Meeting Minutes

HB 21-1317 Third Meeting of the Scientific Review Council

May 25, 2022; 3pm-5pm MT

General Remarks and Welcome

- Dr. Chris Urbina, Chair of the Scientific Review Council (SRC), called to order the third meeting of the SRC on May 25, 2022, at 3 pm MT.

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:
    - Chris Urbina
    - Kennon Heard
    - Greg Kinney
    - Paula Riggs
    - Archana Shrestha
    - Susan Calcaterra
    - Joseph Schacht
    - Erica Wymore
    - David Brumbaugh arrived 25 minutes late with apologies
- The following Council members were absent:
    - Kent Hutchinson
    - Lesley Brooks
- The following SPH team members were present and introduced:
    - Jonathan Samet
    - Greg Tung
    - Sam Wang
    - Lisa Bero
    - Tianjing Li
    - Ashley Brooks-Russell
    - Rosa Lawrence
    - Kelsey Phinney
    - Louis Leslie
    - Jean-Pierre Oberste
- The following SPH team members were absent:
    - Meghan Buran, with advanced notice and apologies
- 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 for Chair Chris Urbina.

Review of Agenda, Meeting Minutes, and Response to SRC Recommendations

- Chair Chris Urbina reminded everyone in attendance that meeting minutes and the response to SRC recommendations are available on the website under the resources tab.
- No questions for Chair Chris Urbina.

Review of HB 1317 Expectations

- Dr. Jonathan Samet provided a review of the charge to the Colorado School of Public Health and the research questions for the review.
- No questions for Dr. Jonathan Samet

Progress Update and Study Characterization

- Dr. Lisa Bero presented on the progress to date of the scoping review.
- Jean-Pierre Oberste presented the study characteristics.

Questions and Answers

- Chair Chris Urbina asked what studies were included in the study characteristics figures
    - Jean-Pierre Oberste answered that it is the 489 total studies detailed in slide 17 but it does not include the 264 systematic reviews and case reports/series.
- Dr. Joseph Schacht asked if the location mapping was of the authors or the participants.
    - Jean-Pierre Oberste answered that it was based on the location of the participants.
- Dr. Susan Calcaterra asked if slide 21 was related to the outcomes.
    - Dr. Lisa Bero explained that slide 21 represents the eligibility criteria of study populations across the included studies.

Data Extraction of Sample Studies

- Dr. Lisa Bero introduced the data extraction topic, explaining that all 14 studies have been data extracted by two coders and any discrepancies were reconciled by a third reviewer. This process takes about 3 hours per paper.

Question and Answer

- Chair Chris Urbina asked about the 14 studies and if they were the “cream of the crop.”
    - Dr. Lisa Bero explained that the 14 studies are some of the best examples that include potency and outcomes.
- Dr. Lisa Bero went through preliminary data extraction findings from the first 14 studies.

Questions and Answers

- Dr. Paula Riggs asked about how one of the papers discussed a potency valley, suggesting its bimodal, with really high concentrations and lower ones but little in the middle, and wondered how that is captured in the data extraction process.
    - Dr. Lisa Bero said the team is capturing the highest and lowest potency reported in each study, but not a potency valley, and that one of the challenges is that not all studies link the potency with a specific outcome.

- Dr. Joseph Schacht asked about whether the studies that report weights have all been edible products.
    - Louis Leslie said that was not the case across the first studies that have been extracted.
- Dr. Joseph Schacht asked if we are capturing the route of administration.
    - Dr. Lisa Bero said we are capturing that data.
    - Dr. Greg Kinney said we may not be able to convert everything into milligrams.

- Louis Leslie presented on potency issues that have come up in the early data extraction findings, with specific examples from individual studies

Proposal for handling studies with unclear information on potency

- Dr. Lisa Bero proposed that studies without clear data on potency concentrations could be excluded from the review, asked for input from the SRC
    - Dr. Susan Calcaterra asked if there is an example of a publication that exemplifies how potency should be presented. She said that while the study of car accidents should clearly be set aside, there is a concern that most papers will end up excluded from the review due to issues with reporting potency.
        - Dr. Lisa Bero said there were examples of studies in the first nine studies shared with the SRC that had clear data on potency and outcome, even if there was not an explicit association between the two.
            - Louis Leslie said the Prince (2019) and Cuttler (2021) have clear associations
        - Dr. Tianjing Li said what is most frustrating is that the association is reported differently across the studies that do have any association. As a result, we may have to qualitatively report on the associations as opposed to conducting quantitative analysis.
    - Dr. Lisa Bero asked, from the heterogeneous evidence based, how do we come up with recommendations?
        - Dr. Greg Kinney brought up the point that it would be nice to know what the gaps or failures of the papers were, which would tell us what studies are needed
            - The evidence map will show this.
        - Dr. Paula Riggs asked, what would we lose by getting rid of less rigorous studies? Will the evidence map capture this?
            - The evidence map will capture this.

