Early Warning Indicator Tool Comparison Take Aways

This document outlines the primary findings of a cross-walk between the Michigan MiDataHub Early Warning System (EWS) Dashboard and the MIBLSI EWS tools for PowerSchool with the MIBLSI Database.

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Version: 1.0

Date: April 2019

In the winter of 2019, Manistique Area Schools worked with MIBLSI and the Michigan MiDataHub to install an Early Warning System (EWS) using two different tools: 1) the EWS Dashboard tool available through the Michigan DataHub and 2) the MIBLSI-developed EWS tools for PowerSchool combined with the MIBLSI Database (MIDATA, transitioning to MiMTSS).

After data were loaded into each system and checked for accuracy, a team compared the resulting early warning indicator graphs and reports. The purpose of this analysis was to find similarities and differences in order to:

- Respond to frequently asked questions about how the two tools compare.
- Identify the best features of each tool.
- Leverage the best features of each tool to move forward in a common direction for Michigan districts wanting to use an Early Warning Intervention and Monitoring System (EWIMS) to drive improvement in student outcomes, particularly in the context of a Multi-Tiered System of Supports.

The rest of this report summarizes the five major findings, with examples of each finding, and a proposed set of next steps.

Five Main Take-Aways

1. There are inconsistencies in the specific indicators.
2. There are inconsistencies in how overall student risk is summarized.
3. MIDATA/MiMTSS provides a quick summary of aggregate systems-level data.
4. The MiDataHub tool is best for drilling into individual student data.
5. The MiDataHub tool will be the most sustainable solution. Next steps will involve planning and decision-making to enhance the functionality of the MiDataHub tool. From there, we can examine opportunities to build integrations between MIDATA/MiMTSS and MiDataHub.

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Specific Indicators

Both systems include Early Warning Indicators that can be categorized as related to Attendance, Behavior, and Course Performance. The similarities and differences at the indicator level are important to understand first, in order to consider the implications on grade-level and school-wide summaries of data.

Attendance

Both systems summarize attendance data in primarily the same way. The attendance rate for each student is calculated as the total cumulative hours present divided by the total possible cumulative school hours. Students are flagged as at risk if they have a cumulative attendance rate of less than 90%.

Table 1. Attendance Indicator Comparisons

PowerSchool Tools and MIDATA	MiDataHub Dashboard
Schools have the flexibility of setting date ranges for their data pull so that attendance data are not pulled cumulatively across the school year, making it easier to examine changes in student data over the course of the school year.	The MiDataHub dashboard also provides an attendance "warning" if students have an attendance rate of 90-95%. This additional layer of data may be helpful for helping staff to identify students who are approaching attendance risk and intervene proactively.

Behavior

Both systems use **in-school suspensions and out-of-school suspensions** as a behavior indicator. If a student has one or more suspension, they are identified as at risk.

Table 2. Behavior Indicator Comparisons

PowerSchool Tools and MIDATA	MiDataHub Dashboard
Schools have the flexibility of setting date ranges for their data pull so that behavior data are not pulled cumulatively across the school year, making it easier to examine changes in student data over the course of the school year.	In addition to suspensions, the MiDataHub dashboards also allow for a second behavioral indicator called "Code of Conduct." This is locally defined and may be linked to behavioral incidents that are documented in schools, but do not result in a suspension.

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Course Performance

Both systems use ELA and Math course failures to identify middle school students as at risk for course performance. Both systems also rely on the final stored grades for a term.

Table 3. Course Performance Indicator Comparisons

PowerSchool Tools and MIDATA	MiDataHub Dashboard
Following EWI research, MIBLSI uses different course performance indicators • Middle school students: ELA and Math course failures • high school students: Core course failures (including at minimum ELA, Math, Science, and Social Studies classes) and Grade Point Average. A grade of D or lower flags a student as at risk for course performance. Students with a GPA of less than 2.0 are considered at risk.	The same two course performance indicators are used for middle and high school students: ELA and Math course failures. A grade of less than 60% flags a student as at risk for course performance

General

Table 4. General Indicator Comparisons

PowerSchool Tools and MIDATA	MiDataHub Dashboard
Data are extracted manually, and then are static once transferred into the Excel tool and MIDATA, making it difficult for educators to monitor data more frequently than the fall, winter, and spring school-level data reviews.	Attendance and behavior data load nightly, allowing schools to use the dashboard as often as daily to monitor student risk.

