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Montana Poison Center

SUD Strategic Taskforce Meeting: 7/19/23

Helena, Montana

Montana Poison Center Introductions

- Shireen Banerji, PharmD, Managing Director
- Christopher Hoyte, MD, Medical Director
- Brandon Ensign, MBA, Director, Med Info

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What is Rocky Mountain Poison & Drug Safety (RMPDS)?

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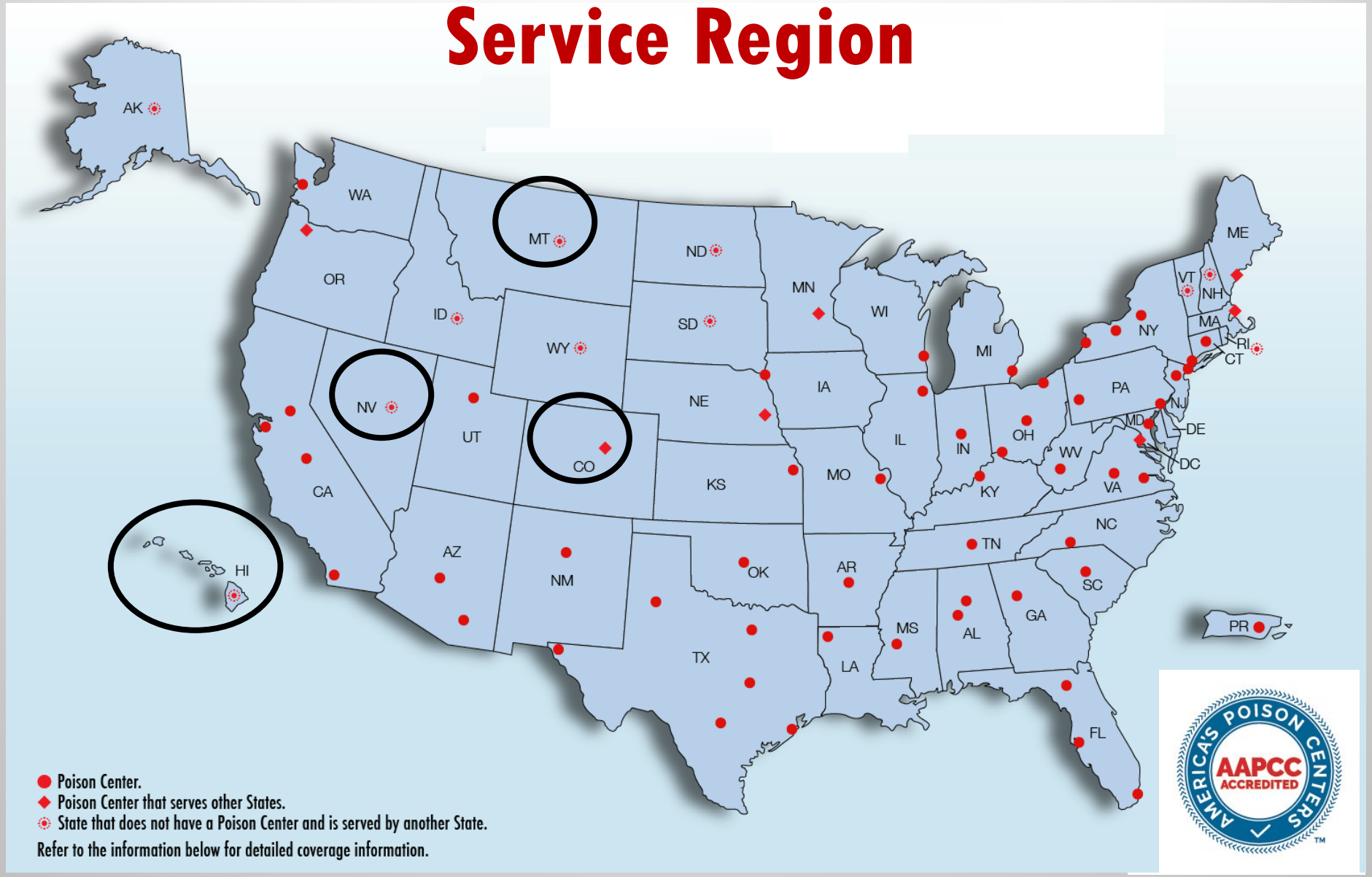
Rocky Mountain Poison Center Service Region



Montana Poison Center Overview

- One of the largest certified Poison Centers
- 24 x 7 service, 365 days
- Staffed by Specialists in Poison Information (SPI)
- Disaster Recovery System
- Core Competency
  - Medical Management of Poisonings/Exposures
- Caller Types
  - General public
  - Healthcare professionals
  - Persons in the workplace
  - Public Health
  - Law Enforcement
- Omni-channel capabilities (phone, SMS, web chat, email)

Montana Poison Center

- **Staff**
  - CSPI/SPI: [Certified] Specialists in Poison Information manage all healthcare and public exposure calls.
    - RNs, PharmDs (n=22)
    - 68% CSPI Staff as of July 2023
  - PIP: Poison Information Providers manage low acuity calls
    - Para-professionals
  - **Backup support**
    - Medical Toxicology (physician) fellows & board-certified Medical Toxicologists
    - Clinical Toxicologists
    - Medical Director

