

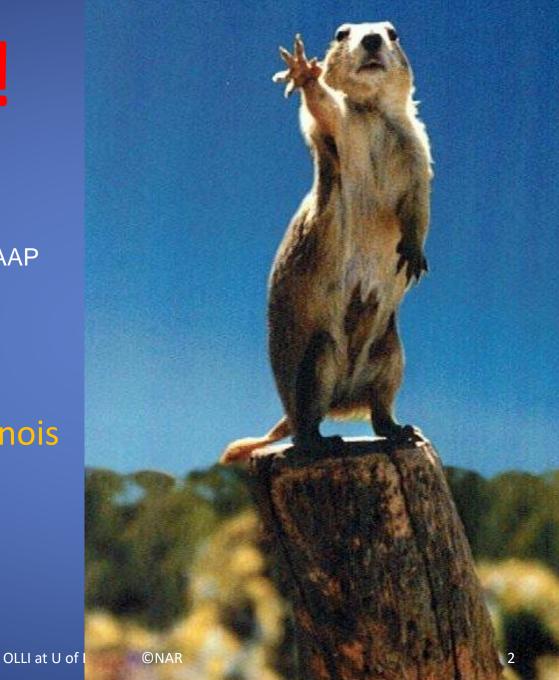
Some Housekeeping Rules Before We Begin



Hello !!!

Néstor A. Ramírez, MD, MPH, FAAP

OLLI @ University of Illinois October 2, 2019



A Brief World History of Cannabis, and America's On and Off Love Affair with Marijuana, plus A review of Cannabis in Illinois

Falling in Love with Mary Jane





I'll Nurture Your Cannabis Awareness Brain Lobe

Cannabis Awareness

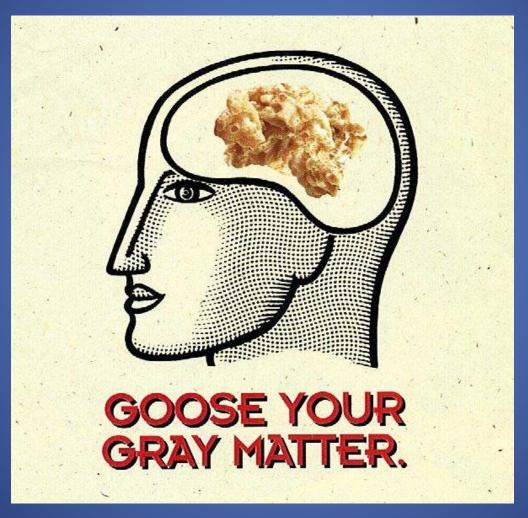




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I want to...



Disclosures

I regret that I have no financial conflicts.

I was on the Illinois Medical Cannabis Advisory Board (IMCAB) until Gov. Rauner dissolved it.

I am not a user, grower, or dispenser of Cannabis.

NO, there will be no free samples today!

In the interest of full disclosure, once, when I was 12, I removed the "Do Not Remove Under Penalty of Law" tag from my pillow.

UNDER PENALTY OF LAW THIS TAG NOT TO BE REMOVED

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DRUG USE DEFINITIONS

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Terms for Substance Use (1)

Tolerance

Increasingly larger doses of a drug are required to produce the same effects obtained earlier.

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Terms for Substance Use (2)

Dependence

Compulsion to use a drug periodically or continuously to feel its effects and avoid the discomfort of its absence.

Person may be dependent on more than one drug!

Terms for Substance Use (3)



Compulsive and overwhelming desire to take a drug because it produces a rewarding stimulus despite any adverse consequences.

Terms for Substance Use (4)

Addiction comes with a compulsion to:

- Obtain the drug.
- Increase the dose.
- Maintain psychological/physical dependence.
- Endure the detrimental consequences of use.
- Disregard damage to self and society.

Terms for Substance Use (3)



Symptoms caused by the abrupt discontinuation or decreased intake of drugs or medications on which the person is dependent.

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Terms for Substance Use (4)

Acute withdrawal from barbiturates, alcohol, benzodiazepines, and glucocorticoids can be FATAL.

Opioid withdrawal is very unpleasant, agonizing and uncomfortable, but NOT life-threatening!

