

ON-TRACK/EARLY WARNING SYSTEMS

Colorado Dropout Prevention Framework



COLORADO
Department of Education

Systematically review data to identify students showing signs of being at risk of dropping out of high school or not meeting post-high school outcomes, understand what leads to elevated signs of risk, and provide targeted supports to students.

On-Track/Early Warning Systems (EWS¹) use local and historical data and research-based indicators to help identify students showing signs of risk for missing key educational milestones, including on-time high school graduation and postsecondary readiness. Early warning indicator data are used with other sources of data and insights from people (including students) to help understand underlying student needs.

Most EWS collect data on three essential indicators that research has shown are most predictive of risk for not graduating, often referred to as the ABCs of early warning data:

- **Attendance:** In middle school: missing 9 days/quarter (or 36 days/year). In high school: missing 10% of instructional time.
- **Behavior:** Two or more mild or more serious behavior infractions.
- **Course Performance:** In sixth through eighth grades: failure in English or math, a grade point average of less than 2.0. In ninth through 12th grades: any course failure, failure to pass the ninth grade.

An EWS efficiently and systematically reviews data to identify students who show signs of being at risk of dropping out and is connected to a multi-level intervention and response system. Districts and schools using EWS may also expand on these indicators to include social-emotional learning or whole child measure, such as student belonging or connectedness, or specific benchmarks toward postsecondary readiness such as participation in an internship or advanced coursework to help inform strategies. The real power of an EWS is the ability to proactively act on these predictive data to match interventions to needs so as to get students back on track or stay on track for on-time graduation and postsecondary readiness. EWS depend on all relevant stakeholders having easily accessible and timely data as well as user-friendly tools or dashboards (including adequate licensing and access rights for technology).



How EWS Supports Dropout Prevention and Student Engagement

- Monitoring student data through early warning indicator data consistently identifies students showing signs of risk for not graduating on time (McKee & Caldarella, 2016; Balfanz et al., 2007; Faria et al., 2017).
- Reviewing early warning indicator data regularly to intervene quickly can offer support to students before more intensive recovery efforts are needed (Lovelace et al., 2017; Corrin et al., 2016).
- Using indicators in attendance, course performance, and behavior is more predictive of student outcomes than demographics, socio-economic status, and other environmental factors historically used to identify students (Baker et al., 2019).

Learn more about the research behind this strategy in the *EWS Research Synthesis*.

¹ The acronym EWS is used throughout the framework to refer to both on-track and early warning systems.

Implementation Considerations

The following considerations are provided to inform district and school planning and implementation of the EWS strategy.

Strengthen Foundational Practices. The five foundational practices in the Colorado Dropout Prevention Framework guide districts and schools in building systems and practices that directly support this strategy. The review of data within an EWS can help inform the implementation of foundational practices. Review the *Dropout Prevention Foundational Practices and Strategies Crosswalk* for more information.

Adopt Responsive and Actionable Data Systems. Districts and schools can respond to student needs more quickly and effectively by structuring data systems so the right people can access the right data at the right time. Developing the technical and analytical skills of educators and key stakeholders (e.g., parents/guardians, students) enables teams to access, organize, and analyze systemic student data that help students be successful.

EWS require a way to organize and visualize early warning indicator data, typically through a tool or dashboard. Visualizing the data allows teams to quickly identify which students or groups of students are showing elevated signs of risk. Ideally the tool or dashboard is integrated with existing school data systems. As schools adopt responsive and actionable data systems, considerations include:

- Using a program or dashboard to organize and display early warning indicator data that is user-friendly, allows for data aggregation and disaggregation, and is updated regularly.
- Providing access rights (including teachers, parents/guardians, and students, as appropriate) to the data program and set-up for use of necessary features and/or building opportunities for awareness of data
- Ensuring data are “real-time” or up to date as much as possible.
- Coordinating or integrating with related school data systems for deeper data analysis and use of trend data to examine more systemic interventions or initiatives.

Strengthen Human Practices, Processes, and Mindsets. EWS depend on individuals, teams of people, and entire school communities to understand, support, and carry out the practices and processes needed to make use of early warning indicator data. Educators and stakeholders depend on human systems and practices to respond to student needs, adjust adult practices and policies, and monitor how the system is being implemented.

The early warning indicator data, in combination with additional data from school data systems and stakeholder insights, help school teams identify areas to focus their investigation and understand underlying student needs, and match those students to supports. For example, knowing that a student has failed mathematics is not enough information to assign a responsive intervention. Rather, taking the time to speak with the student, the teacher, parents/guardians, and then reviewing attendance data and the student’s other class grades, may show that the student missed key instructional days due to absences.

