

The logo for Colorado Healthy Schools SMART SOURCE is located on the left side of the slide. It features a stylized graphic of a pencil and a checkmark inside a circle. The text "COLORADO HEALTHY SCHOOLS" is in a small, dark font above the word "SMART" in large, bold, blue letters. Below "SMART" is the word "SOURCE" in green, with a blue checkmark integrated into the letter "O".

# Improving School Health: How social, emotional, and mental health supports in schools impact students

Advancing School Mental Health Conference

October 19, 2017

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*Christine Williams, MSPH*



# OBJECTIVES

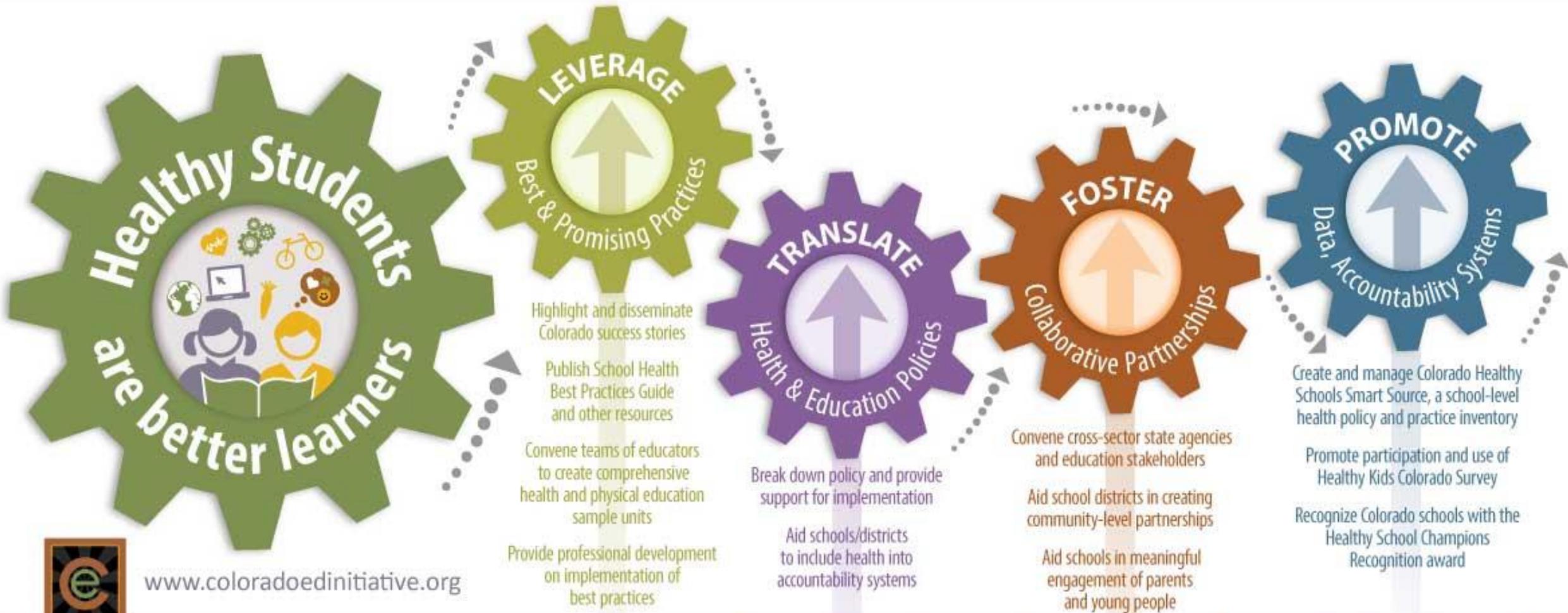
1. Connect student health and academics
2. Learn about relevant health assessments in Colorado
3. Understand the Colorado context for school behavioral health
4. Explore associations in school behavioral health practices
5. Identify relevant data sources available in your area
6. Q&A

# School Health Overview

Connecting health and learning

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# ✓ CEI HEALTH AND WELLNESS WORK



[www.coloradoedinitiative.org](http://www.coloradoedinitiative.org)

