Welcome to the Cannabis Insurance Working Group!

Our meeting will begin shortly Dec. 1, 2021

- Participate via WebEx by clicking JOIN in your Outlook meeting invite
- All audio will be muted upon entry
- Unmute yourself to speak
- Use the “chat” feature for questions, comments or assistance
- If you have joined by phone, to mute and unmute your line, press*6
- For any issues, use Slack Channel # service desk
ROLL CALL

Ricardo Lara, Chair California Gennady Stolyarov Nevada
Michael Conway, Vice Chair Colorado Marlene Caride New Jersey
Lori K. Wing-Heier Alaska Glen Mulready Oklahoma
Jimmy Harris Arkansas Andrew Stolfi Oregon
Christina Miller Delaware Michael Humphreys Pennsylvania
Angela King District of Columbia Elizabeth Kelleher Dwyer Rhode Island
CJ Metcalf Illinois Karla Nuissl Vermont
Robert Baron Maryland Michael Walker Washington

NAIC Support Staff: Anne Obersteadt/Aaron Brandenburg

AGENDA

1. Hear a Presentation on Emerging Scientific Issues in the Cannabis Space Attachment 1
   — Cinnamon Bidwell, Ph.D. (University of Colorado)

2. Hear a Presentation on the Integration of Adult-Use and Medical Cannabis Operations — Gillian Schauer Ph.D., MPH (CANN-RA) Attachment 2

3. Consider Adoption of its Oct. 21, 2021, Minutes—Commissioner Ricardo Lara (CA) Attachment 3

4. Hear an Update on the Drafting of the Understanding the Market for Cannabis Insurance White Paper Appendix—Commissioner Ricardo Lara (CA)

5. Discuss the Potential to Collaborate with the Producer Licensing (D) Task Force —Commissioner Ricardo Lara (CA)

6. Any Other Matters—Commissioner Ricardo Lara (CA)

CannabisAgenda.docx
Hear a Presentation on Emerging Scientific Issues in the Cannabis Space

— Cinnamon Bidwell, Ph.D. (University of Colorado)
Understanding Cannabis on the Legal Market: Cannabinoids and Potency

L. Cinnamon Bidwell, Ph.D.
University of Colorado Boulder
Dr. Bidwell does not have any conflict of interest to declare.
Limited Relevance of Prior Literature

Legal Market Cannabis

Government Grown Cannabis

Bidwell et al, 2013, *Journal of Studies on Alcohol and Drugs*
Limited Relevance of Prior Literature

- Early use increases the psychiatric and cognitive risks

Legal Market Cannabis

Government Grown Cannabis
Cannabis is more than one thing

- Diversity of reported effects
  - From euphoria to paranoia
- Consists of 100+ compounds: cannabinoids & terpenes
  - Studies focus primarily on one component, Δ9-tetrahydrocannabinol (THC)
- Variation in potencies across strains
  - Unlike other drugs (ethanol & cocaine)
Cannabis is more than one thing – THC and CBD

**THC**
- Dose-dependent drug effects
- May increase anxiety
- Has pro- and anti-inflammatory and pain relieving properties

**CBD**
- Non-intoxicating
- May reduce anxiety
- Strong anti-inflammatory properties

Δ9-tetrahydrocannabinol: CB1/CB2 receptor agonist

Cannabinoid: Diffuse pharmacology; partial CB1/CB2 antagonist
Limited Relevance of Prior Literature

- Constantly changing landscape of legality and products
- Minor THC-like cannabinoids can be synthesized from legal hemp/CBD
Shift to new and more potent products

State of Colorado, Marijuana Enforcement Division, 2020
Shift to new and more potent products

Cannabis Concentrates
- Extracted highly potent THC oils
- 65% to 95% THC and CBD
- Associated with increased health risks over and above frequent use

Bidwell et al, Addictive Behavior Rep, 2018
Cannabis, Health, & Harm-Reduction Research Program

