



President's Message

Stephanie K Mabry

ASCLS-Michigan A Year in Review

It's hard to believe the time to write my final presidential article for Newslinks has come! I must say, this has not been the year I (and likely many of you) had expected. I didn't expect to be the first ASCLS-Michigan President to preside over a year in which the Annual Conference didn't occur. I didn't expect to miss out the Legislative Symposium (cancelled in March due to COVID) for the first time in eight years. I didn't expect to hold Board meetings, election of delegates, etc. virtually. However, despite all the unusual-ness of this year, ASCLS-Michigan had a great year!

First, the ASCLS-Michigan Board of Directors made strong progress on our leadership development strategic charges for the year. The ASCLS-Michigan Handbook has undergone massive revision, and is nearly complete and hosted on our website for easy access by Board members. Many thanks especially to Carey Loveland (Handbook Chair), Kristina Martin (Leadership Development Chair), and Dan deRegnier (Webmaster) for their work on this project! Having these resources more easily available to our Board members is a great tool in guiding us as we carry out our functions and duties for the year, and will only help make the Board more efficient and effective.

Next, organizational structure was a big focus for this year. It was recognized that for our Board to operate effectively for our membership, we needed to have good mentorship, as well as interact effectively with

the national organization. Some changes implemented this year (to go into effect for this upcoming year) include the addition of four new committees, and some rearrangement to existing committees. The first is the Special Projects Committee, to do fundraising for student scholarships and travel awards for Developing and Ascending Professionals to attend national meetings. By having a dedicated group of individuals working on this, we will be better situated to pursue goals of expanding our investment in young professionals and recruiting/retaining professionals in the medical laboratory profession. We also established a Diversity Advocacy Committee and Patient Safety Committee, to allow for enhanced flow of information from those national committees to the state level.

In addition, we established an Appointments Committee, to assist the President-Elect with identifying qualified individuals to hold office on the Board of Directors, both for shared workload and to have representation on the Board from various geographic, employment location, and other demographics. The last big change addressed in organizational structure is an interim trial of an Awards Team and Conference Team Structure, which will utilize small subcommittees with one Team Coordinator to add layers of responsibility and accountability to these fairly large tasks. By dividing these large committees into smaller subcommittees with built-in succession planning, we hope to see greater numbers of qualified individuals being nominated for well-deserved awards and scholarships, we hope to enhance our activities at the Annual Conference, and we hope to provide additional positions in which interested individuals can become involved in the organization and move the medical laboratory profession forward.

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Finally, while we may not have been able to hold an Annual Conference in our state this year, ASCLS-Michigan was strongly represented at the virtual Joint Annual Meeting.



Michigan had over 40 registered attendees – which just might be a record attendance from Michigan! Additionally, many of these registrants were Developing and Ascending Professionals, which speaks to the bright future our profession holds! Michigan was also recognized in various ways throughout the conference through awards, scholarships, and other recognition:

- **Newslinks** was recognized at the ASCLS Awards Ceremony with 2nd place for the Publications Award. Congratulations to Paul Guthrie (Editor) for this achievement!
- ASCLS-Michigan had not one, but two graduates of the Leadership Academy who were also recognized at the Awards Ceremony: Congratulations Billie Ketelsen and Romy Selzer!

- There were four Michigan students awarded Alpha Mu Tau Scholarships at the AMTF Annual Business Meeting; congratulations to Georgia Artzberger, Rachel Siddall, Rachel Schaeferle, and Katelyn Hadlich for your recognition!
- Rachel Siddall was also an awardee of an Undergraduate Poster Award, and Katelyn Hadlich was elected to the national Developing Professional Forum Chair position.
- ASCLS-Michigan also had individuals who were recognized with Board of Directors Awards at the House of Delegates. Congratulations to Lynne Williams (Annual Meeting Steering Committee Chair), Linda Goossen (Constituent Society Taskforce Chair) and Kathy Doig (Leadership Development Chair), and thank you all for your service to ASCLS!

While this was not the year I had expected, it has been my honor to serve as the ASCLS-Michigan President in 2019-2020, and to see all the amazing things laboratorians in this state have accomplished, especially in addressing the COVID-19 pandemic. I leave you now in the capable hands of incoming President John Ko, and I look forward to seeing what progress and excitement the next year brings!

