



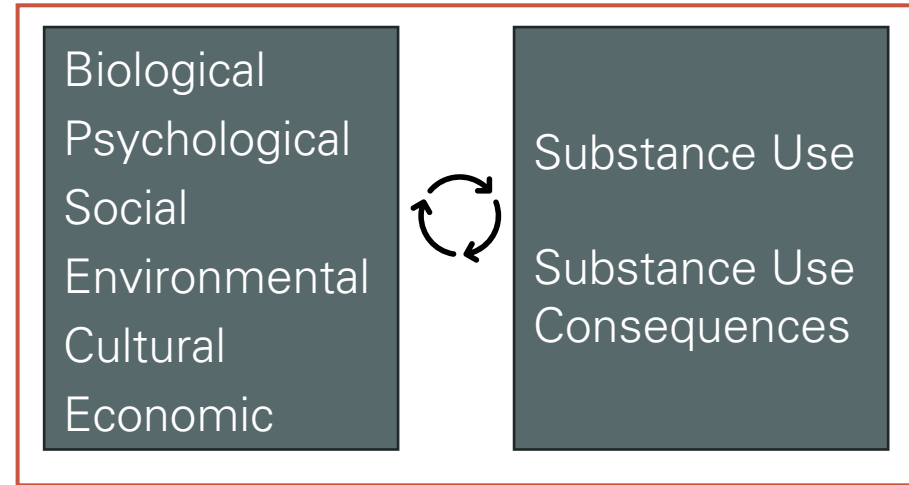
Prioritizing Intervening Variables/Strategies and Developing Your Logic model

06/29/2023

Areas of Focus

1. Intervening variables (IVs) for substance misuse
2. Prioritization and decision-making processes related to IV selection
3. Prevention strategy selection criteria
4. Components of a community-level logic model
5. Linkages between IVs, strategies, and short- and long-term outcomes

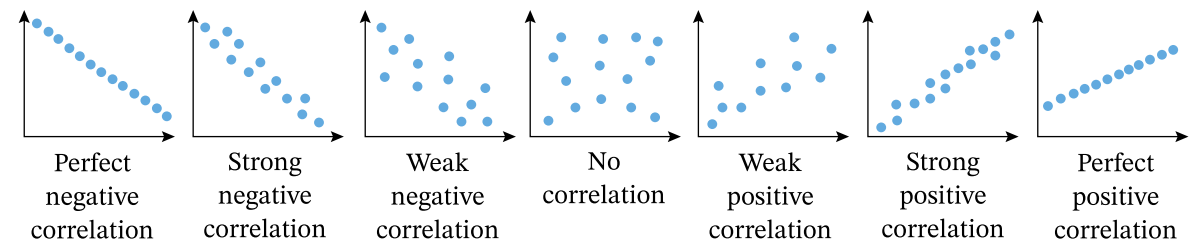
Intervening Variables: Definition



Biological, psychological, social, environmental, cultural, and economic factors **related** to substance use and consequences of use.

Intervening Variables

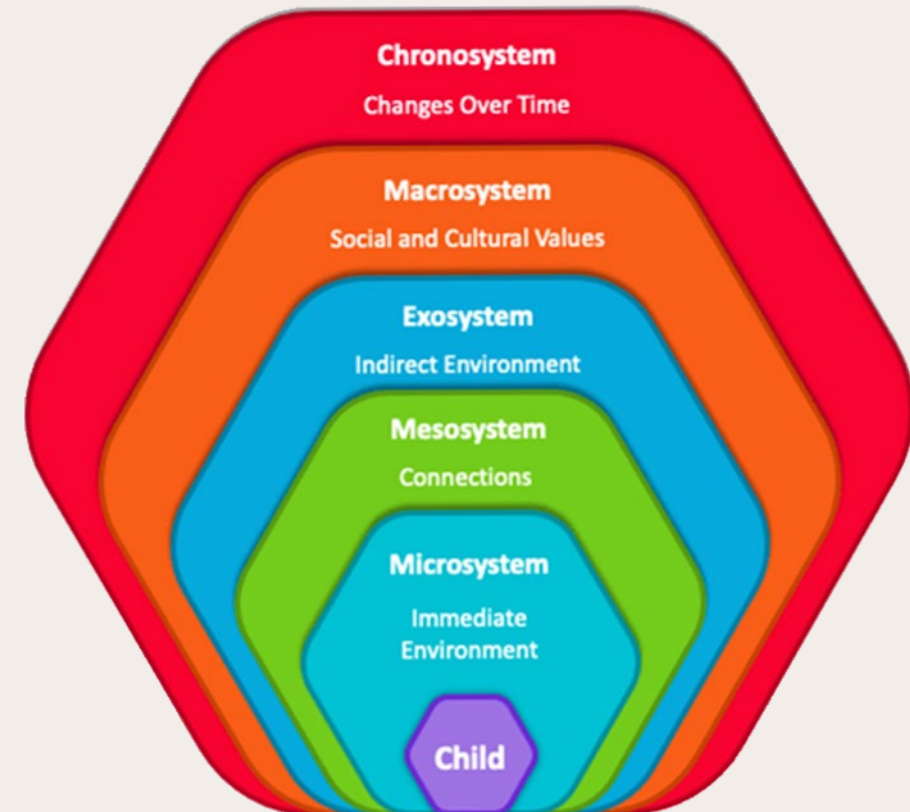
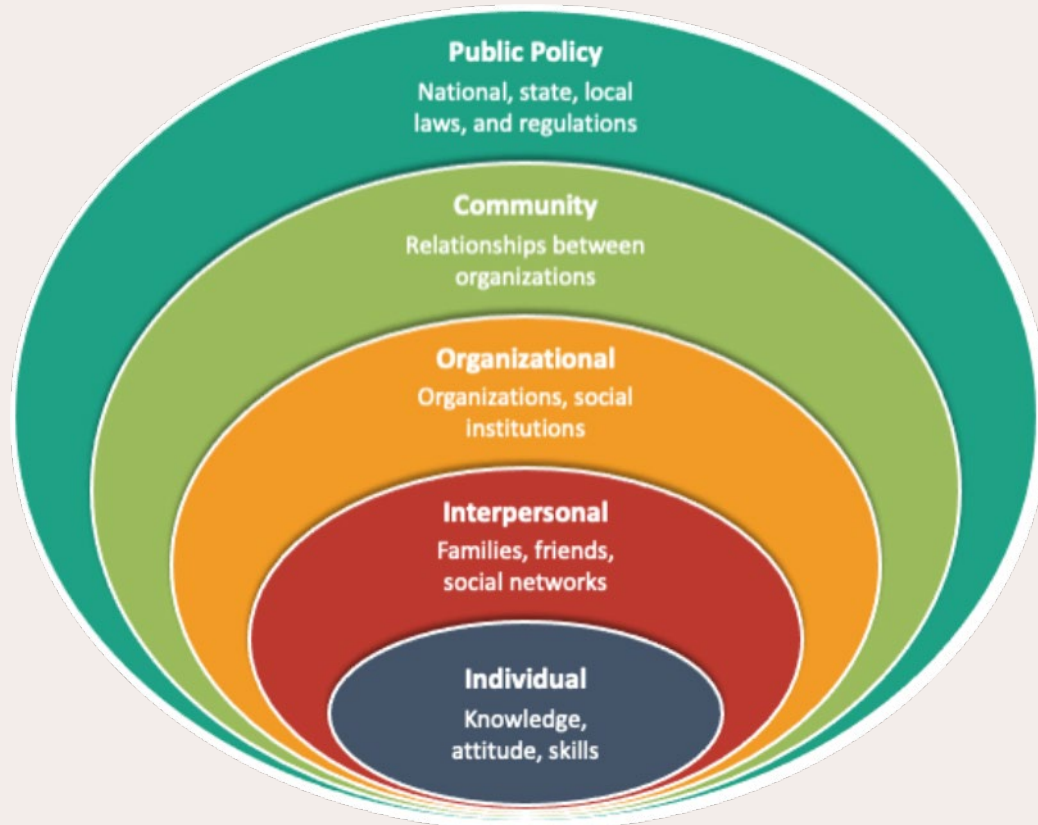
Related means that the value of one variable (substance use) changes based on the value of another variable (parental communication) and vice-versa.

