicator data to flag students:

- Review data for students who were previously flagged to assess progress (e.g., Does a student continue to be flagged?)
- Review data to see if new students are flagged
- Review monitoring indicator data to track schoolwide progress toward broader school interventions and/or improvement goals

Revisit Step 3: Explore underlying causes and identify student needs:

- Determine additional data sources that are needed to identify underlying causes for students' being flagged
- Interpret additional student data and identify student needs

Revisit Step 4: Assign or adjust interventions and supports:

- Determine which interventions and supports your team will assign—and to which students (individuals, groups, or whole school)
- Determine who will communicate with students, staff, and parents regarding these proposed supports

Tool 19 – Step 5: Your Selected Monitoring Indicators by Grade Level

Directions: Use the table below to document the monitoring indicators that were selected for use throughout the school year. Each grade level includes attendance, behavior, and academic performance potential monitoring indicators flags students that are on or off track. In the “Using?” column, check of which monitoring indicators your school or district is using this year and note the data source and selected threshold for the monitoring indicator.

Academic milestone	Grade	Potential Monitoring Indicator	Threshold	Research Supported	Locally Determined	Using?	Notes – existing data source, selected threshold, etc.
Early Elementary							
Proficient or higher on grade 3 ELA State Assessment	1	Attendance	Locally defined		x		
		Behavior	Locally defined behavior grade, office discipline referrals		x		
		Academic performance	Locally defined performance levels on Benchmark assessments	x			
	2	Attendance	Locally defined		x		
		Behavior	Locally defined behavior grade, office discipline referrals		x		
		Academic performance	Locally defined performance levels on Benchmark assessments	x			
	3	Attendance	Locally defined		x		
		Behavior	Locally defined behavior grade, office discipline referrals		x		
		Academic performance	Locally defined performance levels on Benchmark assessments	x			

Additional notes about monitoring indicators for grades 1, 2, and 3:

Academic milestone	Grade	Potential Monitoring Indicator	Threshold	Research Supported	Locally Determined	Using?	Notes – existing data source, selected threshold, etc.
Late Elementary							
Proficient or higher on grade 6 ELA and mathematics State Assessment	4	Attendance	20% or more school days missed	x			
		Behavior	Locally defined behavior grade, office discipline referrals		x		
		Academic performance	Locally defined performance levels on Benchmark assessments	x			
	5	Attendance	20% or more school days missed	x			
		Behavior	Locally defined behavior grade, office discipline referrals		x		
		Course performance	Failing grade in mathematics and/or ELA	x			
		Academic performance	Locally defined performance levels on Benchmark assessments	x			
	6	Attendance	20% or more school days missed	x			
		Behavior	Locally defined behavior grade, office discipline referrals		x		
		Course performance	Failing grade in mathematics and/or ELA	x			
		Academic performance	Locally defined performance levels on Benchmark assessments	x			

Additional notes about monitoring indicators for grades 4, 5, and 6:

Academic milestone	Grade	Potential Monitoring Indicator	Threshold	Research Supported	Locally Determined	Using?	Notes – existing data source, selected threshold, etc.
Middle School							
Passing grades in all grade 9 courses	7	Attendance	20% or more school days missed	x			
		Course performance	Failing grade in mathematics and/or ELA	x			
		Behavior	Suspensions, office discipline referrals		x		
	8	Attendance	20% or more school days	x			
		Course performance	Failing grade in mathematics and/or ELA	x			
		Behavior	Suspensions, office discipline referrals		x		
	9	Attendance	10% or more school days missed	x			
		Course performance	Failing one or more grading period	x			
		Credits	Enough credits for promotion to next grade	x			
		Behavior	Suspensions, office discipline referrals		x		

Additional notes about monitoring indicators for grades 7, 8, and 9:

Academic milestone	Grade	Potential Monitoring Indicator	Threshold	Research Supported	Locally Validated	Using?	Notes – existing data source, selected threshold, etc.
High School							
High school graduation	10	Attendance	10% or more school days missed	x			
		Course performance	Failing one or more grading period	x			
		Behavior	Suspensions, office discipline referrals		x		
	11	Attendance	Locally defined percentage of school days missed		x		
		Course performance	Locally defined number of course failures		x		
		Behavior	Suspensions, office discipline referrals		x		
	12	Attendance	Locally defined percentage of school days missed		x		
		Course performance	Locally defined number of course failures		x		
		Behavior	Suspensions, office discipline referrals		x		

Additional notes about monitoring indicators for grades 10, 11, and 12:

Tool 20 – Step 5: Early Warning Data Exploration Summary Chart for Monitoring Indicators

Directions: Use this chart to take notes as you examine your monitoring indicators.

	Key Findings	Areas of Concern
Big Picture: Main Categories – Summarize your big picture monitoring indicator findings.		
<ul style="list-style-type: none"> ▪ # or % of students meeting or exceeding the threshold (i.e., flagged as at-risk by monitoring indicators) 		
<ul style="list-style-type: none"> ▪ By grade ▪ By school 		
By student groups and characteristics: <ul style="list-style-type: none"> ▪ Gender ▪ Race/ethnicity ▪ Low income ▪ ELL ▪ FELL ▪ SPED ▪ High Needs ▪ EWIS High Risk ▪ EWIS Moderate Risk ▪ EWIS Low Risk 		
By types of monitoring indicators students for which students are flagged: <ul style="list-style-type: none"> ▪ Attendance ▪ Behavior ▪ State Assessment performance ▪ Course performance ▪ Other 		

	Key Findings	Areas of Concern
<p>Dig Deeper: Subgroups/Sub-Categories – Identify one student group, school, or grade, of concern to explore further based on the students flagged for monitoring indicators (e.g., middle school boys or students flagged due to attendance). This could be the same group you focused on in Step 2 when reviewing your EWIS data, or a new student group. Repeat this step for each targeted group of concern.</p>		
<p>By student groups within and across grades:</p> <ul style="list-style-type: none"> ▪ Gender ▪ Race/ethnicity ▪ Low income ▪ ELL ▪ FELL ▪ SPED ▪ High Needs ▪ EWIS High Risk ▪ EWIS Moderate Risk ▪ EWIS Low Risk 		
<p>By types of monitoring indicators students for which students are flagged:</p> <ul style="list-style-type: none"> ▪ Attendance ▪ Behavior ▪ Course performance ▪ State Assessment performance ▪ Other 		

	Key Findings	Areas of Concern
Deep Dive: Individual Students – Identify individual students of concern to explore further.		
<p>Shared characteristics of individual students of concern:</p> <ul style="list-style-type: none"> ○ Gender ○ Race/ethnicity ○ Low income ○ ELL ○ FELL ○ SPED ○ High Needs ○ Attendance ○ Suspensions ○ Course subject Pass/ Fail ○ State Assessment performance ○ EWIS High Risk ○ EWIS Moderate Risk ○ EWIS Low Risk ○ Other characteristics: 		

Tool 21 – Step 5: Early Warning Implementation Action Planning Tool

Directions: The following template is designed to support your early warning implementation efforts for Step 5. Teams can identify the key objective or task, and then identify the resources available, actions needed responsible parties, and when the task needs to be completed.

Key Tasks:

- Generate up-to-date information on students (e.g., monitoring indicator data).
- Review monitoring data to determine which students are flagged as “at risk”.
- Identify student needs that are not being met.
- Examine monitoring indicator data (big picture, dig deeper, deep dive)
- Collect additional information or data as needed to better understand underlying reasons for risk and needs (revisit Step 3).
- Identify new or additional interventions to meet student needs (revisit Step 4).
- Consider broader schoolwide/district-wide changes to meet student needs (revisit Step 4).
- Examine the effectiveness of interventions for individuals and groups of students.
- Communicate with teachers, specialists, students, and families to provide/adjust interventions and supports.
- Conduct summer and end of year planning to support students who continue to show signs of risk.

Objective or Task	What do we have in place? What expertise and/or resources do we already have?	What additional actions and resources are needed?	Who will be responsible?	What is the time frame?

Step 6: Refine the Early Warning Implementation Process

What You Need for Step 6

- Documents describing the team’s goals, mission, roles, and responsibilities
- List of monitoring indicators that were selected and used
- Data on the effectiveness of interventions and supports
- Tools 14 and 15 (provided in Step 4), the Interventions and Supports Inventory and Review

Description of Step 6

In Step 6, the team should reflect on the early warning implementation process. At a minimum, this reflection should occur on an annual basis, at the end of the school year or over the summer. The team discusses what has worked, what should be modified, and what should be replaced or eliminated. Where appropriate, any decisions about changes to the process should be supported by data and evidence and documented. Finally, the current team and other school and district leadership identifies which team members will continue to serve and who the new team members will be for the upcoming year. The district and the school create a plan for orienting new members and arranging for them to become trained in the early warning implementation process.

Anticipated Outcomes for Step 6

The following outcomes are anticipated for Step 6:

- A shared perception of the success and challenges of the early warning process
- Clear recommendations for improving the work of the team and steps in the process
- An established team for the upcoming school year, composed of members with a clear understanding of the process and their roles
- Documentation of any planned changes (e.g., data sources, tools, personnel, policies and procedures)

Evaluating and Refining the Early Warning Implementation Process

When evaluating the early warning implementation process, it is recommended that all aspects of the implementation process be considered, including how the team is organized and functions. The conversation can be guided by exploring what is working, what is not working, and what changes will be needed to improve the team’s effectiveness and efficiency, as well as its ability to successfully achieve its goals for students. The team’s examination can range from exploring the effectiveness of certain interventions to how the team can access data reports in a timely and an efficient manner. To ensure that the reflection meeting is productive, the team leader may want to ask all members to respond to a set of questions ahead of time (see

the guiding questions for Step 6). This allows the team facilitators to identify key areas of success and challenge and therefore focus the team's discussion in areas warranting the most change and improvement.

