



# Data Quality Best Practices

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# Why Spend All This Time On Data Quality?

**The big idea:** When students, parents, and educators have the right information to make decisions, students excel.



## What does it mean to use *data* in service of student learning?

Data is one of the most powerful tools to inform, engage, and create opportunities for students along their education journey—and it's much more than test scores. Data helps us make connections that lead to insights and improvements. Everyone has an important role to play in helping all students succeed in their own individualized ways. Here's what it will look like when data is working for all students.

### TEACHERS

"I know where my students are succeeding and struggling right now. I can help them grow."



### SCHOOL LEADERS

"I know what's working and what isn't in my school. I can make timely decisions and make sure resources support great teaching and improve student learning."



### STUDENTS

"I know my strengths and where I need to grow. I can shape my own education journey."



### AFTERSCHOOL PARTNERS

"I know what's happening with these kids before 3:00 p.m. I can help families and communities create more opportunities for students to succeed."



### PARENTS

"I know what actions to take to help my child on her path to success. I can be a better champion for her."



Piece by piece, this ideal is becoming a reality for students. But how can we complete the picture for all students? See DQC's *Time to Act: Making Data Work for Students* for a roadmap to how states can foster this change.



# Use The Power of Data!

*When you combine the power of compassionate teachers, counselors and administrators with quality data and a systematic approach for review, our children win*



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# Data Quality Best Practices

*Now that we better understand the power of data, we need to make sure it is of high quality so the right conclusions are made*



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# Best Practice #1: Build a Data Team and a Plan



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# Data Teams

## Collaborate with School and Data Experts for High Quality Data Reporting

### Create Data Teams

The Department of Public Instruction recommends districts cultivate a team of people who understand the programs, data, business rules, use of the data for state and federal reporting, and local policies to coordinate data reporting. Data teams can offer insight and expertise in their data area, be involved in clarifying data submission guidelines, and assist with data review and issue resolution. Collaborating with the currently designated WISEdata contact on these efforts will increase awareness at the local level and help to ensure better quality data.

### Insight and Expertise

Gather a team of experts, one lead per data area, to ensure comprehensive and accurate data submissions.

### Involvement

Additional help with data submission guidelines and access for data entry reduces the workload for smaller schools or districts.

### Review and Issue Resolution

Meet at the start of each term and several times throughout the year to review the data, tend to data quality, and address any technical issues like validation errors.



# Data Teams

- At least one person, the steward or main contact, for each data area.  
Example: CTE Coordinator for the CTE data.
- Create a plan for annual training, data entry and review based on the DPI [checklists](#) and calendars.
- Understands the business rules or data submission guidelines.
- Can help with data entry to share the workload.
- Meet throughout the year to review data quality.
- Prepare for snapshot.



# Data Teams

- Commit to understanding the data **'pipeline'** and **'toolbox'**
- Understand what data is sent to WISEdata from the SIS, the process, and timing for data transfer.
- Utilize tools available at every level.
- Work as a user group to **provide vendors with fix and enhancement priorities**





