

## Preventing Prescription Drug Misuse & Abuse Logic Model February 2013

The following table is based on a recent comprehensive literature review, guides published by state agencies, and federally-sponsored registries of specific examples of strategies and programs designed to prevent prescription substance abuse. Evidence-based practices specifically targeting preventing Rx misuse and abuse are essentially non-existent in the research literature. However, reviewing the research was helpful in identifying some important intervening variables for prescription drug abuse defined by the medical and health care community. These focused mostly on provider training of some sort. For example, the creation of provider reminder and recall systems for cancer screening is effective in increasing providers screening patients for cancer risk factors. Although not evaluated with respect to Rx drugs, a similar approach may also work to increase providers screening patients for Rx abuse before prescribing addictive medications. The prevention strategy of educating providers is addressed in several ways in the Vermont Prescription Drug Abuse Workgroup's report. In addition, while there are no randomized control trials evaluating Rx drug abuse prevention strategies that directly targets users, there is some evidence that appears to support the premise that similar intervening variables (IVs) related to underage alcohol use and adult binge drinking, are also associated with Rx drug abuse. Therefore, we have attempted to gather together a cursory list of evidence-based prevention programs that target other substances or outcomes, but that theoretically could influence Rx drug misuse and abuse as well.

We have not included everything possible in this list. It is possible that additional programs and strategies could be derived from more generic prevention strategies and may be appropriate for use in Vermont. The source list for prevention programs can be found at the end of this document for those who would wish to explore additional user targeted prevention strategies.

SAMSHA recently published two documents that provide basic information on the research evidence of particular Rx abuse prevention strategies and the strength of the evidence. As previously described, because there is a dearth of evaluation research in this area, most strategies listed have insufficient research evidence but strong theoretical support. In this document, we have not attempted to provide a rating of effectiveness because of the lack of research, however, we encourage you to review the SAMSHA documents in addition to this one.

**Highlighted strategies** were identified as recommendations by the Vermont Prescription Drug Abuse Workgroup.

### Prescription Drug Misuse and Abuse Intervening Variables

<b>Intervening Variable</b>	<b>Intervention Approaches*</b>	<b>Important Partners<sup>^</sup></b>	<b>Target Population</b>	<b>Examples of Practices/Programs NOTE: These differ in the strength of evidence supporting effectiveness</b>
Retail Availability <sup>1,4,5-7,10,12,13</sup>	Policy advocacy and adoption	Health Commissioner Office of Primary Care Legislators Medical professionals: medical doctors, dentists, pharmacists, psychiatrists VT Pharmacist Association VT Medical Society	Providers and patients	<ul style="list-style-type: none"> <li>Restrict the number of pills/amount of med that can be prescribed at any one time of Schedule II-V drugs based on severity of medical problem <sup>12,13</sup></li> <li>Require providers to check the PMP before prescribing Schedule II-V drugs <sup>12</sup></li> <li>Require all pharmacists to check the NABP PMP before filling Schedule II-IV Rx <sup>12</sup></li> </ul>
	Surveillance and enforcement	VT Rx Monitoring System Medical professionals/providers VT-LEAs Border Patrol	Providers, patients, street dealers	<ul style="list-style-type: none"> <li>Create "optimal" PMP with access for physicians &amp; pharmacists &amp; required real time input into database by each <sup>10,12,13</sup></li> <li>Pharmacists use NABP PMP Interconnect to check patient Rx in other states. <sup>10,12,13</sup></li> <li>Providers use PMP system to check patient Rx record prior to prescribing Schedule II-V Rx drugs <sup>10,12,13</sup></li> <li>Work with LEAs to identify &amp; close internet pharmacies supplying Rx drugs without prescriptions <sup>12</sup></li> <li>Work with Border Patrol Agents to develop techniques to search for Rx drugs crossing international boundaries <sup>10</sup></li> <li>LEA use PMP system to identify potential abusers &amp; over prescribers for legal and/or prevention/treatment intervention. Establish criteria for this identification <sup>10,12,13</sup></li> <li>Require patient identity verification at all pharmacies licensed in VT when dispensing a controlled substance <sup>12</sup></li> </ul>
	Prescriber education	Medical professionals/providers VT Pharmacist association VT Medical Society UVM College of Medicine VT State Dental Society	Providers and patients	<ul style="list-style-type: none"> <li>Training on pain management &amp; Rx drug prescribing guidelines on Schedule II-V drugs incorporated into med school training <sup>10,12</sup></li> <li>Training on pain management &amp; Rx drug prescribing guidelines to providers on Schedule II-V drugs <sup>10,12</sup></li> <li>Training on using the PMP &amp; the NABP PMP for checking on patient Rx use &amp; entering data into</li> </ul>