District Role in Step 6

The district-level team also should engage in periodic reflection. Similar to school-level teams, district-level teams should consider what is working and not working related to the goals and the tasks conducted by the district-level team and examine what the district could do to better support school-level efforts through leadership, district-level policies, and access to data and resources (e.g., staff time, transportation, support programs, and additional funds). It is suggested that a district-level representative either attend school-level reflection meetings or meet individually with a member of each school-level team to hear how the team is doing and how the district can help.

Guiding Questions for Step 6

The guiding questions for Step 6 encourage the team to reflect on each of the five previous steps.

■ Step 1: Get Organized

- What were the team's biggest successes?
- What were the biggest challenges that the team faced?
- What made the team's job easier? What changes could make the team's job even easier?
- Who will continue to be on the team? (*Note: It is recommended that some individuals overlap from year to year to ensure long-term continuity.*)
- Which roles will need to be filled for the upcoming year? Which other constituencies need to be represented on the team?
- What is important for new team members to know before deciding whether to join the team? What is important to know and be able to do when serving on the team?
 - What changes should be made in how the team organizes its work and functions as a team? How should the work be delegated or divided to ensure the fair distribution of responsibilities and tasks?
 - When and how frequently should the team meet?
 - How long should meetings be?
 - Do all members need to be at all meetings?

Notes from the Field

After a year of using EWIS we are integrating it into our work in several ways. Our Superintendent has decided to include it in monthly principal meetings – dedicating a portion of the meeting to using EWIS and doing a follow-up cycle. Building-based teams now include EWIS in leadership or student support team meetings, and next year we will have a multi-tiered team look at data together to come up with interventions, track student progress, and adjust interventions to improve outcomes.

- What changes should be made in how the meetings are structured and run?
- How much time should members expect to need to work outside meetings?
- What changes should be made in how the team makes decisions?
- What changes should be made in how the team communicates and shares information within the team, with other teams, and with the district?
- What resources could support the team?
- How could the team integrate its work more fully with existing teams, systems and procedures in the district/school?
- What else should the team change to improve how the team organizes its work and functions?
- What support is needed from the district to support the team?
- **Step 2: Review EWIS data.**
 - Were team members who were responsible for generating EWIS reports able to access the information easily?
 - Did the team feel proficient in using the reporting options?
 - Is there any aspect of using Edwin Analytics and/or EWIS that the team would like to learn more about?
 - Was the team clear about how to review EWIS data? Were the team members clear on the questions they hoped the data would help them answer?
 - Did the team members feel they had access to the right kinds and amount of data to answer their questions? Too much? Too little?
 - What challenges did team members face in trying to manage and understand the data they received? What kinds of training, guidance, or other support would the team members need to build their assessment literacy skills?
 - What additional questions about students would the team like to be able to ask and answer in the upcoming year?
 - What other changes would the team like to see in the amount, nature, format, frequency, and timing of the data to best understand the nature and the scope of student needs in their district, school, or cohort?
 - What else could the team do to improve this step?
- **Step 3: Explore Underlying Causes**
 - How did the team go about trying to discern the underlying cause for risk?
 - Did the team feel this approach was effective (i.e., did the team feel that it was able to identify the most important reasons why students were struggling)?

- How much time (e.g., the number of hours) did it take per student or group of students? How could this process go more quickly and smoothly?
 - Which sources of data were found to be most helpful in understanding student needs and the underlying causes for student risk? What other data would the team like to be able to access in the upcoming year?
 - Was the team satisfied with decisions about which students would be the focus of the team?
 - What else could the team do to improve this step?
- **Step 4: Take Action**
- What challenges did the team face in trying to conduct the inventory of interventions and supports? What gaps does the team feel need to be filled in the upcoming year?
 - Did the team feel it was able to effectively match students with appropriate interventions or supports? How helpful were the EWIS data? The monitoring indicators data? Additional data? What else does the team believe could help with matching students to appropriate interventions or supports?
 - Was the team able to identify schoolwide areas of need based on early warning data? If not, how might the team consider broader schoolwide changes in response to EWIS data in the upcoming year?
 - What else could the team do to improve this step?
- **Step 5: Monitor students and interventions.**
- How frequently did the team monitor student progress? Does the team feel it should be monitoring more often? Less often? With the same frequency?
 - What data did the team rely on most to assess student progress? What additional data does the team feel should be included next year?
 - Are the monitoring flag thresholds appropriate? Should they be adjusted?
 - What other sources of data did the team use to determine the effectiveness of interventions and supports in meeting student needs? Are there any data sources that the team wants to track more systematically in the upcoming year (e.g., participation or attendance in interventions or supports)?
 - Were the team members satisfied with the data system they used for the monitoring student progress?
 - By whom and how were interventions and supports managed for students and groups of students? Does the team believe that the school should create any new systems or structures that can help manage student interventions and supports? Could these changes help with the monitoring of student progress?

- Was the team able to develop any systems or approaches for monitoring student progress that worked particularly well? Increased efficiency?
- Were there any interventions or supports that produced greater success than others? For which students? Should these interventions or supports be used more widely in the upcoming year?
- Are there any new interventions or supports that the team feels should be offered in the future?
- Are there any district or schoolwide changes that could or should be made to minimize the need for individualized supports?
- How effective was the team in using monitoring to help identify and plan for student needs during the summer?
- What else could the team do to improve this step?

Tool 22 – Step 6: End of the Year Reflection and Sustainability Planning Exercise

Directions: Within your school or district team, reflect upon and answer the following questions.

1. What are the most important changes you have implemented this past year as a result of your early warning implementation process and use of early warning data? Have you made any changes in how you: (1) review student data, (2) identify or support students, (3) assign interventions? What other changes have you made this year?
2. What changes did you hope to implement as part of your early warning implementation, but were unable to this year? What impeded this implementation?
3. List three to four implementation strategies that you used this year and that you are planning to sustain, refine, or scale up.

Tool 23 – Step 6: Early Warning Implementation Sustainability Action Plan

Directions: The table provides an opportunity for your team to organize and plan for early warning implementation next year. List your three most important implementation strategies in column 1. Respond to the questions in columns 2 and 3 for each of the listed strategies.

Column 1	Column 2	Column 3
What is the step or change we want to sustain, refine, or scale next year? (<i>See section 1, question 3.</i>)	What have we done, <i>or will we do</i> , to best sustain this change for next year? What do we need to make this happen (<i>e.g., funding, policy changes, staffing, culture shifts?</i>) Who will be responsible for these steps?	What potential obstacles or competing commitments might get in the way of this plan? How will we overcome these obstacles?

Tool 24 – Step 6: Early Warning Implementation Action Planning Tool

Directions: The following template is designed to support your early warning implementation efforts for Step 6. Teams can identify the key objective or task, and then identify the resources available, actions needed responsible parties, and when the task needs to be completed.

Key Tasks:

- Plan time and approach for reflecting on student progress/outcomes and the implementation process.
- Gather feedback from team members (e.g., distribute reflection questions).
- Review team feedback and identify priority areas for discussion.
- Identify areas that are working and explore areas that are not working and how the process could be improved.
- Document any changes and articulate a plan for implementation.
- Confirm new and continuing team members for the upcoming year and make plans for orienting new members.

Objective or Task	What do we have in place? What expertise and/or resources do we already have?	What additional actions and resources are needed?	Who will be responsible?	What is the time frame?

Section 3. Additional Resources

For additional information about early warning systems, dropout prevention, and data-driven improvement, please see the following resources.

Massachusetts Resources

- Tools:
 - *Massachusetts District Data Team Toolkit* (<http://www.doe.mass.edu/apa/ucd/ddtt/Knowledge.pdf>): This toolkit is designed to help a district establish, grow, and maintain a culture of inquiry and data use that can inform decisions that impact teaching and learning, and ultimately improve the achievement of all students.
 - *Learning Walkthrough* (<http://www.doe.mass.edu/apa/dart/walk/>): Learning walkthroughs are a systematic and coordinated method of gathering data to inform district- and school-level decision making. They involve establishing a Focus of Inquiry, and then engaging strategically selected teams of individuals in collaborative observations of classrooms with an emphasis on the interactions among teachers, students, and academic content (the instructional core). Learning walkthroughs can be a powerful means of helping educators learn more about the ways in which instructional practices support student learning and achievement. Evidence from learning walkthroughs can inform analyses of other data, such as EWIS data.
 - *District Standards and Indicators Self-Assessment* (<http://www.doe.mass.edu/apa/general/>): The *District Standards and Indicators* self-assessment tool is meant to be used by district teams to support an in-depth collaborative process to measure, track, and enhance the effectiveness of the current district systems in a way that is focused on improving student achievement and consistent with the state's expectations for accountability and assistance.
 - *Conditions for School Effectiveness Self-Assessment* (<http://www.doe.mass.edu/apa/general/>): The *Conditions for School Effectiveness* self-assessment is designed to be used at the school level by leaders, those responsible for day-to-day instruction, and key stakeholders. It is a tool for conducting a scan of current practice, identifying areas of strength, and highlighting areas requiring greater focus.
 - *The Behavioral Health and Public Schools Self-Assessment Tool* (<http://bhps321.org/>): This tool is designed for schools to assess current activities and strategies that the staff and programs engage in to create a supportive school environment. This tool is intended to assist with documenting current practices that support students' behavioral health at all intervention levels, ranging from the whole school community to individual students who require more intensive supports. It also examines the role of various school professionals and staff in providing these supports.