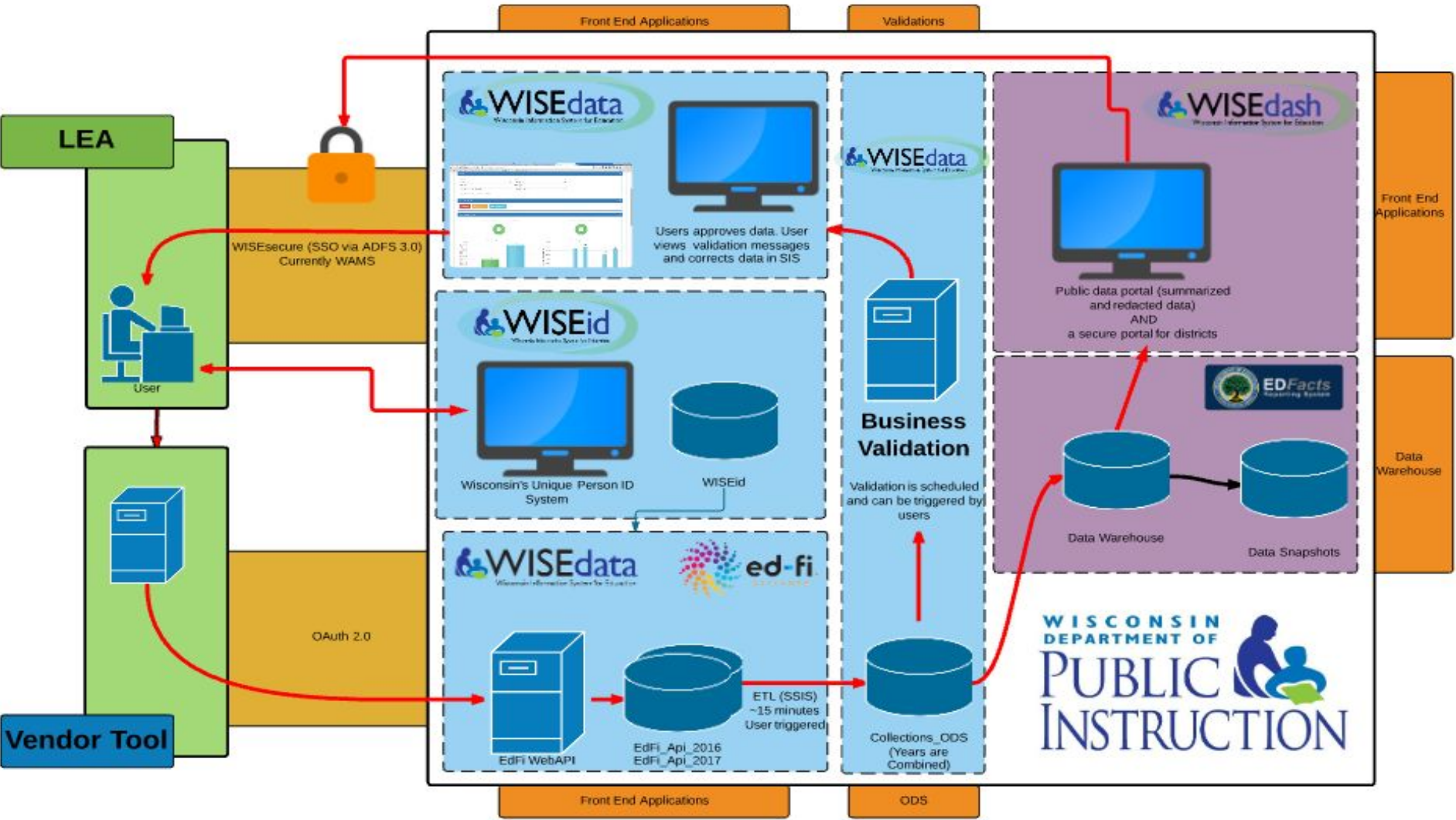
# Best Practice #2:

Understand the flow of your data  
and review the data quality



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# Data Quality Tools

*A core role we have as DPI is to build tools that help LEAs have high quality data so we can put all the great things we spoke about at the beginning of the presentation into motion!*



# WISEdata Data Quality Toolbox

- **WISEdata Portal**

  - Data Quality Alerts

  - Home Page

  - Data Quality Metrics

  - Data Quality Validations

  - Student Detail and API View

  - Exports

- **WISEdash for Districts**



# WISEdata Data Quality Portal

**Goal:** Provide LEAs with a set of tools to allow them to:

- Verify the data is landing in WISEdata that the vendor is sending
- Execute data quality checks and correct at the source
- WISEdata Alerts
- **Solution? The WISEdata Portal**



# Data Quality Alerts

- Introduced in 2020
- Targeted notices from DPI
- District and School Level Alerts
- Available approximately 6 weeks prior to snapshot
- Provide guidance on review and data correction, if necessary