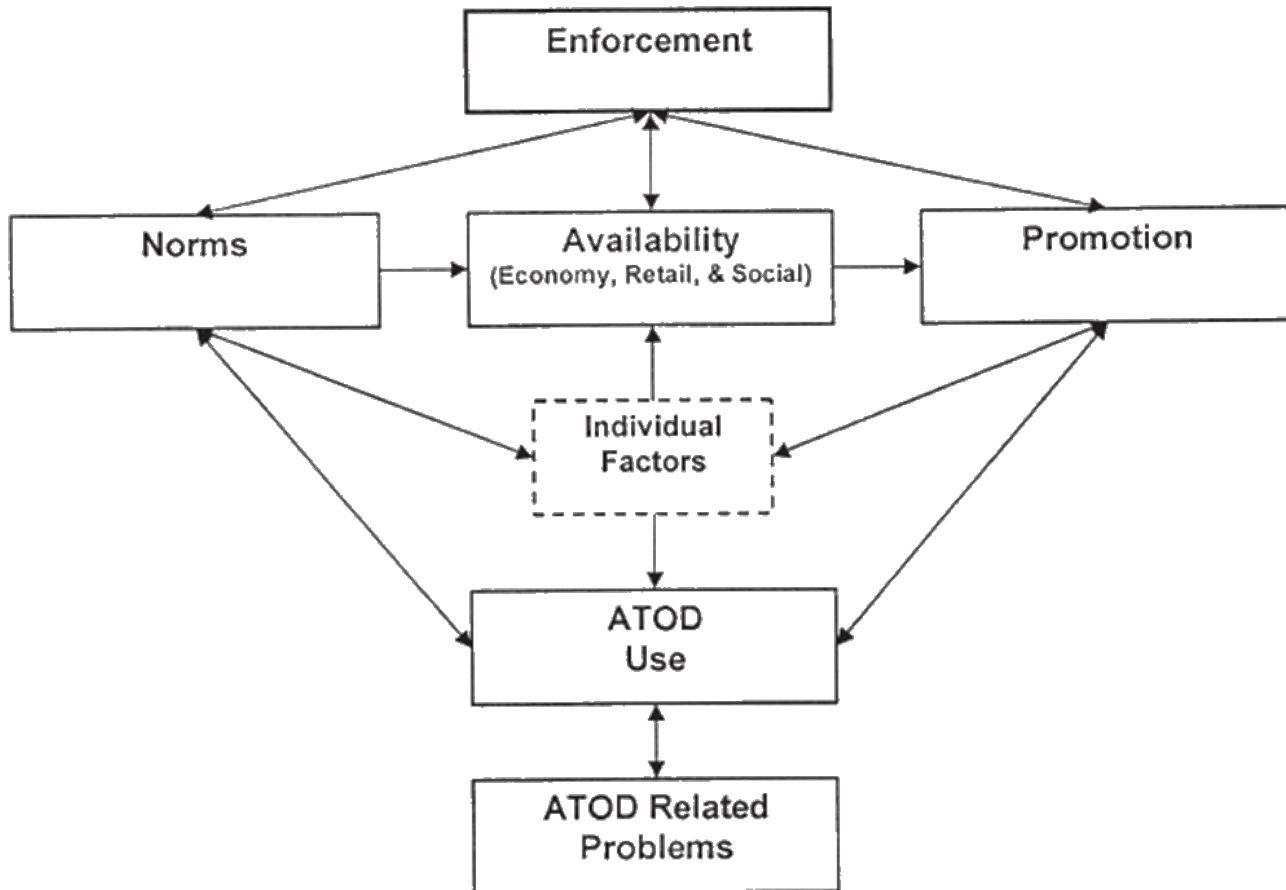


Intervening Variables: Ecological and Systems Theory Perspective

Individual behavior is influenced by a complex web of social influences and environmental interactions

Intervening variables represent *potentially modifiable* points within and/or across levels of influence.





Intervening Variables: Comprehensive Approach

Interconnectedness and complexity argues for considering multiple:

- Related IVs and/or
- Levels Domains and/or
- Centered groups or settings

Embodiment of a comprehensive approach to prevention



Potential Data Sources

Key Stakeholder Interviews

Focus Groups

Surveys

Geographical mapping (e.g., outlet density)

School / Early Childhood Organizational Data

Hospital Data

Police Data

Treatment Provider Data

Intervening Variables: Assessment and Examination



Before getting to intervening variables:

1. Nature of the **issue**
2. How **severe** the issue is
3. How has it **changed** over time
4. Any specific groups who are **disproportionately impacted**
5. Areas impacted – **when** and **where** the issue occurs

Intervening variables

1. Factors that **contribute** to the issue
2. Factors that help address or **mitigate** the issue.

Intervening Variables: Brief List of Examples



Community norms favorable to use
Low levels of enforcement
Intergenerational trauma
Stigma
Availability / Ease of Access – retail
Academic failure
Perception of parental disapproval or attitude
Family communication
Parental monitoring or family management practices
Chaotic home environment
Availability / Ease of Access – home
Perception of peer disapproval or attitude
Perception of harm / risk
Lack of awareness of resources
Stress and anxiety
Poor social skills / coping skills

Cultural identity and pride
Effective school policies
Strong bonds with family, school, community
Opportunities for positive social involvement
Positive school climate
Attachment to school
Strong relationships with adults
Intergenerational relationships
Collaborative family-school partnerships
Parent / caregiver engagement
Parent / caregiver self-efficacy
Good parenting skills
Parental supervision
Clear parental expectations and consequences
High self-esteem and problem-solving skills
Good mental, physical, spiritual and emotional health

Intervening Variables

Questions about intervening variables?

