

Understanding the Increase in Opioid Overdoses: NDEWS New Hampshire HotSpot Study Results

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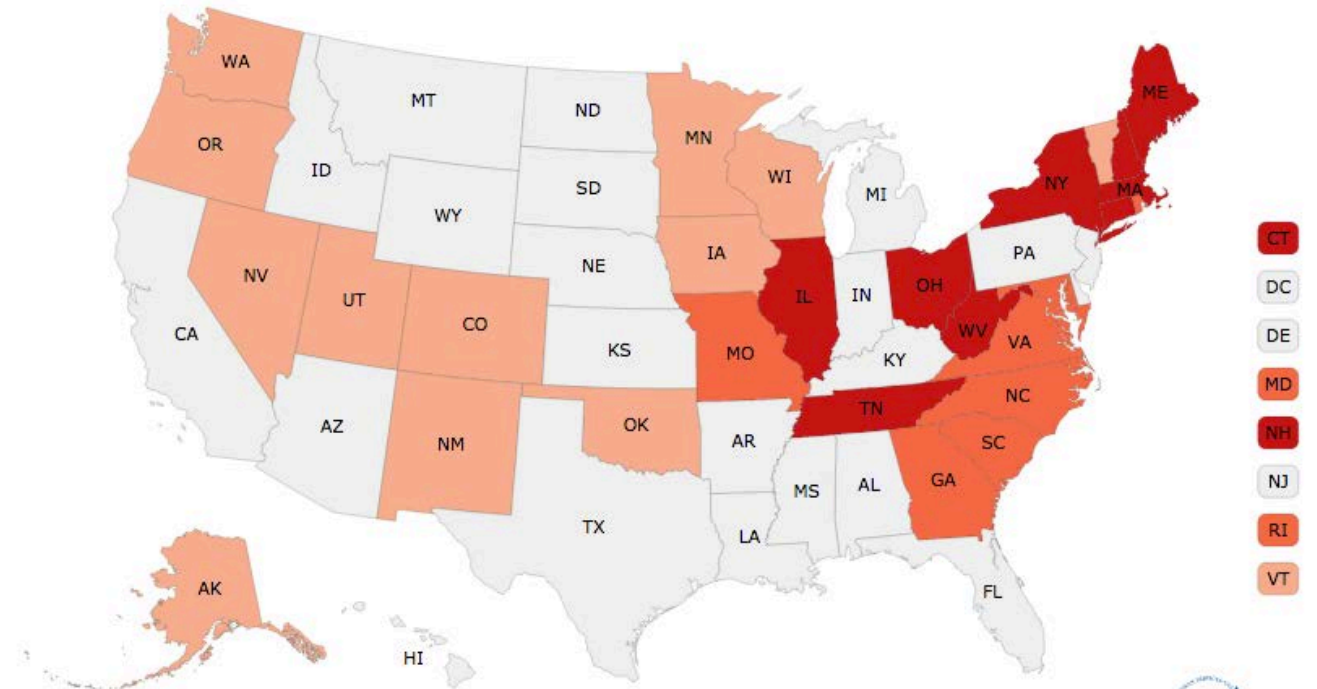
New Hampshire Fentanyl HotSpot Study

- State with *highest* rate of fentanyl-related overdose deaths per capita
- Fentanyl is about 50-100 times more potent than heroin
- Rate has doubled in the past two years
- Rate has increased over 1600% in the past five years

Statistically significant changes in drug overdose death rates involving synthetic opioids (excluding methadone) by select states, United States, 2014 to 2015

Statistically significant change in rate, 2014-2015

- did not meet inclusion criteria
- increase >70
- increase 0-70
- stable - not significant