Newborn babies can have withdrawal symptoms if mother addicted to drugs during pregnancy.

CANNABIS IN WORLD HISTORY

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World History of Cannabis (1)

Originated in Central & Southeast Asia. Seeds found in Romania show that people have been smoking it since at least 3000 BC.

Seed and leaf fragments found with the 2800 year-old mummy of a Chinese shaman. India and Nepal Hindus and Nihang Sikhs used Sanskrit term *gankika* (evolved into *ganja*)

World History of Cannabis (2)

Ancient Assyrians used it in religious rites, calling it *qunubu* (precursor of "cannabis"?).

Dacians, Scythians and Thracians shamans burned cannabis flowers to enter trances.

Jews, Christians and Sufi Muslims gave it names like *qannabos* and *qené bósem* (aromatic cane).

World History of Cannabis (3)

◆ Cannabis residues in Shakespeare's garden:
 > "journey in my head" (sonnet 27) and
 > "the noted weed" (sonnet 76)
 probably refer to use of the drug.

Christopher Columbus was an avid user.

Spanish brought cannabis to Mexico for hemp.

World History of Cannabis (4)

In 1925, the International Opium Convention banned the exportation of *Indian Hemp*.

Importing countries should certify that hemp or cannabis was " for medical or scientific purpose".
 It demanded effective control to prevent the illicit international traffic of *Indian Hemp*.

How did Cannabis become Marijuana?



The name marijuana may have come from translation of the Chinese *ma ren hua.*



Or it maybe from the Spanish way of calling it "Chinese Oregano" (mejorana china).



Maybe from Angolan slaves who used the Bantu word *ma-kaña*.



Or maybe it's an amalgamation of girls' names María and Juana (Mary & Jane).

CHEMICALS IN CANNABIS

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Chemical Components in Marijuana (1)

THC

Tetrahydrocannabinol

- Psychoactive component (high).
- Enhances release of dopamine.
- Feeling of euphoria, well-being.
- Relieves pain and inflammation.
- Stimulates appetite (munchies).

Chemical Components of Marijuana (2)

CBD

Cannabidiol

- Most abundant cannabinoid.
- Feeling of relaxation/sedation.
- Relieves pain of migraines and arthritis.
- Decreases seizures.
- Has anti-cancer properties.
- Reduces and regulates effects of THC.

Chemical Compounds in Marijuana (3)

CEG: Cannabigerol Nonpsychoactive cannabinoid

- Relaxation, mellowness, red eyes.
- Analgesic and anti-inflammatory.
- Antibacterial (slows bacteria growth).
- Anti-convulsive
- Anti-insomnia (aids sleep).
- Anti-proliferative of cancer cells.
- Antidepressant (raises mood).
- Interferes with the THC "trippy high".

Chemical Compounds in Marijuana (4)

THCV Tetrahydro cannabiyarin

- Moderates effects of THC.
- Suppresses appetite.
- Treat metabolic disorders.
- Treat Parkinson's, PTSD, MS, anxiety, stress.
- Neuroprotective effect.

Chemical Compounds in Marijuana (5)

Plus:

About 111 other phytocannabinoids, and 370 other active and inactive compounds, 80 of which are only found in cannabis.

Chemical Components in Marijuana (6)

POT is not POT is not POT !!!

 Marijuana with high amounts of THCV:
 Would not help in patients with AIDS, cancer or Crohn's, who need their appetite stimulated.
 Would work very well in diabetes, and obesity where appetite suppression is one of the goals.
 The relative concentration of the various cannabinoids determine the effects.

Annual Deaths 2015

Substance	No. of Deaths
Торассо	435,000
Poor Diet/ Exercise	365,000
Opioids	125,000
Alcohol	85,000
Prescription drugs	32,000
Homicide	20,308
Motor Vehicle Crashes	26,347
Aspirin	7,600
Peanuts	100
Marijuana	0





Marijuana Safer than Peanuts?

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BOTANY OF MARIJUANA

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Botany of Marijuana (1)

The cannabis plant has two major species: Sativa and Indica, with many other subspecies.

Traditionally, Indica is more intoxicating, and Sativa more suitable for hemp use.