The screenshot displays the WISEdataPortal interface. The top navigation bar includes 'Agency', 'Alerts', 'Admin', and 'Help'. The user is identified as 'Brittany (Wisconsin Dept of Public Instruction)'. The main content area is divided into several sections:

- System Alerts:** Shows 'No alerts found'.
- Migrant Alerts:** Shows 'No alerts found'.
- Data Quality Alerts:** Contains an 'Important Information' box with the following text: 'To acknowledge the alert in the following list will identify to DPI that your District or School (1) has reviewed the alert text, (2) agrees to review the data in question in the alert, and (3) agrees to correct locally and push to WISEdata any necessary updates to data. Alert messages are as of the date noted and do not refresh as corrected data is pushed to WISEdata. Use the review tasks outlined in the alert to resolve corrected data.'
- District Alerts:** Shows 'No alerts found'.
- School Alerts:** Shows 'No alerts found'.



# Home Page, Data Quality Metrics, and Validations

**% STUDENTS WITH ERRORS OR UNACKNOWLEDGED WARNINGS**

3.0%

What percentage of my students have errors or unacknowledged warnings? Good gauge of progress. Try to stay < 5%

**Data Pipeline Status**

School Years:  2020 - 2021  2019 - 2020

**Vendor(s)**

Include API Read (GET) transactions

2020 - 2021	EduClimber	PowerSchool SIS	SEEDS
Last request to WISEdata Api	2/7/2021 11:04:24 AM	2/24/2021 11:36:01 AM	3/9/2021 8:53:47 AM

When is the last time my vendor software sync'd with WISEdata and are there errors causing data not to land?

**Data Quality Indicators**

**ENROLLMENTS CURRENT**

Students by Grade Level and Gender

Do these counts look correct? Am I missing an entire grade?

Grade Level	Female	Male	Total
K4	60	84	144
PK	22	0	22
KG	50	68	118
01	70	130	200
02	60	80	140
03	50	87	137
04	70	130	200
05	60	108	168
06	70	107	177
07	80	100	180
08	90	130	220
09	100	120	220
10	130	130	260
11	120	120	240
12	110	130	240

**WISEdata**

**STEP 1 - WISEdata API**

2020 - 2021	Enrollment	Program	Discipline	Roster
Data Last Received	2/5/2021 2:21:03 PM	3/8/2021 2:43:22 PM	2/11/2021 11:04:21 AM	

When is the last time data for a specific data domain landed at WISEdata?

**Queue Import & Validation**

Validation Run Status - Complete [Completed : 3/8/2021 6:17:52 PM]

Validation Year: 2020-2021

Notify me when validation is completed

Code	Message
6499 Q	Credential Type not expected.
6601 Q	Required field is missing: Count Date Receiving Services for October 1 Child Count.
6816 Q	The School Food Service program association has not been submitted by the school.
7052 Q	Missing economic disadvantaged characteristics.
6385 Q	Count Date Receiving Services for 3rd Friday of September is not expected.
6396 Q	The first name OR last name OR suffix of the student does not match the value in WISEid.
6469 Q	Enrollment overlap occurred. Review required.
6621 Q	Count Date Receiving Services for October 1 Child Count is not expected.
6656 Q	The student Special Education Program Association (SEPA) Begin Date must occur on or before the IEP End Date.
6719 Q	Exit Type, 'Transfer to another school covered by WISEdata; known to be continuing' (TC), should be used, as DPI has evidence of subsequent enrollment.

**STEP 2 - WISEdata Portal**

**Queue Import & Validation**

Run Status - Complete [Completed : 3/8/2021 6:17:52 PM]

Notify me when validation is completed

2020 - 2021	Enrollment	Program	Discipline	Roster
Data Last Received	2/5/2021 2:21:03 PM	3/8/2021 2:43:22 PM	2/11/2021 11:04:21 AM	

If any of these are red, click the Queue Import & Validation button

When is the last time data sync'd to WISEdata Portal and validated

Work critical Errors first, don't ignore Warnings. Warnings are POSSIBLE data issues. Leverage WIP indicator and tags feature when working thru validation results.



