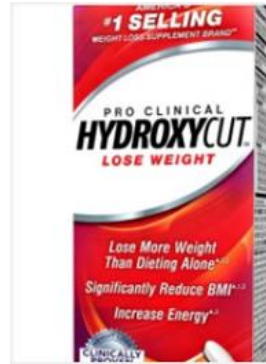


Stimulants

Ch. 10

Licit - Minor Stimulants

- Caffeine

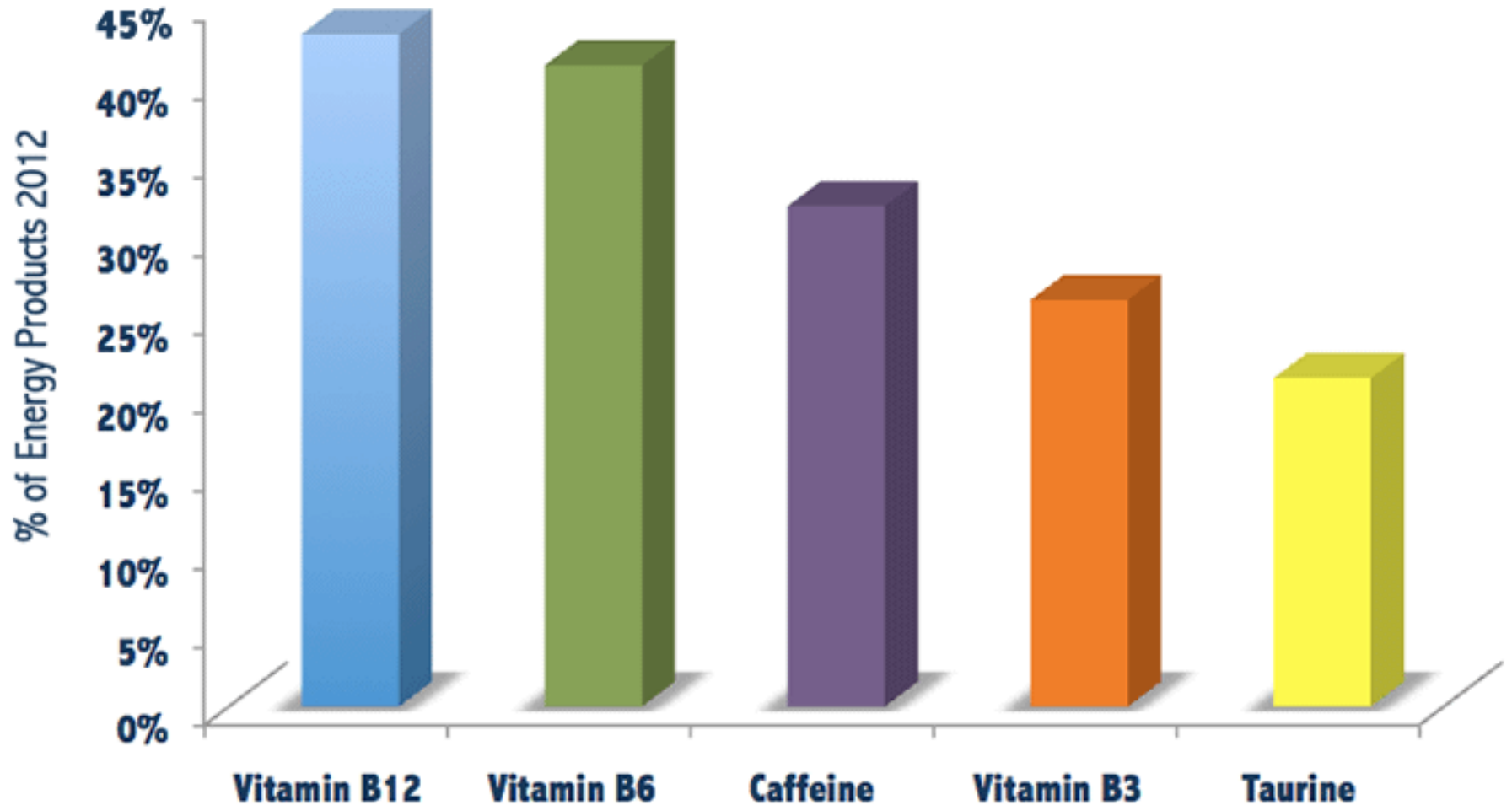


Caffeine Content

- Chocolate (1oz) 1-35mg
 - Tea (5oz) 25-70mg
 - Cola/Soda (12oz) 40-70mg
 - Energy Drink (12oz) 80-160mg
 - 5 Hour Energy (2oz) 215-250mg
 - Coffee (12oz) 200-300mg
-
- Safe ~ 400mg



Energy Drinks



Energy Drinks

- B-vitamins = metabolism
 - Niacin
 - Riboflavin
 - B2, B3, B5, B6, B9, B12
- Taurine = amino acid
 - Neurotransmitter inhibitor
- Guarana = stimulant
 - Caffeine-like
- Sugar
 - 1 tsp = 5g



Energy Drinks

- Ginseng
 - <200mg
 - Stimulates hypothalamus → Adrenal corticotropic hormone = stimulant, alertness
- L-Pheylalanine
 - Increases alertness



Supplement Facts	
Serving Size 1.93 fl. oz.	
Amount Per Serving	% Daily Value
Niacin (as Niacinamide) 30mg	150%
Vitamin B6 (as Pyridoxine Hydrochloride) 40mg	2000%
Folic Acid 400mcg	100%
Vitamin B12 (as Cyanocobalamin) 500mcg	8333%
Sodium 18mg	<1%
Energy Blend 1870mg	‡
Taurine, Glucuronic acid (as or from glucuronolactone), Malic Acid, N-Acetyl L-Tyrosine, L-Phenylalanine, Caffeine, Citicoline	

‡Daily value not established.

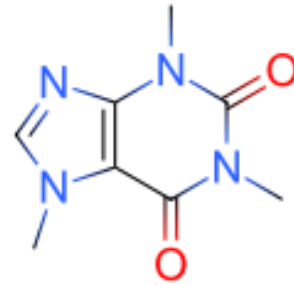
Other Ingredients: Purified Water; Natural and Artificial Flavors; Sucralose; Potassium Sorbate, Sodium Benzoate and EDTA (to protect freshness).



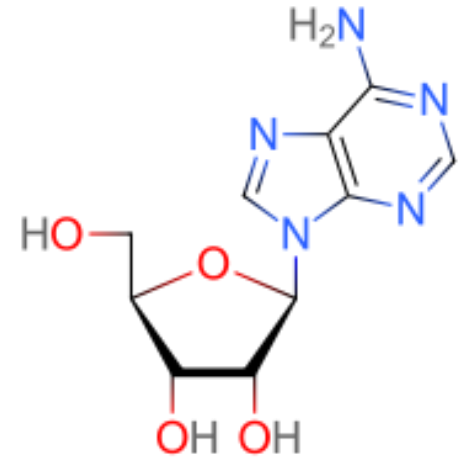
Physiology

Adenosine receptors

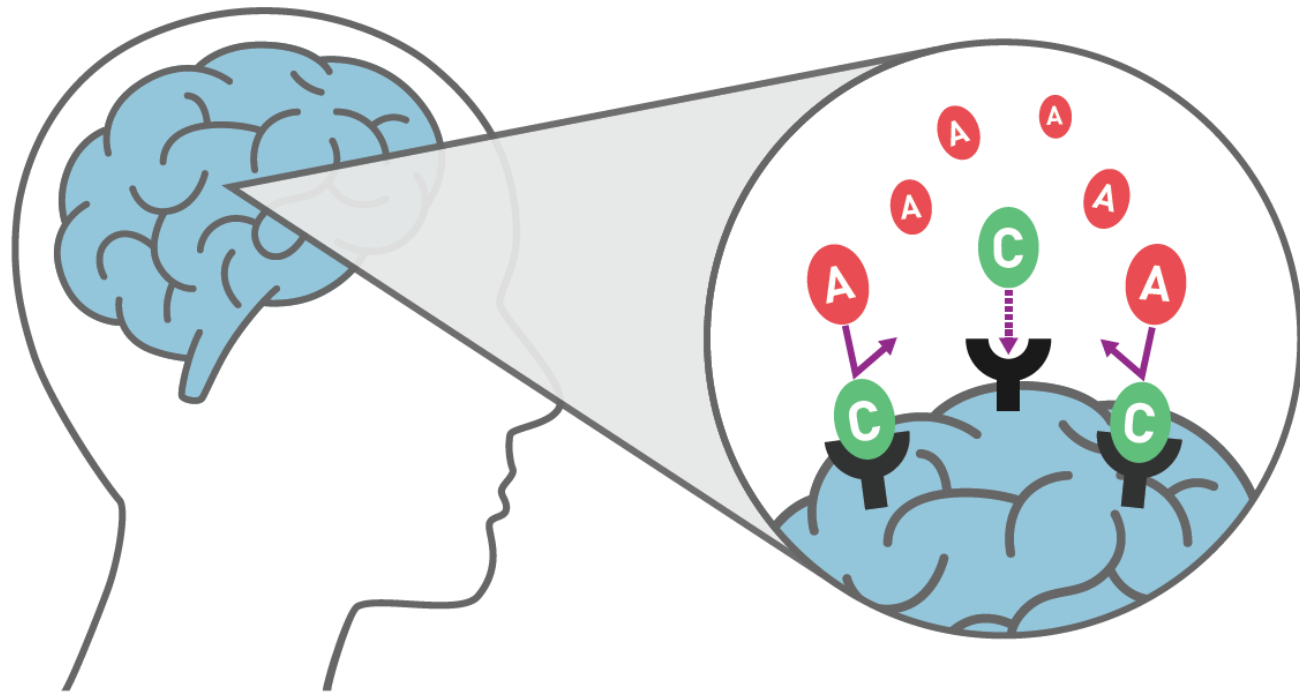
- Tired
- Vasodilation
- Oxygenation
- Sleep