- *Massachusetts Guide for Implementing Individual Learning Plans (ILPs)* (<http://www.doe.mass.edu/ccr/>): This guide was designed for Massachusetts schools and districts to support the use of Individual Learning Plans (ILPs) for all students starting in middle school. The ILP is a student-directed, multi-year, dynamic tool that maps academic plans, personal/social growth, and career development activities while taking into account the student's unique, self-defined interests, needs, and goals for the attainment of postsecondary success. The ILP implementation may be a helpful to support students that are off-track for meeting an upcoming academic milestone.
- Information:
 - The Edwin website (<http://www.doe.mass.edu/edwin/>) includes information about all of Edwin Analytics and Edwin Teaching and Learning. EWIS information includes the technical documents about risk model development and recorded EWIS tutorials.
 - The dropout reduction website (<http://www.doe.mass.edu/dropout/>) includes resources and information related to a variety of dropout prevention, intervention, and recovery topics and promising practices.
 - The Massachusetts Tiered System of Support (<http://www.doe.mass.edu/mtss/>) is a blueprint for school improvement that focuses on system structures and supports across a district, a school, and classrooms to meet the academic and nonacademic needs of all students. It was developed to help guide the establishment of a system that provides high-quality core educational experiences in a safe and supportive learning environment for all students and targeted interventions and supports for students who experience academic and/or behavioral difficulties and students who have already demonstrated mastery of the concept and skills being taught.
 - The Behavioral Health and Public Schools Framework (http://bhps321.org/bhps_framework.doc) provides a structure to assist schools in creating safe, supportive environments and to increase support for students—particularly students with behavioral health challenges—through the provision of collaborative services.

Other Resources

- Tools:
 - *Early Warning System (EWS) High School Tool* (<http://www.earlywarningsystems.org/services/resources-tools>): Developed by AIR for the National High School Center, this tool is freely downloadable and Excel based. It is designed to allow users to identify and monitor students who show early warning signs that they are at risk for dropping out of high school. It assists users in monitoring the progress of students during the course of the school year (as early as the first 20 or 30 days of school and after every grading period). It relies on readily available student-level data (e.g., attendance, course failures, grade point average, and credit accumulation) that may be imported or entered into

the tool. As these data are entered, the tool automatically calculates indicators that are predictive of whether students will graduate or drop out.

- *Early Warning System (EWS) Middle Grades Tool* (<http://www.earlywarningsystems.org/services/resources-tools>): Developed by AIR for the National High School Center, this tool is freely downloadable and Excel based. It is designed to allow users to identify and monitor students who show early warning signs that they are at risk for dropping out of high school. This tool assists users in monitoring the progress of students during the course of the school year (as early as the first 20 or 30 days of school and after every grading period). It relies on readily available student-level data (attendance and course performance) that may be imported or entered into the tool. As these data are entered, the tool automatically calculates indicators that are predictive of whether students are on track to graduate from high school.
- Research and information:
 - *Developing Early Warning Systems to Identify Potential High School Dropouts* (http://www.earlywarningsystems.org/wp-content/uploads/documents/IssueBrief_EarlyWarningSystemsGuide.pdf): This resource discusses the factors that help predict the probability that individual students will eventually drop out of high school before graduating and includes step-by-step instructions for building an early warning system.
 - *Approaches to Dropout Prevention: Heeding Early Warning Signs With Appropriate Interventions* (http://www.earlywarningsystems.org/wp-content/uploads/documents/NHSC_ApproachesToDropoutPrevention.pdf): This report outlines steps that schools can take to identify students in need and provide the necessary support systems and relevant interventions to assist students in obtaining a high school diploma. Furthermore, the report discusses the use of early warning data systems to target interventions for groups and individual students, offers a variety of best practice approaches undertaken by higher performing high schools, and presents effective programs that are currently being implemented to stem the dropout problem.

Section 4. Appendixes

Appendix A. The Development of the Massachusetts EWIS Model

Introduction

The Massachusetts Early Warning Indicator System (EWIS) is based on several years of research examining state data and identifying those data that contribute to indicators that can most accurately predict the likelihood that a student will either achieve or miss key academic milestones. By helping to early identify students who are at risk, the EWIS allows educators to intervene and support struggling students to help them get back on track.

Background

The Massachusetts Department of Elementary and Secondary Education (ESE) created EWIS in response to district interest in the Early Warning Indicator Index that preceded EWIS; the index identified rising grade 9 students who were at risk of not graduating from high school. Per district request, EWIS was created to include the identification of students in grades 1–12 who are at risk of missing key academic outcomes or milestones.

Academic Milestones and Age Groups

ESE collaborated with American Institutes for Research (AIR) to develop the EWIS risk models for each grade level and grade cluster (also called age groups; e.g., early elementary school, late elementary school, middle school, and high school). Although there are some common indicators across age groups and grade levels, the risk models do vary by grade level. A team from ESE worked closely with AIR to determine the recommended models for each grade level, and an EWIS advisory group from ESE and other state agencies reviewed the research findings and discussed the key decisions.

For each grade level, academic milestones have been identified that are developmentally appropriate, based on available state data, important to the success of Massachusetts students, and meaningful and actionable for adult educators who work with the students in each grade grouping. Exhibit A-1 overviews the age groups and the academic outcomes or milestones.

Exhibit A-1. Massachusetts EWIS Age Groups, Grade Levels, and Academic Milestones

Age Groups	Grade Levels	Academic Milestones (Expected Student Outcomes for Each Age Group)
Early elementary	1–3	Reading by the end of grade 3: <i>Proficient</i> or <i>Above Proficient</i> on the grade 3 ELA State Assessment
Late elementary	4–6	Middle school ready: <i>Proficient</i> or <i>Advanced</i> on the grade 6 ELA and mathematics State Assessment
Middle grades	7–9	High school ready: Passing grades on all grade 9 courses
High school	10–12	High school graduation: Graduating from high school in four years

EWIS Risk Levels

There are three EWIS risk levels: low, moderate, and high. These risk levels relate to a student’s predicted likelihood for reaching his or her age group’s defined academic milestone. A risk level quickly provides information to educators about the likelihood that a student will or will not meet an academic milestone. In other words, the risk level indicates whether a student is currently on track or off track to reach the upcoming academic milestone. For example, a student who is identified as being at low risk is predicted as likely to meet the academic milestone.

A risk level is assigned to every student who was enrolled in a Massachusetts public school and for whom there are state level data in the prior year. The risk levels are determined using data from the previous school year. The risk levels are determined on an individual student basis, not on a student’s relative likelihood of achieving an academic milestone when compared with other students. As a result, there are no set amounts of students for each risk level. For example, it is possible to have all students in the low-risk category. Exhibit A-2 overviews the risk levels.

Exhibit A-2. Massachusetts EWIS Student Risk Levels

Low Risk	Likely to reach the upcoming academic milestone. <i>Approximately 90 percent of students who are at low risk will meet this academic milestone within each age group.</i>
Moderate Risk	Moderately at risk for not reaching the upcoming academic milestone. <i>Approximately 60 percent of students at moderate risk meet this academic milestone within each age group.</i>
High Risk	At risk for not reaching the upcoming academic milestone. <i>Approximately 25 percent of students at high risk meet this academic milestone within each age group.</i>

To develop the EWIS risk levels, researchers used a rigorous statistical method¹⁹ to create a valid EWIS model for each grade level from elementary through high school. The model allows users to identify students who are at risk of missing key academic milestones within the K–12 educational trajectory.

Early warning systems cannot predict with 100 percent accuracy whether students will achieve academic outcomes.

ESE intentionally designed EWIS to rely solely on data available from existing statewide collections. The data included come from several data sources: the Student Information Management System (SIMS) and Student Course Schedule (SCS) data collections, as well as assessment data results from State Assessments and the Assessing Comprehension and Communication in English State-to-State for English Language Learners (ACCESS for ELLs). Data included in the EWIS risk models are from the prior school year, to provide a risk level at the beginning of the next school year. EWIS is validated and updated annually as more recent years of data becomes available and to account for changes and shifts in data sources. Exhibit A-4 shows the indicators used for EWIS by grade levels.

Exhibit A-4. Overview of the Final EWIS Model, by Grade Level

Age Group	Grade Level											
	Early Elementary			Late Elementary			Middle School			High School		
Academic Milestone	<i>Proficient or Advanced Proficient on Grade 3 ELA State Assessment</i>			<i>Proficient or Advanced on Grade 6 ELA and Mathematics State Assessment</i>			Pass All Grade 9 Courses			Graduate From High School in 4 Years		
Indicators Included	1	2	3	4	5	6	7	8	9	10	11	12
Attendance rate	x	x	x	x	x	x	x	x	x	x	x	x
School move (in a single year)	x	x	x	x	x	x	x	x	x	x	x	x
Number of in-school and out-of-school suspensions	x	x	x	x	x	x	x	x	x	x	x	x
ACCESS for ELLs level				x	x	x	x	x	x	x	x	x
ELA State Assessment				x	x	x	x	x	x			
Mathematics State Assessment				x	x	x	x	x	x	x*		
Retained		x	x	x	x	x	x	x	x	x		
Low income	x	x	x	x	x	x	x	x	x	x	x	x
Special education level of need	x	x	x	x	x	x	x	x	x	x	x	x
ELL status	x	x	x									
Gender	x	x	x	x	x	x	x	x	x	x	x	x
Urban residence	x	x	x	x	x	x	x	x	x	x		
Overage for grade	x	x	x	x	x	x	x	x	x	x	x	x
Schoolwide Title I	x	x	x	x	x	x	x	x	x	x	x	x
Targeted Title I	x	x	x	x	x	x						
Mathematics course performance							x	x	x	x	x	x
ELA course performance							x	x	x	x	x	x
Science course performance							x	x	x	x	x	x

Age Group	Grade Level											
	Early Elementary			Late Elementary			Middle School			High School		
Academic Milestone	Proficient or Advanced Proficient on Grade 3 ELA State Assessment			Proficient or Advanced on Grade 6 ELA and Mathematics State Assessment			Pass All Grade 9 Courses			Graduate From High School in 4 Years		
Indicators Included	1	2	3	4	5	6	7	8	9	10	11	12
Social studies course performance							x	x	x	x	x	x
Noncore course performance							x	x	x	x	x	x

*The grade 10 EWIS risk model uses data from the grade 8 state assessment.

