



BREAKTHROUGH

Randomized Controlled Trial Results on CATCH My Breath

 **UTHealth Houston**
School of Public Health


MICHAEL & SUSAN DELL
CENTER for HEALTHY LIVING

CATCH[®]
GLOBAL FOUNDATION

Our Moderator



Duncan Van Dusen, MPH

Founder & CEO
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Today's Panelists



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PhD**

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Dr. Dale Mantey, PhD

**Assistant Professor, Dept of Health
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Marcella Bianco

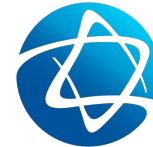
Director, Government Partnerships
CATCH Global Foundation

Welcome Partners!

United States



International



The Civil Society Voice in Education



Mission

We champion child health by empowering educators with curriculum, training, and ongoing support to foster communities that thrive in mind, heart, and body.



Annual reach
4,300,000 kids

47% of whom are low-income



2.1 million

digital lessons accessed cumulatively
over the past six years



Used by
16,500 educators

from all 50 states and 27 other
countries in the school year 2024-2025



\$20.2 million

in youth health education programming
delivered to communities over 11 years

(84 cents of every dollar of revenue goes to Community Programs)

Our Proven-Effective Approach



Curriculum

- Largest evidence-base of effectiveness
- Skills-forward approach
- Standards-aligned
- Online platform (SSO via Clever & ClassLink)
- Bilingual English & Spanish content



Professional Development

- Boosts utilization and subject confidence
- Engaging and FUN
- In-person, virtual, and self-paced
- Basic, booster, and advanced levels
- Fosters teamwork and health champions



Policy, Systems, & Environment

- Needs assessments and goal setting
- Coordinated Whole Child implementation
- Promoting best practices and systems
- Institutionalization for sustainability
- Technical support and assistance



Health Ed Journeys



PE Journeys



SEL Journeys



CATCH My Breath



Substance
Misuse Prevention



CATCH
Healthy Smiles



Sunbeatables[®] &
Be Sunbeatable[™]

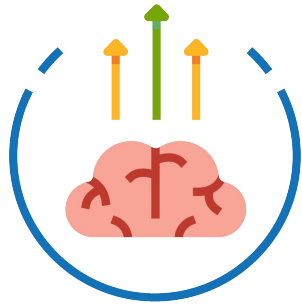


Kids Club (OST)



Early Childhood

Our Proven Formula



**Knowledge
Building**

+



**Skill
Building**

+



**Environmental
Support**

Unique to
CATCH My Breath

=



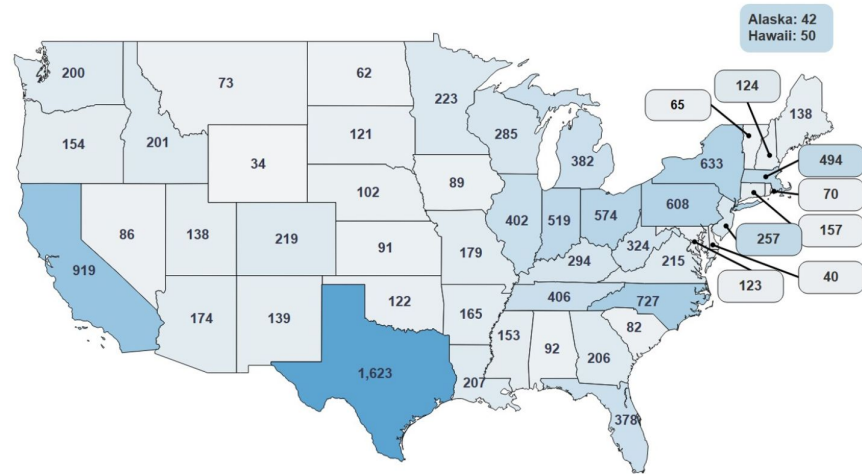
**Healthy
Decision-Making**

Community-Wide Impact



TOTAL PROGRAM REACH
2 million students and counting!

- ✓ **Over 5,500** schools
- ✓ **90%** of large-mega districts have one or more CATCH My Breath users
- ✓ **Over 750** CATCH My Breath trainers implementing the program in their communities





MICHAEL & SUSAN DELL CENTER *for* HEALTHY LIVING



Healthy children in a healthy world.

We advance health and healthy living for children and families through cutting-edge research, innovative community-based programs, and dissemination of evidence-based practices.