The Colorado Education Initiative

*The intersection between health and education*



# ✓ WHY SCHOOLS?

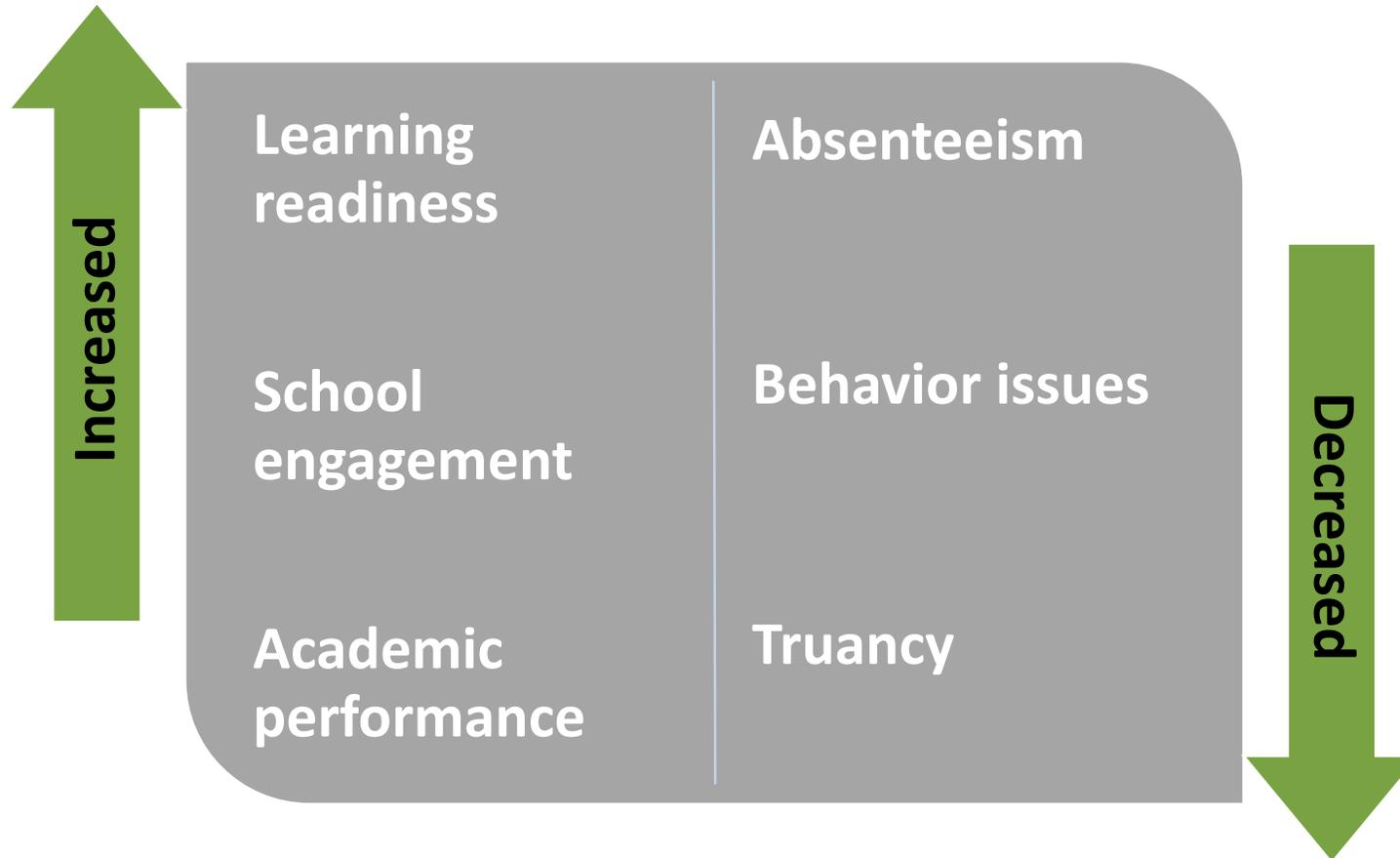
## Healthy Students are Better Learners!

“No matter how well teachers are prepared to teach, no matter what accountability measures are put in place, no matter what governing structures are established for schools, educational progress and closing the achievement gap will be profoundly limited if students are not motivated and able to learn.”

*- Charles Basch, Professor at Teacher's College, Columbia University*

# ✓ WHY SCHOOLS?

## Healthy students have...



# ✓ PURPOSE OF SMART SOURCE

Serve as an inventory for schools to assess health policy and practice

Reduce burden on schools by streamlining multiple school health surveys into one tool