Limitations and Uses for EWIS

EWIS was created to provide educators with a tool to help predict which Massachusetts students may be most in need of additional interventions or supports because of the likelihood that they are currently off track for reaching an upcoming academic milestone. It is not an accountability metric. For each grade level, the probability of a student not meeting an academic outcome has been calculated based on existing, historical data. The predictive nature of these data and indicators is not absolute, and the EWIS risk level should never be the sole piece of data used for student planning. For example, major life experiences (a more stable or unstable environment for a child, parental [or guardian] marriage or divorce, birth and/or death of a family member, etc.) may have an impact that offsets the EWIS risk level assigned to a student. Also, school impacts, such as targeted student interventions, can move a student from being off track (high risk) to meeting an academic milestone. Research is clear that a variety of factors contribute to a student's likelihood of achieving key academic outcomes.

The EWIS model is intended as a starting point for identifying and supporting students who may be at risk for not reaching an upcoming academic milestone. Because the EWIS data are calculated using data collected by ESE, districts and schools also may consider using local data to identify, diagnose, and support students. For more detailed information on EWIS development, refer to ESE's *EWIS Technical Descriptions of Risk Model Development* reports (<http://www.doe.mass.edu/edwin/analytics/ewis.html>).

Appendix B. Accessing EWIS Data and Reports in Edwin

Edwin Analytics is the comprehensive Massachusetts teaching and learning platform that is designed to provide state educators with integrated information and tools. Using Edwin Analytics, classroom teachers, principals, professional support personnel, and district leaders will be able to access a wide range of data reflecting attendance; course enrollment; students' growing acquisition of new knowledge, skills, and abilities; and college matriculation. EWIS is included in Edwin and can be accessed from the ESE security portal at <https://gateway.edu.state.ma.us>.

Access and Supports

EWIS offers Massachusetts public school districts information about student risk levels based on the prior year's data. This information is typically available to districts in late August for the start of each school year.

EWIS Access. Districts can access information for any school or student in that district through Edwin Analytics. The security portal also can be found via the drop-down menu on the upper-right side of the ESE website (<http://www.doe.mass.edu/>). If you already have a user ID, the next step is to request access to Edwin Analytics from your district's directory administrator. Please see the *Access and Security* document on the Education Data Warehouse public website (<http://www.doe.mass.edu/edwin/analytics/>) for an explanation of these roles. For additional support on accessing Edwin and/or EWIS, please contact your district's directory administrator: <http://www.doe.mass.edu/infoservices/data/diradmin/list.aspx>

EWIS Supports. To facilitate districts' use of EWIS, numerous supports are available, including the following:

- EWIS frequently asked questions (<http://www.doe.mass.edu/edwin/faq.html>)
- Technical reports (<http://www.doe.mass.edu/edwin/analytics/ewis.html>)
- EWIS video tutorial (<http://www.doe.mass.edu/edwin/analytics/ewis.html?section=tutorials>)

Accessing and Maintaining Up-to-Date EWIS Data

EWIS reports will be updated after the October SIMS is finalized each year. Prior to the October SIMS, students are listed in their anticipated grade level. After the October SIMS is finalized, the grade levels are updated to reflect any necessary changes (e.g., for students retained in a grade). It is important to note that districts can claim any new students to the district (or students attending a new school within the same district) at any point in time. By claiming new students frequently, districts can ensure that the EWIS reports adequately reflect all currently enrolled students. Districts are strongly encouraged to claim students during the summer so that the full list of current students is available to districts when the new EWIS data are available at the end of August. EWIS data also will be updated with corrected grade levels and school assignments when the October SIMS submission is finalized in late fall..

Generating EWIS Reports in Edwin Analytics

Within Edwin Analytics, districts and schools can choose to generate a range of EWIS reports or export EWIS student early warning data files to Excel and conduct analyses and generate reports on their own. Within Edwin, the EWIS data and reports provide districts and schools with three types of reporting options:

- District View (EW301)
- Graphical View (EW302)
- Risk Level Indicator Analysis (EW317)
- Subgroup Analysis (EW318)
- Student List (EW601)

Within each option, districts and schools can filter the data in numerous ways (e.g., selecting specific schools, grade levels, and/or student subgroups) to gain varying perspectives on their data and help understand the scope, depth, and nature of student risk levels.

EWIS Reports Located on the District & School Tabs

EW301 Early Warning Indicator System (EWIS) District View

EW301 provides aggregate EWIS student risk levels by school and grade levels. This report may also be run for the state as a whole, showing the breakdowns of student risk levels by grades. The student population in the report includes students who are currently claimed by the District/School and who were assigned a risk level for the selected school year. When viewing past school years, the students' school, grade, and risk level are based on the end of year information for the selected school year. With the appropriate security permissions, users can drill-down to the EW601 report to view the student-level information.

EW302 Early Warning Indicator System (EWIS) Graphical View

EW302 provides three graphical representations of the student risk levels of not achieving their next educational outcome as determined by the Early Warning Indicator System (EWIS) within a district. The first is a bar-chart of the risk levels for selected students currently claimed by the district/school and who were assigned a risk level for the selected school year. The selected students' risk levels are compared to the district and state risk levels.

The second chart is a line graph (Section B) and depicts up to five years of student risk levels for the selected students. This graph shows the longitudinal risk levels for the selected student cohort. For example, if 5th grade male students were selected, the graph shows the most recent student risk level breakdowns for these students, and also the student risk levels for *these same students* when they were in 4th grade, 3rd grade, etc.

The third chart is also a line graph (Section C) that depicts up to five years of student risk levels for the selected students. Unlike the graph in Section B, this graph shows the longitudinal risk of the selected student population profile. For example, if 5th grade male students were selected, the graph shows the risk levels of 5th grade male students this year, last year, two years ago, three years ago, and four years ago (presumably most of these students will be *different* each year).

EW317 Early Warning Indicator System (EWIS) Risk Level Indicator Analysis

EW317 is a tool to analyze the patterns of attendance, suspension, state assessment, and course performance data that are used to determine EWIS student risk levels. This report is run for a particular grade level. The report details, in a table as well as graphically, the indicator information for students in each risk level. Only indicators related to the selected grade level in the EWIS model are displayed.

EW318 EWIS Subgroup Analysis

EW318 compares, in aggregate, the EWIS student risk levels across student subgroups (e.g., race/ethnicity, high need subgroups). The report includes also a state comparison for the student subgroup populations. This data in this report is not suppressed and should be shared with caution.

EWIS Report Located on the Students, Staff & Classroom Tab

EW601 Early Warning Indicator System (EWIS) Student List

EW601 provides a list of all students currently claimed in the district. The list includes the EWIS student risk level for each student, along with the indicators used to determine the risk level. Additional information about the student that was *not* used to determine their student risk level (e.g., their prior year's risk level, their race/ethnicity) is also provided. When viewing past school years, the students' school, grade, risk level, and risk indicators are based on the end of year information for the selected school year. Due to the student level information in this report the information should be shared with caution.

Box B-1. Student Characteristics: Definition of Terms

ELL indicates students who do not speak English or whose native language is not English and who are not currently able to perform ordinary classroom work in English.

FELL indicates students identified as not currently ELLs but were ELLs within the past two years.

Low income indicates students eligible for free or reduced-price lunch.

SWD indicates students with disabilities (i.e., an individualized education program).

High need indicates students identified as ELL, FELL, low income, or SWD.

Exhibit B-1. Sample Prompt Page to Select Filtering Options

District/Schools

District
 * Malden (01650000) ▼

Schools
 * Beebe
 Ferryway
 Forestdale
 Linden
 Malden Early Learning Center
 Malden High
 Salemwood

Grade Level
 01
 02
 03
 04
 05
 06
 07
 08

[Select all](#) [Deselect all](#) [Select all](#) [Deselect all](#)

Student Groups

Race/Ethnicity
 African American/Black
 Asian
 Hispanic or Latino
 Multi-race, non-Hispanic or Latino
 American Indian or Alaskan Native
 Native Hawaiian or Pacific Islander
 White

Gender ▼

High Needs ▼

Low Income ▼

ELL ▼

FELL ▼

Special Education Placement (Ages 6-21)
 All Students with Disabilities
 Not a Special Education Student
 Exited Special Education in Current School Year
 Full Inclusion (>79%)
 Partial Inclusion (40-79%)
 Substantially Separate (<40%)
 Public Separate Day School
 Private Separate Day School

[Select all](#) [Deselect all](#) [Select all](#) [Deselect all](#)

Exhibit B-2. Sample District View Report (EW301)

[Keep this version](#) | | | | | | | | [Add this report](#)



EW301 Early Warning Indicator System (EWIS) District View

EWIS as of Jan-2014 for the 2013-2014 School Year for students currently enrolled in the 2013-2014 School Year

