

# Understanding Synthetic Cannabis:

Who uses it, why do they use it, what are the harms and what are the policy options?



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# Background

2004: “Spice” (Deluca et al., 2010)



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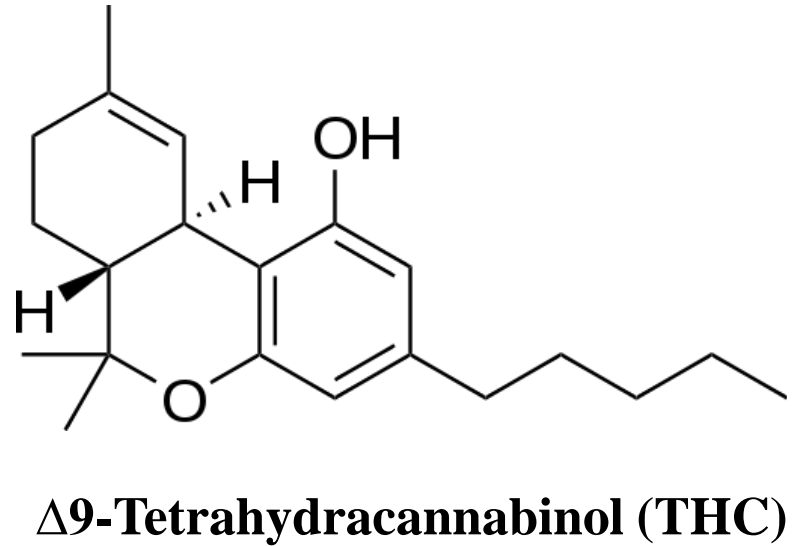
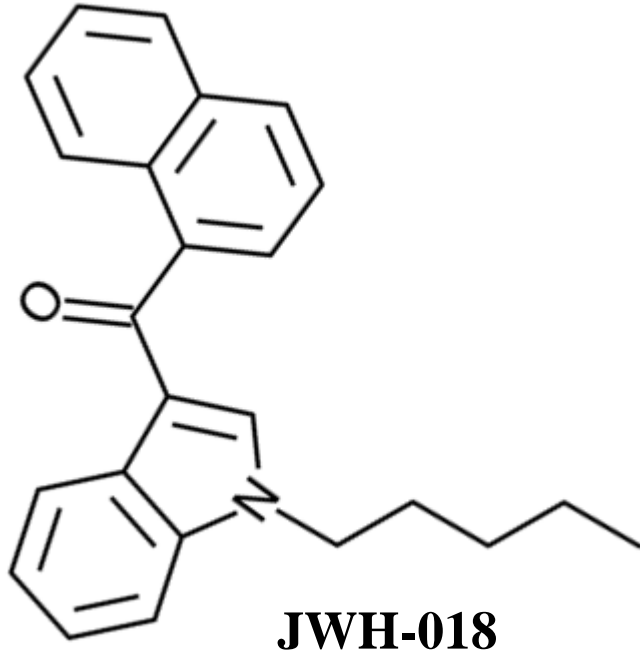
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# Synthetic Cannabinoid Agonists



# Kronic

2011: Kronic emerged as a new drug in Australia  
Produced in New Zealand



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# Who Uses Synthetic Cannabis?

Survey of 316 Australian synthetic cannabis users in 2011

- 77% male (Barratt, Cakic & Lenton, 2013)
- Median age of 27
- 78% were employed
- 96% had used cannabis
- Extensive Drug Histories

VS

“Won’t somebody think about the children?”  
(Maude Flanders, *The Simpsons*)



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# Other drug use

## Extensive drug histories

- Alcohol (98%), Cannabis (96%), Tobacco (91%), Ecstasy (64%), LSD (57%), Speed (56%), Mushrooms (41%), Cocaine (38%), Valium (35%)

## More common drugs used in past year

- Alcohol (91%), Cannabis (84%), Tobacco (70%), Speed (26%), LSD (26%), Ecstasy (24%)

## Last month use only of common drugs

- Alcohol (77%), Cannabis (61%), Tobacco (58%)