#Lab4Life

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#WeSaveLivesEveryday



**American
Society for
Clinical
Laboratory
Science
Michigan**

ASCLS-Michigan *Newslinks*

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Clinical Laboratory Science

A focus on what is happening in our profession

Featuring articles from Scientific Assembly Chairs.

Materials from all members are also welcomed. Submit to editor. See page 2 for details.

Is CBD or CBN causing a false positive THC drug screen?

Theresa Swift, Scientific Assembly, Chemistry

Drug screening can be performed for a variety of reasons, including unknown exposure to an unidentified drug, compliance testing, routine monitoring, employment, and through the legal system. Although the drug classes tested vary based on the laboratories performing the tests, a cannabinoid (THC) screen is often included on a routine immunoassay drug screen. A positive screen for cannabinoids can have different consequences depending on the scenario. Even though cannabis is a legal substance in Michigan a positive drug screen could result in job applicants being denied employment, a controlled substance contract could be terminated, or various legal consequences. In addition to the direct impact on the users, marijuana use can affect the fetus and breastfeeding infants. If a fetus is exposed to cannabis in-utero it can lead to pre-term labor, low birth weight, and impaired neurodevelopment.

The cannabis plant, *Cannabis sativa* contains more than 550 compounds and at least 113 of these compounds are cannabinoids.¹ When marijuana is smoked over 2,000 chemicals are produced.² The top three psychoactive components of marijuana are Δ^9 -tetrahydrocannabinol (Δ^9 -THC), Δ^8 -tetrahydrocannabinol (Δ^8 -THC), and Cannabinol (CBN). Common effects from using marijuana are feelings of elation, happiness, relaxation, lethargy, hunger, vivid taste, smell, and hearing. It can also cause increased heart rate, dilated pupils, impaired coordination, and concentration, and paranoia. Δ^9 -THC is metabolized in the liver by cytochrome P450 enzymes. Hydroxylation of Δ^9 -THC forms 11-OH- Δ^9 -THC which undergoes further oxidation to the inactive metabolite 11-nor-9-carboxy Δ^9 -tetrahydrocannabinol (THC-COOH, carboxy-THC), typically detected by immunoassays. THC-COOH is excreted once glucuronic acid has been added making it more water soluble.²

Cannabinol (CBN) has milder psychoactive properties than THC but maintains some sedative, analgesic, and anti-inflammatory properties. CBN is produced by the

cannabis plant as it ages and is exposed to heat and light.³ Finally, Cannabidiol (CBD) is a non-intoxicating component from marijuana or hemp that has analgesic, anti-inflammatory, and anticonvulsant properties. In 2018, the FDA approved Epidiolex®, a drug containing CBD as the primary active ingredient to treat serious pediatric seizure disorders.

There are several biological matrixes that can be used for drug screening. Urine is the most commonly used specimen due to the non-invasive mode of collection and wider availability of assays for testing. Additionally, urine has a longer detection window with higher concentration of metabolites compared to parent drug. For example, in a urine drug screen for marijuana, the detection window is anywhere from 1-45 days.⁴ However, in serum or plasma there is a much shorter detection window because the half-life of THC-COOH is between 4-12 hours.⁴ There are many factors that can influence how long marijuana can be detected in a patient's urine, including the amount used, the frequency, and how long the patient has been using. Other properties that can also influence detection length for an individual are physical health, weight, gender, and fluid intake. Finally, the sensitivity of the



analytical method employed will also impact the detection window.

Oral fluid is another matrix which is being used more often as it is a closer in concentration to blood reflecting active intoxication, but unlike blood, it is easier to collect. In November 2017, a pilot program began in five Michigan counties where trained police officers performed roadside oral fluid drug testing on anyone pulled over who appeared impaired and samples were followed up with blood testing. Marijuana was the most prevalent drug detected in 80% of all testing performed. However, 15% of the positive screened results were unable to be confirmed by blood testing, which is considered to be the gold standard for active intoxication suggesting using saliva for drug testing has its limitations.⁵