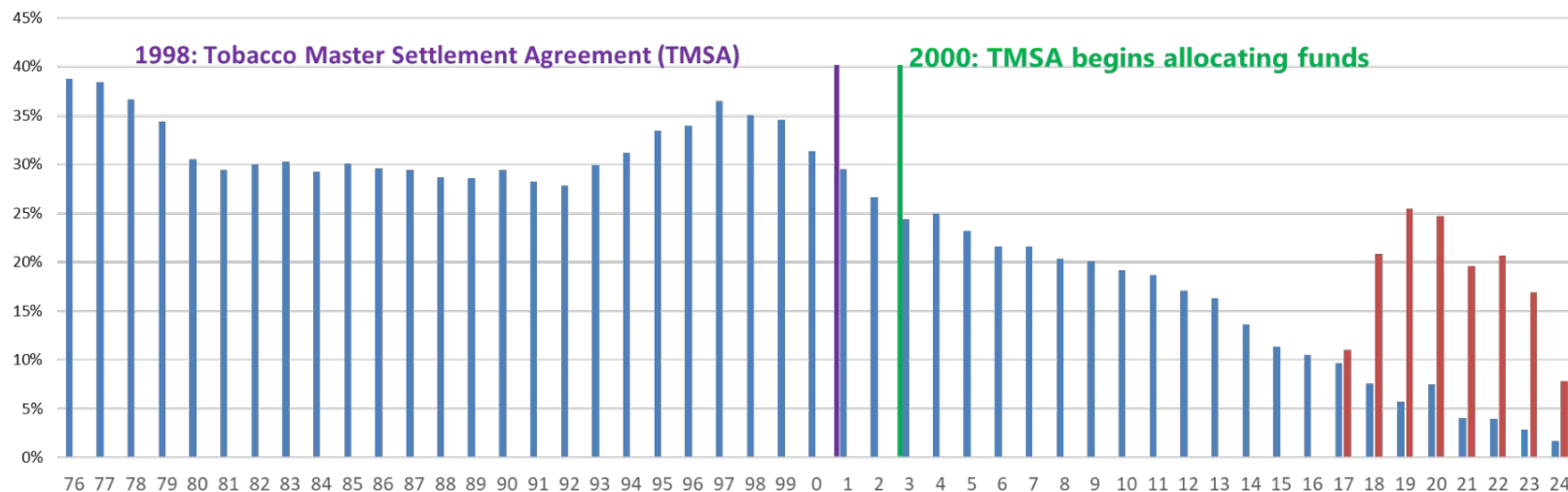
STRATEGIC PLAN GOALS



E-Cigarette Use among Youth

12th Grade Current Cigarette Use

12th Grade Current Nicotine Vaping



Acute Health Consequences

Respiratory Irritation Vaping can trigger coughing, throat irritation, wheezing, and even bronchospasm shortly after use.

Headaches, Dizziness & Nausea Nicotine and other vape chemicals can cause acute neurological symptoms that reflect the body's immediate reaction to nicotine and inhaled aerosol irritants.

Anxiety & Irritability Youth often experience mood changes with vaping. The nicotine rush leads to jitteriness or anxiety; withdrawal causes irritability.

Elevated Heart Rate and Blood Pressure Nicotine is a stimulant that causes an adrenaline surge. Over time, repeated spikes strain the cardiovascular system.

Chronic Health Consequences

Nicotine Addiction Nicotine is highly addictive and vaping delivers it in potent doses that can harm brain development, impairing attention and impulse control

Mental Health Effects Higher rates of depression, mood disorders, and sleep disturbances are reported among adolescents who vape compared to non-users.

Gateway to Smoking Adolescent vaping is strongly associated with subsequent tobacco use. Early nicotine addiction via vaping can transition into lifelong combustible tobacco use.

Lung Damage Chemical irritation and inflammation over time may lead to bronchitis, reduced lung function, or even permanent scarring (Chinese or blackmarket cartridges)

Cardiovascular Issues The heart and blood vessels suffer with long-term e-cigarette use, mirroring some effects seen with traditional smoking.

Delaying first time use reduces later risk for:



Substance Use



Substance Use Disorders



Overdose

Youth substance use is associated with increased risk for:

- Using other substances
- Delinquency
- Academic underachievement
- Teen pregnancy
- Sexually transmitted infections
- Perpetration of, or experience with, violence, injuries
- Mental health problems

COGNITIVE

Personal abilities for processing information

- Build confidence with mastery experiences
- Build outcome expectations, positive or negative