Top 10 states with highest fentanyl-related overdose deaths, by 2015 rate

state	2014 number	2014 rate	2015 number	2015 rate	Percent change	Key category	Significant by <0.05	Reporting quality
NH	151	12.4	285	24.1	94.4	increase >70	Yes	very good to excellent
MA	453	6.9	949	14.4	108.7	increase >70	Yes	very good to excellent
RI	82	7.9	137	13.2	67.1	increase 0-70	Yes	very good to excellent
WV	122	7.2	217	12.7	76.4	increase >70	Yes	very good to excellent
OH	590	5.5	1,234	11.4	107.3	increase >70	Yes	good
ME	62	5.2	116	9.9	90.4	increase >70	Yes	very good to excellent
CT	94	2.7	211	6.1	125.9	increase >70	Yes	very good to excellent
MD	230	3.8	357	5.8	52.6	increase 0-70	Yes	very good to excellent
VT	21	3.6	33	5.6	55.6	stable - not significant	No	very good to excellent
TN	132	2.1	251	4	90.5	increase >70	Yes	good

Data courtesy CDC <https://www.cdc.gov/drugoverdose/data/fentanyl.html>

Phase I: Rapid HotSpot Study

- Support from National Drug Early Warning System (NDEWS) initiative
 - Cooperative Agreement funded by NIDA (DA038360-Z0717001)
- Designed to systematically evaluate factors giving rise to the disproportionately high rates of opioid overdose deaths in the state of NH
- 45+ key stakeholders in New Hampshire
 - Treatment providers
 - Medical responders
 - Law enforcement
 - State authorities
 - Policymakers
- Reported increased opioid overdose deaths, ED visits for overdoses, increased treatment admissions for heroin and fentanyl vs. other opioids, increased fentanyl seizures (twice the amount as heroin)

Phase I: Rapid HotSpot Study

- Fentanyl use heaviest in Hillsborough and Strafford Counties
 - UDS-positive rates upwards of 90% in Hillsborough County compared to 5% in Grafton County (Lebanon region)
- Many thought consumers were using and overdosing on fentanyl without being aware, while others reported intentional fentanyl-seeking behavior
- Input from users was not available, but was critically needed to better understand the trajectory of fentanyl use, the trafficking of fentanyl, fentanyl-seeking behavior, the value of harm reduction resources, and treatment preferences – to inform policy and community response.

Phase II: Rapid Epidemiological Study

Qualitative interviews and surveys from 6 targeted NH counties

- 76 active/recent opioid users
 - Heavier recruitment in Hillsborough and Strafford counties
- 18 first responders (police, fire, emergency medical services [EMS])
- 18 emergency department [ED] clinical staff
- Completed in 6 months (October 2016-March 2017)