# Why do They Use It?

Curiosity: to compare effects to cannabis (50%)

Legal (39%)

Easier to get than cannabis (23%)

Recreational effects (20%)

- Enjoyment, fun, relaxation, to 'get high'

Alternative to cannabis (11%)

Was offered in social situation (10%)

Medicinal effects (9%)

- Relief from pain, nausea, anxiety, insomnia

To cease or reduce cannabis use (5%)



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# Reasons for use - Drug testing

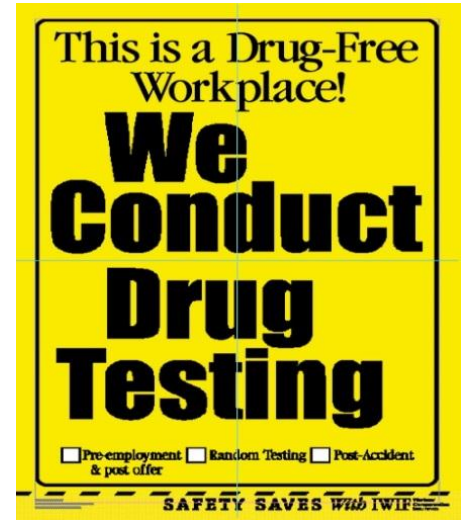
8% first tried it because wanted to evade workplace/  
driver drug testing

20% were subject to drug testing:

- 12% random testing for drug driving
- 11% workplace drug testing

Seen as less likely to be detected than  
cannabis by:

- Workplace drug testing (76%)
- Sniffer dogs (79%)





# Other Reasons for use... (non-AU)

## Drug testing (specific populations)

Military personnel (for review, see Loeffler et al., 2012)

Mental health patients (Every-Palmer, 2010)

– Perceived to be safer than cannabis

Parolees (Hopkins & Gilchrist, in press; Perrone et al., 2012)



# Harms (pre-2012)

Reported side effects	Total % of 291	Serious % of 6
No side effects reported	32	NA
Decreased motor coordination	38	100
Fast or irregular heartbeat	33	100
Dissociation	22	67
Dizziness	20	100
Paranoia	18	67
Confusion	18	83
Headache	18	83
Panic	14	83
Slurred speech	14	83
Sweating	14	67
Nausea or vomiting	9	83
Depression	4	50
Psychosis	4	50

0.3%  
sought  
emergency  
medical Rx

(Barratt et al, 2013)



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# First Legislative Action

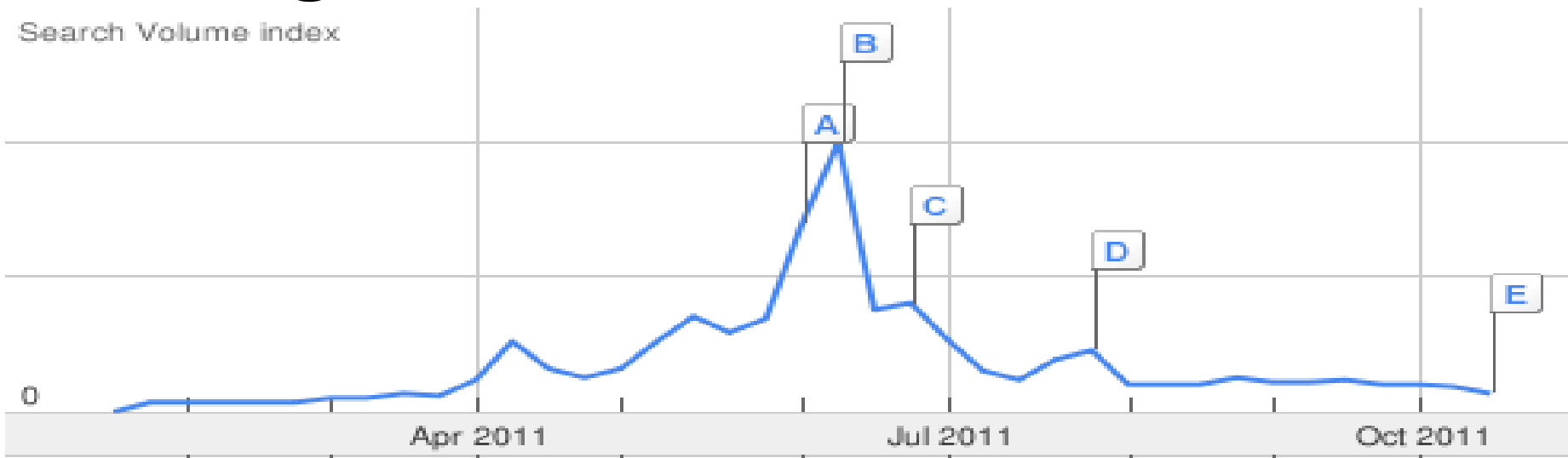
WA government banned 7 synthetic cannabinoid agonists in June 2011:

- JWH-018
- JWH-073
- JWH-122
- JWH-200
- JWH-250
- CP 47,497
- The C8 Homologue of CP 47,497

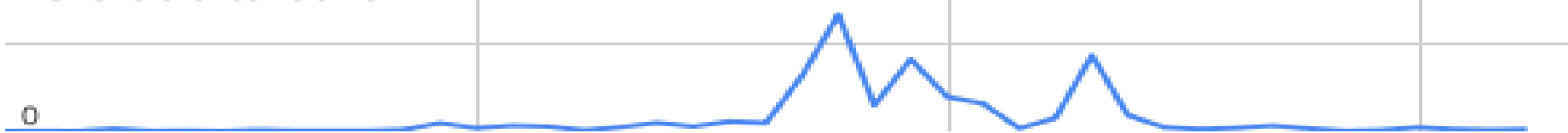


# Google Trends: “Kronic” Searches

Search Volume index



News reference volume



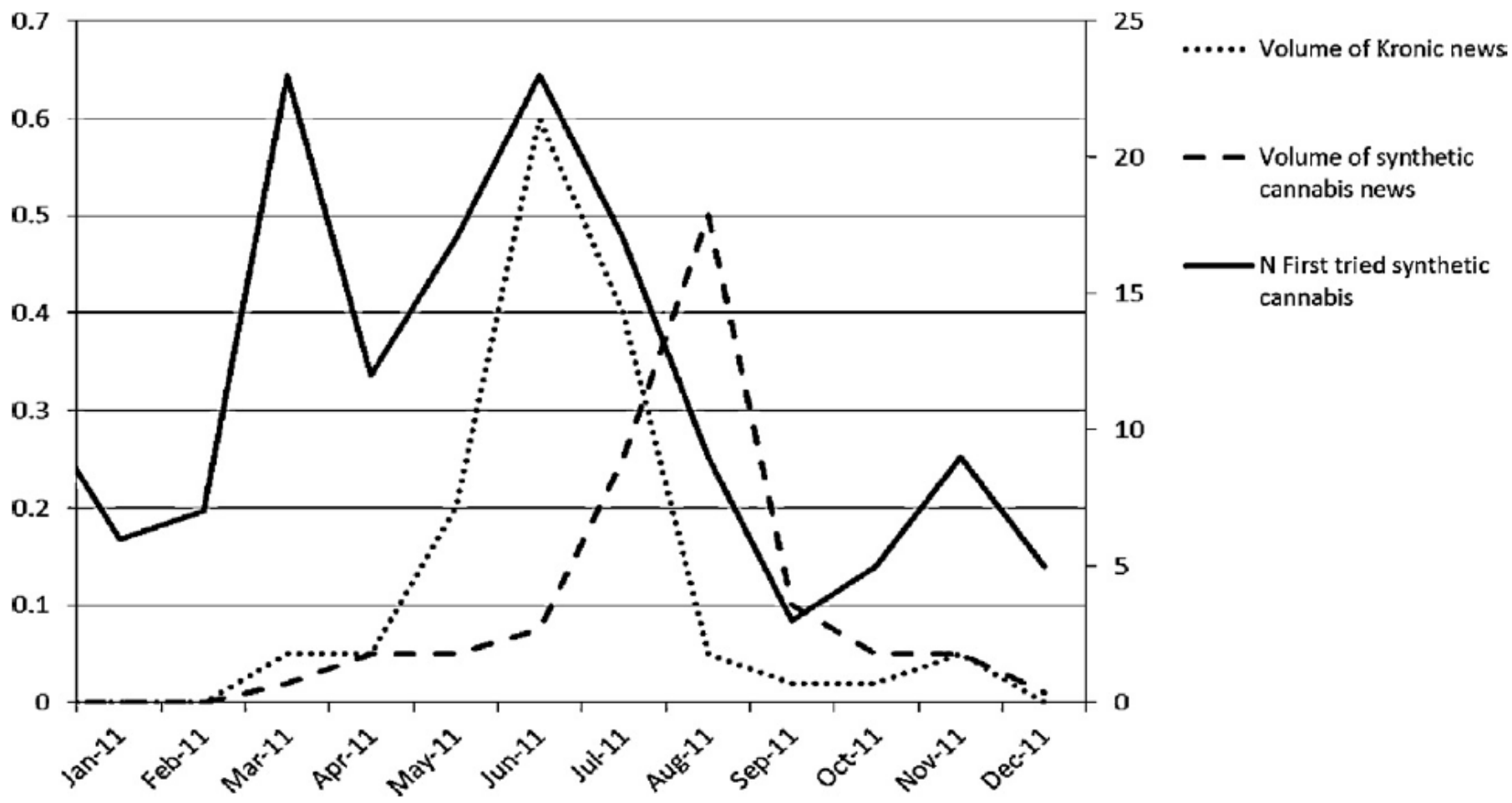
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## Kronic's Profile