SOCIAL

Health-enhancing or health-compromising

- Refusal Skill Practice
- Writing or verbalizing goals

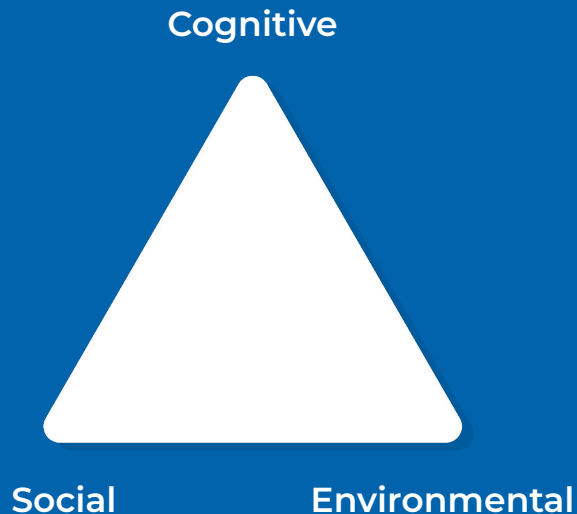
ENVIRONMENTAL

Physical & social factors affecting behaviors

- Create opportunities; remove barriers
- Correct misperceptions

Social Cognitive Theory

Behavior is the result of three factors:



Six Abatement Strategies

- 1. Surveillance/Evaluation of E-Cig**
 - Quantitative. Ages 9-26 E-Cig use
 - Qualitative. School, student, parent, stakeholder
 - Data analysis and reporting
- 2. Community organization, information exchange**
 - DOI Stakeholder training & advocacy
 - Community health assessment
 - Health improvement planning
 - Optimizing 6 strategy allocation
- 3. Counter vaping mass media**
 - Target youth, adults, parents, state and local stakeholders
 - Identify Innovators and Early Adopters
 - Tailor to local languages
- 4. School and parent education**
 - PreK - 12th program & curriculum
 - College/workforce awareness
 - CEU/In-service for teachers
 - Anti-nicotine school policies
 - In-school small media
 - Parent presentations and digital education
- 5. Youth anti-vaping policies**
 - Restrict E-Cig access: online, retail, social
 - Enforcement of ENDS age of sale
 - In/out-door clean air laws
 - Retail licensure & enforcement
 - Price Increase
- 6. Availability of cessation services**
 - At school counseling and alternatives to suspension
 - Pediatrician network
 - Text and internet based

Change Methods

- 1. Surveillance/Evaluation on E-Cig**
 - Annual survey behaviors / predictors
 - Formative & process evaluation
 - Key informant interviews
 - Secondary data analysis of E-cig use and Nielson E-Cig product activities
- 2. Community organization, information exchange, advocacy**
 - Dedicated abatement staff
 - Community of practice task force
 - IM & IpM mapping by subject experts
- 3. Counter vaping mass media**
 - Tailored, quarterly media campaigns
 - High reach and frequency
 - Social media, TV, radio, billboards
 - Event sponsorship
- 4a. School programming**
 - PreK-12 district/school coordination
 - Developmentally appropriate strategy
 - Creating nicotine free norms
 - Active & cooperative learning
 - Peer involvement & refusal rehearsal
 - Teacher/admin/board/nurse training
 - District internal communications
- 4b. Parent engagement**
 - Parent information sessions
 - Web/video education for parents
 - Anti-vaping parenting skills
- 5. Youth anti-vaping policies**
 - School district E-cig tobacco control
 - E-Cig retail licensing and enforcement
 - Excise tax increase; Non-Preemption
- 6. Access to cessation services***
 - School referral
 - MI behavior counseling
 - Anxiety control with mindfulness
 - NRT, with physician approval

Change Objectives

- 1. Youth increase:**
 - Knowledge of e-cig risks
 - Negative outcome expectations
 - Positive nonuse outcome expectation
 - Refusal skills & Refusal self-efficacy
 - Perceived susceptibility to harms
 - Norms for non-use
 - Media literacy skills
 - Policy advocacy skills
 - Social support for quit attempts
 - Nicotine withdrawal coping skills
 - Positive quitting outcome expectations
- 2. Youth and young adults decrease:**
 - Perceived E-Cig social acceptability
 - Intentions/curiosity to use
 - Susceptibility to use
 - Anxiety of withdrawal symptoms
- 3. Parents increase:**
 - Knowledge of E-Cig risks
 - Perceived child susceptibility
 - Self-efficacy for rules and monitoring
 - Positive outcome expectations
- 4. Teachers and staff increase:**
 - Knowledge of E-Cig risks
 - Skills and self-efficacy for effective health behavior change instruction
 - School tobacco control advocacy
- 5. City/County/School staff increase:**
 - Knowledge of E-Cig company activities, E-Cig youth problems and solutions
 - Collective efficacy to solve E-Cig problems
 - Advocate for youth E-Cig prevention and cessation programs and policies