Decision

- All SRC members raised their hands indicating that they agreed to exclude studies that do not report potency from the data extraction, but to keep them in the evidence map.

- Dr. Sam Wang presented on the issue with papers that have shown outcomes other than “health outcomes.” Dr. Wang asked for input on grouping these outcomes as mechanistic outcomes, psychomotor effects, or neurocognitive functions.

    - Dr. Joseph Schacht said these outcomes may have been addressed in a laboratory study or in a randomized control trial, indicating a higher quality evidence, so he would not want to lose the data.

Questions and Answers

- Dr. Archana Shrestha asked if in terms of variable measured, whether they could be nonspecific and self-reported or ascertained in a lab or collected.
    - Dr. Sam Wang said this was correct, I.e., all were possible.
- Dr. Greg Kinney asked if we are going to be able to extract positive or negative outcomes associated with memory.
    - Dr. Tianjing Li said we are not currently capturing data at that level, but that could be addressed in future studies.
    - Dr. Jonathan Samet said this could be captured, but whether it is positive or negative may be subjective.
    - Dr. Lisa Bero agreed with Dr. Tianjing Li that we could go back to get that kind of detailed information as needed.
    - Dr. Ashley Brooks-Russell said this measure of memory may be the speed to recall something or a measure of reaction time, likely experimental and high quality, but what is missing is a gold standard of comparison or what is "good," which is the missing link to the health outcome.
    - Dr. Joseph Schacht said some of these outcomes may have been collected on psychometric scales and it would be valuable if more than one study has the same normed scale.
    - Dr. Paula Riggs added that the normed scales are often benchmarked against clinical outcomes and standard measures in the field, so it is unlikely that these would be used in a haphazard way.
- Chair Chris Urbina asked if these were adverse effects and asked about the frequency of these kind of outcomes?
    - Louis said that these were fairly frequent, with some studies reporting a mix of outcomes.
    - Dr. Sam Wang said the studies look at the impact and whether they are considered adverse may be subjective as well as how these studies show impairment with high potency cannabis.
- Dr. Lisa Bero pointed out that we have to prioritize papers for data extraction based on our timing (~3 hours per paper) on what we want to collect, what buckets we have, and what topics have a critical mass of papers, then we can go back to do more finetuned data extraction
- Dr. Jonathan Samet said we will not lose which studies are which, and we could identify studies that use similar measures, or go back to authors about getting the original data to run pooled analyses.

Proposed Approach

- Dr. Tianjing Li said we will code these different outcomes into larger buckets but with enough specificity so that we can map place them in the evidence map and go back to look at them, as

needed. Dr. Li proposed that we code them at this stage and then come back to re-examine them.

- Chair Chris Urbina concurred with Dr. Tianjing Li's point and Dr. Paula Riggs seconded. No SRC members opposed the approach.

SRC Plans and Approach and General Discussion

- Dr. Gregory Tung provided a review of the role of the Scientific Review Council and the HB 1317 legislative language on the responsibilities of the Colorado School of Public Health and the Scientific Review Council
- No questions

- Chair Chris Urbina provided an overview of the SRC subgroups and working meetings

Questions and Answers

- Dr. David Brumbaugh asked about open meeting requirements and subgroup discussions
    - Dr. Jonathan Samet said he asked the Anschutz campus legal team about this, and clarified that the SRC is a committee appointed and housed within the School of Public Health, meaning that it does not have to abide by Colorado's Open Meetings Law. Thus subgroup meetings could happen without public participation and recordings. For transparency, the occurrence of such meetings would be posted, and to assure transparency, there would be a record of decisions and findings made in the subgroup meetings to the public following the SRC meeting.
    - Chair Chris Urbina said his interpretation of the legislative language matched Dr. Jonathan Samet's.
    - Dr. Jonathan Samet reminded everyone that the SRC also needs to approve the educational campaign.