Caffeine



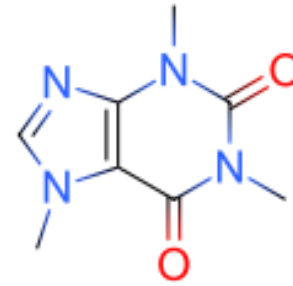
Adenosine



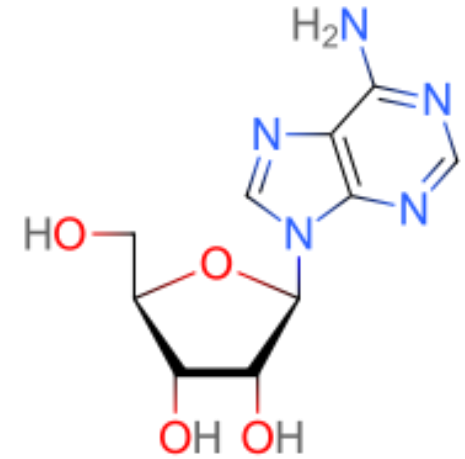
Physiology

Caffeine

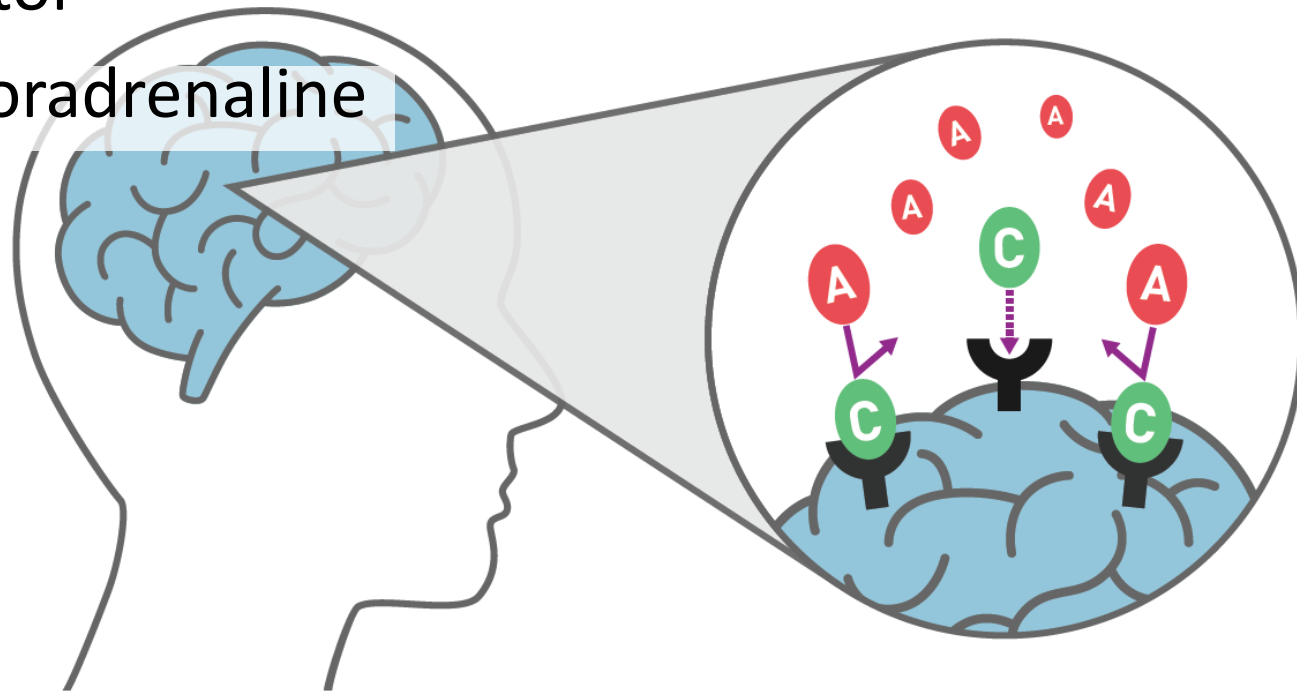
- Adenosine agonist
- Vasoconstrictor
- Stimulates noradrenaline
- Dopamine



Caffeine

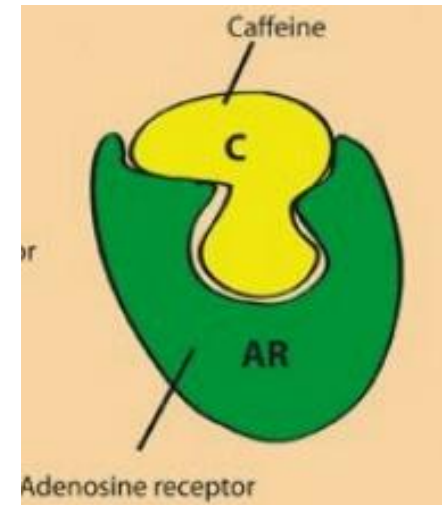
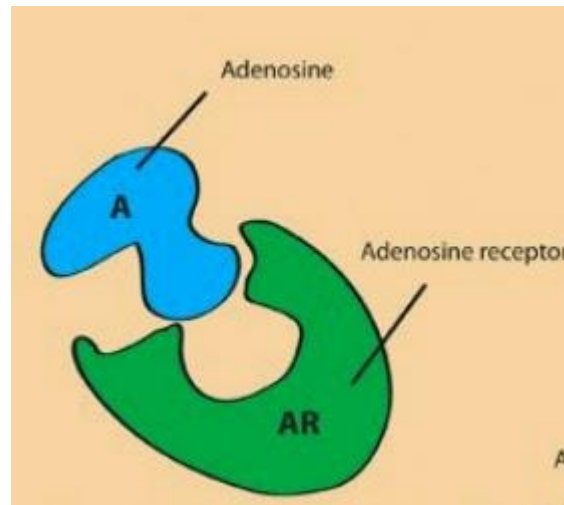


Adenosine



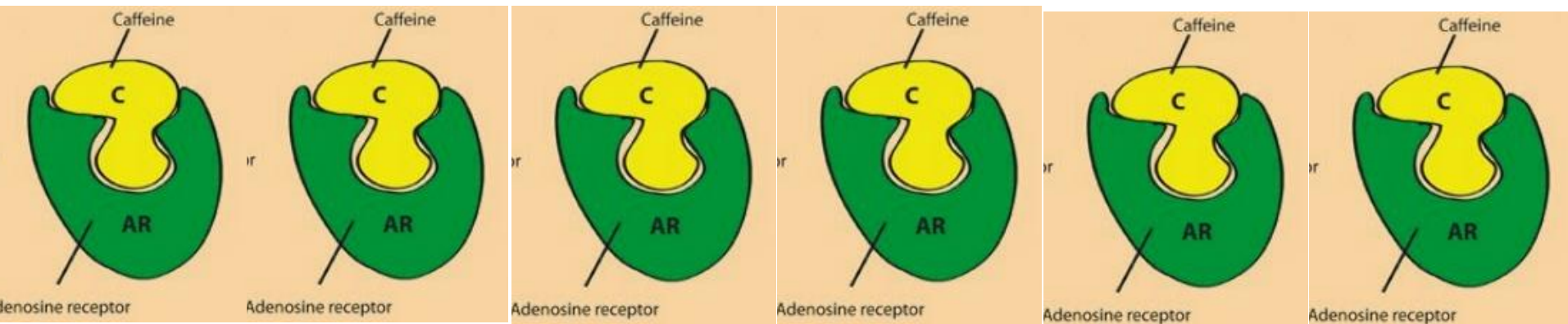
Physiology

- Caffeine half-life
- 4 – 8 hours



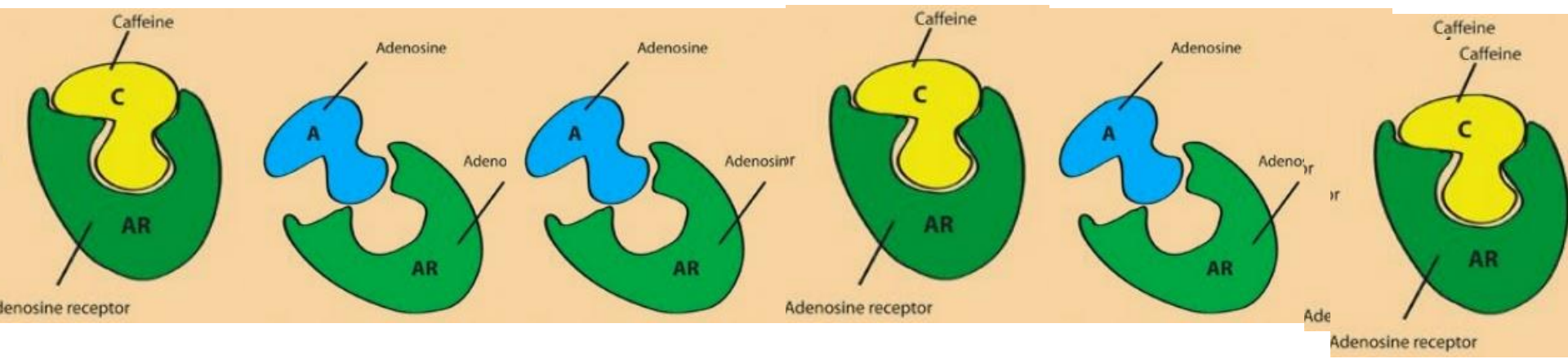
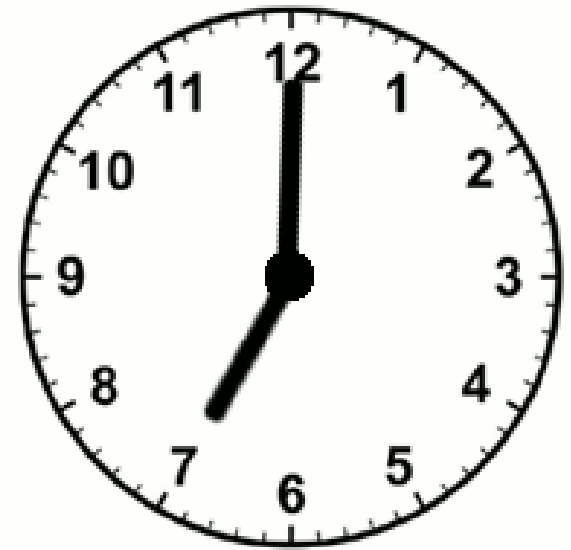
Physiology