Performance Objectives

- 1. Students will...**
 - Make the nonsmoking decision
 - Refuse E-Cigs when offered
 - Promote anti-vaping messages
 - Assist & refer peers to smoking cessation services
 - Advocate for E-Cig control
- 2. Parents will...**
 - Talk about the importance of remaining tobacco and ENDS free
 - Make family rules regarding E-Cig
 - Monitor child's free time
 - Know child's friends & parents
 - Advocate for E-Cig control
- 3. Schools/Districts will...**
 - Integrate E-Cig prevention into curriculum and school policy
 - Monitor implementation, outcomes & produce annual report
 - Enforce E-Cig school policies
 - Conduct E-Cig continuing education
 - Facilitate access to addiction services
 - Advocate for E-Cig control
 - Hire dedicated staff to manage the 6 abatement recommendations
- 4. County/Community will...**
 - Conduct E-Cig abatement trainings
 - Conduct stakeholder meetings
 - Monitor implementation, outcomes & produce annual report
 - Inform and advocate for E-Cig control policies
 - Implement and enforce E-Cig control policies (e.g., age of sale)
 - Facilitate access to addiction services
 - Advocate for E-Cig control
 - Hire dedicated staff to manage the 6 abatement recommendations

E-Cig Prevention Logic Model

Behavioral Outcomes

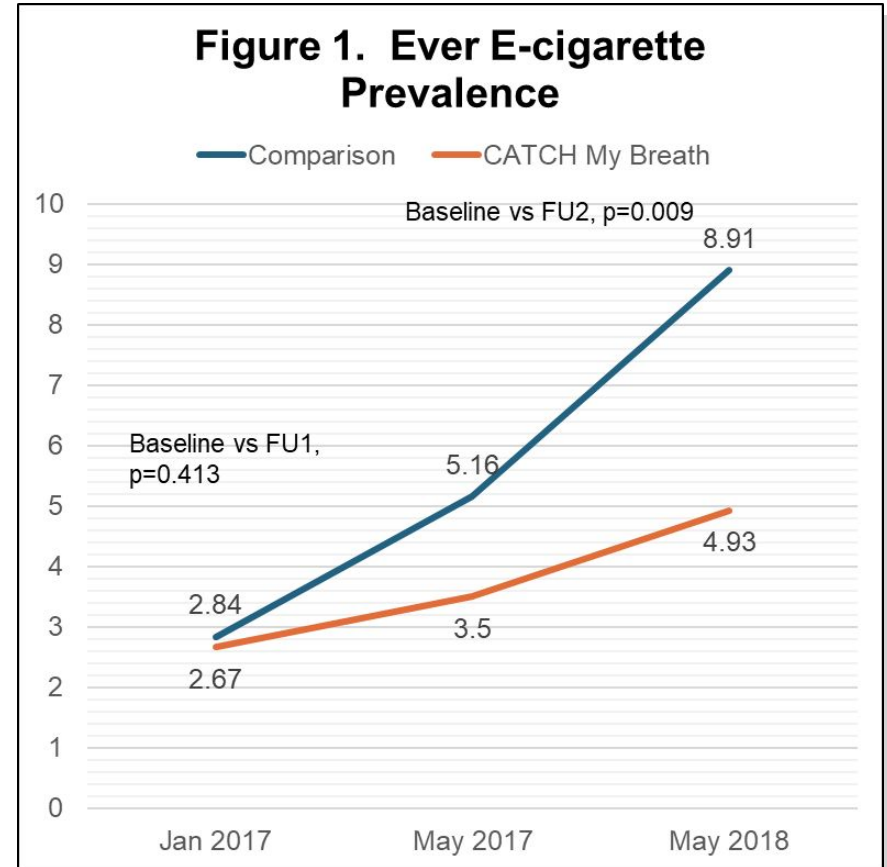
- 1. Five-year Steep & Downward E-Cig Trajectory:**
 - Initiation/Ever Use
 - Current/Daily Use
 - Dual/Multi Use
- 2. Increased Quit Attempts**
- 3. 15-month cessation**

Quality of Life

- 1. Health QOL**
Decreased likelihood of:
 - Lifetime addiction to nicotine
 - Impaired nicotine induced brain development
 - Toxin exposure and respiratory impairment
 - Fetal exposure to nicotine and associated impairments
- 2. Social QOL**
Decreased likelihood of:
 - School disciplinary actions
 - Parental punishment
 - Police involvement
 - Medical and social costs
 - Damaged reputation

Pilot Evaluation

- A convenience sample of **19 public schools in Central Texas** were invited.
- Positive intervention effects were found at **16-month follow-up** including: 46% fewer students reporting ever use of e-cigarettes and marginally significant reduction in susceptibility.



Randomized Control Trial (RCT) of CATCH My Breath

Primary outcome of interest was lifetime (ever) e-cigarette use.

Secondary outcomes were social cognitive determinants of e-cigarette initiation: **(1)** negative outcome expectations; **(2)** positive outcome expectations; **(3)** normative beliefs; and **(4)** refusal skills.