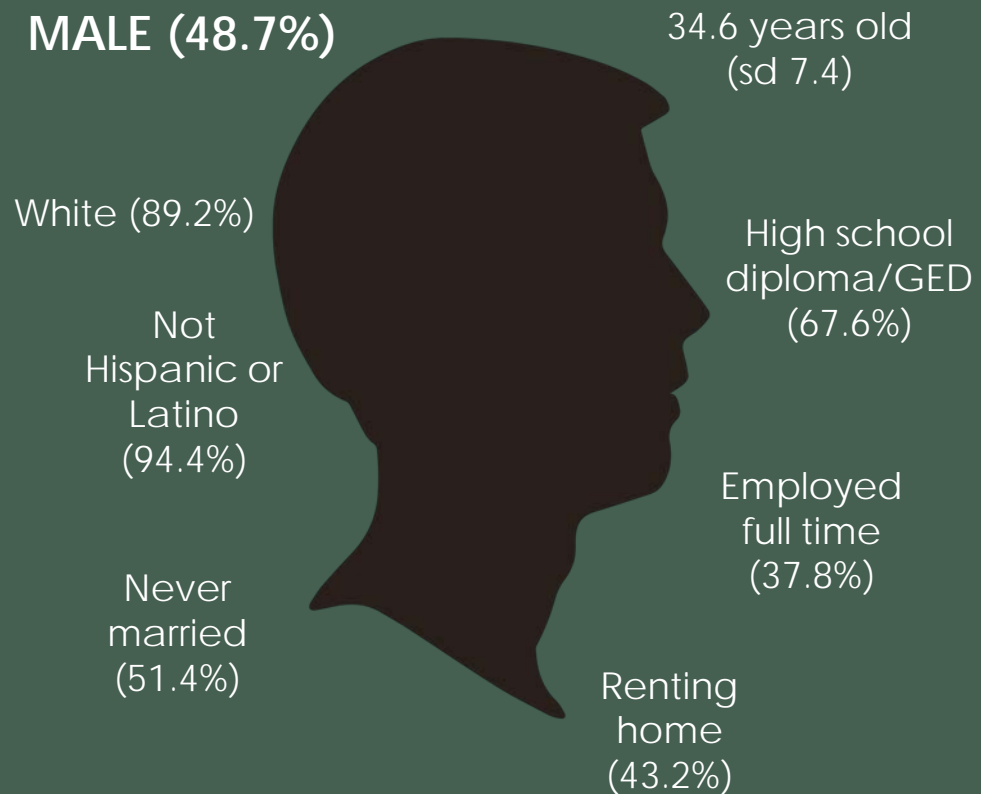


Phase II: Rapid Epidemiological Study – Identified Themes

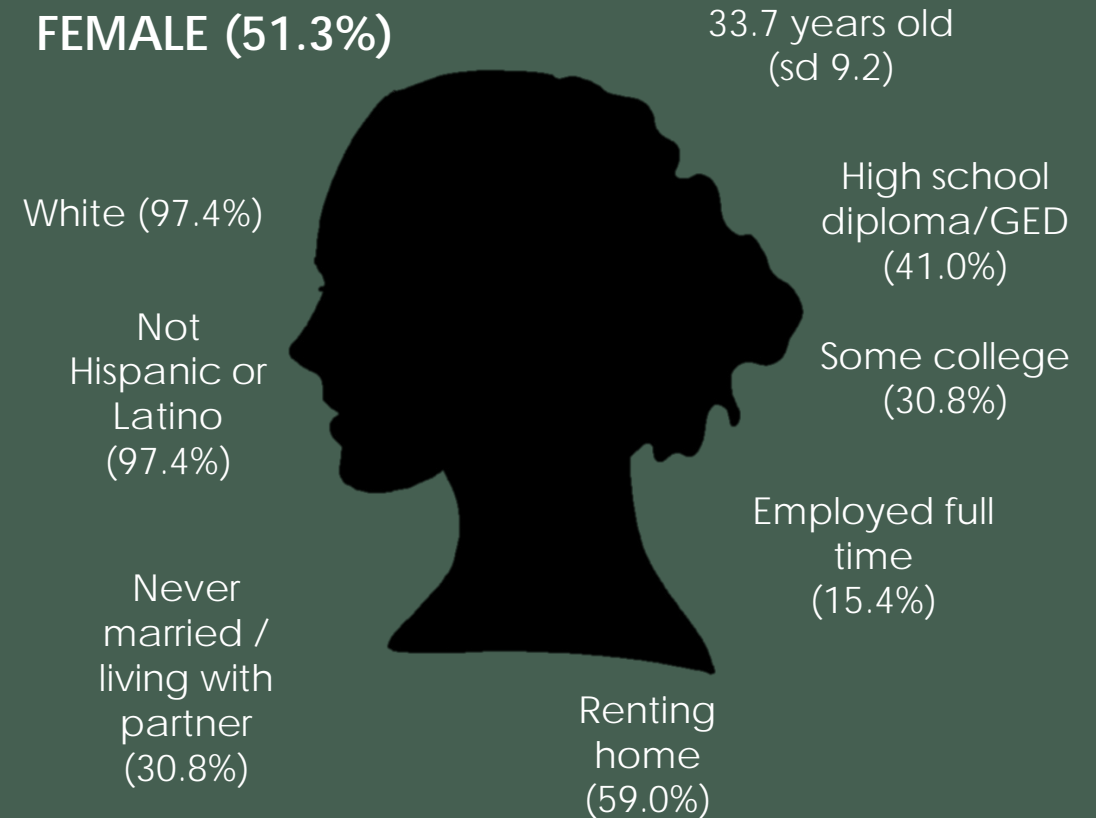
- Trajectory of opioid use
- Trafficking and supply chain
- Formulation of heroin and fentanyl being used
- Fentanyl-seeking behaviors
- Experiences with overdoses
- Experiences with naloxone
- Harm reduction
- Experiences with treatment
- Prevention
- Laws and Policies
- Uniqueness of New Hampshire

