

Improving Access to Quality Medical Care Webinar Series

Presented by

The South East Area Health Education
Center, Arizona AHEC, Southwest
Telehealth Resource Center and the
Arizona Telemedicine Program

Welcome

Member of the SEAHEC and all AHECs
SWTRC region - AZ, UT, CO, NM & NV

Fellow HRSA Grantees

All other participants from the US & abroad



The **South East Area Health Education Center, Arizona AHEC**, the **Arizona Telemedicine Program**, and **Southwest Telehealth Resource Center** welcomes you to this free webinar. The practice & delivery of healthcare is changing, with an emphasis on **improving quality, safety, efficiency, & access to care.**

Telemedicine can help you achieve these goals!

Webinar Tips & Notes

- When you joined the webinar your phone &/or computer microphone was muted
- Time is reserved at the end for Q&A, please use the **Chat function** to ask questions
- Please fill out the post-webinar survey
- Webinar is being recorded
- Recordings will be posted on the ATP website
 - <http://telemedicine.arizona.edu/webinars/previous>





“Opioid Epidemic and our Community”

Farshad “Mazda” Shirazi, MS, MD, PHD
Associate Professor of Medical Toxicology, Emergency
Medicine, Pharmacology and Pharmacy Practice

ARIZONA

Poison and Drug Information Center



1-800-222-1222

Poison Centers and public health

Mazda Shirazi MD, PhD

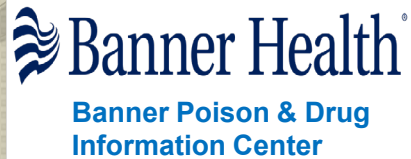
How many Poison & Drug Information Centers are in Arizona?

Two

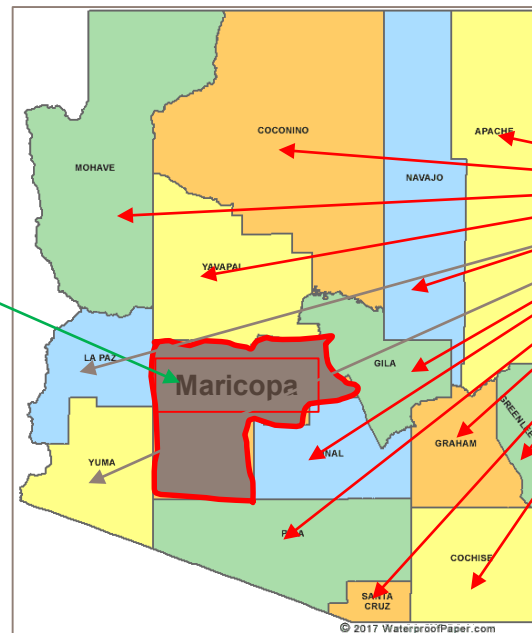
What is the number for your Poison & Drug Information Centers?

1-800-222-1222

Arizona 's Poison Centers:



- Maricopa only



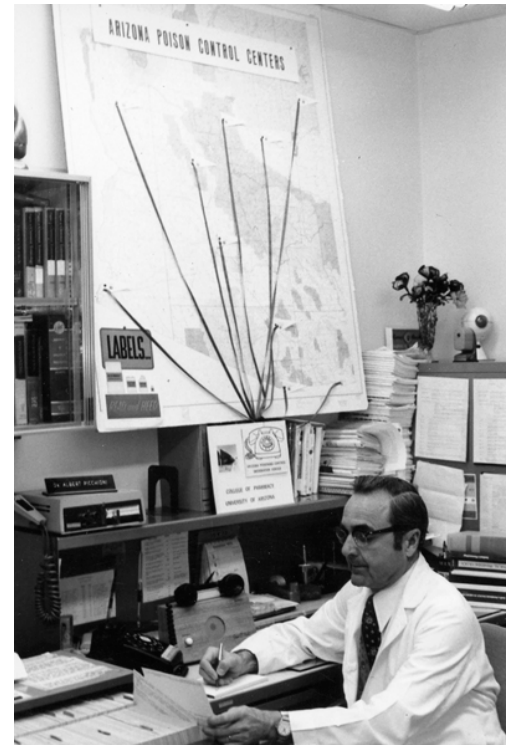
- 14 Counties
- Most of AHEC Service area
- Most of Tribal countries



THE UNIVERSITY OF ARIZONA
COLLEGE OF MEDICINE PHOENIX
**Center for Toxicology
& Pharmacology
Education & Research**

Local History:

- 1953: Albert L. Picchioni, PhD, arrived to teach at the University of Arizona College of Pharmacy.
- ~1955 the poison center is functioning 24/7 but remained a volunteer effort.
- 1980 the Arizona legislature approved funding of the poison center with a full time staff.



The Poison Center

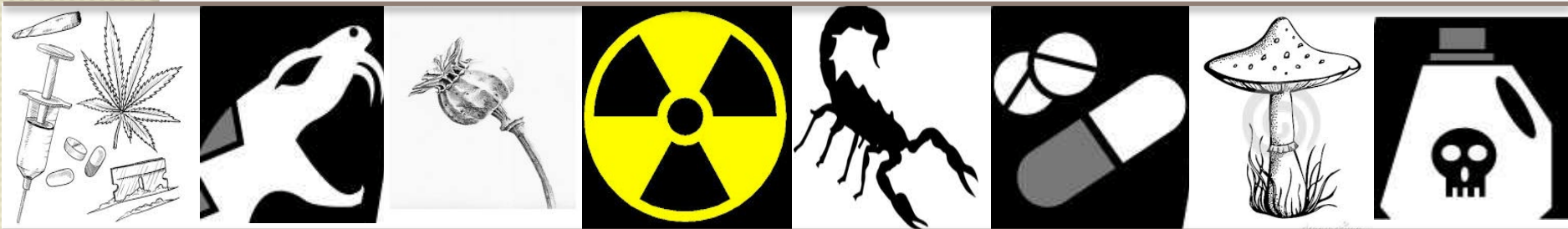
Who are we?

- Physician
- Pharmacist
- Nurses

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Information Center



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I-What Do we do?

I- **Clinical Service**: Triage, Referral, Treatment, Consult, Surveillance

II- **Training**: Student, Residents, Professionals
Nursing, Medical, Pharmacy

III- **Research**: Basic science, Clinical & Epidemiological

Who Do We Serve?



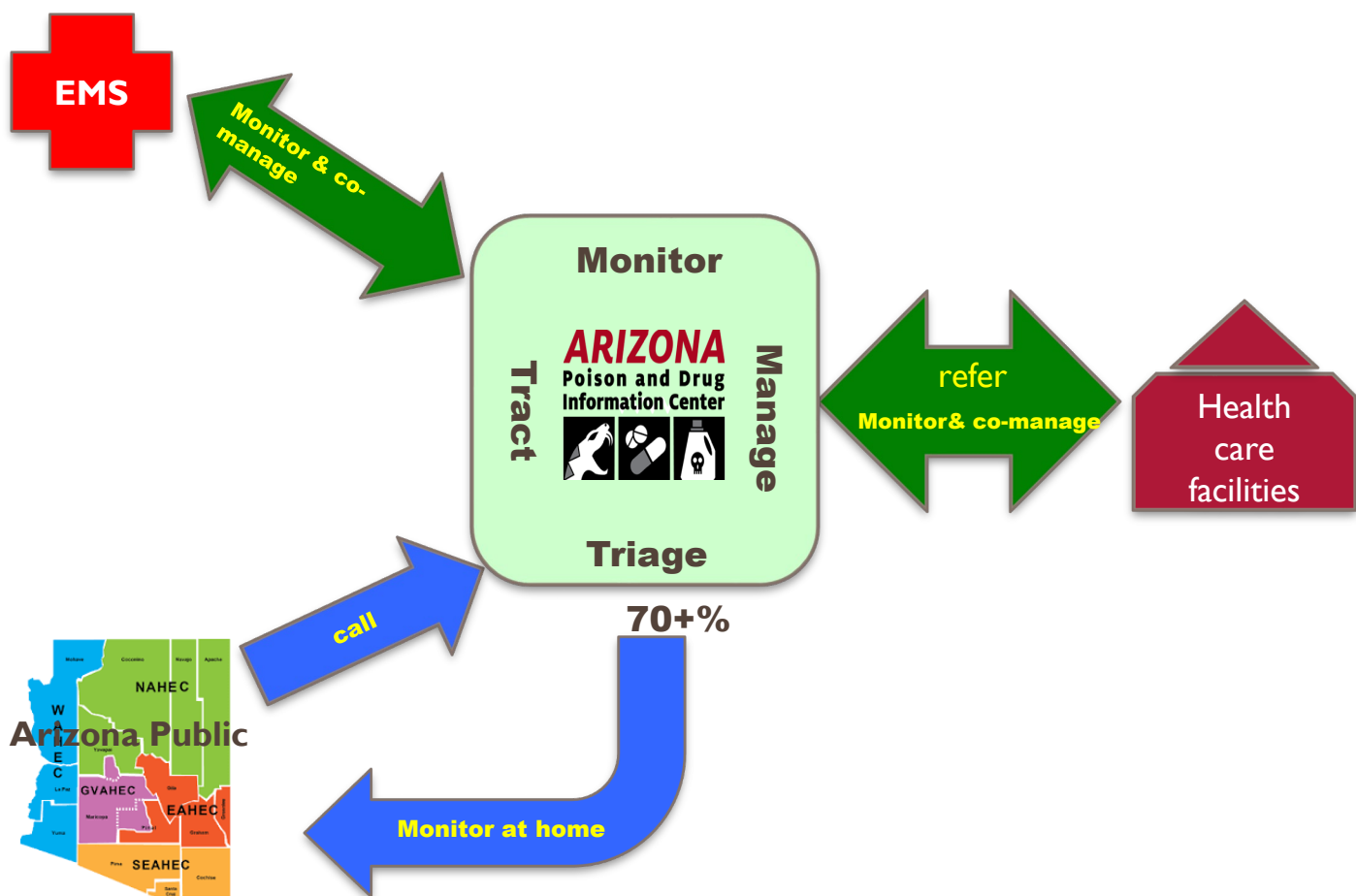
- Public
- Clinics
- Emergency rooms
- ICU
- EMS
- Law enforcement
- Department of Health