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Summaries of Overall Student Risk

Overall student risk is summarized in different ways in each system.

Table 5. Overall Student Risk Comparisons

PowerSchool Tools and MIDATA	MiDataHub Dashboard
In the fall (after 20th day of school) there are 3 possible risk indicators and 4 possible risk indicators at the end of each term. Students are identified as: • Low risk for dropout (0 risk indicators) • Moderate risk for dropout (1 risk indicator) • High risk for dropout (2+ risk indicators) The MIBLSI tools also compare student risk from one review period to the next, looking for the following: • Students who maintained 0 risk indicators from one review period to the next • Students who reduced their risk from 1 to 0 risk indicators • Students who reduced their risk from 2+ to 1 or 0 indicators	There are 5 possible indicators and students are identified as having: • 1 or more risk indicator (1-5) • 2 or more risk indicators (2-5) • 3 or more risk indicators (3-5) • 4 or more risk indicators (4-5) • 5 risk indicators

Systems-Level Data Summaries

The MIBLSI data review process guides School Leadership Teams to start with an analysis of school-wide data patterns to look for accomplishments and opportunities for Tier 1, school-wide improvements prior to analyzing data at a grade level and individual student level for more intensive, individualized supports. Systems-level guiding questions for EWI data analysis are presented next. The questions are from MIBLSI's Secondary Data Review process, primarily from the Problem Identification Step of the four-step problem-solving process. Following each question is information about how each tool is able to provide educators with initial answers. Our analysis emphasized the MIBLSI questions because the Manistique schools had recently participated in their first

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school-level data review training, and this is the structure for which they are currently receiving professional learning for using their early warning indicator data.

1. Are 80% or more students school-wide at low risk (0 flags) on the overall engagement indicator?
   - **MIDATA/MiMTSS**: Engagement Outcomes tab--Low Risk radio button (look for green bars school-wide and for each grade).
   - **MiDataHub**: Failing Summary--100% minus the % of students failing 1 or more indicators. School-wide is available in the data table.
2. (Winter and Spring) From one term to the next, did at least 95% of students who were low risk stay low risk, school-wide?
   - **MIDATA/MiMTSS**: Engagement Outcomes tab--Low Risk radio button (look for green bars with dashed outline school-wide and for each grade).
   - **MiDataHub**: Not available
3. Are there any noteworthy school-wide patterns of overall engagement during this term from year to year, across grade levels? (Example: How does engagement during fall of this year compare to fall of last year, across grade levels?)
   - **MIDATA/MiMTSS**: Engagement Outcomes tab--Low Risk radio button (look at bars over time and school-wide compared to specific grade levels.
   - **MiDataHub**: Failing Summary--Historical chart not currently available.
4. Which grade level(s) need more support in order to meet the goals for specific engagement indicators at this point in the school year? Highlight or check the box for each grade level that needs more support. Based on your analysis of the Early Warning Indicators across grade levels, which indicators are in need of the most support across multiple grade levels?
   - **MIDATA/MiMTSS**: Early Warning Indicators tab—Look for black bars Schoolwide and for each grade across all four indicators.
   - **MiDataHub**: Percent Failing—See school-wide results displayed in the main table. Click on “More” drop down menu to display the Grade Level Chart. Look for red bars.
5. Are there any noteworthy patterns of individual indicators during this term from year to year across grade levels? (Example: How does attendance during spring of this year, compare to attendance during spring of last year?)
   - **MIDATA/MiMTSS**: Early Warning Indicators tab—Look for green bars Schoolwide and for each grade across all four indicators over time.
   - **MiDataHub**: Percent Failing—Click on “More” drop down menu to display the Historical Chart. Look for red bars. This chart only displays school-wide data over time, not by grade.
6. For students with multiple flags, are there any patterns for which early warning indicators are most commonly co-occurring, suggesting these indicators should