Crowdsourcing collective wisdom from colleagues about specific IVs or processes



Intervening Variable: Prioritization

Importance

How a specific IV affects a problem

How much does the IV contribute
to our priority need?

Changeability

Community capacity to influence the IV

Do we have the readiness, capacity, and
resources to address the IV?

Is there a suitable program or practice to
address this IV?

COMMUNITY FIT

Importance

Community Readiness

Relevance

Political Will

Cultural Alignment

Potential for
Unintended
Consequences

SUPPORTING EVIDENCE

Supported by
Qualitative and
Quantitative Data

Qualitative &
Quantitative

Data Quality

Corroborated by
Different Sources

Logically linked to the
issue of interest

ACTION AND CHANGE

Proximity to Issue of
Interest

Changeability

Prevention Capacity

Feasibility

Resource Availability

Timeline

Redundancy with
Existing Efforts

LASTING IMPACT

Ability to Measure
Outputs and Outcomes

Sustainable

Partner Buy-In and
Involvement

Regional in Nature

Linkages to Other IVs

Related to Other
Health, Behavioral
Health, Community
Issues

Intervening Variable Prioritization:
Beyond Importance and Changeability

Intervening Variables: Sample Prioritization Questions

Generate questions for each prioritization criteria:

1. Is this IV **important/relevant** to our community?
2. Do we have a good understanding of **how this IV operates**?
3. Does this IV operate in the same or similar ways across all segments of the community and within **all populations**?
4. Does a broad group of **stakeholders support** this IV?
5. Is this IV supported by good **data** from multiple sources?
6. Can this IV be changed or **modified**?
7. Are there **capacity and resources** available or that could be developed to address the intervening variable?
8. Are **other efforts** in place to change this variable?

Intervening Variable

Sample Decision-Making Processes

Informed Experts

Small group of core planning group members attempt to reach consensus

Workgroups

Intervening variable workgroup is tasked with making decision

Cluster Approach

Each cluster solicits input and reports to core planning group

Inclusive Approach

Town hall style presentation, discussion, and prioritization

Point of Reflection

Did the IV assessment process provide adequate opportunity for community input?

Are there missing perspectives?

Was the assessment comprehensive and inclusive?

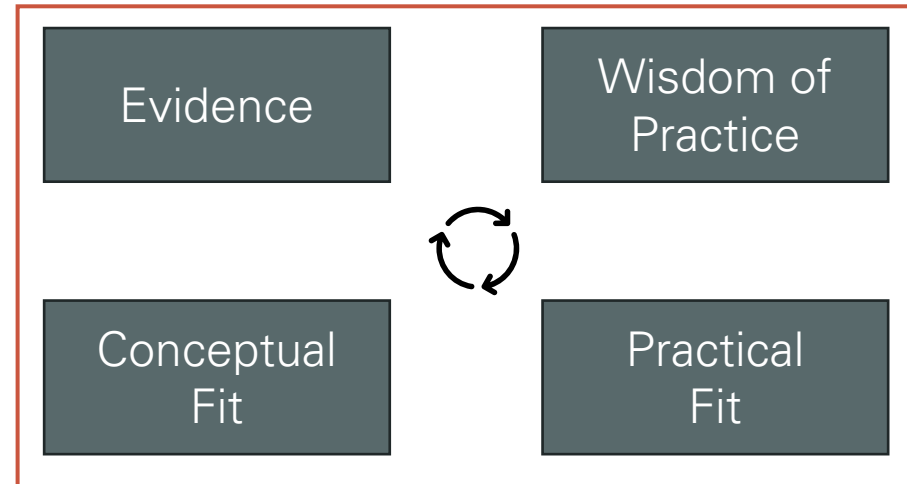
Intervening Variable Prioritization and Selection

Questions about intervening variables
prioritization and selection?