Proposal

- Chair Chris Urbina proposed that the SRC should have smaller subgroup meetings to first and foremost discuss the initial findings and the gap analysis.

Questions and Answers

- Dr. Paula Riggs asked if there were two questions or four.
    - Chair Chris Urbina said there were only two questions for now.
- Dr. Greg Kinney said we may not have enough data to discuss gaps yet.
    - Chair Chris Urbina said we could already make some recommendations based on the study characteristics data.
- Dr. Jonathan Samet wants the SRC to think about what would constitute adequate evidence. Specifically, given the heterogeneity of the evidence, how do we make recommendations? What would an ideal table of evidence look like? Can we get there? Could we find 4-5 studies that would get at dose-effects?

    - Dr. Joseph Schacht said the methods are important for judging the quality and consistency of the evidence (I.e., RCT, case-control).
    - Dr. Lisa Bero said it depends on the question. For different types of questions, what is the best evidence? (I.e., population-based studies, RCTs, laboratory studies may have different standards).
- Chair Chris Urbina asked the team about timing with data extraction
    - Dr. Lisa Bero pointed out the gaps that were identified through study characteristics, but identifying gaps in actual studies requires full data extraction
    - Dr. Tianjing Li pointed out that one clear gap is the lack of studies addressing social determinants of health and health equity. Additionally, Rosa Lawrence has started to populate the Tableau dashboard, which can be shared with the SRC members to review.
- Dr. David Brumbaugh wanted to extend the question about the threshold for evidence and if we would have a different standard for negative versus positive health outcomes. Negative health outcomes are often secondary outcomes in the studies. Thinking about safety, should our thresholds be different for negative outcomes and different kinds of use?
    - Chair Chris Urbina said this would be a good discussion for the subgroup meeting and could inform recommendations in the July 1 report.
    - Dr. Kennon Heard said the questions the legislature is likely interested in are:
        - Why should these products exist or be available?
        - Do they offer some advantage over lower potency things?
        - Are there different risks? What are the relative risks?
        - Are there differences based on the different backgrounds of the people involved and is it impacting different populations differently?
    - Chair Chris Urbina said these were good questions.
    - Dr. Jonathan Samet said that the level of evidence may trigger a recommendation for a particular application or a particular product. There may be asymmetry in the level of evidence needed for different recommendations (I.e., for restrictions versus therapeutic benefit).
    - Dr. Lisa Bero said other aspects are taken into account, e.g., how big the population is that is being affected, how affected the population may be, if there is disproportionate impact on certain populations. Many populations follow the precautionary principle.
- Dr. Paula Riggs pointed out that we have not talked about tolerance and how long individuals have been using Cannabis products. Recommendations will be confounded in the medical marijuana realm by tolerance and chronicity of use.
    - Dr. Greg Kinney said that the products exist because people buy them. Certain populations may have positive responses and certain populations may have negative responses to the same product.
- Dr. Jonathan Samet asked what kind of research the SRC needs to make recommendations. This could be added to the SRC subgroup task lists to think about.
    - Dr. Erica Wymore agreed with his point and wondered about how our recommendations align with the FDA's criteria for determining what is the evidence that is needed and what is the therapeutic benefit.

Counter Proposal re: subgroups

- Dr. Paula Riggs asked if we should do small groups or if we should just tackle the two questions with the entire group, especially given the time constraints.
    - Chair Chris Urbina said he had suggested the subgroup meetings to facilitate open conversation, but we are having more of an open discussion during this meeting so an entire group discussion would also work.
- Chair Chris Urbina asked the SRC about their thoughts on subgroup meetings versus full meeting discussion.
- Dr. Jonathan Samet said the policy and research team could feed parts of the report to the SRC as they are finalized and the SRC could meet regularly to discuss those as they come out to prepare for the July 1 report.
- Dr. Greg Kinney proposed that we have specific questions to address in each meeting. He added that Paula's question about tolerance is especially important.
    - Dr. Paula Riggs seconded the proposal to have specific questions for each SRC meeting

Meeting Proposal

- Chair Chris Urbina made an overall proposal to dismiss the subgroup proposal and instead add another few meetings before the July 1 report deadline and react to specific questions as an entire group.

Decision

- All present SRC members raised their hands, indicating approval of this proposal.

Next Meeting Timing and Closing Remarks

- June 15th meeting is scheduled
- Need to schedule another one or two meetings before July 1 report deadline
- No final questions or comments