Meeting Minutes

HB 21-1317 First Meeting of the Scientific Review Council

November 17, 2021; 8am-11am MT

Summary of Consensus Votes:

- **Council votes to approve the Charge to the Council as outlined in HB 1317.**
- **Council votes that the systematic review protocol questions adequately address the charge for the systematic review in HB1317.**
- **Council votes to add additional "bucket" to protocol for studies regarding products recognized as high potency but not providing %THC or mg levels. Concentrates column in Protocol Appendix will serve as list of these products.**
- **Council votes to approve a new/revised table in Protocol listing examples of health effects with no beneficial or adverse label attached to the effects.**
- **Council votes to approve Protocol with discussed changes.**

General Remarks and Welcome

- Dr. Chris Urbina, Chair of the Scientific Review Council (SRC), called to order the first meeting of the SRC on November 17, 2021 at 8am.

Scientific Review Council Introductions and Update on Conflicts of Interest

- The Chair conducted a roll call for both the Council and the Colorado School of Public Health project team members.
- The following Council members were present and introduced:
    - Susan Calcaterra
    - Kennon Heard
    - Kenneth Hutchison
    - Greg Kinney
    - Paula Riggs
    - Joe Schacht
    - Erica Wymore
    - Lesley Brooks
    - Chris Urbina
    - David Brumbaugh (arrived later from prior meeting)
- Council Quorum: 10/10 – quorum reached for this meeting
- The following SPH team members were present and introduced:
    - Jon Samet
    - Greg Tung

    - Sam Wang
    - Lisa Bero
    - Tianjing Li
    - Ashley Brooks-Russell
    - Meghan Buran
    - Additional team members recognized as in attendance:
        - Muky Rittiphairoj
        - Louis Leslie
        - Christi Piper
- Council members were reminded to submit their DocuSigned COI forms (Note: all forms returned as of 11/17/2021).
- Changes to COI forms for any Council members
    - None
- Review of agenda with Council
    - Agenda shown on screen for the panelists (Council and Colorado SPH) as well as public attendees.
    - No questions to Chair.

Overview of the School and the Anschutz Medical Campus

- Dr. Jonathan Samet, Dean of Colorado School of Public Health, gave an overview of the Colorado School of Public Health and the Anschutz Medical Campus. Slides follow in the appendix to the meeting notes.
- No questions to Dr. Samet from the Council.

Background and Charge from the Bill

- Dr. Sam Wang (Associate Professor, University of Colorado School of Medicine; Pediatric Emergency General Operations, Children's Hospital Colorado) presented on high-potency cannabis and public health. U.S. and Colorado regulations were outlined; Colorado-specific medical cannabis trends and information were discussed (CDPHE data); and the Colorado marijuana industry was examined (CDPHE data). High potency/concentrated cannabis was defined and discussed in relation to HB 1317.
- Dr. Greg Tung (Associate Professor, Department of Health Systems, Management & Policy, Injury & Violence Prevention Center; Colorado School of Public Health) discussed the charge in HB 1317 related to the Colorado School of Public Health's research activities as well as the interactions between the School and the Council as outlined in the Bill.
- Slides follow in the appendix to the meeting notes.
- Questions:
    - What is the definition of high potency THC?
        - Great variability in industry and literature
    - What changes have occurred in policy measures?
        - Changes in tightening prescription and use of medical marijuana have occurred in past few years.
        - The intent of the HB 1317 is to inform and drive these policy changes.
            - Also addresses changes in prescriptions in the young adult population

- What is the difference between the Council and SPH?
    - Independent of each other
    - SPH will provide reports and recommendations to both the SRC and the General Assembly.
        - SRC will provide feedback to SPH and may also put forth their own recommendations (even if different from SPH recommendations) to the General Assembly.
- The Bill is broken into sections on recreational versus medical marijuana. How is this addressed in the review?
    - Cannabis products are independent of their regulatory status in this review. Products will be included in the review regardless of their regulatory status, as this may change during the time frame for research included in the review.

Overview of the Charge to the Scientific Review Council

- The Chair presented the Charge of the Bill to the SRC.
- No questions to Chair.