Crowdsourcing collective wisdom from
colleagues



Prevention Strategy Selection

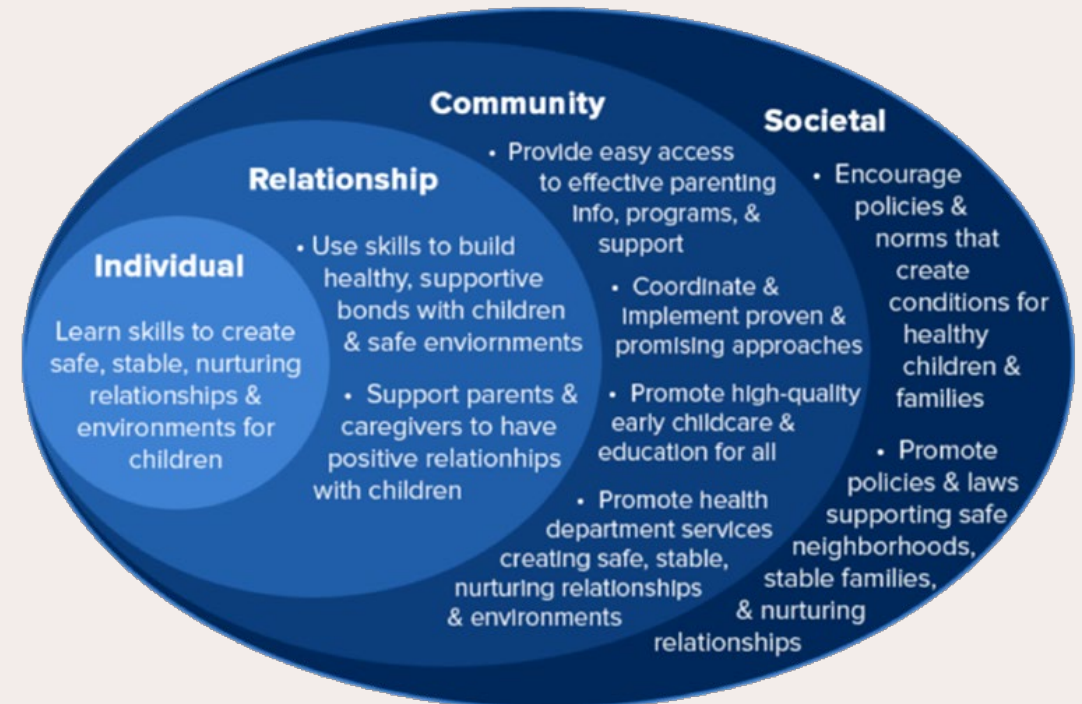
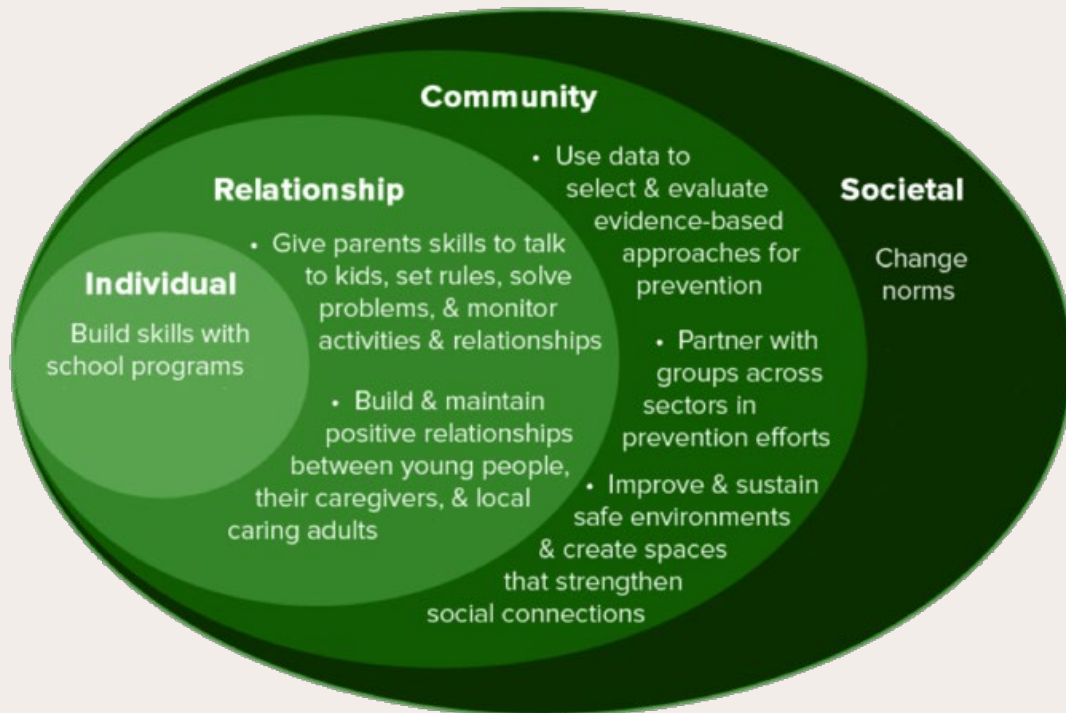


Identify and select strategies that have been shown through research or practice to be effective, those that are a good fit for your community, and those likely to promote sustained change.

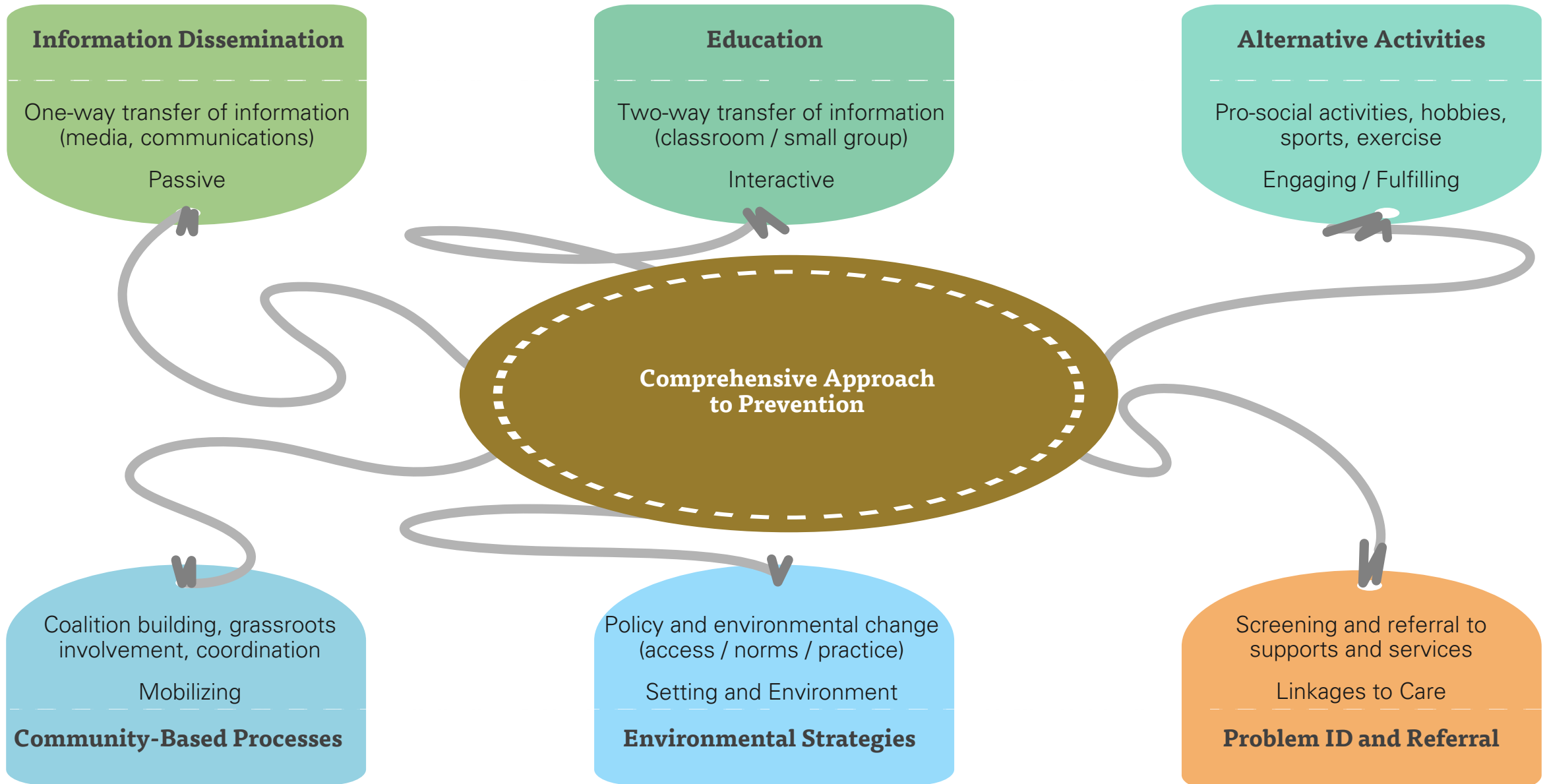
Prevention Strategies: Ecological and Systems Theory Perspective