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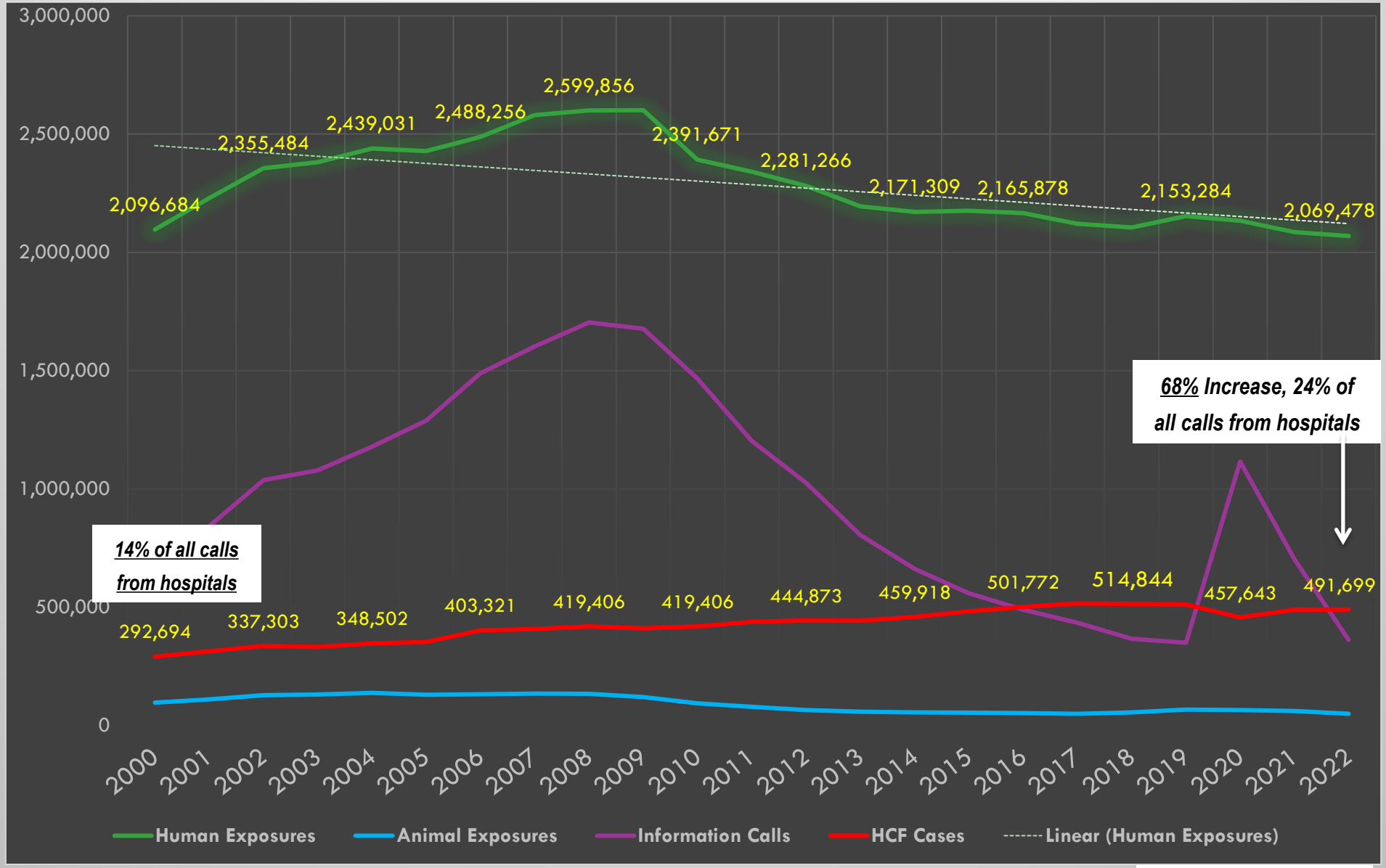
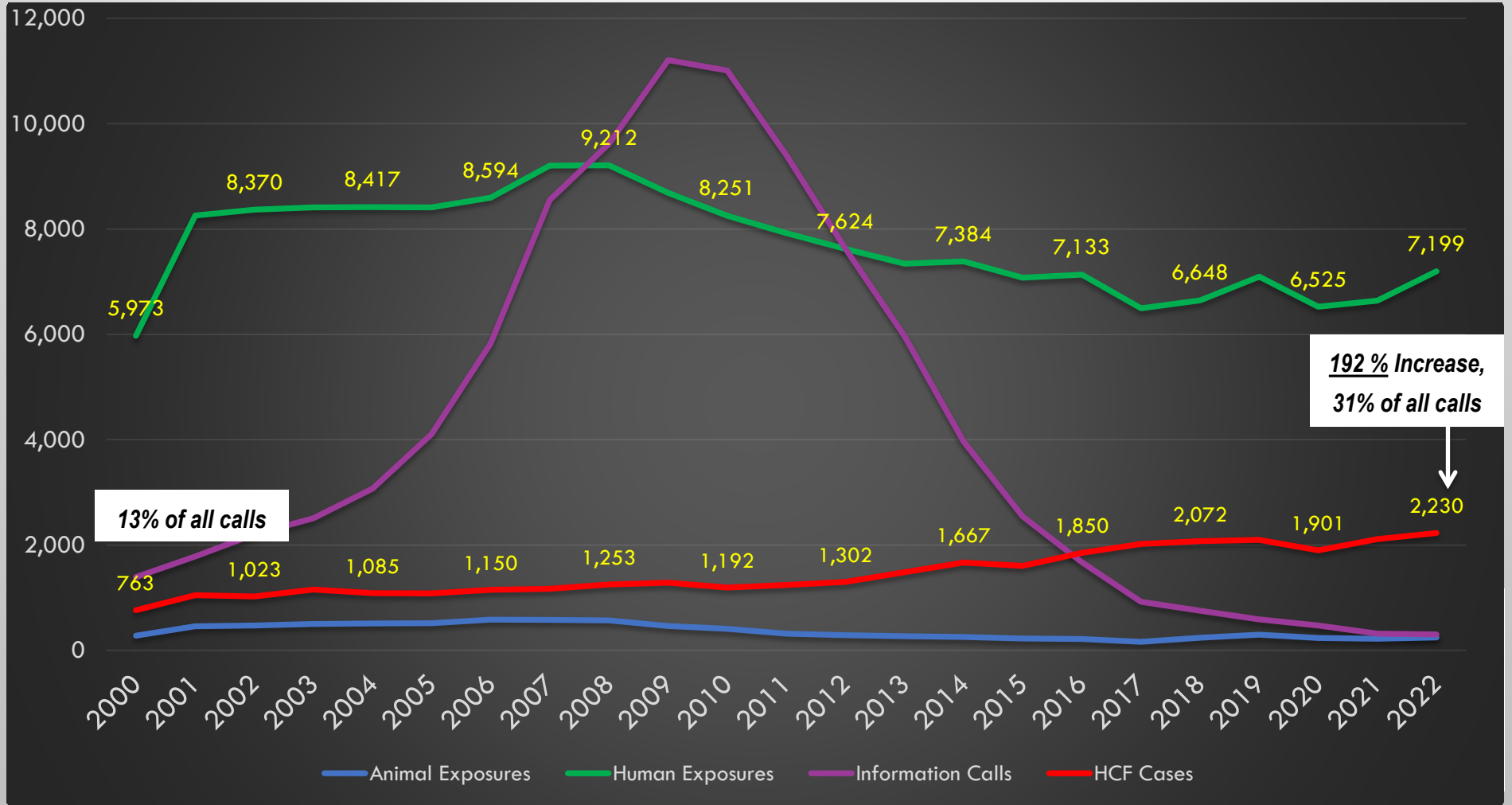
US Poison Center Total Case Volume: 2000-2022



Montana PC Case Volume: 2000-2022



Montana PC: 2022 Case Breakdown

Case Type	Number of cases
Exposures	7,446
Drug identification	110
Poison information	38
Caller Referred	56
Other information	22
Drug information	60
Administrative	1
Prevention / Safety / Education	6
Environmental information	5
Medical information	4
Occupational information	1

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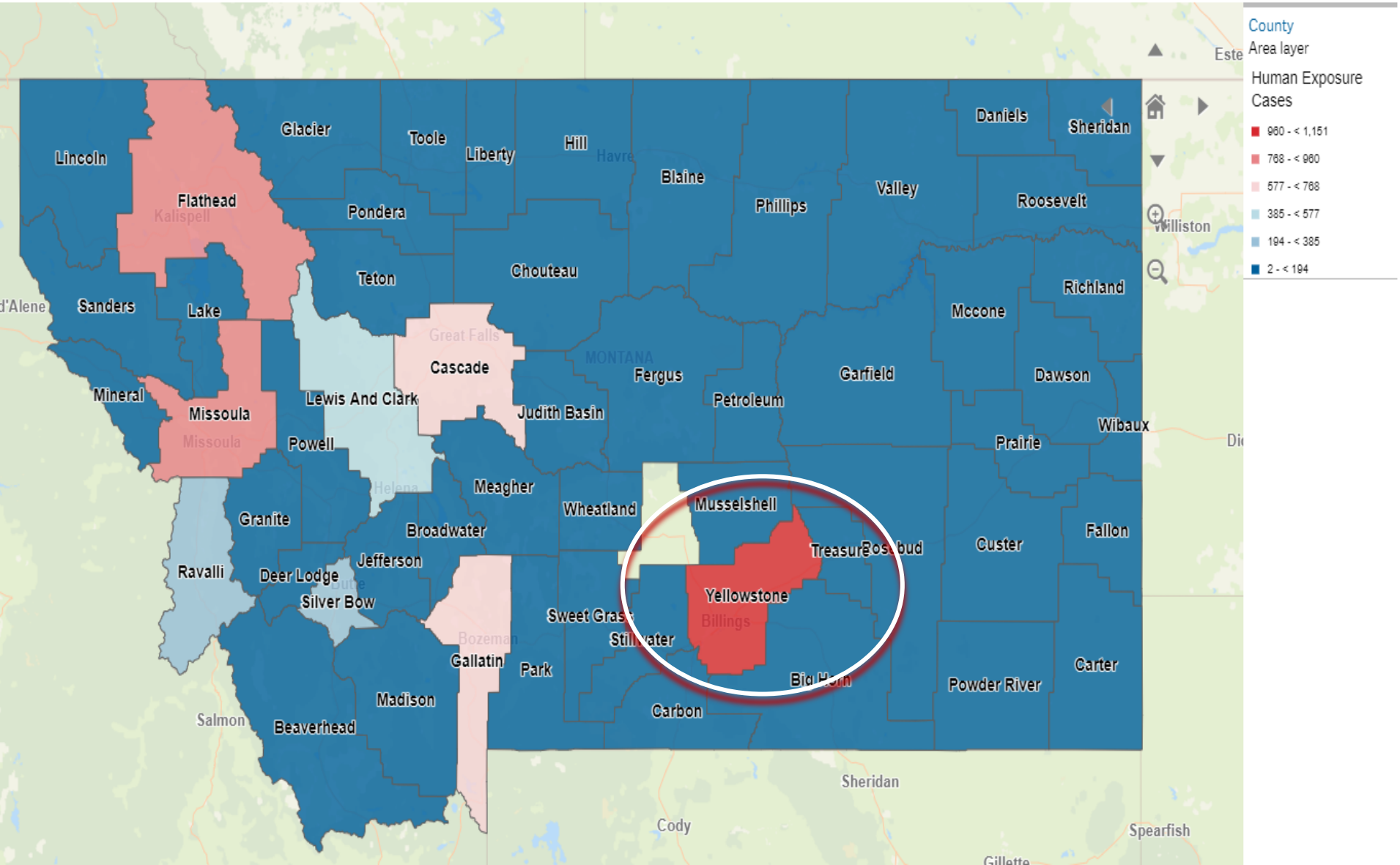
Montana PC: 2022 Exposures by County