				<p>database &amp; training on any State policies adopted <sup>10,12</sup></p> <ul style="list-style-type: none"> <li>• Provider reminder &amp; recall systems <sup>5</sup></li> <li>• Provider Assessment &amp; Feedback <sup>5</sup></li> </ul>
Social Availability <sup>1,7,10,12</sup>	Proper storage of Rx meds	Schools PTA families parents public	Adults Youth	<ul style="list-style-type: none"> <li>• Provide training on proper storage of Rx drugs in the home <sup>10,12</sup></li> </ul>
	Safe Rx drug disposal sites	Local law enforcement Schools PTA Local providers Pharmacies	Adults Youth	<ul style="list-style-type: none"> <li>• Create safe drop off locations across community for disposal of Rx drugs. (E.g., LEAs are one location where people can drop off Rx drugs but most don't even realize it, pharmacies are another, etc.) <sup>10</sup></li> <li>• Train staff at disposal sites on proper disposal of Rx drugs; create guidelines for transferring meds to local LEA <sup>10</sup></li> <li>• Highly publicize drop-off locations in community <sup>10</sup></li> <li>• Host "special" drop off weekends at high traffic locations &amp; publicize widely <sup>10</sup></li> </ul>
	Surveillance and enforcement <sup>i,k,l</sup>	Local law enforcement School Board Schools	Adults Youth	<ul style="list-style-type: none"> <li>• Law enforcement increase efforts to locate, arrest, &amp; prosecute Rx drug dealers <sup>1,5,10,12,13</sup></li> <li>• School drug policies should include the use, sharing, and selling of Rx drugs on school grounds and enforced consistently <sup>1,5,10,12,13</sup></li> <li>• Educate law enforcement on Rx drug abuse &amp; diversion <sup>1,5,10,12,13</sup></li> </ul>
	Education Campaigns (Parents & Grandparents)	Media outlets Social marketing experts Schools Parent-Child Centers	Youth	<ul style="list-style-type: none"> <li>• Create tips for parents talking to their children &amp; steps to take if they suspect their child is using prescription drugs <sup>10,12</sup></li> <li>• School drug policies should be shared widely with students, parents, &amp; staff <sup>1,5,10,12,13</sup></li> <li>• Educate consumers on proper storage &amp; disposal guidelines <sup>10</sup></li> </ul>
Rx drug Promotion <sup>1,7</sup>	Policy advocacy and adoption	Legislators Municipal government (?) Supportive community orgs	Adults Young Adults Youth	<p>Advertising restrictions <sup>1</sup></p> <p>Warning labels <sup>1</sup></p> <p>Restrictions on # of pills prescribed <sup>10</sup></p>
	Communications campaigns	Social marketing experts Media outlets	Adults Young Adults Youth	<p>Mass media counter-advertising <sup>1</sup></p>