**Kronic**

Hey Aussie Kronic fans - nothing dodgee going on... we only found out about the ban today so just clearing out the last of our stock.

It has to be gone by 2morrow close of business so we have 2 options... give heaps away for free or just dispose of it tomorrow. I know what we'd prefer! Up2 you if you want to order & take the chance.

**BUY 1 GET 1 FREE ON ALL PRODUCTS PLUS SHIT LOADS OF FREEBIES WITH ALL ORDERS! :D**

about an hour ago · Share

19 people like this.

View previous comments

50 of 62



**Josef Fazackerley** Because Aus represents a huge chunk of the market, and also it could get banned at any time in NZ, these governments are unpredictable.

about an hour ago



**James Woolf** i want some, no money but ive already bought heaps from yas so give me it for free

about an hour ago



**Amy Kiem** I want freebies how how

about an hour ago



**Tomas Muddle** that ban is legit bullshit.

about an hour ago



**Marcin Castar Kali** how do i buy it to australia?

about an hour ago



**Brett Probert** get the goodies going now please

about an hour ago



**Christ Riley** It's maybe coming from the Australian wharehouse?

about an hour ago · 1 person



**Bryan Chitty** Aussie orders were always sent from australia other wise you woulda had to pay for the gamma ray treatment so they are clearing the aussie warehouse

# Smoke 'em up Party



## Perth police close down kronic parties

Posted June 17, 2011 12:25:00

**Police have defended their decision to stop two Perth venues from hosting parties for users of the synthetic cannabis kronic overnight.**

Kronic users were planning to gather at the The Bakery in Northbridge before the State Government's ban on kronic came into effect at midnight.

However, police shut down the venue just hours before the event was due to start.

A second event was then organised at a hotel in Inglewood but this was also cancelled after police intervention.

Assistant Police Commissioner Michelle Fyfe has told the ABC's morning program that police have a responsibility to ensure public safety.

"So it [the party] was about encouraging people to come along and binge smoke and drink," she said.

LEGAL WEED

# Kronic

High? How are you.