Intervening variables can be the focus of multiple strategies operating at more than one level and in more than one setting

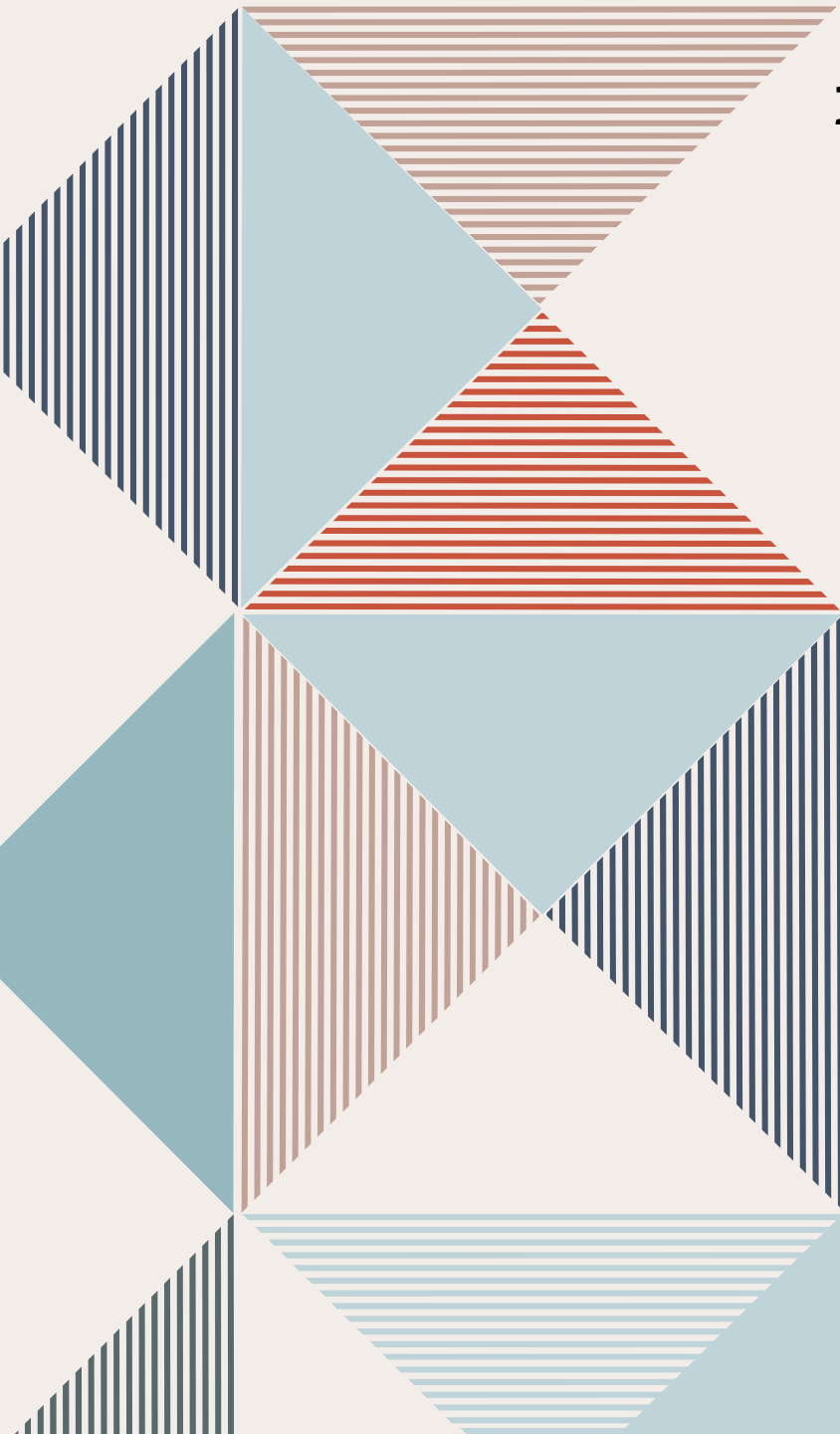
Consider the IV (what/why) the strategy (how) is a secondary consideration



Prevention Strategies: CSAP Strategy Types



PREVENTION STRATEGIES: CADCA STRATEGY TYPES



← INDIVIDUAL

PROVIDING INFORMATION
Community education, increasing knowledge, raising awareness

Media, Materials, Events

ENHANCING SKILLS
Building skills and competencies

Education and Training

PROVIDING SUPPORT
Involvement in drug-free and healthy alternative activities

Recreation and Community Involvement

ENVIRONMENTAL →

CHANGING CONSEQUENCES
Enforcement, compliance, incentives, and disincentives

Compliance checks and publicity

PHYSICAL DESIGN
Changing Physical Environment

Environmental scans, beautification, signage

MODIFY/CHANGE POLICIES
Changing institutional, organizational, or government policies

School, workplace, liability, responsible sales

ACCESS AND BARRIERS
Access and Accessibility

1. Outreach, translation, equitable access,
2. Home and social access to substances

SUPPORTING EVIDENCE

Logically Linked to Intervening Variable

Meets Criteria for Evidence-Based or Evidence-Informed

Tested with Similar Populations or Generalizable

Linked to Substance Misuse Prevention Outcomes

COMMUNITY FIT

Community Readiness

Community Climate and Buy-In

Cultural Alignment

Potential for Unintended Consequences

Fit with Existing Community Efforts

ACTION AND CHANGE

Proximity to Issue of Interest

Changeability

Prevention Capacity

Feasibility

Resources (cost, staffing, setting)

Timeline

Scalability

LASTING IMPACT

Ability to Measure Outputs and Outcomes

Sustainable

Community Ownership

Community Champions

Partner Buy-In and Involvement

**Prevention Strategy Prioritization:
Beyond Conceptual and Practical Fit**

Strategy Selection: Key Considerations

Shared decision-making prompts:

1. Is the strategy likely to influence the **intervening variable**?
2. Is the strategy **feasible** given time, resources, readiness?
3. Have we identified implementation **partners**?
4. Have we identified the **setting/location** for implementation?
5. Is the strategy likely to **reach** its intended audience? Equitably?
6. Is the strategy **culturally appropriate** for the setting/population?
7. Is there any indication that the strategy is **sustainable**?
8. Does the strategy align with or complement **existing efforts**?
9. Have we considered **alternative approaches**?
10. Have we included **community voice and input**?

Prevention Strategy Selection

Questions about prevention strategy selection?