Family Norms & Influences <sup>1,7,12,13</sup> (that protect against Rx drug misuse & abuse)	Parent/family education programs (individual-focused)	Schools Parent-child centers Churches	Youth	Person-to-person interventions to improve caregivers' parenting skills <sup>5</sup> E.g. Strengthening Families <sup>9a,11</sup>
	Parent education programs (population focused)	Schools Parent-child centers Churches	Adults Youth	Triple P <sup>2b,3,11</sup> Midwestern Prevention Project <sup>2a,9b</sup> Family Matters <sup>9a,11</sup>
	Communication campaigns	Schools Social marketing experts Media outlets	Young Adults Youth	Social marketing <sup>8,12</sup>
School Norms & Influences <sup>1,7,12,13</sup> (that protect against Rx drug misuse & abuse)	Communication campaigns	Schools Social marketing experts Media outlets	Young Adults Youth	Social marketing <sup>8,12</sup>
	Advocacy and adoption of school-based policies	Schools School board PTA	Young Adults Youth	Zero tolerance policies <sup>1</sup> Closed campuses <sup>1</sup> Sanctions such as suspension, expulsion <sup>1</sup> Increased monitoring of student behavior <sup>1</sup>
	Enforcement	Schools Local police agency	Young Adults Youth	Sanctions such as suspension, expulsion <sup>1</sup> Increased monitoring of student behavior <sup>1</sup>
	School-based prevention education programs	Schools Parents	Youth	Life Skills Training <sup>2a,5,9a,11</sup> ATLAS <sup>2b,9a,11</sup>
Peer Norms & Influences <sup>1,7,12,13</sup> (that protect against Rx drug misuse & abuse)	Communication campaigns	Schools Social marketing experts Media outlets	Youth	Social marketing <sup>8</sup>
	School-based prevention education programs	Schools Parents	Youth	Life Skills Training <sup>2a,5,9a,11</sup> ATLAS <sup>2b,9a,11</sup>
	Programs that develop resistance/refusal skills and other life skills	Schools School board PTA Youth-serving organizations	Youth	Life Skills Training <sup>2a,5,9a,11</sup> ATLAS <sup>2b,9a,11</sup>
Community Norms <sup>1,7,12,13</sup> (that protect against	Communication campaigns	Supportive community orgs Social marketing experts Media outlets	Youth, Young Adults	Social marketing <sup>8,12</sup>

Rx drug misuse & abuse)	Policy advocacy and adoption	Municipal government Health Care Providers Supportive community orgs	Adults Young adults Youth	(See policy-based strategies for retail and social access).
	Community engagement	Supportive community orgs Local businesses/employers	Adults Young adults Youth	Substance-free recreational activities <sup>3</sup> Communities that Care <sup>1,2b</sup>
Attitudes Toward (how wrong is it to misuse Rx drugs & how wrong is it to provide Rx drugs to someone for whom they were not prescribed) <sup>1,7,10,12</sup>	School-based prevention education programs	Schools Parents	Young adults Youth	Prevention programs that develop peer leadership, peer refusal skills, social & personal competency skills Project Northland <sup>2a,9a,11</sup>
	Communications campaigns	Schools Social marketing experts Media outlets	Adults Young adults Youth	Social norms marketing <sup>8,12</sup> Mass media counter-advertising
Perceived negative and positive <u>social consequences</u> of misusing/abusing Rx drugs <sup>1,7,10,12</sup>	School-based prevention education programs	Schools Parents	Young adults Youth	Project Northland <sup>2a,9a,11</sup> Project Toward No Drug Abuse <sup>2a,9a,11</sup>
	Communication campaigns	Schools Social marketing experts Media outlets	Adults Young adults Youth	Social norms marketing <sup>8,12</sup> Mass media counter-advertising
Perceived negative and positive <u>health consequences</u> of misusing/abusing Rx drugs <sup>1,7,10,12,13</sup>	Communication campaigns	Schools Social marketing experts Media outlets	Adults Young adults Youth	Social marketing <sup>8,12</sup> Mass media counter-advertising targeting misperception that prescription drugs are “safe” <sup>1</sup>
	School-based prevention education programs	Schools Parents	Young adults Youth	ATLAS <sup>2b,9a,11</sup>
Perceived negative <u>legal consequences</u> of misusing/abusing Rx drugs <sup>1,7,10,12,13</sup>	Communication campaigns	Schools Health Care Providers Social marketing experts Media outlets	Adults Young adults Youth	Education on any legal consequences of using Rx drugs inappropriately <sup>1,10</sup>
	Policy advocacy and adoption	Legislators Municipal government Retailers Supportive community orgs Health Care Providers Law Enforcement	Adults Young adults Youth	(See policy-based strategies for retail and social access). Zero tolerance laws <sup>1</sup> Comprehensive sanctions <sup>10</sup>
	Visible enforcement	VDLC Local police agency	Adults Young adults Youth	Enhanced enforcement <sup>1</sup>
	Media advocacy	Supportive community orgs	Adults	Media advocacy