COVID-19 Considerations

Participants

Sample demographics

- 50.8% female
- 49.2% male
- 55.2% Latino
- ~20.1% non-Hispanic White
- ~7.6% non-Hispanic Black

School demographics

16 schools (69.6%) had +60% of enrollment receiving free/reduced lunch

13 (50%) had +25% English Language Learners

These did not differ by treatment condition or recruitment category.

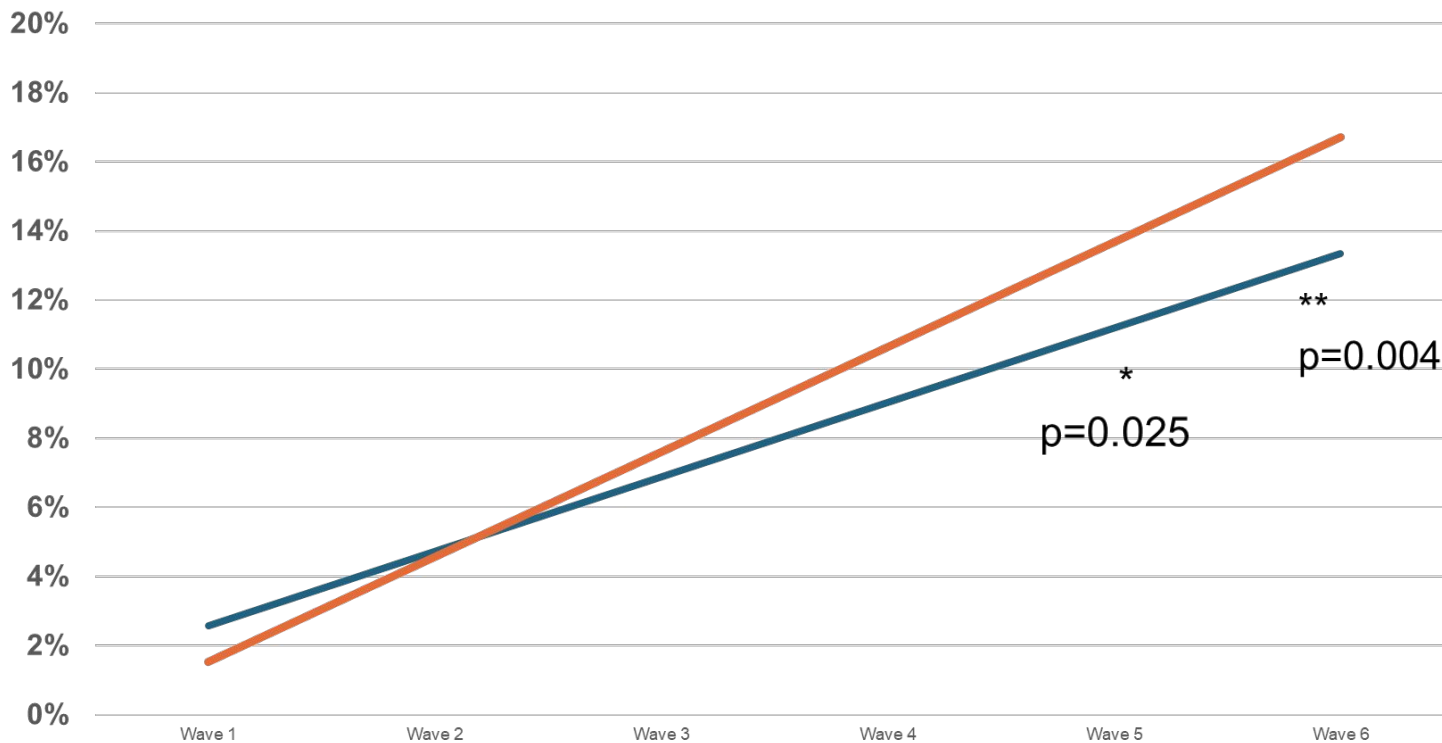


Results

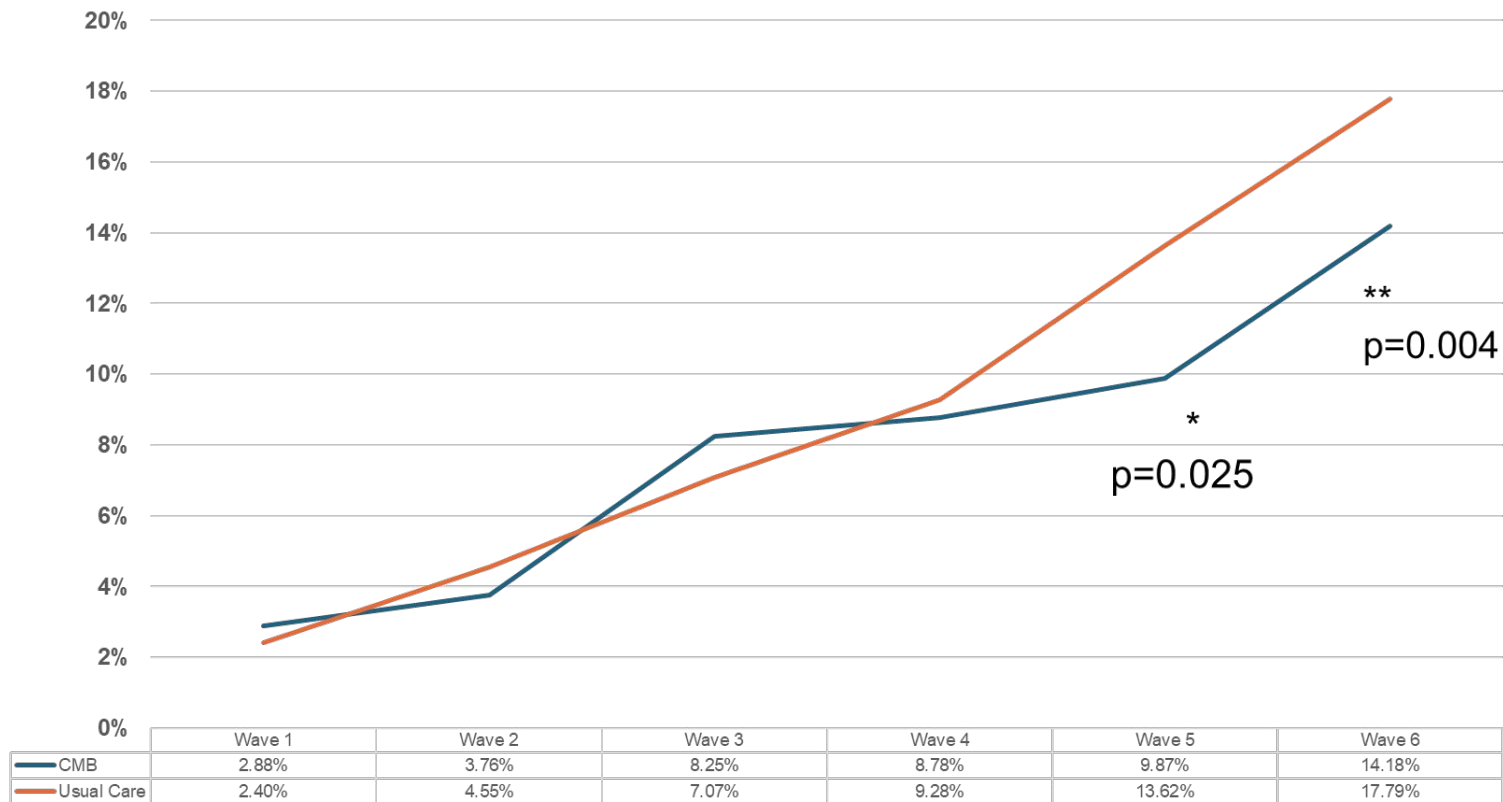
Multi-level models found receiving the CATCH My Breath corresponded with **nearly 4 times lower odds of e-cigarette initiation by 8th grade** during the first semester and second semester.

Youth who received CATCH My Breath had **significantly greater increases in negative outcome expectations** related to e-cigarette use while those in the control condition reported greater increases in normative beliefs towards using e-cigarettes.