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be considered in combination with one another rather than as two distinct problems?
   - **MIDATA/MiMTSS**: This information does not currently go into MIDATA/MiMTSS, but is summarized in a "Flag Data Drill Down" table within the Excel template.
   - **MiDataHub**: Not available in a summary format, would need to look at lists of student to get a sense of patterns.
7. Which grade levels have less than 80% of students performing at or above benchmark on their basic reading skills and/or content area reading skills?
   - **MIDATA/MiMTSS**: Reading Outcomes or CARI tab of the MIDATA/MiMTSS school dashboard only if schools are collecting this data for grades 5-9.
   - **MiDataHub**: Could go to academic dashboard, state assessments to review M-STEP data and any other local assessments that are loaded in the future.
8. What additional student outcome data sources might you consider when identifying areas of need with respect to Tier 1 Engagement/Reading Supports (e.g., benchmark assessments)?
   - **MIDATA/MiMTSS**: Not available.
   - **MiDataHub**: Could go to academic dashboard, state assessments to review M-STEP data and any other local assessments that are loaded in the future.
9. (Fall only) Which grade levels had fewer than 80% of students proficient on high stakes summative assessments of Reading/ELA (e.g., M-STEP) in the spring of last year?
   - **MIDATA/MiMTSS**: Not available.
   - **MiDataHub**: Could go to academic dashboard, state assessments to review M-STEP data and any other local assessments that are loaded in the future.

Individual Student-Level Data Summaries

The MIBLSI data analysis process does not yet provide guidance on individual student data analysis. Possible questions, including those presented in the MDE EWIMS Implementation Guide are presented next, with information about how these questions can be answered in each system. The MDE EWIMS Implementation Guide (Therrriault et al., 2017) includes many questions for data analysis in *Step 3: Review Early Warning Data* and *Step 4:Interpret Early Warning Data*. These are primarily at the student level.

<u>Guiding Questions for Step 3:</u>

1. Which students are flagged as being at risk? For which indicators are they flagged?
2. What are the most prevalent indicators among the students who are identified as being at risk?

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3. Are there patterns among the students who are flagged for any particular indicator(s) of risk?
    a. Were students who are currently flagged in high school also flagged for the incoming risk indicator on the basis of information from the prior grade(s)?
    b. Are students who are flagged for attendance indicators also flagged for course performance? Do some students show risk because of absences only? Do other students show risk because of poor course performance only?
    c. Do students who are flagged for risk early in the school year continue to be flagged later in the year? Are they flagged for the same reasons or for different reasons?
    d. What are the demographic characteristics (e.g., disability, disadvantaged status, ELL status) of students who are flagged and not flagged?
4. Do students who were flagged in a previous school year (incoming indicator of risk) continue to be flagged in the current school year? If the answer is "yes," are they flagged for the same reasons or for different reasons?
5. Do students who are flagged for risk early in the school year continue to be flagged later in the year? Are they flagged for the same reasons or for different reasons?
6. Do the number and percentage of students who are flagged for any indicator and for each different indicator change from year to year?
7. For students who are flagged, what percentage showed one or more risk indicators in prior grades? What percentage did not?

Guiding Questions for Step 4:

1. Is there a day or certain time of day when the student is absent? Are certain classes missed?
2. Has the student had any behavioral referrals resulting in suspension, which may affect attendance?
3. Are there other indicators of risk? (Cross-check with attendance flag and other information, such as teacher reports and achievement test scores.)
4. Is there a discernible pattern to student absences? What are the underlying reasons for students' poor attendance records?
5. What other information do you need to understand the characteristics of students with attendance problems (e.g., special education status, ELL status, prior achievement)?
6. For a student who is flagged for failing courses, what classes did the student fail? What might be the underlying causes (e.g., low literacy skills, an unidentified or untreated learning disability) for the low performance?

