Using Data to Inform Decision-Making in Maryland Public Schools:

Maryland Safe and Supportive Schools Project & Race to the Top Data Dashboards

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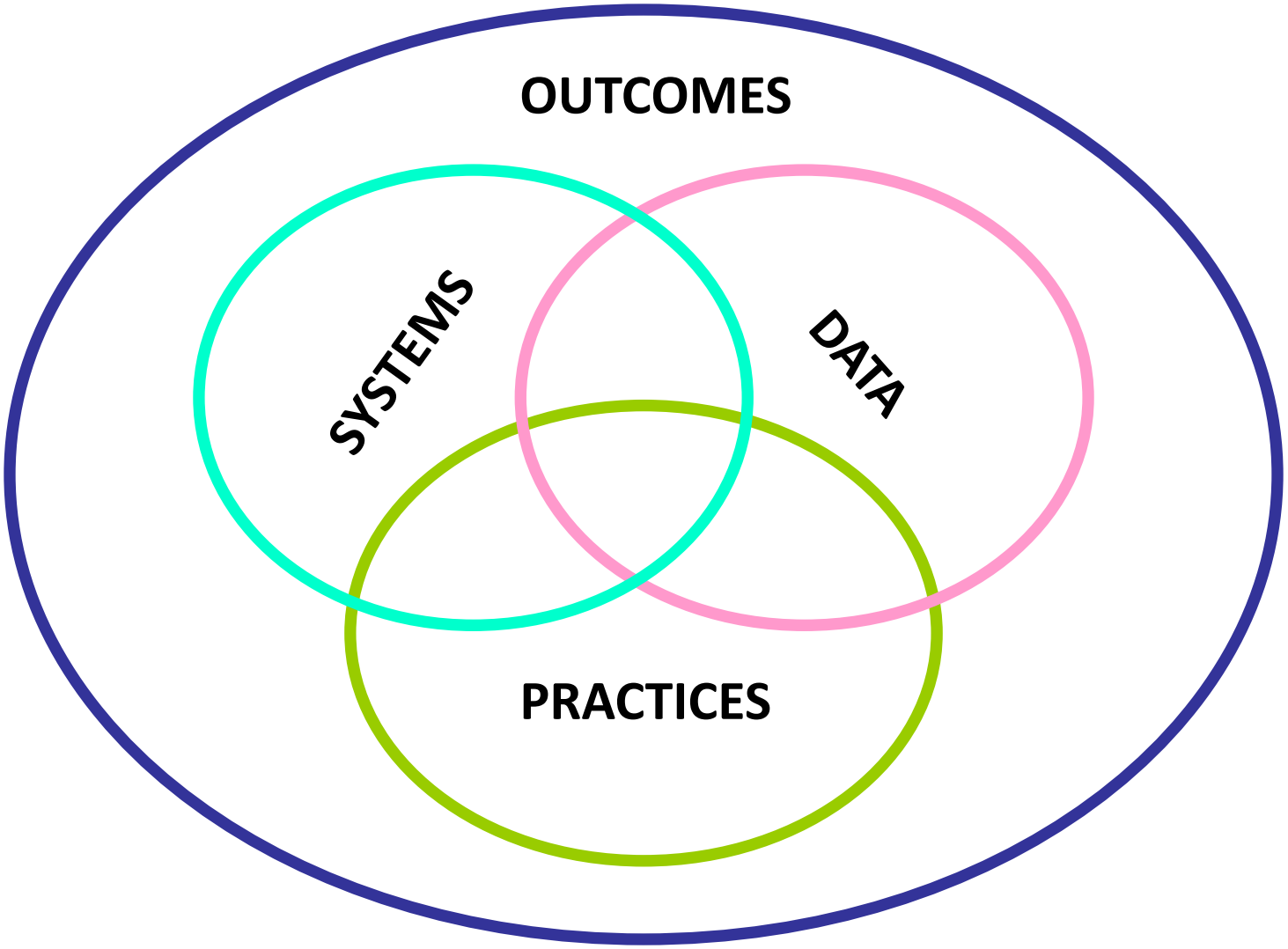
Sheppard Pratt — A not-for-profit behavioral health system