Improve the quality of school health policy and practice data

Increase the number of schools assessing health and wellness

Inform improvements in school health efforts



# COMPREHENSIVE MEASUREMENT



1. General Health Policies & Practices

2. Nutrition

3. Physical Education & Physical Activity

4. Health Education

5. Health Services

6. Counseling, Psychological, and Social Services

7. Healthy and Safe School Environment

8. Family, Community, and Student Involvement

9. Staff Health Promotion

10. Local Wellness Policy

# ✓ PARTNERSHIPS

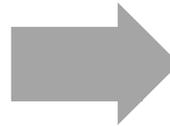
## Steering Committee

CEI  
CDE  
CDPHE  
Kaiser Permanente



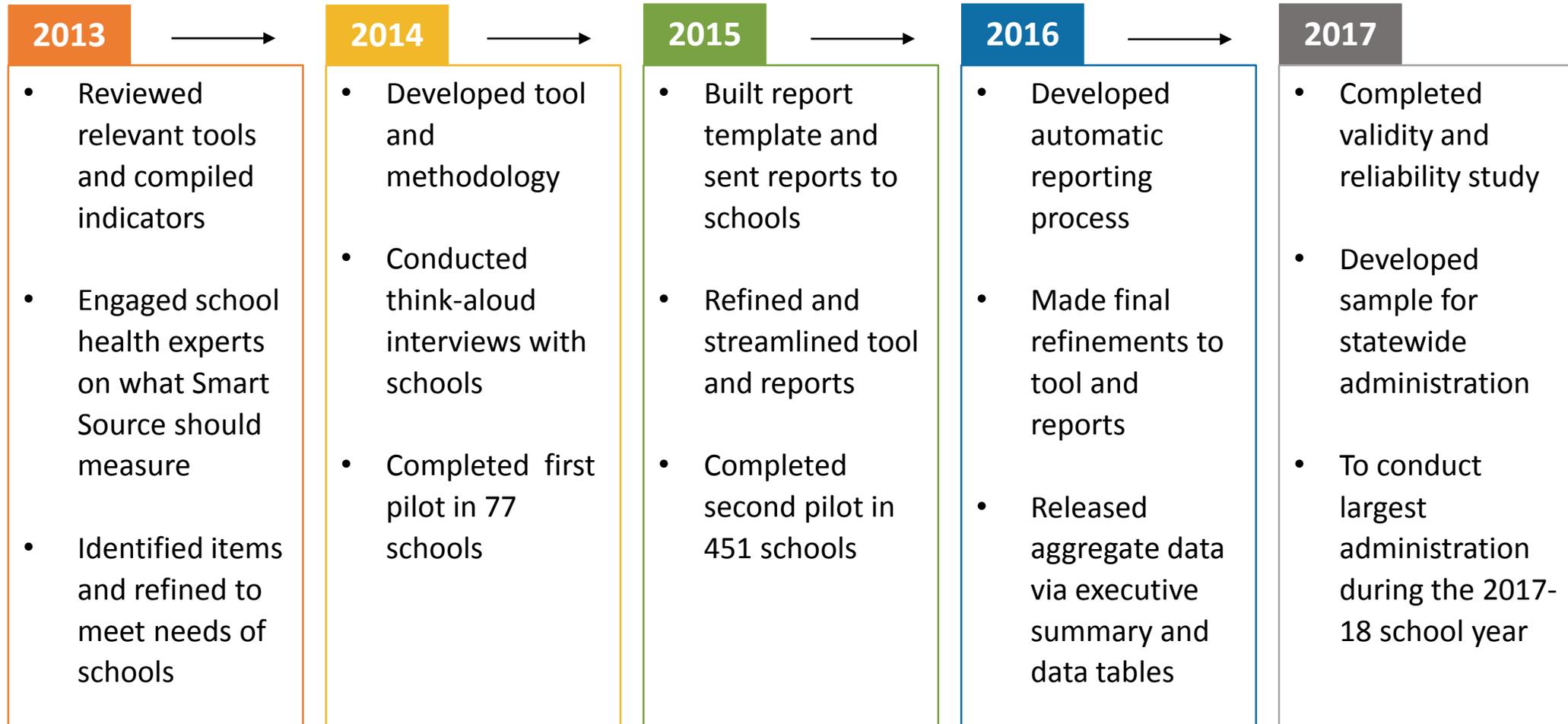
## Stakeholder Input

Schools & Districts  
Content Experts  
Fundors  
Researchers and  
Evaluators  
Other Stakeholders

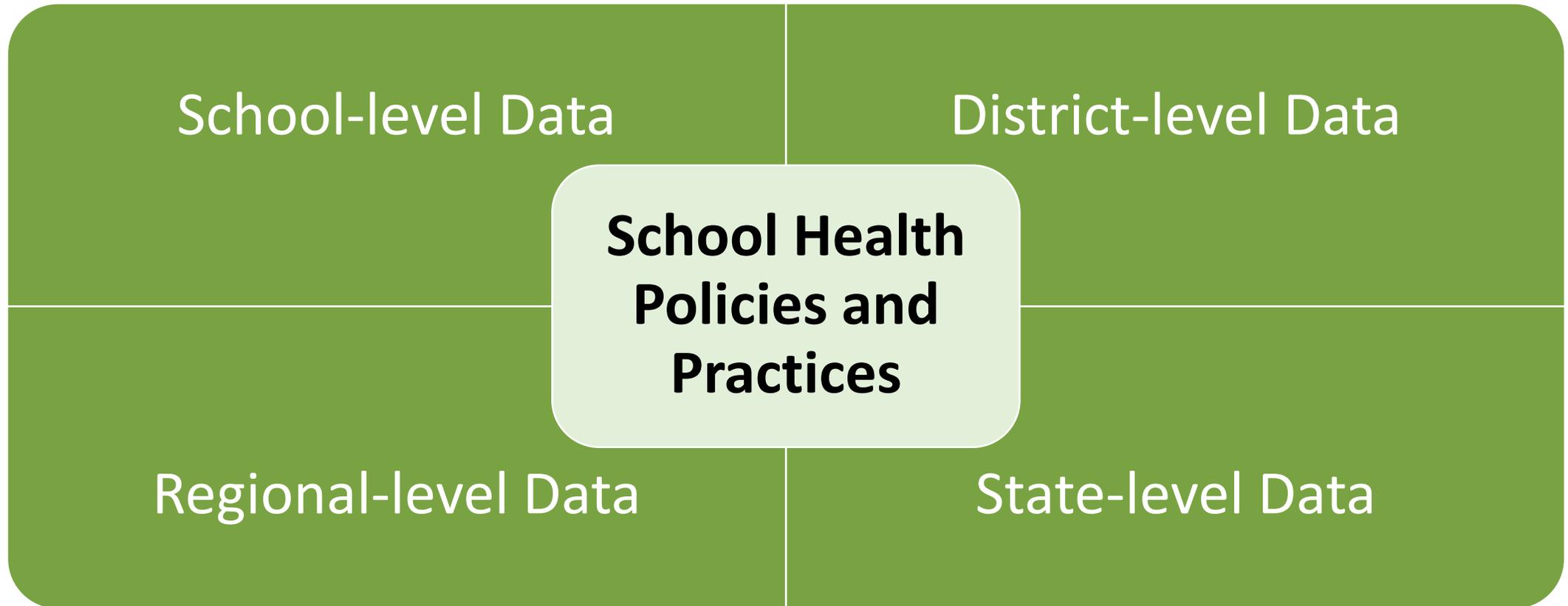


Smart  
Source

# ✓ PROCESS



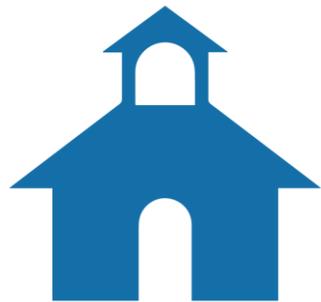
# ✓ DATA AVAILABLE



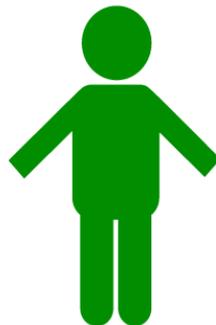


# CONNECTION BETWEEN TWO SURVEYS

- Joint Smart Source & Healthy Kids Colorado Survey (HKCS) administration
  - Schools benefit from using both sets of data
  - Minimize confusion between two efforts
  - Data collected during same cross section of time
  - “Off year” can be used for planning & implementation



Smart Source  
(school-level tool)



HKCS  
(student-level tool)





# HEALTHY KIDS COLORADO SURVEY OVERVIEW

CO's only comprehensive survey on the health and well-being of young people in Colorado.