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7. Are there any discernible patterns in the students' academic performance? What are the underlying reasons for these students being flagged for academics?
8. What other information do you need to understand common patterns or possible underlying reasons for poor performance (e.g., special education status, ELL status, prior achievement) among students with course failures?
9. What behavior(s) contributed to the behavior flag? How is the behavior problem(s) being addressed? For instance, is the student in any sort of behavior intervention? Does he or she have any special needs that must be taken into consideration?
10. Are there behavioral patterns or common underlying reasons for behavior problems among students flagged for this indicator?
11. What other information do you need to understand the characteristics of students who are being flagged for behavior (e.g., special education status, ELL status, students over-age for their grades)?
12. Is the student engaged in school? (To determine this, cross-check with attendance flag, incoming indicator flag, behavior flag, and other information, such as teacher and counselor reports.)
13. What does the team believe are the underlying causes for poor attendance or academic failure among the flagged students?
14. What are the most prominent needs at the school and district levels that emerge from the analysis of the data? How will you prioritize these needs?
15. Can more information be gathered from students about the reasons they are exhibiting behaviors that cause them to be at risk (e.g., students do not find classes engaging, students have responsibilities at home causing them to be absent)?
16. How might school attendance policies be affecting students who are flagged (e.g., consequences for a high number of absences)?
17. Looking across multiple grades, are students failing particular courses, being flagged at particular grade levels, or both? What changes could be made to improve outcomes for students in these course(s) or grade(s)?
18. How might the grading policy at the school affect students who are flagged?
19. On the basis of your analyses, is there anyone who is not currently on the EWIMS team who needs to be included (e.g., previous teachers, parents, guidance counselors, curriculum and instruction personnel)?
20. Human services representatives, business representatives, local policy makers, parents, teachers, students, guidance counselors, central office staff) who should be included in the long-term discussions about the way to address systematically the prevalence of risk factors displayed by students in the school? How will these stakeholders be engaged? How will buy-in be promoted?

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21. What can the team do to ensure that it can easily obtain additional data that are important for identifying underlying causes? What further information is necessary to get a better picture? What types of information are difficult to obtain? How can that information be made more accessible?
22. For students who do drop out, what were the reasons or underlying causes? What resources would the district need to locate and survey or interview some of these students?

Next Steps with a Proposed Solution

The opportunity to conduct a systematic cross-walk between these EWS tools has been highly valuable for developing a better shared understanding of the unique offerings of each tool. Manistique was a wonderful partner in this endeavor and helped to ensure clean data in both systems. The district's active work to use EWI data to inform their MTSS implementation allowed us to ground the cross-walk in real data with implications for active teams.

It is the intent of MIBLSI, MDE, and the Michigan MiDataHub to collaborate on edits to the Michigan MiDataHub EWS dashboard to offer an EWIMS data tool that can be scaled to all districts in Michigan if they have data flowing to the MiDataHub. A team will be convening to address the following decisions:

1. Confirm the specific indicators and risk thresholds.
2. Prioritize how data need to be summarized at the school, grade, and individual student levels.
3. Determine whether the existing dashboard tool can be modified or whether another tool should be leveraged.
4. Establish a concrete set of activities and timelines with associated resource allocation.

We plan to begin this work over the summer of 2019 and have a fully functional revised data tool available to districts by the winter of 2021. In between, a cycle of development, testing, and improvements will be used.

Resources

- MDE Early Warning Intervention and Monitoring System Webpage (https://www.michigan.gov/mde/0,4615,7-140-81376_83587---,00.html)
- Michigan MiDataHubs (https://www.miMiDataHub.org/)
- MIBLSI Early Warning Indicator Webpage (https://miblsi.org/evaluation/student-assessments/early-warning-indicators)

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- EWIMS and EduPaths Professional Development for Educators (https://www.smore.com/sn6h4)

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