

The Use of Early Warning Systems to Promote Success for All Students

AMM, 2014
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Advanced Organizer

- Early Warning Systems Overview
 - History & Research
- Senate Bill 850
 - Implications for middle grades
- Developing & Utilizing EWS to Analyze Trends & Prevent Adverse Outcomes
 - Building an EWS
 - Selecting Indicators
 - Usability Feature
 - Capacity Building
 - Utilizing an EWS
 - EWS Examples



The “Promise of Early Warning Systems”

- Early Warning Systems (EWS):
 - Use readily available data typically collected at the school-level
 - Allow educators to hone-in on key pieces of data to inform decisions
 - Provide “real-time” data for monitoring
 - Allow districts to identify patterns, trends and school effectiveness at keeping students on-track
 - Identify at-risk students who are likely to experience adverse outcomes early enough to alter student trajectories (Davis, Herzog, & Legters, 2013)



Early Warning Systems High School

- 1999 Consortium on Chicago School Research (CCSR): On-Track Indicator (OTI) accurately predicted **80%** of those who would graduate on-time based on 9th grade:
 - Number of Fs
 - Number of credits earned (Allensworth & Easton, 2005)
- Background characteristics (race/ethnicity, SES, previous test scores, age, mobility) only predicted **65%** of on-time graduates
- Adding background characteristics to OTI only increased predictive ability by **1%** above and beyond Fs and Credits
 - Background characteristics important:
 - Relationship with course performance which impacts course failures and credits earned

We cannot monitor or impact all the background factors students bring **BUT** we can monitor and impact course performance



Course Failures & Attendance As Predictors

- When researchers examined why students failed courses:
 - Student behaviors: attendance & study habits (engagement indicators) accounted for the majority of course failures
 - Consistent across achievement and SES levels
- 2007 CCSR found GPA and attendance as predictive as Fs and credits
 - Allowed for more timely monitoring



Current National High School Early Warning System Indicators

- 2008 National High School Center created high school EWS to automatically flag students off-track for graduation based on:
 - Earning less than $\frac{1}{4}$ total credits required for graduation minus 1 per semester
 - Less than 2.0 GPA
 - Missing 10% or more absences
 - Failing two or more courses (Heppen & Therriault, 2008)



Middle School Early Warning Systems Background

- Researchers followed a Philadelphia cohort of almost 13,000 6th graders for 8 years to find middle school predictors of non-graduates (Balfanz, Herzog, & MacIver, 2007)
- Based on 2 pronged test- 75+% of 6th graders with indicator didn't graduate on-time AND identified substantial number of future non-graduates:
 - Failure of math or English
 - 20+% absences
 - 1 out of school suspension or failing behavior grade



Middle School EWS Background

Continued

- 2011 Baltimore schools replicated the Philadelphia research with cohort of ~8,000 students
- Baltimore researchers used the following indicators that predicted 70+% non-grads:
 - 10+% absences
 - Failing English and math or failing average for core courses
 - Overage for grade
 - Suspensions of 3+ days



Early Warning Systems: Middle School

- 2011 National High School Center adapted EWS for middle school utilizing following indicators:
 - Failing English or math
 - Locally defined behavior indicators
 - 20% or more absences per year (Heppen & Therriault, 2008)





Senate Bill 850



Overview

- SB 850 contains a section on middle school accountability with the use of Early Warning Systems (EWS) as mechanism for:
 - Identification of at-risk or “off-track” middle school students
 - Provision of intervention for identified students
 - Monitoring of intervention effectiveness
 - Individual as well as groups



Early Warning Indicators Identified in SB 850

- Students are considered “off-track” by meeting the criteria for one or more of the following required indicators:
 - Attendance below 90% (18+ total days)*
 - Does not differentiate excused or unexcused absences
 - *Consider time of year
 - One or more suspensions (ISS or OSS)
 - Course failure in ELA or math
 - Semester grades
 - Level 1 on state-wide, standardized assessments in ELA or math
 - Includes all students taking Florida Alternate Assessment
- Districts may elect to use other indicators validated:
 - Internally
 - Externally



Reporting Early Warning Indicators in the SIP

- Schools containing grades 6, 7, or 8 must report in the SIP:
 - The indicators being utilized in the EWS
 - The number* of off-track students by grade level who meet the criteria for each indicator
 - The number* of students who meet the criteria for two or more indicators
 - A description of intervention strategies implemented to improve performance of identified students
 - A description of the strategies used to implement instructional strategies emphasized by district PD plan
- These data are reported one time in the SIP but EWS is utilized throughout the year

