

# ADLM High School Speaker Series

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Wheaton High School

March 5, 2025

# What is ADLM?

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- ADLM- The Association for Diagnostics & Laboratory Medicine
- ADLM is a global scientific and medical professional organization dedicated to clinical laboratory science and its application to healthcare.
- **ADLM's mission:** *Better health for all through laboratory medicine.*
- Why are we here today?

# ADLM's Role in Healthcare

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**Education:** Offers resources and training for laboratory professionals to stay updated with the latest scientific advancements.



**Advocacy:** Represents the interests of laboratory professionals in policy discussions and promotes the value of laboratory medicine in patient care.



**Collaboration:** Facilitates networking and partnerships among professionals to enhance laboratory practices globally.

# What Our Members Do

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- ADLM members work in hospitals, research labs, forensic science, biotechnology, and more, helping to improve patient care and advance medical discoveries.
- They play a critical role in diagnosing diseases, developing new tests, and ensuring the accuracy of medical results.



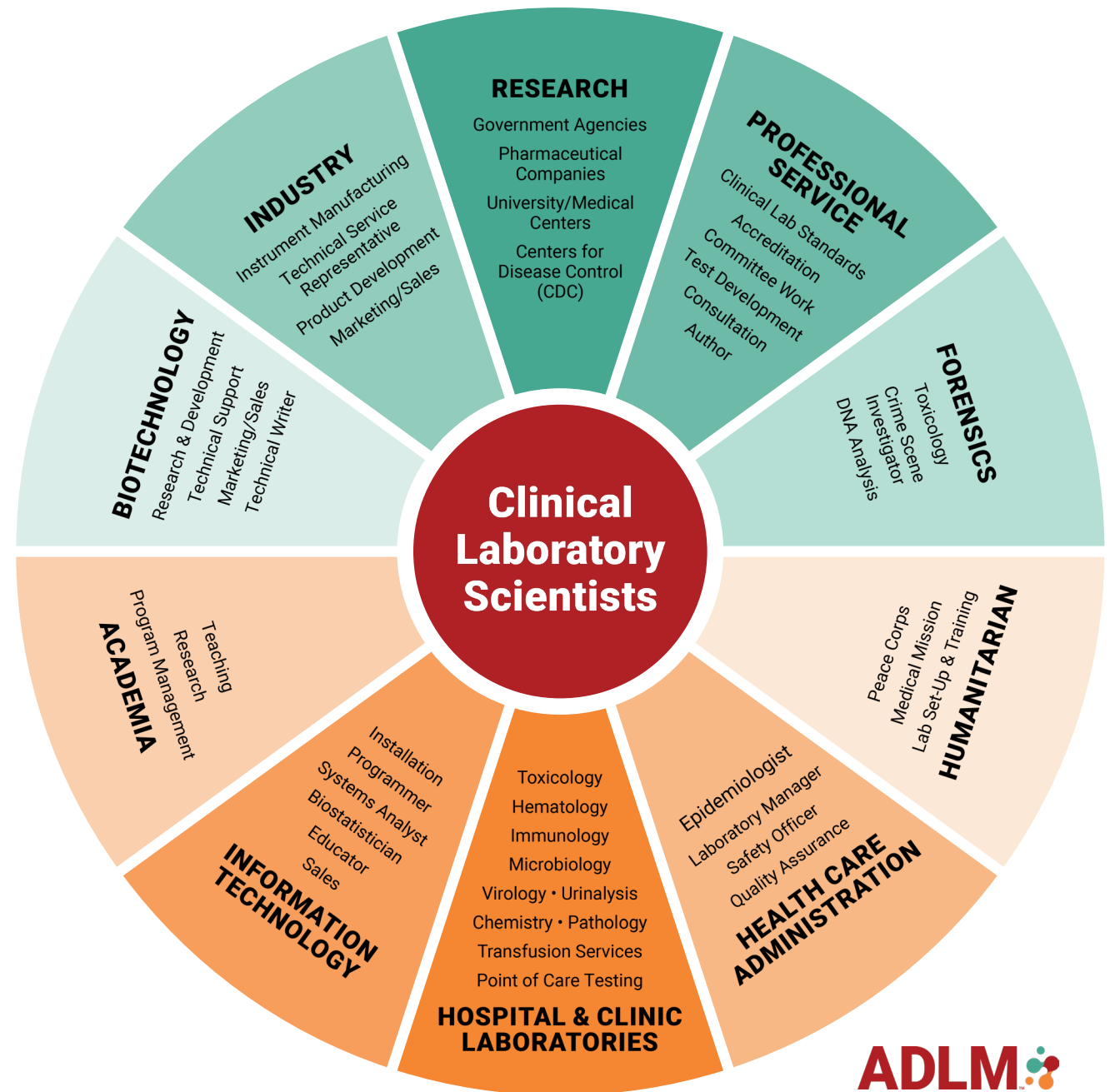
# Career Paths

## in Clinical Laboratory Sciences

- Health Care Administration-  
Oversee laboratory operations,  
quality control, and patient safety
- Hospital & Clinic Laboratories-  
Lab Director
- Forensics- Analyze DNA and  
toxicology reports

For more information, visit [myadlm.org/career-center](http://myadlm.org/career-center)

This diagram is based on Arkansas State University's CLS Career Pathways.



# Showcase Video- You Are What You Eat



# Thinking About a Career in Lab Medicine?

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- ADLM offers free college student memberships so you can explore the field, connect with professionals, and access educational resources early in your journey.
- Start exploring today!



# The Laboratory Medicine Professional

Kristin Mullins, PhD, Science Director – Chemistry, Quest Diagnostics

# Clinical Chemist

- scientist who uses chemistry to analyze body fluids and tissues to assess a patient's health. They help physicians diagnose, monitor, and treat diseases.
  - Requires advanced degrees and sometimes board certification
- Can work in Research, Industry, Professional Services, Forensics, ... etc.
- When Board Certified can hold the license for a clinical lab



# Educational Requirements

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- Board Certification in Clinical Chemistry