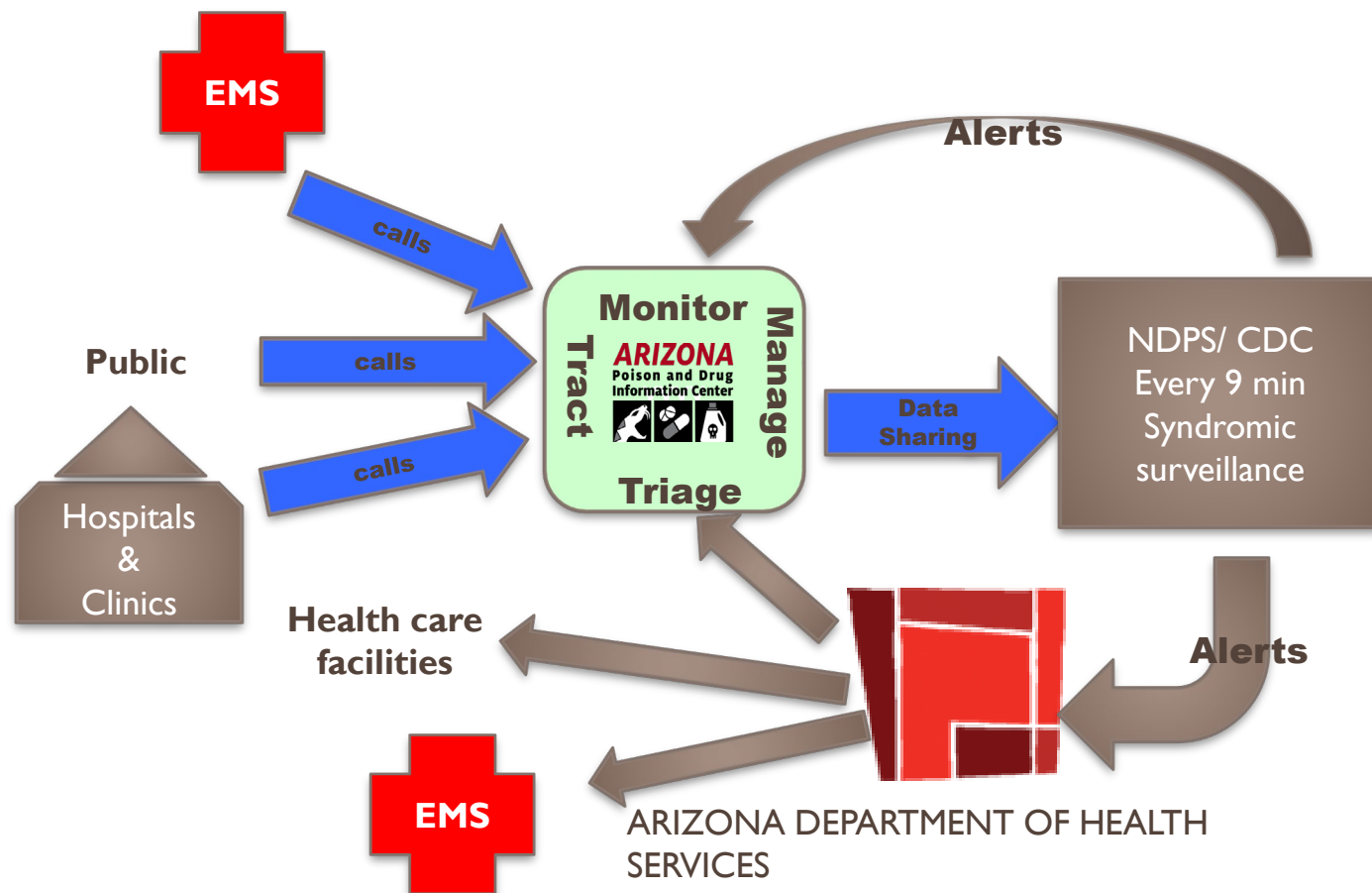
3-What Do we do?

- Responsible for:
 - ~over 5,000/yr calls from EMS
 - ~over 18,000/yr monitored at home
 - ~over 2,000/yr referrals to the hospitals
 - ~over 1,300/yr admissions to hospitals
 - ~over 550/yr admissions to ICU

Current model of utilization of Poison Centers:



Data Collected 4: NPDS



Specialty Services:

1- Mother to Baby : chemicals in pregnancy and breast feeding mothers and their infants.

2- Pediatric Environmental Health specialty Unit.



3- Advanced Hazardous Materials Life support (AHLS).



4- Snake and Scorpion Envenomations and Anti-venoms use.

5-Opiate Assistance and Referral (OAR- Line)



Mother to Baby



MotherToBaby

Medications & More During Pregnancy & Breastfeeding
Ask The Experts

Our board-certified genetic counselors provide free, evidence-based, and up-to-date information about:

Over-the-counter medications

Prescription medications

Vitamins and supplements

Alcohol and recreational drugs

Vaccinations or immunizations

Diseases or infections

Chemicals

Pesticides

Occupational exposures

Paternal exposures

1-888-285-3410

What percent of walk-in patient to ED get admitted?

12.5%

What percent of patient arrived by EMS to ED get admitted?

~ 40%

What percent of patient referred by
the Poison Center to ED get admitted?

65%

Most abused prescriptions 2010 vs 2016:

- Pain killers: 5.1 million
3.3 million



- Tranquilizers: 2.2 million
2.5 million



- Stimulants: 1.1 million
1.7 million



I-Life time prevalence of drug use in 12th graders:

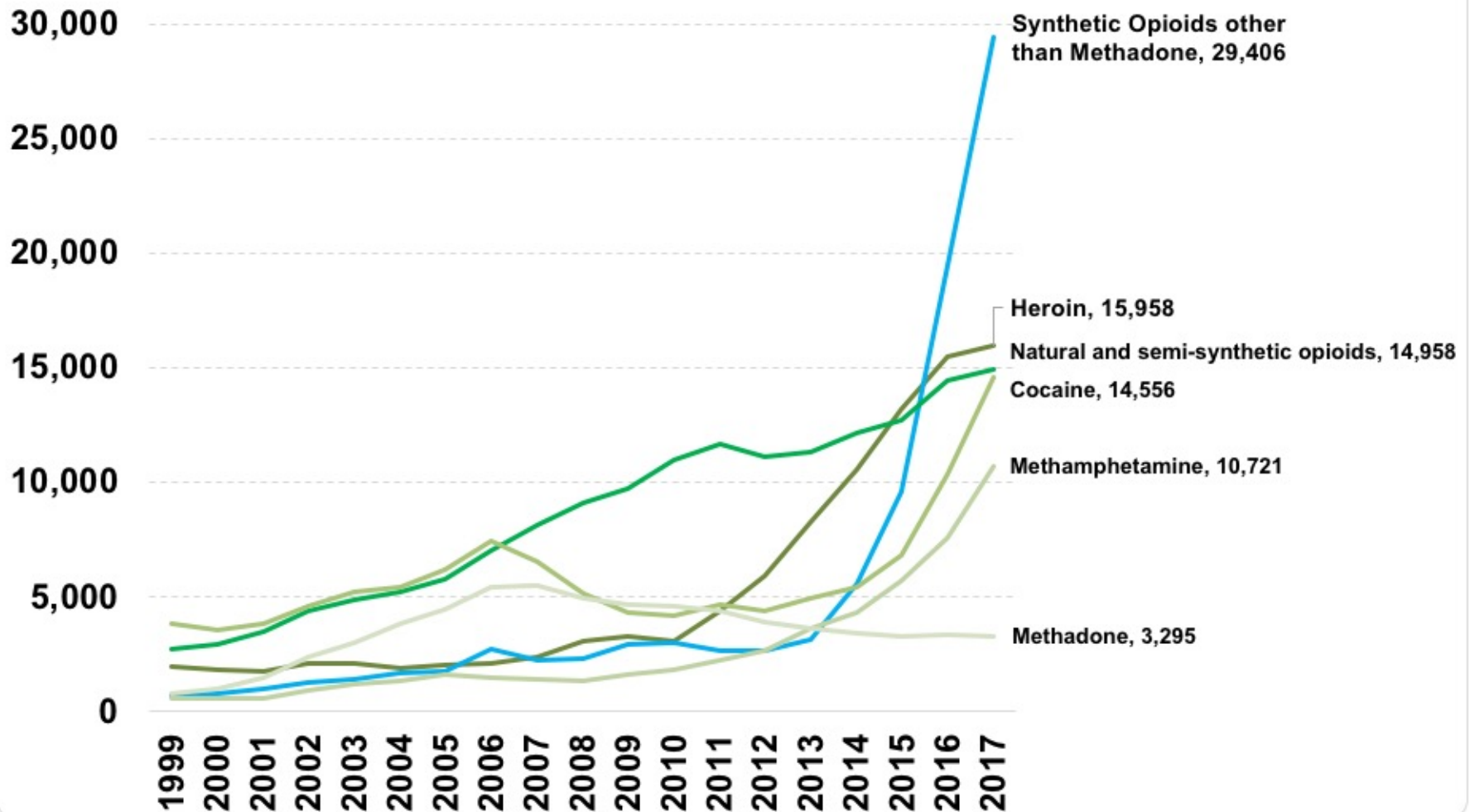
Drug	2012	2015	2018
Alcohol	69%	64%	58%
Marijuana/ Hash	45%	45%	44%
Alcohol	69%	64%	58%
Cigarettes Tobacco	49%	31%	23%
Stimulants Amph, Meth, crack, cocaine, Bath salts (including MDMA, Salvia)	~35%	~31%	~26%
Prescription Drugs	21%	18%	15.5%
Smokeless Tobacco	17%	13%	10%
Tranquilizers		~7%	~6.5%
Spice/K2	11%	5%	3.5%

2-Life time prevalence of drug use in 12th graders:

Drug	2012	2015	2018
Heroin	1%	1%	1%
Vicodin, Oxycontin	12%	7%	5%
Amph, Methamph, Adderall, Ritalin,	25%	22%	15%
Cocaine, crack, Bath Salts	7.5%	7%	6%
Salvia	---	2%	1%
Inhalant	8%	6%	4.4%
Hallucinogens	7%	6%	6.6%

Death from opioids alone >63,000

Drugs Involved in U.S. Overdose Deaths, 1999 to 2017



CDC: causes of death in the U.S.