- Need for public health relevant research on the potential harms and medical benefits of commercially available cannabis products
- Test the impact of real world potencies and cannabinoids on measures relevant to psychology, biomedicine, and public health
  - Intoxication and abuse
  - Psychomotor and cognitive impairment
  - Psychological and physical health symptoms

Rigorous federally compliant designs that enable research on commercially available cannabis products
Observational Research via Mobile Laboratory

- Originally funded by NIH/NIDA DA039707; PI Hutchison
- ACED: Acute Cognitive Effects of Dabbing funded by the Colorado Marijuana Research Program; PI Bidwell
  - Acute effects of “dabbing” inhaled concentrated THC
  - CU Boulder IRB approved research
Study Design

Baseline
• 75 regular users
  (age ~28; used 17 of last 30 days)
• Comprehensive health assessment
• Randomly assigned to concentrate
  that they purchase themselves

Purchase of Assigned Product (A or B)
Dabbing/concentrates:
70% or 90% THC →
concentrated hash oil

Mobile Lab
• At home self-administration
• THC biomarkers,
  intoxication, & impairment
• Assessed before use,
  immediately after, and one
  hour later
THC Exposure in Cannabis Concentrates

*Significant quadratic effect (p < .001)

Bidwell et al, 2020, *JAMA Psychiatry*
THC Exposure in Cannabis Concentrates

*Flower < Concentrate (p < .001)

**Product**
- 90% THC Concentrate (n = 37)
- 70% THC Concentrate (n = 37)
- ~20% THC Flower (n = 67)

Bidwell et al, 2020, *JAMA Psychiatry*
Pause for a minute…

- Plasma THC concentrations are 3x as high as what is typically seen in the literature and with flower users

- Plasma concentrations 60 times the legal definition of intoxication (5 ng/mL)

- What do you expect to see in terms of subjective ratings of intoxication and objective measures of cognitive and psychomotor impairment?

Bidwell et al, 2020, *JAMA Psychiatry*
Cannabis Concentrates - Drug Intoxication

*Significant linear effect (p < .001)

Product

- 90% THC Concentrate (n = 37)
- 70% THC Concentrate (n = 37)
- ~20% THC Flower (n = 67)

Bidwell et al, 2020, *JAMA Psychiatry*
Cannabis Concentrates – Memory Impairment

*Significant acute effect (p < .001)

**Product**
- 90% THC
- Concentrate (n = 37)
- 70% THC
- Concentrate (n = 37)

Bidwell et al, 2020, *JAMA Psychiatry*
Cannabis Concentrates – Memory Impairment

*Flower > Concentrate (p < .01)

**Product**
- **90% THC**
  - Concentrate (n = 37)
- **70% THC**
  - Concentrate (n = 37)
- **~20% THC**
  - Flower (n = 67)

Bidwell et al, 2020, *JAMA Psychiatry*
Are people getting more intoxicated with high potency concentrates?

- THC blood levels are highly variable and higher than previously reported in the literature
- Subjective high and cognitive measures do not show potency effects
- Whether or not high potency products produce vastly different acute effects
  - Follow up needed on higher THC exposure
  - Long term clinical and neurobehavioral consequences of concentrate use

Bidwell et al, 2020, *JAMA Psychiatry*
Cannabis Concentrates - Postural Stability & Balance

*Significant quadratic effects of time (*p < .001)

Karoly et al, 2020, *Cannabis and Cannabinoid Research*
Summary of Cannabis Concentrates Study

- Broadly suggest higher THC exposure, but not vastly different acute effects in concentrate users
Summary of Cannabis Concentrates Study

- We detected impaired balance immediately after concentrate use, that recovered 1 hour later
- Holds promise for public safety applications for detection of acute use/impairment
Cannabis, Health, & Harm-Reduction Research Summary

- Novel research approaches are viable and critical in order to provide relevant data on the risks and benefits of cannabis in today's rapidly changing world.