Montana PC: 2022 Exposures by County

County	# Exposures
Beaverhead	52
Big Horn	93
Blaine	58
Broadwater	25
Carbon	64
Carter	9
Cascade	581
Chouteau	19
Custer	71
Daniels	6
Dawson	59
Deer Lodge	62
Fallon	19
Fergus	45
Flathead	783
Gallatin	723
Garfield	4
Glacier	156

County	# Exposures
Granite	14
Hill	142
Jefferson	47
Judith Basin	8
Lake	170
Lewis And Clark	516
Liberty	12
Lincoln	128
Madison	37
Mccone	5
Meagher	10
Mineral	44
Missoula	802
Musselshell	19
Park	106
Petroleum	4
Phillips	15
Pondera	29

County	# Exposures
Powder River	5
Powell	63
Prairie	4
Ravalli	295
Richland	48
Roosevelt	65
Rosebud	58
Sanders	61
Sheridan	19
Silver Bow	268
Stillwater	46
Sweet Grass	11
Teton	33
Toole	13
Treasure	4
Valley	39
Wheatland	21
Wibaux	2
Yellowstone	1,151

Top 10 Exposures
Montana Poison Center 2022

Substance	% of Total
Analgesics (OTC & Rx)	15.23
Household cleaners	6.95
Cosmetics/personal care	5.44
Sedatives, hypnotics, antipsychotics	5.40
Cardiovascular drugs	5.31
Dietary supplements/herbals/ homeopathic remedies	4.34
Alcohols	3.60
Foreign bodies/toys	3.28
Antihistamines	2.79
Plants	2.77

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Top 10 Exposures (Age ≤ 5 yrs) Montana Poison Center 2022

Substance	% of Total
Analgesics	14.13
Cosmetics/personal care	9.33
Household cleaners	9.02
Dietary supplements/herbals/ homeopathic remedies	8.44
Foreign bodies/toys	6.12
Vitamins	4.99
Topical preparations	4.44
Plants	4.16
Gastrointestinal preps	3.09
Pesticides	2.66

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MT PC Exposures by Age, Gender: 2022

AGE	%
≤ 5 years	42.2
6 – 12 years	5.5
13 – 19 years	11
≥ 20 years	39
Unknown age	2.3

Female	Male
53.8	44.7

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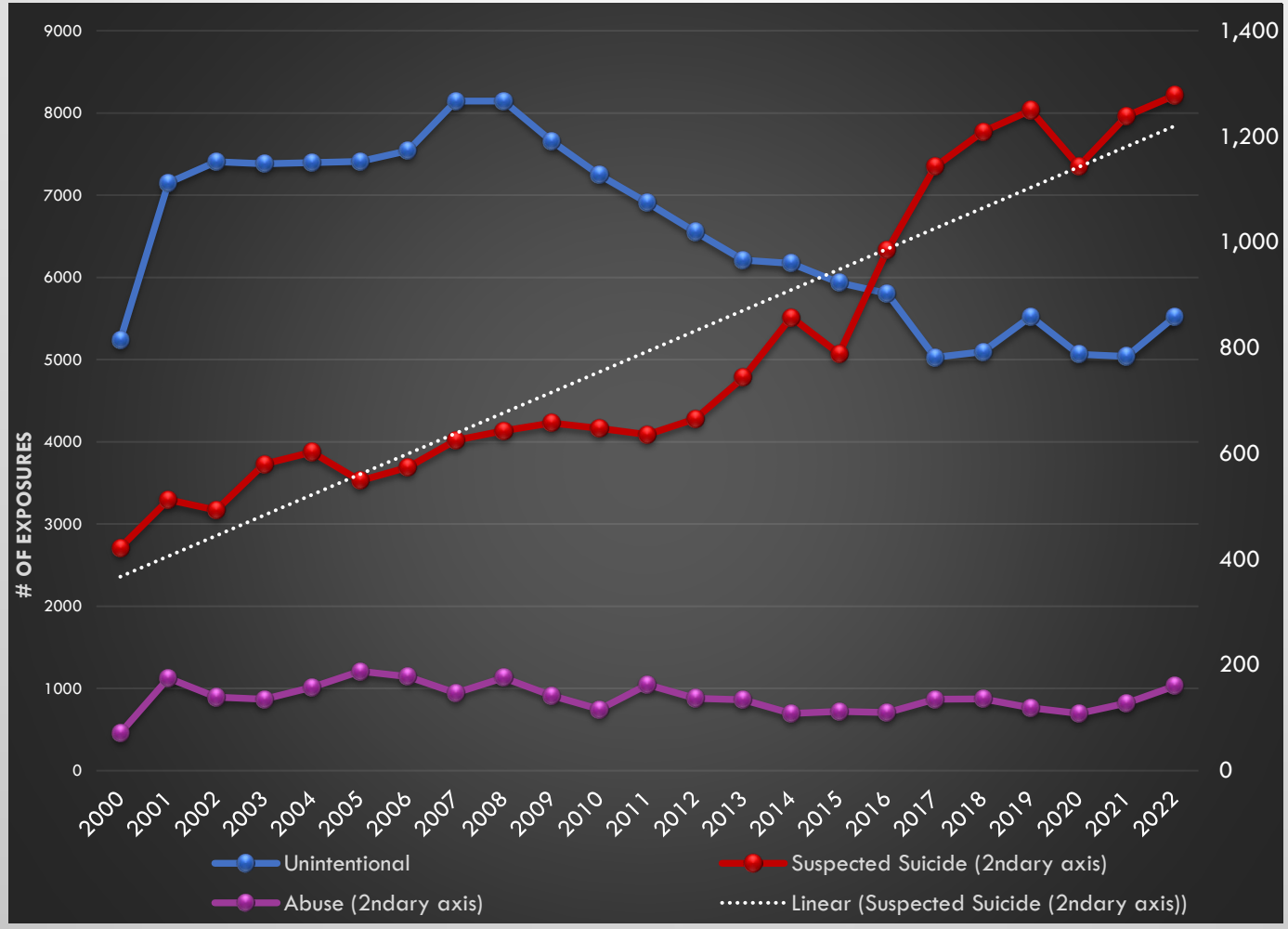
Montana PC: Exposure *Reasons*



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Human Exposures: Medical Outcomes by Reason, Montana PC 2022

	Unintentional	Suspected Suicide	Abuse	% of Total
No Effect	4430	303	19	55.4
Minor Effect	1642	550	81	26.5
Moderate Effect	243	364	54	7.7
Major Effect	10	40	12	0.7
Death	0	1	1	0.02
Not followed	513	107	15	7.4
Unrelated Effect	153	18	1	2
Confirmed nonexposure	14	0	1	.02