- Fellowship in Clinical Chemistry/Lab Medicine

OR

Post-doctoral position in a clinical laboratory

- PhD with Chemistry Credits
- BS with Chemistry Credits



# My Path

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- **BS in Biochemistry** – Syracuse University (4 years)
- 1 year as a Research Assistant at Johns Hopkins School of Nursing in Baltimore
- **BS in Medical Technology (Clinical Laboratory Science)** – SUNY Upstate Medical University (2 yr program)
- **PhD in Emerging Infectious Diseases** at the Uniformed Services University (4.5 years)
  - Also worked as a clinical lab scientist at Good Samaritan hospital in Baltimore
- Post-Doctoral Scientist -Naval Medical Research Center in Silver Spring (1 yr)
- **Clinical Chemistry/Lab Medicine Fellowship** -University of Maryland School of Medicine in Baltimore (2 years)
- First Job as a Clinical Chemist at Children's National Hospital in DC
- **Board Certified** by the National Registry of Clinical Chemistry

# What I do

- Scientific Director – Chemistry at Quest Diagnostics – Chantilly
- Provide lab services to hospitals and physicians offices
  - Oversee test performance and quality
- Provide physicians consultations on correct test selection
- Create New Tests
- Publish research and consult with lab and professional organizations (like ADLM)
- Teach Residents, CLS students, and Fellows



# Other Careers in a Clinical Laboratory like Quest Diagnostics

## AA, BS, and MS

- Phlebotomists
- Specimen processing
- Cytologists
- Histologists
- Lab assistants
- Clinical Lab Scientists
  - Chemistry
  - Immunology
  - Hematology
  - Microbiology
  - Toxicology
- Supervisors
- Managers
- Reagent Prep
- Client Services
- Quality Assurance

## PhD and MD

- Anatomic Pathologists
- Clinical Pathologists
- Medical Directors
- Laboratory Directors
- Clinical Chemists
- Medical Microbiologists
- Medical Geneticists
- Medical Biochemical Geneticists
- Hematologists

# The College Experience – Clinical Laboratory Science at Howard U.

Whitley Royal & Cierra Ashley, Howard University,  
Clinical Laboratory Sciences (CLS) Students

The background features several stylized illustrations of laboratory glassware. In the top left, there are two test tubes, one pink and one green, both containing red liquid with small white bubbles. In the top right, there is a blue beaker with white bubbles and a white Erlenmeyer flask containing red liquid with white bubbles. In the bottom left, there is a large blue beaker with white bubbles and a white test tube. In the bottom right, there is a large orange flask containing purple liquid with black bubbles, and a white beaker containing yellow liquid with green bubbles. The central text is positioned in the middle of the page.