# Student Detail

- Data organized by domain
- Error/Warning messages
- API View
- Toggle between current and prior years

**StephenTQA TEST Scott**  
WISId: [REDACTED] Date of Birth: 2/7/2002

School Year: 2020 - 2021

**Demographics**

**Enrollments**

	Enroll Date	Exit Date	District / Agency	School	PrimarySchool	Enrollment Type	Grade Level	Included in 3rd Fri Sept count	Included in Oct 1st Child Count	Overlapping Enrollment
+	01/21/2021		[REDACTED]	[REDACTED]	True	Primary	09	Not Set	Not Set	Not Set

Enrollment Ed-Fi API View

Prior Year Enrollments >

**Programs**

- Career Education No Data
- Food Service No Data
- Homeless No Data
- Language Instruction No Data
- Other No Data
- Special Education No Data

**Discipline** No Data

**Roster** No Data

**Academic Records** No Data

Expand All Collapse All

Verify the data from your SIS that landed in WISEdata and then imported into WISEdata Portal. Look for errors and warnings in context (envelop icon); use API View when data isn't appearing as it should on this page. The API give you a view into the database where data lands from your vendor before importing to WISEdata Portal. If the data is in API view and not on this page, go to the Validation Page or Home Page and click 'Queue Import & Validations'.





# Exports

- Allow users to slice the data in various ways.
- Allow mass exports of most prominent data including the 'Mass Enrollment Export' and 'Validation Message Export'.
- Numerous domain specific Validation Message exports now available

Exports				
Category Type ↑	Export Type ↑	Description		
Validation Message	Validation Messages	This export includes all validation messages that currently exist for the selected school year.	<a href="#">Download</a>	<a href="#">Definitions</a>
Validation Message	Validation Message - Demographics, Enrollment and Academic record	This export shows the validation message code and additional details required to troubleshoot the errors and warnings that fall under demographics, enrollment, year-end, attendance and high school completion. If the rule only requires enrollment information to fix the error this export will only include details for those enrollment columns. If the error or warning may be resolved by changing either enrollment or demographics information, then this export includes details for both the enrollment and demographics related columns	<a href="#">Download</a>	<a href="#">Definitions</a>
Validation Message	Validation Message - Special Education	This export shows the validation message codes that most likely use the SPED data to fix the error or warning. If the rule only requires SPED information to fix the error this export will only include details for those SPED columns. If the error or warning can be resolved by changing either SPED or enrollment information, this export includes details for both the SPED and enrollment-related columns. Note that some rules categorized as SPED in the WISEdata validation message page are not shown in the export. In some cases, data required to fix the rule is on the enrollment (SSA) resource but the information required is based on the SPED record. For example, count date receiving services is required for enrollment but the information is dependent on SPED record which is why the rule is categorized as SPED but a resource that needs correction is SSA.	<a href="#">Download</a>	<a href="#">Definitions</a>



# Choice School WISEdash Extracts

- Surface data in WISEdash for use by Choice schools
- Note 'Data As Of' date

WISEdash Extracts					
Data As Of: 3/3/2021 10:57:40 PM					
Category Type	Export Type	Description			
High School Completion	Graduation & HS Completion Rate	This report shows students included in the numerator and denominator of the Graduation Rate (Regular Diploma) and High School Completion Rate. For detailed information on calculating the rate from this report review the 'Details' link to the right of the 'Download' button.	<a href="#">Download</a>	<a href="#">Details</a>	
High School Completion	Graduate Future Cohorts	This report shows the cohort for high school completion in which a student is placed based onto grade level and school year of first entry into high school. For detailed information on this report review the 'Details' link to the right of the 'Download' button.	<a href="#">Download</a>	<a href="#">Details</a>	
Dropouts	Dropout Rate	This report shows student records which are included in the numerator and denominator of the annual dropout rate. For detailed information on how to calculate dropout rate from this report review the 'Details' link to the right of the 'Download' button.	<a href="#">Download</a>	<a href="#">Details</a>	
Attendance	Absenteeism	This report shows student status regarding chronically absenteeism under the WI state definition. For detailed information on the definition of Chronically Absent and calculating the rate from this report review the 'Details' link to the right of the 'Download' button.	<a href="#">Download</a>	<a href="#">Details</a>	