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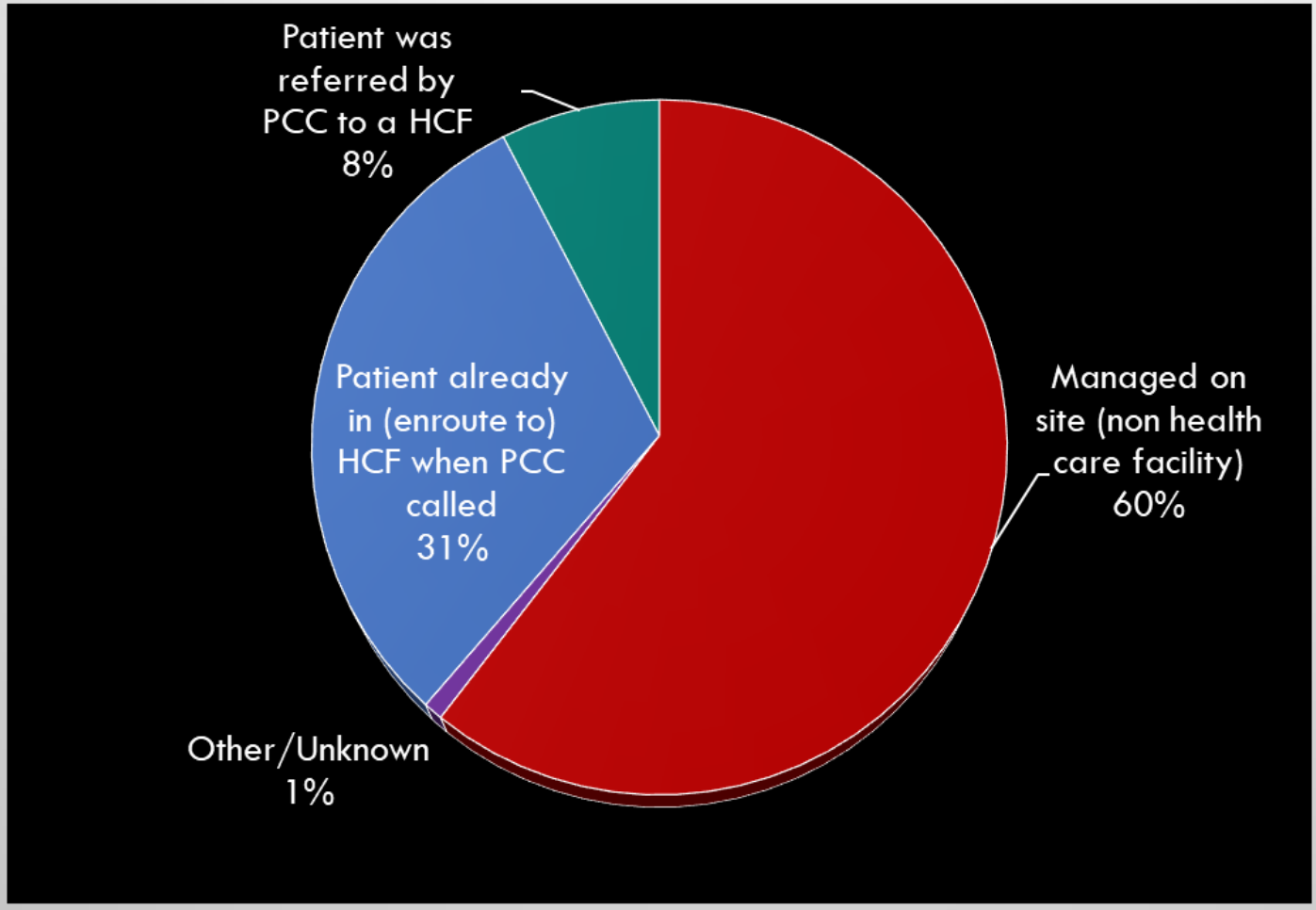
Human Exposures: Disposition
Montana PC 2022



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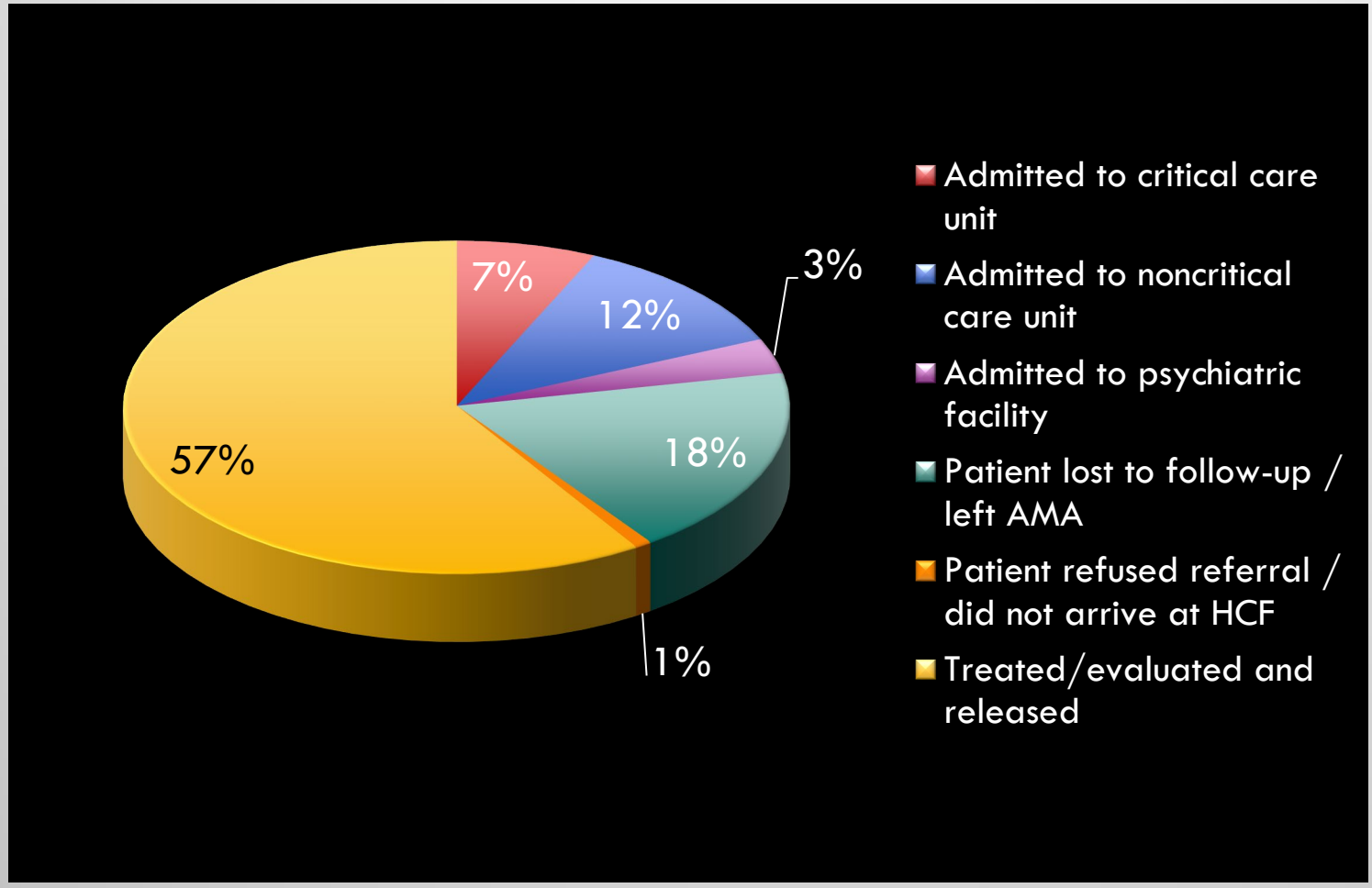
Human Exposures: Level of Care
Montana PC 2022



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Montana 2022 Human Fatalities

Age	Gender	Reason	Route	Substance
17y	M	Abuse	Ingestion	Molly
39y	M	Intentional Misuse	Ingestion	Meth Oxycodone
72y	M	Suicide	Ingestion	Polydrug

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2022 RMPC Data Summary: Montana

17.8% were suspected suicides.

10.5% resulted in serious outcomes. *

0.04% (3) resulted in death.

91.5% occurred at a residence.

60.5% were managed on site.

30.6% cases originated from a Health Care Facility.

7199 Total Human Exposures

* serious outcomes are defined as Moderate effect, Major effect, Death or Death, Indirect.

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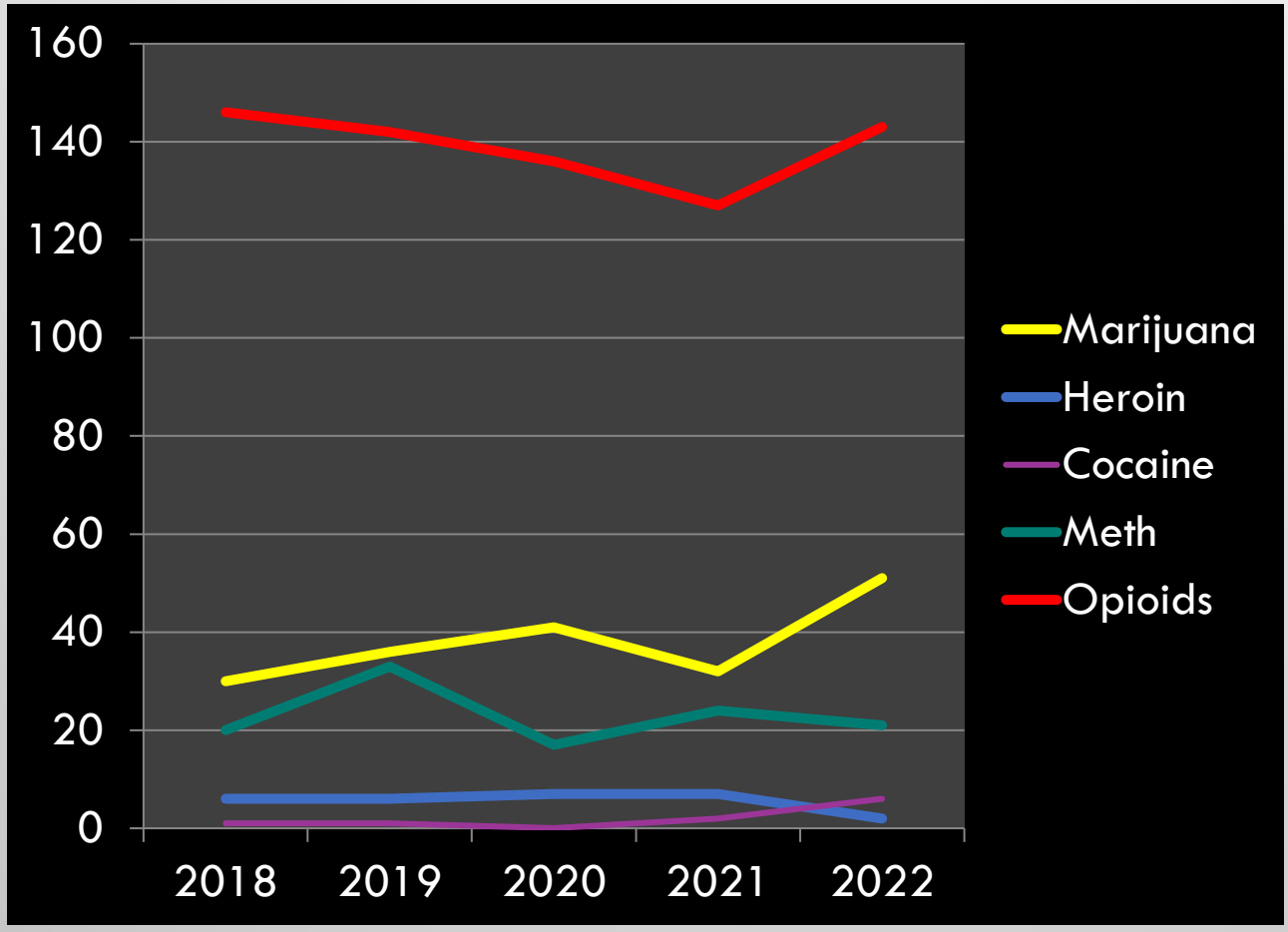
Human Exposures: Drugs of Abuse
Montana PC 2022



