

MassCALL3 Logic Model Development Guide

The Prevention Unit within the Bureau of Substance Addiction Services (BSAS) has developed a standard logic model template to promote consistency and ease of interpretation across its portfolio of prevention grantees. This logic model development guide provides step-by-step instructions and illustrative examples to assist you in the creation of a logic model for the MassCALL3 initiative.

All MassCALL3 Part B and Part C grantees are required to use this logic model template. MassCALL3 Part A grantees are required to use this template if logic model development is part of their proposed set of capacity building activities.

Snapshot of BSAS Logic Model Template

The logic model is a simple visual portrayal of your project and your theory of change. It communicates the who, what, why, and how of the project. BSAS' logic model template includes nine **required** and interconnected components, arranged as presented in the graphic below.

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

* MassCALL Part C grantees: Use this box to write in your locally identified/prioritized substance (since your focus isn't on substance of first use)

- Issue/Need Identified by BSAS.** Here you will describe the overarching purpose of the MassCALL3 grant initiative. For example, the goal of MassCALL3 Part B is *to prevent misuse of substances of first use (e.g., alcohol, nicotine, cannabis) among youth*. This is followed by the local manifestation of the issue/need, which identifies what it is that you are trying to address with MassCALL3 funding.

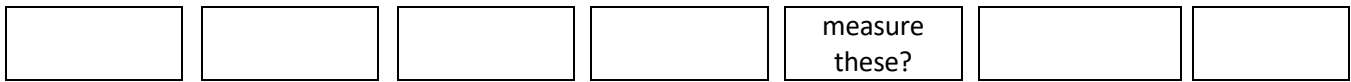
- **Local Manifestation of Issue/Need:** Here you will describe what this issue/need looks like in your community. This is usually represented as the current, or baseline, level of a substance use behavior in a specific population.
- **Intervening Variables:** These are also sometimes referred to as risk and protective factors. They represent the data-informed factors that are logically expected to be the antecedents of change in the long-term outcomes of your project.
- **Strategy, Centered Group(s), and Outputs:** In these boxes, you will describe how you propose to use grant funds, the population(s) you will reach with you selected strategies, and how you will demonstrate that the strategy was implemented as intended and with sufficient strength and quality to expect change to occur within the population.
- **Short-term Outcomes:** Here you will identify the expected changes in knowledge, attitudes, skills, or behaviors that need to occur to expect progress towards modifying the intervening variable.
- **Intermediate Outcomes:** Here you will identify the direct and/or indirect changes to your identified intervening variables that need to happen in order to achieve your proposed long-term outcome.
- **Long-term Outcome:** Here you will identify the direct and/or indirect changes you expect related to the local manifestation of the issue/need.

Below is a graphic depiction of the key questions you should ask to complete each section of the model:

Locally identified/prioritized substance of first use for specified populations: What is the purpose of the initiative?

Local Manifestation of Issue/Need: What is the local need/issue you are trying to address? What is your baseline?

Intervening Variable	Strategy	Centered Group(s)	Outputs	Outcomes		
				Short-Term	Intermediate	Long-Term
What must change to address the local need/issue?	What will you do to address the need/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	How will you directly or indirectly measure changes in the intervening variable?	How will you directly or indirectly measure changes in the local need/issue?



More details on each of these components are provided below as we walk you through a concrete example.

A Closer Look at Each of the Elements

The following examples track one issue—youth use of electronic vapor products—across different levels of the socio-ecological model: individual, interpersonal, organizational, community, and policy. This is sometimes referred to as a *comprehensive* approach to prevention. Prevention efforts tend to be more effective when they simultaneously address two or more levels of the socio-ecological model. Different elements of the logic model are highlighted in each section.

Youth Vaping Prevention at the INDIVIDUAL Level

Locally identified/prioritized substance of first use for specified populations: Substances of first use. Youth use of electronic vapor products such as Juul, Vuse, MarkTen, and Blu (including e-cigarettes, vapes, and vape pens)						
Local Manifestation of Issue/Need: 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.						
Intervening Variables	Strategy	Centered Population(s)	Outputs	Outcomes		
				Short-Term	Intermediate	Long-Term
Low perception of risk of harm of vaping among high school students	11-session Life Skills Training classroom curriculum for high school students (including the <i>Everything You Need to Know About e-cigarettes, Vaping, and Hookahs</i> supplemental module)	High school students in grades 9-12	Number of cycles and sessions per cycle Number of students receiving LST Fidelity of implementation (adherence, dose, quality)	Increased knowledge of risk of harm (potential consequences) of youth vaping	Increased perception of risk of harm of vaping among high school students	Decrease in reports of vaping in the past 30-days among high school students in grades 9-12

