Reducing youth substance use and related risks in Washington State:
A success story of the Community Prevention and Wellness Initiative

September 2025

Jaymie Bockelman, PhD, MS
Prevention Research & Evaluation Manager
WA State Health Care Authority

Evaluation team:

WASHINGTON STATE UNIVERSITY

IMPACT Research Lab

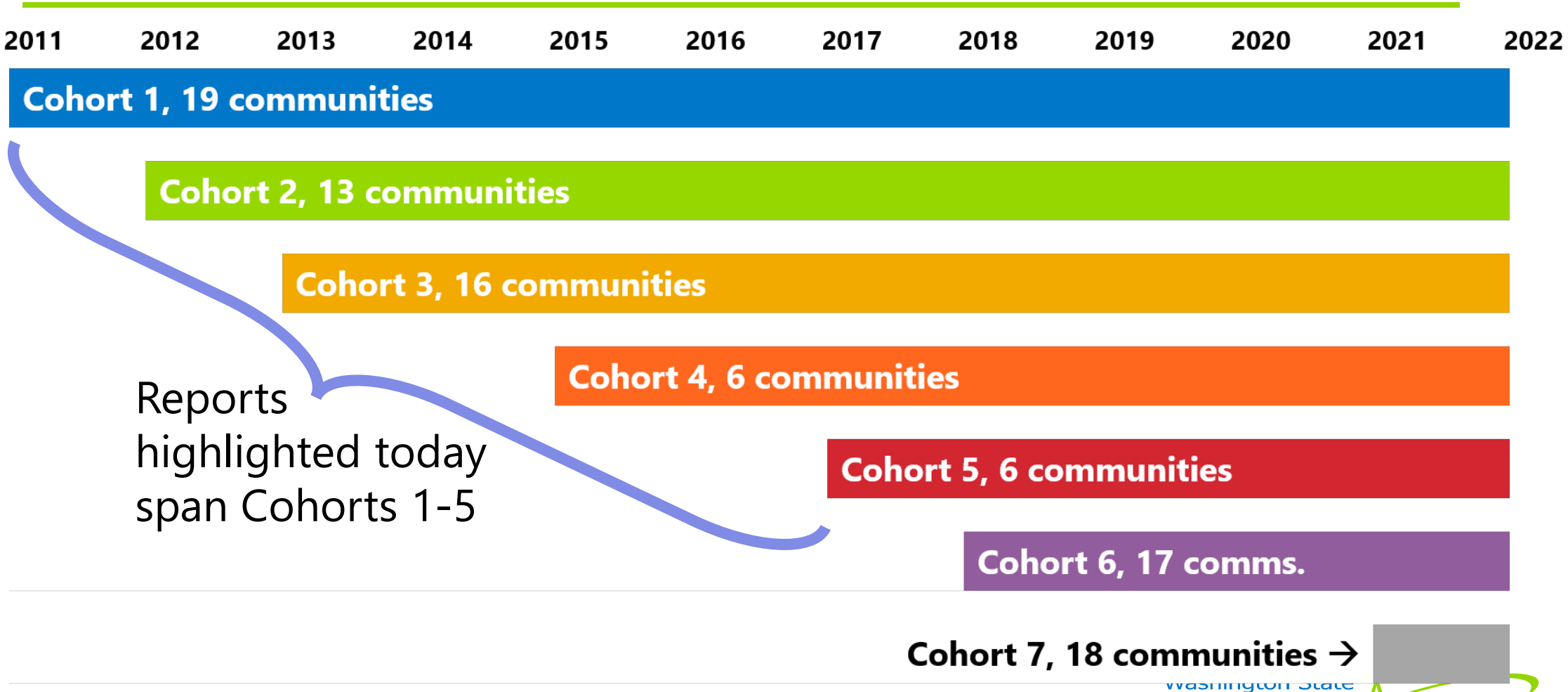
Washington State Health Care Authority

The CPWI Model

CPWI: local solutions to promote community health and well-being.