*BSI recommends including percentage in addition to numbers



“Child Study Team or Other School Based Team” Requirements

- For all students meeting the criteria for two or more indicators* the school must:
 - Convene a child study *or* other school based team formed to meet EWS requirements meeting to determine appropriate interventions
 - Provide parents a minimum of 10 days written notice of the meeting including:
 - Purpose
 - Time
 - Location
 - Opportunity to participate

*Based on 13/14 data and any additional students during the school year





Building an EWS



Developing District Steering Committee

- Develop a district EWS steering committee with cross-departmental representation:
 - MIS
 - ESE/Student Services
 - Dropout Prevention
 - Curriculum & Instruction
 - Professional Development
 - Research & Measurement
 - Others
- This is the group that will guide district EWS development, implementation and refinement



Indicator Selection

- Multiple ways to select internally or externally *validated* indicators:
 - National Research
 - Chicago On-Track Indicator (Allensworth & Easton, 2005, 2007)
 - Balfanz middle school indicators (Balfanz, Herzog, & Mac Iver, 2007)
 - National High School indicators (Heppen & Therriault, 2008)
 - Senate Bill 850
 - Other District Research
 - Montgomery County
 - Baltimore Educational Research Consortium
 - Metro Nashville Public Schools (Balfanz & Bynes, 2010)
 - Pasco County
 - Internal District Research
 - Select indicators and determine the predictive accuracy within your own students



EWS Reflection Questions

Does your district have an EWS Steering Committee?

If yes, do you have necessary cross-departmental representation? Any department/role that is missing?

If no, who might be valuable members?

What are your reflections how your district either has or next steps for selecting indicators?

If you have indicators, Any changes/investigations/additions?



Usability Features

- Consider the format in which people will be able to access the data:
 - Reports
 - Comprehensive system
- Consider the usability features:
 - Automatic flagging of at-risk and/or off-track students
 - Dashboards
 - Automatic report generation and dissemination
 - Graduation progress bar
 - Ability to create customized reports
 - Intervention description
 - Progress monitoring
- Develop a multi-discipline user-group to provide feedback on current development and desired features/functionality at multiple time points to the steering committee



Guiding Questions

- Determine the broad and specific questions district/schools would like to answer while building the EWS:
 - Cohort trends
 - Feeder pattern trends
 - School specific trends
 - Content area
 - Grade-level
 - Sub-group
 - Courses
 - Teacher
 - Student



EWS Reflection Questions

What usability features would you like to see in your district's EWS?

What guiding questions would you like to answer?

What are your next steps for EWS usability?



District Team Functioning-Expectations for Implementation

- Determine/recommend district expectations for school EWS use- ie who analyzes and responds to the data:
 - Frequency
 - Type of data
 - District-wide
 - School specific
 - School teams and individuals
 - SBLT
 - PLC
 - Dependent upon role
 - Dedicated time available
 - Use of problem-solving framework



District Team Functioning-Capacity Building for Implementation

- Develop a comprehensive professional development plan for building district capacity to effectively utilize EWS
 - Role specific
 - Coaching supports
- Possible professional development topics:
 - EWS within an MTSS framework
 - Data quality
 - EWS “team” functioning
 - EWS data analysis & problem-solving
 - Role/level specific
 - Utilizing EWS to promote student success
 - EWS progress monitoring and program evaluation



EWS Reflection Question

Does your district have a comprehensive plan to build staff capacity for EWS use?

If no, what might next steps be to develop a plan?





Utilizing EWS



EWS Utilization to Prevent Adverse Outcomes

District-level

- DLT monitors aggregate data to determine areas in need of additional data-based problem-solving and supports e.g.:
 - Feeder patterns
 - Schools
 - Grade levels
 - Content areas
 - Sub-group

School-level

- SBLT and teacher teams monitor aggregate, small group and individual student data to determine areas and students in need of additional data-based problem-solving and supports to be successful e.g.:
 - Indicators
 - Grade levels
 - Content areas
 - Graduation requirements
 - Courses
 - Teachers
 - Small groups
 - Individual students



EWS Utilization to Prevent Adverse Outcomes

- EWS data show the symptoms, not the underlying root causes or what to do about the symptoms
- Within a multi-tiered framework district *and* schools analyze data and engage in data-based problem solving to allocate resources and provide supports:
 - Small group planning problem-solving (8-step)
 - Organizational
 - Tier 1
 - Groups of students/Tier 2
 - Individual problem solving (4-step)
 - Tier 2
 - Tier 3



EWS Utilization to Prevent Adverse Outcomes

Monitoring of aggregate, groups and individuals is essential to determine intervention effectiveness*:

- Individual/group level

- Reduction in number of indicators
- Reduction in severity of indicators
- Presence of protective factors
 - Grades, GPA, credits, affiliations, etc.