Crowdsourcing collective wisdom from colleagues



MassCALL3 and SOR-PEC Logic Model Template

Locally identified/prioritized substance of first use for specified populations:*

Local Manifestation of Issue/Need:

Intervening Variable	Strategy	Centered Group(s)	Outputs	Outcomes		
				Short-Term	Intermediate	Long-Term

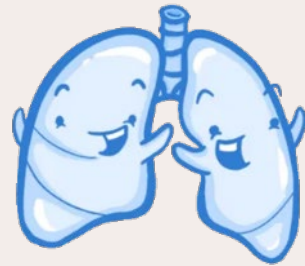
Components of a
Community-Level
Logic Model

Strategic Plan Vital Signs

The logic model is arguably the most important component of your strategic plan



Assessment



*Capacity
Building*



Planning



*Logic
Model*



Evaluation

Logic Model Components

Need/Issue identified by BSAS: What is the purpose of the initiative?

Local manifestation of the need/issue: What is the local issue you are trying to address? Baseline data.

Intervening Variable	Strategy	Centered Group(s)	Outputs	Outcomes		
				Short-Term	Intermediate	Long-Term
What needs to change to address the local issue?	What are you proposing to do to address the issue?	Which groups or individuals will be exposed to or reached by the strategy?	How will you know that you implemented the strategy as intended?	What are the antecedents (first steps) for expecting change in the intervening variable and how do you measure these?	How can you directly or indirectly measure changes in the intervening variable?	How can you directly or indirectly measure changes in the local issue?

Logic Model Components

Issue Identified by BSAS

Describes why BSAS made grant dollars available (from the RFR)

MassCALL3: Substances of first use

SOR-PEC: Elevated risk for future substance use

Can be slightly modified with more specific information

The local manifestation of the need/issue row should be logically linked to the need/issue identified by BSAS

MassCALL3 Need/Issue identified by BSAS

Substances of first use. Youth use of electronic vapor products such as Juul, Vuse, MarkTen, and Blu (including e-cigarettes, vapes, and vape pens)

SOR-PEC Need/Issue identified by BSAS

Children (prenatal – 11 years of age) with familial history of substance misuse and addiction are at elevated risk for future substance use and related health and behavioral health issues.

Logic Model Components

Local Manifestation of the Issue

Local manifestation statement is baseline for the long-term outcome.

Is this currently being measured? If not, can it be measured? Can it be measured over time? How often? If it can't be directly measured, is there a substitute measure (proxy) that you can use instead?

Think about: (1) the indicator/measure you will be using, (2) centered population, (3) presence or absence of historical and/or comparison data, and (4) timing and frequency of future measurement.

MassCALL3 Local Manifestation of the Need/Issue

20.6% of local high school students in grades 9-12 reported past 30-day use of electronic vapor products in 2021, up from 5.5% in 2017 and 4.3% in 2015.

SOR-PEC Local Manifestation of the Need/Issue

A high proportion of pre-K [ages 3-5] children in Smithtown (27%) are not entering kindergarten with the social-emotional skills needed to thrive, particularly among youth without safe, nurturing, and predictable environments at home and in the classroom (45% vs. 17%).



In 2021, past 30-day use of **alcohol** among high school students (42%) was higher than the state average of 36%.



In 2021, 46% of students in grades 9-12 reported feeling moderately/greatly **stressed** 3+ days a week in the past 30 days. Students reporting high levels of stress were more likely than their peers to report past 30-day use of cannabis (47% in the high stress group versus 14% in the low stress group).



In 2021, high school students in grades 9-12 who identify as gay, lesbian, bisexual, transgender, or queer (**LGBTQ**) reported higher past 30-day use of alcohol (63% vs. 44%), electronic vapor products (49% vs. 22%), and cannabis (41% vs. 27%) than their peers.



In 2021, past-30-day use of alcohol among high school students (42%) was higher than the state average of 36%. Many students report strong existing **connections** to the school community and teachers at school – this presents an opportunity to formalize this process for all students.

Logic Model Components

Intervening Variables

The **levers** of change. These represent your theory of change.

What is driving the problem or issue in your community?

What would help address the local manifestation of the need/issue?

The more time and effort you put into truly understanding and prioritizing the intervening variables in operation in your setting, the more likely you are to impact the long-term outcome.

MassCALL3 Intervening Variables

Low perception of risk of harm of vaping among high school students.

SOR-PEC Intervening Variables

Internalizing and externalizing behaviors among youth.

Related Intervening Variables at Multiple Levels

Individual

Low perception of risk of harm of vaping among high school students

Peer

Misperception of level of use of electronic vapor products among peers

Family

Low levels of parent and caregiver communication about vaping

School

Lack of school policies and inconsistent enforcement

Community

High levels of retail availability in the community



Related Intervening Variables at Multiple Levels

Individual

Internalizing and externalizing behaviors among youth

Peer

Social isolation and peer rejection

Family

Chronic stress among parents and caregivers

EC Center

Limited knowledge and skills related to trauma-informed care among providers

Community

Lack of positive community role models



Logic Model Components

Strategy

Is there a link between the strategy and the IV?

Who is in your primary centered population? Is there a secondary or tertiary population?

The centered population should almost always include the long-term outcome group.

MassCALL3 Strategy

11-session Life Skills Training classroom curriculum for high school students (including the Everything You Need to Know About e-cigarettes, vaping, and hookahs supplemental module).

SOR-PEC Strategy

ParentCorps Social-Emotional Learning Classroom Curriculum

Strategies



Individual

Low perception of risk of harm of vaping among HS students

11-session Life Skills Training curriculum (with vaping module)

Peer

Misperception of level of use of electronic vapor products among peers

Youth-led social norms campaign (posters, handouts, social media)

Family

Low levels of parent and caregiver communication about vaping

Parent workshops and information dissemination

School

Lack of school policies and inconsistent enforcement

Develop, promote, and enforce school policies on vaping (restorative justice)

Community

High levels of retail availability in the community

Retailer training

Mystery shopping with feedback to establishment

Strategies



Individual

Internalizing and externalizing behaviors among youth

ParentCorps
Social-Emotional
Learning Classroom
Curriculum

Family

Chronic stress among parents and caregivers

ParentCorps
Parenting Program

Peer

Social isolation and peer rejection

Buddy Bench Project
on playground

EC Center

Limited knowledge and skills related to trauma-informed care among providers

ParentCorps Training
(emphasis on TIC
supplement)

Community

Lack of positive community role models

Local Heroes poster project
in classrooms

Logic Model Components

Centered Populations



Groups that will be exposed to or reached by each strategy.

Almost always includes the population in which you expect to observe change in the long-term outcome and/or individuals, groups, organizations, or systems surrounding this population.

Consider **primary** population for each strategy (direct recipients) and **secondary or tertiary** populations (indirect recipients).

Consider inequities in access to services and utilization of services, which may necessitate specific actions to enhance equity and reduce inequities.