- Caffeine half-life
- 4 – 8 hours



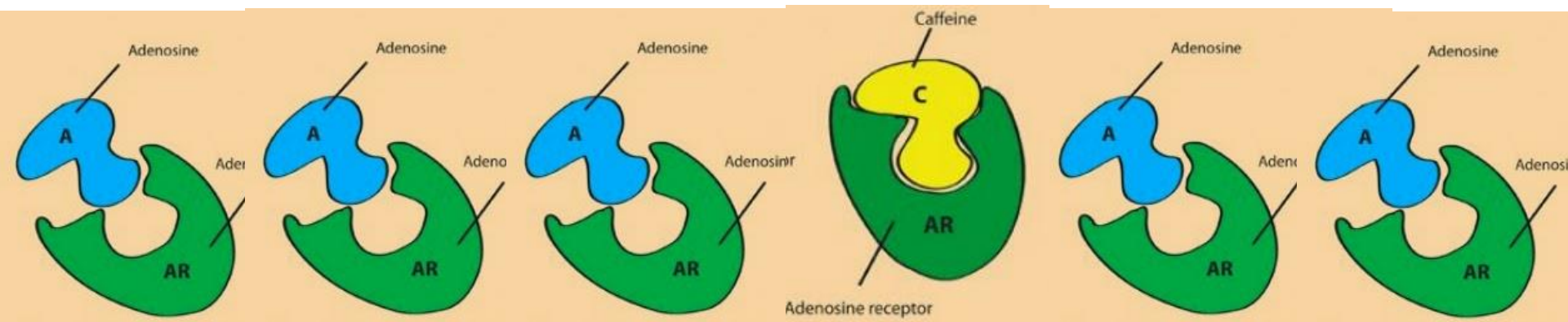
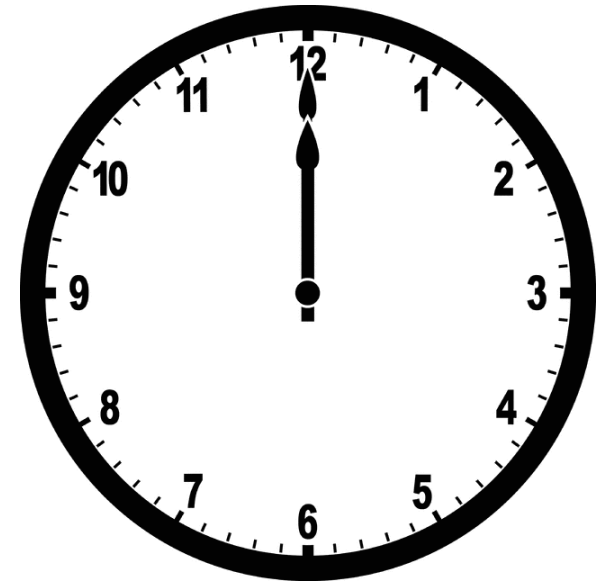
Physiology

- Caffeine half-life
- 4 – 8 hours



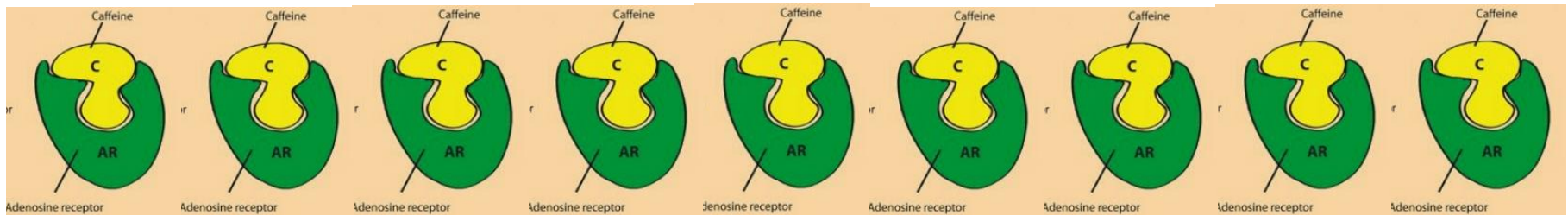
Physiology

- Caffeine half-life
- 4 – 8 hours



Physiology

- Tolerance



Work Groups

- BRN Chargers –What are the side effects of amphetamines on brain and cardiovascular functions.
- FOX Cyclones – Discuss the unique dangers of products such as bath salts.
- MNT Buccaneers – Describe why stimulants are used as “performance enhancers” and why they are dangerous.
- MAN Blue Devils – Explain how Ritalin compares to methamphetamine.
- BRN Bluegolds – What are the different stages of cocaine withdrawal.
- FOX Titans – Compare caffeine dependence and withdrawal to that of other stimulants.
- MAN Phoenix – Describe what “energy drinks” are and potential risks associated with their consumption.
- MNT Phoenix – What are the potential dangers of herbal stimulants, such as Ephedra.

Work Groups

- **FOX Titans** – Compare caffeine dependence and withdrawal to that of other stimulants.



- **MAN Phoenix** – Describe what “energy drinks” are and potential risks associated with their consumption.



Illicit & Controlled – Major Stimulants

Historical Context of Cocaine

Cocaine

- 1st Era
- 2nd Era
- 3rd Era

Historical Context of Cocaine

1st Era – pre 1800s

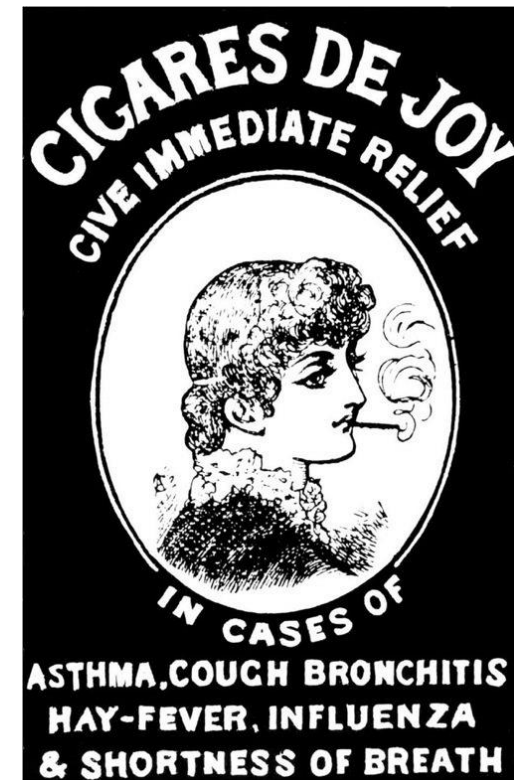
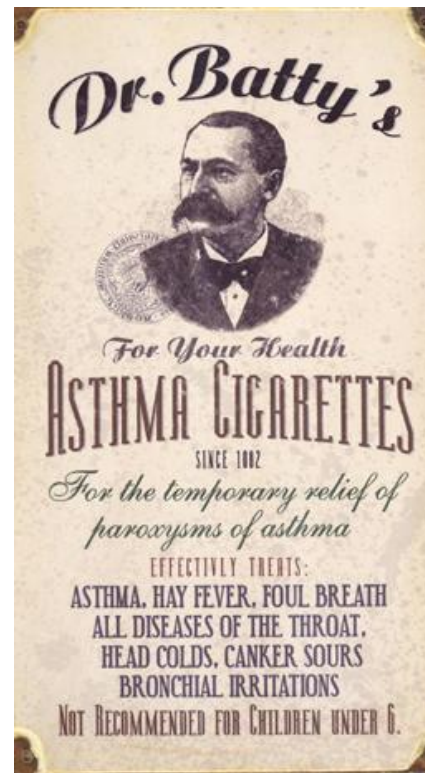
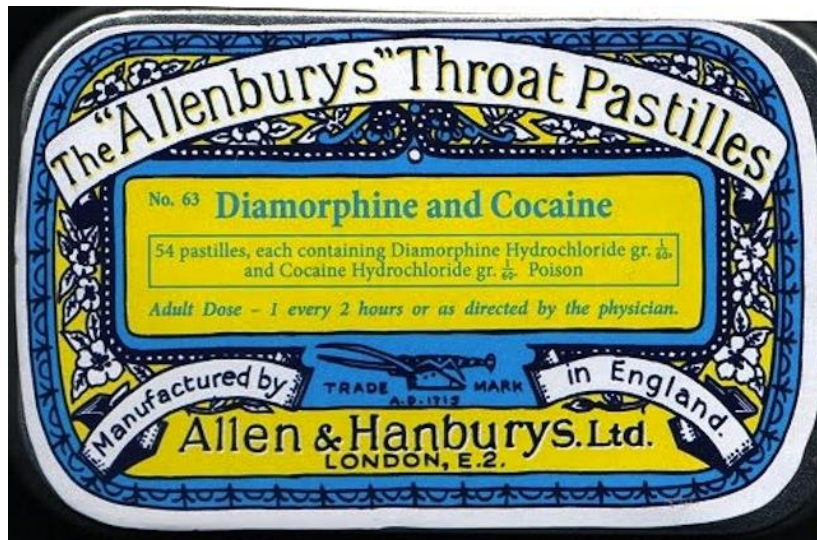
- South American Indians
- Chewed cocoa leaves



Historical Context of

2nd Era – 1800s – 1860s

- Growth of pharmacology
- Growth of secularism
- “Cure-all”



Historical Context of Cocaine

2nd Era - 1880s

“Medical Miracle” & “Elixir of Life”, “Cure All” ...

Utopia & Panacea – cocaine could...

- Take the place of food,
- Make the coward brave,
- Make the silent eloquent,
- Render the sufferer insensitive to pain



MARIANI WINE

MARIANI WINE Quickly Restores
HEALTH, STRENGTH,
ENERGY, & VITALITY.

MARIANI WINE
FORTIFIES, STRENGTHENS,
STIMULATES, & REFRESHES
THE BODY & BRAIN.