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Human Exposures: Marijuana
Montana PC 2022

- 51 Exposures (Age 0-5y = 19 exposures)
  - Disposition
    - Managed on site: 22%
    - Already in hospital when PC called: 61%
    - PC referred to hospital: 14%
    - Lost to follow-up: 4%
  - Outcomes
    - No effect: 27%
    - Minor effect: 41%
    - Moderate effect: 27%
    - Major effect: 0
    - Death: 0
    - Lost to follow-up: 4%

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Human Exposures: Marijuana type Montana PC 2022

- Marijuana flower (dried): 19
- Marijuana concentrate: 4
- Marijuana edibles: 22
- Marijuana unknown type: 1
- Cannabidiol (CBD): 4
- Marijuana e-cigarette: 1

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Human Exposures: Rx Opioids
Montana PC 2022

- 143 Exposures
  - Disposition
    - 131 managed in health care facility (91.6%)
    - 11 managed on site (7.7%)
  - Reason
    - Intentional: 92 (64.3%)
    - Unintentional: 47 (32.9%)
    - Unknown: 4 (2.8%)

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Human Exposures: Rx Opioids
Montana PC 2022

- Medical Outcomes
  - No effect: 25.2%
  - Moderate: 32.2%
  - Lost to follow-up: 2.1%
  - Minor: 28.7%
  - Major: 9.1%
  - Death: 0.7%

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Human Exposures: Rx Opioids Montana PC 2022

- Most frequent products reported
  - Hydrocodone (34) or oxycodone (15) + acetaminophen, oxycodone single ingredient (25), fentanyl (19), tramadol (17), buprenorphine (15), methadone (5)
- Naloxone given in 40 cases (28%)

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Clinical and Medical Services

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“Pharm Party”


GRANDMA'S DRUGS
Major local effort launched to educate seniors and stem flow of unused medications
2.7
Millions of children between ages 12-17 who have abused prescription drugs
10
Percentage of high school seniors who have abused narcotics
11
Percentage of high school seniors who have abused tranquilizers
17
Percentage of high school seniors who have abused amphetamines
Source: National Household Survey on Drug Abuse
PHOTO ILLUSTRATION BY PHOTOS.COM

Toxidromes

- Opioid
- Anticholinergic
- Sympathomimetic
- Serotonergic
- Cholinergic Crisis

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Case

- 12-year-old male presents to the ED after being found unresponsive and being brought in from a "pharm party". He is cyanotic, does not arouse to verbal or physical stimuli, has *decreased bowel sounds*, and *miosis*.
- HR 65 BP 97/63 RR 4 Temp 35.0°C
- Pulse ox 71%

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Hint(s)

- China Waterhorse
- Hell dust
- Skag
- Apache
- King Ivory
- Tango and Cash

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Opioid toxidrome

Opioids

- Respiratory depression
- CNS depression
- QT interval prolongation (methadone)
- Seizures (tramadol)
- Naloxone
- Intubation

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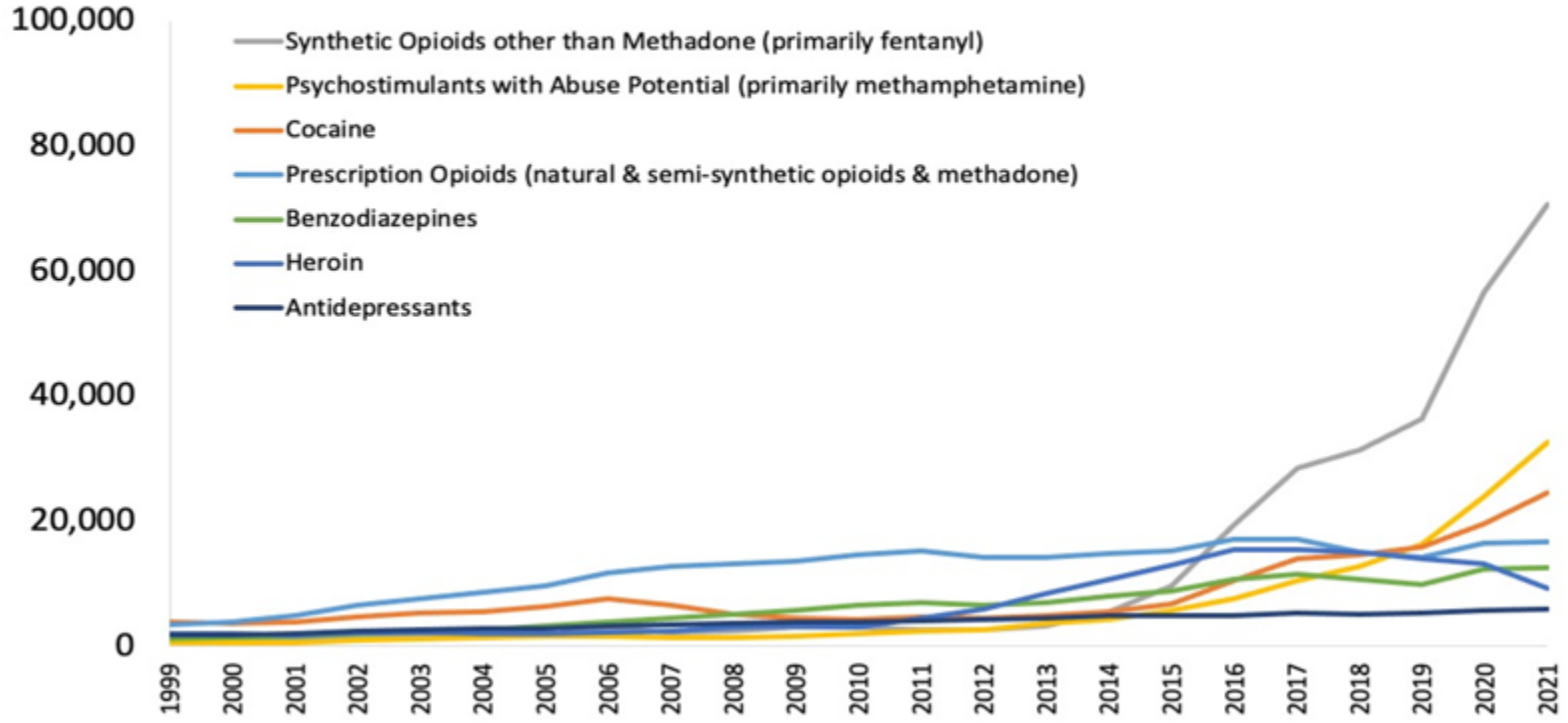
Figure 2. National Drug-Involved Overdose Deaths*, Number Among All Ages, 1999-2021