Understand how many individuals are in centered populations (e.g., how many youth are in grades 9-12 in the community, how many parents/caregivers of these youth are in the community).

Logic Model Components

Questions about local statements of need,
intervening variables, strategies, or centered
populations parts of the logic model?

Crowdsourcing collective wisdom from
colleagues



Logic Model Components

Outputs

“Yeah, yeah, yeah.... we’re just counting things.”

Are you implementing the strategy well?

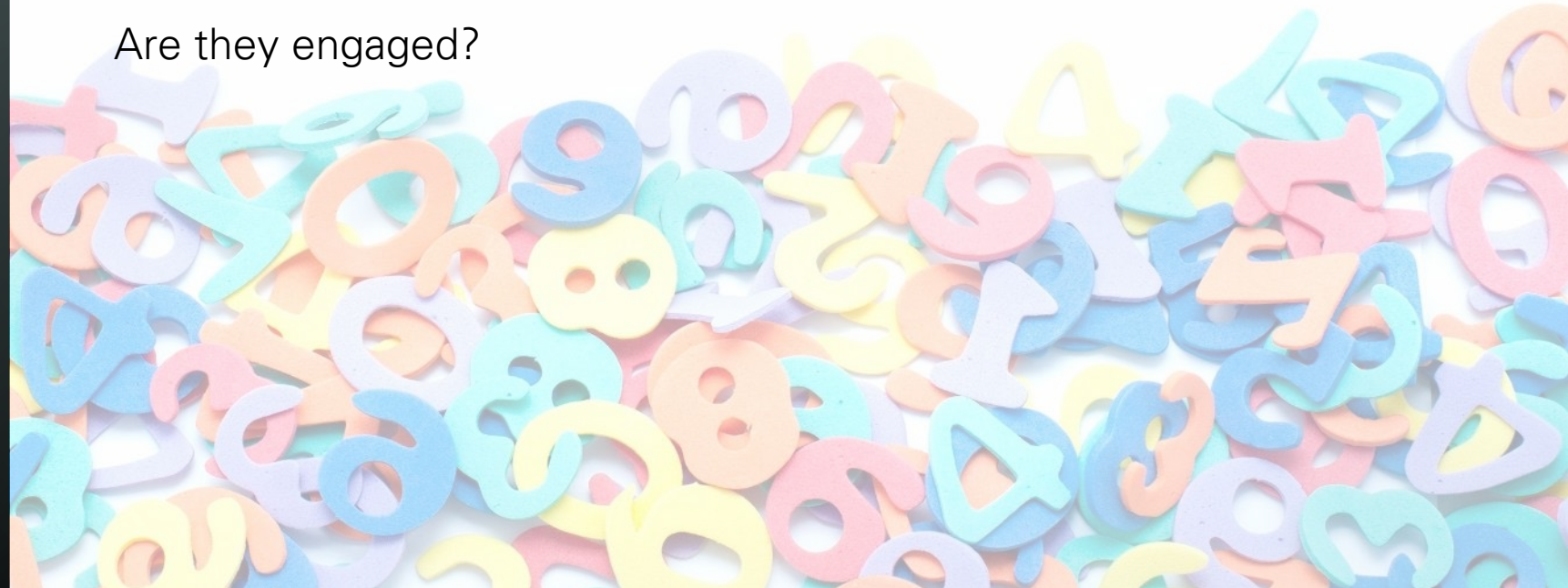
Are you implementing it as planned?

Can it be improved?

Are you reaching your centered population?

Is the strategy appropriate for your centered population?

Are they engaged?



ADHERENCE

Was content implemented as planned?

Were protocols, techniques, and materials followed?

What were the characteristics of the providers?

What were the characteristics of the participants?

EXPOSURE

Frequency of contact

Number of sessions delivered

Participant attendance

Length of sessions

Number of people reached via messaging

Number of people trained

QUALITY

Provider knowledge of content

Provider delivery skills

Provider enthusiasm

Provider preparedness

Quality of materials

Quality of messages

RESPONSE

Were participants engaged?

Were participants receptive?

Did we collect feedback from participants?

Were services provided in a culturally responsive manner?

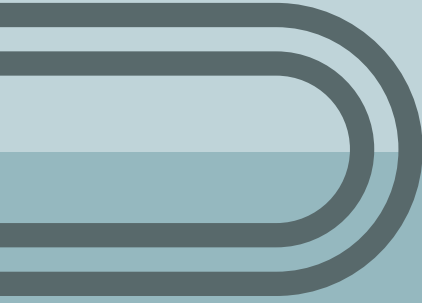
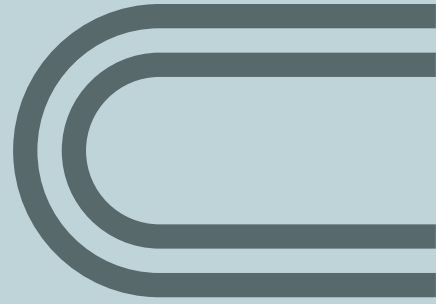
Logic Model Components:
The Underappreciated Outputs Column

Logic Model Components

Short-Term Outcomes



The bridge between strategies and intermediate outcomes



SHORT-TERM

OUTCOME

CHARACTERISTICS

1

FAST ACTING

Immediate (hours) or near-immediate (months) effects of the strategy.

3

PRECURSORS

First thing that needs to happen in series of events leading to ultimate change.

2

OBJECTIVE-DRIVEN

Related to strategy objectives (e.g., “to learn” implies knowledge change)

4

STRATEGY-DEPENDENT

The starting point is dependent on the end point.

First step based on where the site is at in the process

Short-Term Outcomes

Individual

11-session Life Skills Training curriculum (with vaping module)

Increased knowledge of risk of harm of youth vaping

Peer

Youth-led social norms campaign (posters, handouts, social media)

Increased knowledge of actual rates of youth vaping behaviors

Family

Parent workshops and information dissemination

Increased knowledge of communication techniques

School

Develop, promote, and enforce school policies on vaping (restorative justice)

Increased knowledge and awareness of new vaping policies

Community

Retailer training

Increased knowledge and awareness of responsible sales practices



Short-Term Outcomes

Individual

ParentCorps
Social-Emotional Learning
Classroom Curriculum

Knowledge of
classroom behavior
standards

Peer

Buddy Bench Project on
playground

Awareness of Buddy
Bench Project and
Buddy Bench rules

Family

ParentCorps Parenting
Program

Knowledge of
positive parenting
practices

EC Center

ParentCorps Training (emphasis
on TIC supplement)

Knowledge of ways
to promote SEB
development and
family engagement

Community

Local Heroes poster project in classrooms

Knowledge of positive role
models in the community



Plan Ahead

Please indicate how much you disagree or agree with each of the following statements.