HKCS is aligned with the CDC's Youth Risk Behavior Survey (YRBS) and has been conducted on a two-year cycle in CO since 1991.

Supported by Colorado Departments of Education, Public Health & Environment, Human Services, and Safety.

Administered to randomly selected middle and high schools and classrooms every odd year in grades 6-12.



**HEALTHY KIDS**  
**COLORADO SURVEY**

# ✓ HKCS MEASURES

## Protective Factors

- Trusted adults
- School climate
- Community involvement

## Health Behaviors

- Alcohol, tobacco, and substance use
- Safety and violence
- Nutrition and fitness
- Sexual health (high school only)

## Social-Emotional Indicators

- Depression
- Suicide
- Bullying

# ✓ HKCS DATA AVAILABLE

## Private: School/District Level

## Public: State/HSR Level

2015 HEALTHY KIDS COLORADO SURVEY RESULTS (Weighted Data)  
XXXXXX District High School Report

Table 6. Among students who rode a bicycle during the past 12 months, the percentage who never or rarely wore a bicycle helmet

	Percentage (%)
Gender	
Male	74.0
Female	69.9
Grade	
9th	69.6
10th	77.4
11th	66.1
12th	75.6
Race/Ethnicity	
American Indian/Alaska Native	
Asian	65.6
Black/African American	88.0
Native Hawaiian/Other Pacific Islander	
White	67.1
White Hispanic	86.2
Other	72.3
Sexual Orientation	
Straight	72.3
Gay/Lesbian/Bisexual	83.3

Data are suppressed to ensure confidentiality when the number of students responding is less than 30 and/or the number of students who responded YES (indicated by a period (.)). All percentages are rounded to the nearest tenth.

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### HEALTHY KIDS COLORADO SURVEY School Level Snapshot

**Sample District**

This Snapshot presents your school's results from the 2015 Healthy Kids Colorado Survey (HKCS). Your school's results are compared to the statewide results for students in grades 9-12. All percentages in the report are estimates that represent behaviors that were reported by students at your school and across the state. The response rate for Sample School was 55% and 226 students participated in the survey.

**Legend**

- Your School - rates for students in grades 9-12
- Colorado - rates for public school students in grades 9-12

(\*) Percentages with an asterisk indicate a statistically significant difference between your school and the state percentage. (n/a)-Data is not reported if fewer than 30 responded, or 3 or less answered YES or NO.

#### Weight

BMI (Body Mass Index) is a measurement of body fat that is calculated from height and weight. Definitions of overweight and obese depend on gender and age of the student. The percentage of overweight and obese youth has been increasing nationwide and causes immediate and long-term effects on health and well-being.

Students who are overweight/obese	Your School	Colorado
% of Students	20.4	19.9

#### Physical Activity & Nutrition

In the past 7 days, students who...

	Your School	State
Had 3 or more hours of non-school related screen time on an average school day	62.8%	53.7%
Ate fruit 1 or more times per day	41.2%	45.1%
Ate a vegetable 1 or more times per day	32.1%	45.2%
Drank water every day	33.7%	41.9%
Drank soda 1 or more times per day (does not include diet soda)	26.4%	18.0%

Daily physical activity is defined as at least 60 minutes of daily physical activity and no more than two hours of screen time per day.

Students who...	Your School	State
Know an adult who they could talk to or go to for help	62.8%	62.8%
Could ask a parent for help with a problem	62.8%	62.8%
Agree that teachers care about them and give them a lot of encouragement	62.8%	62.8%
Participated in extracurricular activities at school (sports, clubs, etc)	30.2%	20.9%

Healthy Kids Colorado Survey 2015 Snapshot Report: Sample School

### Regional Snapshot - Region 1: Logan, Morgan, Phillips, Sedgwick, Washington & Yuma Counties

HEALTHY KIDS COLORADO SURVEY 2015

#### Mental Health Among Youth in Colorado

The Healthy Kids Colorado Survey is a tool we use to better understand the health of Colorado's middle and high school students so we can support them in making healthy choices. The following images represent Colorado high school student data from 2015. For more information and complete survey data, visit [healthykids.org](#).

36% of youth who feel sad or hopeless every day for 2 weeks

14% of youth who made a suicide plan in the last year

15% of youth who attempted suicide at least once in the last year

#### REGIONAL BREAKDOWN

Of youth who have attempted suicide at least once in the last year:

Year	Percentage
2011	11%
2013	7%
2015	8%

#### HEALTH INEQUITIES

Demographic breakdown of mental health trends among a specific identity

- SEXUAL ORIENTATION:** 11% of transgender youth, 23% of youth who are not sure, 21% of Gay or Lesbian youth, 41% of Bisexual youth.
- RACE/ETHNICITY:** 10% of Black youth, 12% of Hispanic youth, 12% of Pacific Islanders, 12% of White youth, 18% of American Indian youth, 18% of American Indian youth.
- SEX:** 10% of male, 1% of female.