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PAR
PHARMACEUTICAL
System 100 mcg/h
In vivo delivery of 100 mcg/h fentanyl for 72 hours
Because it can cause trouble breathing which can be fatal, DO NOT USE FENTANYL TRANSDERMAL SYSTEM:
• For short term or any post-operative pain, or occasional pain
• For mild pain or pain that can be treated with non-opioid or as-needed opioid medication
• Unless you have been using other narcotic opioid medicines (must be opioid tolerant)
Each transdermal system contains:
10 mg fentanyl and 0.4 mL alcohol USP
DO NOT USE IF SEAL ON POUCH IS BROKEN
KEEP OUT OF REACH OF CHILDREN
Read enclosed Medication Guide for important safety information.
five (100 mcg/h) systems
ONLY for pain requiring opioid medicine around-the-clock

Synthetic Fentanyl Derivatives

- Carfentenil
- Remifentanil
- Sufentanil
- Theft from veterinarian offices
- 10,000X more potent than morphine, 100X more potent than fentanyl
- Opioid toxicity
- Respiratory depression
- Death

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Tranq Dope

Fentanyl

- analgesic
- mu opioid receptor agonist
- Rapid onset, short duration
- **AMS, miosis, respiratory depression,** decreased bowel sounds
- High addiction potential
- Current epidemic
- Patches, pills, liquid, lollipops

Xylazine

- Centrally acting α-2 receptor agonist (like clonidine)
- Veterinary medicine, large animal and game tranquilizer
- AMS (sedation), hypotension, bradycardia

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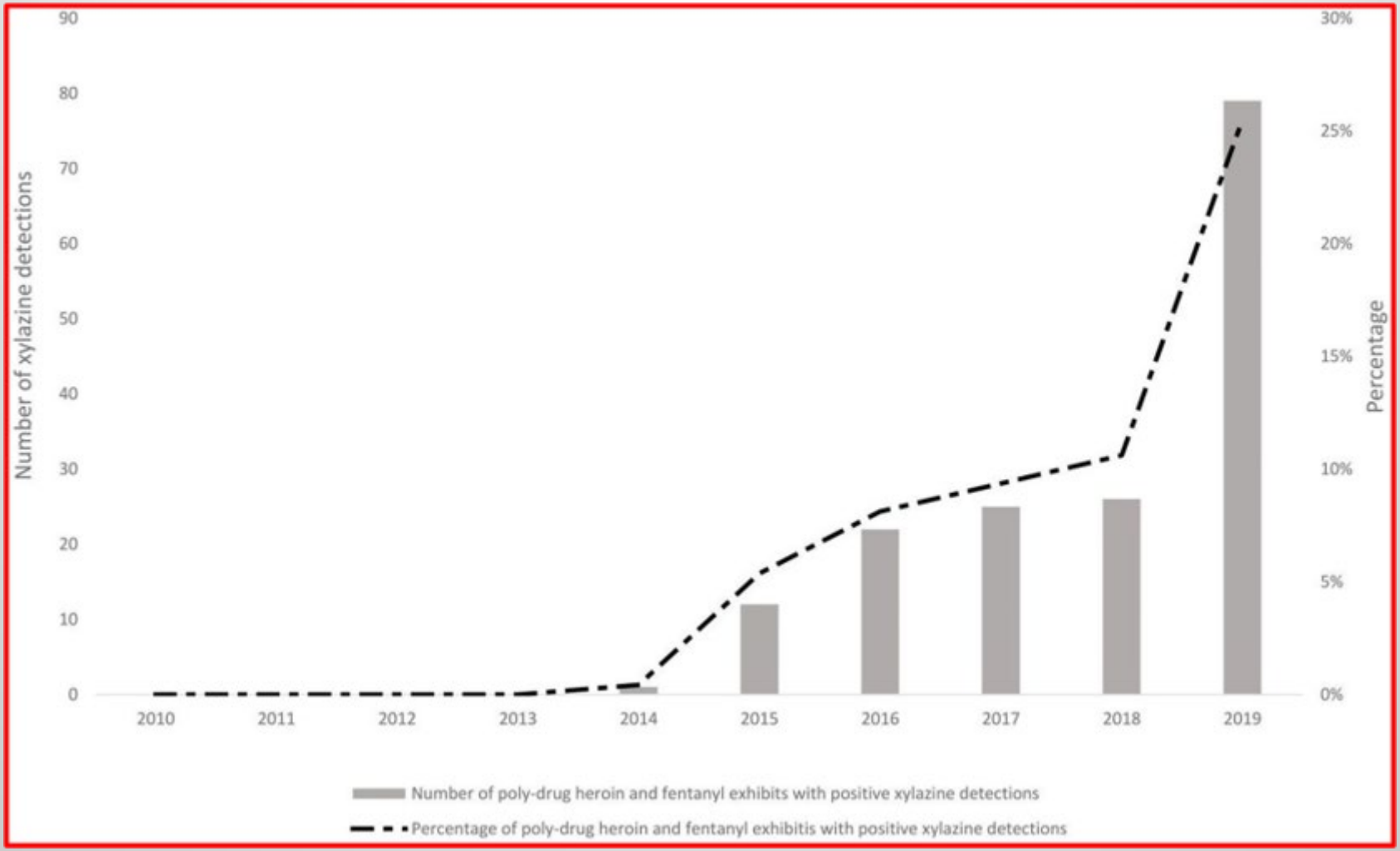

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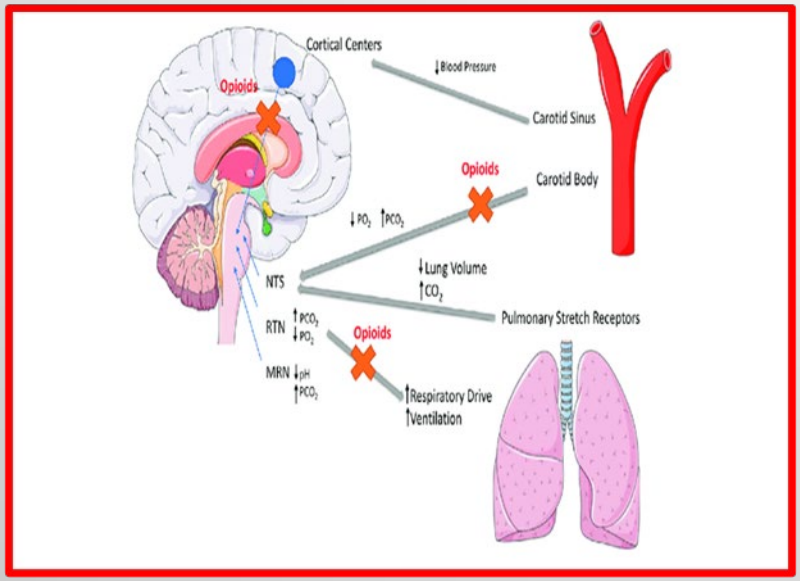
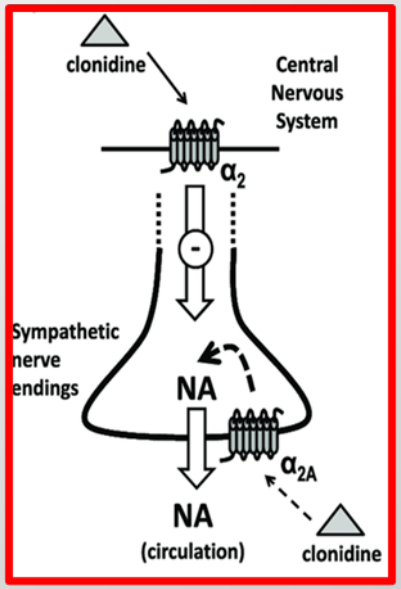
Tranq Dope Mechanisms of Toxicity