Issue/Need Identified by BSAS: The issue/need statement came from the Request for Response (RFR) for each BSAS initiative. It describes why BSAS has made these grant dollars available. The language in

the RFR is generally broad and all-inclusive. Your task in the logic model is to interpret, refine, and define how you will operationalize the issue/need at the local level. In the example above, the issue/need statement from BSAS is about preventing substances of first use. Locally, the project will specifically address youth use of electronic vapor products.

Youth Vaping Prevention at the PEER Level

Locally identified/prioritized substance of first use for specified populations: Substances of first use. Youth use of electronic vapor products such as Juul, Vuse, MarkTen, and Blu (including e-cigarettes, vapes, and vape pens)

Local Manifestation of Issue/Need: 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.

Intervening Variables	Strategy	Centered Population(s)	Outputs	Outcomes		
				Short-Term	Intermediate	Long-Term
Misperception of level of youth use of electronic vapor products among peers	Youth-led social norms campaign (posters, handouts, social media)	High school students in grades 9-12	Number and type of print and electronic materials disseminated Number of students reached via each medium	Increased knowledge of actual rates of youth vaping behaviors	Increased accuracy in the perception of youth vaping behaviors	Decrease in reports of vaping in the past 30-days among high school students in grades 9-12

Local Manifestation of the Issue/Need: The local manifestation of the issue/need is the baseline for your long-term outcome. What were the rates of use prior to MassCALL3 funding? What interventions have been implemented in the community previously and to what result? Is this something that is 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? This is where you want to start to think more seriously about: (1) the indicator or measure you will be using, (2) the specific centered population(s), (3) the presence or absence of historical and/or comparison data, and (4) the timing and frequency of future measurement.

Intervening Variables: Intervening variables (IVs) are the biological, social, environmental, and economic factors that research has shown to be related to substance use. This category includes, but is not limited to, risk and protective factors. Addressing IV also includes understanding how community context and history, community politics, norms and values, and community demographics and economic conditions, impact local issues and needs. IVs are levers of change – they represent your theory of change. What do community members believe is driving the need or issue in the community? It can be helpful to organize IVs according to the different domains in the socio-ecological model (i.e.,

individual, interpersonal, organizational, community, policy). IVs should be informed by both local data and research literature. IVs inform selection of appropriate strategies and activities. 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 affect change in the long-term outcome. MassCALL3 grantees are strongly encouraged to limit the total number of IVs to around 3-5 at any given point in time. Consider selecting on a small set of IVs to begin with to help focus the project and promote the implementation of related and overlapping strategies. IVs can be modified in future years of the initiative as they take on more or less importance over time.

Youth Vaping Prevention at the SCHOOL and POLICY Levels

Locally identified/prioritized substance of first use for specified populations: Substances of first use. Youth use of electronic vapor products such as Juul, Vuse, MarkTen, and Blu (including e-cigarettes, vapes, and vape pens)

Local Manifestation of Issue/Need: 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.

Intervening Variables	Strategy	Centered Population(s)	Outputs	Outcomes		
				Short-Term	Intermediate	Long-Term
Lack of school policies and inconsistent enforcement	Develop, promote, and enforce school policies on vaping with an emphasis on restorative justice and equity	High school staff and administrators	Number of meetings with administration and other stakeholders	Increased knowledge and awareness of new policies on vaping	Increased consistent enforcement of school policies on vaping	Decrease in reports of vaping in the past 30-days among high school students in grades 9-12
		High school students in grades 9-12	Updated policy	Increased knowledge of restorative justice practices	Increased perception among high school youth of facing consequences for vaping at school	
		Parents and caregivers of high school students in grades 9-12	Number and type of awareness and promotional materials disseminated	Increased knowledge of the harms associated with differential and inconsistent enforcement, particularly among youth of color		
			Number of school staff trained on the new vaping policies			
			Number of parents and students reached via each medium			

Strategies: These are the evidence-based or evidence informed programs, policies, and/or practices that you will put into place to address the intervening variable and to ultimately lead to changes in the local manifestation of the issue/need. MassCALL3 grantees are strongly encouraged to limit the total number of active strategies to 3-5 at any given point in time. Emphasis should be placed on depth and quality versus stretching prevention resources too thinly to expect change to occur. Consider beginning with a small set of strategies and then progressing/expanding to others in future years of the initiative.