		Media outlets	Young adults Youth	
Perceived negative legal consequences of providing Rx drugs to others for whom it was not prescribed <sup>7</sup>	Visible enforcement	VDLC Local police agency	Adults Young adults Youth	Enhanced enforcement <sup>1</sup>
	Media advocacy	Schools Health Care Providers Social marketing experts Media outlets	Adults Young adults Youth	Media advocacy Education on any legal consequences of providing Rx drugs or over prescribing Rx drugs <sup>10,12,13</sup>
Normative Beliefs (perceived level of Rx drug use by others, perceived level of approval/disapproval of Rx drug use by others)	School-based prevention education programs	Schools Parents	Young adults Youth	
	Communications campaigns	Schools Social marketing experts Media outlets	Adults Young adults Youth	Social norms marketing <sup>8,12</sup> Mass media counter-advertising <sup>12</sup>
Subjective Rx Drug Availability (perception of how easy or difficult it is to obtain Rx drugs through retail and social sources)	Communications campaigns	Social marketing experts Media outlets		Social marketing <sup>8,12</sup> Mass media counter-advertising <sup>12</sup>
	(See approaches to reduce retail and social access)	(See partners for reducing retail and social access)		(See example strategies for reducing retail and social access)
Refusal/Resistance Efficacy Beliefs	School-based prevention education programs	Schools Parents		Project Northland <sup>2a,9a,11</sup> Life Skills Training <sup>2a,5,9b,11</sup>
	Communications campaigns	Schools Social marketing experts Media outlets		Social norms marketing <sup>8,12</sup> Mass media counter-advertising <sup>12</sup>
Emotional/Behavior problems in early and middle childhood <sup>7</sup>	Parent/family education programs (individual-focused)	Schools Parent-child centers		Person-to-person interventions to improve caregivers' parenting skills <sup>5</sup> E.g. Strengthening Families <sup>9a,11</sup>
	Parent/family education programs (population-focused)	Schools Parent-child centers Media outlets		Triple P <sup>2b,3,11</sup>
	School-based programs	Schools School board		Good Behavior Game <sup>2b,9a,11</sup> Preventive Treatment Program <sup>2b,9a</sup>

	Family-school interventions	Schools PTA		Linking Interests of Families and Teachers <sup>2b,9a</sup> Seattle Social Development Project <sup>2b,9a</sup> Adolescent Transitions Program <sup>9b</sup> Casastart <sup>2b,9b,11</sup>
Inadequate adult supervision and monitoring <sup>7</sup>	Family-school interventions	Schools PTA		Adolescent Transitions Program <sup>9b</sup> Orebro Prevention Program <sup>2b</sup>
	Parent/family education programs (individual-focused)	Schools Parent-child centers		Guiding Good Choices <sup>2b,9a,11</sup>
	After school care	Schools PTA YMCA Other community non-profits & supportive community orgs (VISTA, Americorps) Local businesses Municipal Government		
Child abuse/maltreatment <sup>12,13</sup>	Programs that provide family support	Public Health Nurses Prevent Child Abuse VT Schools Parent-child centers Childcare centers		Early Childhood Home Visitation Programs, E.g., Nurse Family Partnership <sup>2b,9a,11,3</sup> Triple P <sup>2b,11,3</sup> Nurturing Parent Program <sup>9c,11</sup>
School failure/low commitment to school	Programs that focus on school success	Schools PTA Parents Supportive community orgs		Big Brothers, Big Sisters Mentoring <sup>9b</sup> Perry Preschool Project <sup>2b,9a,11</sup> Raising Healthy Children <sup>2b</sup> Across Ages <sup>9c,11</sup> Caring School Community Program <sup>9b,11</sup>

