Florida Physicians' Understanding of Medical Cannabis Product Safety

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Florida Medical Cannabis Physicians feel confident educating patients about medical cannabis contamination, but results also demonstrate a lack of formal training or education for these physicians on possible medical cannabis contamination. As Florida MMJ patients must acknowledge the risk of contamination in order to recieve certification, there is a need for greater education on this topic.

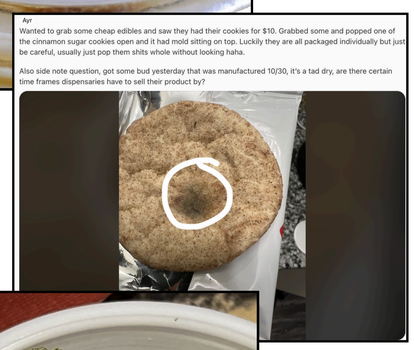
Background

As Florida's medical cannabis program continues to grow, ensuring the safety and efficacy of cannabis products remains a critical concern. Florida State Regulations mandate testing for contaminants and requires medical marijuana physicians raise awareness of these risks to patients before issuing a certification. Little is known about physicians' knowledge and attitudes about contamination, as well as what strategies are used to educate patients about product quality and integrity, especially as it relates to risks like mold or spoilage. The purpose was to explore physicians knowledge of potential product contaminants, how they communicate about contaminants with patients, as well as their understanding of testing regulations and perspectives on Florida medical cannabis program testing policies.

Research Objectives

- Assess Florida medical cannabis physicians' knowledge of contamination and patient communication strategies related to contaminants
- Understand physicians' perspectives on policies that may contribute to patients experiencing medical cannabis product contamination
- Determine physicians' awareness and knowledge of cannabis testing outputs like Certificates of Analysis (COA)
- Explore how physicians educate patients about potential contamination, and what kind of educational resources physicians would like to improve their knowledge on product integrity.

Possible Product Contamination



Agree or disagree with the following statement (n=18)	Avg Value
I understand the Certificates of Analysis (COA) for medical cannabis products.	**3.72**
I am concerned my patients may purchasing contaminated medical cannabis products from a licensed medical marijuana treatment center (MMTC).	2.28
I am concerned about the accuracy of testing on medical cannabis products from a licensed MMTC.	2.78
I feel confident educating patients about medical cannabis contaminants.	**3.50**
I consider myself knowledgeable in identifying contaminants in medical cannabis products.	3.33
I consider myself knowledgeable of Florida medical cannabis testing standards.	3.06
I have received formal training on cannabis product contamination	**2.39**

Policies that may impact patients experiencing contamination... (n=17)	Avg Value
Allow patients to see their medical cannabis products before they purchase	**3.53**
Removal of MMTCs vertical integration requirement.	2.94
Increased oversight from the state government of MMTCs.	**3.88**
Increased oversight from the federal government	2.24
Increase oversight from local government (county)	2.82
Allow patient home grow.	3.29
Government secret shoppers visit MMTC's regularly.	3.41
Increased product testing regulation.	**4.00**

Who should protect about contamination? (Select all that apply)	Percent/Total	Count
Medical marijuana treatment centers	**94%**	**16**
Trade groups or industry associations	29%	5
Federal government	35%	6
Medical cannabis doctors	**41%**	**7**
Local government	24%	4
The patient themself	35%	6
State government	**88%**	**15**
Online communities	6%	1

What prompts you to discuss cannabis contamination with patients? (Select all that apply)	Percent/Total	Count
Patient's medical condition	**40%**	**6**
When recommending specific cannabis products	27%	4
I do not discuss cannabis contamination	13%	2
If a patient asks about safety concerns	**60%**	**9**
If a patient reports side effects	33%	5

How frequently do you discuss cannabis contamination risks with your patients?	%	n
Never	**20%**	**3**
Only with new patients	13%	2
Always	13%	2
Only when asked by patients	**40%**	**6**

Category	Grouped Responses
State Produced Education	• State produced videos • state website • State sponsored education and monitoring website
Online Education	• Online sources • Online lecture going over basic contaminants that the testing facilities in Florida look for
General Education	• Handouts with general info for them to educate and research themselves • more training • Continued Medical Education • simple language in small bites that I can relay easily • Info about delta 8 and unregulated unsupervised Hemp retailers!!

Are You a Medical Marijuana Physcian? Please Take Our Survey:

Who should educate about contamination? (Select all that apply)	Percent/Total	Count
Medical marijuana treatment centers	**76%**	**13**
Trade groups or industry associations	24%	4
Federal government	18%	3
Medical cannabis doctors	**53%**	**9**
Local government	18%	3
The patient themself	35%	6
State government	**82%**	**14**
Online community	6%	1

What are the biggest barriers to communicating with patients about medical cannabis contamination? (Select all that apply)	Percent/Total	Count
Lack of time during consultations	**67%**	**10**
Limited patient understanding of cannabis science	**73%**	**11**
Insufficient scientific data on contamination risks	47%	7
Policy or regulatory confusion	40%	6

What methods do you use to educate patients about medical cannabis contamination? (Select all that apply)	Percent/Total	Count
Verbal explanations during consultations	**80%**	**12**
Printed materials (brochures, fact sheets)	13%	2
Recommending third-party lab testing reports	33%	5
Directing patients to online resources	**40%**	**6**
Other (please specify)	27%	4