Guide policy and individual decisions to promote less harmful and safer use.
Thank you for your attention!  lcb@colorado.edu
Hear a Presentation on the Integration of Adult-Use and Medical Cannabis Operations

— Gillian Schauer Ph.D., MPH (CANN-RA)

Attachment 2
Cannabis Policy and Regulation: Opportunities and Trends in State Policy

Gillian Schauer, PhD, MPH
Executive Director
Cannabis Regulators Association (CANNRA)

Presented to:
The NAIC Cannabis Insurance Working Group
December 1, 2021
Brief Overview of CANNRA

• A national non-profit organization of cannabis regulators from 37 states and territories.

• Not an advocacy group; takes no formal position for or against cannabis legalization.

• Mission to equip policy makers with unbiased information from the front lines of cannabis legalization. To identify and share best practices that safeguard public health and consumer safety, promote equity, and promote regulatory certainty for industry participants.

• Funded by member agencies. No industry or advocacy group membership or funding.

• An affiliate of the Council of State Governments (CSG).

www.cann-ra.org
Disclosures and Disclaimers

I do not have anything to disclose.

The findings and conclusions in this presentation are my own and do not necessarily represent an official position of CANNRA or of any of the state agencies with whom I work.
Agenda

• Underlying Regulatory Landscape
• Policy Trends in States:
• Novel Cannabinoids and Hemp-Derived Products
• Possible Federal Legalization
• Conclusions
# Timeline of Adult Use Cannabis Legalization, by State

<table>
<thead>
<tr>
<th>State</th>
<th>Year adult use legalization passed</th>
<th>Ballot measure (% support) OR legislative passage</th>
<th>Date retail marketplace opened (opens)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO</td>
<td>2012</td>
<td>Ballot measure (55%)</td>
<td>January 2014</td>
</tr>
<tr>
<td>WA</td>
<td>2012</td>
<td>Ballot measure (56%)</td>
<td>July 2014</td>
</tr>
<tr>
<td>OR</td>
<td>2014</td>
<td>Ballot measure (56%)</td>
<td>October 2015 (through medical dispensaries)</td>
</tr>
<tr>
<td>AK</td>
<td>2014</td>
<td>Ballot measure (53%)</td>
<td>October 2016</td>
</tr>
<tr>
<td>DC</td>
<td>2014</td>
<td>Ballot measure (65%)</td>
<td>No retail marketplace approved</td>
</tr>
<tr>
<td>CA</td>
<td>2016</td>
<td>Ballot measure (56%)</td>
<td>January 2018</td>
</tr>
<tr>
<td>ME</td>
<td>2016</td>
<td>Ballot measure (50%)</td>
<td>October 2020 (through medical dispensaries)</td>
</tr>
<tr>
<td>MA</td>
<td>2016</td>
<td>Ballot measure (54%)</td>
<td>November 2018</td>
</tr>
<tr>
<td>NV</td>
<td>2016</td>
<td>Ballot measure (54%)</td>
<td>July 2017 (through medical dispensaries)</td>
</tr>
<tr>
<td>VT</td>
<td>2018</td>
<td>Legislative</td>
<td>Expected 2022</td>
</tr>
<tr>
<td>MI</td>
<td>2018</td>
<td>Ballot measure (56%)</td>
<td>December 2019</td>
</tr>
<tr>
<td>IL</td>
<td>2019</td>
<td>Legislative</td>
<td>January 2020 (through medical dispensaries)</td>
</tr>
<tr>
<td>AZ</td>
<td>2020</td>
<td>Ballot measure (60%)</td>
<td>January 2021 (through medical dispensaries)</td>
</tr>
<tr>
<td>MT</td>
<td>2020</td>
<td>Ballot measure (57%)</td>
<td>Expected 2022</td>
</tr>
<tr>
<td>NJ</td>
<td>2020</td>
<td>Ballot measure (67%)</td>
<td>Expected 2022</td>
</tr>
<tr>
<td>SD</td>
<td>2020</td>
<td>Ballot measure (54%)</td>
<td>Legalization overturned by legal challenge</td>
</tr>
<tr>
<td>NY</td>
<td>2021</td>
<td>Legislative</td>
<td>Expected 2022 (or later)</td>
</tr>
<tr>
<td>VA</td>
<td>2021</td>
<td>Legislative</td>
<td>Expected 2024</td>
</tr>
<tr>
<td>NM</td>
<td>2021</td>
<td>Legislative</td>
<td>Expected April, 2022</td>
</tr>
<tr>
<td>CT</td>
<td>2021</td>
<td>Legislative</td>
<td>Expected 2022</td>
</tr>
</tbody>
</table>