Botany of Marijuana (2)

Cannabis is either "Hemp" or "Marijuana"

Hemp variant is high in fiber and low in THC content <1%, the choice for industrial uses.

Marijuana variant is low in fiber and high in THC content (10-30%), the choice for users wanting the psychoactive component.

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Botany of Marijuana (3)

In general, Sativa strains have higher THCV than Indica strains.

Some landrace strains:

Most of the black market strains are *Indica* strains (high THC, low-THCV variants).

Durban Poison has THC/THCV ratio of 20:1

Pineapple Purps has a THC/THCV ratio of 3:1

Doug's Varin has a THC/THCV ratio of 6:7 !!!

Botany of Marijuana (4)

In the US, it is now legal to produce Hemp with <0.3% THC content and hemp CBD products can be freely sold.

Hemp has been rescheduled to Class 5. Marijuana is still a Schedule 1 drug under the Controlled Substances Act of 1970.

Schedule 1 Drugs (1)

Schedule I drugs under the Controlled Substances Act (CSA) [2121 U.S.C 812(b)(1)] : Have high potential for abuse. Have no US accepted medical treatment use. Not safe for use under medical supervision. Schedule I substances may not be prescribed. Are not available for clinical use or research.

Schedule 1 Drugs (2)

- Some substances listed in Schedule I are:
- Heroin.
- Lysergic acid diethylamide (LSD).
- Marijuana (cannabis).
- Peyote.
- Methaqualone (quāālude, "white pipe")
- 3,4-methylenedioxymethamphetamine: Ecstasy.

Issues in Marijuana Research



The Highly Divisive, Curiously Underfunded and Strangely Promising **World of Pot Science**

BY BRUCE BARCOTT & MICHAEL SCHERER



Re-scheduling vs De-Scheduling

Medical and scientific communities support Rescheduling so that research may be freely done, and drug may be prescribed.

The Big Cannabis Business interests are pushing for De-Scheduling, without control or restriction, so commercialization can be freely done with maximized profits.

There is no profit in rescheduling to a medical use category.

Demonstration in Washington DC

DESCHEDULE CANABIS NOW!

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Some Geographic Names for Marijuana



A Few Popular, Street, Nicknames and Alias Names of Marijuana

- Pot
- Weed
- Grass
- 420
- Ganja
- Dope
- Herb
- Cannabis
- Stinkweed
- Hashish

- Hay
- Rope
- Skunk
- Boom
- Blaze
- Ashes
- Burnie
- 13
- "M"
- Mary Jane

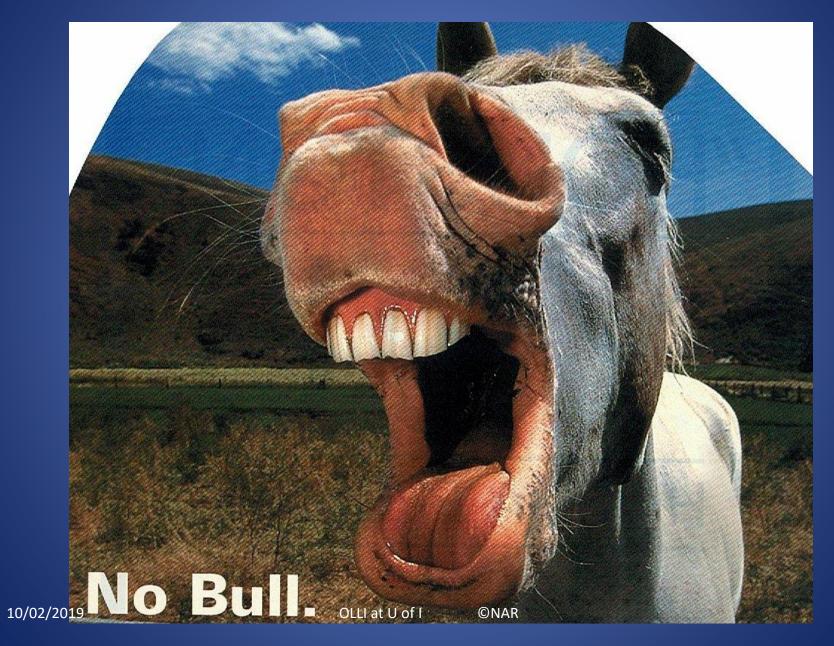
Meaning of "420"

National Weed day ("420 day") celebrated April 20.