- School/district level

- Numbers and percentage of on/off-track status
 - Overall
 - Grade level
 - Sub-group
 - Indicator
- Changes from time period to time period in numbers and percentage of off-track status
 - Monthly
 - Quarterly
 - Annually

*Assuming fidelity of intervention implementation



EWS Reflection Questions

- How does or how might your district monitor implementation?
- How does or how might your district monitor intervention effectiveness?





EWS Examples



EWS Indicators: High School

High School EWS Indicators						
		Course Performance	GPA	Credits	Attendance	Office Discipline Referrals
	On-Track	C's or better in all classes	2.5 or higher	Meeting credits to move to next grade level	4% or less absences per year	2 or fewer ODR's per year
	At-Risk for Off Track	1 or more D's in any class	2.0 to 2.49	1 credit behind	5% - 9% absences per year	3 ODR's per year
	Off-Track	Failing 1 or more classes (F's)	Less than 2.0	2 credits behind	10% or more absences per year	4 ODR's per year or 2 ODR's per semester

Graduation Progress Bar: High School

Each Item = 1 Point Toward Total % of Graduation Progress	CREDITS by Course				
	9/10	10/11	11/12	12/13	13/14
Total Value for 24 Credit Grad Plan	27	26	27	27	28
Expected Progress by Year End		%	%	%	%
Off-Track Toward Grad by Year End		%	%	%	%
Coursework					
English	4	4	4	4	4
Math - Algebra I or equivalent	1	1	1	1	1
Math - Geometry equivalent		1	1	1	1
Math - Other	3	2	2	2	2
Science - Biology			1	1	1
Science - Other	3	3	2	2	2
SS - World	1	1	1	1	1
SS - US History	1	1	1	1	1
SS - Government	1 (0.5 Credits)	0.5	0.5	0.5	0.5
SS - Economics	1 (0.5 Credits)	0.5	0.5	0.5	0.5
Fine/Performance Arts	1	1	1	1	1
PE	1	1	1	1	1
Electives***	8	8	8	8	8
Online Course			Course	Course	Course
Assessments**					
Pass Gr10 ELA Common Core Assess					Test
Pass Alg I EOC Common Core Assess			Test*	Test*	Test
Pass FCAT Reading or Concordant (ACT or SAT)	Test	Test	Test	Test	
Pass FCAT Math or Concordant (ACT or SAT or PERT)	Test				

EWS Indicators: Middle School

Middle School EWS Indicators					
		Course Performance	GPA*	Attendance	Office Discipline Referrals
	On-Track	C's or better in all classes	2.5 or higher	4% or less absences per year	2 or fewer ODR's per year
	At-Risk for Off Track	1 or more D's in any class	2.0 to 2.49	5% - 9% absences per year	3 ODR's per year
	Off-Track	Failing 1 or more classes (F's)	Less than 2.0	10% or more absences per year	4 ODR's per year or 2 ODR's per semester

EWS Indicators: Elementary 3-5

Elementary School (GRADES 3-5) EWS Indicators

Elementary School (GRADES 3-5) EWS Indicators				
		Course Performance	Attendance	Office Discipline Referrals
	On-Track	C's or better in all classes	4% or less absences per year	2 or fewer ODR's per year
	At-Risk for Off Track	1 or more D's in any class	5% - 9% absences per year	3 ODR's per year
	Off-Track	Failing 1 or more classes (F's)	10% or more absences per year	4 ODR's per year or 2 ODR's per semester

EWS Indicators: Elementary K-2

Elementary School (Primary Years - GRADES K-2) EWS Indicators

		Course Performance	Attendance	Office Discipline Referrals
EWS	On-Track	S's in all classes	4% or less absences per year	2 or fewer ODR's per year
	At-Risk for Off Track	1 or more N's in any class	5% - 9% absences per year	3 ODR's per year
	Off-Track	Failing 1 or more classes (U's)	10% or more absences per year	4 ODR's per year or 2 ODR's per semester

- Home
- Student Data 6
- Reports
- School Data
- Behavior
- Media Consent Form
- SIP Forms 2
- VAM Reports 3
- Help 3
- Legends 8
- Sign Out

Student List View

*Record(s) with this Filter Name already exists:

Grid Filters (click arrow to expand/collapse)

School Year:	2014-15	Pre-Built Filters:		Filter Descriptions/Notes
School Name:				
Student Level:	School	Create and Save your own CUSTOM Filters: *** Filter Grid Below then Name It and Save It ***		
Teacher:		Filter Name:		Save Filter Delete Filter
Teacher Course:		My Saved Filters:		