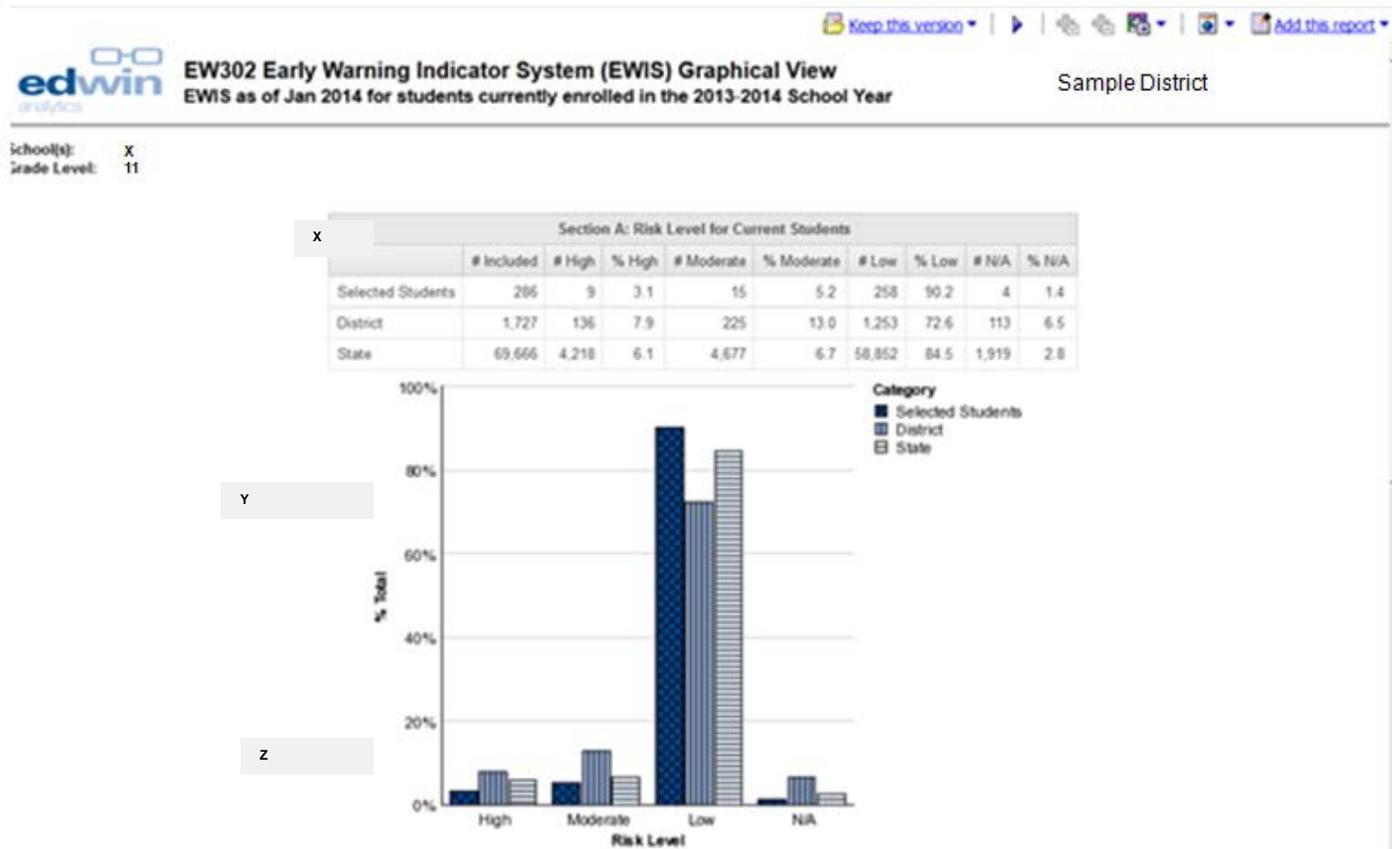
Sample District

School(s): All Schools within District

	Total Enrollment	High		Moderate		Low		N/A	
	#	#	%	#	%	#	%	#	%
Total for Report	2,046	301	14.7	332	16.2	1,412	69.0	1	0.0
School: x	267	75	28.1	64	24.0	128	47.9	0	0.0
Grade 01	62	4	6.5	25	40.3	33	53.2	0	0.0
Grade 02	42	8	19.0	14	33.3	20	47.6	0	0.0
Grade 03	46	11	23.9	13	28.3	22	47.8	0	0.0
Grade 04	58	20	34.5	7	12.1	31	53.4	0	0.0
Grade 05	59	32	54.2	5	8.5	22	37.3	0	0.0
School: y	135	24	17.8	33	24.4	78	57.8	0	0.0
Grade 01	20	0	0.0	12	60.0	8	40.0	0	0.0
Grade 02	33	4	12.1	7	21.2	22	66.7	0	0.0
Grade 03	31	4	12.9	6	19.4	21	67.7	0	0.0
Grade 04	22	5	22.7	3	13.6	14	63.6	0	0.0
Grade 05	29	11	37.9	5	17.2	13	44.8	0	0.0
School: z	216	48	22.2	54	25.0	114	52.8	0	0.0
Grade 01	44	11	25.0	13	29.5	20	45.5	0	0.0
Grade 02	47	11	23.4	15	31.9	21	44.7	0	0.0
Grade 03	33	4	12.1	4	12.1	25	75.8	0	0.0
Grade 04	45	9	20.0	11	24.4	25	55.6	0	0.0
Grade 05	47	13	27.7	11	23.4	23	48.9	0	0.0
School: South	244	63	25.8	59	24.2	122	50.0	0	0.0

Exhibit B-3. Sample Graphical View Report (EW302)

Sample District



Sample District

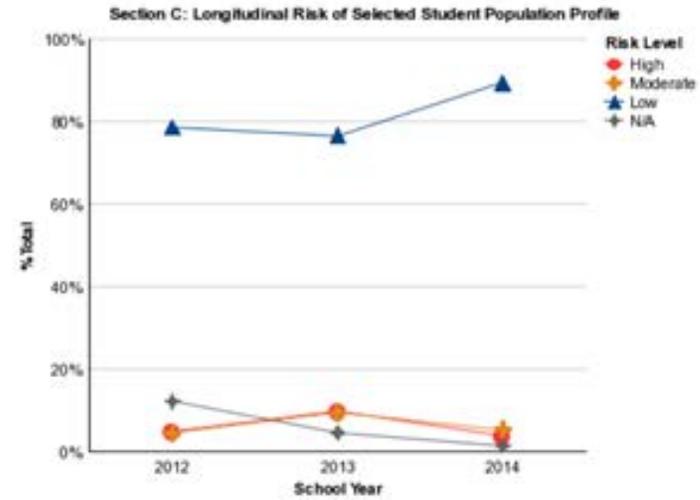
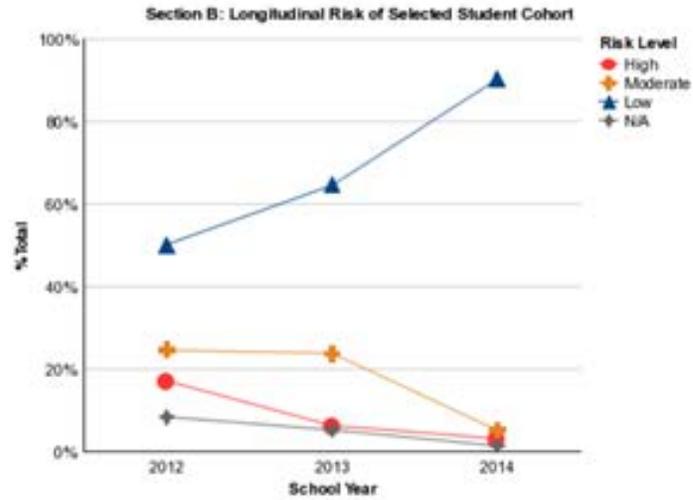
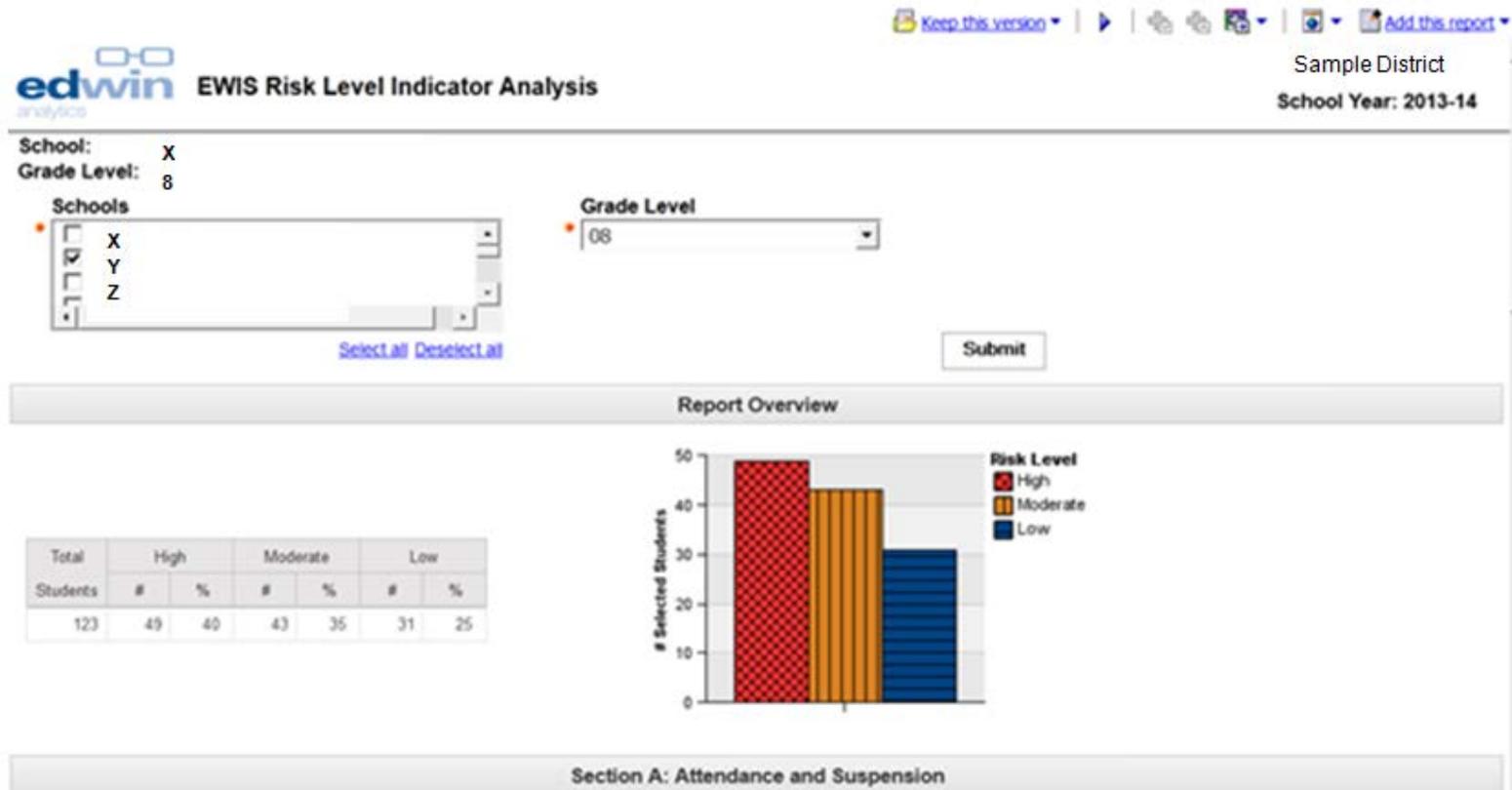