	I Know It's False	I Think It's False	I Don't Know	I Think It's True	I Know It's True
6. E-cigarette use among youth and adults is strongly linked to the use of other tobacco products.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Non-smoking youth who use e-cigarettes are less likely to try conventional cigarettes in the future than non-smoking youth who do not use e-cigarettes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. The aerosol from e-cigarettes can contain potentially harmful chemicals such as diacetyl.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

For each item below, please circle the appropriate number which best describes your child's behavior:

0 = Not True

1 = Somewhat or Sometimes True

2 = Very True or Often True

0 1 2 1. Acts too young for age

0 1 2 2. Afraid to try new things

0 1 2 3. Can't pay attention for long

0 1 2 4. Can't sit still, restless

0 1 2 19. Gets too upset if separated from parent

0 1 2 20. Hits/harms (bites, kicks, etc.) others

0 1 2 21. Looks unhappy without good reason

0 1 2 22. Angry moods

How do we operationalize the measure?

Can we directly measure it or identify a proxy measure?

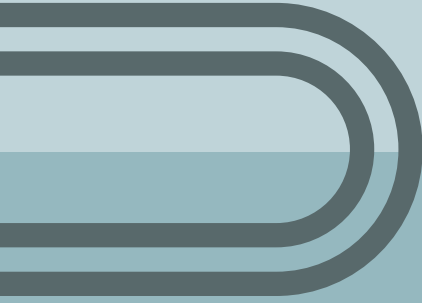
Logic Model Components

Intermediate Outcomes



The bridge between short-term outcomes and long-term outcomes

Indicators of change in the intervening variable



INTERMEDIATE

OUTCOME

CHARACTERISTICS

1

DELAYED

Gradual changes in attitudes, norms, confidence, skills, and behaviors

3

ACTION-ORIENTED

More active than passive in nature (behavioral precursors, behavioral intent, actual behaviors)

2

IV-DRIVEN

Related to changes in intervening variables

4

PROXY FOR LONG-TERM

Logical stand-in measures when directly measuring long-term outcomes is not possible

Intermediate Outcomes

Individual

Low perception of risk of harm of vaping among HS students

Increased perception of risk of harm of vaping among high school students

Family

Low levels of parent and caregiver communication about vaping

Increased family communication about youth vaping

Peer

Misperception of level of use of electronic vapor products among peers

Increased accuracy in the perception of youth vaping behaviors

School

Lack of school policies and inconsistent enforcement

Increased consistent enforcement of school policies on vaping

Community

High levels of retail availability in the community

Increase in consistent ID checking behaviors among retail staff



Intermediate Outcomes

Individual

Internalizing and externalizing behaviors among youth

Increased SEB development and academic performance

Peer

Social isolation and peer rejection

Decrease in feelings of social isolation and peer rejection

Family

Chronic stress among parents and caregivers

Increase in effective stress management practices

EC Center

Limited knowledge and skills related to trauma-informed care among providers

Enhanced skills and competencies among providers

Community

Lack of positive community role models

Increased attachment with trusted adult role models



Logic Model Components

Long-Term Outcomes



Indicators of change in the local manifestation of the need/issue

Logic Model Components

Long-Term Outcome

MassCALL3 Local Manifestation of the Need/Issue

20.6% of local high school students in grades 9-12 reported past 30-day use of electronic vapor products in 2021, up from 5.5% in 2017 and 4.3% in 2015.

MassCALL3 Long-Term Outcome

Decrease in reports of vaping in the past 30-days among high school students in grades 9-12

SOR-PEC Local Manifestation of the Need/Issue

A high proportion of pre-K [ages 3-5] children in Smithtown (27%) are not entering kindergarten with the social-emotional skills needed to thrive, particularly among youth without safe, nurturing, and predictable environments at home and in the classroom (45% vs. 17%).

SOR-PEC Long-Term Outcome

Proportion of pre-K [ages 3-5] children in entering kindergarten with the social-emotional skills needed to thrive, particularly among youth without safe, nurturing, and predictable environments at home and in the classroom

Logic Model

Linkages
between IVs,
strategies, and
short- and
long-term
outcomes



No component of the logic model stands alone

A. Need/Issue identified by BSAS

B. Local manifestation of the need/issue: Related to the Need/Issue Identified by BSAS [Box A]

				Outcomes		
C. Intervening Variable	D. Strategy	E. Centered Group(s)	F. Outputs	G. Short-Term	H. Intermediate	I. Long-Term
Logically linked to the Local Need [Box B]	Logically linked to the Intervening Variable [Box C]	Direct and indirect recipients of each strategy [Box D]	Logically linked to each strategy [Box D]	Logically linked to each strategy [Box D] and Precursors of Intermediate Outcomes [Box H]	Direct or indirect measures of the Intervening Variable [Box C]	Direct or indirect measures of Local Need [Box B]

End of Session

Questions?

Crowdsourcing collective wisdom from
colleagues



Additional Resources: Logic Model Development Guides

MassCALL3

- MassCALL3 Resource Page [\[Resource Link\]](#)
- MassCALL3 Logic Model Development Guide [\[Resource Link\]](#)

SOR-PEC

- SOR-PEC Resource Page [\[Resource Link\]](#)
- SOR-PEC Logic Model Development Guide [\[Resource Link\]](#)

Additional Resources: Registries of Evidence-Based Programs

SAMHSA's Evidence-Based Practices Resource Center has helpful guides and resources

- Evidence-Based Practices Resource Center [\[Resource Link\]](#)
- Adapting Evidence-Based Practices for Under-Resourced Populations [\[Resource Link\]](#)

SAMHSA's PTTC has a helpful website and accompanying Guide to Online Registries

- Evidence-Based Programs and Practices for Substance Misuse [\[Resource Link\]](#)
- Guide to Online Registries for Substance Misuse Prevention [\[Resource Link\]](#)

Blueprints for Healthy Youth Development is one of the more comprehensive registries

- Blueprints for Healthy Youth Development [\[Resource Link\]](#)

Additional Resources: Evidence-Informed Principles

- Principles of Substance Abuse Prevention for Early Childhood: A Research-Based Guide [\[Resource Link\]](#)
- Preventing Drug Use among Children and Adolescents [\[Resource Link\]](#)
- Adapting Evidence-Based Practices for Under-Resourced Populations [\[Resource Link\]](#)
- BSAS Guiding Principles [\[Resource Link\]](#)
- Community Engagement: An Essential Component of an Effective and Equitable Substance Use Prevention System [\[Resource Link\]](#)
- Implementing Community-Level Policies to Prevent Alcohol Misuse [\[Resource Link\]](#)
- Increasing Cultural Humility for Prevention Specialists Who Work with Hispanic, Latino, Latinx Populations in New England [\[Resource Link\]](#)