#### PHYSICAL ACTIVITY

Students who...	Sample District	State
daily physical activity	36.9	27.1
Percent of students who attended PE classes on one or more days in an average week	56.7	46.9
Students with three or more hours of screen time on an average school day	40.7	52.1
Students who played on at least one sports team in the past 12 months	51.6	60.1
		57.6

#### NUTRITION

Students who...	Sample District	State
Students who ate one or more fruits daily in the past seven days	39.6	35.0
Students who ate breakfast daily in the past seven days	44.6	39.2
Students who drank soda one or more times daily in the past seven days	63.6	17.1
		20.4

#### FACTORS THAT CAN HELP REDUCE YOUTH SUICIDE ATTEMPTS

Health equity is when all people, regardless of who they are or what they believe, have the opportunity to attain their full health potential. Achieving health equity requires valuing all people equally with focused and ongoing efforts to address inequities.

Trusted Adults: Youth who have an adult to go to for help are 3.5x LESS likely to attempt suicide.

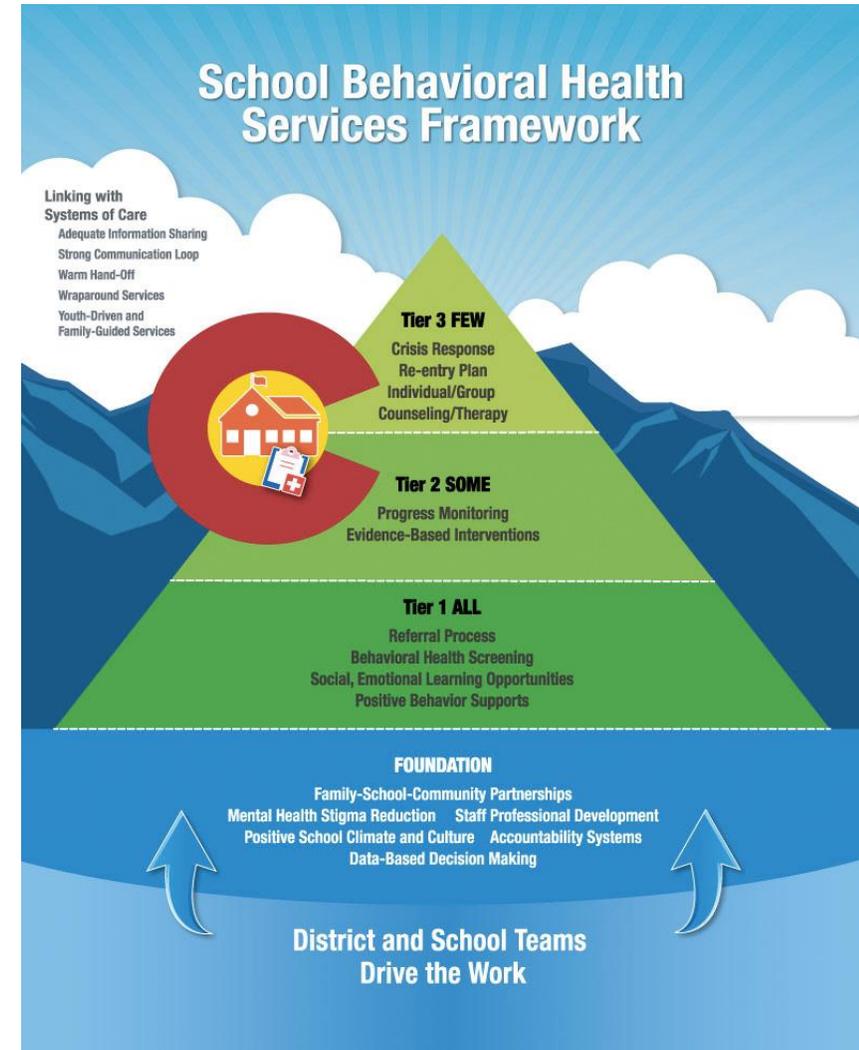
# School Behavioral Health

Trends in Colorado



# BEHAVIORAL HEALTH FRAMEWORKS

- Positive Behavior Support Framework
  - Model for systematic implementation of best practices
  - Prevention-based multi-tiered systems of supports (MTSS)
- CO Framework for School Behavioral Health Services
  - Co-created by content experts and school/district personnel
  - Expands on PBS with systems of care principals
  - Highlights foundational best practices that support all tiers





# BEHAVIORAL HEALTH & ACADEMICS



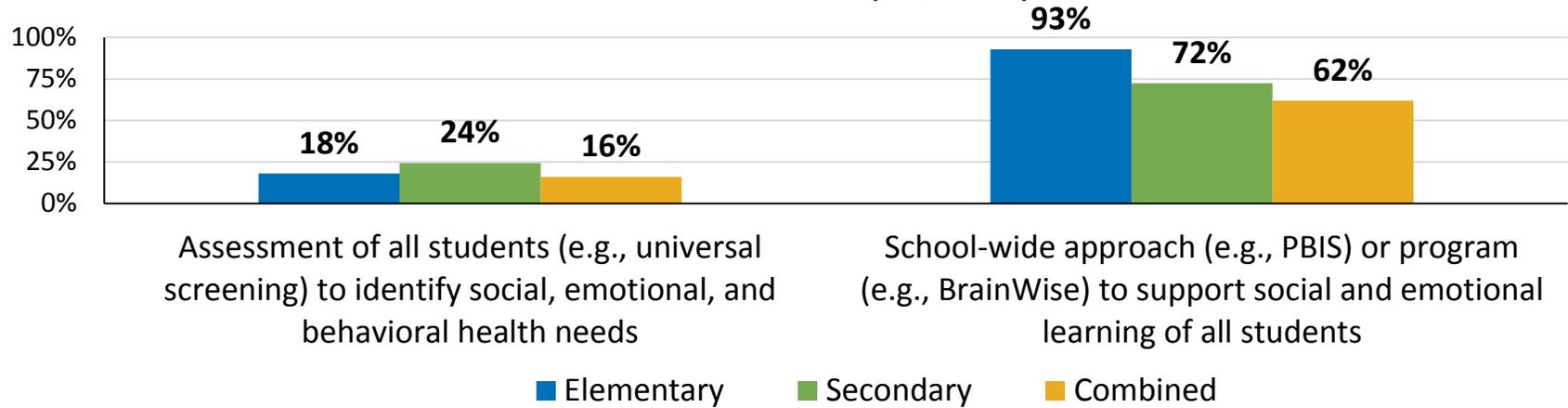
- Students with diagnosed behavioral health issues miss **three times** as many school days as those without behavioral health challenges.
- Students who use drugs or alcohol are **three times** more likely to drop out of school.
- Students who receive social and emotional learning (SEL) instruction have academic achievement scores an average of **11 percentage points** higher than students who did not participate in SEL programs.