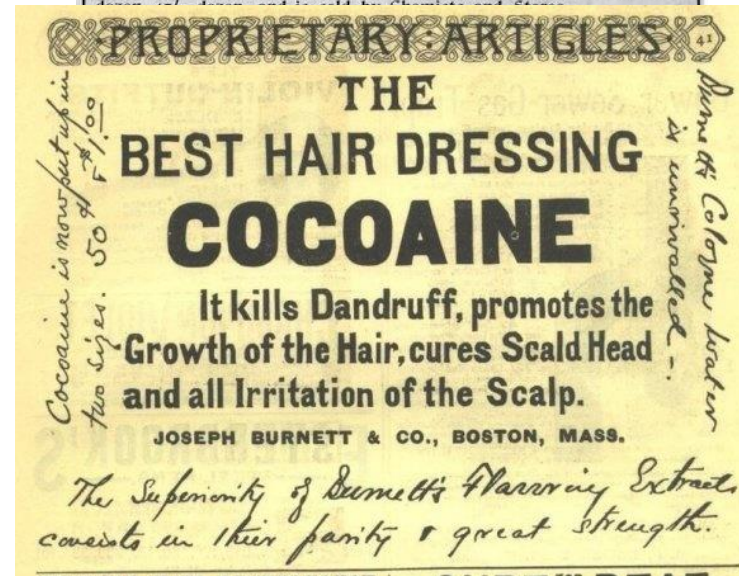
Hastens
Convalescence
especially after
INFLUENZA.

His Holiness
THE POPE

writes that he has fully appreciated the beneficent effects of this Tonic Wine, and has forwarded to Mr. Mariani as a token of his gratitude a gold medal bearing his august effigy.

MARIANI WINE

is delivered free to all parts of the United Kingdom by WILCOX & CO.,
83, Mortimer Street, London, W., price 4/- per single bottle, 22/6 half-



PROPRIETARY ARTICLES

THE BEST HAIR DRESSING COCAINE

It kills Dandruff, promotes the Growth of the Hair, cures Scald Head and all Irritation of the Scalp.

JOSEPH BURNETT & CO., BOSTON, MASS.

Cocaine is now put up in two sizes. 50¢ & \$1.00

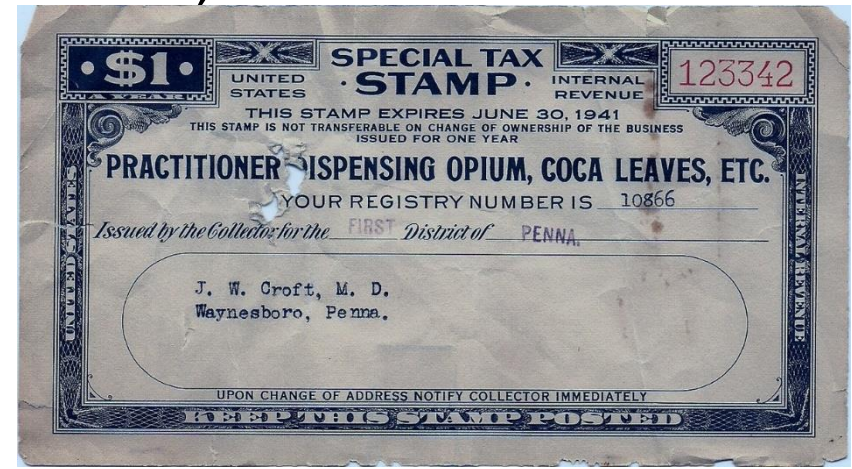
Demmett's Cologne Water is unparalled.

The Superiority of Demmett's Flavoring Extracts consists in their purity & great strength.

Historical Context of Cocaine

2nd Era – 1860s – 1920s

- Wide spread use → Social ills
- Temperance Movement
- 1904 – Pure Food & Drug Act
- 1914 Harrison Narcotics Act
 - Taxation of production, importation, & distribution



Historical Context of Cocaine

- Atlanta, GA – first city prohibition of alcohol
- Extracts from coca leaves & kola nuts

VISIT OUR SODA FOUNT.

Coca-Cola
TRADE MARK

We purchase our COCA-COLA direct from the manufacturers and no shoddy substitutes are ever permitted to go into our fountain. If you are weary there is nothing so refreshing. It exhilarates and enlivens body and mind. We claim the best drinks in the city. You will have prompt, polite and careful attention at our fountain

THE IDEAL BRAIN TONIC DELIGHTFUL SUMMER WINTER BEVERAGE.

Historical Context of Cocaine

- Atlanta, GA – first city prohibition of alcohol
- Extracts from coca leaves & kola nuts

Today

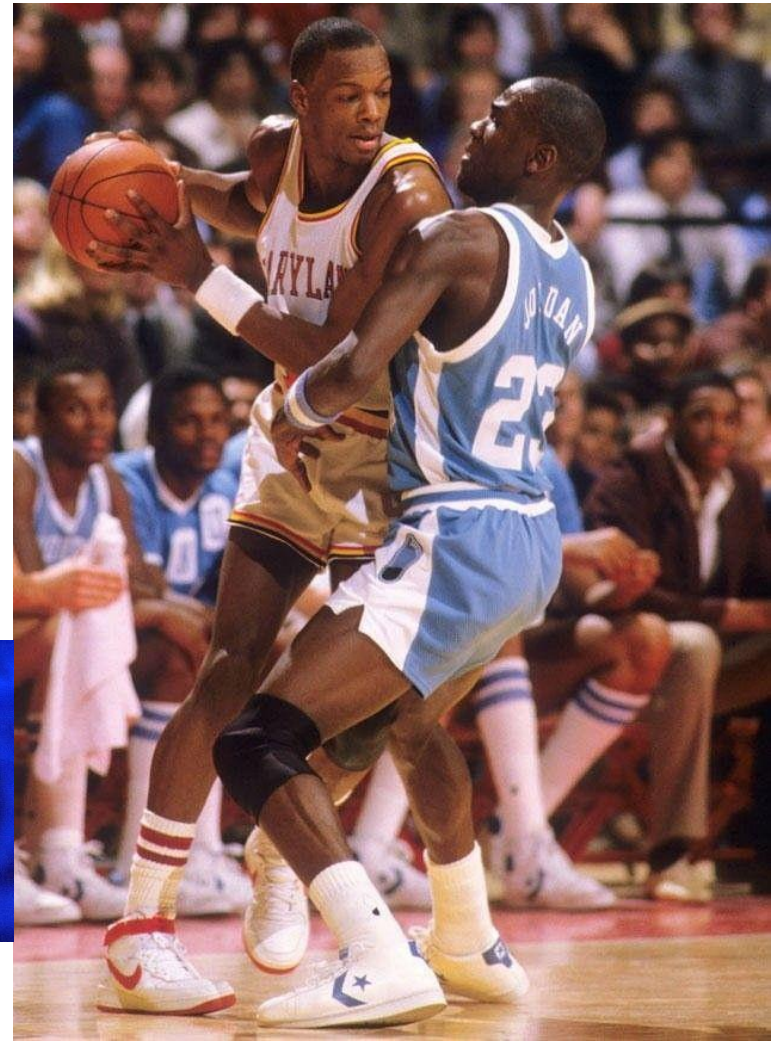
- DEA = 175,000kg of coca leaves from Peru
- 1,750kg of cocaine (medical use)
- Coca-Cola buys de-cocainized leaves
- 1.9 billion servings of Coke each day



Historical Context of Cocaine

3rd Era – 1980s

- Popular, Glamorous, “fast lane”
- Wealth, fame
- Considered non-addictive
- Risky Business



Historical Context of Cocaine



> \$400 ~ 10g (1/10 use)

Cut with other white powders

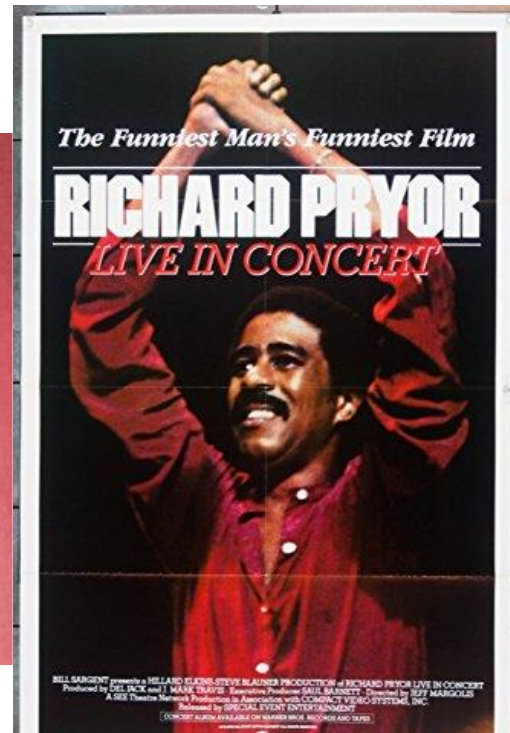
Snorted

3 – 5 minute moderate onset



Cocaine

- Freebase
- Flammable



Crack

- 1g = \$80 (1/10g use)
- Cocaine + Baking Soda
- Less flammable
- Smoked
- 7 – 8 seconds intense onset