Exhibit B-4. Sample Risk Level Indicator Analysis Report (EW317)



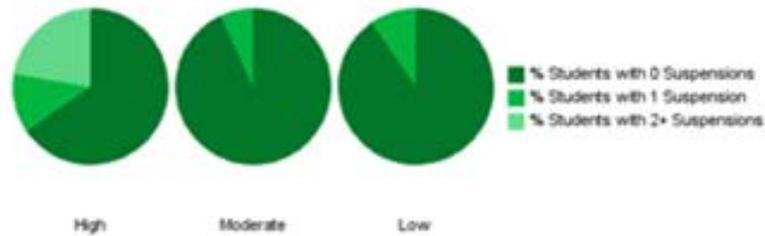
A1. Attendance

	High	Moderate	Low
# Selected Students	43	43	31
Avg. Attendance Rate (%)	91	96	97
Min. Attendance Rate (%)	68	85	89
Max. Attendance Rate (%)	99	100	100
% Students with Attendance > 95%	24	72	81
% Students with Attendance 90-95%	47	21	16
% Students with Attendance 80-90%	24	7	3
% Students with Attendance < 80%	4	0	0



A2. Suspensions

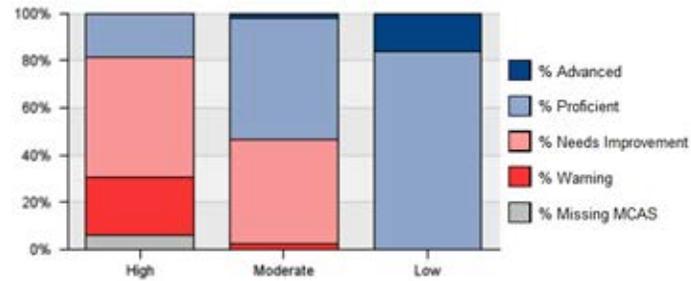
	High	Moderate	Low
# Selected Students	49	43	31
Avg. Suspensions (#)	1.1	0.1	0.1
Min. Suspensions (#)	0	0	0
Max. Suspensions (#)	9	1	1
% Students with 0 Suspensions	65	93	90
% Students with 1 Suspension	12	7	10
% Students with 2+ Suspensions	23	0	0



Section B: MCAS - ELA & Math

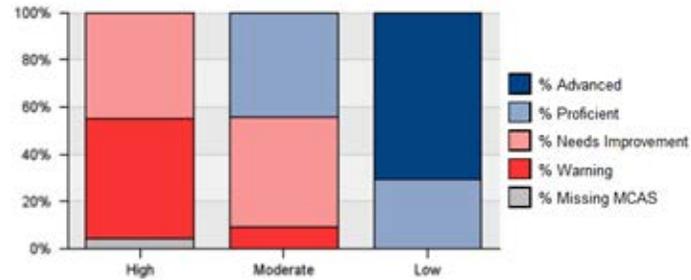
B1. MCAS ELA

	High	Moderate	Low
# Selected Students	49	43	31
% Advanced	0	2	16
% Proficient	18	51	84
% Needs Improvement	51	44	0
% Warning	24	2	0
% Missing MCAS	6	0	0



B2. MCAS Math

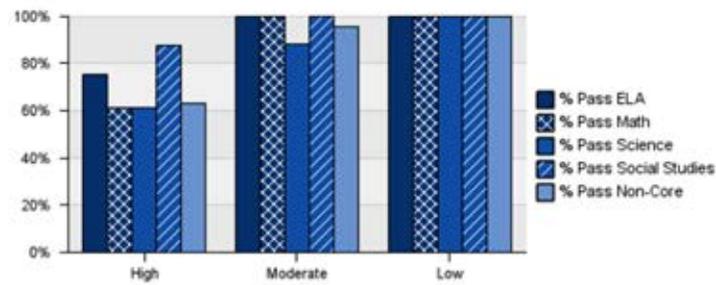
	High	Moderate	Low
# Selected Students	49	43	31
% Advanced	0	0	71
% Proficient	0	44	29
% Needs Improvement	45	47	0
% Warning	51	9	0
% Missing MCAS	4	0	0



Section C: Course Performance

C1. Passing Course by Subject

	High	Moderate	Low
# Selected Students	49	43	31
% Pass ELA	76	100	100
% Pass Math	61	100	100
% Pass Science	61	88	100
% Pass Social Studies	88	100	100
% Pass Non-Core	63	95	100



C2. Course Performance Overview

	High	Moderate	Low
# Selected Students	49	43	31
Avg. Course Subjects Failed (#)	1.4	0.2	0.0
% Failed No Course Subjects	31	84	100
% Failed 1 Course Subject	31	16	0
% Failed 2 Course Subjects	18	0	0
% Failed 3 Course Subjects	12	0	0
% Failed 4 Course Subjects	4	0	0

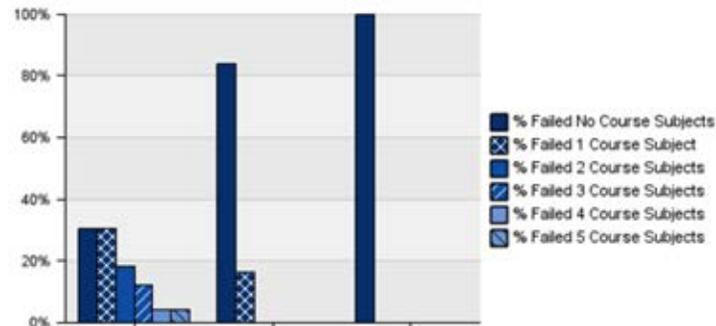


Exhibit B-5. Sample Subgroup Analysis Report (EW318)



EWIS Subgroup Analysis
Contains personally identifiable information. Please do not distribute.

Sample District

School Year: 2013-14

School: All Students within District

Grade Level: 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12

Schools

- V
- W
- X
- Y

[Select All](#) [Deselect All](#)

Grade Level

- 01
- 02
- 03
- 04
- 06

[Select All](#) [Deselect All](#)

Data shown for grades: 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12

	Selected Students in I									Selected Students in State								
	Total Students		High		Moderate		Low		N/A	Total Students		High		Moderate		Low		N/A
	#	%	#	%	#	%	#	%	#	#	%	#	%	#	%	#	%	#
Total for Selected Students	9,312	4,701	50	2,196	24	2,305	25	110	1	840,626	186,633	22	155,871	19	492,958	59	5,164	1
African American/Black	696	408	59	145	21	132	19	11	2	71,827	29,181	41	18,250	25	23,729	33	667	1
Asian	412	206	50	85	21	120	29	1	0	49,468	7,857	16	7,461	15	34,023	69	127	0
Hispanic or Latino	1,911	1,286	67	363	19	237	12	25	1	139,455	65,471	47	35,154	25	37,761	27	1,069	1
Multi-race, non-Hispanic or Latino	490	279	57	139	28	69	14	3	1	23,556	5,612	24	5,066	22	12,782	54	96	0
American Indian or Alaskan Native	26	14	54	5	19	5	19	2	8	1,924	593	31	465	24	849	44	17	1
Native Hawaiian or Pacific Islander	10	6	60	2	20	2	20	0	0	811	214	26	159	20	430	53	8	1
White	5,670	2,424	43	1,455	26	1,732	31	59	1	552,284	76,961	14	89,081	16	383,145	69	3,097	1
Not Available	97	78	80	2	2	8	8	9	9	1,301	744	57	235	18	239	18	83	6
Female	4,462	1,859	42	1,224	27	1,348	30	31	1	409,605	73,603	18	70,968	17	263,176	64	1,858	0
Male	4,753	2,764	58	970	20	949	20	70	1	429,737	112,299	26	84,671	20	229,544	53	3,223	1
Unknown	97	78	80	2	2	8	8	9	9	1,284	731	57	232	18	230	19	83	6
High Needs	7,494	4,360	58	1,724	23	1,317	18	93	1	408,547	165,862	41	110,139	27	128,047	31	4,499	1
Low Income	7,231	4,186	58	1,671	23	1,290	18	84	1	323,194	136,036	42	87,525	27	97,627	30	2,006	1
ELL	687	568	83	69	10	47	7	3	0	58,423	39,163	67	11,814	20	7,166	12	280	0
FELL	121	80	66	21	17	20	17	0	0	22,600	7,833	35	5,836	26	8,856	39	75	0
SWD (6-21)	1,807	1,453	80	197	11	85	5	72	4	144,905	75,781	52	32,173	22	33,428	23	3,523	2
Ever ELL	1,401	869	62	217	15	303	22	12	1	123,787	56,189	45	26,072	21	40,772	33	754	1
First Language Not English	1,940	1,151	59	360	19	408	21	21	1	144,684	61,292	42	31,661	22	50,919	35	812	1
Overage	1,154	938	81	134	12	46	4	36	3	70,833	40,929	58	14,217	20	14,798	21	889	1

Exhibit B-6. Sample Student List Report (EW601)

Note: due to the length of this report, the table sample is represented in two pieces below.