# BEHAVIORAL HEALTH DATA

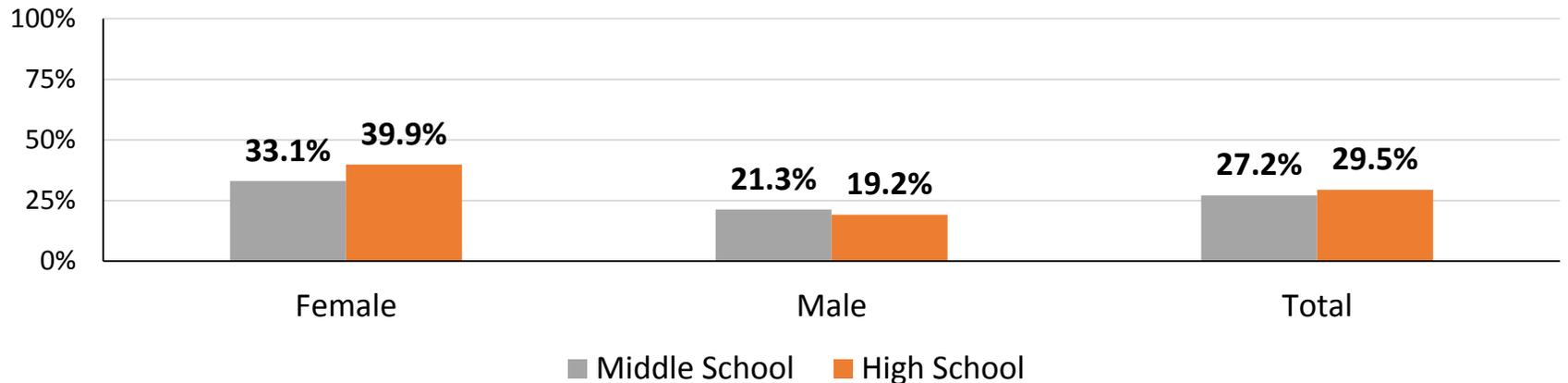
Smart  
Source

**Figure 4.1: Practices to support social, emotional, and behavioral health of all students (i.e., Tier 1)**



**Figure 4.2: Secondary students feeling sad or hopeless for two or more weeks in the past 12 months**

HKCS



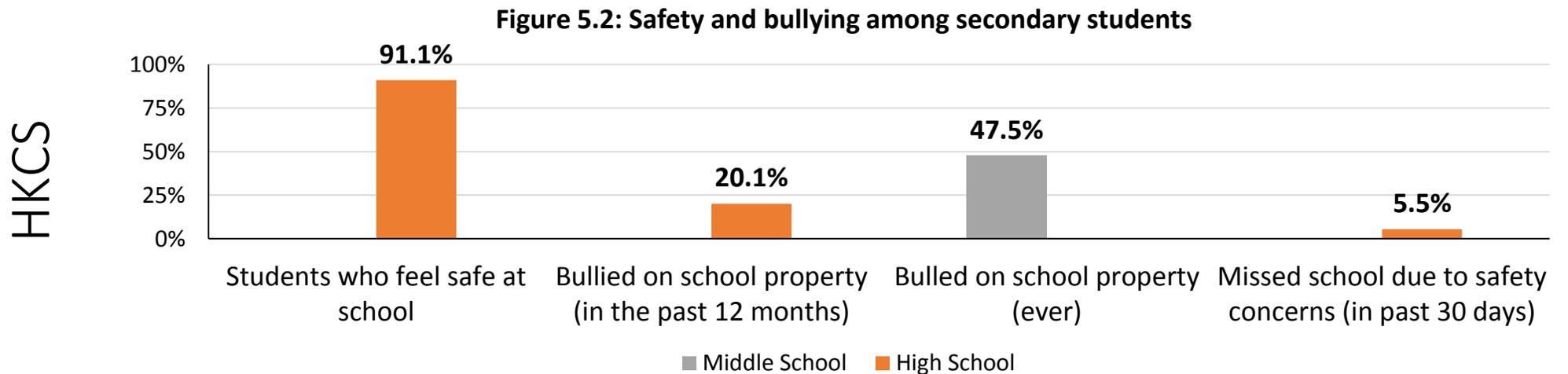
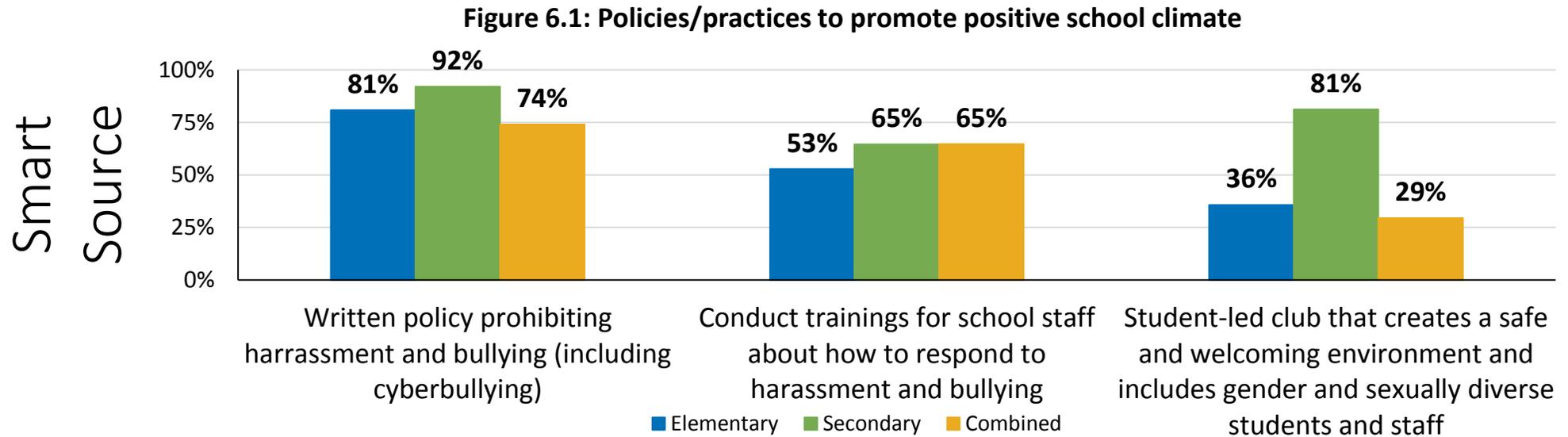
# ✓ SCHOOL CLIMATE & ACADEMICS