Source: Schauer, G.L., Cannabis Policy in the United States: Implications for Public Health (in press) *Journal of the National Cancer Institute*
Cannabis Legalization 2.0 (and beyond)

• Change to how policy is being made.
• Broader focus than Cole Memo era
• Increased focus on:
  • Social equity and restorative justice
  • Public health and safety
  • Increased parity in regulations across cannabis (medical, adult use, hemp)
Emphasis on equity and restorative justice
Emphasis on equity and restorative justice

- Equity in the market
- Expungement & Decriminalization
- Community Reinvestment
Emphasis on public health and safety
Youth Prevention

Words of Wisdom, Courtesy of MEG

Start low. Go slow.

What you need to know about marijuana edibles.

Consumer Safety
What’s legal?

Amount

Type of products

Homegrow
Packaging and Labeling

Increased focus on:

- Plain, uniform, opaque packaging
- Universal symbol (on all products)
- Inclusion of a poison center phone number and/or a drug information website
- Labeling for total THC (vs. D9 only)

Challenges:

- Packaging that still appeals to kids
- Small packaging
- Effectively reaching consumers with essential information
Consumer Awareness & Knowledge

Do you know the amount/number of THC or CBD of the dried herb you used last?

% 'YES'; DRIED HERB USERS (N=9,796)

- 18%
- 28%
- 26%

What are the THC and CBD levels in the DRIED HERB you usually use?

UNIVERSE: DRIED HERB USERS WHO REPORTED KNOWING THC (N=447) AND CBD (N=395)

- 33% THC
- 24% CBD

Source: The International Cannabis Policy Study (PI: David Hammond, University of Waterloo), 2020 data
Advertising

Increased focus on:

• Audience restrictions (to prevent youth exposure)
• Limitations (or bans) on advertising in certain outlets
• Restrictions on ad content
• Warnings on advertisements
• Challenges:
  • Social media advertising
  • Third-party advertising
Protecting Consumer Safety Post-EVALI

**Increased focus on:**

- More regulatory authority over additives and excipients to prevent future safety issues:
  - Bans and authority to ban potentially harmful additives
  - Focus on pharmaceutical grade and/or FDA approved for intended method of use
- More regulatory authority over vaping devices:
  - Temperature controls
  - Heating elements made of inert materials
- Improved approaches to facilitate recall processes
- Challenges:
  - Lacking safety profiles on additives
  - Emerging policies on cannabis concentrates
  - Separate marketplace for hemp
How are products tested?

• Testing by third party labs in all states.
• Reference labs are uncommon, but increasing.
• Typically batch testing; some finished product testing for some products.
• Sampling procedures vary.
• Contaminant testing varies (especially with regard to mycotoxin, heavy metals).
• Several groups, including CANNRA, working on standards.
• Federal engagement would be helpful.
Where are people allowed to consume the products?