Total Cost \$0 CHECK OUT

View Your Shopping Cart

Register | Login

R18

NZ Made

Overnight delivery for NZ

Home

Products/Accessories

Reviews

High Times

Safety/Legal

Wholesaler/Stockists

Discreet delivery

## 100% Aussie Legal Kronic Now Available!



**BLACK LABEL** – our new, 100% legal blend. You've been calling for it, and we've delivered – in response to demand, we've developed a new custom blend of Kronic for the Australian market. Containing no banned substances, the latest in our line of premium, home-grown smoking blends will deliver you a smooth, haze-filled blaze. The height of innovation, Black Label combines a fruity tropical flavour with a smooth long-lasting duration.

Its delicious flavour and aromatic quality makes it the perfect smoke for those looking to have some haze-filled fun and the long lasting impact is made to satisfy. With all our products, we recommend starting slow – just a few tokes, and letting the effect come to you – with Black Label, we assure you it will.

With a long lasting duration and that Kronic feel you know and love, Black Label is the perfect way to smoke up, tokes up and take life a little less seriously.

**Retail price:**

1gram – \$29.95

3gram – \$69.95

## Top Sellers



SKUNK Oz (28 gram)

Price: NZ\$199.95

ADD TO CART



PURPLE HAZE (3 gram)

Price: NZ\$29.95

ADD TO CART



TROPICAL EXPLOSION Quarter Oz (7 gram)

Price: NZ\$59.95

ADD TO CART



deals, discounts & V.I.P. Promos

Join Today

Free Monthly



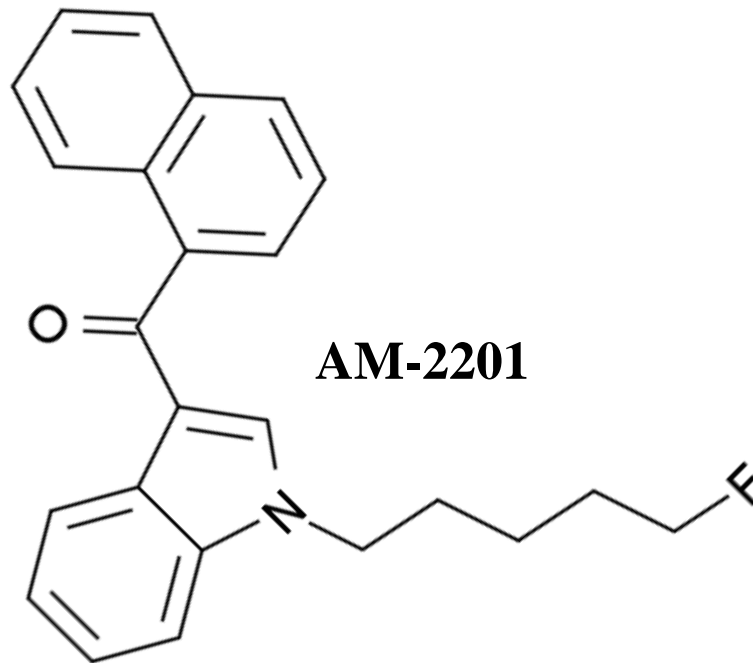
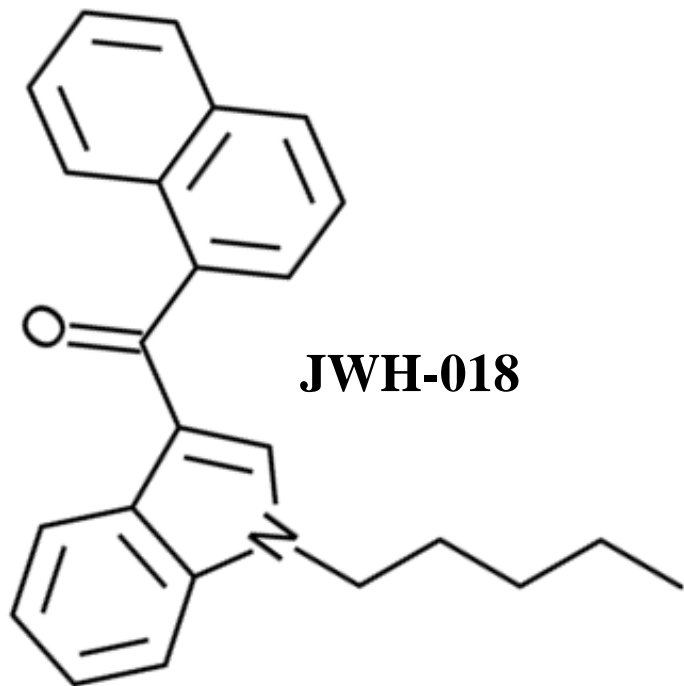
Earn Cash.