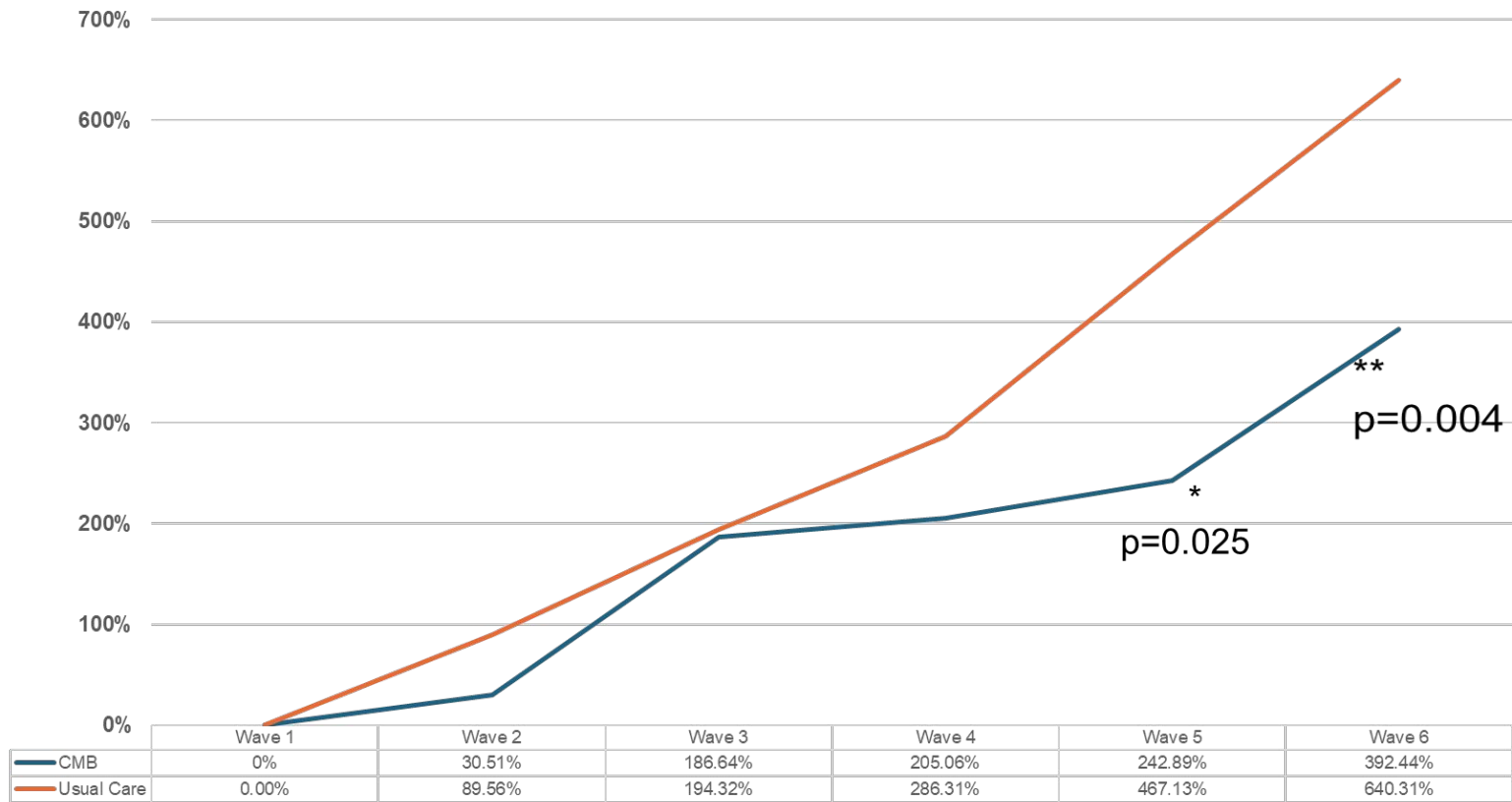
RCT of CATCH My Breath



Initiation Over Time



Proportional Change Over Time



Conclusions

CATCH My Breath is the **first school-based program** to demonstrate effectiveness in **preventing and reducing** youth ever e-cigarette use incidence using a **randomized comparative effectiveness experimental design**.

CATCH My Breath combines **teacher-led content** with **peer-led activities** and is rooted in **Social Cognitive Theory**.

CATCH My Breath has been **widely implemented** in **all 50 states** and is undergoing pilot testing in **14 other nations** (e.g. Canada, Colombia).



CATCH MY BREATH Program Overview

The first evidence-based youth vaping prevention program

Robust Curriculum & Resources



Educational clip from K-4 Parent Toolkit

Core Curriculum

- Grades 5 - 12 (age-tailored)
- 4 lessons, 35 - 40 minutes each
- Educator Guide and slide deck with scripts
- English and Spanish

Parent Toolkit

- How to talk with kids
- Videos and presentations
- English and Spanish

Supplements

- STEM and Humanities
- PE adaptation
- Virtual Field Trips
- Self-paced modules
- Cannabis vaping
- Oral health

Peer Leadership

Central pillar of CATCH My Breath

- Students elect peers to lead small groups through lessons
- Allows students address social pressures in their own voice
- Fosters discussion in their own voice in a safe environment
- Builds empathy for and awareness of others