- Students who perceive school to be physically or emotionally unsafe often choose to **avoid school** altogether.
- Youths who are bullies or are victims of bullies are more likely to miss school.
- The best predictors of class attendance were:
  - Whether the student trusted their teacher
  - Perceived the teacher to care about them



# SCHOOL CLIMATE DATA



# School/community collaboration & secondary prevention

Testing associations across Smart Source data

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# ✓ BACKGROUND

- <50% of youth with mental health needs receive treatment
  - Of those that do, 80% receive care in a school setting
  - Schools = critical mental health provider

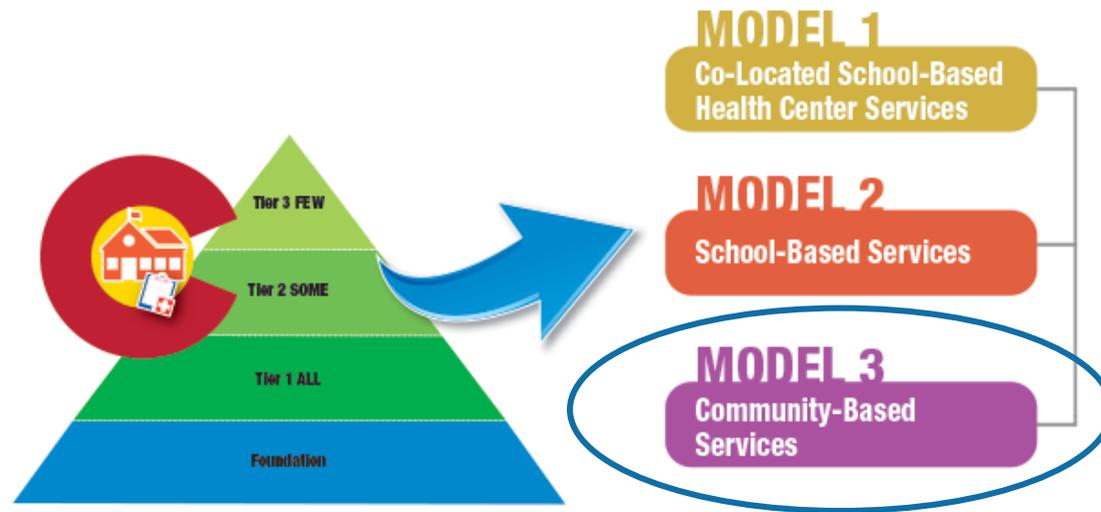


“Given schools’ unique ability to access large numbers of children, they are most commonly identified as the best place to provide supports to promote the universal mental health of children” (CASEL 2008, p. 1).<sup>1</sup>

- Tier 2 programs meet the needs of select students at risk for behavioral health disorders
  - Examples: AVID, Check & Connect, Check In/Check Out, HEARTS
  - Of all tiers, Tier 2 is the least studied and most difficult to implement in schools

# ✓ BACKGROUND

- Collaboration with CMHCs shown to improve student outcomes
  - Community providers aid schools in expanding existing services
  - CO Framework promotes community-based services as delivery model



*Research question: Does collaboration between schools and CMHCs increase the likelihood of Tier 2 implementation while accounting for other factors potentially associated with the implementation of Tier 2 programs?*



# METHODS

## Data Collection

1. Smart Source administered once per school during fall 2015
2. Team of school staff encouraged to complete collectively
3. Submissions collected using online platform

**Independent variable: School collaboration with CMHCs**

**Dependent variable: School implementation of Tier 2 programs**

## Analyses

1. Sample *t*-test and Chi-square tests to explore differences across schools
2. Bivariate correlations to determine covariates
3. Linear regression of IV & DV, controlling for covariates: significance set at  $p < .001$