Youth Vaping Prevention at the PARENT/CAREGIVER Level

Locally identified/prioritized substance of first use for specified populations: Substances of first use. Youth use of electronic vapor products such as Juul, Vuse, MarkTen, and Blu (including e-cigarettes, vapes, and vape pens)						
Local Manifestation of Issue/Need: 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.						
Intervening Variables	Strategy	Centered Population(s)	Outputs	Outcomes		
				Short-Term	Intermediate	Long-Term
Low levels of parent and caregiver communication about vaping	Parent workshops and information dissemination	Parents and caregivers of high school students in grades 9-12 (primary)	Number and type of workshops and trainings delivered	Increased knowledge and awareness of youth use of electronic vapor products	Increased discussions between parents/caregivers and youth about youth use of electronic vapor products	Decrease in reports of vaping in the past 30-days among high school students in grades 9-12
		High school students in grades 9-12 (secondary)	Number and type of print and electronic materials disseminated	Increased knowledge of effective communication techniques		
		Number of parents and caregivers reached through each medium				

Centered Populations: The centered populations column identifies the groups that will be exposed to or reached by the strategies. This 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. In the example below, parents/caregivers of high school students are the *primary* population for this strategy because they are the direct recipients of services. High school youth are the *secondary* population because parents/caregivers are expected to engage high school youth in discussions about vaping after they gain new knowledge and skills through the workshops and

supplemental information. When identifying populations, be sure to consider inequities in access to services, fit/appropriateness of services, utilization of services, or outcomes, which may necessitate specific actions to enhance equity and reduce disparities – including specifically identifying centered sub-populations within this column of the logic model.

It is important that you are able to describe *how many* individuals are in your centered populations (e.g., understand how many youth are in grades 9-12 in the community, how many parents/caregivers of these youth are in the community). This is sometimes referred to as knowing your denominators.

Youth Vaping Prevention at the COMMUNITY Level

Locally identified/prioritized substance of first use for specified populations: Substances of first use. Youth use of electronic vapor products such as Juul, Vuse, MarkTen, and Blu (including e-cigarettes, vapes, and vape pens)						
Local Manifestation Issue/Need: 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.						
Intervening Variables	Strategy	Centered Population(s)	Outputs	Outcomes		
				Short-Term	Intermediate	Long-Term
High levels of retail availability in the community	Retailer training	Commercial retailers of vaping products	Number of establishments reached Number of trainings held and employees trained Fidelity of implementation (adherence, dose, quality)	Increased knowledge and awareness of responsible sales practices among retail staff	Increased skills among retail staff related to retail sales (ID checking, refusal skills, confidence in abilities)	Decrease in reports of vaping in the past 30-days among high school students in grades 9-12
	Mystery shopping with feedback to establishment	Commercial retailers of vaping products (primary) High school students under 21 years of age (secondary)	Number of establishments reached Number of mystery checks per establishment	Increased knowledge among retail staff of the importance of consistent ID checking before selling vaping products	Increase in consistent ID checking behaviors among retail staff Decreased perceived ease of access from retail sources among high school youth	Decrease in reports of vaping in the past 30-days among high school students in grades 9-12

Outputs: The outputs column identifies measures that will help you demonstrate that the strategy was implemented as intended and with sufficient strength and quality to expect change to occur within the population. 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? As part of MassCALL3 reporting requirements, you will be expected to track information (gender, age, race, ethnicity) on individuals reached by your prevention strategies—either through direct counts or indirect estimates depending on the type and nature of the prevention activity.