CONSUMER PROFILES (n=76)

MALE (48.7%)



FEMALE (51.3%)



RESPONDER PROFILES (n=18)

FIRE

42.2 years old (sd 11.2)

Male (100%)

White
(100%)

Not
Hispanic or
Latino
(100%)

18.4 years
on the job
(sd 10.9)

Responded to
58 overdoses

Given Narcan
33 times



POLICE

41.8 years old (sd 7.0)

Male (83.3%)

White
(100%)

Not
Hispanic or
Latino
(100%)

17.2 years
on the job
(sd 7.3)

Responded to 62
overdoses

Given Narcan
0 times



EMS

44.8 years old (sd 10.8)

Male (100%)

White
(100%)

Not
Hispanic or
Latino
(100%)

18.3 years
on the job
(sd 9.1)

Responded to
88 overdoses

Given Narcan
157 times



EMERGENCY DEPARTMENT STAFF PROFILE (n=18)

MEDICAL DIRECTORS
PHYSICIANS
PHYSICIAN ASSISTANTS
NURSES

Male (66.7%)

42.2 years old (sd 11.2)

White
(88.9%)

Not Hispanic or
Latino
(88.9%)



Responded to
100 overdoses

Given Narcan
30 times

7.9 years on the job
(sd 5.6)

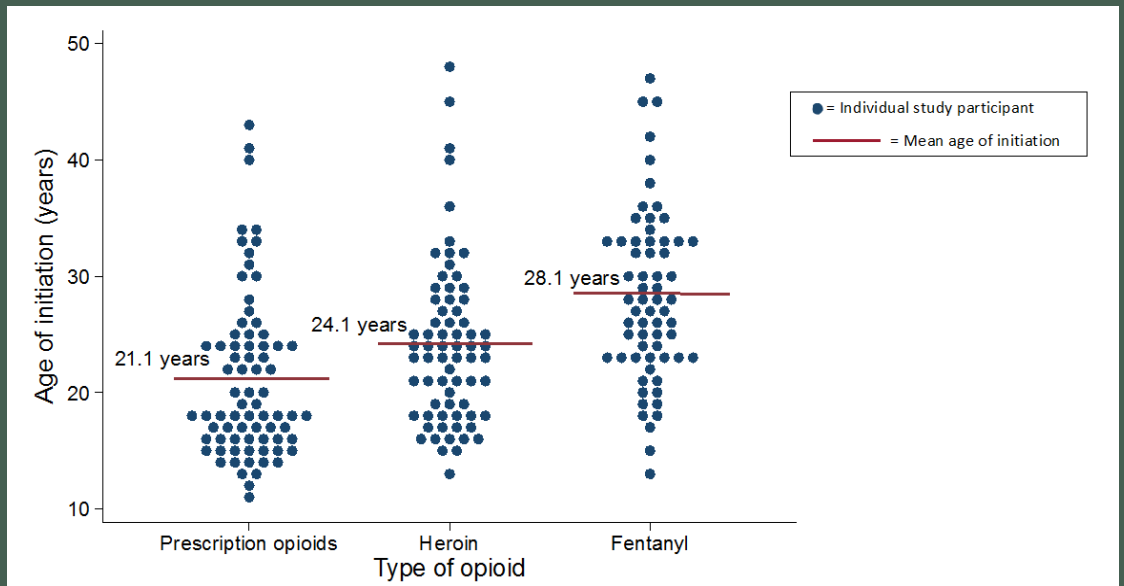
RESULTS

Trafficking and Supply Chain

- Fentanyl hit NH in 2014-2015
- Drugs are reportedly originating in China via Mexico but can be home-manufactured
- Distributed from Massachusetts
 - Greater profit potential in NH vs MA
- Demand driven by lower cost, higher potency, easy availability

Trajectory of Opioid Use

- Main trajectories involved
 - Early recreational substance use
 - Injuries/surgeries/chronic pain resulting in prescriptions
 - Intergenerational use
 - Self-medication of mental health conditions



“ [Doctors] weren’t really taking care of me enough, and my insurance wouldn’t cover me to get into a good pain clinic, so I was kind of flying on one wing. I was still in a lot of pain, so what they ended up making me do was look for other people that had pain meds so I could just be right ... next thing I knew [heroin/fentanyl mix] was in front of me.”

RESULTS

Formulation of Heroin and Fentanyl

- Responders report limited knowledge
- Consumers report ways to distinguish:
 - Sight
 - Taste
 - Effect (speed of onset, strength, duration)
 - Cost
- Overdoses not limited to injection use – some report inhalation

Fentanyl-seeking Behavior

- Some consumers seek fentanyl specifically
- Many consumers prefer heroin to fentanyl
- Consumers report buying whatever opioid is available from their dealer, and widely acknowledge that fentanyl-laced heroin is most available in NH
- Many consumers report seeking batches of drugs that caused overdoses
- Street oxycontin is a “thing of the past”

“We want whatever is strongest and the cheapest. It’s sick. I know me using, when I hear of an overdose, I want it because I don’t want to buy bad stuff. I want the good stuff that’s going to almost kill me.”

