Cannabis Health & Safe Advisory Committee
Meeting Minutes
Meeting # 2 – March 14, 2018

1. Attendance

Participant	Organization
Danica Lee (co-chair)	Denver Department of Public Health &Environment
Abby Davidson (co-chair)	Denver Department of Public Health &Environment
Kara Lavaux	Denver Department of Public Health & Environment
Erica Rogers	Denver City Attorney's Office
Reggie Nubine	Denver City Attorney's Office
Christopher Hoyt	Rocky Mountain Poison and Drug Center
Dorothy Colagiovanni	Bona Fides Lab; Next Frontier Biosciences
Drew Brown	OMB/Peak
Helena Yardley	Franklin Biosciences
Jill Ellsworth	Willow Industries
Joe Cantalini	Organa Labs
John Adgate	Dept. of Environmental & Occupational Health, Col. School of Pub. Health
Kevin Gallagher	Cannabis Business Alliance
Kristi Kelly	Marijuana Industry Group
Laura Davis	Environmental Health and Safety Professional
Linda Klumpers	Cannify
Mark Angerhofer	Craft Concentrates
Melissa Islam	Denver Botanic Gardens
Mike Van Dyke	Colorado Department of Public Health and Environment
Noel Palmer	Evolab
Scott Hansen	Agricor Laboratories
Seth Wong	TEQ Analytical Laboratories
Shireen Banerji	Rocky Mountain Poison and Drug Center
Stacey Linn	CannAbility Foundation

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2. Agenda

a. Welcome and introductions
b. Potential DDPHE Sampling/Testing Intro & Background
c. Discussion topics:
    i. Cost & frequency
    ii. Sampling procedures
    iii. Lab selection
    iv. Thresholds for enforcement action
    v. Hemp products
    vi. Communication to industry
    vii. Other considerations
d. Public comment

3. Meeting Notes

Item	Discussion
1. Welcome and introductions	• Danica Lee, Director of the Public Health Inspections Division for the Denver Department of Public Health and the Environment ("DDPHE" or the "Department") opened the meeting. • Danica thanked committee members for the feedback that has been submitted and welcomed everyone, including the public, to continue submitting feedback on how the meetings are going. Danica also mentioned that the committee will continue to accept anonymous feedback as well, and is looking into an anonymous email option for both committee members and non-members.

	• Danica reviewed some of the feedback that has been received:
	  ○ Feedback indicated that there was "too much industry" and also "not enough industry" on the committee. Danica stated that having sufficient industry representation on the committee was important and recognized that Kevin Gallagher and Kristi Kelly were added to the committee in order open up to more industry members. Danica stated that she was committed to making this a space for people to communicate, with a variety of options for doing so.
	  ○ Feedback indicated that a more open discussion would allow spectators the opportunity to hear more about the conversations.
	  ○ Feedback suggested keeping all materials electronic. Danica noted that the Department would continue to post information on its webpage, but would also provide hard copies.
	• Committee members went around the table and introduced themselves.

2. Potential DDPHE Sampling/Testing Presentation 3. Introduction to Discussion Topics	• After introductions, Kara Lavaux (DDPHE) gave a presentation identifying some of the gaps with current testing and identifying issues to consider when discussing potential DDPHE sampling/testing during routine inspections. • MED rules require marijuana businesses to conduct numerous tests for contaminants, including pesticides, microbials, and residual solvents, but there is concern that contaminated products may still be making their way to consumers. Many of the issues the Department is aware of concern whether a sample that is tested and approved is representative of what

	consumers are actually buying. Because sampling is not overseen by regulators and end products on shelves aren't tested, there is the potential for post-testing contamination or manipulation of samples tested. • Kara then discussed two contamination case studies to illuminate some of the issues that the Department is seeing. • Case 1 involved a complaint brought by an individual consumer who had smoked a particular brand/strain of pre-rolls and had to be hospitalized. The Department discovered that after harvest batches had passed the required microbial tests, they were being sent to stores in glass jars for consumers to look at and smell when talking to budtenders. The jars were then sealed and stored under hot lights in display cases for weeks before being sent back to be used in pre-rolls. The pre-rolls were subsequently tested and had very high microbial counts, leading to a recall. The question in this case was whether the storage under the hot light in an enclosed environment could have caused the elevated microbial counts. • Case 2 involved a discrepancy between microbial tests done on a harvest batch and microbial tests done on marijuana tested at the store. The Department discovered that after harvest batches had passed the microbial tests, the marijuana from the harvest batches was being stored in sealed 5-gallon buckets for weeks or months before being sent to a store for use. The question in this case was whether the drying/curing procedures coupled with long period of sealed storage accounted for elevated microbial counts. • After Kara's presentation, Drew Brown, a City process improvement analyst, thanked everyone who provided