NOT the California Penal Code for pot. NOT the birth date or death date of Bob Marley. ??? related to Bob Dylan's song "Rainy Day Woman #12 & 35", with the chorus:

"Everybody must get stoned" (12 X 35 = 420).

I'll give it to You Straight From the Horse's Mouth



CANNABIS IN THE USA

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Cannabis in the US (1)

Cannabis arrived with Columbus in the 1490's, or maybe with the Puritans in the 1600's.

Others attribute it to explorers rounding Cape Horn and bringing it in from Chile.

Cannabis (hemp) was initially introduced as a crop to make clothing, sails (canvas) and rope.

In 1619, Jamestown Colony mandated every farmer to grow the Indian hempseed.

Cannabis in the US (2)



Virginia, Maryland and Pennsylvania used hemp as legal tender and to pay taxes.



George Washington cultivated *Cannabis indica* as his primary cash crop in Mount Vernon.



Thomas Jefferson grew it in Monticello, and urged farmers to grow hemp instead of tobacco.



Benjamin Franklin used hemp for his paper mill.

Some Historical Icons on Hemp

"Make the most you can of the Indian Hemp seed. The Hemp may be sown any where."

-George Washington





Hemp is of first necessity to the wealth and protection of the country - Thomas Jefferson

"We shall, by and by want a world of hemp more for our own consumption."

- John Adams

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Twoofmy favorite things are sitting on my front porch smoking a pipe of sweethemp, and playing my Hohner harmonica."₄₇ -Abraham Lincoln

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Cannabis in the US (3)

1st & 2nd drafts of Constitution on hemp paper.

First American flag made from hemp fibers.

Alexander Hamilton, saw the importance of hemp for the economy of the new Republic.

1850's, US was producing about 40K tons/year; largest cash crop until 1900's.

1800's, cannabis legal in most states and was in medicines openly sold in pharmacies.



Cannabis in the US (4)

- United States Pharmacopeia (USP) had marijuana on its list of pharmaceuticals from 1850 1942.
- Eli Lilly, Parke-Davis, the Brothers Smith and Tilden's, made medications with cannabis.
- Marijuana for pain & mood-altering conditions:
 - Neurasthenia (Americanitis)
 - Nausea
 - Labor pains
 - Rheumatism
 - Teething, colic and children's maladies



Cannabis in the US (5)

Late 19th and early 20th Century, drug use started to be a public concern due to the opening of Turkish opium smoking parlors in the Northeast.

2-5% of US population (soldiers, businessmen, housewives & children) had morphine addiction because most OTC medications contained it.

Pure Food and Drug Act of 1906 created the FDA, and required all medications to list their contents on the label, including those with cannabis.

Marijuana Popular in late 1800's and early 1900's



Cannabis in the US (7)

State regulation of cannabis began in:

- Massachussetts 1911
- California 1913
- New York and Maine 1914
- Wyoming 1915
- Texas (1919)
- Nebraska (1927)
- Iowa, Nevada, Oregon and Arkansas (1923).

Cannabis in the US (6)

After the 1910 Mexican Revolution, massive immigration helped make people aware of the recreational use of cannabis.

Because of ignorance, marijuana was thought to be a Mexican "loco weed".

This created a strong prejudice against the "brown" immigrants.

Cannabis in the US (8)

Marijuana viewed as an addictive, violence-inducing drug that created criminals, murderers and delinquents.

By 1931, 29 states had banned marijuana. 1930's, Federal Bureau of Narcotics: bill to tax cannabis and a large campaign against marijuana.



1935 Anti-Cannabis Flyer

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Samples of Posters and pulp novels of the 1930's and 1940's

Weed with roots in Hell ! NOT RECOMMENDED FOR CHILDREN

UNLEASHED

PASSIONS

ORGIES

ARTIES

WHAT

APPENS

AT

Asribus

PARTIES

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SMOKE

THAT

GETS IN YOUTH'S

EYES



Modern-Day Ad Against Marijuana

paid for by Christians for Nichele Bachmann¹⁴ and The Cognition for a DrugEree Minnesota

I tried pot once.