Committee Operations

- The Chair discussed the procedures for the Council meetings.
    - If a Council member is unable to attend a meeting, they must send their comments/questions regarding materials to be discussed in the meeting prior to the meeting so that they may be discussed publicly to ensure transparency.
    - Dissenting/disagreement allowed within SRC regarding decisions, but individual opinions deviating from consensus will need explanation.
- COI forms were again discussed.
    - Reiteration that the Council will be independent from all (industry and SPH) as required in Bill.
- No questions to Chair or SPH from Council.
- Consensus:
    - Council approves the Charge from HB1317 to the Council.

Break

Introduction of the Scoping Review Protocol

- Dr. Lisa Bero (Research Professor, Department of Health Systems, Management & Policy, Colorado School of Public Health; Internal Medicine, University of Colorado School of Medicine) described the type of systematic review that is outlined in HB 1317. Research questions developed by SPH were presented. As this systematic review will be a scoping review (a type of systematic review), the rationale for using a scoping review and a comparison between the steps involved in a scoping review versus a systematic review were discussed. The scoping

review timeline was also presented to the Council. Questions were presented to guide the protocol discussion:
    - Do the research questions adequately address the charge for the systematic review?
    - Comments on definitions (e.g., cannabis products, "potency")
    - Any clarifications needed about inclusion / exclusion criteria?
    - Comments on analysis plan
- Slides follow in the appendix to the meeting notes.
- Questions follow in the discussion of the protocol.

Discussion of the Protocol

- The Chair opened the Council discussion of the draft Protocol for the scoping review
- Questions:
    - How is SPH handling case reports in the inclusion criteria?
        - Reviews of case reports or case series will be included but not individual case reports or series
        - If there are syntheses or reviews of case reports, they will be included
        - SPH will not be combing databases for case reports to poison control centers as this activity is beyond SPH capacity and the scope of the Bill, and requires a different methodology
    - How will SRC fit into this process?
        - SRC will comment on protocol at this meeting
        - SPH will incorporate major changes in inclusion/exclusion criteria now, before protocol is published
        - After scoping review is completed by SPH, SPH will deliver preliminary findings to SRC for comments at a later meeting (draft descriptive synthesis)
    - Importance of definition of "potency."
        - Not limiting inclusion by potency level but extracting potency data from studies that identify THC concentrations (mg level; %TCH level)
        - Note on emerging literature: very high potency products are now available on the market but little research on them available right now
            - Finely graded bins above 20% THC can be added as needed given current %THC levels available on the market, even if the literature hasn't caught up yet
    - How will significant adverse effects at low doses for new users be handled?
        - Details on populations studied in each paper will be extracted
    - How does the AI (Distiller) work?
        - Distiller (AI) is used in systematic reviews with increasing frequency
        - SPH is training Distiller to screen the title/abstract of the studies
            - Distiller prioritizes the studies based on its screening for human review
            - Human screeners are still paired with Distiller
    - What is the timeline for literature considered in the scoping review?
        - Literature search is completed
        - Protocol includes a search update near the end of the project timeline

- The systematic review team will generate graphs to show the volume of research over time. When there is a lot of ongoing research, one recommendation could be to turn the systematic review into a living systematic review.
- Why include systematic reviews of case reports and not case reports individually, which may be important?
    - We have amended the protocol to include case reports and case series that are found in the literature review. We will not be conducting primary reviews of poison control databases.
    - May be a potential action item for the future research recommendation
- How were subgroup analyses outlined in the Protocol (analyses by age; pregnancy status) determined?
    - Age is specifically mentioned in the Bill.
    - Cutoffs included in the Protocol were used in other Colorado state reports, for consistency.
    - Detailed population data extracted from included papers may be used to create further subgroup analyses or future research recommendations .
- How can we get equity more centered in the protocol?
    - There are opportunities for this within the Protocol tables and text.
    - Health equity lens can be applied to the review
        - SPH team is experienced in applying this lens
        - Health equity lens tool will be circulated to SRC by Lisa Bero
- Sensitivity to the developmental/lifespan timeline
    - If this information is reported in the paper, it will be extracted and recorded in the population data
    - This will be part of the evidence map; gaps may be identified or added to future research recommendations .
- Systematic vs scoping review
    - Grading of evidence
        - Not applying “grade” because of heterogeneous nature of papers but will comment on the evidence
        - ROBIS will be used for assessing reviews; Risk of bias will not be established for individual studies
- Describe the defining of “adverse health outcome” and “adverse effect.” How are they different?
    - Tianjing Li in chat: Whereas “adverse events” do not have to be causally related to interventions and are always negative, “adverse effects” are also negative but are related to an intervention, and “side effects” are related to the intervention and can be either negative or positive. For example, a potentially desirable side effect was found for sildenafil (Viagra), which was originally intended as a blood pressure medication and had a strong unintended “side effect” that led to its use for erectile dysfunction.
- Definition of “adverse outcome”
    - FDA definition of term provided by Tianjing Li
    - Poison control centers make designations (from Kennon Heard)