Washington State Health Care Authority

CPWI Timeline: 95 Communities



Risk Scoring and Propensity Score Weighting

Substance use[1]
- Any alcohol use in past 30 days
- Frequency of alcohol use in past 30 days
- Any cigarette smoking in past 30 days
- Frequency of cigarette smoking in past 30 days
- Any marijuana use in past 30 days
- Frequency of marijuana use in past 30 days

School performance[1]
- Self reported truancy

Youth delinquency[1]
- Self-reported fighting
- Carrying a weapon in school
- Gang membership
- Driving under influence

Mental health[1]
- Depression
- Considering suicide
- Suicide attempts

Economic indicators
- Median household income[2]
- TANF, child recipients[3]
- Food stamps recipients[3]
- Levies due to school district[4]

Demographics
- Total population[2]
- Population density[5]
- Eastern vs. Western WA[6]

CPWI = Community Prevention and Wellness Initiative; TANF = Temporary Assistance for Needy Families

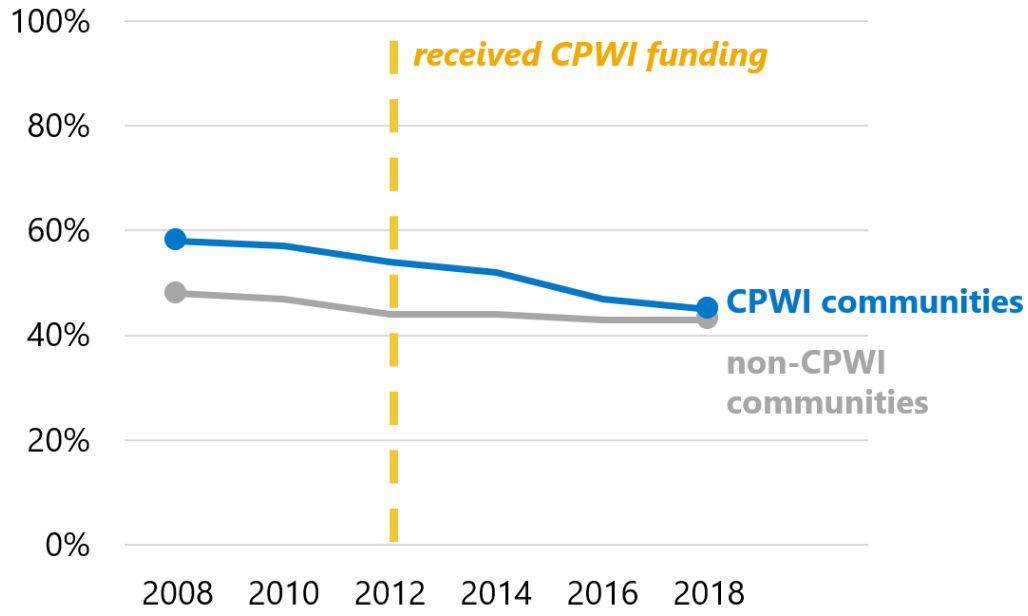
[1]Washington State Healthy Youth Survey, [2] American Community Survey, [3] Washington State Department of Social and Health Services, Division of Research and Data Analysis, [4] Washington State Department of Revenue, [5] Washington State Office of Financial Management, Forecasting and Research Division, [6]Coded by evaluation team with input from HCA

	Impact Over Time	Developmental Trend
Research question(s)	Did the CPWI model **reduce the gap** in substance use and related risk factors between higher-need CPWI communities and lower-need non-CPWI communities?	1. Did **developmentally expected changes** in substance use and related risk factors **differ significantly** in higher-need CPWI communities compared to lower-need non-CPWI communities? 2. How likely is it that positive outcomes for CPWI are **due to chance**?
Analytic approach	Propensity score weighted MLM	
Data sources for propensity score weighting[1]	HYS, American Community Survey, state archival and administrative data, codes for Eastern and Western regions of Washington state	
Data source for outcomes[2]	HYS data (10th grade): 2008, 2010, 2012, 2014, 2018	HYS data (6th, 8th, 10th, 12th grade): 2008, 2010, 2012, 2014, 2018

CPWI = Community Prevention and Wellness Initiative; MLM = multilevel modeling, a type of hierarchical regression analysis; HYS = Washington State Healthy Youth Survey

Impact Over Time: Question and Approach

- Question
  - Did CPWI communities **close the gap** with non-CPWI communities in substance use and related risk factors from pre- to post-test?
- Approach
  - WA Healthy Youth Survey data
  - Propensity score analysis
  - Multilevel Modeling



Baseline (T1) and post-intervention time points for the cohorts are as follows:

	Cohor (Funding start 2011)		Cohort 2 (Funding start 2012)		Cohort 3 (Funding start 2013)		Cohort 4 (Funding start 2015)		Cohort 5 (Funding start 2017)	
	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
HYS	2008	2018	2010	2018	2010	2018	2014	2018	2016	2018