Grid Buttons - Export and Customize Grid Columns (click arrow to expand/collapse)

Page 1 of 92 (1369 items) [Navigation] Page size: 15

Drag a column header here to group by that column

ID	Last Name	First Name	EWS Overall Risk Indicator	DOB	Grad Plan	Sex	Grade	Race	Age	Retained	PX	ELL	ELL Status
			On-Track	5/11/2000	PS/1415	F	9	W	14	N	Z	No	ZZ

Grid Buttons - Export and Customize Grid Columns (click arrow to expand/collapse)

Drag a column header here to group by that column

ID	Last Name	First Name	EWS Overall Risk Indicator	Grad Ready %	Grad Ready Progress	Middle Name	Appendix	DOB	Grad Plan	Sex	Grade	Race	Age	Retained	PX	ELL	ELL Status
			On-Track	0.00					PS/1415	F	9	W	14	N	Z	No	ZZ
			On-Track	0.00					PS/1415	F	9	W	14	N	Z	No	ZZ
			Off-Track	20.00					SI/1213	F	11	H	16	N	W	No	LZ
			Off-Track	20.69					PS/1314	M	10	H	15	N	Z	No	ZZ
			Off-Track	3.45					PS/1112	F	12	H	17	N	Z	No	ZZ
			Off-Track	0.00					PS/1314	M	10	W	15	N	G	No	ZZ
			On-Track	56.90					PS/1213	F	11	W	17	N	Z	No	ZZ
			Off-Track	50.00					PS/1112	M	11	W	17	Y	Z	No	ZZ
			On-Track	0.00					PS/1415	M	9	W	15	N	Z	No	ZZ
			On-Track	15.52					PS/1415	F	9	W	13	N	Z	No	ZZ
			On-Track	0.00					PS/1415	M	9	W	16	N	Z	No	ZZ
			Off-Track	15.52					PS/1213	M	9	W	17	Y	Z	No	ZZ
			Off-Track	67.24					PS/1112	F	12	W	17	N	Z	No	ZZ
			On-Track	93.10					PS/1112	M	12	W	17	N	Z	No	ZZ
			At-Risk	55.17					PS/1213	M	11	W	16	N	L	No	ZZ

Create Filter

Quick Links

PascoSTAR Help Section
Pasco County Schools

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Browsers



If you have any problems using PascoSTAR or you have any suggestions or requests, please contact us. We appreciate all your feedback.

Contact Support

Grid Buttons - Export and Customize Grid Columns (click arrow to expand/collapse)

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ID	Last Name	First Name	EWS Overall Risk Indicator	EWS Course Performance	EWS Course Performance Risk	EWS GPA	EWS GPA Risk	EWS Credits Behind	EWS Credits Risk	EWS Attendance Days Absent	EWS Attendance Risk	EWS Discipline	EWS Discipline Risk	Ever At Risk	SBB50 EWS Indicator
[Redacted]			On-Track	0	On-Track	0.00	On-Track	0.00	On-Track	0	On-Track	0	On-Track		N
			On-Track	0	On-Track	0.00	On-Track	0.00	On-Track	0	On-Track	0	On-Track		N
			Off-Track	0	On-Track	0.00	Off-Track	-1.50	At-Risk	0	On-Track	0	On-Track	Y	N
			Off-Track	0	On-Track	1.85	Off-Track	0.00	On-Track	2	Off-Track	0	On-Track	Y	Y
			Off-Track	0	On-Track	0.00	On-Track	-18.00	Off-Track	0	On-Track	0	On-Track		
			Off-Track	0	On-Track	0.00	On-Track	-6.00	Off-Track	0	On-Track	0	On-Track		
			On-Track	0	On-Track	2.96	On-Track	0.00	On-Track	0	On-Track	0	On-Track		N
			Off-Track	0	On-Track	1.50	Off-Track	-3.50	Off-Track	0	On-Track	0	On-Track	Y	N
			On-Track	0	On-Track	0.00	On-Track	0.00	On-Track	0	On-Track	0	On-Track		N
			On-Track	0	On-Track	2.60	On-Track	0.00	On-Track	0	On-Track	0	On-Track	Y	N
			On-Track	0	On-Track	0.00	On-Track	0.00	On-Track	0	On-Track	0	On-Track		N
			Off-Track	0	On-Track	0.67	Off-Track	-7.50	Off-Track	1	Off-Track	0	On-Track	Y	Y
			Off-Track	0	On-Track	1.88	Off-Track	-0.50	On-Track	0	On-Track	0	On-Track	Y	Y
			On-Track	0	On-Track	3.85	On-Track	0.00	On-Track	0	On-Track	0	On-Track		N
			At-Risk	0	On-Track	2.16	At-Risk	0.00	On-Track	0	On-Track	0	On-Track	Y	N