# CLS

Whitley Royal  
&  
Cierra Ashley

# Introduction to Clinical Laboratory Science

## What is Clinical Laboratory Science ?

- This field in healthcare is based in laboratory testing to support diagnosis and treatment facilitated by healthcare providers.
- You learn to collect and analyze samples , operate laboratory machines and interpret results
- The main areas for testing focused on are Microbiology , Chemistry , Hematology, Immunology and Blood Bank

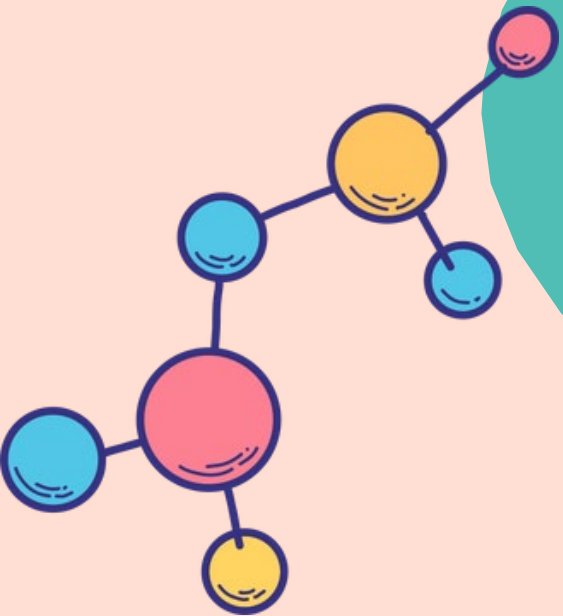
## Why is it Important in Healthcare?

**CLS are essential to healthcare as they play a huge role in treatment and diagnosis of many diseases or illness . The use of accurate testing is a way a validity for monitoring patients concerns and creating treatment plans.**



# Why Choose Clinical Laboratory Science ?

- **If you have a passion for science or healthcare**
- **If you are looking for job stability and career opportunities**
- **(the field is not well known so jobs are open frequently !)**
- **You want to make a difference in diagnosis**



# What to Expect in College as a CLS Student

## Hands on Laboratory Practice

In your classes you will have a laboratory portion of lectures where you practice lab testing , working with a microscope , and analyzing samples .

## Coursework

In your first years of college you will complete necessary Science classes to move to upper division of CLS like anatomy and physiology , genetics and chemistry

Once in Upper division you focus on the main subjects of Hematology , Urinalysis and Body Fluids , Microbiology , Immunology , Chemistry and Blood Bank

## Clinical Rotations

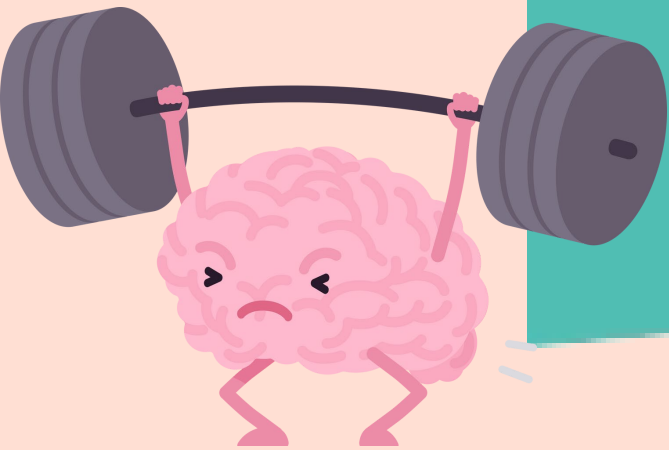
In your senior year you will be able to rotate at different hospitals across the DMV area for laboratory experience in the respective subjects we learn in a class setting



# Skills needed for Success in CLS

- **Create a disciplined routine**
- **Master critical thinking and problem solving**
- **Teamwork and collaboration with peers**
- **Ability to work in fast paced environments**

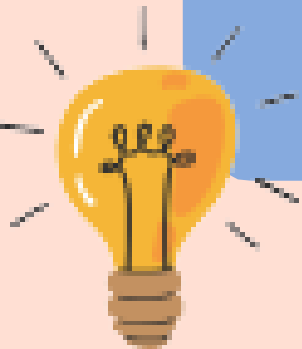
WHAT  
DO YOU  
THINK?