Washington State Health Care Authority

Overview of Results

Closed Gap

Did Not Close Gap

No Initial Gap

Alcohol Use	Cohort 1	Cohort 2	Cohort 3	Cohort 4	Cohort 5
Lifetime use					
Past-month use					
Frequency of past-month use					
Binge drinking, past two weeks					

Cigarette Use	Cohort 1	Cohort 2	Cohort 3	Cohort 4	Cohort 5
Lifetime use					
Past-month use					
Frequency of past-month use					

Marijuana Use	Cohort 1	Cohort 2	Cohort 3	Cohort 4	Cohort 5
Lifetime use					
Past-month use					
Frequency of past-month use					

Shrestha, G., Cooper, B. R., & Hill, L. G. (2019, June). Community Prevention and Wellness Initiative: Impact over time analysis report. *Washington State Department of Social and Health Services*.

Developmental Trend: Questions and Approach

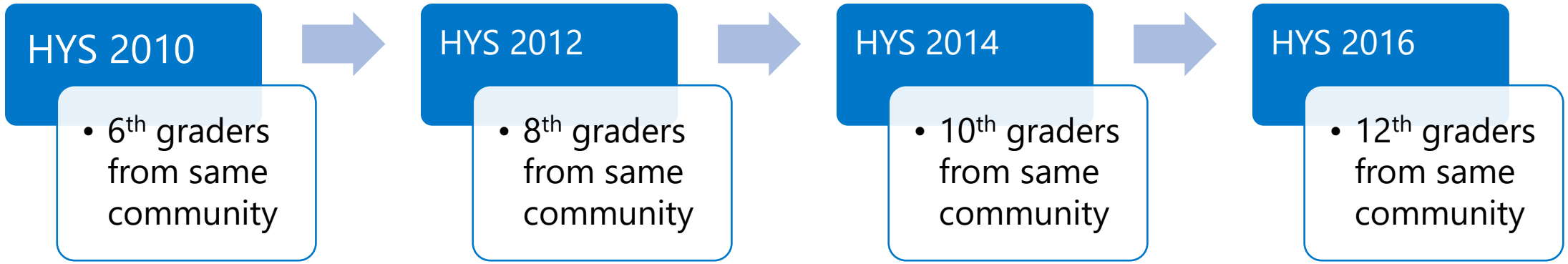
#1. Did developmentally expected change in substance use and related risk factors differ significantly in CPWI communities compared to non-CPWI communities?	Propensity score weighted regression modeling

#2. What is the probability that the positive outcomes for CPWI are due to chance?	Binomial probability calculation

Developmental Trend Approach

Who is included in the analysis?

Linked grade cohorts of students who filled out the Healthy Youth Survey from 2010 to 2018.



Washington State Health Care Authority

Developmental Trend: Question 1 Results

#1. Did expected changes over time in substance use and related risk factors differ significantly in CPWI communities compared to non-CPWI communities?

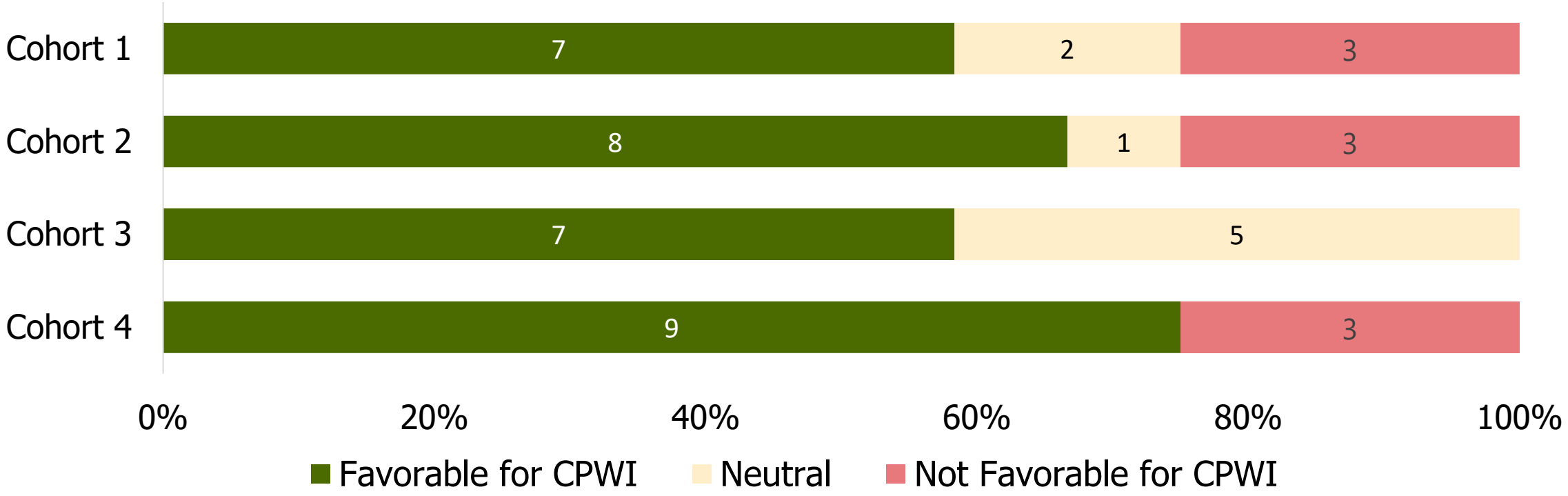
Propensity score weighted regression modeling