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Create Filter

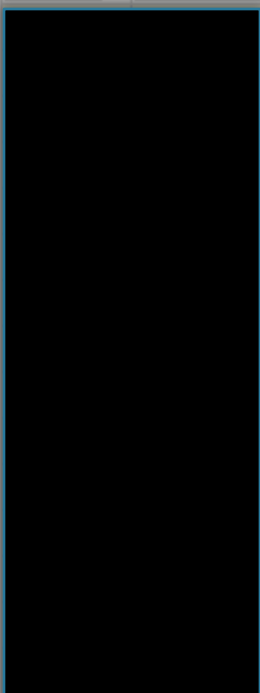
Grid Buttons - Export and Customize Grid Columns (click arrow to expand/collapse)

Page 1 of 92 (1369 items)

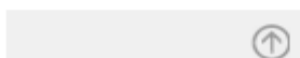
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ID Last Name



Student Detail Information



Student Detail Info

Student Card

Latest Scores

Current Schedule

Course History

Grad Plan

Attendance Detail

Behavior Detail

Health Conditions

Alternate School Referrals

Assessment Scores

Off-Track

Courses

GPA

Credits

Attendance

Discipline

Print Student Card

Student Information

Name:		Days Enrolled:	10	District Entry Date:	08/24/2005	GPA / W:	0.67
DOB:		Days Attended:	9	School Entry Date:	08/18/2014	GPA / U:	0.67
Age:	17	Days Absent:	1	Teacher LA:		Class Rank:	333/363
Race:	W	% Attended:	90.00	Teacher Math:		Comm Svc Hrs:	0
Grade:	9	Excused:	1	Teacher Sci:		GradPlan:	PS/1213
School:		Unexcused:	0			Retained:	Y
						Algebra Met:	N

Contact Info

Resize the control using the resize grip or the control's edges

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92

Drag a column header here to group by that column

Student Detail Information

ID

Last Name

Student Detail Info

Student Card

Latest Scores

Current Schedule

Course History

Grad Plan

Attendance Detail

Behavior Detail

Health Conditions

Alternate School Referrals

Assessment Scores

FCAT Scores

EOC Scores

FAIR Scores

College Entry Scores

Other Scores

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Page size: 15

Course Year	Course ID	Course Name	School ID	Student Grade	Grade	Credit Earned	Course Code	Course Ses
2014	0500500Z	PERS,CAR,SCH DEV 1		09	C	0.5	1	11
2014	0500510Z	PERS,CAR,SCH DEV 2		09	C	0.5	2	22
2014	1000410Z	INTENS READ		09	A	0.5	2	12
2014	1000410Z	INTENS READ		09	D	0.5	1	12
2014	1001340Z	ENG 2		09	F	0	1	12
2014	1001340Z	ENG 2		09	F	0	2	12
2014	1208300Z	LIB ARTS MATH 2		09	D	0.5	1	12
2014	1208300Z	LIB ARTS MATH 2		09	F	0	2	12
2014	2000310Z	BIO 1		09	F	0	1	12
2014	2000310Z	BIO 1		09	F	0	2	12
2014	2109310Z	WORLD HIST		09	F	0	1	12
2014	2109310Z	WORLD HIST		09	F	0	2	12
2013	10004104	INTENS READ		09	D	0.5	1	12
2013	10004105	INTENS READ		09	D	0.5	1	12
2013	1001310Z	ENG 1		09	F	0	1	12

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Create Filter

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[Click here for LOED School Region Breakdown...](#)