Crack

- Cheaper
- Faster



- Cocaine = Wealthy, successful, glamorous
- Crack = Poor, inner-city, gangs

Crack



Daryl Gates

- DARE
- SWAT
- Operation Hammer



Rap – Run DMC - Authority



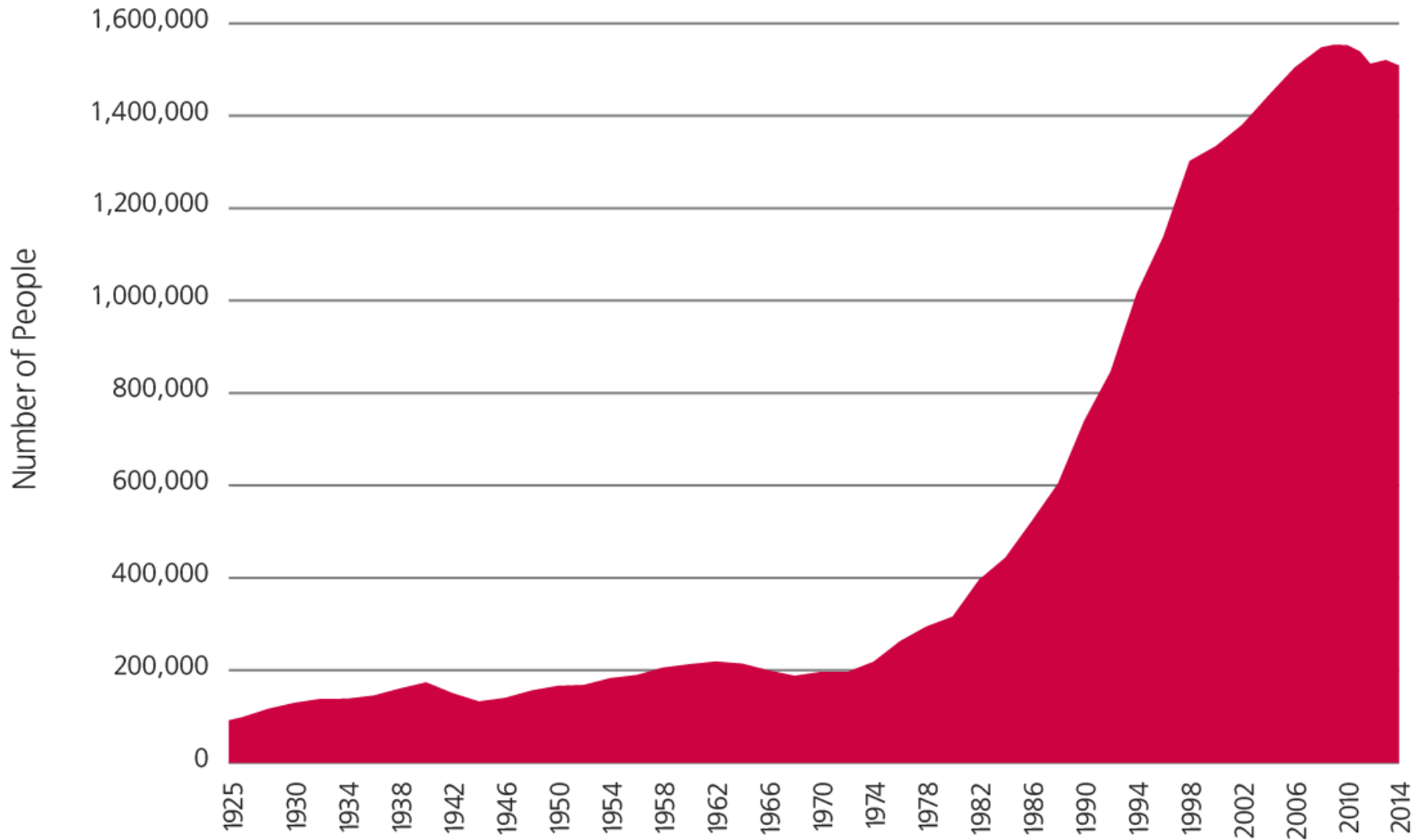
Rap – NWA – Authority



Crack

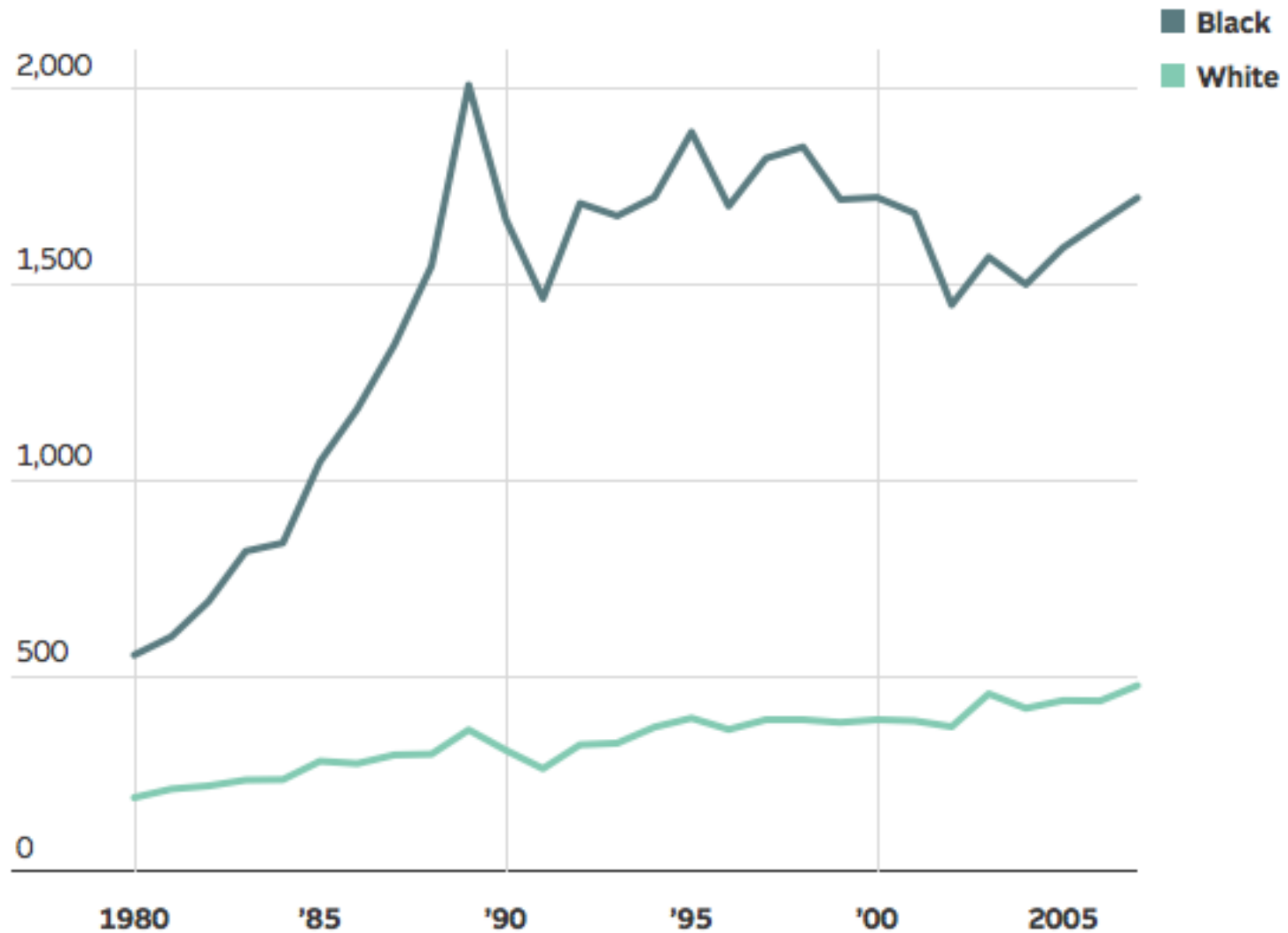
- 1986 – Anti-Drug Abuse Act
- Minimum jail sentences
- 500g of cocaine (\$20,000 value)
- 5g of crack (\$400 value)

U.S. State and Federal Prison Population, 1925-2014



Source: Bureau of Justice Statistics *Prisoners Series*.