Multi-tiered Systems of Support

- Positive Behavioral Interventions and Supports (PBIS)
  - Non-curricular, school-wide tiered prevention system
    - Focuses on improving *systems* (e.g., reinforcement) and *practices* (e.g., evidence-based programs) through *data-based* decision making

(PBIS.org; Sugai & Horner, 2006)

Data, Systems, Practices Framework



(PBIS.org; Sugai & Horner, 2006)

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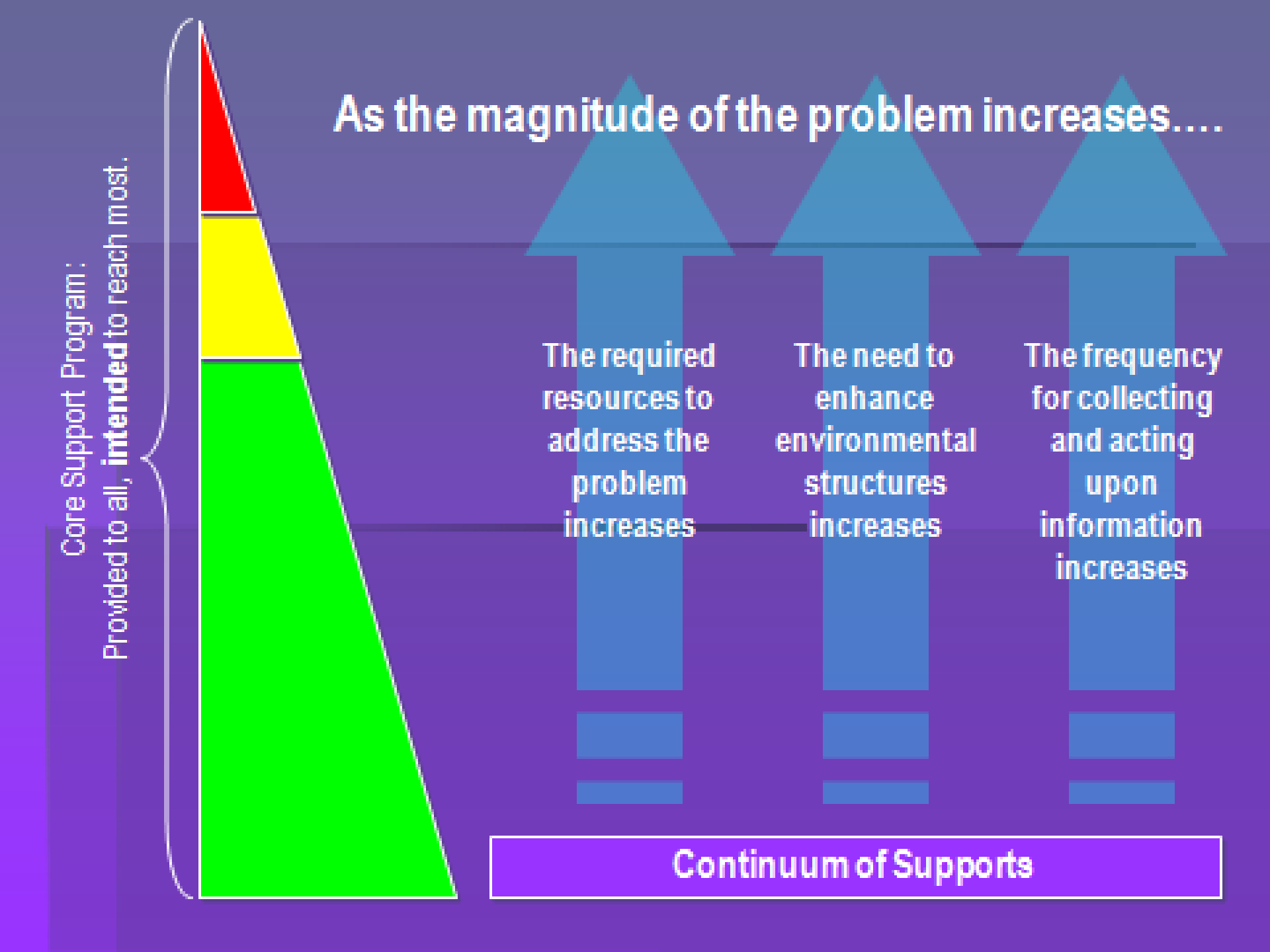
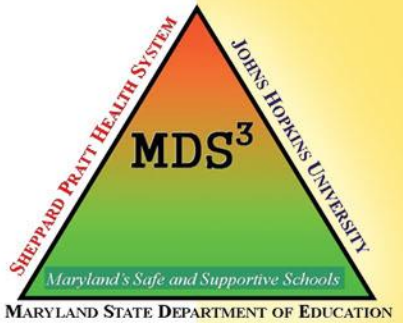
    - Focuses on improving *systems* (e.g., reinforcement) and *practices* (e.g., evidence-based programs) through *data-based* decision making
  - Applies a public health approach
    - 80% of student population respond to universal intervention; 20% need additional services