# **Best Practice #3: Use WISEdash to Review Your Data Before A Snapshot**



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# WISEdash for District - Snapshot Prep Role

This user role has access to the WISEdash Snapshot dashboards only. Such access allows users to work with any snapshot dashboard in reconciling data and further allows users to drill into each dashboard and see student detail data. This access also includes access to economic data both at the summary and detail levels.



# Annual Data Use: Snapshot

- A snapshot is taken on a predetermined date to capture the data that exists in WISEdash at the time of the snapshot. The picture of the data is used for the following:
  - [Federal Reporting](#), including [ESSA](#)
  - Public Reporting in the [WISEdash Public Portal](#)
  - [Accountability Report Cards](#)
  - Some funding determinations, such as [IDEA](#), [high poverty aid](#), [maintenance of effort](#) (MOE), and others.




# WISEdash Snapshot Dashboards

- Snapshots are taken of data in the WISEdash data warehouse.
- Use WISEdash to review your reporting data before a snapshot.
  - Additional charts and graphs
  - Available to public schools only

**Reminder!** Data is updated nightly from WISEdata Portal to WISEdash for Districts.



# WISEdash for Districts Snapshot Dashboards

- The following snapshot topics are available as Snapshot Dashboards in WISEdash (Navigation: Product Menu (  ) > Snapshots)
  - Third Friday of September (TFS)
  - Oct 1 Child Count Snapshot
  - Attendance and Discipline
  - YE (Year-End) Completion
  - Career Education and Coursework
  - Perkins
  - Spring Demographics (May 24)

**Tip!** Be sure to scroll all the way to the bottom of these dashboards so you know all of the types of charts available to you for data review.



# Review Data Quality Indicators

**Informational** indicators highlight important counts or percentages for the topic at hand.

**Caution** indicators show questionable data in need of review.

**Goal: 0** indicators are similar to cautions but suggest a goal such as a school count.

 [+ Data Quality Indicators Help](#) - click the numbers for details

**2020-2021**  
**4 Year Graduation Rate**  
Informational

97.4%

**2020-2021**  
**Sch w/ No HS Compl.**  
Caution

0

**2020-2021**  
**Grades w/Low Compl. Term**  
Caution

0

**2020-2021**  
**Dropout Rate**  
Informational

0.2%





# Compare Current Data to Prior Years Snapshot Data

The primary use of the Snapshot dashboards is to compare current data to prior snapshot data. The Green filters and charts represent the Current View for the selected year, and the Purple filters and charts represent the Snapshot View for the selected year.

### 2021-2022 TFS Enrollment Crosstab - Current View

Configuration: Default | Save | Delete | Function: Sum

Available data: TFS SPED, TFS Disability, EL, Econ, Gender, Grade

Columns: COUNT INCL TFS

Rows: Count Incl TFS

	Count Incl TFS	Totals
No		17
Yes		5,733
Totals		5,750

### 2020-2021 (12-09-2020) TFS Enrollment Crosstab - Snapshot View

Configuration: Default | Save | Delete | Function: Sum | Measure

Available data: TFS SPED, TFS Disability, EL, Econ, Gender, Grade

Columns: COUNT INCLUSION TFS

Rows: Count Inclusion TFS

	Count Inclusion TFS	Totals
Yes		5,636
Totals		5,636



# Newly Added YE Completion Dashboards

## 2021-2022 HS Completion for Grad Cohort 2021 (5 Years or Less) Crosstab - Current View

Configuration    Function  Measure  Render

Available data

Race

Gender

SPED

Disability

EL

Columns

Rows

Completion Status

COMPLETION STATUS	Totals
<u>Completed - Regular High School Diploma</u>	378
<u>Not Completed - Not Known to be Continuing Toward Completion</u>	11
<u>Unknown</u>	8
Totals	397