[Keep this version](#) | [Add this report](#)



EW601 Early Warning Indicator System (EWIS) Student List
 EWIS as of Aug 2014 for the 2014-2015 School Year for students currently enrolled in the 2014-2015 School Year

School(s): All Schools within District
 Grade Level: 08

Middle School: Passing all grade 9 courses

					EWIS Information											
School Name	Grade	Last Name	First Name	SASID	Risk Level	Attend Rate	Suspension	Retained	School Move	Low Income	SPED Level	Gender	Urban Residence	Overage	Title1 Schoolwide	ACCESS for ELLs
Sample Student					High	89%	0	No	No	Free	None	Male	Yes	No	Yes	3.9

								Current Students' Information			
ELA MCAS 2014	Math MCAS 2014	Math Course Perf	ELA Course Perf	Sci Course Perf	SS Course Perf	Non-Core Course Perf	Previous Year Risk Level	Race/Ethnicity	ELL	ELL Program	Special Education Placement
Warning	Warning	Pass	Pass	Pass	Pass	Pass	High	Hispanic or Latino	Y	Sheltered English immersion	N/A

Exporting EWIS Data to Excel

Some districts may want to expand their capacity to examine EWIS data beyond the reporting options offered through Edwin Analytics and therefore may choose to export their EWIS data into Excel as a separate EWIS data file. Districts can export EWIS data within Edwin Analytics to Excel by using the drop-down box on the upper-right side of the EWIS report screen. After the EWIS data are exported, districts and schools can combine these data with other sources of district and/or school data and/or generate a wider number of reports.

Appendix C. Sample Early Warning Implementation Timeline

Month	Sample Activities
August/Early September <i>(Before start of school)</i>	<p>Step 1: Get Organized</p> <ul style="list-style-type: none"> ○ Determine team structure, composition, roles, responsibilities, and goals ○ Confirm access to EWIS data in Edwin Analytics ○ Identify student data sources to be used for monitoring and establish thresholds for flagging ○ Set data import and team meeting schedule for the year ○ Identify agenda items for the first team meeting of the school year
September-October	<p>Step 2: Review EWIS Data</p> <ul style="list-style-type: none"> ○ Convene first team meeting of the school year ○ Determine key questions and focus for data exploration ○ Generate EWIS reports to answer questions ○ Identify patterns in EWIS data and summarize key findings ○ Identify individuals or groups at risk, and/or grade/schoolwide areas of concern
	<p>Step 3: Explore Underlying Causes</p> <ul style="list-style-type: none"> ○ Consider possible factors contributing to student risk for identified students ○ Determine data collection plan (how/when/who will collect this additional data to confirm likely underlying causes) ○ Review additional data to discern likely underlying causes of risk ○ Confirm problem(s) to be addressed and potential interventions needed
October-November	<p>Step 4: Take Action</p> <ul style="list-style-type: none"> ○ Create inventory of available interventions and supports ○ Review student needs and available interventions and supports to identify opportunities and gaps. Check initial attendance data to ensure all at-risk students have been identified. ○ Confirm priorities for meeting student needs ○ Develop a plan for effectively using available resources to address individual, group, and schoolwide needs ○ Assign, document, and communicate about planned interventions and supports

Month	Sample Activities
December	<p>Step 5: Monitor Students and Interventions</p> <ul style="list-style-type: none"> ○ Import monitoring data (e.g., course grades, discipline records, attendance) for first grading period ○ Review monitoring data to identify flagged students ○ Revisit Steps 3 and 4 (Explore Underlying Causes and Take Action) for students identified as at risk ○ Communicate with teachers, specialists, students, and families to assign and/or adjust interventions and supports
January-March	<p>Steps 3- 5: Explore Underlying Causes, Take Action and Monitor Students and Interventions</p> <ul style="list-style-type: none"> ○ Review monitoring data to identify students with risk flags ○ Revisit Steps 3 and 4 (Explore Underlying Causes and Take Action) for students identified as at risk ○ Communicate with teachers, specialists, students, and families to assign and/or adjust interventions and supports ○ Monitor progress of interventions and explore broader schoolwide changes to address the needs of many students ○ Import monitoring data (e.g., course grades, discipline records, and attendance) for third grading period
April-June	<p>Steps 3- 5: Explore Underlying Causes, Take Action and Monitor Students and Interventions</p> <ul style="list-style-type: none"> ○ Review monitoring data to identify students with risk flags and to guide planning for summer interventions and supports ○ Revisit Steps 3 and 4 (Explore Underlying Causes and Take Action) for students identified as at risk ○ Monitor progress of interventions and explore broader schoolwide changes to address the needs of many students ○ Communicate with teachers, specialists, students, and families to assign and/or adjust interventions and supports
Summer	<ul style="list-style-type: none"> ○ Step 6: Refine EWIS Process and Step 1: Get Organized ○ Reflect on team functioning and refine procedures for: importing data, reviewing data, and assigning interventions ○ Establish team composition, schedule and goals for upcoming year ○ Consider broader schoolwide changes to address the needs of many students

Appendix D. Targeted and Schoolwide Intervention Resources

Your review of early warning data may suggest the need for targeted supports for students at risk, as well as broader schoolwide supports. Adopting **targeted interventions** can provide support tailored to the specific needs of groups of students at risk. **Schoolwide interventions** can help reduce risk for all students and, therefore, can be a cost-effective and proactive approach to addressing elevated levels of risk among all students within your school. The following table lists a number of resources that provide inventories of available interventions designed to address a range of student needs, from academic achievement to mental health. It is important to note that this is not a list of recommended interventions, nor is it an exhaustive list of available intervention resources. Rather, this list of resources can help you identify suitable interventions aligned with your school's and students' needs, and assist you in evaluating the interventions that are likely to meet the needs of students within your school's context.

The **targeted** and **schoolwide** intervention resources are listed alphabetically in the intervention matrix. Within the matrix, you will find a brief description of each resource as well as some information regarding intervention types, the appropriateness of listed interventions by school levels, and the level of research review and rigor of evidence the resource/site required for including interventions. For information on how we classified resources' intervention type, level, and rigor of review, please see Appendix A—Matrix Key.

Resource	Brief Description	Intervention Type	Level	Rigor of Review
Best Evidence Encyclopedia	<ul style="list-style-type: none"> Searchable database of educational programs, grouped by grade level and category (including a comprehensive school reform section); identifies top-rated programs. Users can access reports, educators' summaries, and educator guides discussing how programs were assessed for evidence of success. http://www.bestevidence.org/ 	<input checked="" type="checkbox"/> Academic <input type="checkbox"/> Social-emotional / Behavioral health <input type="checkbox"/> Special populations	<input checked="" type="checkbox"/> Elementary <input checked="" type="checkbox"/> Middle <input checked="" type="checkbox"/> High	M
Blueprints for Healthy Youth Development	<ul style="list-style-type: none"> Searchable database of 47 model and promising youth promotion programs, all of which have been reviewed and recommended by an independent panel. Users can filter interventions by target outcomes, target populations of students, program categories, program setting (including school), and risk and protective factors. http://www.blueprintsprograms.com/programSelector.php 	<input checked="" type="checkbox"/> Academic <input checked="" type="checkbox"/> Social-emotional / Behavioral health <input type="checkbox"/> Special populations	<input checked="" type="checkbox"/> Elementary <input checked="" type="checkbox"/> Middle <input checked="" type="checkbox"/> High	M

Resource	Brief Description	Intervention Type	Level	Rigor of Review
Child Trends' What Works	<ul style="list-style-type: none"> Searchable database of more than 600 out-of-school interventions targeting healthy child development, all of which have been reviewed by researchers. Users can filter their searches by age / grade level, by program setting (including a "school-based" option), by type of program, and by outcome. http://www.childtrends.org/what-works/ 	<input checked="" type="checkbox"/> Academic <input checked="" type="checkbox"/> Social-emotional / Behavioral health <input type="checkbox"/> Special populations	<input checked="" type="checkbox"/> Elementary <input checked="" type="checkbox"/> Middle <input checked="" type="checkbox"/> High	<u>M</u>
Collaborative for Academic, Social, and Emotional Learning	<ul style="list-style-type: none"> List of social-emotional learning programs that have been vetted and coded by researchers, with a particular focus on elementary-aged students. Users can access a profile of each intervention, which includes a summary of the intervention, the grade range covered, the program context (e.g., schoolwide) and evidence of the program's effectiveness. The site is in the process of developing a list of social-emotional learning programs targeting middle and high school students, with an anticipated release date of spring 2014. http://www.casel.org/guide/programs 	<input type="checkbox"/> Academic <input checked="" type="checkbox"/> Social-emotional / Behavioral health <input type="checkbox"/> Special populations	<input checked="" type="checkbox"/> Elementary <input checked="" type="checkbox"/> Middle <input checked="" type="checkbox"/> High	<u>L</u>
College & Career Readiness & Success Center at American Institutes for Research	<ul style="list-style-type: none"> Searchable database that includes research articles, tools, and products, all of which have been screened for the extent of their research base. Users can search the database using key words. http://www.ccrscenter.org/ 	<input checked="" type="checkbox"/> Academic <input type="checkbox"/> Social-emotional / Behavioral health <input type="checkbox"/> Special populations	<input checked="" type="checkbox"/> Elementary <input checked="" type="checkbox"/> Middle <input checked="" type="checkbox"/> High	<u>L</u>
Early Warning Systems in Education	<ul style="list-style-type: none"> Searchable library of materials focused on early warning systems as effective, research-based interventions for students at risk. Users can access a list of approaches to dropout prevention and featured examples of effective programs, and also can access tools for monitoring early warning system indicators. http://www.earlywarningsystems.org/resources-tools/implementation-and-research 	<input checked="" type="checkbox"/> Academic <input type="checkbox"/> Social-emotional / Behavioral health <input type="checkbox"/> Special populations	<input checked="" type="checkbox"/> Elementary <input checked="" type="checkbox"/> Middle <input checked="" type="checkbox"/> High	NI