RESULTS

Experiences with Overdoses

- Unanimous agreement that fentanyl is the culprit of increased rates in NH
- Fentanyl potency, mix inconsistency, and user inexperience contribute
- Primary goal of responders differs at the scene

Experiences with Naloxone

- Consumers report significant barriers to access in NH
 - High cost
 - Fear of Police
 - Fear of stigmatization
 - Lack of knowledge
 - Fear of withdrawal
- Responders report mixed opinions about making it available to public
- No unanticipated side effects have been observed

“He was a handyman, and he and his son were in the truck one morning ... The son had come in the morning and said ‘Dad, I was up late last night with my friends. I just need to lay down in the backseat and get a little rest before we get to the job.’ They got to the job and he was dead and blue, and had overdosed in the truck right behind his father driving to work ... No family is ever the same with that kind of thing.”

RESULTS

Harm Reduction

- Unanimous support for needle exchange programs in NH
- Strong support for wider availability of Suboxone

Experiences with Treatment

- Unanimous agreement that consumers cannot stop using opioids without help
- Available services lacking in NH
- Lengthy waitlists, trouble navigating the system, funding
- Both groups recommended:
 - Increasing access to medication treatment
 - More counseling options
- Referral rate after overdose treatment low

“When you know someone who’s willing and able and ready and physically standing there in the halls of the [treatment program] in front of you, and you say ‘Come back in 8 weeks,’ that’s crazy. You could be dead tonight. Eight weeks is a f@%!ing long time in the trenches.”

RESULTS

Prevention

- Education must start before middle school
- Dismantle stigma, intergenerational use
- Eliminate pain as the 5th vital sign, prescribe more prudently
- Mobilize communities to be part of the solution

Laws and Policies

- Consumers are not well informed
- Frustration and mistrust towards police and justice system
 - Lack of treatment in jail
 - Mistrust of Good Samaritan Law
- Prescribing crackdowns may reduce opioid prescribing but will likely mean an increase in heroin/fentanyl use
- PDMPs viewed as useful but burdensome by ED staff

“Show a successful person in a commercial and then show them starting to use in the bathroom at work. Show them starting to use in their car outside of their work. Show them losing their teeth, losing their everything. Then show them dead on the side of the street somewhere.”