## 2020-2021 Dropout Crosstab - Current View

Configuration    Function

Available data

Race

Gender

SPED

Disability

Columns

Rows

Dropout Type

DROPOUT TYPE	Totals
<u>Full Term</u>	1
<u>Midterm</u>	3
<u>Not Dropout</u>	1,982
Totals	1,986



# Daily Data Use: WISEdash for Districts

## Enhanced Improvement Planning

The Data Inquiry Journal allows educators and administrators to document ongoing data investigation and design continuous improvement plans all in one convenient location.

- Includes all essential components for continuous improvement in one tool
- Meets requirements for continuous improvement planning in ESSA and IDEA

## Comprehensive Early Warning System

An early warning system provides information to help schools identify students who are not on track for desirable outcomes. The Dropout Early Warning System (DEWS) and the College and Career Readiness Early Warning System (CCREWS) are both available in WISEdash. In addition, Chronic Absenteeism is available, as well as FAFSA Filing Status.

## Improved Snapshot Reporting and Data Reporting

Use WISEdash to review your data before a snapshot. WISEdash has additional features to help you check your data as you prepare for the snapshot, such as viewing current and trend data on topic-specific dashboards, as well as advanced analysis snapshot dashboards to view current data and demographics compared to a prior year's snapshot data.

## WISEdash Flyer

### Improvement Planning

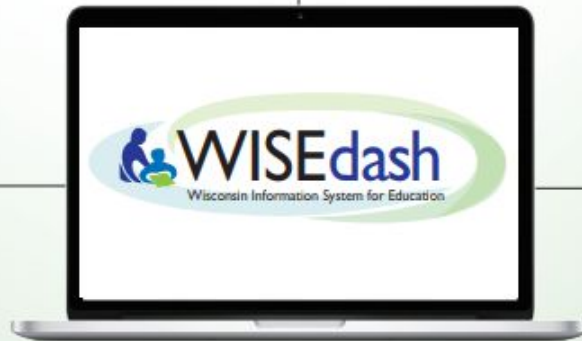
- Data Inquiry Journal (DIJ) - supported by WISExplore

### Early Warning Systems

- Dropout (DEWS)
- College & Career (CCREWS)
- Chronic Absenteeism

### Pre-Snapshot Review

- Rates (Grad, Dropout, Attendance)
- Compare to prior year snapshots



# Best Practice #4: Connect with your Administrators



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# LEA Leadership Commitment

*Another role we have is to make LEA leaders aware of the importance / best practices of data quality, the status of their LEA's data quality collection and the tools we provide to enable these efforts.*



# WISEadmin Portal

- **Goal:**
  - You asked to for us to better surface the data quality work you are doing to LEA Administrators as well as streamline the Data Errata process
- **What We Did:**
  - Snapshot **Calendar**, Agency **Contacts**
  - District Administrator (Superintendent) **Acknowledgement**
  - **WISEdash KPI** dashboard link
  - Data Errata
  - Local Assessment Data Sharing Agreement





Please go to the Data Reporting and Snapshot page to complete the Acknowledgment for snapshot



### Snapshot Calendar

[Click Here](#)

Review key deadlines and the official snapshot dates for the school year.



### Agency Contacts

[Click Here](#)

Review agency staff identified as contacts for WISEid, WISEdata and WISEstaff.



### Administrator Acknowledgment

[Click Here](#)

Acknowledge agency responsibility for the submission of timely and accurate data. Additionally acknowledge data sharing for value added services.