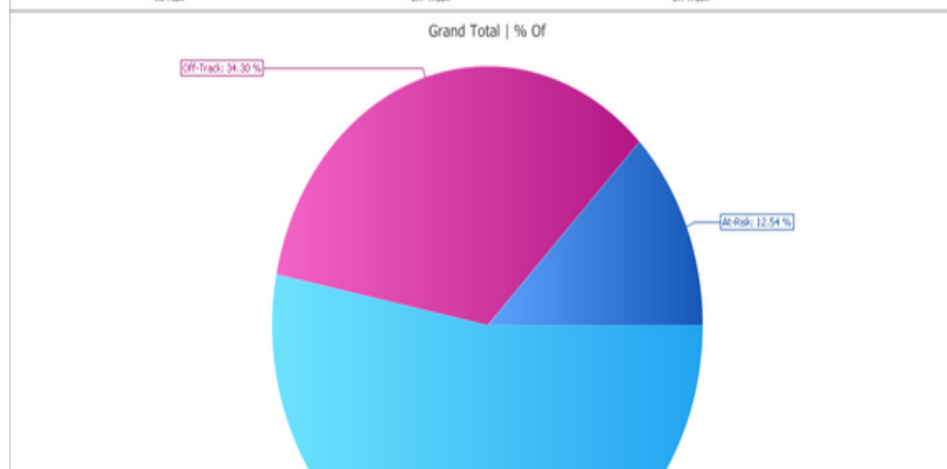
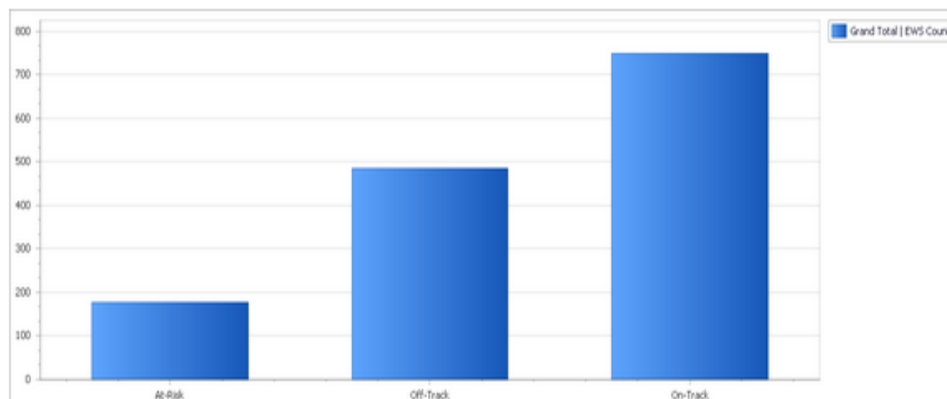


***Note: At-Risk / EWS will ONLY show data for CURRENT school year. Prior Years will have an empty display**

Expand All

Collapse All

B/S Course Perf		B/S GPA	B/S Credits	B/S Attendance	B/S Referrals	Grade	Grad Plan
B/S Count	% Of	Drop Column Fields Here					
B/S Overall Indicator	Grand Total						
	B/S Count	% Of					
At-Risk	177	12.54 %					
Off-Track	484	34.30 %					
On-Track	750	53.15 %					
Grand Total	1411	100.00 %					

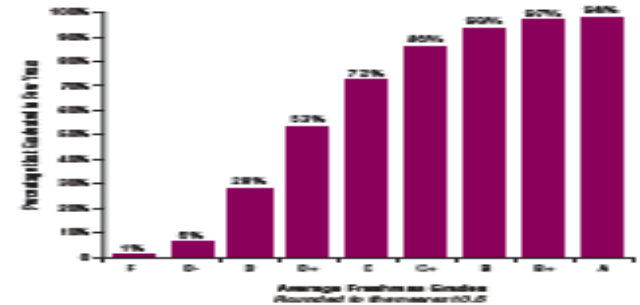


Sample Chicago Reports for Teachers

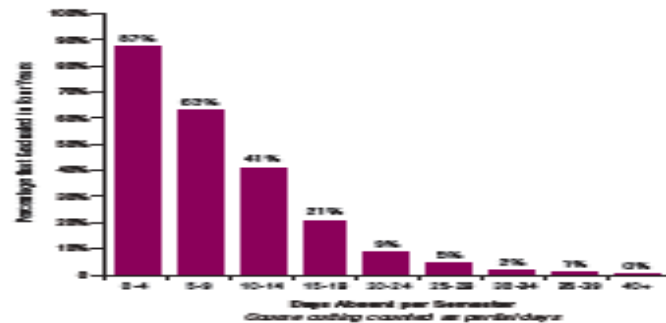
GRADES

- More than 95 percent of students with a B average or better in their freshman year graduate.
- Freshmen who earn a B average or better have an 80-percent chance of finishing high school with at least a 3.0 GPA.
- Freshmen with less than a C average are more likely to drop out than graduate.
- Course grades also are the best predictors of test score gains and college graduation.
- People think that grades are subjective, but there is little evidence of grade inflation in Chicago high schools.