1. Diseases of heart (heart disease)
2. Malignant neoplasms (cancer)
3. Chronic lower respiratory diseases
4. Cerebrovascular diseases (stroke)
5. Accidents (unintentional injuries)
 1. Non-intentional Poisoning
 2. MVC
 3. Fall
 4. Drowning
 5. Fire / burns
 6. Suffocation

5 leading causes of injury Death by age 2013:

Rank	Age Groups										Total
	<1	1-4	5-9	10-14	15-24	25-34	35-44	45-54	55-64	65+	
1	Unintentional Suffocation 979	Unintentional Drowning 393	Unintentional MV Traffic 342	Unintentional MV Traffic 414	Unintentional MV Traffic 6,510	Unintentional Poisoning 8,251	Unintentional Poisoning 8,374	Unintentional Poisoning 10,651	Unintentional Poisoning 6,388	Unintentional Fall 25,464	Unintentional Poisoning 38,851
2	Homicide Unspecified 139	Unintentional MV Traffic 327	Unintentional Drowning 116	Suicide Suffocation 231	Homicide Firearm 3,704	Unintentional MV Traffic 5,776	Unintentional MV Traffic 4,448	Unintentional MV Traffic 5,082	Unintentional MV Traffic 4,502	Unintentional MV Traffic 6,333	Unintentional MV Traffic 33,804
3	Homicide Other Spec., classifiable 74	Unintentional Suffocation 161	Unintentional Fire/Burn 87	Suicide Firearm 137	Unintentional Poisoning 3,293	Homicide Firearm 3,372	Suicide Firearm 2,948	Suicide Firearm 4,057	Suicide Firearm 3,809	Suicide Firearm 5,113	Unintentional Fall 30,208
4	Unintentional MV Traffic 66	Homicide Unspecified 153	Homicide Firearm 48	Homicide Firearm 94	Suicide Firearm 2,210	Suicide Firearm 2,897	Suicide Suffocation 1,868	Suicide Suffocation 2,007	Unintentional Fall 2,283	Unintentional Unspecified 4,316	Suicide Firearm 21,175
5	Undetermined Suffocation 43	Unintentional Fire/Burn 129	Unintentional Suffocation 44	Unintentional Drowning 93	Suicide Suffocation 1,839	Suicide Suffocation 2,154	Homicide Firearm 1,843	Suicide Poisoning 1,867	Suicide Poisoning 1,528	Unintentional Suffocation 3,616	Homicide Firearm 11,208

5 leading causes of injury Death by age 20|6:

Rank	<1	1-4	5-9	10-14	15-24	25-34	35-44	45-54	55-64	65+	Total
1	Unintentional Suffocation 1,023	Unintentional Drowning 425	Unintentional MV Traffic 384	Unintentional MV Traffic 455	Unintentional MV Traffic 7,037	Unintentional Poisoning 14,631	Unintentional Poisoning 13,278	Unintentional Poisoning 13,439	Unintentional Poisoning 9,438	Unintentional Fall 29,668	Unintentional Poisoning 58,335
2	Homicide Unspecified 132	Unintentional MV Traffic 334	Unintentional Drowning 147	Suicide Suffocation 247	Unintentional Poisoning 4,997	Unintentional MV Traffic 7,010	Unintentional MV Traffic 5,075	Unintentional MV Traffic 5,536	Unintentional MV Traffic 5,397	Unintentional MV Traffic 7,429	Unintentional MV Traffic 38,748
3	Unintentional MV Traffic 88	Unintentional Suffocation 118	Unintentional Fire/Burn 78	Suicide Firearm 160	Homicide Firearm 4,553	Homicide Firearm 4,510	Suicide Firearm 3,099	Suicide Firearm 3,873	Suicide Firearm 4,067	Suicide Firearm 5,756	Unintentional Fall 34,673
4	Homicide Other Spec., Classifiable 63	Homicide Unspecified 114	Homicide Firearm 68	Unintentional Drowning 103	Suicide Firearm 2,683	Suicide Firearm 3,298	Homicide Firearm 2,555	Suicide Suffocation 2,112	Unintentional Fall 2,679	Unintentional Unspecified 5,021	Suicide Firearm 22,938
5	Undetermined Suffocation 60	Unintentional Fire/Burn 107	Unintentional Suffocation 35	Homicide Firearm 95	Suicide Suffocation 2,100	Suicide Suffocation 2,643	Suicide Suffocation 2,199	Suicide Poisoning 1,736	Suicide Poisoning 1,538	Unintentional Suffocation 3,631	Homicide Firearm 14,415
6	Undetermined Unspecified 38	Unintentional Pedestrian, Other 82	Unintentional Other Land Transport 24	Unintentional Other Land Transport 64	Unintentional Drowning 530	Undetermined Poisoning 855	Suicide Poisoning 1,144	Homicide Firearm 1,420	Suicide Suffocation 1,474	Unintentional Poisoning 2,458	Suicide Suffocation 11,642

5 leading causes of injury Death by age 2017:

Rank	Age Groups										Total
	<1	1-4	5-9	10-14	15-24	25-34	35-44	45-54	55-64	65+	
1	Unintentional Suffocation 1,106	Unintentional Drowning 424	Unintentional MV Traffic 327	Unintentional MV Traffic 428	Unintentional MV Traffic 6,697	Unintentional Poisoning 16,478	Unintentional Poisoning 15,032	Unintentional Poisoning 14,707	Unintentional Poisoning 10,581	Unintentional Fall 31,190	Unintentional Poisoning 64,795
2	Homicide Unspecified 139	Unintentional MV Traffic 362	Unintentional Drowning 125	Suicide Suffocation 280	Unintentional Poisoning 5,030	Unintentional MV Traffic 6,871	Unintentional MV Traffic 5,162	Unintentional MV Traffic 5,471	Unintentional MV Traffic 5,584	Unintentional MV Traffic 7,667	Unintentional MV Traffic 38,659
3	Unintentional MV Traffic 90	Homicide Unspecified 129	Unintentional Fire/Bum 94	Suicide Firearm 185	Homicide Firearm 4,391	Homicide Firearm 4,594	Suicide Firearm 3,098	Suicide Firearm 3,937	Suicide Firearm 4,219	Suicide Firearm 5,996	Unintentional Fall 36,338
4	Homicide Other Spec., Classifiable 76	Unintentional Suffocation 110	Homicide Firearm 78	Homicide Firearm 126	Suicide Firearm 2,959	Suicide Firearm 3,458	Suicide Suffocation 2,562	Suicide Suffocation 2,294	Unintentional Fall 2,760	Unintentional Unspecified 5,125	Suicide Firearm 23,854
5	Undetermined Suffocation 56	Unintentional Fire/Bum 95	Unintentional Suffocation 36	Unintentional Drowning 110	Suicide Suffocation 2,321	Suicide Suffocation 3,063	Homicide Firearm 2,561	Suicide Poisoning 1,604	Suicide Suffocation 1,631	Unintentional Suffocation 3,920	Homicide Firearm 14,542

National estimate of 10 leading causes of non-fatal injury in the ED:

2013

Rank	Age Groups										Total
	<1	1-4	5-9	10-14	15-24	25-34	35-44	45-54	55-64	65+	
6	Unintentional Fire/Burn 9,816	Unintentional Overexertion 81,588	Unintentional Pedal Cyclist 74,831	Unintentional Unknown/Unspecified 84,668	Other Assault* Struck By/Against 381,522	Other Assault* Struck By/Against 342,514	Unintentional Cut/Pierce 297,769	Unintentional Cut/Pierce 282,353	Unintentional Cut/Pierce 189,440	Unintentional Poisoning 100,988	Unintentional Other Specified 1,767,630
7	Unintentional** Inhalation/Suffocation 8,294	Unintentional Other Specified 65,120	Unintentional Foreign Body 63,450	Unintentional MV-Occupant 73,692	Unintentional Other Specified 321,914	Unintentional Other Specified 336,990	Other Assault* Struck By/Against 207,287	Unintentional Poisoning 237,328	Unintentional Poisoning 153,767	Unintentional Other Bite/Sting 90,850	Other Assault* Struck By/Against 1,291,100
8	Unintentional Cut/Pierce 7,139	Unintentional Fire/Burn 52,884	Unintentional MV-Occupant 58,114	Unintentional Other Bite/Sting 64,848	Unintentional Other Bite/Sting 177,665	Unintentional Other Bite/Sting 180,922	Unintentional Poisoning 175,870	Other Assault* Struck By/Against 169,688	Unintentional Other Bite/Sting 97,474	Unintentional Other Specified 86,729	Unintentional Other Bite/Sting 1,174,267
9	Unintentional Unknown/Unspecified 5,735	Unintentional Unknown/Unspecified 41,297	Unintentional Dog Bite 43,499	Other Assault* Struck By/Against 62,829	Unintentional Unknown/Unspecified 163,923	Unintentional Poisoning 180,448	Unintentional Other Bite/Sting 138,410	Unintentional Other Bite/Sting 145,349	Other Assault* Struck By/Against 73,674	Unintentional Unknown/Unspecified 74,864	Unintentional Poisoning 1,055,960
10	Unintentional Overexertion 4,985	Unintentional Poisoning 32,443	Unintentional Unknown/Unspecified 66,000	Unintentional Other Transport 66,000	Unintentional Poisoning 152,962	Unintentional Unknown/Unspecified 160,000	Unintentional Unknown/Unspecified 160,000	Unintentional Unknown/Unspecified 160,000	Unintentional Unknown/Unspecified 66,000	Unintentional Other Transport 66,000	Unintentional Unknown/Unspecified 66,000