(PBIS.org; Sugai & Horner, 2006)


As the magnitude of the problem increases….
Core Support Program:
Provided to all, intended to reach most.
The required resources to address the problem increases
The need to enhance environmental structures increases
The frequency for collecting and acting upon information increases
Continuum of Supports



Maryland Safe & Supportive Schools Project (MDS3) Data Dashboard

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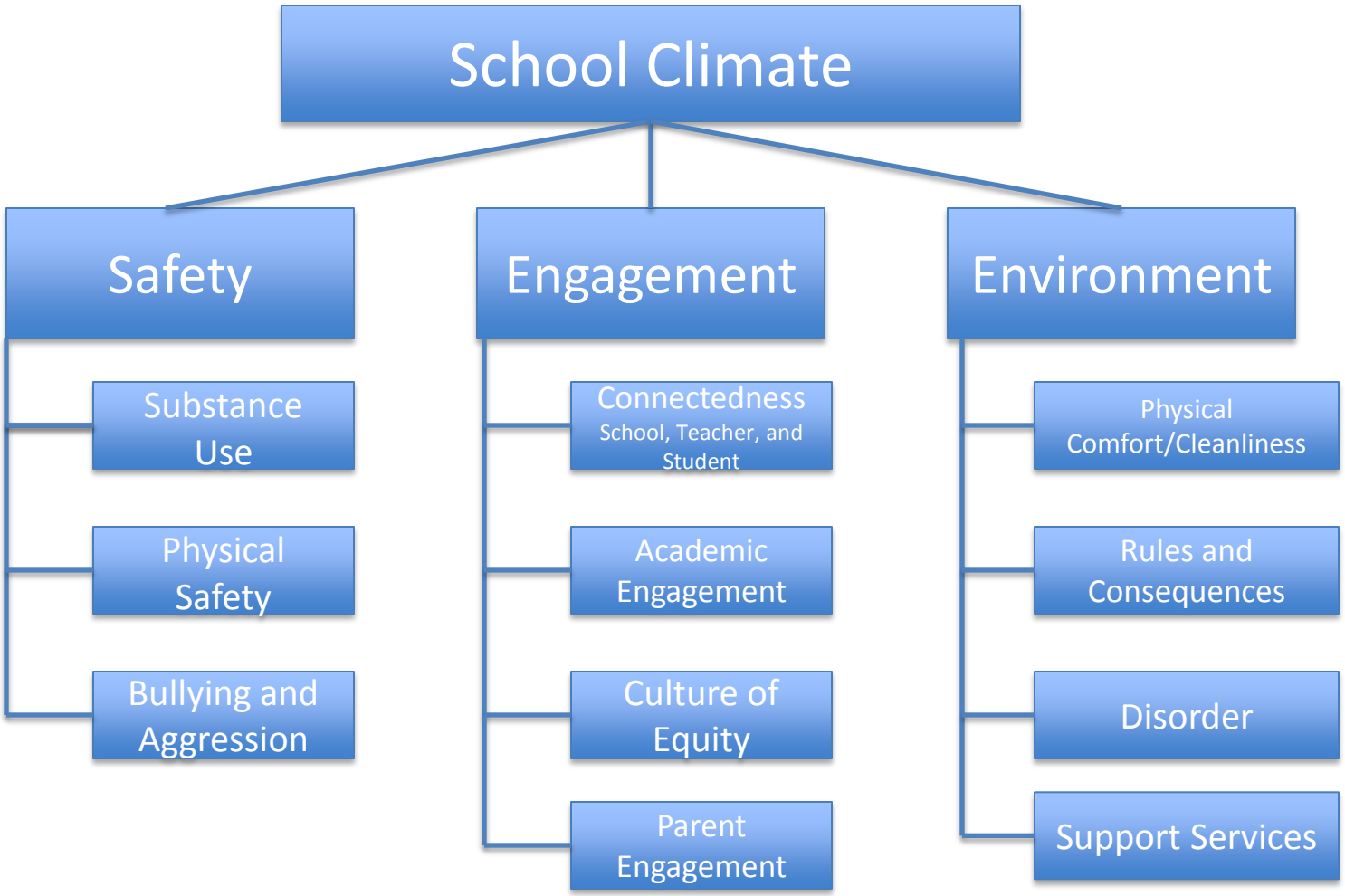
Overview of MDS3 Initiative