Freshman Grades Predict Graduation



Missing Classes Put Graduation at Risk



ABSENCES

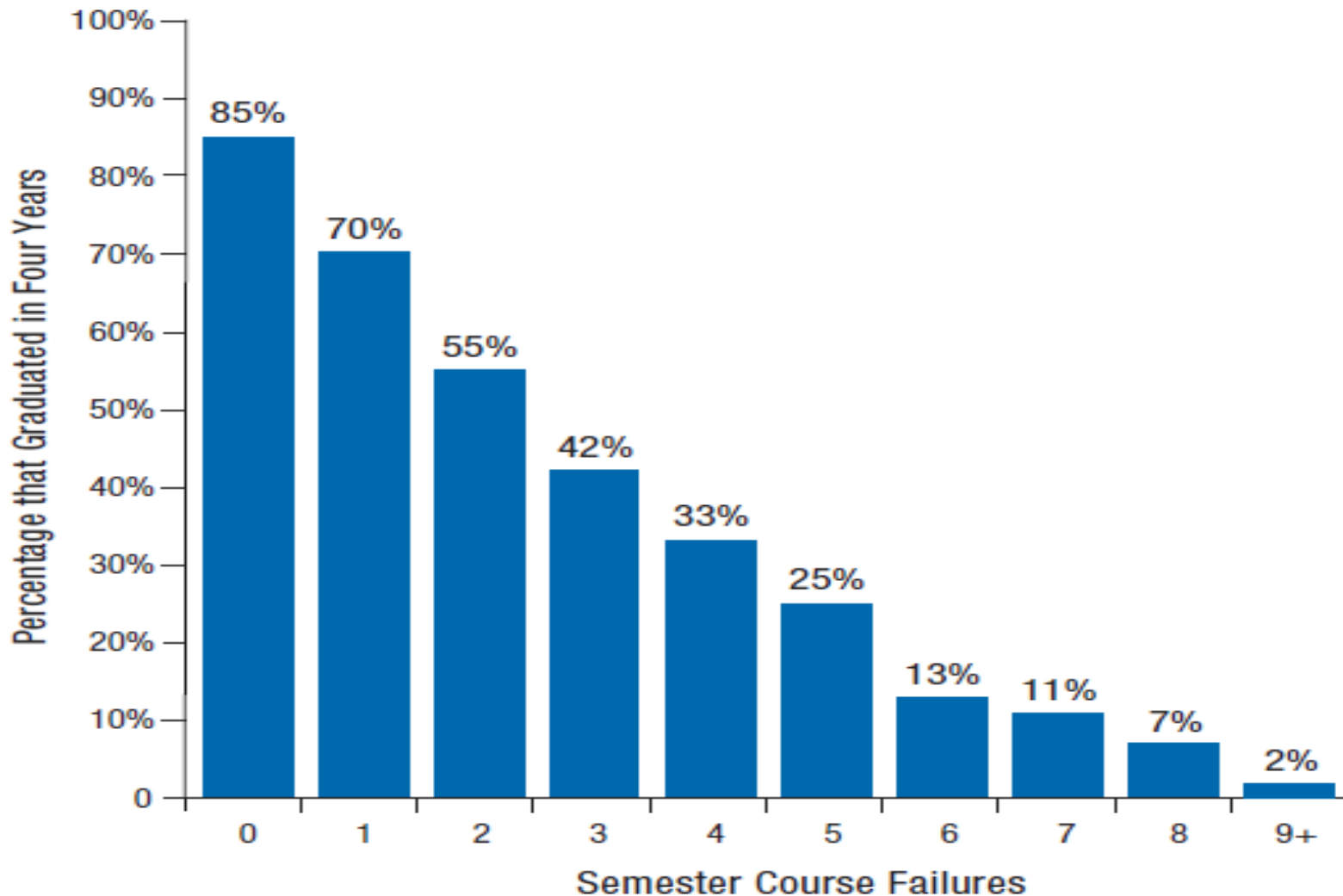
- Attendance rates vary substantially across schools, even when comparing schools with similar student achievement and background—by as much as one month a year.
- Nearly 90 percent of freshmen who miss less than a week of school per semester graduate, regardless of their 8th grade test scores.
- Freshmen who miss more than two weeks of school flunk, on average, at least two classes—no matter whether they arrive at high school with top test scores or below-average scores. In fact, freshmen who arrive with high test scores but miss two weeks of school per semester are more likely to fail a course than freshmen with low test scores who just miss a week.