2017

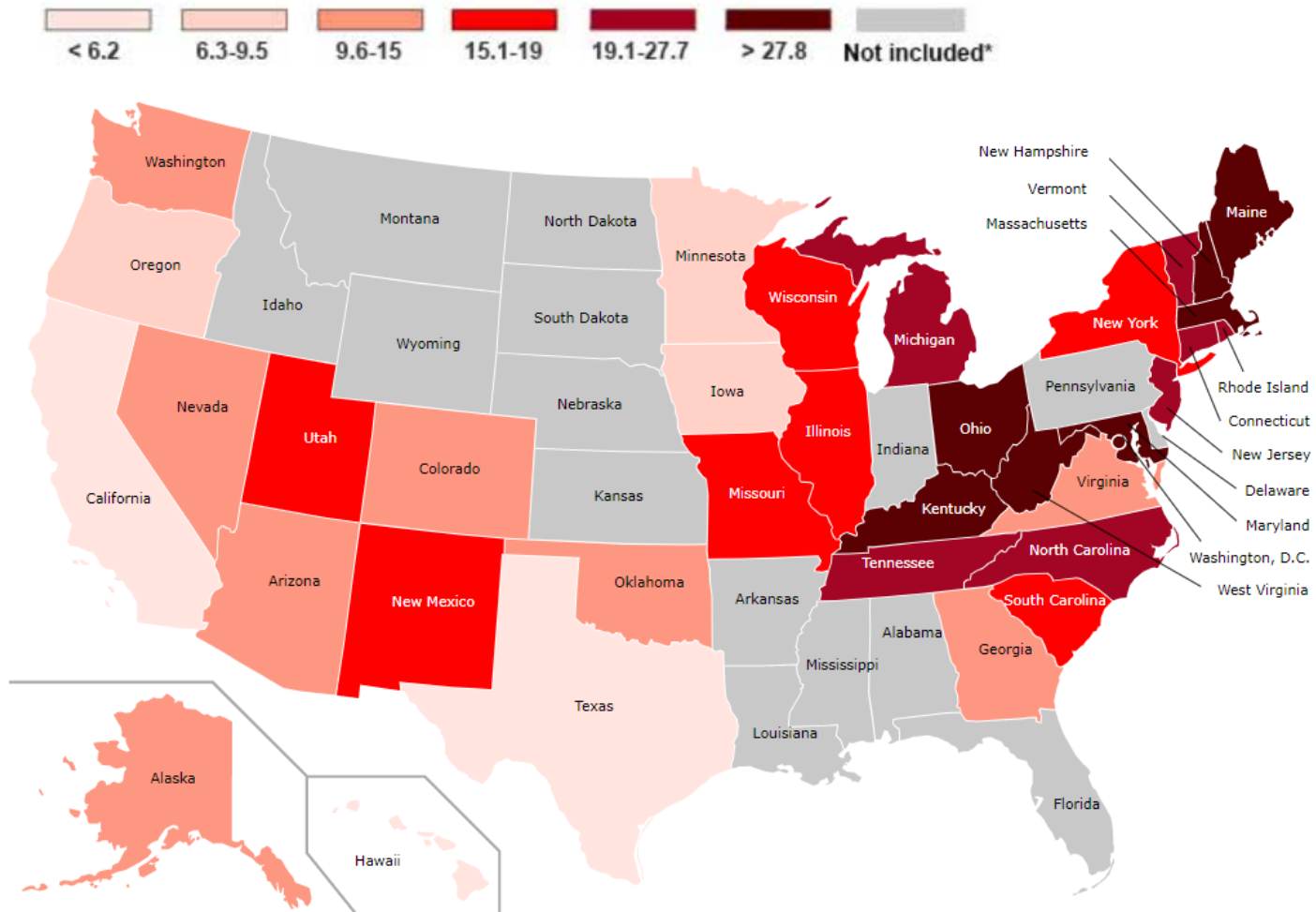
Rank	Age Groups										Total
	<1	1-4	5-9	10-14	15-24	25-34	35-44	45-54	55-64	65+	
6	Unintentional Fire/Burn 7,882	Unintentional Overexertion 61,032	Unintentional Pedal Cyclist 61,477	Unintentional Unknown/Unspecified 68,522	Other Assault* Struck By/Against 344,752	Unintentional Other Specified 398,239	Unintentional Cut/Pierce 283,478	Unintentional Poisoning 321,268	Unintentional Poisoning 220,986	Unintentional Poisoning 120,656	Unintentional Other Specified 1,952,005
7	Unintentional Inhalation/Suffocation 7,674	Unintentional Other Specified 58,548	Unintentional MV-Occupant 61,222	Unintentional Pedal Cyclist 67,167	Unintentional Other Specified 322,249	Other Assault* Struck By/Against 339,981	Unintentional Poisoning 266,590	Unintentional Cut/Pierce 264,553	Unintentional Cut/Pierce 193,786	Unintentional Other Specified 109,583	Unintentional Poisoning 1,482,121
8	Unintentional Cut/Pierce 5,601	Unintentional Fire/Burn 44,985	Unintentional Foreign Body 57,911	Unintentional Other Bite/Sting 63,771	Unintentional Poisoning 209,775	Unintentional Poisoning 291,104	Other Assault* Struck By/Against 203,982	Other Assault* Struck By/Against 163,793	Unintentional Other Bite/Sting 102,235	Unintentional Other Bite/Sting 103,106	Other Assault* Struck By/Against 1,234,228
9	Unintentional Overexertion 4,433	Unintentional Unknown/Unspecified 39,407	Unintentional Dog Bite 34,955	Other Assault* Struck By/Against 49,636	Unintentional Other Bite/Sting 171,113	Unintentional Other Bite/Sting 181,162	Unintentional Other Bite/Sting 149,339	Unintentional Other Bite/Sting 143,301	Other Assault* Struck By/Against 79,895	Unintentional Other Transport 95,170	Unintentional Other Bite/Sting 1,187,459
10	Unintentional Poisoning 4,153	Unintentional Dog Bite 32,425	Unintentional Other Transport 33,131	Unintentional Other Transport 42,389	Unintentional Unknown/Unspecified 126,569	Unintentional Unknown/Unspecified 115,062	Unintentional Unknown/Unspecified 96,737	Unintentional Unknown/Unspecified 90,158	Unintentional Unknown/Unspecified 67,693	Unintentional Unknown/Unspecified 78,990	Unintentional Unknown/Unspecified 720,383

What is the impact?

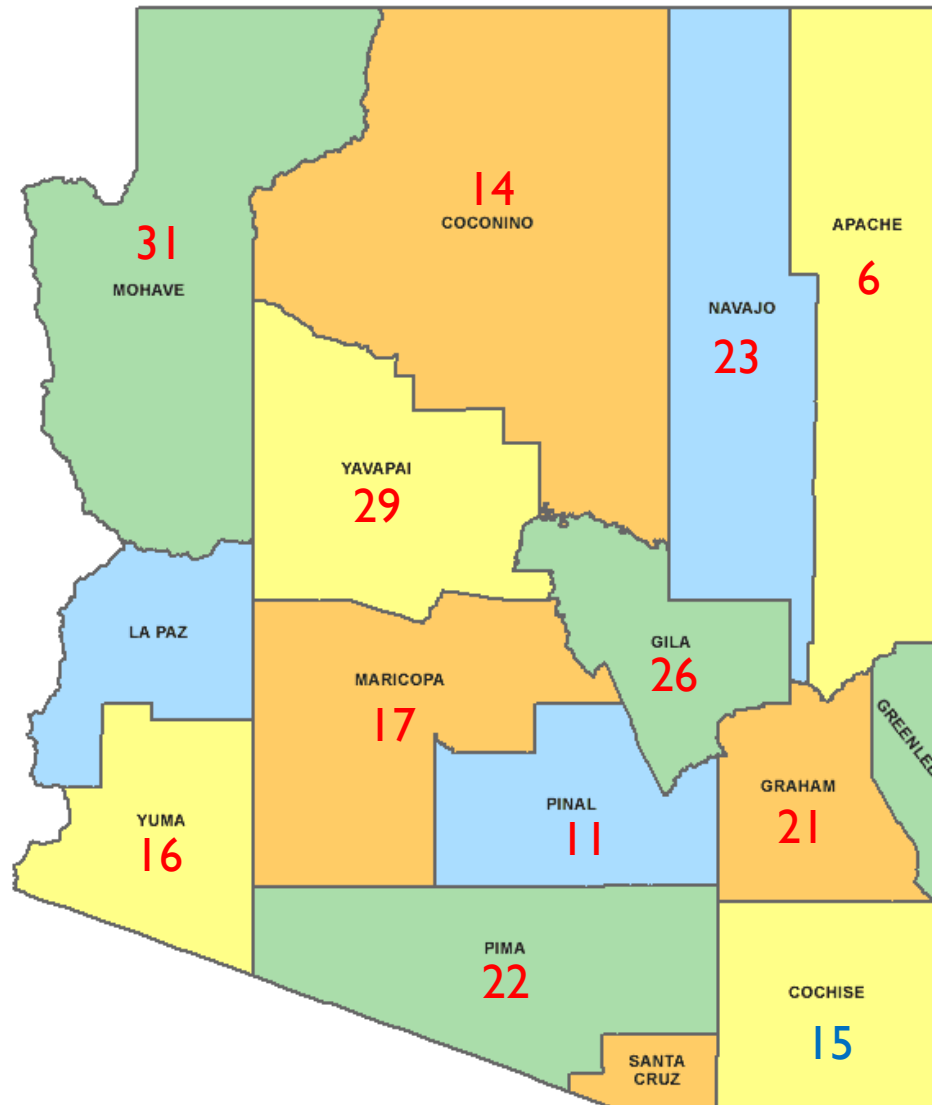
	Health Care Cost	Cost related to crime, productivity, health care
Tobacco	\$130 billion	\$295 billion
Alcohol	\$25 billion	\$224 billion
Illicit Drugs	\$11 billion	\$193 billion

Rate of Opioid death 2017:

2017 Opioid-Involved Overdose Death Rates (per 100,000 people) ¹

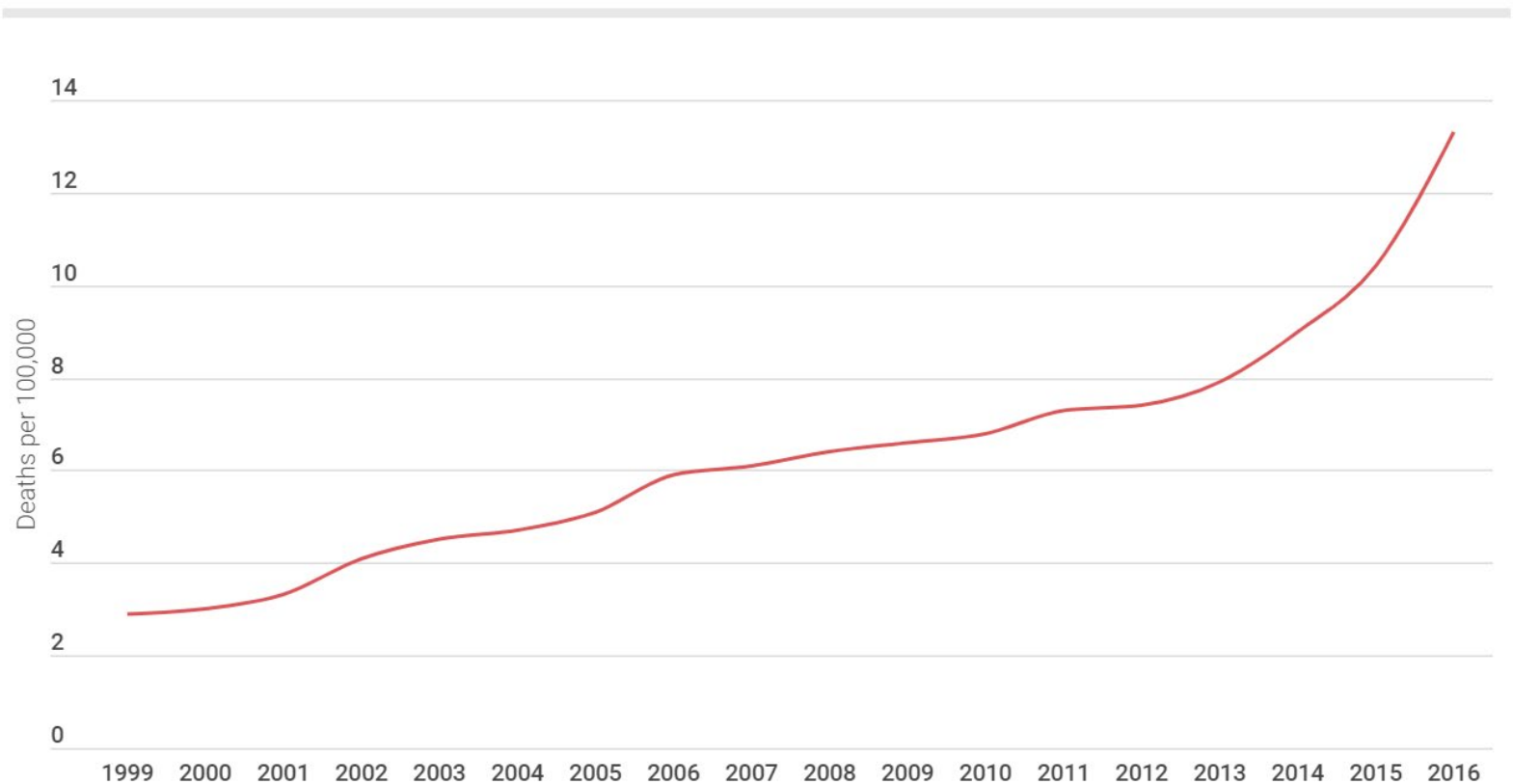


Drug overdose death rate/100,000: 2016

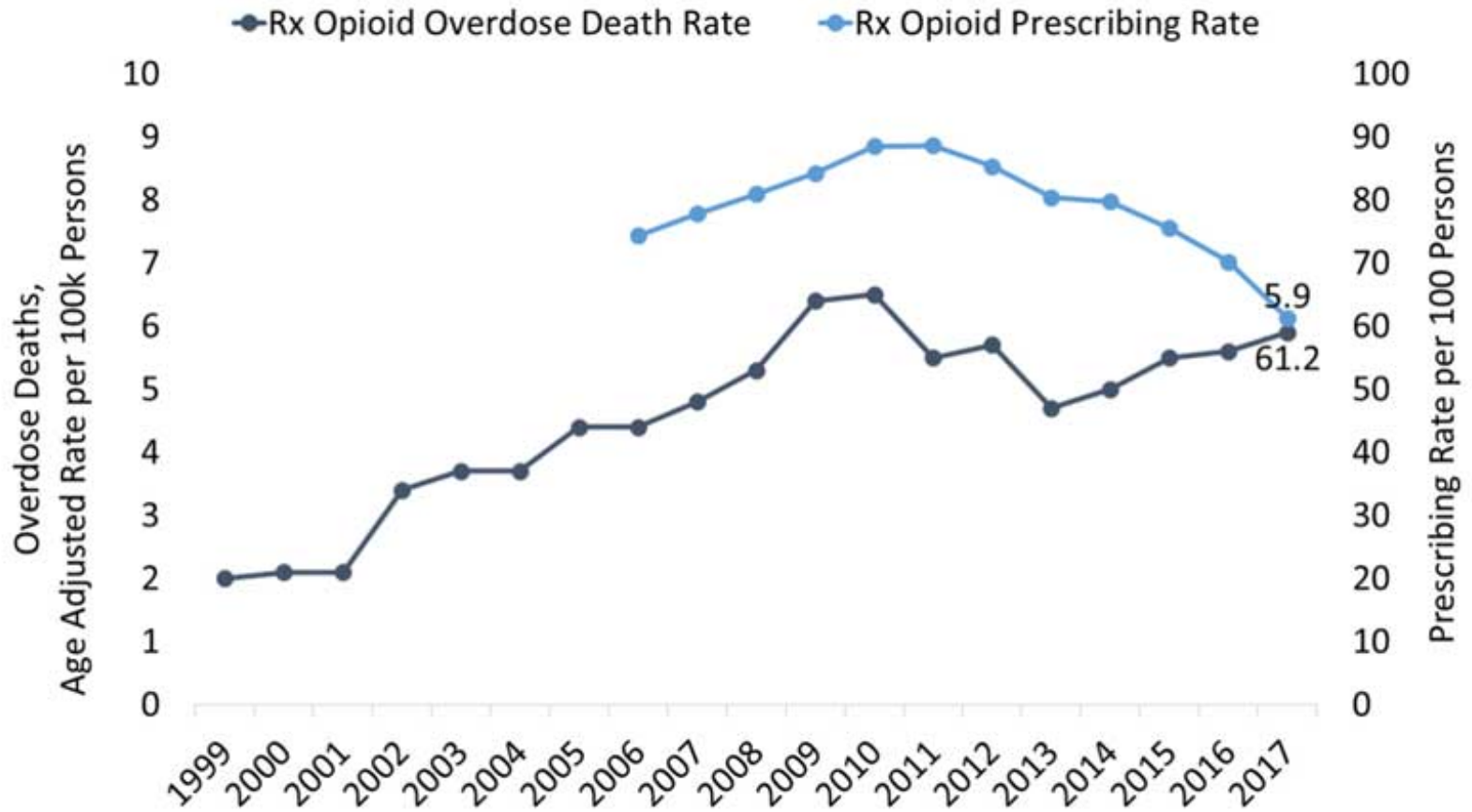


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Rate of Opioid death USA since 1999:

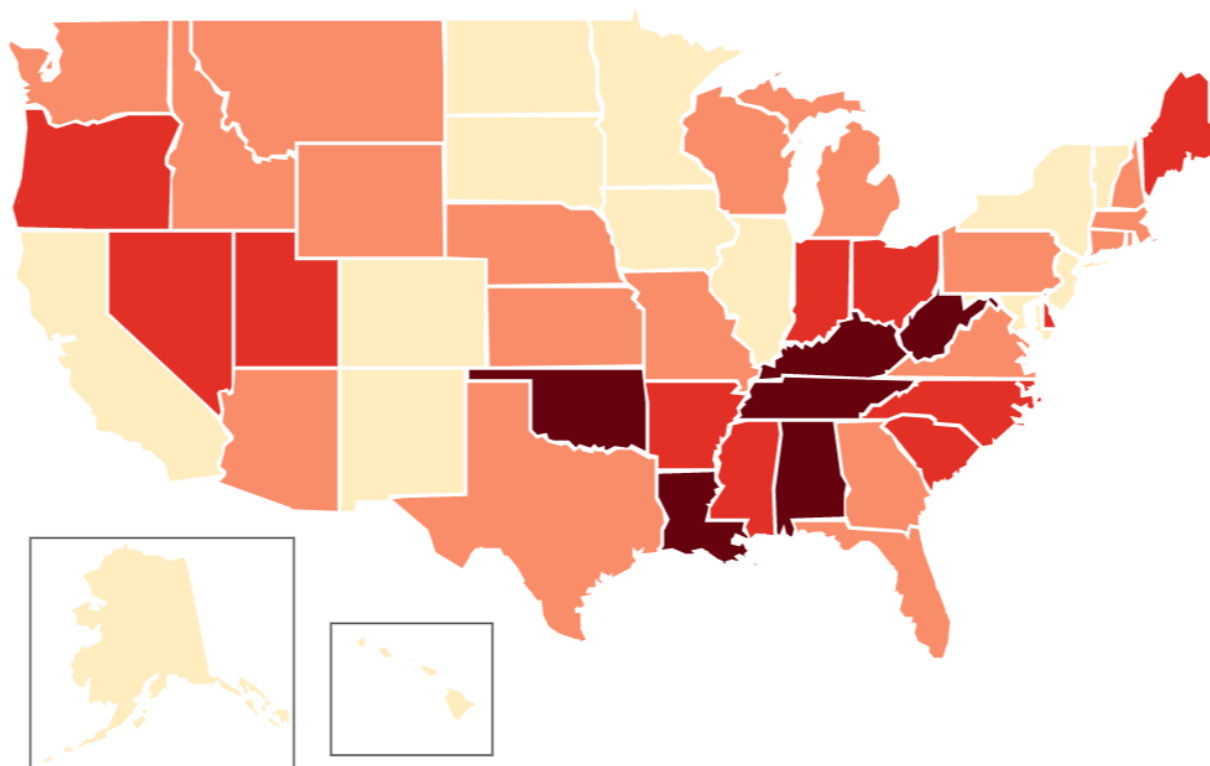


Rate of opioid death in Arizona since 1999:



Pain killer prescription/100 person:

2006

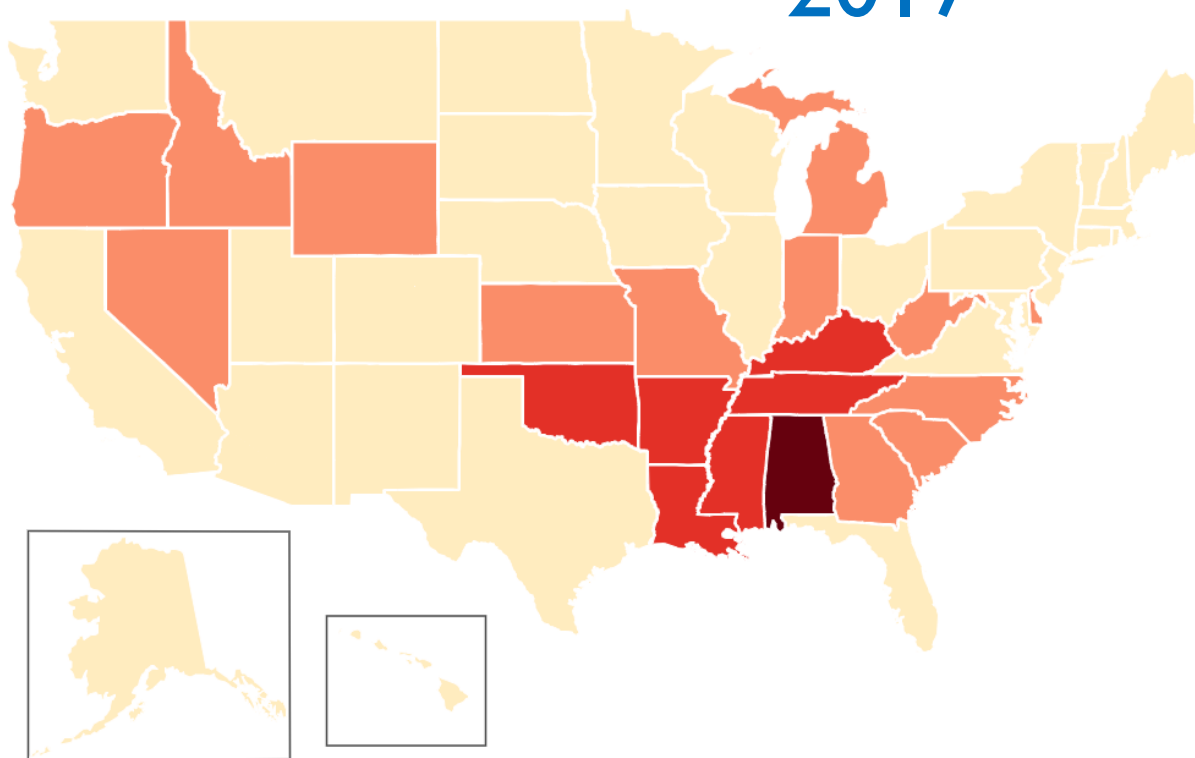


- ☒ 2006 Rate per 100 persons
- ☐ < 64.1
- ☐ 64.1 - 82.9
- ☐ 83.0 - 107.1
- ☐ > 107.1
- ☒ Inset maps



Pain killer prescription/100 person:

2017



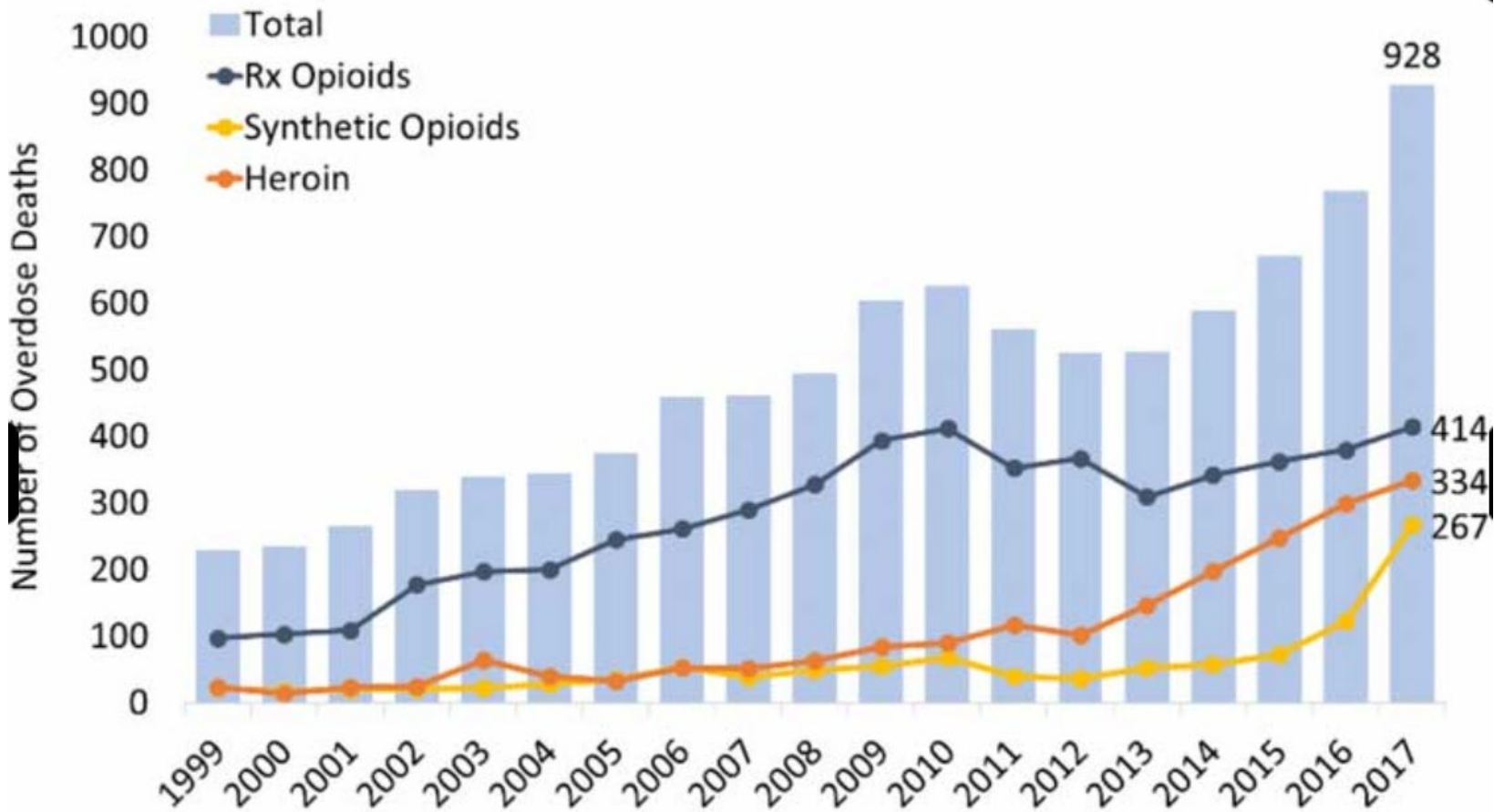
qgis2web

What is Arizona pain killer prescription rate per 100 persons?

61.5 prescriptions per 100 persons



Number of Overdose Deaths involving opioids in Arizona



Classic Toxidrome #1

- An 18 y/o woman takes 20 of her pills, 3 hours prior to presentation and had a couple of drinks:
- She is sleepy, her vitals are normal (120/70, 85, 12, 36.3, 100%)
- Her skin is normal, as well as her bowel sounds

What did the patient take?



What is the Toxidrome?

Sedative hypnotic
or Tranquilizer

Should we give her the “antidote”?

- Flumazenil
 - In general, avoid it
 - Can precipitate withdrawal and seizures
 - I consider it only for the “ABC”
 - Airway compromise
 - Babies, benzodiazepine naïve
 - Conscious sedation reversal

ROMAZICON[®]
(flumazenil) INJECTION 0.1mg/ml

Classic Toxidrome #2

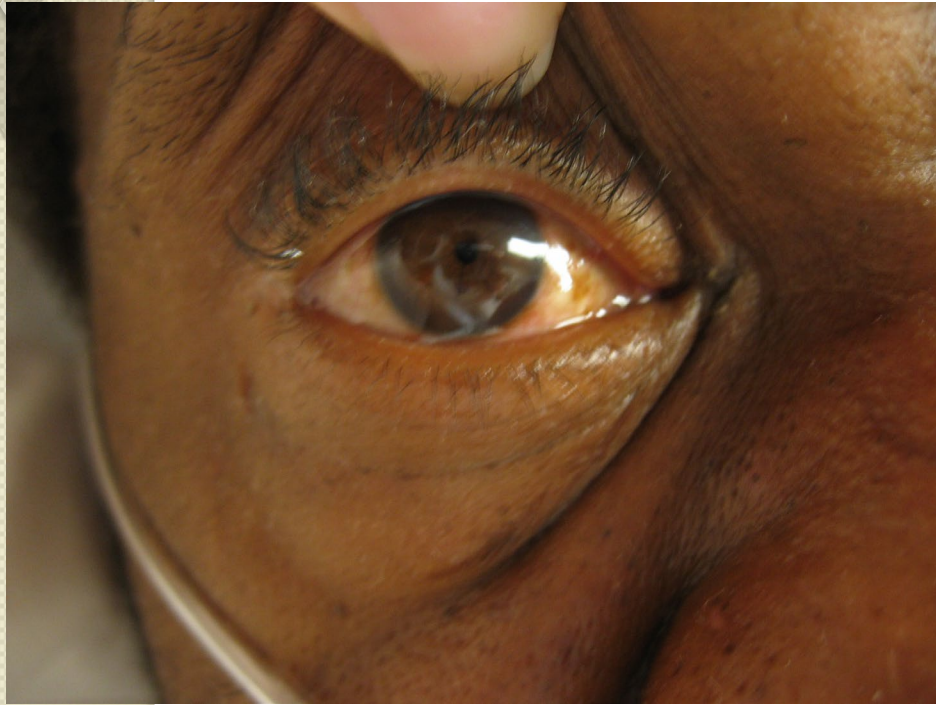
- A 22 y/o man is found by EMS in an alley, “passed out”
- There was paraphernalia at the scene
- The patient is cool to the touch (34), his sats are low (82%), and he has some central cyanosis.
- His RR is 6 , BP: 89/57, HR:43



What is the Toxidrome?

Opioid Toxidrome

This is how he looks



What does he need?