US drug arrest rates, per 100,000 residents of each race

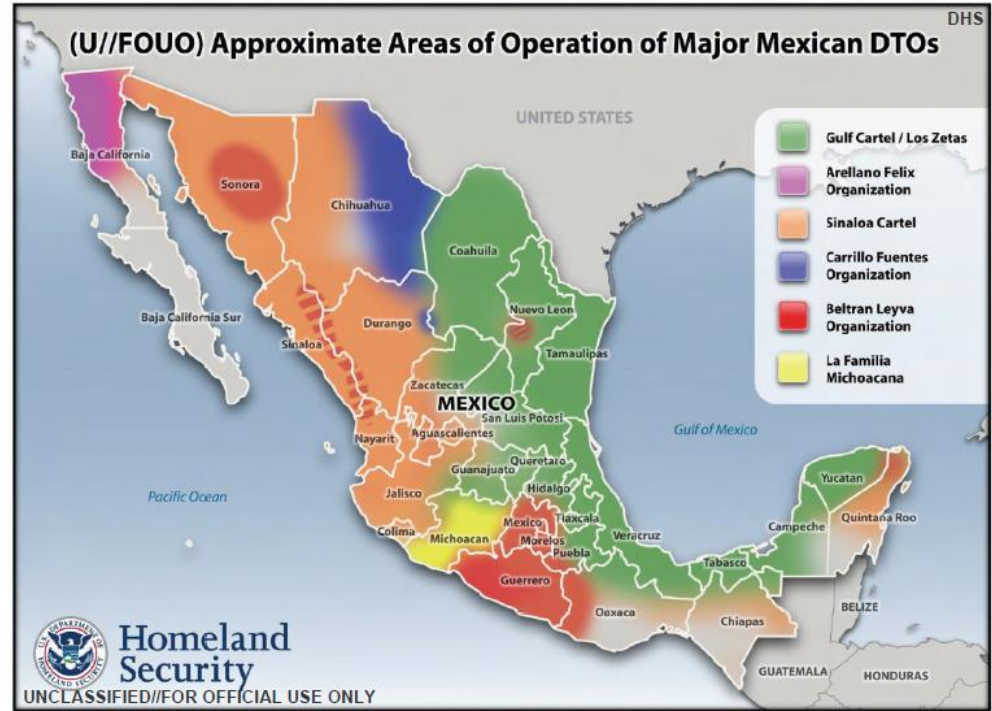


Source: Human Rights Watch, 2009 analysis of government data



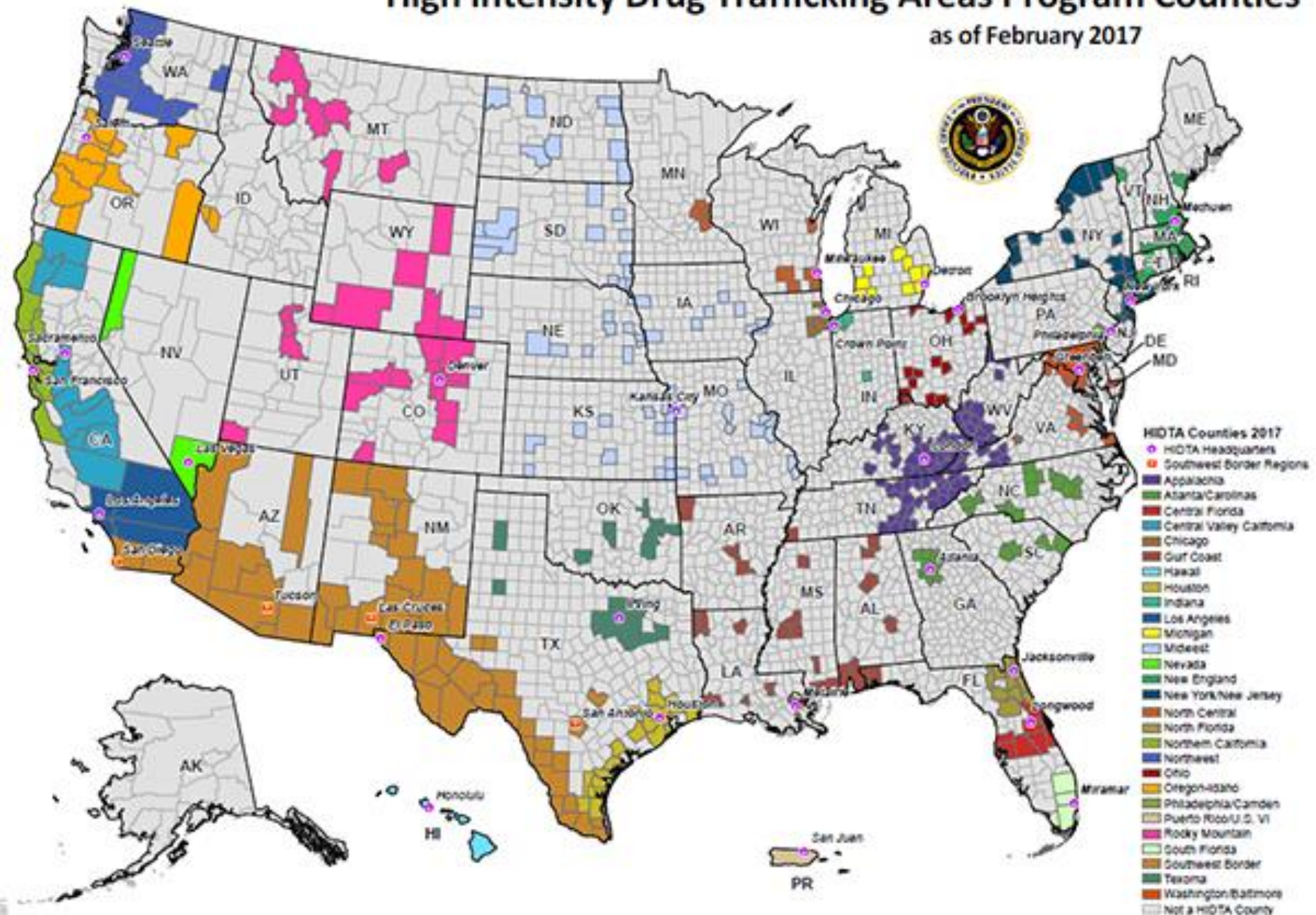
Cocaine Supply

- El Chapo



High Intensity Drug Trafficking Areas Program Counties

as of February 2017



Side Effects of Cocaine

- Mobilizes breakdown of fat
- Decreases appetite
- Delays sleep
- Stimulant
- Arousal
- Euphoria
- Inflated self esteem

Side Effects of Cocaine

- Mobilizes breakdown of fat
- Decreases appetite
- Delays sleep
- Stimulant
- Arousal
- Euphoria
- Inflated self esteem
- Anxiety
- Fear
- Restlessness
- High blood pressure
- Blood Clotting
- Heart attack
- Depression
- Formication

Work Groups

- BRN Bluegolds – What are the different stages of cocaine withdrawal.



Amphetamines

Victorian Era up to 1900s



Flappers – 1920 & 1930s



Because **OBESITY**
can be serious . . .

FOR THE **49** OUT OF **50*** WHO ARE
OVERWEIGHT FROM **O**VEREATING

Rx

BIPHETAMINE[®]
A "STRASIONIC" RELEASE ANORETIC RESIN

10-14 Hour Appetite Curb

with mildly invigorating action, but
without fatiguing surges of stimulation.



Single Capsule Daily Dose

"Strasionic" release is sustained ionic
release proceeding at a uniform, controlled
rate in both stomach and intestines, eliminating
sharp rises and declines in blood levels.

Predictable Weight Loss

Rx Biphphetamine capsules containing a mixture of
equal parts of amphetamine and dextro amphetamine
in the form of a resin complex. Three strengths—
Biphphetamine 20 mg., 12½ mg., 7½ mg.

*A leading life insurance company statistic.

For Literature and Samples, Write

STRASBURGH

Originators of "Strasionic" Sustained Ionic Release




111 Strassenburgh Co., 100-10110, N. Y., U.S.A.

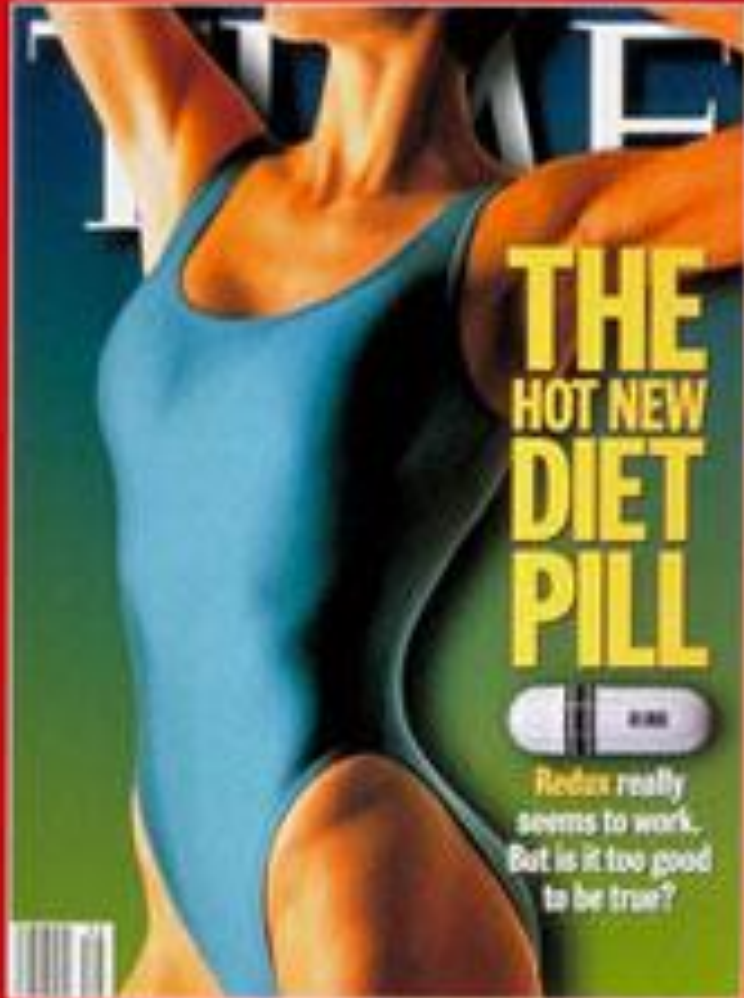




LOSE WEIGHT FASTER & EASIER THAN EVER BEFORE!

Increase your body's fat burning ability and your metabolism while suppressing appetite!

-  Lose 2 to 5 pounds per week!
-  Maximum appetite suppression
-  Supercharges metabolism to burn fat