Fentanyl



Xylazine



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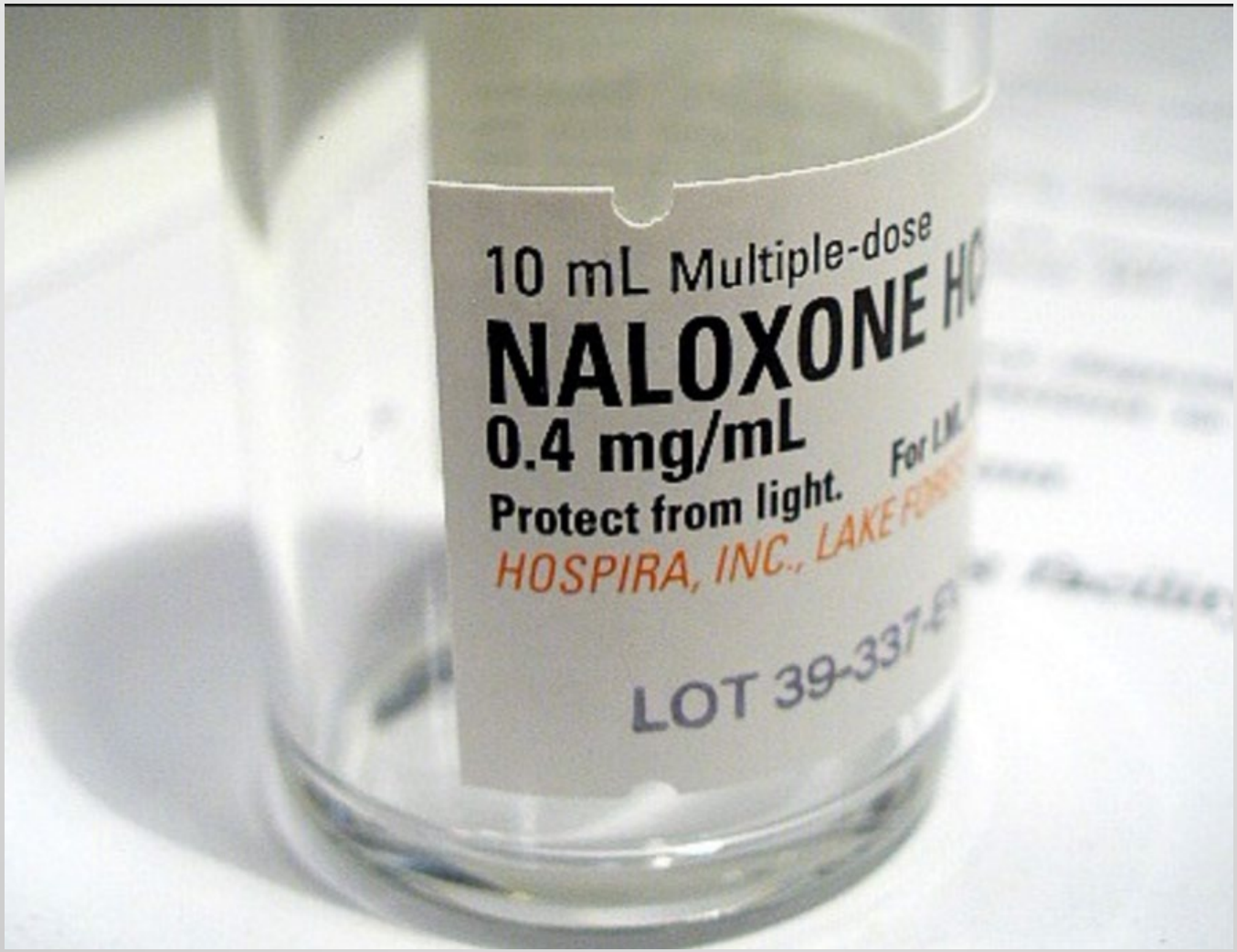

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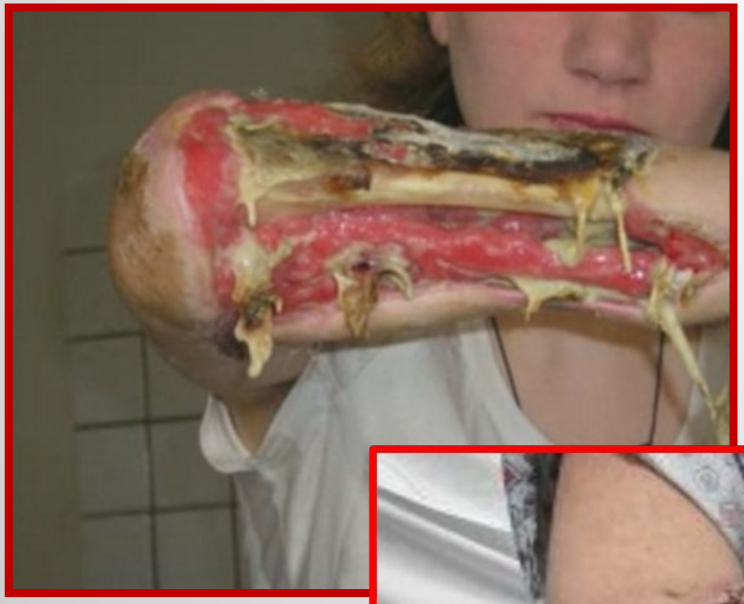
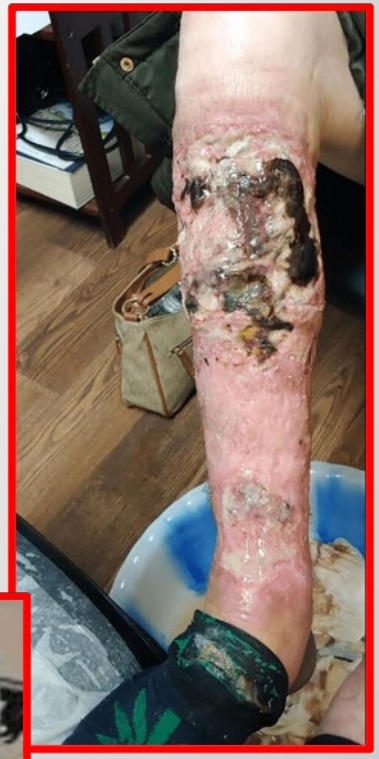
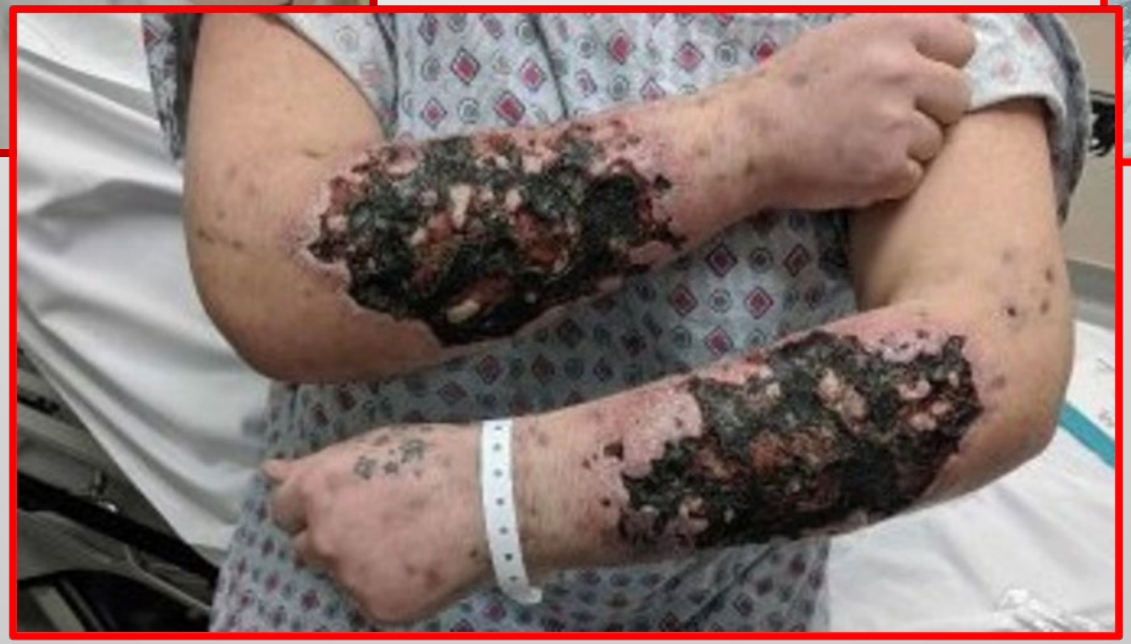
“Krokodil” and “Tranq Dope”







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Isonitazene

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Medication-Assisted Treatment

SAMHSA
Substance Abuse and Mental Health Services Administration

Sea

Find Treatment | Practitioner Training | Grants | Data | Programs | Ne

Medication-Assisted Treatment (MAT)

Medication-assisted treatment (MAT), including opioid treatment programs (OTPs), combines behavioral therapy and medications to treat substance use disorders.