# PARTICIPATION BY REGION

Table 1.1: 2015-16 Smart Source Participation

State		Region <sup>1</sup>								
		Metro	North Central	Northeast	Northwest	Pikes Peak	Southeast	Southwest	West Central	Unaffiliated
Elementary	226	70	50	6	14	65	5	13	2	1
Secondary	175	48	25	7	13	46	5	21	7	3
Combined <sup>2</sup>	50	17	6	1	4	12	2	4	1	3
<b>Total</b>	<b>451</b>	<b>135</b>	<b>81</b>	<b>14</b>	<b>31</b>	<b>123</b>	<b>12</b>	<b>38</b>	<b>10</b>	<b>7</b>



**25%** of all Colorado schools

<sup>1</sup> Regions are defined by the the Colorado Department of Education. For more information, please visit: [www.cde.state.co.us/cdeedserv](http://www.cde.state.co.us/cdeedserv)

<sup>2</sup> Combined schools have at least one elementary (K-5) and one secondary (6-12) grade.



# SAMPLE VS. OVERALL STATE

**SAMPLE**  
(n=451)

## Number of Schools

Elementary: 226 (50%)  
Secondary: 175 (39%)  
Combined: 50 (11%)

**STATE**  
(n=1793)

Elementary: 884 (48%)  
Secondary: 672 (36%)  
Combined: 237 (13%)

## Free or Reduced Price Lunch

Mean:  
45%

Mean:  
45%

## School Size

Mean:  
508 students

Mean:  
496 students



# FINDINGS

## 1. Schools that are more likely to collaborate with CMHC:

- Located in small districts and outlying cities or towns
- Higher rates of FRL eligibility and truancy
- Secondary level, versus elementary and combined

## 2. Covariates correlated with implementing Tier 2 programs (DV):

- School-wide approach to SEL (Tier 1)
- In-school therapeutic services (Tier 3)
- Referrals to services outside of school
- Wellness team
- School counselor availability

## 3. Collaboration with a CMHC was positively associated with implementation of Tier 2 programs

- OR = 2.23
- 95% CI: 1.36, 3.66

# IMPLICATIONS

- Schools collaborating with a CMHC are more than twice as likely to implement Tier 2 programs as those that did not
- CMHCs may assist or inform schools in implementation of Tier 2 programs
  - Direct vs. indirect role
- Results suggest school/CMHC collaboration as a potential:
  - Important best practice for comprehensive school mental health
  - Strategy to narrow research-to-practice gap around Tier 2 implementation

# The impact of social, emotional, and mental health supports in schools on students

Testing associations between Smart Source and Healthy Kids Colorado data

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# HYPOTHESIS & VARIABLES

***Study hypothesis: Schools that report greater presence and quality of counseling, psychological, and social services will be associated with improved self-reported student mental health outcomes.***

## Indicators for school-level predictors

1. Staff training
2. Programming
3. Screening
4. Other procedures

## Indicators for student-level outcomes

1. Mental health
2. School climate
3. School connectedness



# METHODS

## **Data Collection**

- Smart Source administered to schools in 2015-16
- HKCS administered to students in 2015-16
- Merged school records that participated in both Smart Source and HKCS

## **Analysis (led by CU Anschutz)**

- Descriptive statistics
- Bivariate tests of association (Chi-square)
- Multivariable regression analysis (significance set at  $p < .05$ )



# STUDY SAMPLE

## Smart Source

Total schools  
with secondary  
grades in  
sample: 275

## HKCS

Total high  
schools in  
sample: 153

## Overlap

49 high schools

10,816 students



# FINDINGS

1. Presence of a school psychologist: protective for suicide attempts
2. Schools where staff are trained to identify students in crises: more likely to have students report they have an adult to go to for help
3. Schools where staff are trained to support students in crises: more likely to have students report they feel safe at school



# FINDINGS

4. Universal screenings: protective for bullying
5. Providing in school supports for students was positively associated with:
  - students reporting they feel safe at school
  - students reporting teachers care about them
6. Collaborating with a community mental health center was:
  - protective against skipping school
  - positively associated with students reporting teachers care about them



# IMPLICATIONS

***Conclusion:** School policies and practices related to mental health and school climate seem to have an impact on student suicide attempts, bullying, feeling safe at school, and positive relationships with adults.*

## **Limitations**

- Overlap in schools is relatively small & did not include middle schools
- Surveys have different questions, respondents, formats, etc.
- Conducted with pilot tool – revised items in Smart Source sections are more specific

## **Future Directions**

- Conduct these analyses in 2017-18 (there will be larger sample of schools)
- Explore literature about research in possible associations

# Activity

Exploring data at your fingertips

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# ✓ POSSIBLE DATA SOURCES

## Student-Level Data

- **Health Surveys** (e.g., HKCS)
- **Climate Surveys**
- **Student Perception Surveys**
- **Non-cognitive/SES Surveys**
- **Attendance Data**
- **Discipline Data**

## Staff-Level Data

- **Tell Survey**
- **Teacher Perception Survey**
- **FTE Count** (e.g., Nurse, Counselors)

## School-Level Data

- **Health Policy and Practice Assessments** (e.g., Smart Source, School Health Index)
- **Graduation Rates**
- **Mobility Rates**
- **FRL Rates**
- **Nursing Visits**

## State/County Data

- **Child Health Survey (state)**
  - Physical health
  - Mental & behavioral health
- **Kids Count (state & county)**
  - Child health
  - Education
  - Economic status
- **Smart Source**
- **Healthy Kids Colorado Survey**



# HOW TO USE HEALTH DATA

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Identify Needs

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Make the Case for Resources

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Initiate Policy or Practice Change

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Communicate about School Health Programs and Garner Support

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Evaluate Effectiveness of Policies and Practices

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# Q&A

# Thank You!

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