	feedback and introduced the structure for the next portion of the meeting. The Department selected six (6) focus areas that would each be discussed for about ten (10) minutes. Each committee member was given a set of sticky notes and a sharpie, and Drew asked that members write down the most important thing to them regarding each of the six topic areas for the Department to collect. Members could submit multiple sticky notes per topic. After the six topics were discussed, there would be time for other considerations, as well as time for public input.
Discussion Topic 1: Cost and Frequency	• Danica began the conversation by noting that the Department has had numerous discussions with industry members regarding the cost and frequency of sampling and testing. She clarified that what the Department is hoping to implement is more of a "spot check" system during inspections, as opposed to a more comprehensive sampling framework. • Danica explained that perhaps one inspection could collect 2-5 samples, with the specifics depending on the business type and the products that business makes. There wouldn't be any new pass/fail standards; the Department would use the standards that MED has in place when doing checks. Finally, the Department would like to start small so that they can understand what the impact is going to be on the industry. • One member asked whether the Department knew what sectors the complaints were coming from, and whether complaints about the cost of testing have gone down. Another member chimed in that sample testing is still a large cost to industry members, even after the new regulations that came out in January.

	• One member asked what the logistics would be for a store that is selling another company's product. There was concern over who would be liable if that product was found to be unacceptable, and when the test would be conducted. • A few members discussed the possibility of ensuring safety by regulating production processes, as done in the food safety industry. For example, in food, one member described the process of selecting critical items and taking temperatures at critical times, but was concerned that with marijuana, there's a possibility that samples could be taken many times and there would still be uncertainty as to the safety of the product. • Many members asked what the objective is or the framework would look like for doing the sampling. Danica reiterated that the Department isn't trying to create a system that will provide comprehensive assurance, but rather that it is trying to get a glimpse of what finished products look like once they're on the shelves. The intent is to figure out how existing gaps in testing can be addressed given DDPHE findings across numerous investigations.
Discussion Topic 2: Sampling procedures	• One member began this discussion by noting that there is no methodology for sampling of finished products beyond plant material, and that establishing a methodology would be a good place to start. • One member suggested exploring the process as a pilot program for certain industry members who could provide feedback on certain aspects of the policy so that the Department and the industry could work through the kinks together, which would make roll-out smoother.

	• Another member suggested that the focus should be on the highest risk products first. Other members agreed. • One member suggested using METRC data to sample from businesses that consistently fail first, stating that it would be a waste of time to test the entities that consistently pass. Danica addressed this by noting one of the Department's main concerns, which is that even a business that consistently passes testing could manipulate samples, while unmanipulated product makes its way to consumers; DDPHE has received numerous tips from industry employees about this concern over the past few years She also said that the Department could explore getting login rights for METRC data. • One member pointed out that manipulation of samples is sometimes unintentional, and that any process should take into account both intentional and unintentional manipulation of samples. • There was a discussion among a few members regarding how the Department would ensure representativeness. Danica noted that there is a lack of a baseline, and that there is definitely a need for more research on that issue. • One member pointed out that any process should also take into account the fact that risks vary depending on whether a test is to detect pesticides, microbials, or residual solvents.
Discussion Topic 3: Lab selection	• Danica began the discussion on lab selection by saying that she is aware this topic is a challenging one, and provided some background. The state of marijuana testing labs has been evolving over recent years, with the state health department being responsible for setting the lab certification standards. One challenge for the Department has been that the state had not

	yet set a certification process for pesticide residue analysis, and for that reason the MED wasn't enforcing pesticide testing requirements. Fortunately, there has been a lot of progress over the last 8-10 months, and the recent practice has been to allow marijuana businesses to select the lab they'd like to work with for testing. Danica then asked the group what criteria the members from the industry thought were important for lab selection. • One member discussed split sampling, where the Department would have a lab they regularly utilize, and a business would send the same sample to that lab and a lab of their choosing. That member wasn't sure how the Department would handle different results, but it could provide for a better check on manipulation of samples. • Another member discussed the scientific issues with split samples, which may not necessarily solve the issue of representativeness since there can be variable characteristics even within small samples. Danica indicated that DDPHE is aware of the need to homogenize split samples and would look to include that as a part of any agency-overseen testing. • One member who identified himself as a "big advocate of accreditation and certification," said that if all the labs must follow the same process to be accredited and certified, then it shouldn't matter which lab is used. • One member felt that it was relevant to discuss the differences in labs based on what technologies they were using to test for various things. Danica asked if the state certification adequately addressed that piece, and a few members weighed in. One member felt that labs have some burden to prove to consumers

	that what they are doing is acceptable, and so the certification process was sufficient. Another member felt that the onus shouldn't be on the consumer to determine whether the lab's standards are acceptable, and that the state could probably use "some more savvy auditors in that regard." That member felt that it shouldn't be the industry members' job to teach the auditors how to be doing the auditing, although that seems to happen with some frequency. • Several members suggested that any labs used should hold applicable ISO certifications. • There was brief discussion of the variability of microbials generally. Danica stated that the Department does use discretion when presented with different test results.
Discussion Topic 4: Thresholds for enforcement action	• Abby began the discussion on enforcement thresholds by stating that she was aware that the industry has concerns with across-the-board thresholds. She explained that the Department does base its decision to enforce on the health impact and evaluate public health controls and enforcement actions on a case by case basis. She stated that she wants any testing policy to be fair to the industry, but also defensible to consumers. In that vein, Abby asked the group to provide thoughts on the thresholds for flower vs. concentrates – should MED levels for flower be used for concentrates? One member stated that thresholds should depend on the Department's objective, and that if the objective is to protect public health, then probably many of the pesticide limits that have been established are too low due to the fact that the state's objective was to prove that pesticides weren't used at all. While using the