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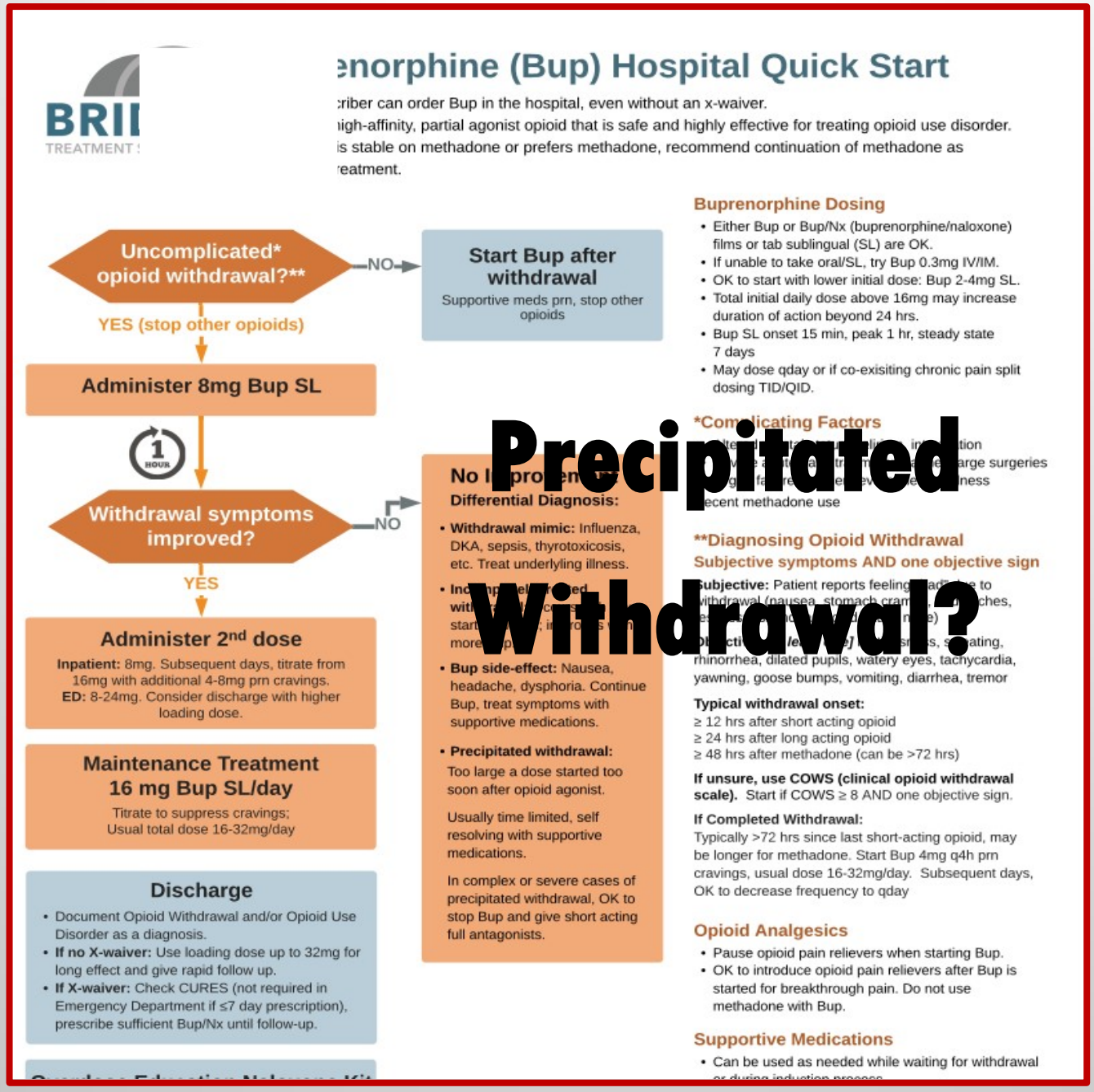

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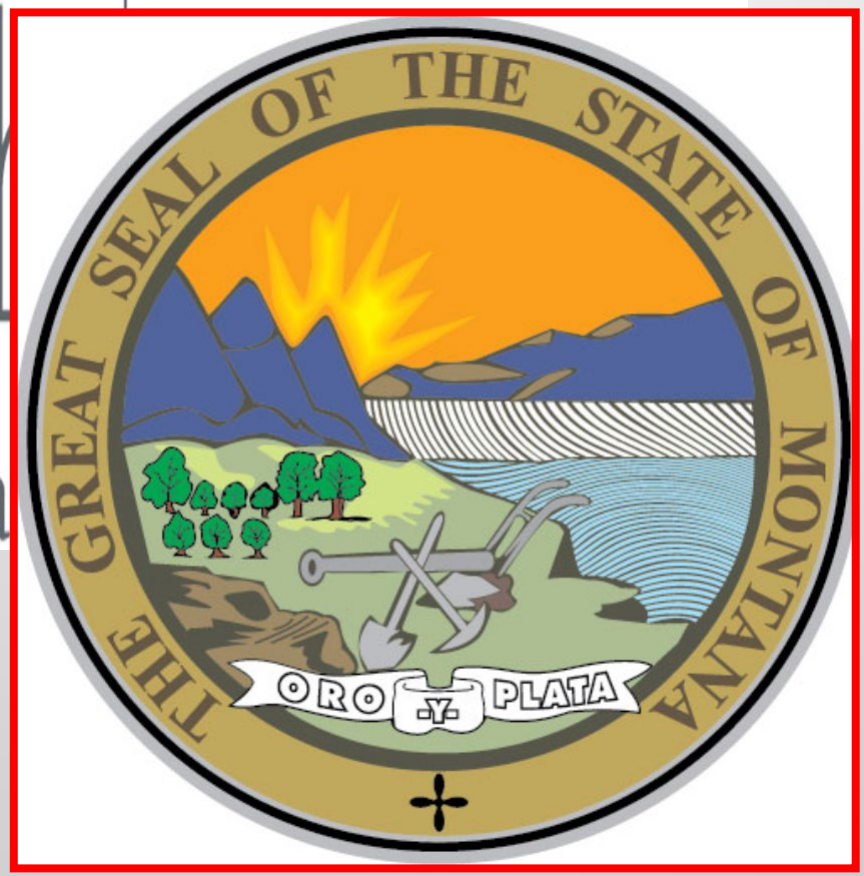
Referral for follow-up



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mHealth

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RMPC supports Drug Take Back Programs

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Telemedicine

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Mobile Devices

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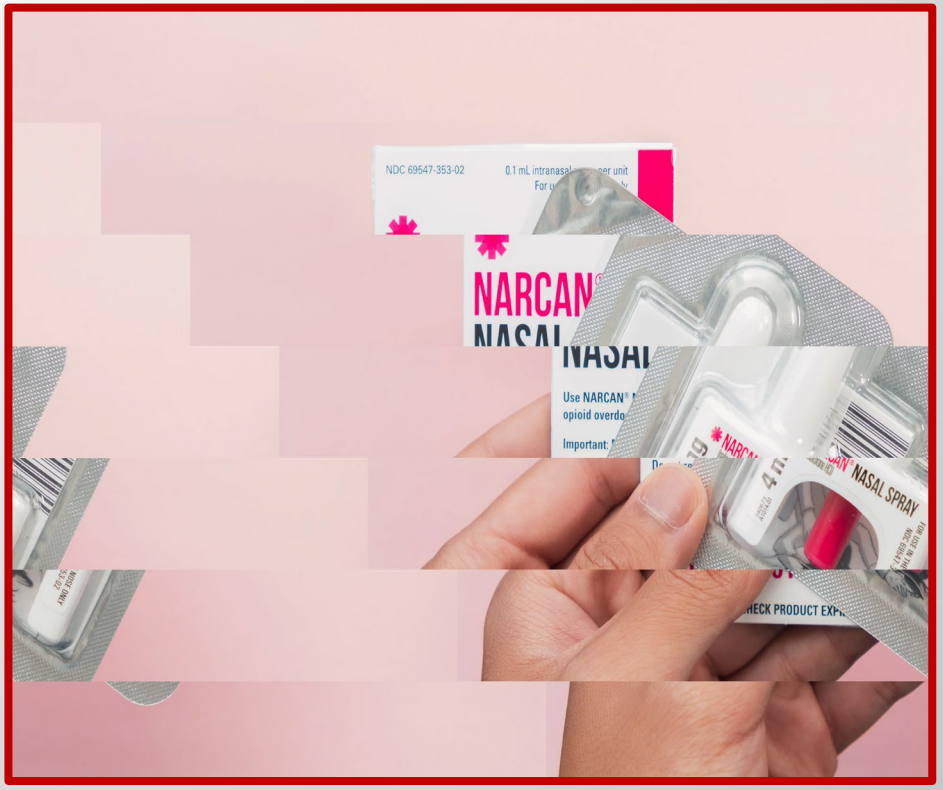
Naloxone in Schools



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Benefits

- Health Outcomes
  - Individual
  - Population
- Costs
- Access

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