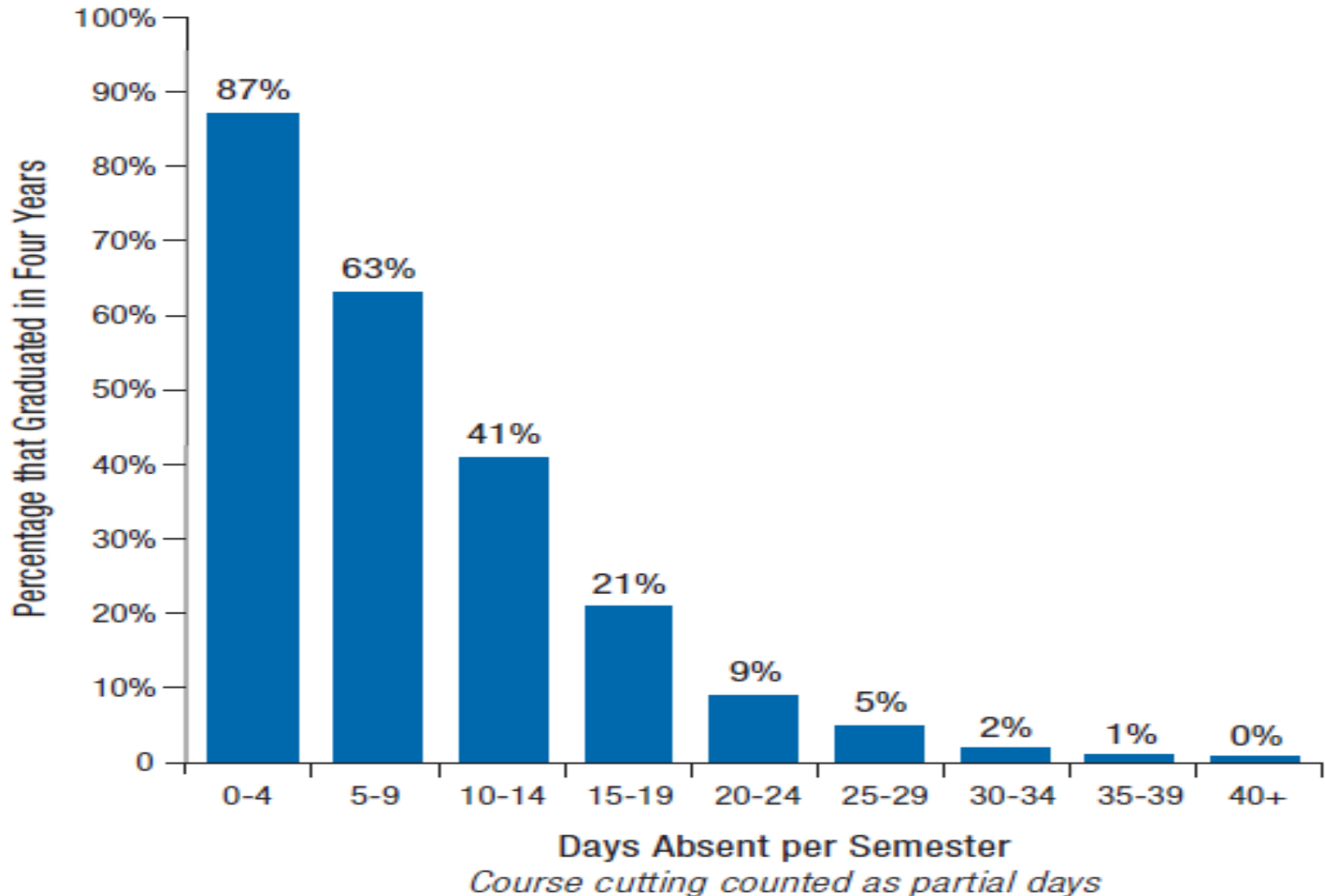
So...what can you do?

- ✓ You may have your greatest impact with struggling, just-below-average freshmen—those with GPAs of C- or D who miss one or two weeks of school per semester. These middle students have about the same chances of graduating as they have of dropping out, yet are least likely to be identified for help.
- ✓ Reach out early to each student whose grades and attendance start to slip. Freshmen—regardless of their background—are more likely to come to class and pass courses in schools where they feel teachers can be trusted, give them individual attention and show concern.
- ✓ Make sure your class is organized coherently so that students know exactly what they need to do to earn good grades. Students can lose trust in teachers with inconsistent grading practices, resulting in less effort and lower attendance. Also, help your students make connections between the work they're doing in class and the skills they'll need in the future.
- ✓ Work collaboratively with your colleagues. Absences are lower than expected in schools where teachers take collective responsibility for the whole school, not just their own students.

Chicago Freshman Semester F's & Graduation Rates



Chicago Freshman Absences & Graduation Rates



Middle School Example

<http://www.pbs.org/wgbh/pages/frontline/omarinas-story/>



Last Reflection Questions

What ideas have these examples given you for EWS development or implementation in your district?

What barriers to EWS development and/or implementation does your district need to problem-solve?

What supports do you have available to you?

What supports do you need?



Questions????

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Additional Readings

- Allensworth, E. (2013). The use of ninth grade early warning indicators to improve Chicago schools. *Journal for Education of Students Placed at Risk*, 18(1), 68-83. doi:10.1080/10824669.2013.745181
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