Vermont’s Efforts to Confront the Opioid Crisis

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Objectives

- Review Vermont’s opioid crisis, both challenges and successes and provide context
- Understand characteristics of a high functioning state’s response
- Discuss Vermont’s current and future response, the “four legged stool”:
  - Prevention
  - Intervention and Treatment
  - Enforcement
  - Recovery
- Explore the successes of the Hub and Spoke model
- Highlight where we are planning major initiatives
21 million Americans have a substance use disorder,
- Comparable with the number of people diagnosed with diabetes
- 1.5 times the prevalence of all cancers combined.

12.5 million Americans reported misusing prescription pain medications in the past year
- 1.9 Million dependent on pain relievers
- 517,000 dependent on heroin

1-2 in 10 people with a substance use disorder currently receives treatment.
US Drug overdoses have overtaken car accidents, guns and HIV as cause of death and are leading cause under age 50
Age Adjusted Overdose Deaths Involving Opioids by Type of Opioid United States, 1999-2016

NOTES: Deaths are classified using the International Classification of Diseases, Tenth Revision. Drug-poisoning (overdose) deaths are identified using underlying cause-of-death codes X40–X44, X60–X64, X85, and Y10–Y14. Drug overdose deaths involving selected drug categories are identified by specific multiple-cause-of-death codes: heroin, T40.1; natural and semisynthetic opioids, T40.2; methadone, T40.3; and synthetic opioids other than methadone, T40.4. Deaths involving more than one opioid category (e.g., a death involving both methadone and a natural or semisynthetic opioid) are counted in both categories. The percentage of drug overdose deaths that identified the specific drugs involved varied by year, with ranges of 75%–79% from 1999 to 2013, and 81%–85% from 2014 to 2016. Access data table for Figure 4 at: https://www.cdc.gov/nchs/data/databriefs/db294_table.pdf1.

VT was statistically similar to the US rate in 2016: Age Adjusted Drug OD Death Rates
New England - Any Drug Overdose Deaths

Drug Overdose Deaths per 100,000 by State

Source: CDC/NCHS
Drug-Related Fatalities Involving Opioids

Total number of accidental and undetermined manner drug-related fatalities involving an opioid (categories not mutually exclusive)

- Total opioid
- Rx opioid
- Heroin
- Fentanyl

Source: Vermont Department of Health Vital Statistics System
Nationally, over half of those who misused a prescription pain reliever got it from a friend or relative.
Doctors are the most common source of opioids for most frequent nonmedical users

The higher the morphine milligram equivalent, the higher the overdose death hazard.
Past Year Pain Reliever Misuse by State: Percentages

Annual Averages Based on 2015 and 2016 NSDUH Surveys

Vermont kids 12-17 have among the lowest rates of past year pain reliever misuse; those age 18-28 have among the highest

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, NSDUH, 2015 and 2016
Past Year Heroin Use and Perceptions of Great Risk Aged 12 or Older, by State: Percentages

Vermonters have the highest use of heroin and amongst the lowest perception of great risk of trying heroin once or twice.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, NSDUH, 2015 and 2016
Major Factors Driving the Prescription Opioid and Heroin Epidemic

Source: NGA
Hub & Spoke Evaluation: Participants

TYPICAL SUBSTANCE USE HISTORY OF PARTICIPANTS

- **Tobacco, Alcohol, and Cannabis**
  - **AGE 13-14**

- **Stimulant (Cocaine and Amphetamine) and Benzodiazepine**
  - **AGE 19-21**

- **Illicit Opioids (Heroin/Fentanyl)**
  - **AGE 25**

- **Hallucinogens**
  - **AGE 17**

- **Prescription Opioid without a Prescription**
  - **AGE 21**

- **Illicit Addiction Medication (Buprenorphine or Methadone)**
  - **AGE 27**
Substances Used by Vermonters
Ages 12+ by Substance Type

Source: National Survey on Drug Use and Health, 2002-2015
Note: * delineates a significant drop since 2011/2012 (p<0.05)
Heroin use is part of a larger substance abuse problem.

Nearly all people who used heroin also used at least 1 other drug.

Most used at least 3 other drugs.

Heroin is a highly addictive opioid drug with a high risk of overdose and death for users.

People who are addicted to...

- Alcohol are 2x more likely to be addicted to heroin.
- Marijuana are 3x more likely to be addicted to heroin.
- Cocaine are 15x more likely to be addicted to heroin.
- Rx Opioid Painkillers are 40x more likely to be addicted to heroin.