- One of 11 states funded through the US Department of Education's Safe and Supportive Schools Initiative
- Project Aims
  - Reduce rates of school violence and substance use, and improve student engagement and the school environment to support student learning
  - Develop a sustainable web-based survey system for assessing school climate
  - Implement a continuum of evidence-based programs to meet student needs
- 58 high schools over 4 years
  - Random assignment to intervention vs. comparison

USDOE's School Climate Model



(Bradshaw et al., 2014; *Journal of School Health*)

MDS3 Menu of Evidence-Based Programs

- ***Overall Framework***
  - ***Positive Behavioral Interventions and Supports (PBIS)*** to reduce discipline problems and improve school climate
- ***Tier 1***
  - ***Botvin's Life Skills Program*** for substance abuse prevention
  - ***Olweus Bullying Prevention Program*** to prevent bullying
- ***Tier 2***
  - ***Check-In/Check-Out*** to increase student engagement and attendance
  - ***Check & Connect*** to prevent truancy and increase student engagement
- ***Tier 3***
  - ***Cognitive-Behavioral Intervention for Trauma in Schools*** for students with emotional and behavioral problems

Annual MDS3 Data Collection

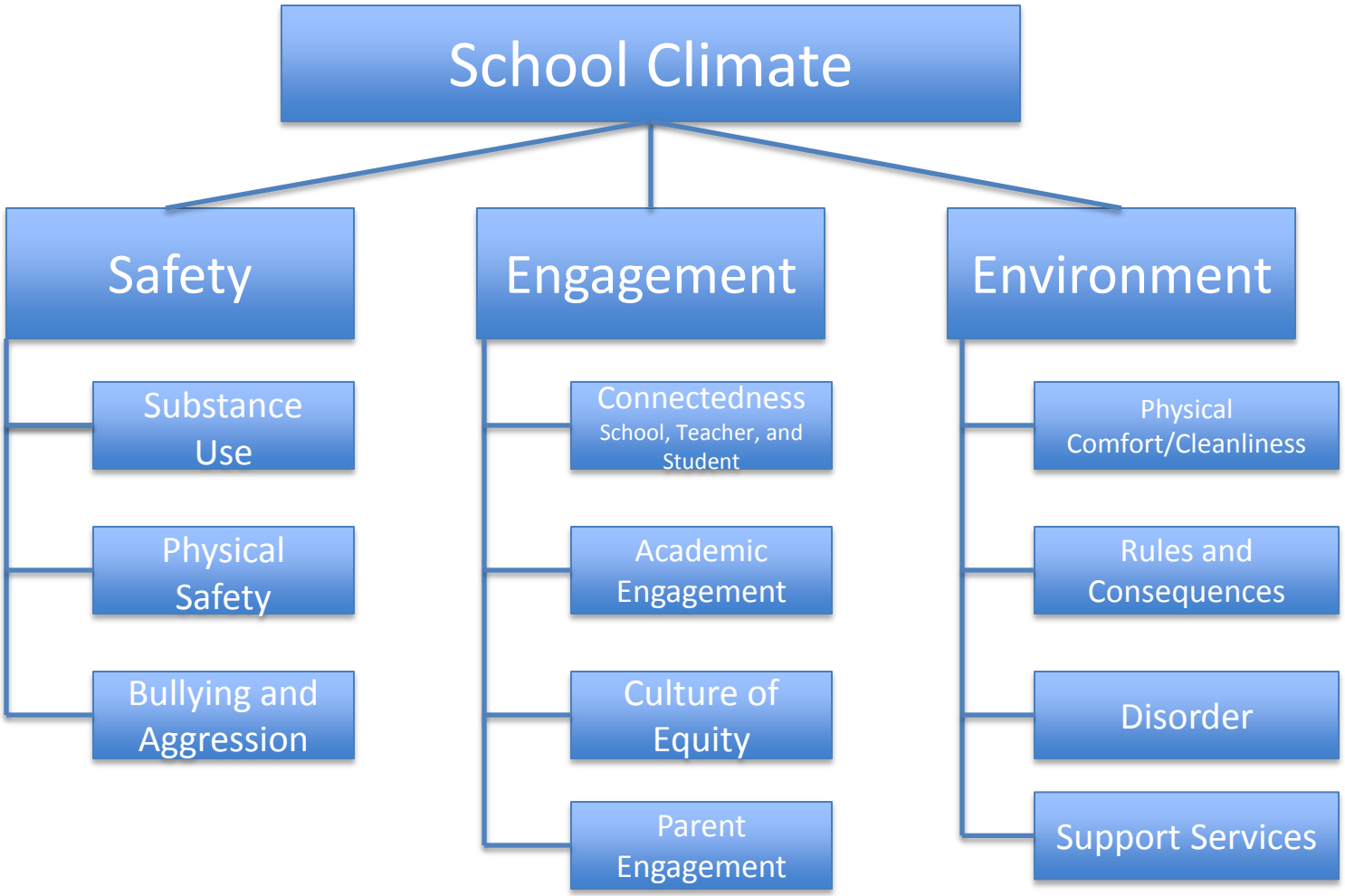
- Fidelity
  - School-wide Evaluation Tool (SET)
  - Individual Student Systems Evaluation Tool (I-SSET)
- School Observations of School Climate
  - Trained external observers
- MDS3 School Climate Surveys
  - Parents, staff, and students

MDS3 School Climate Survey

- Students, staff, and parents complete a web-based climate survey
- The survey:
  - collects information about behavior and perceptions of the school environment
  - is completed on-line
  - 25 classrooms (7 9th grades & 6 of grades 10-12)