Youth Vaping Prevention at the POLICY Level

Locally identified/prioritized substance of first use for specified populations: Substances of first use. Youth use of electronic vapor products such as Juul, Vuse, MarkTen, and Blu (including e-cigarettes, vapes, and vape pens)						
Local Manifestation of Issue/Need: 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.						
Intervening Variables	Strategy	Centered Population(s)	Outputs	Outcomes		
				Short-Term	Intermediate	Long-Term
High levels of retail availability in the community	Retailer policy development	Commercial retailers of vaping products (primary) High school students in grades 9-12 under 21 years of age (secondary)	Number of manager policy development trainings held Number of establishments that develop or modify policies Number of employees trained on new policies	Increased knowledge and awareness among retail staff of new or modified policies on selling vaping products	Increased skills among retail staff related to retail sales (ID checking, refusal skills, confidence in abilities) Decreased perceived ease of access from retail sources among high school youth	Decrease in reports of vaping in the past 30-days among high school students in grades 9-12

Short-Term Outcomes: Short-term outcomes are the immediate effects of the strategy and often focus on awareness and knowledge; these are the precursors to behavior change. What is the first thing that needs to happen for the ultimate change you are expecting to occur to appear? Short-term outcomes are often directly related to the objectives of the strategy (e.g., if an objective of a training is for caregivers to learn about the potential consequences of youth vaping, the short-term outcome would be changes in knowledge). If you were administering a questionnaire immediately before and after an event or training, the short-term outcomes would be things that you would expect to change from before to after.

Intermediate Outcomes: Intermediate outcomes are changes in attitudes, norms, confidence, skills, and behaviors. At a minimum, intermediate outcomes should include changes in the intervening variable – the precursor of change in the long-term outcome. A good way to frame intermediate outcomes is to think about the last thing that needs to happen for the ultimate change you are expecting to occur to appear.

Long-Term Outcomes: Long-term outcomes are the ultimate goals of the program – the long-term outcome column is usually directly related to the local manifestation of the problem row at the top of the logic model.

Additional Things to Know

- Your initial logic model for the MassCALL3 initiative should cover the period from **July 1, 2022** to **June 30, 2023**—the first full year of strategy implementation of the grant following the strategic planning period.
- You will be required to review and, if necessary, revise your logic model **annually**.
- Your logic model may address several intervening variables and multiple strategies. You should complete a logic model for each different local manifestation of issue/need and include additional rows for each intervening variable. For example, if you identified youth cannabis use and underage alcohol use as local issue/need, you would begin a new logic model for these two substances. If you identified two intervening variables related to youth cannabis use, each intervening variable would have its own row in the logic model.
- It is strongly recommended that you limit yourself to no more than 3-5 intervening variables and 3-5 strategies at any given time. This will help you focus the initiative and ensure that prevention resources are not being spread too thinly. It is better to do a small number of things well than to attempt to do too many things at once. Consider beginning with a small set and phasing in additional intervening variables or strategies in future years of the project.
- It is important that you have a clear sense of the size and demographic composition of your centered populations. This is important for two reasons: (1) it will help you understand what proportion of the population you have reached and (2) you will be asked to provide data to BSAS on the gender, age, race, and ethnicity of individuals reached by project activities. You should also spend time assessing whether you have access to your centered populations, how to best engage them, and potential barriers to engagement.
- Your BSAS Contract Manager and the Technical Assistance Liaisons at the BSAS Center for Strategic Prevention Support (CSPS) are available to provide assistance and support as you and your partners work to develop and finalize your logic model. Your TA Liaison is also able to help you think through how to measure your outputs, short-intermediate-and long-term outcomes.

- Additional logic model examples are provided on the following pages that explore special examples of the type of work in which you may be engaged. Specifically, these examples cover: (a) leading with equity, (b) addressing co-occurring behavioral health factors, (c) addressing multiple substances at the same time, and (d) assets-based intervention.

Example: Equity-Centered Logic Model

The first additional logic model example focuses on how aspects of race equity might be represented within your logic model.

Locally identified/prioritized substance of first use for specified populations: Substances of first use. Alcohol use among high school students.						
Local Manifestation Issue/Need: In 2021, past-30-day use of alcohol among high school students (42%) was higher than the state average of 36%.						
Intervening Variables	Strategy	Centered Population(s)	Outputs	Outcomes		
				Short-Term	Intermediate	Long-Term
Alcohol outlet density	Alcohol outlet density regulation	Municipal leaders Business community Neighborhood associations	Number of listening sessions conducted Number of meetings with licensing and zoning boards Timeline of policy development and approval	Increased awareness of negative impacts of outlet density Increased understanding of zoning and licensing practices that disproportionately impact different neighborhoods and communities of color	Adoption of revised licensing and zoning regulations that balance health equity, restorative justice, and economic equity Reduced exposure to alcohol outlets and alcohol advertising among underage youth	Decrease in the % of 9 th -12 th grade students who report past-30-day use of alcohol

Example: Co-Occurring Behavioral Health Factors Logic Model

The example focuses on how you might incorporate in your logic model co-occurring behavioral health factors such as mental health. Note that if you propose to address co-occurring behavior health factors that: the ultimate outcome must be substance use-related, and the intervening variable(s) and proposed strategy must have evidence demonstrating a correlation with (intervening variable) and efficacy with (strategy) substance use outcomes.