What is Vermont Doing?
The National Safety Council categorized Vermont as one of four states making progress in strengthening laws and regulations aimed at preventing opioid overdose. The areas assessed include:

- Mandatory Prescriber Education
- Opioid Prescribing Guidelines
- Eliminating Pill Mills (VT doesn’t have them but also doesn’t have legislation to eliminate/prevent them)
- Prescription Drug Monitoring Programs
- Increased Access to Naloxone
- Availability of Opioid Use Disorder Treatment

Vermont Department of Health
Elements of a High Functioning State Response to the Opioid Crisis

Support at all levels

- Governor
- State legislature
- Collaboration
  - state agencies and departments
  - state regions/cities
  - surrounding states
  - public and private insurers
- Federal funders
Elements of a High Functioning State Response to the Opioid Crisis

Epidemiology

- Compile data from multiple data sources
- Study variability by region
- Maximize publicly available information
- Include stakeholder input
- Multi-state collaboration
Elements of a High Functioning State Response to the Opioid Crisis

Prevention

- Pain management and prescribing practices:
  - Education at all levels (practicing clinicians, students, GME)
  - Prescriber rules
  - Prescription Drug Monitoring System
The Problem

- As many as four out of five heroin users begin by abusing prescription drugs
- Of those who abuse prescription opioids, seven out of 10 received these drugs through methods of diversion
- Opioids are overprescribed. They are prescribed:
  - Too often
  - At too high a dose
  - For too long
- Prescribers play a role in the supply and use of opioids in our and use of opioids in communities.
The more opioids prescribed during the first episode of opioid use, the greater the likelihood of continued opioid use.

**Characteristics of Initial Prescription Episodes and Likelihood of Long-Term Opioid Use — United States, 2006–2015**

One- and 3-year probabilities of continued opioid use among opioid-naïve patients, by number of days' supply* of the first opioid prescription — United States, 2006–2015

One- and 3-year probabilities of continued opioid use among opioid-naïve patients, by number of prescriptions* in the first episode of opioid use — United States, 2006–2015

First consider non-opioid and nonpharmacologic treatments

Upon first prescription, prescribers must:
- discuss risks and safe storage and disposal
- provide a patient education sheet, and
- receive an informed consent for all first opioid prescriptions
## MME Limits for First Prescription for Opioid Naïve Patients Ages 18+

<table>
<thead>
<tr>
<th>Pain</th>
<th>Average Daily MME (allowing for tapering)</th>
<th>Prescription TOTAL MME based on expected duration of pain</th>
<th>Common average DAILY pill counts</th>
<th>Commonly associated injuries, conditions and surgeries</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Minor pain</strong></td>
<td>No Opioids</td>
<td>0 total MME</td>
<td>0 hydrocodone 0 oxycodone 0 hydromorphone</td>
<td>molar removal, sprains, non-specific low back pain, headaches, fibromyalgia, un-diagnosed dental pain</td>
</tr>
<tr>
<td><strong>Moderate pain</strong></td>
<td>24 MME/day</td>
<td>0-3 days: <strong>72 MME</strong> 1-5 days: <strong>120 MME</strong></td>
<td>4 hydrocodone 5mg or 3 oxycodone 5mg or 3 hydromorphone 2mg</td>
<td>non-compound bone fractures, most soft tissue surgeries, most outpatient laparoscopic surgeries, shoulder arthroscopy</td>
</tr>
<tr>
<td><strong>Severe pain</strong></td>
<td>32 MME/day</td>
<td>0-3 days: <strong>96 MME</strong> 1-5 days: <strong>160 MME</strong></td>
<td>6 hydrocodone 5mg or 4 oxycodone 5mg or 4 hydromorphone 2mg</td>
<td>many non-laparoscopic surgeries, maxillofacial surgery, total joint replacement, compound fracture repair</td>
</tr>
<tr>
<td><strong>Extreme Pain</strong></td>
<td>50 MME/day</td>
<td>7 day MAX: 350 MME</td>
<td>10 hydrocodone 5mg or 6 oxycodone 5mg or 6 hydromorphone 2mg</td>
<td>similar to the severe pain category but with complications or other special circumstances</td>
</tr>
</tbody>
</table>

For patients with severe pain and extreme circumstance, the provider can make a clinical judgement to prescribe up to 7 days so long as the reason is documented in the medical record.
What is the Vermont Prescription Monitoring System?