Public and social consumption prohibited: ME, OR, WA

Allowed if locals allow (no state license): CA, IL

Allowed with statewide licensing (local approval needed): AK, CO, MI, NV

Allowed but currently in violation of state law: MA
THC isomers and Novel Cannabinoids
THC isomers and Novel Cannabinoids

Consumer Safety concerns:

• Not subjected to the same packaging, labeling requirements

• Not subjected to the same testing requirements
  • Some new cannabinoid products have no data from use in humans
  • Potentially dangerous manufacturing
  • Unknown byproducts

• Widely available in retail outlets and online → widely available to youth

• May undermine adult use markets
Increases in Availability of Cannabis Products Containing Delta-8 THC and Reported Cases of Adverse Events

Distributed via the CDC Health Alert Network
September 14, 2021, 10:00 AM ET
CDCHAN-00451

Summary
The purpose of this Health Alert Network (HAN) Health Advisory is to alert public health departments, healthcare professionals, first responders, poison control centers, laboratories, and the public to the increased availability of cannabis products containing delta-8 tetrahydrocannabinol (THC) and the potential for adverse events due to insufficient labeling of products containing THC and cannabidiol (CBD).

Background
Marijuana, which can also be called weed, pot, or dope, refers to all parts of the plant Cannabis sativa L., including flower, seeds, and extracts with more than 0.3% delta-9 tetrahydrocannabinol (THC) by dry weight. Any part of the cannabis plant containing 0.3% or less THC by dry weight is defined as hemp.¹ The cannabis plant contains more than 100 cannabinoids, including THC, which is psychoactive (i.e., impairing or mind-altering) and causes a “high”.² CBD is another active cannabinoid found in the cannabis plant that is not psychoactive and does not cause a “high”.

¹ https://www.whitehouse.gov/cross Cutting/CBD
² https://www.cbd.org/cbd-basics/
Possible Federal Legalization
What are some public health and state-based considerations for potential federal legalization?

- Federal regulation should set a floor, not a ceiling.
- Protecting consumer safety and promoting equity should be priorities.
- Minimum standards are needed for lab testing, ingredients and additives, packaging, and labeling.
- Data monitoring and research are paramount to inform policymaking and should be resourced and prioritized.
- Revenue generation from cannabis taxes should be reserved to states, with investments in regulation and implementation, research and data monitoring, and initiatives to promote equity.
- More concordance is urgently needed between hemp and cannabis regulation.
Thank you!

Gillian.Schauer@cann-ra.org
Questions & Answers
Consider Adoption of its Oct. 21, 2021, Minutes

—Commissioner Ricardo Lara (CA)

Attachment 3
The Cannabis Insurance (C) Working Group of the Property and Casualty Insurance (C) Committee met Oct. 21, 2021. The following Working Group members participated: Ricardo Lara, Chair, represented by Melerie Michael and Camilo Pizarro (CA); Michael Conway, Vice Chair, represented by Peg Brown and Bobbie Baca (CO); Jimmy Harris (AR); Christina Miller (DE); C.J. Metcalf and July Mottar (IL); Marlene Caride represented by Randall Currier (NJ); Gennady Stolyarov (NV); Cuc Nguyen (OK); Elizabeth Kelleher Dwyer (RI); Karla Nuissl (VT); and Michael Walker (WA).

1. **Adopted its May 27 and Summer National Meeting Minutes**

The Working Group met May 27 as well as July 19 and July 27 in lieu of the Summer National Meeting. During its May 27 meeting, the Working Group took the following action: 1) adopted its April 27 Minutes; 2) discussed sending a memo to the Government Relations (EX) Leadership Council recommending that it consider supporting the Secure and Fair Enforcement (SAFE) Banking Act of 2019 (H.R. 1996/S. 910) and the Clarifying Law Around Insurance of Marijuana (CLAIM) Act (H.R. 2068/S. 862); 3) discussed the draft agenda for its hearing on market barriers for cannabis insurance; and 4) discussed objectives for the appendix to the *Understanding the Market for Cannabis Insurance* white paper. During its July 19 and July 27 meetings, the Working Group held its hearing on market barriers for cannabis insurance.