Snapshot Acknowledgment Data use for research Immunization data sharing



### WISEdash Key Performance Indicators

[Click Here](#)

Review multi-year education data about Wisconsin schools via WISEdash data portal dashboards.



### Data Errata

[Click Here](#)

Notify the Department and provide description and evidence of misreported or erred data included in



### Local Assessment Data Sharing Agreement

[Click Here](#)

Acknowledge the local assessment single data sharing agreement. By acknowledging the agreement

# Best Practice #5: Connect with DPI Support



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# Customer Services

A dedicated support network of regional staff and DPI staff provides customer support and technical assistance for our data collections to our districts and schools.

Create a [Help Ticket](#) for Case Management via CRM



# Customer Services

- [Weekly User Group Calls](#)
- Subscribe to [Google Currents](#)
- Review Knowledge Base Articles ([KBAs](#))
- Review WISEdata [help](#) and [information for schools](#) including [mini tutorials](#)



# LEA Success Story: Bringing it all together



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# LEA Example

- A Large WI LEA

- Created a data team that worked **collaboratively** to address each area that was snapshot related.
- Used the tools available in **WISEdata** such as validation messages, and exports. Also used **WISEdash** to compare what is in WISEdata and Infinite Campus to make sure that all 3 systems matched.
- Set aside **specific dates and times** to work on errors/warning/corrections to data.



# LEA Example

- **Example (con't):**
  - **Developed error reports to help schools identify data quality issues** and assisted with making those corrections.
  - Developed an internal document that indicated who was **specifically responsible** for all WISE warnings and errors.
  - **Monthly retreats** that were used to troubleshoot and identify issues with errors and warnings with DPI and their vendor representative sending the right people to assist in clearing errors and warnings.
  - **Open and collaborative dialogue** between LEA, vendor, and DPI.



# Helpful Links: WISEdata

[WISEdata Reference Guide for Administrators](#): Reference guides for District Administrators on the WISEdata, WISEdash, and WISEsecure tools.

[WISEdata Flyer](#): High level overview describing how WISEdata has improved our data collection process, data quality, and system integration.

[Info for Schools](#): Basics of getting started with WISEdata

[WISEdata Help](#): Links to WISE help pages and useful resources

[Data Elements](#): List of links to all WISEdata data elements and their descriptions, uses, and codes

[Annual Checklist](#): Guide for helping you ensure you complete the necessary tasks and prepare the necessary data elements for each of these collections or snapshots.

[Knowledge Base Articles](#): Useful articles on validations and other related topic

[Mini Tutorials](#): Training for WISE tools.

[Google Currents](#): WISEdata community to view and post questions and comments to fellow users



# Helpful Links: WISEdash

[WISEdash Reference Guide for Administrators](#): Reference guides for District Administrators on WISEdash.

[WISEdash Flyer](#): High level overview of features included in WISEdash for Districts.

[WISEdash for Districts Information](#): Training and videos for WISEdash for Districts.

[Data Inquiry Journal At-A-Glance](#): Overview guide for users of the data inquiry journal.

[WISEdash Public Portal](#)

[WISEdash Download Files](#): Link to statewide download files.

[WISEdash Public Portal Information](#): Training and supporting documentation for the WISEdash Public Portal.

[GIS and Maps](#): Curated collection of web mapping applications that foster exploration of school, district, library, and/or community data in Wisconsin.



# Helpful Links: Snapshot Prep

[Snapshot Preparation Guidance](#): Specific webpage with snapshot resources including Snapshot Preparation Guidance, About the Data Snapshot Dashboards, and a Snapshot Reference Guide for WISEdata Contacts.

[Data Teams Flyer](#): High level overview describing information about data teams.

[WISEdata Events Calendar](#): View deadlines, trainings, webinars, etc.

[WISE Home](#): WISE intro video, basics about WISE

[Data Privacy](#): Student Data Privacy Main Menu Page and Resources





# Thank you!



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