Meconium has been the most common matrix used to test newborns for drug exposure during the third trimester of pregnancy. If meconium is passed prior to delivery or the irretrievable specimen is discarded, umbilical cord can be used as an alternative specimen due to ease of collection and availability at birth. One study of paired meconium and umbilical cord samples found 92.3% agreement between the samples, however the metabolic profiles of marijuana were different.⁶

In Michigan voters first approved medical marijuana in 2008 and marijuana for recreational use was approved in 2018. However, cannabis remains illegal under federal law, first being regulated with the Marijuana Tax Act of 1937. In 1970 the Controlled Substance Act was passed by congress placing marijuana as a Schedule 1 substance alongside drugs like Heroin and LSD. Two years later, the Shafer Commission recommended that marijuana be decriminalized and removed as a schedule 1 substance but that was rejected by President Nixon. Multiple states decriminalized marijuana beginning in 1973, and California was the first state to legalize medical marijuana in 1996.⁷

In 2018 when the Agriculture Improvement Act (the Farm Bill) was passed, hemp was removed as a controlled substance at the federal level. Products derived from hemp, such as CBD, were no longer considered illegal and they appeared in the market in the forms of tinctures, lotions, oils, and edibles. They could be purchased at grocery stores, liquor stores, large retailers and many other retail locations including through medical professionals. CBD products can be made from hemp or the marijuana plant but they are not regulated the same way as marijuana, as long as the THC concentration is below 0.3%. Although edible marijuana products containing CBD can only be made from licensed growers and

processors, there is a lack of regulation in the CBD industry. Many products may not contain the advertised amount of CBD with the levels of THC varying widely.⁸

A growing concern for patients and medical practitioners is, with CBD being readily available, will it cause a false positive cannabinoid screen? One study by John Hopkins University investigated this issue. In this study when six participants were given pure CBD orally or vaporized, none of the urine specimens provided were confirmed positive. When participants were given CBD dominant cannabis, 1.9% of the urine specimens were true positive, and 1.9 % were false negative. All specimens were screened by immunoassay and confirmed by LC-MS/MS.⁹

CBN (Cannabinol) is a mild psychoactive component of Cannabis plant that has been gaining popularity. It has sedative, analgesic and anti-inflammatory properties along with other therapeutic benefits. According to a recent study, CBN has been shown to cross react with two THC immunoassays. One immunoassay (EMIT II Plus; Siemens Healthcare Diagnostics) needed a CBN concentration five times higher than THC to elicit a positive result for the THC screen. An additive of low concentrations of THC and CBN was also observed, generating a positive result. A second immunoassay, (Microgenics MultigenGent Cannabinoid Immunoassay; Microgenics Corporation) required a CBN concentration twenty times higher than THC to yield a positive result. Since CBN is a derivative of THC and has structural similarities this could explain the observed cross reactivity.¹⁰

Overall it is possible to obtain a positive result on a cannabinoid screen if a patient is using CBD or CBN. It will depend on the source of CBD as THC can be a byproduct in CBD oil. Depending on the person, quantity used, and the CBD source it is possible that there is enough Δ^9 -THC in the CBD product to trigger a positive immunoassay result. Since Δ^9 -THC is highly lipophilic, a person can test positive for a long time frame.

It is important for patients to disclose to physicians if they are using CBD or CBN products because there is a risk of a positive result on an immunoassay drug screen. If a drug screen result does not match what a patient is telling a physician, a secondary confirmatory testing should be performed. Some institutions do not automatically perform confirmations on positive screens, so if there is any question from the physician a confirmation needs to be ordered as CBD and CBN can be differentiated from THC by confirmatory methods.

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ASCLS Publishes Choosing Wisely Recommendations



The American Society for Clinical Laboratory Science (ASCLS), in collaboration with the **American Society for Clinical Pathology (ASCP)** and the **American Society for Microbiology (ASM)**, has published a series of recommendations for the **Choosing Wisely** initiative, operated by the **American Board of Internal Medicine (ABIM) Foundation**.

Cindy Johnson, MS, MLS (ASCP)^{CM}, ASCLS president, and George Fritsma, MS, MLS(ASCP)^{CM}, Choosing Wisely Committee chair, announced that the five new **recommendations were posted to the Choosing Wisely site** in June:

1. Do not order a factor V Leiden (FVL) mutation assay as the initial test to identify a congenital cause for a thrombotic event. First, order a phenotypic activated protein C resistance (APCR) ratio assay.
2. Do not use herpes simplex virus (HSV) polymerase chain reaction (PCR) testing for genital HSV infection screening in adults and adolescents. Real-time HSV PCR testing should only be used to confirm herpes diagnosis in patients with suspected herpes.

