Fact-Based Public Education about Cannabis

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Today’s Talk

- Why Fact Based Public Education?
- What do we mean by Fact Based?
- What are the germane Cannabis-related issues for public engagement?
  - Scientific, Clinical, Social/Economic
- Who are the audiences for educational efforts?
- What are the reliable sources of Cannabis information?
- What formats and structures are most effective and readily activated?
- How to move educational efforts forward
- Raising the issues, not answering them in this forum
Why Fact-Based Public Education

- For good public policy
- For well-informed consumers and providers
- To mitigate the inevitable backlash
- To build a responsive research agenda
- Because we like evidence
What do we mean by fact based

- Very complicated question
  - Includes Gold Standard pharma type research
  - Epidemiological evidence
  - Evidence from historical and cultural use
  - Give anecdotal and empirical evidence its due
  - Give integrative medical and mind/body approaches their due weight (the “placebo effect”)
  - Allow for dialogue and constructive disagreement, non-absolutist
  - Multiple voices represented
Scientific Issues

- Scientific issues
  - What is cannabis?
    - THC, CBD, Hemp, Sativa, Indica, various consumables
    - What is the history of its use and cultivation?
    - Is a medicine, a supplement, an entertainment
  - What are the active chemicals in cannabis?
    - What do we know about these chemicals?
    - Can they be synthesized?
  - What kind of research is being done
    - How funding sources and government regulation affect research
What are the effects of cannabis?
- Neuroscience of cannabis (receptors, endocannabinoids, etc)
- Effects of different chemicals, individually and in concert
- Effects of different preparations/consumables

Environmental
- Energy Consumption
- Resource use and degradation

Genetic Modification and hybridization
- Tissue culture/monoculture
- Genetic alterations and “IP”
- “hybrid” indica/sativa
Clinical/Health Issues

- Is Cannabis good for me?
  - If yes, how can I optimize its benefits?
  - If no, are there safer chemicals/preparations of Cannabis?
  - If maybe, how do I find out what works best for me?
  - It cured my neighbors (x), will it help with mine?
  - The “placebo” effect, the subjectivity of Cannabis’ effect
  - “It couldn’t hurt”

- What are the standard of evidence for health effects?
  - “gold standard,” epidemiological, meta-studies, population studies, anecdote, cross cultural,
Social/Economic Issues

- Should Cannabis be legal? Should be it controlled?
  - What about all the people convicted of felonies?
    - 600,000 people arrested for possession alone
    - Marked racial disparity in effects of criminalization
  - The effect of legalization on independent, “black market” producers

- What is the effect of Cannabis turning into big business?
  - That train is pulling out of the station as we talk
  - IP, synthetic molecules,
  - cost, availability
  - more detailed knowledge of the molecular composition individual cannabinoids
What is the relationship between medical, recreational, and black market cannabis?

What is the effect of legalization on patterns of criminal activity?
Audiences for Public Education

- General public
  - Young and Old
  - Medically Involved
  - Recreational Users

- Professional Education for Medical Community
  - Providers are being asked for treatment protocols
    - Physical illness, pain management, nausea, etc
    - Anxiety, insomnia, etc
  - Medical personnel are treating ill effects involving Cannabis (panic, psychological disorders, “addiction”)
  - Managing interactions between cannabis and other medications, such as opioids, benzo’s, SSRI’s etc
Audiences (cont)

- How to empower the public and professional audiences to manage the inevitable uncertainty of outcomes and effects.

- Empower public audiences to understand the value and limitations of different kinds of information based on:
  - RCT’s
  - epidemiological
  - Meta-study
  - empirical/anecdotal evidence
Audiences (cont)

- Investment community, VC’s and individual entrepreneurs
- Government and NGO policy agencies to effect political engagement
- Voters deciding on local, regional, and national policies
Public Access to Cannabis Science

- National Academies’ 2017 study
  - Leading publication in the field with authoritative science
  - It is extremely cautious and biased toward harm reduction
  - No validity given to anecdotal/empirical evidence
  - Limited utility for clinicians

- Research meetings
  - Important to understand credentials and backgrounds of presenters and organizers
  - Considerable frustration among the research community due to funding and other government imposed constraints

- Investor Networks
  - Very low science focus,
  - very high economic impact focus
  - High cost/barrier to entry
Education Venues/Platforms

- Universities
  - https://explore.ucalgary.ca/cannabis-legalization-and-youth
  - https://www.greenstate.com/culture/cannabis-research-highlighted-uc-berkeley/

- Government Agencies
  - https://www.cdph.ca.gov/Programs/DO/letstalkcannabis/Pages/LetsTalkCannabis.aspx
  - https://www.colorado.gov/pacific/cdphe/RetailMarijuanaTA
Sold out speaker series with five sessions.

- [https://www.youtube.com/playlist?list=PLb4Kd71coP51tD3fbPHpiniL8YMsnr0vt](https://www.youtube.com/playlist?list=PLb4Kd71coP51tD3fbPHpiniL8YMsnr0vt)
  - Cannabis and the Environment, Amanda Reiman, International Cannabis Farmers Assn
  - Cannabis and Neuroscience, David Presti, UC Berkeley
  - The Genetics of Cannabis, Mowgli Holmes Phylos Bioscience
  - The Ethnobotany of Cannabis, Tom Carlson, UC Berkeley
  - Cannabis in Clinical Settings, Donald J Abrams, UC San Francisco
Education Venues/Platforms

- Industry-related
  - https://arcviewgroup.com/

- Informal Learning Orgs (NGO’s, Non-Profit Publishers/Online Providers)
  - https://www.projectcbd.org/

- Doctors

- Dispensaries

- The Internet

- Policy Groups pro/con Cannabis
The Path Forward

- Independent voices supported by foundation/government/individual sources committed to independent inquiry and multiple voices.
- Include fact based public education in the agenda for existing research institutes
- Create media outlets for these voices (podcasts, online, public engagement with scientists, etc)
- Ensure rigorous independence from the money that is washing over the industry.