    - » Option to survey more classes
  - takes about 20 minutes for staff and students, and 10 minutes for parents
    - » 15.8 min students, 16.1 min staff, 9.6 min parents
  - is anonymous and voluntary
  - administered annually in spring
  - items derived from previously published and validated measures (YRBS, CTC, MTF)

(Bradshaw et al., 2014; *Journal of School Health*)

USDOE's School Climate Model



(Bradshaw et al., 2014; *Journal of School Health*)

What kind of school do you want your school to be?

MDS3 Climate Survey **Date: March 1st-May 15th**

The MDS3 initiative is sponsored by the Maryland State Department of Education to measure and improve school climate in high schools throughout Maryland

MDS3 School Climate Survey

MDS3 Climate Survey: Students

The Maryland State Department of Education is working with your school to learn more about what students think about their school's climate. School climate includes your feelings about the safety, relationships, and learning environment of your school.

This is an opportunity for all students to give their input on how to improve the school. Your answers will be used to help to make your school a better place for students to learn.

All of your responses on this survey are anonymous and can't be linked to you in any way. All the information you share with us will be confidential and private - that means we will not tell your teachers, parents, friends, or anyone else about your individual answers to these questions.

This is not a test, so there are no "right" or "wrong" answers. Please answer the following questions honestly. Last year the survey took most students about 15 minutes to complete.

Click on the video below for more information about the survey.