Resource	Brief Description	Intervention Type	Level	Rigor of Review
FindYouthInfo Program Directory	<ul style="list-style-type: none"> Searchable directory of evidence-based programs designed to reduce problem behaviors in youth.⁴ Users can customize searches by keyword and by main risk and/or protective factor; results can be sorted by age range and by rating (determined by study quality and program impact). http://www.findyouthinfo.gov/program-directory 	<input type="checkbox"/> Academic <input checked="" type="checkbox"/> Social-emotional / Behavioral health <input type="checkbox"/> Special populations	<input checked="" type="checkbox"/> Elementary <input checked="" type="checkbox"/> Middle <input checked="" type="checkbox"/> High	M
National Center on Intensive Intervention	<ul style="list-style-type: none"> Interactive chart listing studies of intensive academic interventions is featured; also hosts a list of behavioral and academic progress monitoring tools and a library of webinars around intensive intervention topics. Users can use the chart to examine intervention studies and find information about target population risk levels, the quality of the study design, the fidelity of implementation, whether study measures were targeted and/or broad, the effect size found, the intensity of the interventions, and whether additional studies have been conducted on the specific intervention. http://www.intensiveintervention.org/chart/instructional-intervention-tools 	<input checked="" type="checkbox"/> Academic <input type="checkbox"/> Social-emotional / Behavioral health <input checked="" type="checkbox"/> Special populations	<input checked="" type="checkbox"/> Elementary <input checked="" type="checkbox"/> Middle <input type="checkbox"/> High	M
National Dropout Prevention Center / Network	<ul style="list-style-type: none"> Searchable database of strategies and programs deemed effective for dropout prevention, in two formats: a list and a model programs database. Users can refine searches by grade level, evidence level, program emphasis, target groups (including a schoolwide option), risk factors, and more. http://www.dropoutprevention.org/effective-strategies 	<input checked="" type="checkbox"/> Academic <input type="checkbox"/> Social-emotional / Behavioral health <input type="checkbox"/> Special populations	<input checked="" type="checkbox"/> Elementary <input checked="" type="checkbox"/> Middle <input checked="" type="checkbox"/> High	M

⁴ The FindYouthInfo Directory searches two databases simultaneously: the Teen Pregnancy Prevention Program Directory and [crimesolutions.gov](#), the latter of which overlaps with the [Office of Juvenile Justice and Delinquency Prevention's Model Programs Guide](#).

Resource	Brief Description	Intervention Type	Level	Rigor of Review
National Registry of Evidence-based Programs and Practices	<ul style="list-style-type: none"> Searchable registry of more than 310 evidence-based interventions that promote mental health and safe behavior. Users can customize searches by age group, setting (school), outcome categories, and more. http://www.nrepp.samhsa.gov/AdvancedSearch.aspx 	<input type="checkbox"/> Academic <input checked="" type="checkbox"/> Social-emotional / Behavioral health <input type="checkbox"/> Special populations	<input checked="" type="checkbox"/> Elementary <input checked="" type="checkbox"/> Middle <input checked="" type="checkbox"/> High	L
Office of Juvenile Justice and Delinquency Prevention's Model Programs Guide	<ul style="list-style-type: none"> Database of research-based youth intervention programs that are classified as "effective," "promising," or "no effects" by a panel of researchers. Users can review and search interventions by topic, as well as by focus (e.g., dropout prevention, school climate), age range, and protective and risk factors. http://www.ojjdp.gov/mpg/Topic/Details/107 	<input type="checkbox"/> Academic <input checked="" type="checkbox"/> Social-emotional / Behavioral health <input type="checkbox"/> Special populations	<input checked="" type="checkbox"/> Elementary <input checked="" type="checkbox"/> Middle <input checked="" type="checkbox"/> High	M
Social and Emotional Learning Research: Evidence-Based Programs	<ul style="list-style-type: none"> List of social and emotional learning programs that have shown evidence of effectiveness, as supported by at least three independent evaluations or publications. Users are provided information on program methods and associated outcomes, as well as a summary of the evidence base and citations for relevant studies. http://www.edutopia.org/sel-research-evidence-based-programs 	<input type="checkbox"/> Academic <input checked="" type="checkbox"/> Social-emotional / Behavioral health <input type="checkbox"/> Special populations	<input checked="" type="checkbox"/> Elementary <input checked="" type="checkbox"/> Middle <input checked="" type="checkbox"/> High	M

Targeted and Schoolwide Interventions Matrix Key

Table 1. Intervention Type provides a description for each of the types of interventions covered by our listed resources.

Intervention Type	Definition
Academic	Interventions targeting academic achievement, 21st century skills, study skills, and vocational / life skills
Social-emotional / Behavioral health	Interventions targeting social and emotional development, mental health, enhanced behavioral supports and / or the promotion of healthy behaviors and the reduction of risky behaviors (e.g., delinquency, drug use)
Special populations	Interventions targeting students with higher needs for support, such as students with disabilities or limited English proficiency

Table 2. School-Level Classification provides the grade levels for which the listed resource provides interventions.

Level	Definition
Elementary	Targeted at students in kindergarten through Grade 5
Middle	Targeted at students in Grades 6 through 8
High	Targeted at students in Grades 9 through 12

Table 3. Rigor of Review indicates the extent to which research on the intervention is reviewed and included in the resource. For further information on the criteria for inclusion established by a given source, follow the embedded link in the Rigor of Review column.

Rigor of Review	Definition
No Information (NI)	There is limited or no information about how interventions are identified for inclusion in the list of interventions. In some instances, this may be user driven.
Low (L)	Research on each intervention is reviewed. Interventions may be included with research-based evidence of positive impact determined solely by the research authors (i.e., without an independent review).
Moderate (M)	Research on interventions is reviewed. The quality and rigor of the research are confirmed by an independent source before it is included in the assessment of intervention impact/outcomes. However, the standard for research to be included is varied in terms of the size of the study and the rigor of the methods.
High (H)	Research on interventions is reviewed and confirmed by an independent source. Only large-scale studies and randomized controlled trials are included as evidence of an intervention's impact.

Endnotes

¹ Therriault, Susan B., Mindee O’Cummings, Jessica Heppen, Laura Yerhot, and Jenny Scala. 2013. *High School Early Warning Intervention Monitoring System Implementation Guide*. Washington, DC: National High School Center. <http://www.betterhighschools.org/documents/EWSHSImplementationguide.pdf>.

Therriault, Susan B., Mindee O’Cummings, Jessica Heppen, Laura Yerhot, Jenny Scala, and Michelle Perry. 2013b. *Middle Grades Early Warning Intervention Monitoring System Implementation Guide*. Washington, DC: National High School Center. <http://www.betterhighschools.org/documents/EWSMGIImplementationguide.pdf>.

² Raudenbush and Bryk (2002) used a multilevel modeling framework to control for the clustering of students within schools and obtain correct robust standard errors for the early elementary grades. Late elementary, middle, and high school grades employed logistical regressions.

Raudenbush, Stephen W., & Anthony S. Bryk. 2002. *Hierarchical Linear Models: Applications and Data Analysis Methods*. 2nd ed. Newbury Park, CA: Sage.

³ Although research suggests that these are correlated with high school graduation, the EWIS age group academic milestones and milestones have not yet been correlated.

⁴ Therriault et al., *High School Early Warning Intervention Monitoring System Implementation Guide*.

Therriault et al., *Middle Grades Early Warning Intervention Monitoring System Implementation Guide*.

⁵ Bernhardt, Victoria L. 2004. *Data Analysis for Continuous School Improvement*. 2nd ed. Larchmont, NY: Eye on Education.

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⁶ Instructions for generating reports in the EWS High School Tool are provided in the *EWS High School Tool Technical Manual* and within the EWS High School Tool, which is available at <http://www.betterhighschools.org/ews.asp>.

⁷ Abu-Hilal, Maher M. 2000. “A Structural Model of Attitudes towards School Subjects, Academic Aspiration and Achievement.” *Educational Psychology* 20 (1): 75–84. <http://www.tandfonline.com/doi/abs/10.1080/014434100110399#preview>.

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⁸ Rutter, M., and N. Garmezy. 1983. "Developmental Psychopathology." In *Mussen's handbook of child psychology: Vol. 4. Socialization, personality, and social development*, edited by Paul Mussen and E. Mavis Hetherington, 4th ed., 775–911. New York: Wiley.

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⁹ Murnane, Richard J., and Frank Levy. 1996. *Teaching the New Basic Skills: Principles for Educating Children to Thrive in a Changing Economy*. New York: Free Press.

¹⁰ Bransford et al., *How People Learn: Brain, Mind, Experience, and School*.

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¹¹ Eccles and Gootman, *Community Programs to Promote Youth Development*.

¹² Zull, *The Art of Changing the Brain: Enriching Teaching by Exploring the Biology of Learning*.

¹³ Eccles and Gootman, *Community Programs to Promote Youth Development*.

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¹⁵ Pianta & Hamre, “Conceptualization, Measurement, and Improvement of Classroom Processes: Standardized Observation Can Leverage Capacity.”

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¹⁶ This information also may be used to determine whether additional assessments or a referral for additional services may be needed.

¹⁷ For students who have been found eligible for special education, this plan must be aligned with their individualized education program.

¹⁸ Instructions for generating reports in the EWS High School Tool are provided in the *EWS High School Tool Technical Manual* and within the EWS High School Tool, which is available at <http://www.betterhighschools.org/ews.asp>.

¹⁹ Researchers used a multilevel modeling framework to control for the clustering of students within schools and obtain correct robust standard errors (Raudenbush & Bryk, 2002).

Raudenbush, Stephen W., & Anthony S. Bryk. 2002. *Hierarchical Linear Models: Applications and Data Analysis Methods*. 2nd ed. Newbury Park, CA: Sage.