Naloxone

- Important: start slow to avoid withdrawal (0.4 mg IV at a time)
- Don't give up until 10 mg total
- May need a drip for long-acting opiates (start at the dose the patient responded to per hour)

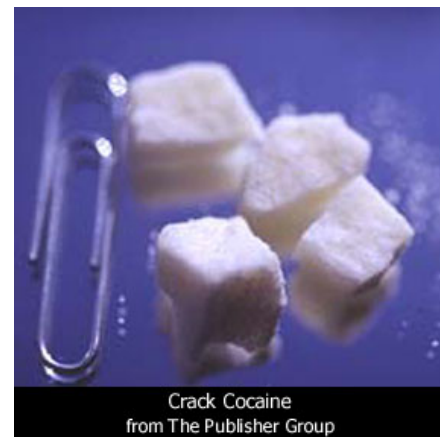
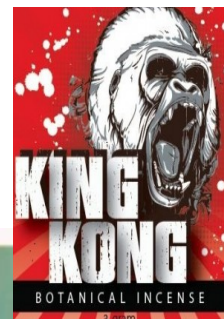
Classic Toxidromes #3

- EMS brings this 24 y/o man, who was picked up in front of a club.
- He is agitated, requiring restraints.
- His vitals are 166/95, 156, 30, 38.2, 99%
- His pupils are 6 mm.
- His skin is moist
- He has normal peristalsis

What could he have used?

Stimulant

What could he have used?



Crack Cocaine
from The Publisher Group



"Motorola" Ecstasy Tablets
Photo by jO5h, © 2001 Erowid.org



What is OAR line?



- *A resource for public for referral and getting connected to resources for addiction and detox.*
- *A resource for EMS and police to connect individuals to resources for addiction and detox.*
- *Resource for Primary care when patient prescription is higher than 90 milliequivalents of morphine*

Is OAR Line 24/7 ?

Yes



Opioid
Assistance &
Referral

A free 24/7 hotline that assists providers with complex patients with pain and opioid use disorders, answered by medical experts at the Poison and Drug Information Centers in Arizona.

Arizona **OAR** Line
1-888-688-4222

Can hospitals & clinics use the number / or give it to patients?

Yes



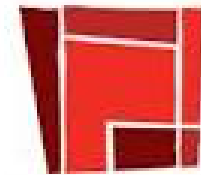
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1-888-688-4222

CDC

CENTERS FOR DISEASE
CONTROL AND PREVENTION



ARIZONA DEPARTMENT
OF HEALTH SERVICES



American Association of
Poison Control Centers



ARIZONA
Poison and Drug
Information Center



MotherToBaby
Medications & More During Pregnancy & Breastfeeding
Ask The Experts



Banner Poison &
Drug
Information
Center



ARIZONA AHEC
Area Health Education
Centers Program



THE UNIVERSITY OF ARIZONA
MEL & ENID ZUCKERMAN COLLEGE OF PUBLIC HEALTH
Center for Rural Health

Opioid
Assistance &
Referral

A free 24/7 hotline that assists providers with complex patients with pain and opioid use disorders, answered by medical experts at the Poison and Drug Information Centers in Arizona.

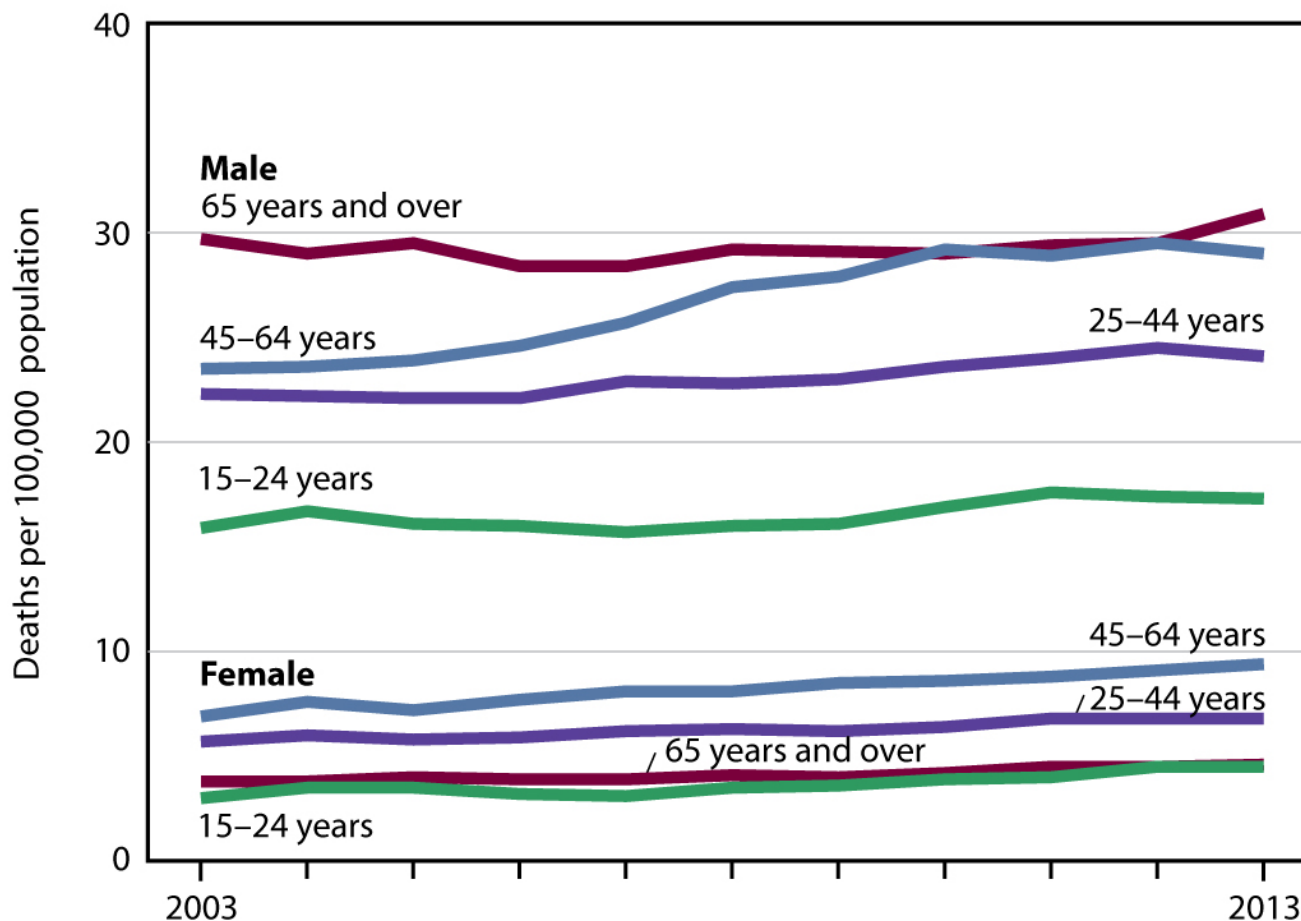
Arizona **OAR** Line
1-888-688-4222



Questions???



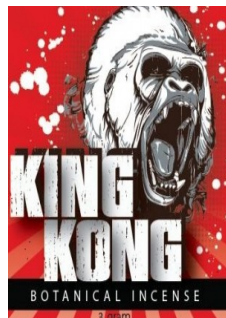
Suicide death rates



SOURCE: CDC/NCHS, *Health, United States, 2014*, Figure 4 and Table 33. Data from the National Vital Statistics System (NVSS).

Clinical effects:

- Also depends what did they use along with the “spice”.



Angry Spice

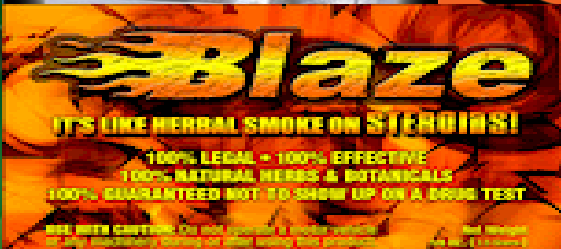


Sleepy Spice





Spice girls and boys!



AUTHENTIC SEAL

FAKE SEAL



K2incense.org
ID# 1046
Verified K2 Retailer



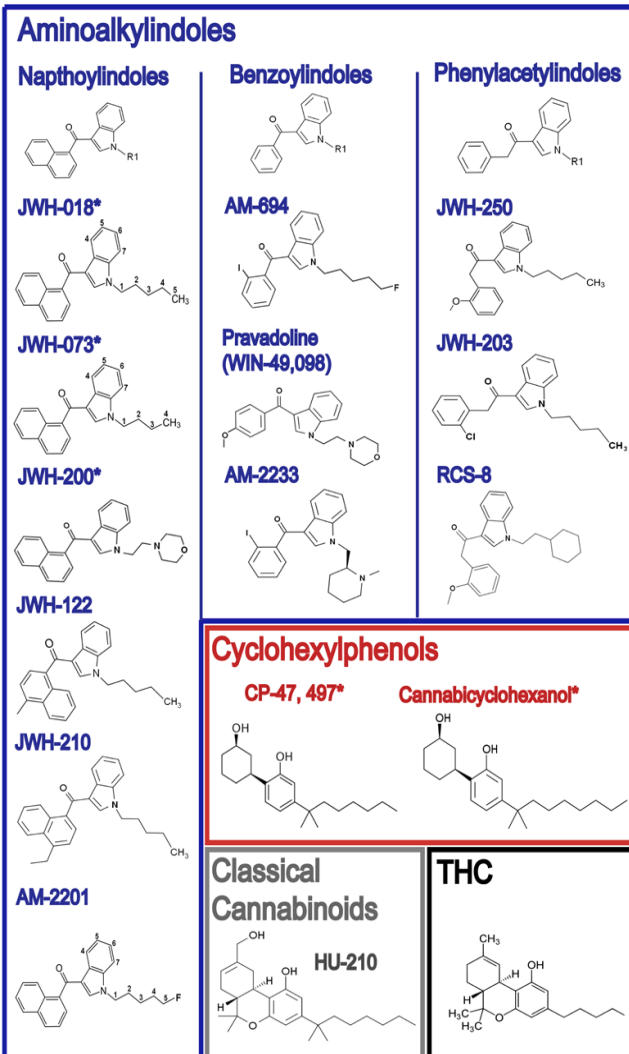
K2 LEGAL SMOKE
ID: 54865
AUTHENTIC DISTRIBUTOR