Now I'm



Poster by Christians for Michele Bachmann and the Coalition for a Drug-Free Minnesota (2005)

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Controlling the Weed (1)

Marijuana became criminalized though fear, misunderstanding, and its association with other dangerous drugs.

- Nails on the Marijuana coffin:
- 1914 Harrison Narcotics Act
- 1930 Federal Bureau of Narcotics (FBN)
- 1937 Marihuana Tax Act
- 1956 Narcotics Control Act

Controlling the Weed (2)

1968 Bureau of Narcotics & Dangerous Drugs (BNND)

1970, the Controlled Substances Act (CSA) passes. 1973, the DEA replaces BNND.

- Enforces US drug policy domestically.
- Coordinates and pursues US drug investigations abroad

Fake Marijuana

K2, Spice, Demon,Galaxy Gold, Genie,Incense, and others.Legal until 2012then banned.





Synthetic Marijuana (Illegal)



MORE THAN 250 HOSPITAL VISITS IN COLORADO IN TWO MONTHS. THERE IS A BAD BATCH ON THE STREETS. YOU DON'T KNOW WHAT'S IN IT.

> SMOKING IT CAUSES PARANOIA, SEIZURES, AND COMA. For more information, call the CO HELP LINE 1-877-462-2911 or 303-389-1687 or visit www.cohelp.us.

The Columnia Health Emergency Line for Public Information (COHEP) is a public sequent service systhe Colorado Department of Public Health and Environment.





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Cannabis Legalization

1996: California passes Proposition 215, the Compassionate Use Act.

33 other states (including Illinois) and DC have legalized medical cannabis.

Alaska, California, Colorado, DC, Illinois, Maine, Massachusetts, Michigan, Nevada, Oregon, Vermont and Washington have approved recreational use.

THE ILLINOIS STORY

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The Illinois Story (1)

On August 1, 2013, Governor Quinn signed the "Compassionate Use of Medical Cannabis Pilot Program Act" (Public Act 98-0122).

Someone with diagnosis of a qualifying debilitating medical condition can get medical cannabis.

Effective on January 1, 2014 for four years, but has now been declared permanent.

Illinois 52 Qualifying Conditions (1)

- Autism
- Agitation of Alzheimer's disease
- HIV/AIDS
- Amyotrophic lateral sclerosis (ALS)
- Anorexia nervosa
- Arnold-Chiari malformation
- Cancer
- Cachexia/wasting syndrome
- Causalgia
- Chronic inflammatory demyelinating polyneuropathy
- Chronic pain
- Crohn's disease
- CRPS (complex regional pain syndrome Type II)

- Dystonia
- Ehlers-Danlos syndrome
- Fibrous Dysplasia
- Glaucoma
- Hepatitis C
- Hydrocephalus
- Hydromyelia
- Interstitial cystitis
- Irritable bowel syndrome
- Lupus
- Migraines
- Multiple Sclerosis
- Muscular Dystrophy
- Myasthenia Gravis

Illinois 52 Qualifying Conditions (2)

- Myoclonus
- Nail-patella syndrome
- Neuro-Bechet's autoimmune disease
- Neurofibromatosis
- Neuropathy
- Osteoarthritis
- Parkinson's disease
- Polycystic kidney disease (PKD)
- Post-Concussion Syndrome
- Post-Traumatic Stress Disorder (PTSD)
- Reflex sympathetic dystrophy
- Residual limb pain
- Rheumatoid arthritis
- Seizures (including those characteristic of Epilepsy)

- Severe fibromyalgia
- Sjogren's syndrome
- Spinal cord disease (including but not limited to arachnoiditis)
- Spinal cord injury is damage to the nervous tissue of the spinal cord with objective neurological indication of intractable spasticity
- Spinocerebellar ataxia
- Superior canal dehiscence syndrome
- Syringomyelia
- Tarlov cysts
- Tourette syndrome
- Traumatic brain injury
- Ulcerative colitis

The Illinois Story (2) Medical Cannabis

Illinois 1% Medical Cannabis Privilege tax made \$ 1,956,730 for the fiscal year 2017.

April 2019: 55 dispensaries with > 62K patients. Since 11/2015, retail sales reached \$305 M.