Methods

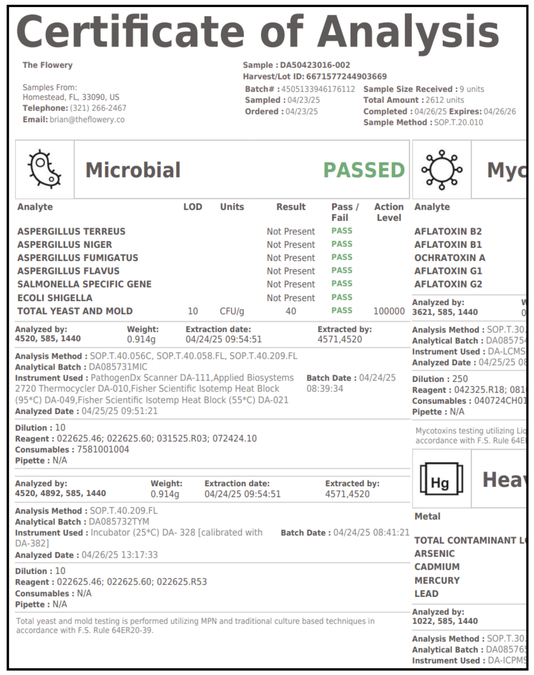
- IRB Reviewed [FAU IRB# 2502056]
- Cross sectional survey
- Distributed through the Florida Medical Cannabis Physicians Group (FMCPG) and snowball sampling
- Population of Florida Medical Cannabis Physicians
- Likert scale quantitative
- Open-ended qualititative items
- Descriptive data analysis in Excel
- Thematic qualitative coding

Recommendations

These findings highlight gaps between physician knowledge, patient education, and regulatory standards. Results from this study can support the development of educational materials to better equip physicians in addressing contamination risks, ultimately improving patient safety and the effective use of medical cannabis in Florida. The research team recommends:

- Examine current continued medical training for medical cannabis physicians to determine areas that could incorporate contaminant training
- Scale up this survey to reach medical cannabis physicians across the country for additional contexts for further research
- Work with medical cannabis physicians, researchers, communication experts, and education experts to develop educational curriculum on medical cannabis product contamination

Mold and Contaminant COAs



Certificate of Analysis

The Flowery
Samples From:
Homestead, FL, 33090, US
Telephone: (321) 266-2467
Email: brian@theflowery.co

Sample : DA50423016-002
Harvest/Lot ID: 6671577244903669
Batch# : 4505133946176112 Sample Size Received : 9 units
Sampled : 04/23/25 Total Amount : 2612 units
Ordered : 04/23/25 Completed : 04/26/25 Expires: 04/26/26
Sample Method : SOP.T.20.010

Microbial PASSED

Analyte	LOD	Units	Result	Pass / Fail	Action Level
ASPERGILLUS TERREUS			Not Present	PASS	
ASPERGILLUS NIGER			Not Present	PASS	
ASPERGILLUS FUMIGATUS			Not Present	PASS	
ASPERGILLUS FLAVUS			Not Present	PASS	
SALMONELLA SPECIFIC GENE			Not Present	PASS	
ECOLI SHIGELLA			Not Present	PASS	
TOTAL YEAST AND MOLD	10	CFU/g	40	PASS	100000

Analyzed by: 4520, 585, 1440 Weight: 0.914g Extraction date: 04/24/25 09:54:51 Extracted by: 4571,4520
Analysis Method : SOP.T.40.056C, SOP.T.40.058.FL, SOP.T.40.209.FL
Analytical Batch : DA085731MIC
Instrument Used : PathogenDx Scanner DA-111,Applied Biosystems 2720 Thermocycler DA-010,Fisher Scientific Isotemp Heat Block (95*C) DA-049,Fisher Scientific Isotemp Heat Block (55*C) DA-021 Batch Date : 04/24/25 08:39:34
Analyzed Date : 04/25/25 09:51:21
Dilution : 10
Reagent : 022625.46; 022625.60; 031525.R03; 072424.10
Consumables : 7581001004
Pipette : N/A

Analyzed by: 4520, 4892, 585, 1440 Weight: 0.914g Extraction date: 04/24/25 09:54:51 Extracted by: 4571,4520
Analysis Method : SOP.T.40.209.FL
Analytical Batch : DA085732TYM
Instrument Used : Incubator (25*C) DA- 328 [calibrated with DA-382] Batch Date : 04/24/25 08:41:21
Analyzed Date : 04/26/25 13:17:33
Dilution : 10
Reagent : 022625.46; 022625.60; 022625.R53
Consumables : N/A
Pipette : N/A

Total yeast and mold testing is performed utilizing MPN and traditional culture based techniques in accordance with F.S. Rule 64ER20-39.

Analyte
AFLATOXIN B2
AFLATOXIN B1
OCHRATOXIN A
AFLATOXIN G1
AFLATOXIN G2

Analyzed by: 3621, 585, 1440

Analysis Method : SOP.T.30
Analytical Batch : DA08575
Instrument Used : DA-LCMS
Analyzed Date : 04/25/25 08
Dilution : 250
Reagent : 042325.R18; 081
Consumables : 040724CH03
Pipette : N/A

Mycotoxins testing utilizing Lic accordance with F.S. Rule 64E

Metal
TOTAL CONTAMINANT L
ARSENIC
CADMIUM
MERCURY
LEAD

Analyzed by: 1022, 585, 1440
Analysis Method : SOP.T.30
Analytical Batch : DA085765
Instrument Used : DA-ICPMS

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