Ounces \$250 (Save \$149.95)

100 Grams \$600 (Save \$400)



# New Chemicals



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# Further Legislative Actions

## Federal:

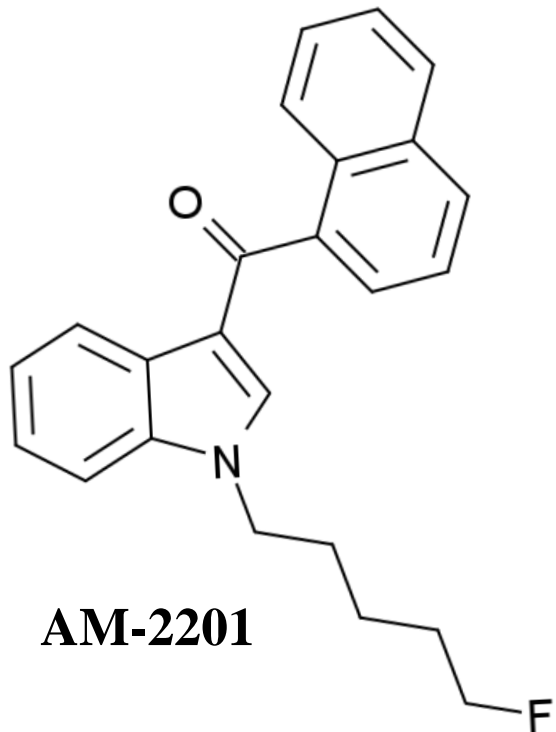
- July 2011: 7 individual chemicals
- May 2012: Broad groups + “Synthetic Cannabinomimetics”
- June 2013: Consumer law re: more individual chemicals

## State:

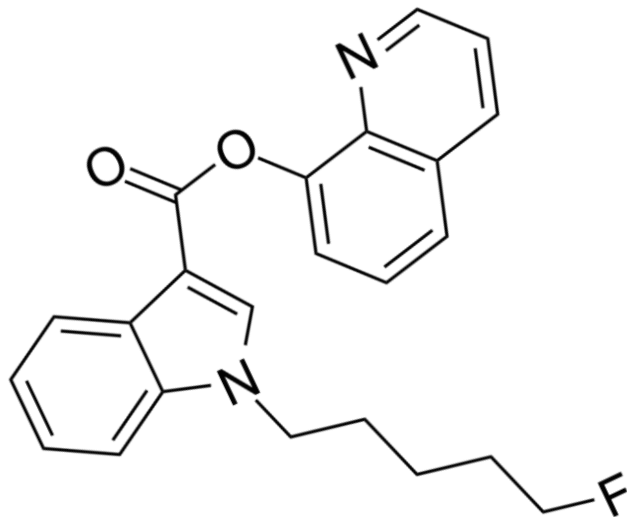
- 2011 – WA (again), NSW, ACT, SA, NT & VIC
- 2013 – QLD & NSW