Professional Development

Key part of evidence-based approach

Option 1

Implementation

Option 2

Train-the-Trainer

Option 3

**Students-
Teach-Students**





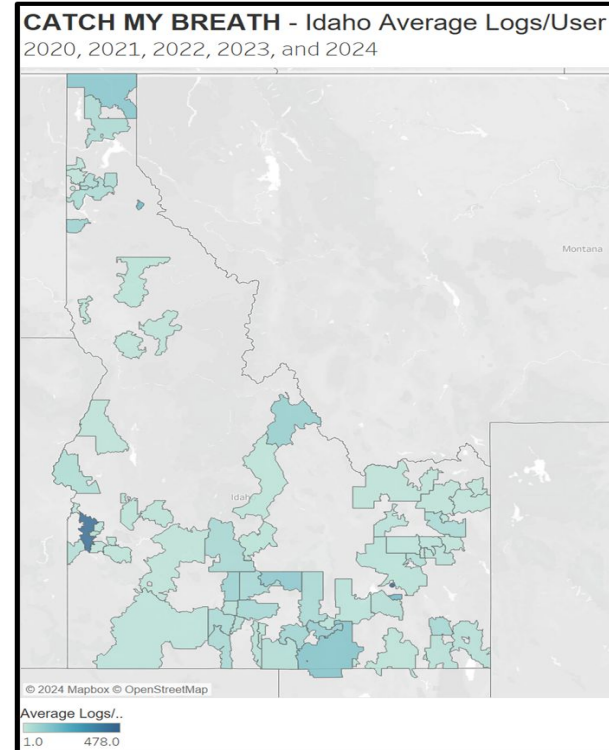
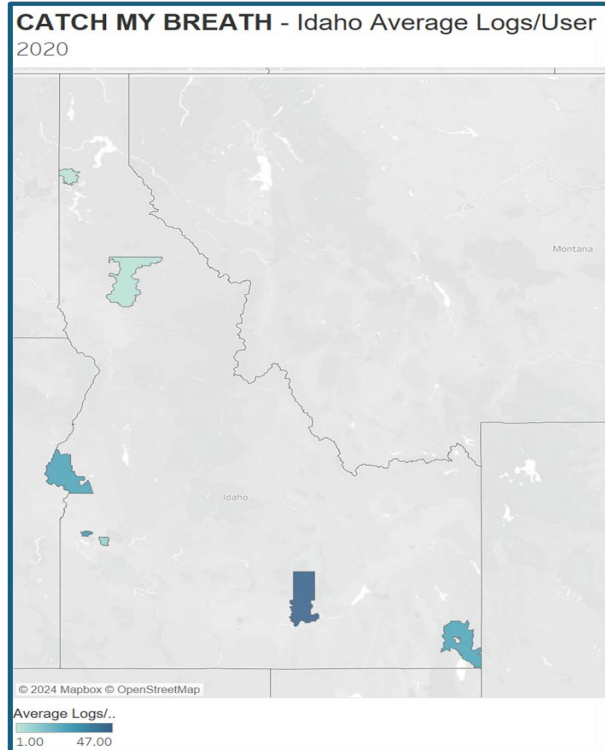
Development and success in Idaho

Students-Teach-Students



2020-2024

CATCH My Breath Usage



It Takes a Village





Students-Teach-Student S

Start with what you have



Training



Grow



CATCH[®]
MY BREATH

Adult Facilitator Training Guide

Students-Teach-Students



CATCH[®]
MY BREATH

Student Facilitator Training Guide

Students-Teach-Students

Student Training

1. Introductions & Overview
- 2. Program Overview**
3. Expectations & Tips
4. Mini Mock Presentations
5. Sign-ups & Close Out



Student Impact



What's Next?



Students-Teach-Students Professional Development



- Bring CATCH My Breath to your school
Visit catchmybreath.org
- Explore more CATCH programs
supporting whole-child wellness
Visit catch.org/programs
- Share the webinar with a colleague or
district leader
- Claim your CHES/MCHES® CE credit



Q&A
Any questions?

Thank You

Questions? Contact Us!

catch.org

msdcenter.org

@msdcenter



@CATCHhealth



Evidence Base

Additional Evaluations

West Virginia: declines in e-cigarette normative behaviors and past 30-day (current) use

- **Burchfield et al., 2024 - CATCH My Breath evaluation (2019–23)**

Canada: improved knowledge and norms among high school students

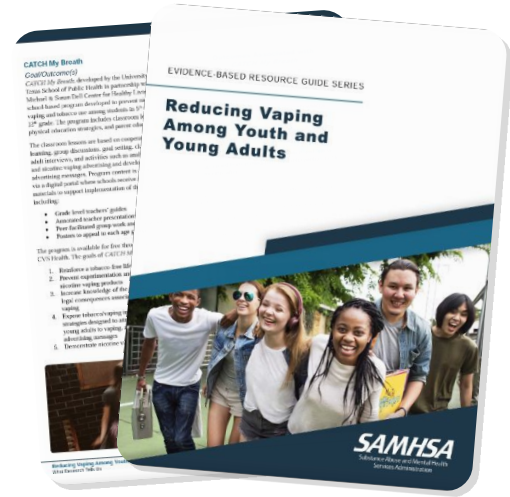
- **Cole et al., 2024 - CATCH My Breath high school pilot (Ontario)**

Teacher Perceptions: increase self-efficacy and professional development

- **Moosbrugger et al., 2023 — Pre-service teachers implementing CATCH My Breath**

Federal Recommendations (SAMHSA)

- **SAMHSA, 2020 — Reducing Vaping Among Youth & Young Adults**



SAMHSA-Recommended

For citations and papers, see
<https://catch.org/proven-effectiveness#research>