	same number is easier, this member thought that the number should match the objective. • Another member felt that having one threshold was easier because it would be much harder for someone operating in several municipalities to have to meet differing standards. • One member stated that he would not advocate for anything lower than what is already in place. • One member stated that it would be easiest to harmonize residual solvents because the thresholds are already based on toxicological data from other industries. That same member stated that one thing that bothered him about microbials is that some may not be harmful, but will cause a sample to fail a microbial test, even if that microbial is less harmful than a pesticide. • One member agreed with the earlier point that the state thresholds for pesticides were based on zero-tolerance policy for pesticide use, and that studies could probably point to a higher allowable threshold that would support a public health objective. • One member had an issue where an industry member had used agricultural chemicals approved by the state Department of Agriculture which then came back as unlabeled/illegal pesticides, and that was frustrating since the business believed they were adhering to safe practices. • One member acknowledged the unique risk associated with "lighting the product on fire" that makes the testing of pesticides different here than in other areas since there has been no health evaluation of the impact of pyrolyzing and combining these compounds.

Discussion Topic 5: Hemp products	• Abby began the conversation by acknowledging that there is generally a lack of testing requirements for hemp products. If the Department moves forward, she stated that it seemed to make the most sense to have the hemp industry be in line with the marijuana industry. She stated that most consumers assume that hemp products are being well regulated, when in reality, they are not. • There was a discussion among a few members about whether hemp sourced from outside of Colorado should be allowed. One member stated that source verification is a big part of the Food Modernization Act, and asked whether the Department approves shelf stability of hemp as it does with other products. Abby said that the department evaluates the source and manufacturing location of the hemp products sold in Denver. In some cases, those evaluations are done remotely due to the lack of health agency oversight of hemp derived products outside of Colorado. She then asked the group: Does the fact that there is no oversight raise concerns for the group? What are the important points the department should take into consideration? One member said that this highlights the issue of CBD products in food; where you wouldn't test for potency in food, you do test for potency in CBD products, but if you use a food model exclusively, you'll miss important dosing information. • Abby returned the discussion to the lab issue, asking what options are out there for a business making hemp-derived products to receive testing of these products? Can marijuana labs accept hemp only derived products for testing?One member said that his lab takes products to test for potency and

	microbials, and that there is uncertainty whether they could test for more than that. Another member stated that the issue is accessing METRIC tags to get the hemp products into the labs; once there they can be tested just as any other product would be. • One member discussed the process contamination for food products containing hemp or CBD, and asked whether the standards should be the same for food versus smoking/vaping products since they are consumed differently.
Discussion Topic 6: Communication to industry	• Abby began the conversation stating that the department values input about it's communication. The department would be giving notice prior to implementing any new policy. However, there may be situations that don't allow for prior notice to enforcement action when there is an imminent public health hazard that needs to be addressed. Abby asked what a successful roll-out of a sampling program would look like. Overall the Department is open to feedback and wants to give notice on issues and processes to the extent possible. • One member stated that the Department could do better with the educational component at the beginning by giving people a chance to prepare and let them know what to expect. Because so much is constantly changing within the industry and the information is all so complex, it's hard to retain everything. • Another member reiterated her earlier suggestion that having a small group of industry members where the Department could beta test potential changes so that kinks could be worked out before an industry-wide roll-out. Another member echoed this suggestion, saying that there will always be unintended consequences and that even members with only good

	intentions can sometimes become frustrated when they are punished for accidental errors. That member also floated the idea of a "soft effective" date. • Another member said that the industry would really like a cost analysis to help them understand what the additional cost of doing business would be in Denver once this goes into effect so that businesses could plan ahead and budget for the changes and avoid creating mistrust in regulators.
Discussion Topic 7: Other considerations	• Danica brought up one issue for discussion during the "final considerations" portion: remediation of plant material that is contaminated with yeast and mold. She stated that one thing the Department is struggling with is that the threshold is not the most meaningful from a health standpoint, though yeast and mold can be harmful. Right now the MED allows for remediation of a product that has failed a yeast/mold test, but that the Department is concerned that products that have failed can be turned into concentrates without any evaluation of toxin formation. She asked if any of the members could speak to the health concerns related to this. • One member stated that once something is converted, it typically has to undergo another microbial test. Several members discussed the science involved with conversion of a product and the current literature available, and offered to share it with the Department. • Danica wrapped up the member discussion portion of the meeting by providing a roadmap for where the Department will go from here. She stated that after today's meeting, the Department would circle back with a survey like they did last

	time. She also thanked members for sharing their expertise and for taking the time to be present, even if they didn't speak.

Public Comment	
Item	**Discussion**
Public Comment	• There was no public comment.