3. Do not transfuse red blood cells as the sole intervention for expansion of circulatory volume unless deemed necessary for patients experiencing severe hemorrhage.
4. Avoid using hemoglobin to evaluate patients for iron deficiency in susceptible populations. Instead use ferritin.
5. Do not order a comprehensive stool ova and parasite (O&P) microscopic exam on patients presenting with diarrhea less than seven days' duration who have no immunodeficiency or no history of living in or traveling to endemic areas where gastrointestinal parasitic infections are prevalent. If symptoms of infectious diarrhea persist for seven days or longer, start with molecular or antigen testing and next consider a full O&P microscopic exam if other testing is negative.

These recommendations, amplified with clarifying discussions and references, appear on the **Choosing Wisely web site**. Founded as a task force in 2017, the ASCLS Choosing Wisely Committee develops Choosing Wisely recommendations in consultation with the ASCLS Scientific Assemblies and Board of Directors.

"Our many medical laboratory science educators incorporate Choosing Wisely recommendations in course modules prepared for undergraduate and graduate medical laboratory science students, physician assistant and nurse practitioner programs, entry-level nursing programs, and pathology residents," said Mr. Fritsma. "The committee's activities are ongoing, and we invite recommendation suggestions from throughout the in vitro diagnostics industry."

The American Society for Clinical Laboratory Science (ASCLS) and its 9,000 clinical laboratory professional, student, and educator members in more than 50 state and regional constituent societies work to advance the expertise of clinical laboratory professionals who, as integral members of inter-professional healthcare teams, deliver quality, consumer-focused, outcomes-oriented clinical laboratory services through all phases of the testing process to prevent, diagnose, monitor, and treat disease. The Society promotes high standards of practice by holding the profession accountable to a Code of Ethics, through dissemination of knowledge at educational programs, and through publications; maintains a supportive community to advocate on behalf of current and future laboratory professionals; and provides laboratory professionals a voice to legislators and regulators through collective, grassroots efforts.

Choosing Wisely promotes conversations between clinicians and patients by helping patients choose care that is supported by evidence, does not duplicate tests or procedures, is free from harm, and is truly necessary. Beginning in 2012, national organizations representing medical specialists have asked their members to identify tests or procedures commonly used in their field whose necessity should be questioned and discussed. This call to action has resulted in specialty-specific lists of "Things Providers and Patients Should Question."



An initiative of the ABIM Foundation



Welcoming Roslyn McQueen Back to ASCLS Michigan from Her Service as National President

It is tradition at the conclusion of the House of Delegates at the Annual Meeting that the outgoing Past President of ASCLS is welcomed "back" to the Constituent Society from which they took office. Since the Past President this year (Roslyn McQueen) is from Michigan, it was our turn to celebrate Roslyn. Roslyn expressed her thanks for both a gift sent to her home in advance of the virtual meeting and also for a surprise in-person (appropriately Covid-19 masked/distanced) display set up in her driveway:

"We held our ASCLS National meeting virtually this year due to the pandemic. It was a WONDERFUL conference, with excellent presentations. But missed where the face to face interactions, social gatherings and traditional activities of the actual meeting. I received this stained glass angel from my Region during our caucus meeting. The box was delivered two weeks ago with instructions not to open until the meeting. My friends know that I collect angels, and this one was specially commissioned for me. I am truly grateful to my fellow medical laboratory scientists for their love and support."



"I am so blessed. A delegation from ASCLS-MI drove down to present this special tribute as outgoing ASCLS President. Stephanie Mabry, ASCLS-Michigan President, along with Caitlin Crone and Allison Young made the presentation. Stephanie and Caitlin drove over an hour to get to Saginaw. They set up and surprised me with this display in my driveway, which included a bulletin board of ASCLS Board member photos, decorations, and special scrapbook with photos that spanned from my internship at St. Luke's until now. Such a wonderful tribute. I am truly grateful."



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