ARIZONA
Poison and Drug
Information Center



1-800-222-1222

Structure of some cannabinoids “Spice:”

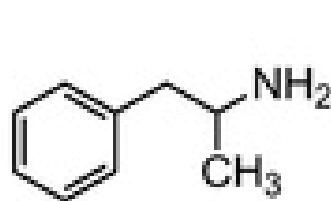


Source: Clinical Laboratory News Jan.I, 2013

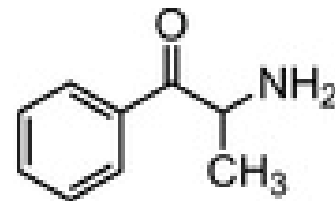
Synthetic Cathinone “Bath Salt” (Flakka)



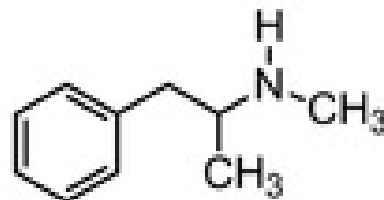
Chemical Structure of “Bath Salts”:



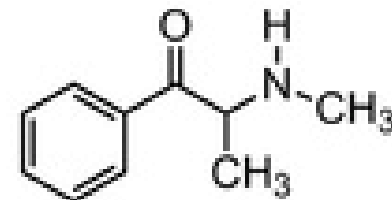
Amphetamine



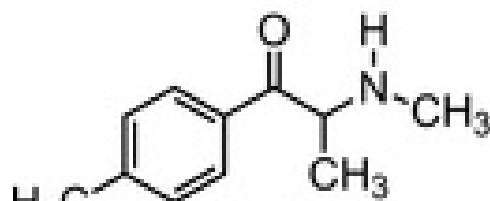
Cathinone



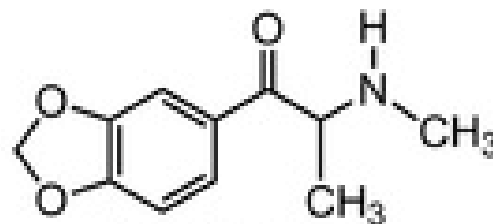
Methamphetamine



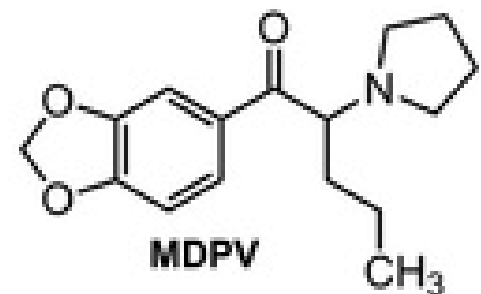
Methcathinone



Mephedrone



Methyldone

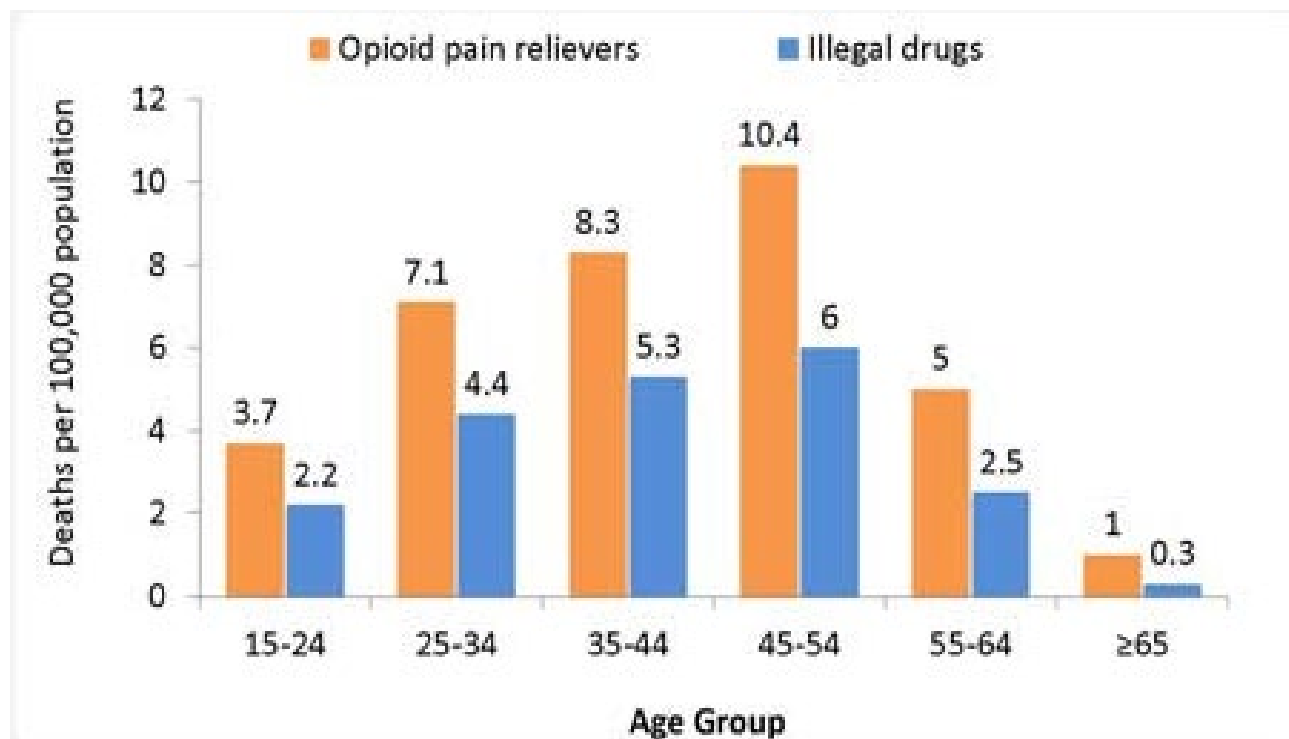


MDPV

Bath Salt: “Flakka” Alpha-PDP

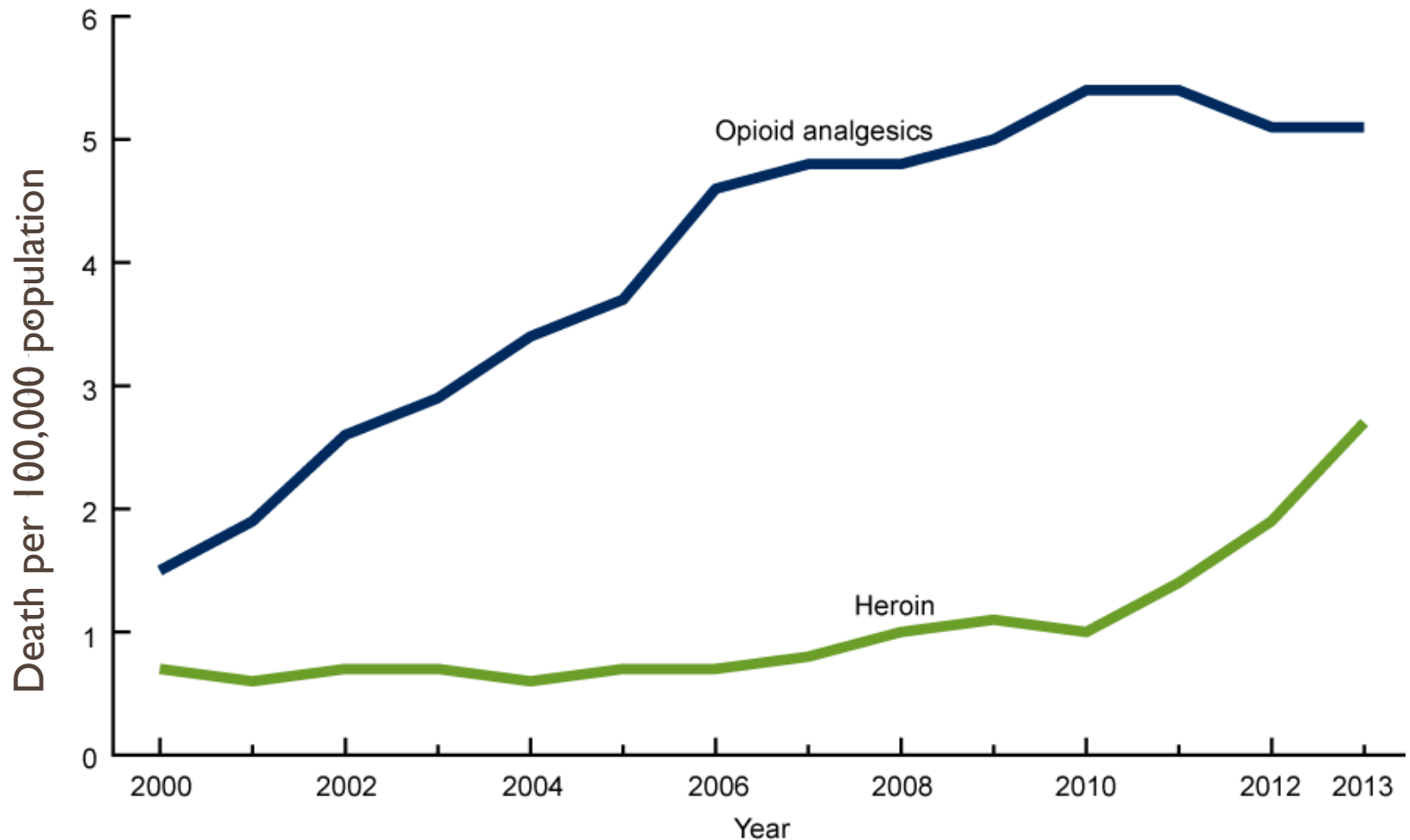


Death from Pain killers Exceeds Those of All Illegal Drugs:



CDC, Morbidity and Mortality Weekly, 60(43), 1489, 2011.

Age-adjusted rate of drug-poisoning deaths:

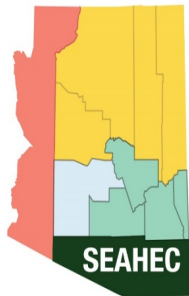


Source: CDC/NCHS, National Vital Statistics System Mortality

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