2018 total wholesale was \$54,321,983.45

By October 2018, Illinois total licensed retail sales: \$97,495,589.88

The Illinois Story (3)

August 2018 medical cannabis made available as an opioid replacement (OAPP).

Application process eased: applicants won't need fingerprinting or criminal background checks.

Expansion could bring in up to 365K new patients and generate an additional \$425 M in revenue.

The "Greening" of Illinois



Starting Jan. 1, 2020, marijuana will be legal to over 12M people in Illinois, more than the combined population of Washington and Oregon, and 2X more people than Colorado.

Illinois Law 2019 (1)

Cannabis Regulation and Tax Act (CRTA).

Expunges misdemeanor, Class 4 felony convictions.

Special designation for "social equity applicants":

- Majority owners/employees from communities disproportionately impacted by war on drugs.
- Funding from new \$20 M state loan program.
- Reduced licensing fees.

Illinois Law 2019 (2)

Illinois residents may possess:

- Up to 30 grams of flower
- 5 grams of concentrate
- 500 mg of THC cannabis-infused items
- Non-residents: one half of these amounts
- Households of Medical card holders may grow up to 5 cannabis plants in a location away from public view and view of people under the age of 21.

Illinois Law 2019 (3)

Tax rate based on cannabis potency and type:

- Flower or If less than 35% THC => 10% tax.
- Infused and edible products \implies 20% tax.
- THC concentration higher than $35\% \implies 25\%$ tax.
- Plus State sales tax 6.25%.
- Plus Local taxes up to 3.5%.
- Illinois has a wholesale 7% tax on cultivators.
- Consumer at counter: 19.55% to 34.75% retail tax.

And the Money Keeps Rolling In!

ALL applicants: pay \$5K non-refundable fee (each). By May 2020: 75 new retail dispensary licenses

- Fee of \$30K each (up to 2/person).
- Additional fee of \$200K for first.
- Additional fee of \$100K for second.

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And the Money Keeps Rolling In!

Cultivators (up to 210,000 sq. ft.): \$100K to \$500K. By July 2020, 40 new licenses in each category of:

- Processors /infusers @ \$40K.
- Craft growers (5,000 to 14,000 sq ft)
 @ \$40K.
- Transporters @ \$10K.
- New dispensaries @ \$30K.

Illinois Law 2019

Towns cannot ban the consumption of marijuana. Local governments can ordain business locations. Counties can enact *"reasonable* ordinances or resolutions" for businesses if they do not conflict with the act or state rules.

No town may unreasonably restrict the time, place, manner and number of cannabis businesses.



The Illinois Bureaucracy

Illinois Agencies Involved in Cannabis Operation:

- Department of Public Health (IDPH)
- Department of Agriculture (DoA)
- Dept. of Financial & Professional Regulation (IDPFR)
- Office of the Secretary of State
- Illinois State Police
- Department of Revenue
- Department of Commerce

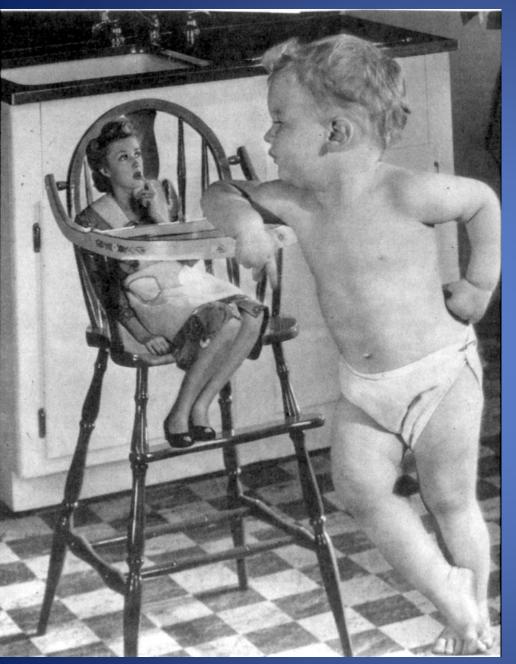
A Look into the Future

¹⁸ Briefing Legalising cannabis

The Economist February 13th 2016







Babies Rule !!!

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Questions?





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Good-Bye