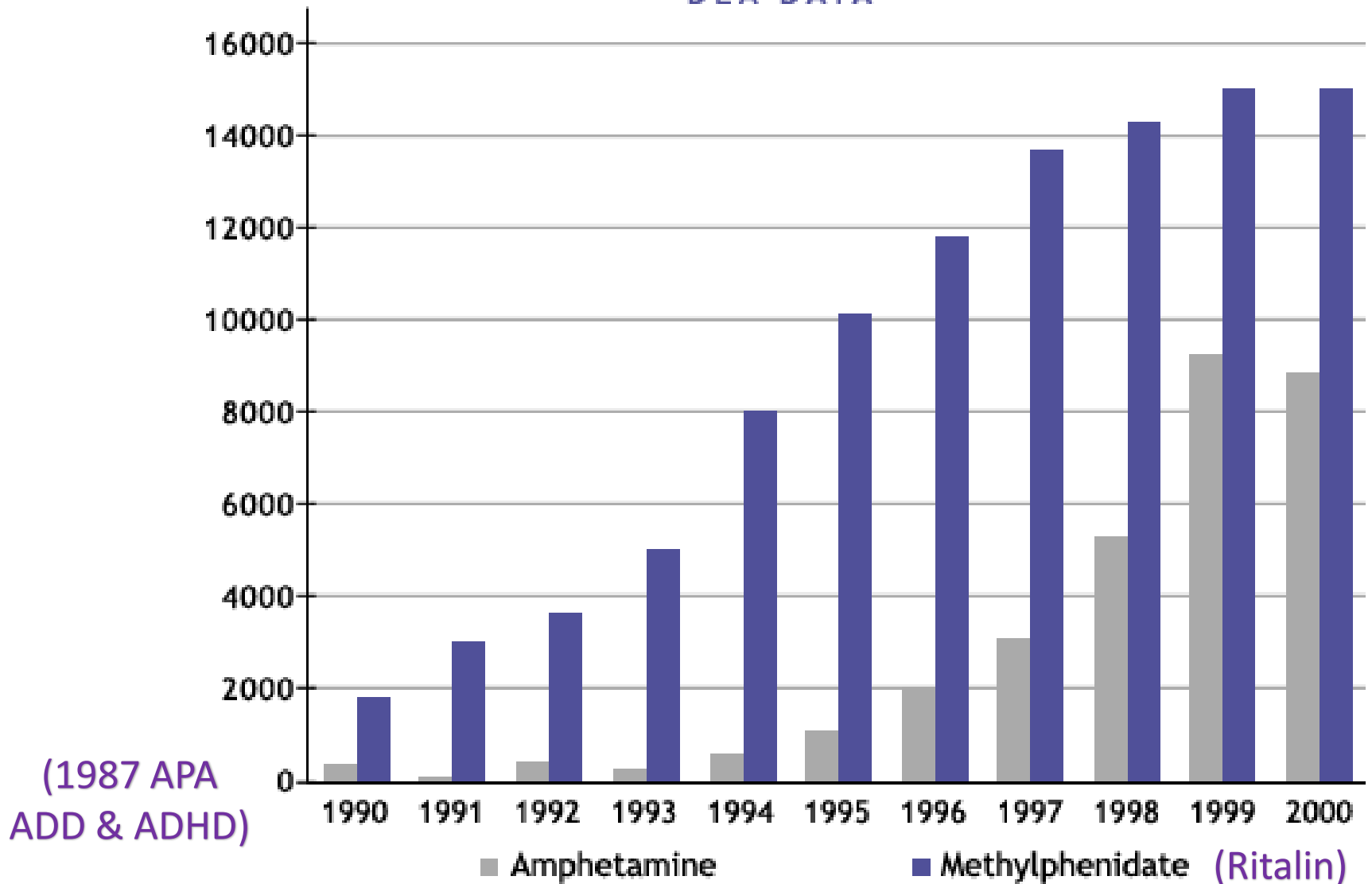


Amphetamines

- Appetite suppressant
- Stimulant
- Alertness



AGGREGATE PRODUCTION QUOTA (KILOGRAMS) DEA DATA

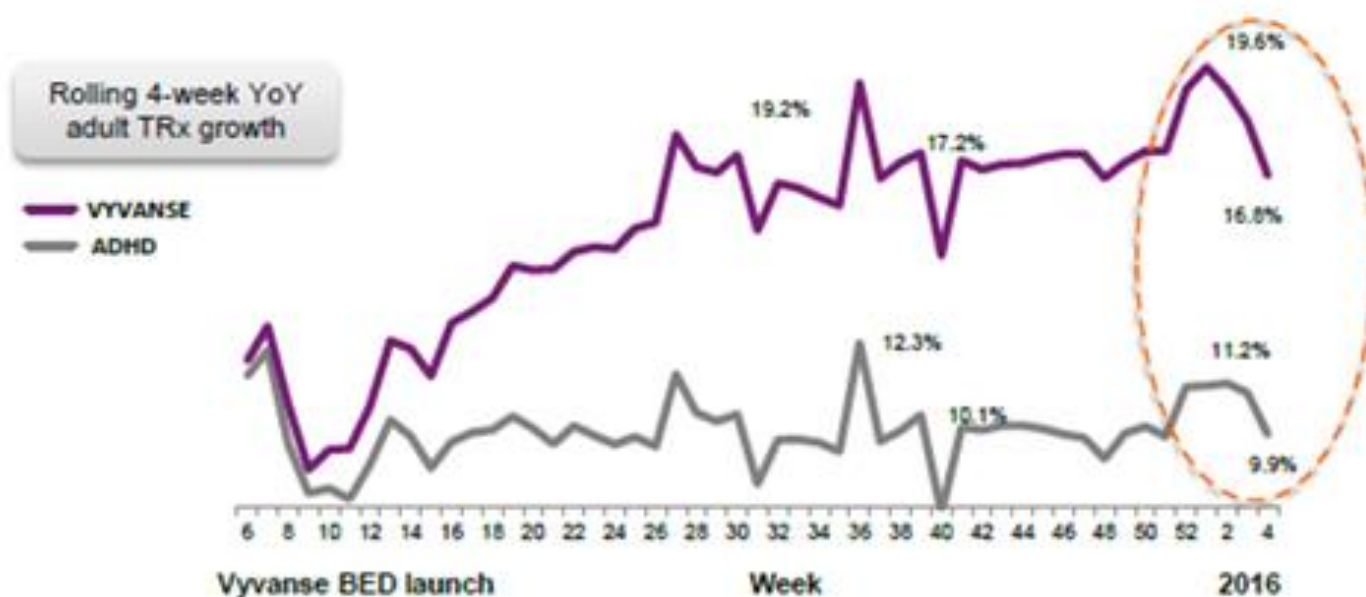


Source: Frontline. (2001.) Statistics on stimulant use. PBS. Retrieved from <https://www.pbs.org/wgbh/pages/frontline/shows/medicating/drugs/stats.html>

Amphetamines

Commercial ADHA Drug	Manufacturer	Drug Name	Introduction/Expiration
Ritalin	Novartis	methylphenidate hydrochloride	2002/2012
Adderall	Shire Development	dextroamphetamine	2001/2012
Vyvanse	Shire Development	Lisdexamfetamine	2007/2023

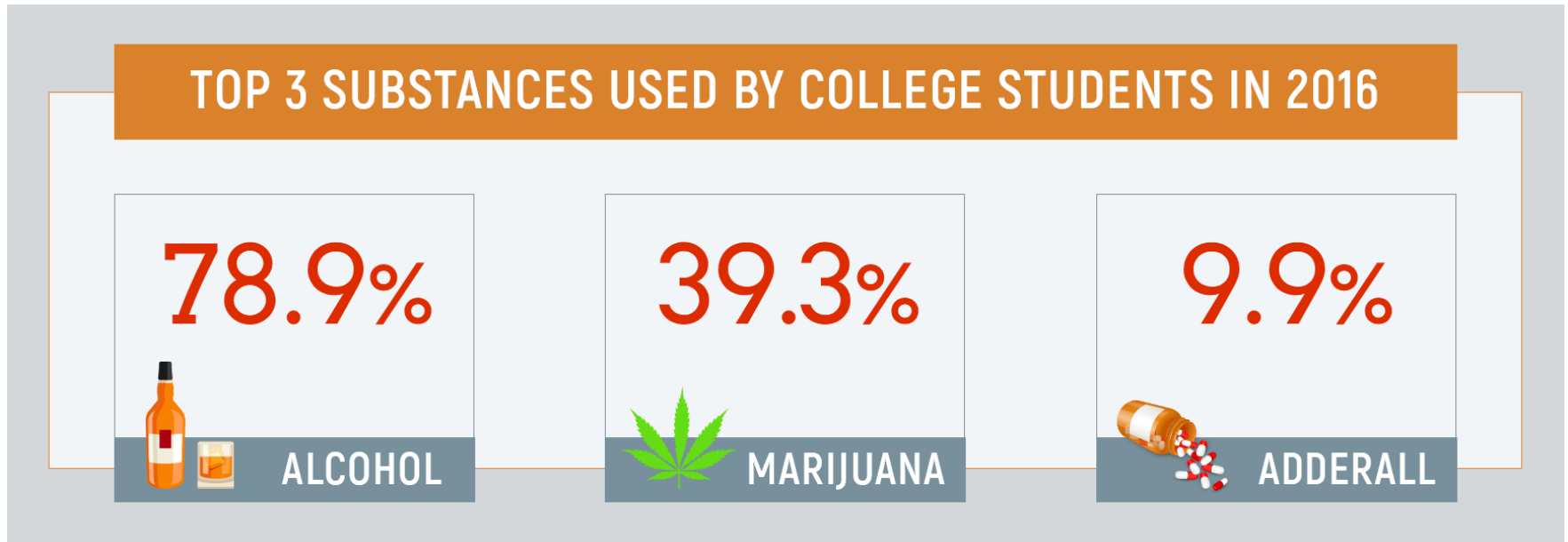
Vyvanse Performance



Vyvanse above-market performance driven by uptake in the adult ADHD market and in adults with Binge-Eating Disorder since launch in Q1:15

Source: This information is an estimate derived from the use of information under license from the following IMS Health information service: IMS NPA Weekly for the period Jan 17, 2014 to Jan 22, 2016. IMS expressly reserves all rights, including rights of copying, distribution and republication.

Adderall Abuse in College



Source: Addiction Resources (n.d.) Alcohol and drug use in college – Switching anxiety for addiction. Retrieved from <https://addictionresource.com/addiction/college/>

Drug Interactions (abuse)

Amphetamine & other stimulants

- Blood pressure
- Rapid heart rate
- Hypovolemic shock
- Increase dependency
- Dopaminergic & Serotonergic nerve ending damage

Work Groups

- **MNT Phoenix** – What are the potential dangers of herbal stimulants, such as Ephedra.

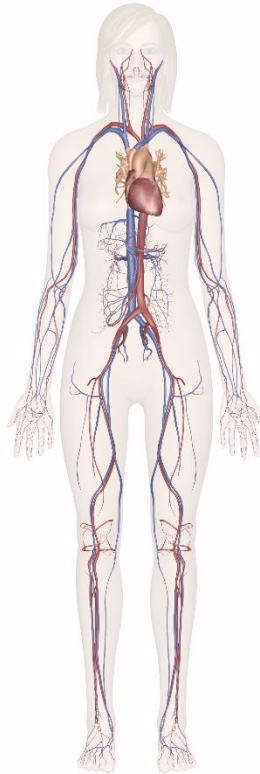
Can **EPHEDRINE** Be Abused

And Is It Addictive?

A useful medicine, however, carries the risk of addiction.

Work Groups

- **BRN Chargers** –What are the side effects of amphetamines on brain and cardiovascular functions.



Work Groups

- **MAN Blue Devils** – Explain how Ritalin compares to methamphetamine.



Work Groups

- **MNT Buccaneers** – Describe why stimulants are used as “performance enhancers” and why they are dangerous.

STUDY BUDDY

30 mg

The Daily conducted a survey of 398 students on the usage of controlled prescription stimulant drugs. Here are the results



Percent of respondents who have been prescribed a stimulant drug (Adderall, Ritalin, Concerta, Provigil, Alertec, Modavigil, Nuvigil, etc.)