Ms. Brown made a motion, seconded by Mr. Harris, to adopt the Working Group’s May 27 (Attachment XX) and July 19 and July 27 (see NAIC Proceedings – Summer 2021, Property and Casualty Insurance (C) Committee, Attachments Two) minutes. The motion passed unanimously.

2. **Discussed the Draft Outline for the *Understanding the Market for Cannabis Insurance* White Paper Appendix**

Ms. Michael said the appendix to the *Understanding the Market for Cannabis Insurance* white paper will provide an update on the regulatory issues related to insurance in the cannabis industry that have occurred since the white paper’s adoption in July 2019. The working outline discussed on the drafting group’s first call on Sept. 22 parallels the agenda from the Working Group’s two-day hearing. It begins by summarizing the hearing and its findings. The outline then moves to providing an overview of the geographical expansion of states legalizing cannabis and the current federal bills. The cannabis business regulatory and licensing framework, market segments and players, insurance product availability, actual and perceived risks, policy forms, and product availability and affordability are discussed next. The barriers to coverage availability and affordability section will cover coverage obstacles, challenges, gaps, coverage risks, and alternative arrangements. The next steps section will discuss the role of the state insurance regulator in helping the admitted market evolve and emerging issues. The drafting group proposes adding additional research into public versus private sector implications, jurisdictional differences, and cannabidiol (CBD) issues to the appendix content. The current drafting members include California, Colorado, Oregon, and Washington.

Ms. Nuissl and Mr. Metcalf offered to join the drafting group to provide feedback and insights on the content.

Ms. Michael asked that feedback on the working outline or additional offers to join the drafting group be sent to NAIC staff.

3. **Discussed the Drafting Timeline for the *Understanding the Market for Cannabis Insurance* White Paper Appendix**

Ms. Michael said given the length of the appendix outline, the drafting should be completed by or before the 2022 Summer National Meeting. However, the target timeline is to complete the first draft in December, complete the final draft in January 2022, and adopt the appendix at the 2022 Spring National Meeting.

4. **Discussed its 2022 Proposed Charges**

Ms. Michael said the Working Group should request that the Property and Casualty Insurance (C) Committee remove the charge to “[c]ollect aggregated insurance availability and coverage gap information…to then publicly share in a released report by the end of 2021.” The Working Group decided at the beginning of 2021 that reliable data for this charge was not available.
Ms. Michael also recommended that the Working Group propose charges to develop an appendix by the 2022 Summer National Meeting and collaborate with the Producer Licensing (D) Task Force on equity concerns, which includes drafting a memo requesting that the Task Force look into potential related issues. Both of these are work products that the Working Group initiated in 2021 but will be continued into 2022.

Mr. Metcalf said he is comfortable with the 2022 proposed charges. Mr. Walker said he supports the additional charges and the timeline of drafting the appendix by the 2022 Summer National Meeting.

Ms. Brown made a motion, seconded by Mr. Metcalf, for a vote of consensus on requesting the Property and Casualty Insurance (C) Committee revision to the Working Group’s 2022 proposed charges. The motion passed unanimously.

5. Discussed Other Matters

Ms. Michael said the Working Group will be meeting on Dec. 13 at the Fall National Meeting in San Diego, CA.

Ms. Brown said she would send NAIC staff the agenda for the Business Insurance Cannabis Conference on Oct. 13–14, 2021, to share with the Working Group as it considers additional presenters to invite to the Fall National Meeting. The National Cannabis Industry Association (NCIA) and Cannabis Regulators Association (CANNRA) have had leadership changes that the Working Group may want to apprise itself of.

Having no further business, the Cannabis Insurance (C) Working Group adjourned.
Hear an Update on the Drafting of the
Understanding the Market for Cannabis Insurance White Paper Appendix

—Commissioner Ricardo Lara (CA)
Discuss the Potential to Collaborate with the Producer Licensing (D) Task Force

—Commissioner Ricardo Lara (CA)
Any Other Matters