- A statewide **electronic database** of controlled substance prescriptions dispensed from Vermont-licensed pharmacies that became operational in January 2009
- A **clinical tool** to promote the appropriate use of controlled substances and deter misuse, abuse, and diversion of controlled substances
- A **surveillance tool** used to monitor statewide prescribing, dispensing, and use of controlled substances trends

Source: Vermont Prescription Monitoring System
1. Opioids are not first-line therapy
2. Establish goals for pain and function
3. Discuss risks and benefits
Fewer Opioid Pain Relievers are Being Dispensed in Vermont -
Total MME Opioid Analgesics per 100 Residents

<table>
<thead>
<tr>
<th>Year</th>
<th>MME Opioid Analgesics per 100 Residents</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>73186</td>
</tr>
<tr>
<td>2013</td>
<td>71543</td>
</tr>
<tr>
<td>2014</td>
<td>73490</td>
</tr>
<tr>
<td>2015</td>
<td>77095</td>
</tr>
<tr>
<td>2016</td>
<td>68933</td>
</tr>
<tr>
<td>2017</td>
<td>57019</td>
</tr>
</tbody>
</table>

Data Source: VPMS

Note: Prior to rescheduling tramadol was not reported to VPMS. On August 14, 2014 tramadol was changed from a schedule V to a schedule IV drug. There was a 26% decrease in dispensed opioids between 2015 and 2017, years that include tramadol.
Elements of a High Functioning State Response to the Opioid Crisis

Prevention

- Public Level:
  - Prevention messaging campaigns/education
  - School-based primary prevention programs
  - Build prevention infrastructure and expertise
  - Community mobilization
  - Education in and insurance coverage for evidence-based pharmacologic and non-pharmacologic alternatives to opioids for pain management
  - Collaboration across state agencies
Other examples of prevention

- Regional Prevention Partnership Grants
- ParentUpVT.org
- Public service announcements, office posters
- Academic detailing and Blueprint QI Opioid Prescribing
- Vermont’s Most Dangerous Leftovers
- School based prevention education, student assistance programs
- Prevention consultants
- Secondary prevention = VT Recovery Network
- Community initiatives: Project VISION, CCOA and others
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Vermont Department of Health
Elements of a High Functioning State Response to the Opioid Crisis

- Harm-reduction strategies:
  - Drug disposal options and systems; safe storage guidelines
  - Sharps collection and disposal programs
  - Naloxone distribution programs for first responders and the public
  - Naloxone standing order
  - Syringe services programs
  - Good Samaritan Law
  - Alternatives to incarceration for those at risk of entering the criminal justice system due to drug use
In July of 2016, VDH slowly began to switch to distributing naloxone in new packaging – demand for the new kits was high. Dose in the new kit is twice that of the old kit.

Source: Vermont Department of Health Naloxone Pilot Program
Syringe Service Distribution

Total number of syringes distributed by year

Vermont Department of Health
Syringe Service Program Members

Total number of syringe service program members by year

<table>
<thead>
<tr>
<th>Year</th>
<th>Members</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>1,612</td>
</tr>
<tr>
<td>2011</td>
<td>2,072</td>
</tr>
<tr>
<td>2012</td>
<td>2,802</td>
</tr>
<tr>
<td>2013</td>
<td>3,749</td>
</tr>
<tr>
<td>2014</td>
<td>4,315</td>
</tr>
<tr>
<td>2015</td>
<td>4,860</td>
</tr>
<tr>
<td>2016</td>
<td>5,591</td>
</tr>
</tbody>
</table>
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Elements of a High Functioning State Response to the Opioid Crisis

- **Intervention and Treatment**
  - Include screening, intervention, and referral services in medical settings (SBIRT)
  - Widely available evidence-based Medication Assisted Treatment (MAT) with methadone or buprenorphine with added:
    - Counseling services
    - A Health Home model, with services to integrate and coordinate primary, acute, behavioral health, and long-term services and supports
  - Residential treatment, with or without MAT, where clinically indicated
  - Non-MAT outpatient treatment, where clinically indicated
VT Prevention, Intervention, Treatment, Recovery Services

Recovery services are available at all service levels

- Prevention Services
- Screening, Brief Intervention, Referral for Treatment (SBIRT)
- Outpatient Treatment (OP), Hubs
- Intensive Outpatient Treatment (IOP)
- Specialty (Res)

Fewest Number of People

Largest Number of People

- Highest Level Of Care
- Lowest Level Of Care

Hospital Detoxification

Physician (spoke) OP Services, Private Practitioner/DMH OP, DOC Medical Services

AHS-SATC Screening
Several studies have clearly demonstrated MAT is effective across a number of behavioral dimensions compared to placebo or psychological treatment alone:

- Reduced opioid use (including IVDU)
- Increased engagement and retention in treatment
- Reduced morbidity and mortality
- Improved social functioning
- Reduced criminal activity
- Reduced transmission of infectious diseases
Care for Opioid Use Disorder – the “Hub”

“HUB”

A Hub is a specialty regional treatment center responsible for coordinating the care of individuals with complex opioid use disorder across the health and substance abuse treatment systems of care. All Medications are dispensed. A Hub is designed to do the following:

- Provide comprehensive assessments and treatment protocols.
- Provide medication (methadone, buprenorphine, and/or vivitrol) treatment and supports.
- For clinically complex clients, initiate medication treatment and provide care for initial stabilization period.
- Coordinate referral to ongoing care.
- Provide specialty addictions consultation and support to ongoing care.
- Provide ongoing coordination of care for clinically complex clients.