Locally identified/prioritized substance of first use for specified populations: Substances of first use. Cannabis use among high school students.						
Local Manifestation Issue/Need: In 2021, a high proportion of high school students in grades 9-12 (46%) reported feeling <i>moderately</i> or <i>greatly</i> stressed 3 or more days a week during 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% past 30-day use of cannabis in the high stress group versus 14% in the low stress group).						
Intervening Variables	Strategy	Centered Population(s)	Outputs	Outcomes		
				Short-Term	Intermediate	Long-Term
Unhealthy coping practices	Infuse 8-week Mindfulness-Based Stress Reduction (MBSR) program into existing high school health curriculum with an emphasis on the relationship between stress and cannabis use	High school students in grades 9-12 experiencing elevated levels of stress (primary) All high school students in grades 9-12 (secondary) Teachers and School counseling staff provide support/coaching (secondary)	Number of cycles and sessions per cycle Number of students receiving MBSR-infused curriculum Fidelity of implementation (adherence, dose, quality)	Increased knowledge of mindfulness-based stress reduction techniques Increased awareness of the relationship between stress and cannabis use Increased school counseling supports/resources available for students	Increased utilization of healthy coping practices Reduced feelings of stress among high school youth	Decrease in the % of 9 th -12 th grade students who report past-30-day use of cannabis

Example: Multi-Substance Logic Model Example

This example focuses on instances where you might propose focusing on multiple substances at the same time versus implementing substance-specific strategies.

Locally identified/prioritized substance of first use for specified populations: Underage use of alcohol and other substances of first use such as nicotine and cannabis among high school youth.						
Local Manifestation Issue/Need: 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 marijuana (41% vs. 27%) than their peers.						
Intervening Variables	Strategy	Centered Population(s)	Outputs	Outcomes		
				Short-Term	Intermediate	Long-Term
Discrimination, harassment, and social rejection contributing to isolating and unhealthy behaviors	Work with high school students to create a student-led Gay-Straight Alliance (GSA) group in the high school	High school students in grades 9-12 who identify as LGBTQ+ (primary) All high school students in grades 9-12 (secondary) Teachers and school counseling staff provide support/coaching (secondary)	Number of GSA group meetings Number of students participating in GSA groups and activities Number and type of GSA-led activities in the school	Increased knowledge of the harms associated with stigma, discrimination, and harassment Increased awareness of school-based supports and trusted adults at school Increased # of students & staff available for social supports/counseling available for students	Increased feelings of safety and well-being at school Decreased levels of victimization related to sexual orientation and gender expression Increased feelings of school connectedness	Decrease in the % of LGBTQ+ high school youth in grades 9-12 who report past 30-day use of substances of first use

Example: Assets-based Logic Model Example

The fourth additional logic model example focuses on instances in which you might propose enhancing or bolstering existing strengths, assets, or protective factors within the community.

Locally identified/prioritized substance of first use for specified populations: Substances of first use: Alcohol use among high school students.						
Local manifestation of the need/issue: 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.						
Intervening Variables	Strategy	Centered Population(s)	Outputs	Outcomes		
				Short-Term	Intermediate	Long-Term
School bonding (having a trusted adult at school to talk to about important things)	Develop grade-level advisory teams and assign each student a teacher advisor for brief weekly check-ins ¹	All high school students in grades 9-12	Number of students paired with a teacher advisor Number of brief weekly check-ins with each student Number of referrals for additional school- or community-based supports	Increased awareness of school-based supports and trusted adults at school Increased early identification and support for students (including substance use-related)	Increased feelings of connection to school and the school community Students in grades 9-12 report having a trusted adult at school that they can talk to about important things (including substance use)	Decrease in the % of 9 th -12 th grade students who report past-30-day use of alcohol

¹ [Centers for Disease Control and Prevention. School Connectedness: Strategies for Increasing Protective Factors Among Youth. Atlanta, GA: U.S. Department of Health and Human Services; 2009](#)