Substance use increased in both CPWI and non-CPWI communities.

BUT, the increase in most substance use outcomes was **significantly less steep in CPWI communities** compared to non-CPWI communities.

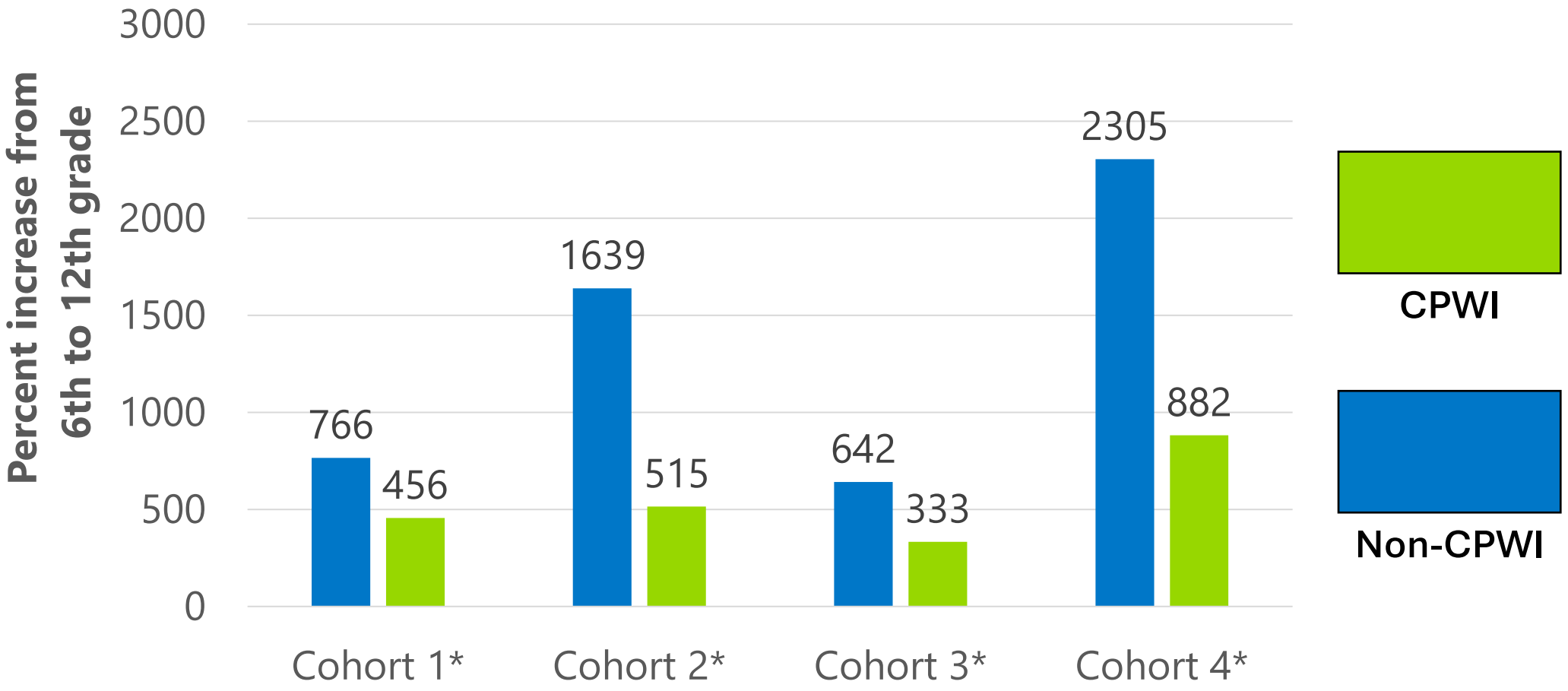
Developmental Trend: Substance Use Outcomes

Most results for substance use outcomes were favorable for CPWI.