- Therapeutic versus adverse effects
    - Likely to see many imaging studies—challenge to interpret findings as positive or negative. May be added to future research recommendations.
- How will SPH handle studies that do not include potency?
    - Can't use the study if potency is not reported
- To reiterate, if no data is provided on %THC or mg, the study will be excluded from analysis.
    - Can we assume certain type of cannabis product would be high concentrate?
    - Is there a list of products that are always considered high concentrate?
        - If we had a list of products that we agree are always categorized as high potency?
    - Could miss observational studies.
    - Consensus discussion: should SPH add a 3rd bucket to Protocol for studies that do not report %THC or mg but where the exposure is a known high potency product;
        - Would need definition/list of these products
            - Concentrates column in Protocol Appendix will be the list of high potency products for 3rd bucket
    - Consensus:
        - Council votes to add additional potency category to protocol for studies regarding products recognized as high potency but not containing %THC or mg levels. Concentrates column in Protocol Appendix will serve as list of these products
- Should "edibles" or "flowers" be included in the high potency list?
    - Large range of potency; may not fit completely in the "always high potency" bucket
    - May need to be explained as a study limitation and add to list for future research recommendations
    - SPH can extract language around these products so that we can use this in the call for future research or as a suggestion for future reporting criteria.
- In regards to outcomes in Section 3.7 of Protocol:
    - Who are the recipients of beneficial and adverse outcomes?
        - Consensus:
            - Council votes to for the protocol to revise the tables of example health outcomes so that outcomes are not labelled as beneficial or adverse
- What are the disproportionate impacts? Can we be more explicit on equity/race/ethnicity?
    - Such considerations might best be placed in the population description of the Protocol; but will also be mentioned in the data extraction and analysis sections of the protocol
    - Language on generational/age and disparate impacts will be added through the Protocol to the populations and outcomes sections.

    - Health effects vary by acute exposure vs chronic. How will this be defined, particularly when controlling for age of exposure or onset of chronic use?
        - There are no exclusion criteria related to acute or chronic use.
        - Data extraction will identify use patterns and other characteristics of exposure
        - What is the definition of chronic use?
            - Cutoffs not pre-specified; can discuss further at a later meeting.
    - Can we pull future directions for research from discussion sections of included papers into one table?
        - May be a future project/research tool to discuss.
        - For this scoping review, this data will not be extracted.
- Council reviews questions posed for protocol discussion:
    - Do the research questions adequately address the charge for the systematic review?
        - Council consensus: yes
    - Comments on definitions (e.g., cannabis products, "potency")
        - Council provided
    - Any clarifications needed about inclusion / exclusion criteria?
        - SPH addressed
    - Comments on analysis plan
        - Will analyses decisions be totally dependent on the information gathered? Will the SRC have an opportunity to prioritize analyses?
            - Synthesis will be done for items with data
            - SPH can make decisions on analyses and recommendations independently.
            - SRC may also make decisions and recommendations independently.
- Consensus:
    - Council votes to approve the Protocol with changes discussed.
    - Notes:
        - Should a Council member not approve of the Protocol, he/she may submit a written statement to the fact.
        - Revised protocol will be posted in Open Science Framework (OSF), project website, and circulated to SRC.
- The Chair closed the discussion of the Protocol.

Next Steps/Questions from Council

- The Chair closed the meeting with the following information:
    - Next meeting of SRC will be in January 2022
        - SRC will be polled for date/time
        - Meeting will likely last 2-3 hours