Percent who have used a controlled stimulant drug, either without a prescription or beyond its prescribed use, for the purpose of cognitive enhancement



Percent of respondents who know other students who have abused these drugs for the purpose of cognitive enhancement



Percent of respondents who say they have distributed prescription stimulant drugs

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HOME | OUR ENERGY SHOTS | HOW TO USE | FAQs | FAN ZONE | 5-HOUR ENERGY® HELPS | NEWS | CONTACT US

5-hour ENERGY PRESENTS

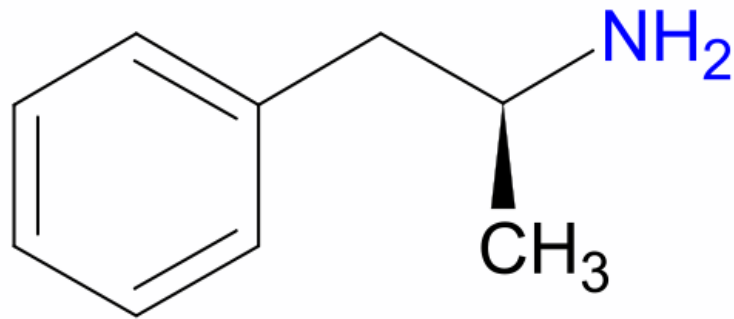
PRO TIPS
WITH CHAMPION GOLFER
JIM FURYK

Watch Tips Now ▶

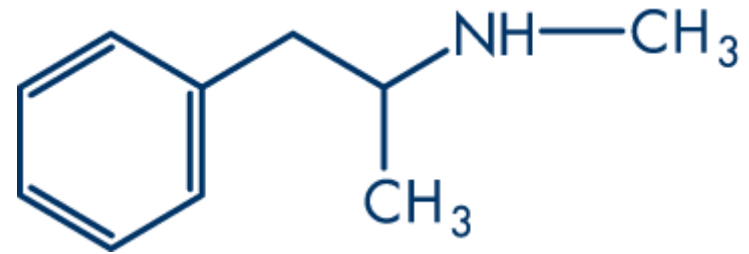
Methamphetamine

Methamphetamine

- Dextroamphetamine
- (Adderall)

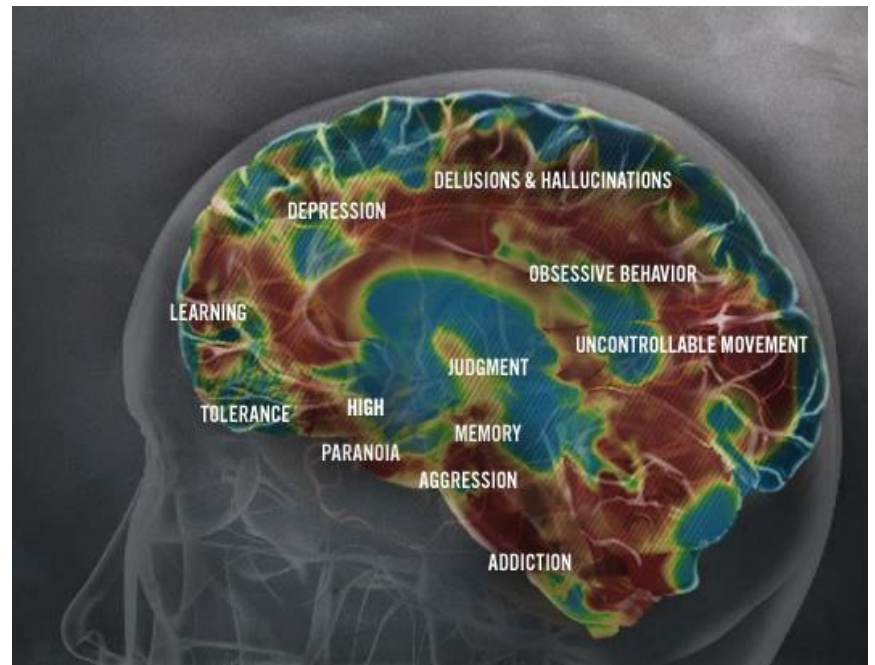


- Methamphetamine



Methamphetamine

- Fat Soluble
- Longer effects on brain
- Liver metabolizes slowly
- Lasting effect & toxicity
- Half-life of 8 hour



[Meth Project](#)

Methamphetamine

- Rush = 3-30 min
- High = 4-16 hours
- Binge = 3-16 days

Tweaking

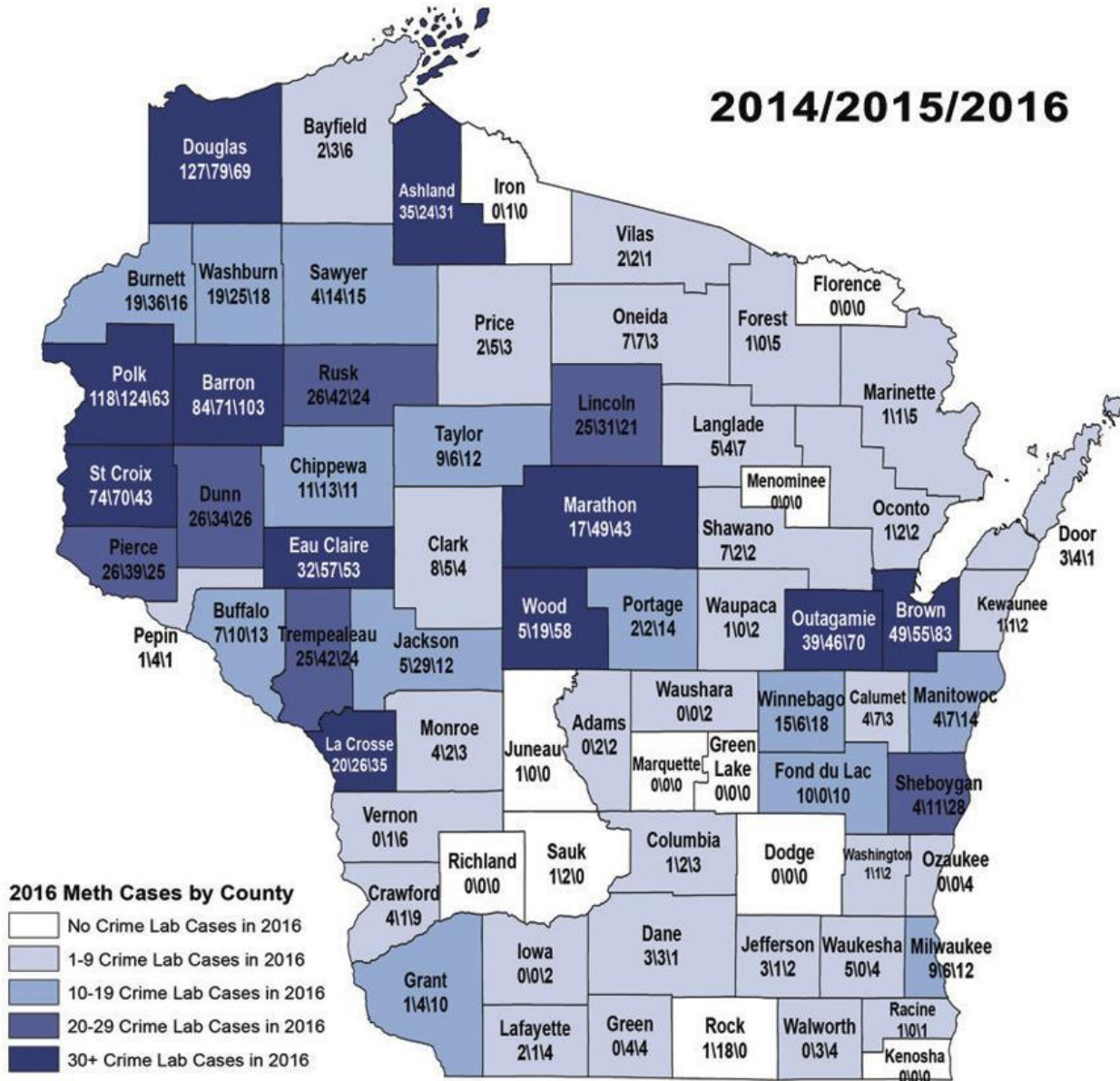
- End of binge
- Emptiness
- Craving
- Inability to sleep
- Formication
- Hallucinations
- Delusional
- Aggressive

Meth Lab



Meth submissions to state crimb lab

2014/2015/2016





Keil



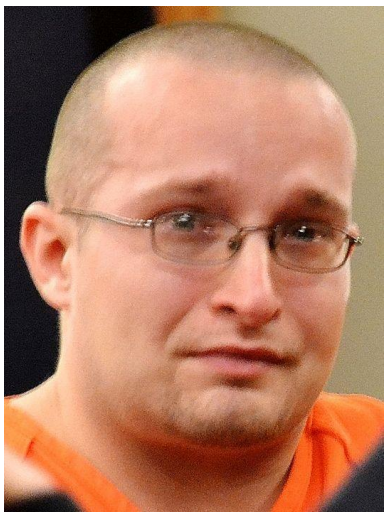
Manitowoc



Door



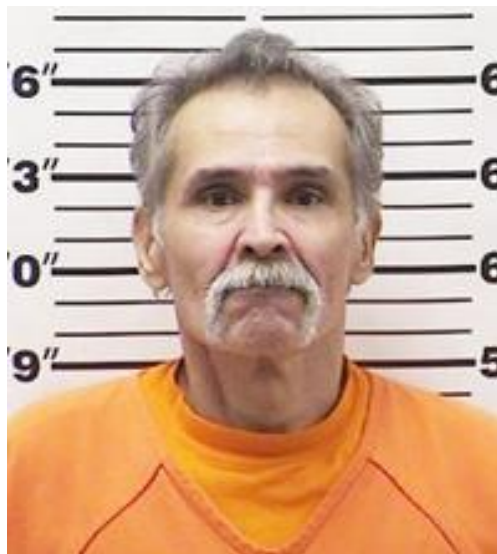
Grand Chute



Oconto



Marinette



Rice Lake



Waupaca

Methamphetamine

- “Meth mouth”
- Dry mouth
- Grinding of teeth
- Poor oral hygiene
- Poor nutrition
- Caustic drug



Methamphetamines

Formication

- “Crank Bugs”
- “Meth Mites”
- Histamines



Work Groups

- **FOX Cyclones** – Discuss the unique dangers of products such as bath salts.



Bath Salts & Flakka

- Ingested, injected, inhaled, vape
- Desired Effect
 - Energized
 - Hyper-stimulation
 - Euphoria
 - 15 min – 4 hour high
- Side Effects
 - Poisoning
 - Suicidal thoughts & tendencies
 - Agitation, violent behavior
 - Hallucinations/psychosis “Zombie drug” “demon drug”
 - Hypertension/chest pain
 - Elevated body temperature



Prevention & Treatment

- 1980's "Latch-key kids"
 - After School Programs
- 5th Quarter events
- "Broken Window" Theory



Prevention & Treatment

- 1980's "Latch-key kids"
 - After School Programs
- 5th Quarter events
- "Broken Window" Theory
 - Community Improvement



Prevention & Treatment

- 1980's "Latch-key kids"
 - After School Programs
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- Police Relations



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- Alternatives to incarceration



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- Police Relations
- Alternatives to incarceration
- Workplace Policy
- Places of Worship

**People Believing in People
People Investing in People
Value, Purpose, Dignity**

- [Eric Clapton – Cocaine w/ lyrics](#)
- [Highly Suspect – Bath Salts w/ lyrics](#)
- [Highly Suspect – Bath Salts video](#)
- [Crack – bringing a city to it's knees](#)
- [Meth user in Iowa \(2001\)](#)
- [Flakka in FL](#)
- [Flakka w/ Jorge Ramos](#)