Done

Accessing Survey Results On-Line

- All results are available (in real time) on-line through a password protected web-site
- Passwords are set up to provide different levels of access (school, multiple schools, districts, all schools)
- 4 Report Options
  - **Executive Summary** – school-specific for select student items
  - **Quick Report** – all data for all schools
  - **Advanced Report** – sorting function
  - **Comparison Report** – compares across years

MDS3 Observations

- Instruments
  - **Assessing School Settings: Interactions of Students & Teachers (ASSIST):** Rusby et al. (2001); Cash, Debnam, & Bradshaw
    - Praise, opportunities to respond, punishing statements, transitions, supervision, positive interactions, engagement, aggressive behavior etc.
    - Both event based and global ratings
  - **School Assessment for Environmental Typology (SAfETy):** Bradshaw, Lindstrom Johnson, Milam, Debnam, & Furr-Holden
    - Features of the school environment that encourage access control, surveillance, territoriality, physical maintenance, and behavioral management (e.g., disorder, substance use, broken windows)
- 4 data points, over 3 years
  - 2 data collectors (1 ASSIST & 1 SAfETy)
  - 25 classrooms per school (≈1500 per time point)
  - 30+ non-classroom locations

Maryland's Race to the Top Data Dashboard

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(Johns Hopkins University)

& Judy Kowarsky

(MSDE)

Aims of the MD RTT Data Dashboard Project

- Identify variables that predict
  - high school graduation and dropout
  - on-time promotion to the 8th grade versus grade retention
  - on-time promotion to the 5th grade versus grade retention.
- Utilize the regression beta weights as risk points associated with each predictor and determine risk cutpoints associated with negative outcomes (i.e., not graduating and being retained)

Samples

	Cohort 1	Cohort 2	Cohort 3
Grade Range	1-5	4-8	8-12
Total N for Inclusion	60,880	62,024	67,148
Ineligible Students	22	36	82
Outcome(s) of Interest	Retention	Retention	Graduation and Dropout

Variables Used: 19 Indicators

- Proficiency on standardized assessments:
  - MSA math and reading for grades 3-8 where applicable
  - Algebra and English HSA (cohort 3 only)
  - On –time completion of Algebra/English requirement (cohort 3 only)
  - Met Algebra and English requirement (cohort 3 only)
  - Type of HSA for both algebra and English (cohort 3 only)
- Yearly retention data (4 variables; cohort 3 only)
- If student was 1 year or more overage for grade in 2008
- Annual out-of school suspension data
- Yearly absences (cutoff of 3% or 5 days)
- Yearly mobility

Identifying Cohort 3 Risk Cutpoints for Not Graduating

Risk Points	No graduation	Graduated	Total Students	Hit Rate	Students Identified
0	89	16913	17002	1%	100%
1	639	22502	23141	3%	70%
2	533	5062	5595	10%	30%
3	545	2032	2577	21%	20%
4	787	1384	2171	36%	16%
5	1143	535	1678	68%	12%
6	989	167	1156	86%	9%
7	880	52	932	94%	7%
8	1005	15	1020	99%	6%
9	789	9	798	99%	4%
10	336	5	341	99%	2%
11	301	0	301	100%	2%
12	277	0	277	100%	1%
13	204	0	204	100%	1%
14	152	0	152	100%	1%
15	101	0	101	100%	0%
16	31	0	31	100%	0%
17	9	0	9	100%	0%
18	2	0	2	100%	0%
19	2	0	2	100%	0%

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Identifying Grade-Specific Cutpoints for Not Graduating (Cohort 3)

	Grade level				
Number of "Risk Points"	8	9	10	11	12
0					
1					
2					
3					
4					
5					
6-19					

Conclusions from RTT Data Dashboard Analyses

- Graduation model for cohort 3 emerged as more stable and predictive as compared to
  - Dropout
  - Cohorts 1 & 2 retention
- Cutpoint predictive accuracy for *not graduating* was very high and provided the State clear levels of risk for each grade level
  - Many variables were significant, demonstrating the complexity of these associations and the paths to these outcomes
  - Risk factors with the largest coefficients were *retention*, followed by *high school achievement*

Summary of Lessons Learned

- Focus and framing of dashboard varied by user need
  - School climate for schools
  - Dropout for state RTT
  - Type of data (e.g., behavioral, emotional, demographics, archival)
  - School-level decisions vs. focus on individuals
- Predictive modeling helpful to guide decision-making
  - Better fitting models for not graduating and non-response to PBIS
- Incentives for data collection and use
  - Buy-in at multiple levels
- Training and framework to support data-based decision-making