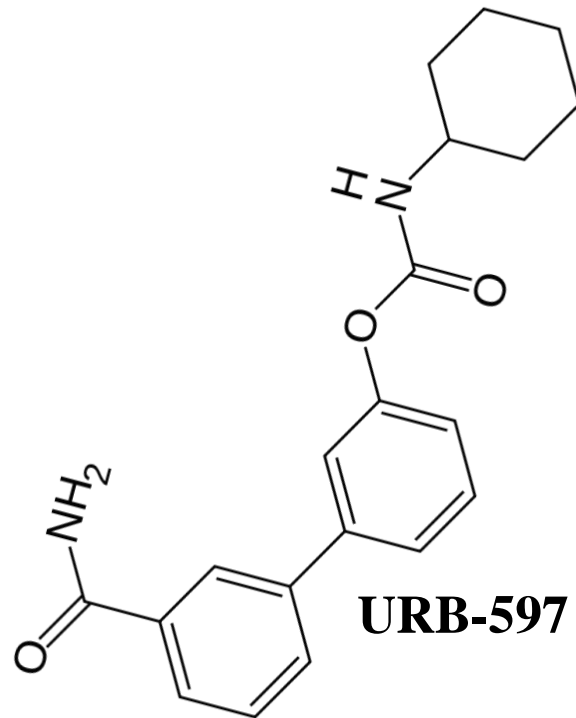
# More New Chemicals



**AM-2201**



**5F-BP-22**



**URB-597**



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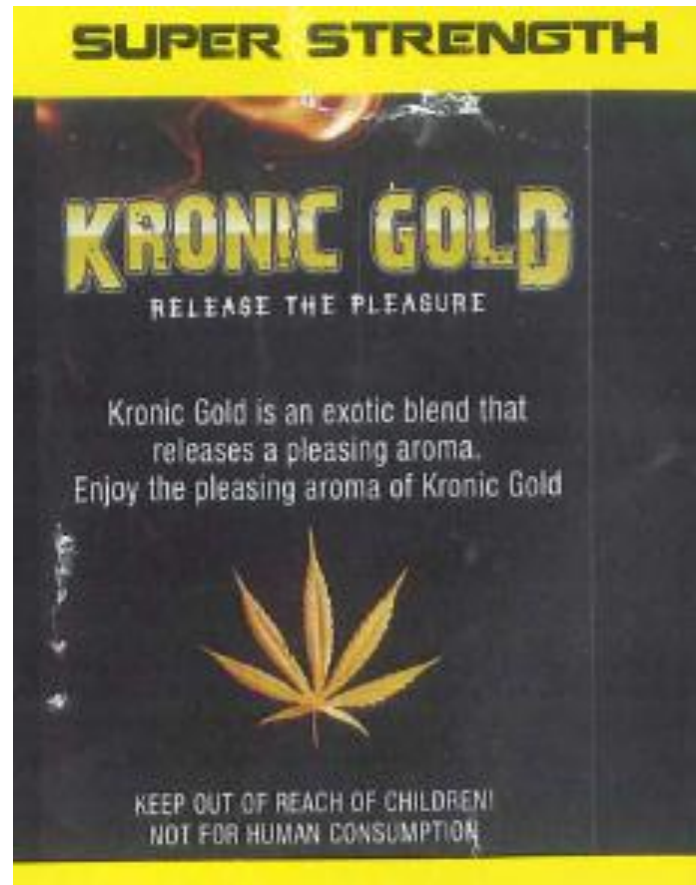


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# New Local “Kronic”



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# Harms (2012+)

GDS:  $N = 950$  (used in last 12 months)

- 2.4% sought emergency medical Rx following use
  - Most common Sx: Panic & Anxiety, Paranoia, Problems breathing
  - More likely to be younger (Winstock & Barratt, 2013a)
- 93% preferred natural cannabis
  - More likely to experience hangover
  - Less pleasurable
  - Shorter duration of effect (Winstock & Barratt, 2013b)



# Harms (2012+)

29 patients hospitalised in Germany 2008-2011 for SC

- A shift towards more potent cannabinoids being detected
  - 2008 = JWH-018 & CP47,497-C8
  - 2010 = JWH-250 & JWH-081
  - 2011 = JWH-210 & AM-694
- Sx associated with JWH-018 were milder than those of the more potent cannabinoids

(Hermanns-Clausen et al., 2013)