\*All approaches can be facilitated through media advocacy (in addition to the explicit mention of media advocacy as a means of supporting approaches designed to increase perceptions of legal risks of underage drinking or providing alcohol to minors). Media advocacy efforts are more effective if community members receive some training in advocating for coverage of prevention issues and events.

^The underlying assumption is that community coalition coordinators and members will likely play a role in many of these approaches.

## References:

1. Birckmayer, J.D., Holder, H.D., Yacoubian, G.S., Friend, K.B. (2004). A general causal model to guide alcohol, tobacco, and illicit drug prevention: Assessing the research evidence. *Journal of Drug Education*, Vol. 34(2): 121-153.
2. *Blueprints for Violence Prevention Model and Promising Programs*. Center for the Study and Prevention of Violence, Institute of Behavioral Science, University of Colorado, Boulder. <http://www.colorado.edu/cspv/blueprints/>
  - 2a. Blueprints for Violence Prevention Model Program
  - 2b. Blueprints for Violence Prevention Promising Program
3. Coalition for Evidence-based Policy: Social Programs that Work: [http://evidencebasedprograms.org/wordpress/?page\\_id=1080](http://evidencebasedprograms.org/wordpress/?page_id=1080). Last updated: 2012.
4. Gugelman, H.M., Perrone, J. (2011). Can prescription drug monitoring programs help limit opioid use abuse? *JAMA*, 306(20). Downloaded from [jama.ama-assn.org](http://jama.ama-assn.org) March 7, 2012.
5. Guide to Community Preventive Services. Adolescent Health. <http://www.thecommunityguide.org/adolescenthealth/index.html>. Last updated: 3/29/2012.
6. Lingford-Hughes, A.R., Welche, S., Nutt, D.J. (2004). Evidence-based guidelines for the pharmacological management of substance misuse, addiction, and comorbidity: recommendations from the British Association for Psychopharmacology. *Journal of Psychopharmacology*. 18(3): 293-335.
7. Manchikanti, L. (2006). Prescription drug abuse: What is being done to address this new drug epidemic? Testimony before the Subcommittee on Criminal Justice, Drug Policy and Human Resources. *Pain Physician*. 9: 287-321.
8. National Research Council and Institute of Medicine. (2009). *Preventing mental, emotional, and behavioral disorders among young people: Progress and possibilities*. Washington, DC: The National Academic Press.
9. The Office of Juvenile Justice and Delinquency Prevention's Model Programs Guide. <http://www.ojjdp.gov/mpg/>
  - 9a. OJJDP Exemplary Program
  - 9b. OJJDP Effective Program
  - 9c. OJJDP Promising Program
10. *Preventing and recognizing prescription drug abuse*. Vermont Prescription Drug Abuse Workgroup: Final Report Workgroup Recommendations. Vermont Department of Health, [www.healthvermont.gov](http://www.healthvermont.gov).
11. SAMHSA's National Registry of Evidence-Based Programs and Practices. <http://www.nrepp.samhsa.gov/>

12. SAMHSA's CAPT Northeast Resource Team. Strategies/interventions for reducing non-medical use of prescription drugs: Literature review (2006-2011).
13. SAMHSA's CAPT Northeast Resource Team. Risk and protective factors associated with non-medical use of prescription drugs: Literature Review (2006-2011).