CONFLUENCE OF FACTORS CONTRIBUTING TO HEROIN/FENTANYL CRISIS IN NH

- Consistently rates in top 10 states with highest drug use rates
- Opioid prescribing exceeds national averages

Region	Opioid Pain Reliever Prescriptions	Long-acting/extended release opioid prescriptions	High-dose opioid prescriptions	Benzodiazepine prescriptions
New Hampshire	71.7	14.8	8.2	37.5
U.S. National Average	82.5	10.3	4.2	37.6

Rates of prescription pain medications per 100 people, CDC, 2014

- High availability of highly potent fentanyl drug (interstate access and close proximity to supply chain)
- Happening in a context in which access to substance use disorder treatment and prevention interventions are greatly limited

CONFLUENCE OF FACTORS CONTRIBUTING TO HEROIN/FENTANYL CRISIS IN NH

- Treatment admission rates per capita are lower than both national average and all other New England states
- Lowest per capita spending on treatment in all of New England and 2nd lowest in the nation
- Lowest rate of Suboxone providers per capita in all of New England
- Public health funding per resident lower than national average and surrounding states

Region	Funding per Resident
New Hampshire	\$66
U.S. National Average	\$94
Vermont	\$114
Massachusetts	\$102

Public Health Funding per Resident
Trust for America's Health, 2016

- Needle exchange programs legalized July 2017; Access to clean needles still limited
- Barriers to naloxone access
- Rural setting (Tightly knit social networks; Limited access of "things to do"; "Live Free or Die")
- So far in 2017, 10 deaths connected to carfentanil (100x stronger than fentanyl; NH DMI, July 2017)

RECOMMENDATIONS FROM HOTSPOT



- Increase public health resources for effective substance use prevention and treatment
- Expand prevention programs in elementary and middle schools
- Strengthen treatment to include broader availability and affordability of effective medications
- Incentivize physicians to become buprenorphine-waivered providers or increase capacity
- Assist physicians with prudent opioid prescribing, patient education, alternatives to pain management
- Support first responder and emergency department personnel with vicarious trauma

RECOMMENDATIONS FROM HOTSPOT



- Expand access to needle exchange programs
- Collaborate with Mass. on addressing the manufacturing/trafficking of fentanyl and other opioids
- Launch programming to dispel stigma and fear and educate about effective treatments to:
 - Consumers (e.g., Naloxone and Good Samaritan Law)
 - Physicians and pharmacists (e.g., chronic disease management, value of Naloxone, options for care)
 - Law enforcement (e.g., alternative approaches to punitive measures)
 - Public (e.g., About opioid risks; Breaking the intergenerational cycle of addiction)
- Opportunity to extend services beyond acute care to coordinated models of science-based care and recovery support

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First responders

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Dartmouth research team:

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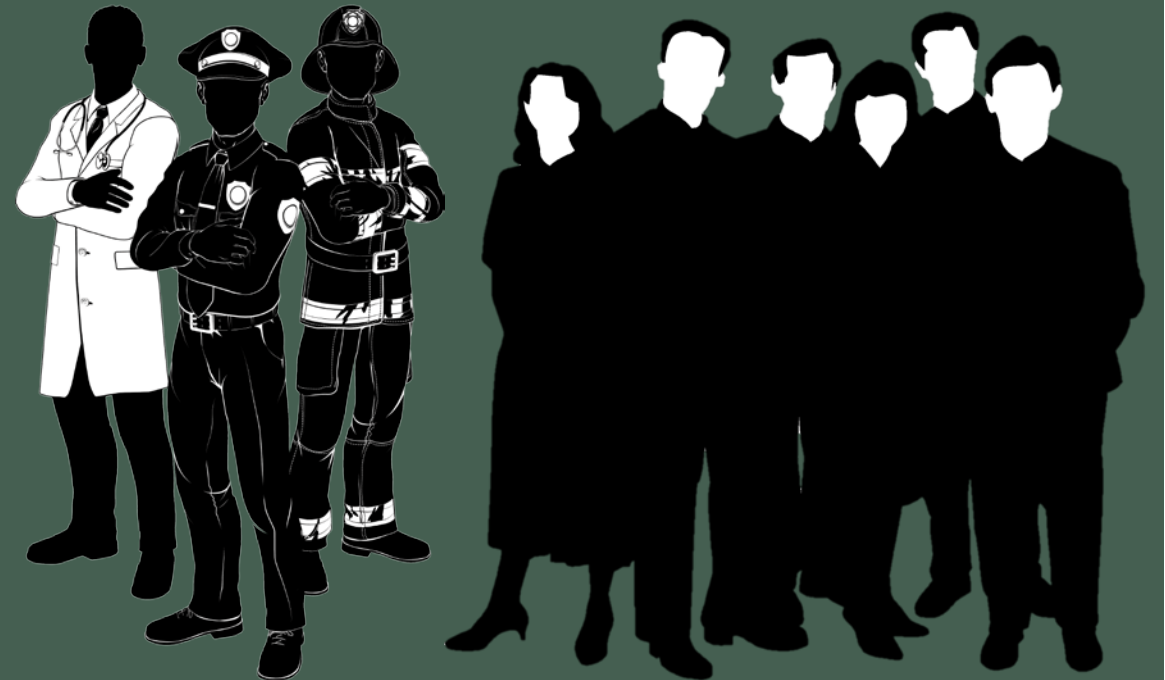
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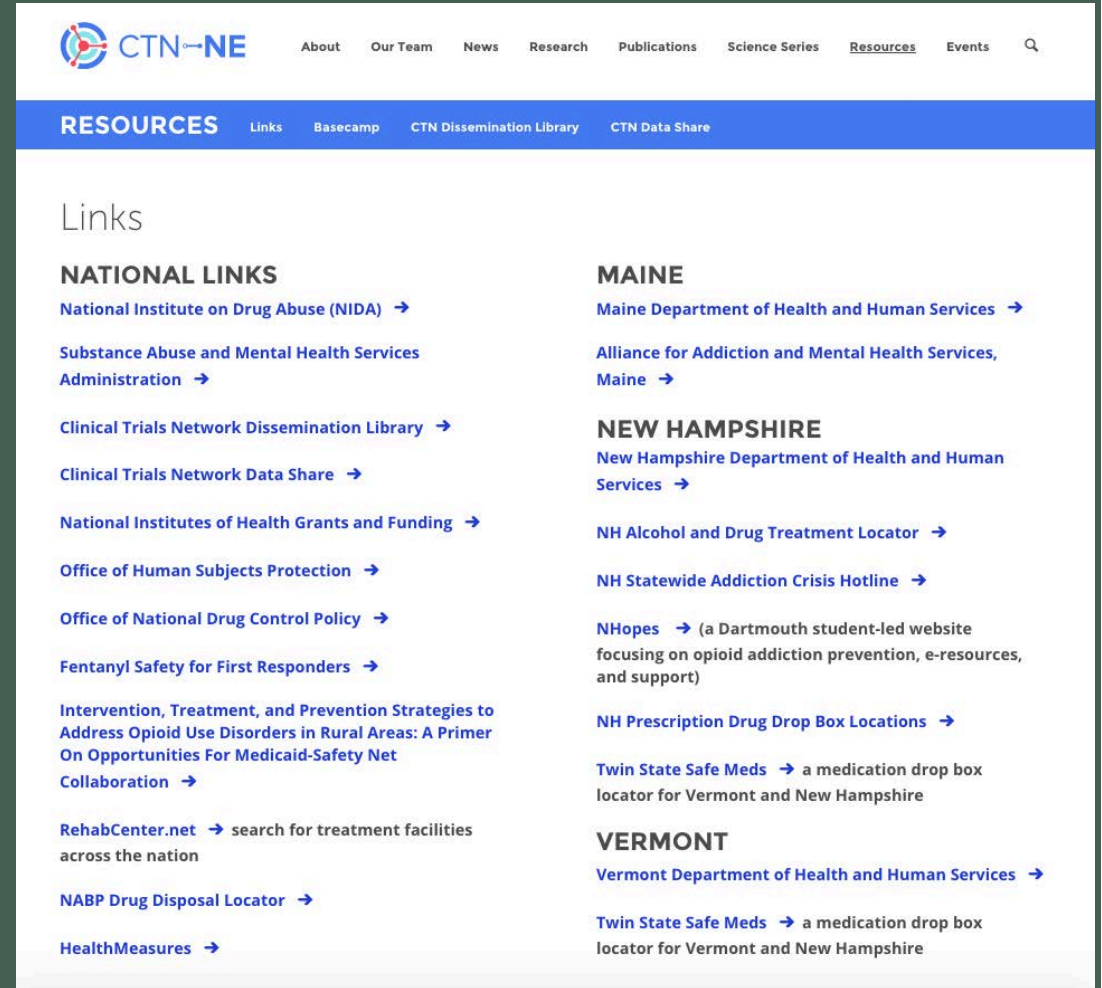
Olivia Walsh, BA