As *schools* develop practices, processes, and mindsets to support EWS implementation, considerations include:

Implementation Considerations

- Strengthen Foundational Practices
- Adopt Responsive and Actionable Data Systems
- Strengthen Human Practices, Processes, and Mindsets
- Use Responsive Supports and Actions

Implementation Tools and Resources

- [Indicators & Interventions: A Practical Manual for Early Warning Systems](#)
- [A Practitioner’s Guide to Implementing Early Warning Systems](#)
- [Early Warning Intervention and Monitoring System Implementation Guide](#)
- [Three Circle of Evidence-Based Decision Making to Support Students with Disabilities](#)
- [Measuring Fidelity](#)
- [GRAD Partnership Self-Reflection Tool](#)

- Establishing a representative school team that meets frequently, and has the agency to engage in decision making rooted in data analysis.
- Using a data-based decision-making process or protocol to examine school and stakeholder data and input (including teachers, parents/guardians, and students) to uncover the root causes of why a student shows signs of elevated risk and where intervention may be most effective.
- Involving parents/guardians in understanding and addressing student needs throughout the process.
- Creating a process to monitor and follow up on student progress with interventions and supports.
- Engaging in continuous improvement cycles to examine school and team processes and trends in data in the EWS that may inform schoolwide practices.
- Approaching students with a strengths-based mindset.

Districts support implementation of human practices, processes, and mindsets by emphasizing the importance of using a systemic review of early warning indicator data to identify trends and individual students showing signs of risk. Districts can seek to understand needs and commonalities across schools to facilitate sharing resources and ideas. For example, in learning that one school is having success with a reading program that meets a need that is emerging from another school, the district can help to connect those individuals and resources.

Use Responsive Supports and Actions. EWS only works when actions are taken based on what is learned from early warning indicator data and deeper investigation into underlying student needs. Students have to be matched to and provided with interventions or supports that address their underlying needs, and trends need to inform whole school strategy and initiatives. These interventions and supports are most effective when aligned with a tiered response system. Alignment can provide a comprehensive approach to student supports and adult actions that are consistent across teams, grade levels, departments, and the entire school.

As schools develop systems to support students, or ensure integration with existing systems such as MTSS, considerations include:

- Assigning students to interventions that address underlying needs in response to signs of risk through the predictive indicators.
- Developing a comprehensive intervention catalogue of appropriate and available interventions aligned to student needs.
- Aligning supports and interventions with a multi-tiered framework and ensuring student supports are in response to early warning indicator data.
- Using early warning indicator data to both identify supports and interventions for individual schools and also school-level trends to inform improvements to practices across the school.
- Examining school systems and adult behaviors so they support student success (such as written and implemented policy, curriculum, and administrator practices).

Districts also play a role in how practices and policies (e.g., adult mindsets, instructional practices, district and school policies) impact implementation to address barriers related to adult action and systems. Districts support implementation of EWS by working to understand available interventions and student needs. This information can then be used to (1) facilitate sharing interventions and learning across schools, (2) identify additional supports to close existing gaps, (3) help reduce redundancies in current offerings, and (4) provide infrastructure (such as software) and training.

Equitable Implementation of Early Warning Systems

Equitable implementation is the integration of “strong equity components, including explicit attention to the languages, cultures, histories, values, assets, and needs of different communities, during all steps of an implementation process” (Metz et al., 2020, p. 8).

Using a data-based systemic approach to identify students showing signs of being at risk for not graduating can contribute to district and school efforts in providing equitable support of students. The use of research-based early warning indicators in this approach is more predictive of risk than student characteristics, demographics, or relying on referrals, and leads to a more equitable allocation of supports and resources.

To support equitable implementation, districts and schools can consider the EWS strategy through the lens of equity in access, representation, and quality.

Equity in Access. What processes or practices need to be in place to ensure school teams have access to and use an early warning system?

- Use indicators in attendance, course performance, and behavior to identify students showing signs of risk. Examine trends to help inform action, including if some groups of students are overrepresented.
- Create or purchase a tool to make accessing and analyzing indicator data accessible and user-friendly and provide access (including licensing) to relevant users/stakeholders.
- Ensure broad understanding of EWS team purpose, intended outcomes, and integration with school practices and other school teams.
- Ensure all students, regardless of previous data, have access to intervention and support.

Equity in Representation. What processes or practices need to be put in place to ensure school team representation reflects the demographics of the student population and community in early warning systems?

- Create teams that represent the school community.
- Include students, teachers, parents/guardians, and community stakeholders in conversations for authentic engagement and deeper understanding.
- Analyze current student behavior and school pattern data to identify individual and group trends and examine policy and practices that ensure all student groups have opportunities for successful outcomes.

Equity in Quality. What processes or practices need to be put in place to ensure school team effective use of an early warning system?

- Follow data review protocols regularly.
- Review universal and tiered supports to ensure they are responsive to current student populations/needs year to year. Available supports address needs related to (at a minimum) attendance, behavior, and course performance, and align with the MTSS.
- Assign students to available interventions that respond to underlying needs and that are culturally and linguistically responsive.
- Track progress of students related to interventions.

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