# How to Prepare for a CLS Program in High School

**take relevant courses:  
biology, chemistry, math**

**Join science clubs or  
STEM programs**



**Volunteer or shadow in a  
hospital / laboratory**

**Develop strong study  
habits**



# **Career Paths in Clinical Laboratory Science**

**Medical Laboratory Scientist (MLS)  
Clinical Research Specialist  
Public Health and Epidemiology  
Pathology Assistant  
Laboratory Management**

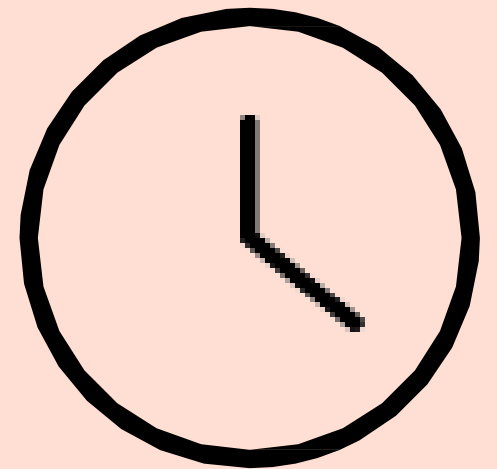
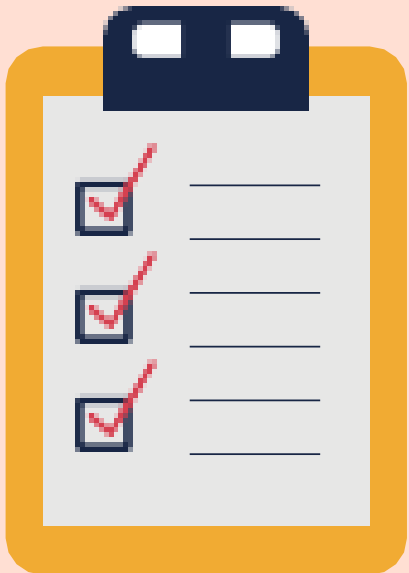


# **Advice from Current CLS Students**

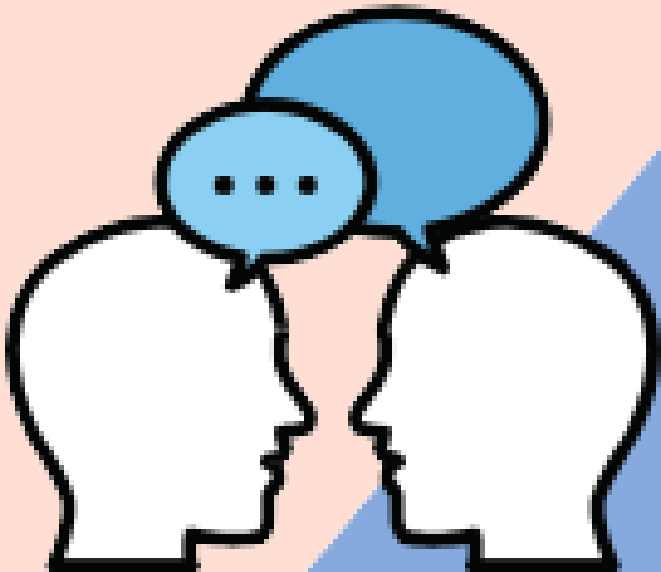
**Time management tips for balancing coursework and labs**

**Importance of networking and mentorship**

**Stay curious and continuously learn**



# Conclusion & Next Steps



- **Research accredited CLS programs**
- **Reach out to college advisors or professionals**
- **Consider internships and summer programs**
- **Stay motivated and passionate about science!**



# Q&A/Engagement Game

**THANK YOU!**