5 Programs Operate 9 Sites Across Vermont
Care for Opioid Use Disorder – the “Spoke”

“SPOKE”

A *Spoke* is the ongoing care system comprised of a prescribing MD, APRN, or PA and collaborating health and addictions professionals who monitor adherence to treatment, coordinate access to recovery supports, and provide counseling, contingency management, and case management services. *Spokes* can be:

- Primary care offices
- Outpatient substance abuse treatment programs
- Pain clinics
- OB-GYN offices
- Independent psychiatry practices

Spoke Teams include the prescribing provider and 1 FTE RN + 1FTE MH/SU Counselor for every 100 patients

80 different practices / programs are Spoke sites in Vermont
Study Measurement Periods

Retrospective Study Measurement Periods

T₁
Initial Measurement

In Treatment Group

90 Days
Treatment Admission Date

Average Elapsed Time = 30 Months

T₂
Current Measurement

90 Days
Interview Date

Out of Treatment Group

90 Days
1 Year Prior to Interview Date

Elapsed Time = One Year

90 Days
Interview Date
Self-Reported Changes in Opioid Use: $T_1$ to $T_2$

Opioid use decreased substantially for people in both hubs and spokes. Those not in treatment continued to use at high levels.

<table>
<thead>
<tr>
<th>Measure</th>
<th>In Treatment</th>
<th>Out of Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Change in Ave Days Used</td>
<td>Percent Using at $T_2$</td>
</tr>
<tr>
<td>Days of Opioid Use</td>
<td>-96%</td>
<td>15%</td>
</tr>
<tr>
<td>Days of Opioid Injection</td>
<td>-92%</td>
<td>11%</td>
</tr>
</tbody>
</table>

Designates statistically significant change

“The hub was really good in a lot of ways because of the structure, the discipline. It makes you get back on track if you want to get back on track.” – Hub Patient

“The main support is always they focus on your health and your wellbeing. They always try to make sure you’re safe. That’s the number one thing, and then your substance abuse, to not using.” – Spoke Patient
Self-Reported Changes in Functioning: T₁ to T₂

There were significant decreases in the number of ED visits, arrests, and days of illegal activity. No study participants overdosed in the 90 days prior to the interview. Days of school or training increased but there was not a significant change in days of work.

<table>
<thead>
<tr>
<th>Measure</th>
<th>In Treatment Group (n=80)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of ED Visits</td>
<td>-89%</td>
</tr>
<tr>
<td>OD in the previous 90 days</td>
<td>-100%</td>
</tr>
<tr>
<td>Days of school or training</td>
<td>+257%</td>
</tr>
<tr>
<td>Days of work</td>
<td>+8%</td>
</tr>
<tr>
<td>Number of police stops or arrests</td>
<td>-90%</td>
</tr>
<tr>
<td>Days of illegal activity</td>
<td>-90%</td>
</tr>
</tbody>
</table>

The out of treatment group is excluded because there were no significant changes.

Vermont Department of Health
“Impact of Medication-Assisted Treatment for Opioid Addiction on Medicaid Expenditures and Health Services Utilization Rates in Vermont” published in the Journal of Substance Abuse Treatment (August 2016)

- Highlights:
  - Higher MAT treatment costs offset by lower non-opioid medical costs
  - MAT associated with lower utilization of non-opioid medical services
  - MAT suggested to be cost-effective service for individuals addicted to opioids

Number of people receiving MAT in hubs and spokes vs number waiting for services over time

Source: Hub Census and Waitlist, Medicaid Claims for Spokes
Census Change - Hubs and Spokes

HUB CENSUS

SPOKE CENSUS

Vermont Department of Health
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Vermont Department of Health
Elements of a High Functioning State Response to the Opioid Crisis

- Intervention and Treatment, cont’d.
  - Peer recovery coach availability in ED and hospitals
  - Access to MAT in correctional facilities
  - Specialty treatment services for pregnant women and their infants
Elements of a High Functioning State Response to the Opioid Crisis

Recovery

- Strong statewide network of recovery centers with access to peer recovery coaches
- Availability of and equal access to stable recovery housing
- Opportunities to grow the state’s workforce by employing individuals in recovery
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Vermont Department of Health
System of Care Enhancement: Workforce

- Strengthen the workforce & increase number of qualified providers
  - Support workers in pursuing path to certification/licensure
  - Increase number of federally “waivered” prescribers trained to provide office-based opioid use disorder treatment
  - Expand opportunities for credentialed clinicians to access training