Washington State Health Care Authority

Example: 30-day alcohol use

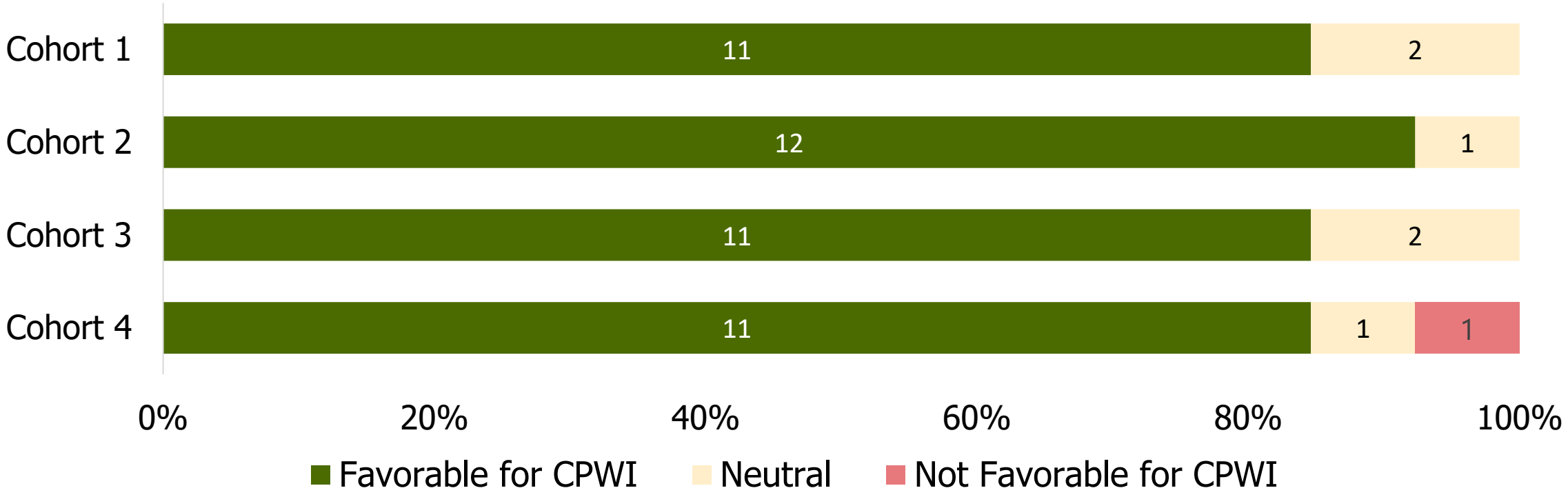


*p<.05

Washington State Health Care Authority

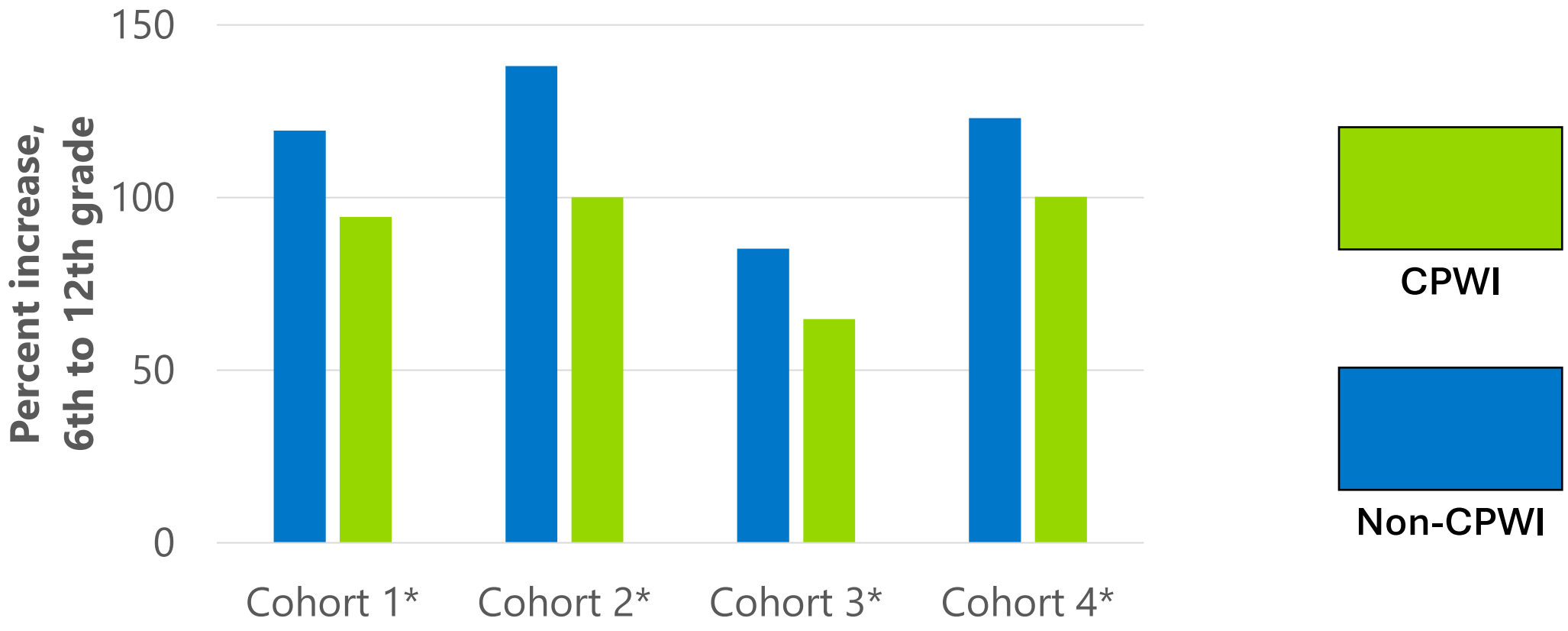
Developmental Trend: Risk Factor Outcomes

Most results for risk factors were favorable for CPWI.



Washington State Health Care Authority

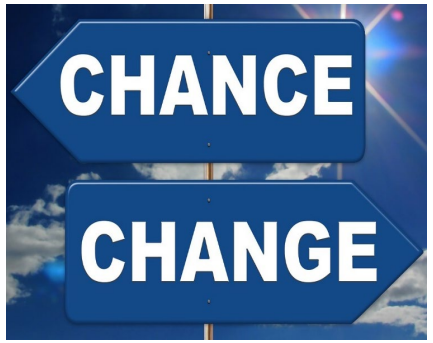
Example: Favorable Attitudes Towards Drug Use



*p<.05

Washington State Health Care Authority

Evaluation Question #2

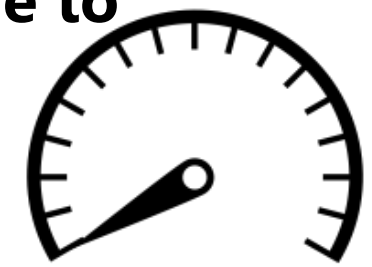


#2. What is the probability that the positive outcomes for CPWI are due to chance?

Binomial probability calculation

The probability that the pattern of positive results is due to chance is extremely low.

- Cohorts 1 and 4 = 0.2%
- Cohorts 2 and 3 = 0.1%



Washington State Health Care Authority

Take Home Messages

Impact Over Time

- CPWI is showing **positive impact**, especially in the alcohol domain
- CPWI communities are "**catching up**" with lower-need communities
- Non-CPWI services may have contributed to these results
  - Subsequent Longitudinal MLM analyses suggest **CPWI and length in CPWI** are drivers

Developmental Trend

- CPWI is **slowing the trajectory of increase** in adolescent substance use and related risk factors
- CPWI communities are "**catching up**" with lower-need communities
- Non-CPWI services may have contributed to these results
  - Subsequent Longitudinal MLM analyses suggest **CPWI and length in CPWI** are drivers

Questions?

- Jaymie Bockelman, Prevention Research & Evaluation Manager, DBHR
  - Jaymie.bockelman@hca.wa.gov
- Gitanjali Shrestha, WSU IMPACT lab
  - gshrestha@wsu.edu