# Sx of Intoxication

BASED ON NUMEROUS CLINICAL PRESENTATIONS

**Cognitive:** Confusion, disorganised thought, memory problems, difficulty thinking clearly

**Behavioural:** agitation, restlessness, aggression

**Mood/affect:** anxiety, irritability, inappropriate laughter

**Sensory/perceptual:** paranoia, perception distortions, delusions, hallucinations, psychosis

**Physical:** tachycardia, hypertension, nausea, vomiting, tremors, numbness, tingling, lightheadedness, seizures

*Some reports of severe dependence/withdrawal symptoms*



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# Psychosis

**Numerous case studies** (e.g., Cohen et al., 2012; Every-Palmer 2010; Hermanns-Clausen et al., 2013; Hurst et al., 2011; Muller et al., 2010; Oluwabus et al., 2012; Rodgman et al., 2011; Simmons et al., 2011, Van der Veer & Fiday, 2011; Vearrier & Osterhoudt, 2010)

## More likely than Cannabis?

- No CBD (natural antipsychotic)
- Greater receptor affinity





# Seizures

Numerous case studies (e.g., Forrester et al., 2011; Havenon et al. 2011; Hermanns-Clausen et al., 2013; Lapoint et al., 2011; Locatelli, 2011; McQuade et al., 2013; Plumb, 2011; Schneir & Baumbacher 2012; Simmons, 2011a; Simmons, 2011b)

Cannabis not associated with seizures

- THC & CBD are anticonvulsants
- Some synthetic cannabinoids may inhibit GABA



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# Recognition in clinical setting

Clinicians should suspect use if a patient:

1. presents with signs/symptoms of cannabis use
2. has negative urine test for cannabis
3. is in a situation where urine is routinely monitored for illicit drug use
4. presents with otherwise unexplained psychosis

Ask questions: What have you taken? Have you bought anything online? Have you taken any fake/legal weed?



# Rx Guidelines

(Castellanos & Thornton, 2012)

Treatment recommendations similar to cannabis:

1. in acute setting, treat Sx (e.g., benzodiazepines for anxiety)
2. most Sx will resolve spontaneously
3. some with previously diagnosed psychotic disorders may not resolve as quickly
4. no specific treatments developed for chronic use/withdrawal, treat as per cannabis



# Limitations

- Synthetic Cannabis is not a homogenous product



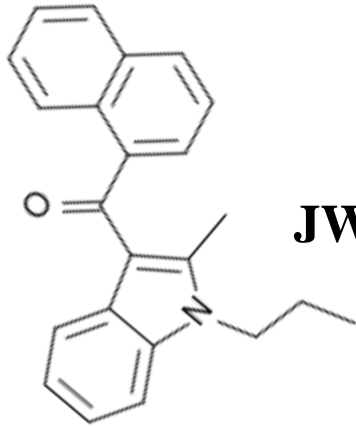
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# Therapeutic Potential?



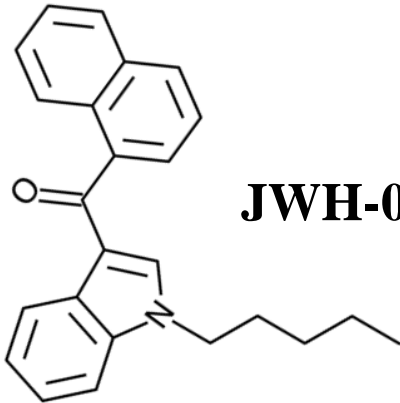
**JWH-015**

Cancer

(for review, see Caffarel et al., 2012)

Alzheimer's

(Tolen et al., 2009)



**JWH-018**



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# Limitations

- Synthetic Cannabis is not a homogenous product
- Lack of *in vivo* studies: Mostly anecdotal
  - Except for JWH-018
- Lag in monitoring/publication



# Conclusions

- Banning individual substances leads to:
  - no meaningful reduction in availability
  - increased awareness and use
  - novel (?more harmful) drugs entering the market
- Analogue Laws?
  - Too broad - problematic (e.g., Tyrosine)
  - Too narrow – see above...



# Conclusions

- Does govt aim to reduce drug-related harms in the community through its policies?
- Does govt accept that demand for cannabis-like intoxication exists in the community?
  - Accepting this does not negate efforts to reduce demand and to increase treatment options
- If yes and yes, we need to create policy that:
  - Shifts the market towards less harmful products





# Thank You

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