NDEWS/NIDA



www.ctnnortheastnode.org

- NDEWS Phase I and II
- Safe Station study
- Participation in CTN-funded studies
- Science Series presentations on current state of the science
- Links to state data
- Links to resources
- Calendar of upcoming events and trainings
- Partner list and descriptions



The screenshot shows the CTN-NE website's Resources page. The top navigation bar includes links for About, Our Team, News, Research, Publications, Science Series, Resources, and Events. A secondary blue bar highlights the Resources section, with sub-links for Links, Basecamp, CTN Dissemination Library, and CTN Data Share. The main content area is titled "Links" and is organized into three columns. The left column lists "NATIONAL LINKS" such as the National Institute on Drug Abuse (NIDA), Substance Abuse and Mental Health Services Administration, Clinical Trials Network Dissemination Library, Clinical Trials Network Data Share, National Institutes of Health Grants and Funding, Office of Human Subjects Protection, Office of National Drug Control Policy, Fentanyl Safety for First Responders, and a primer on opioid use disorders in rural areas. The middle column lists "MAINE" resources including the Maine Department of Health and Human Services, Alliance for Addiction and Mental Health Services, NH Alcohol and Drug Treatment Locator, NH Statewide Addiction Crisis Hotline, NHopes (a Dartmouth student-led website), and NH Prescription Drug Drop Box Locations. The right column lists "VERMONT" resources including the Vermont Department of Health and Human Services and Twin State Safe Meds (a medication drop box locator for Vermont and New Hampshire).

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NATIONAL LINKS

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- [National Institutes of Health Grants and Funding](#) →
- [Office of Human Subjects Protection](#) →
- [Office of National Drug Control Policy](#) →
- [Fentanyl Safety for First Responders](#) →
- [Intervention, Treatment, and Prevention Strategies to Address Opioid Use Disorders in Rural Areas: A Primer On Opportunities For Medicaid-Safety Net Collaboration](#) →
- [RehabCenter.net](#) → search for treatment facilities across the nation
- [NABP Drug Disposal Locator](#) →
- [HealthMeasures](#) →

MAINE

- [Maine Department of Health and Human Services](#) →
- [Alliance for Addiction and Mental Health Services, Maine](#) →
- NEW HAMPSHIRE**
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