

Exploring Cancer

Examining the Role of Biology, Race, Class, and Socioeconomics



Welcome to the UNC Lineberger Cancer Network's live webinar

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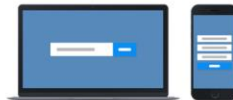
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Exploring Cancer

Examining the Role of Biology, Race, Class, and Socioeconomics



Learn more, register for courses,
and sign up for our mailing list at
www.exploringcancer.org

A collaboration between



NC Central
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UNC

LINEBERGER COMPREHENSIVE
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**NORTH CAROLINA AGRICULTURAL
AND TECHNICAL STATE UNIVERSITY**

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Exploring Cancer

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Fridays

11:00 - 11:50 AM EST/EDT

August 25

Welcome to Cancer(s) and Health Disparities 101 - The Introduction

October 13

Breast Cancer Health Disparities

November 10

Precision Medicine and Immunotherapy

September 1

Radiation Oncology - What Is It, and What Is It Good For?

October 20

Pancreatic Cancer

November 17

Expanding Cancer Care Quality and Delivery in Sub-Saharan Africa: a collaborative approach

September 8

New Strategies in Treating GI Cancers

October 27

Careers in Cancer

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Exploring Cancer

Examining the Role of Biology, Race, Class, and Socioeconomics

October 27, 2023

Careers in Cancer



Veronica Carlisle,
MPH, CHES



Jessica Veale,
MHS, PA-C



Michelle Johnson,
MHS, PA (ASCP)CM

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Veronica Carlisle,
MPH, CHES

Veronica Carlisle, MPH, CHES, is the Senior Community Health Educator at Lineberger Comprehensive Cancer Center (LCCC) in the Office of Community Outreach and Engagement (COE) the University of North Carolina, Chapel Hill. In her role, she facilitates meaningful engagement between researchers and communities in part through management of LCCC's community advisory board along with COE's community pilot funding program and community outreach and cancer education activities. Veronica works with communities throughout the state of North Carolina with a focus on underrepresented populations. Her areas of experience include community engagement, cancer health equity, and participatory research. Veronica has a Bachelor of Science in Occupational Therapy from Howard University and received her Master of Public Health in Behavioral Sciences and Health Education from the Rollins School of Public Health at Emory University.

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Professional Highlights

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5. Veronica Carlisle MPH, CHES, received her Master of Public Health in Behavioral Sciences and Health Education from the Rollins School of Public Health at Emory University.

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2. Veronica received the UNC School of Medicine Dean's Performance Award for Community Service
1. Veronica believes that even her first job, delivering newspapers, helped prepare her for the work she does today.

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**Jessica Veale,
MHS, PA-C**

Jessica Veale, M.H.S., PA-C, attended the University of North Carolina at Chapel Hill and graduated with a degree in Clinical Laboratory Science. After graduation, she started working at Vidant Medical Center's hematology laboratory as a medical technologist. Her time as a medical technologist sparked her desire to provide more patient facing care and she started pursuing a career as a physician assistant (PA). She was able to pursue this dream when she gained acceptance to the Duke PA program. Since graduating PA school, she has been practicing as a physician assistant in pediatric hematology oncology at ECU health.

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Professional Highlights

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Professional Highlights

4. Jessica Veale, M.H.S, PA-C, enjoys teaching and often gives hematology lectures to the ECU PA program.

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3. She is credentialed to perform lumbar punctures with the administration of intrathecal chemotherapy.
2. She is the co-chair of North Carolina Academy of Physician Assistant diversity equity and inclusion committee.
1. She is the creator of a podcast, The PA Process

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**Michelle Johnson,
MHS, PA (ASCP)CM**

Mrs. Johnson serves as the Program Director of the Duke Pathologists' Assistant Program. As a graduate of the Duke Pathologists' Assistant Program (1999), Michelle began her career at Duke as a staff pathologists' assistant in the Surgical Pathology Laboratory following the completion of the program. After leaving Duke, she worked in community practices in Utah and Virginia, and also served as the senior pathologists' assistant at Vanderbilt University, which included supervising both the adult and children's hospital surgical pathology laboratories while also participating in the coordination of the resident education alongside the Surgical Pathology Director.

Education has been a central component of Michelle's career. She has volunteered with the American Association of Pathologists' Assistants, serving as the contributor for the Gross Photo Tutorial in the quarterly journal from 2007-2017. She is a secondary author for a grossing protocol in the published Grossing Guidelines through the AAPA, 2018. Michelle has mentored several technical colleagues throughout her career, assisting in their progression to pathologists' assistant programs in multiple states. In 2022 Michelle received the Pamela Vollmer Teaching Award, which is awarded annually by the graduating class of the Duke Pathologists' Assistant Program to honor the individual whose knowledge, teaching and professionalism has had the most positive impact on their training. Michelle also currently serves as an adjunct clinical instructor at High Point University, teaching Pathophysiology and Histology to biomedical science graduate students.

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Professional Highlights

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Professional Highlights

5. Michelle Johnson, MHS, PA (ASCP)CM has been a Gross Photo Tutorial content contributor to the Cutting Edge Journal of the AAPA for 10 years.

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5. Michelle Johnson, MHS, PA (ASCP)CM has been a Gross Photo Tutorial content contributor to the Cutting Edge Journal of the AAPA for 10 years.
4. She is passionate about education, both clinically and didactically.

22

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- 5.** Michelle Johnson, MHS, PA (ASCP)CM has been a Gross Photo Tutorial content contributor to the Cutting Edge Journal of the AAPA for 10 years.
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- 3.** She served as a member of an Anatomic Development Team in the design of a core laboratory.

23

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24

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The Role of a PA in Pediatric Hematology Oncology

Jessica Veale, M.H.S, PA-C

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BLINC
UNC Charlotte Center for Learning Innovation

Are there any students in the audience interested in pursuing a career as a Physician Assistant?

Yes 0%

No 0%

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What is a Physician Assistant?

- “PAs (physician associates/physician assistants) are licensed clinicians who practice medicine in every specialty and setting.” - AAPA

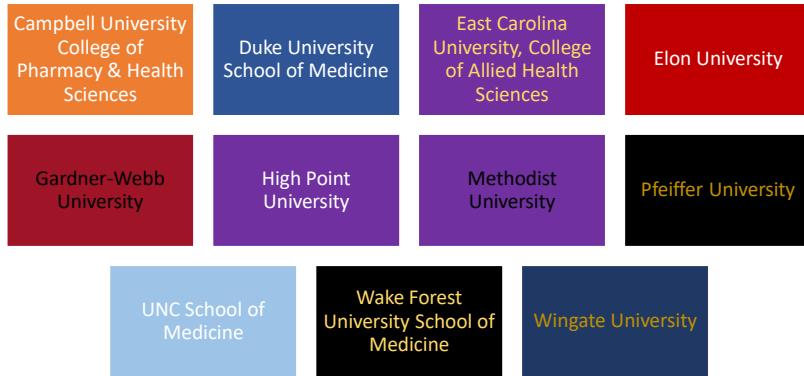
PAs practice medicine in all specialties

Specialty	Percentage
Primary Care	21.0%
Internal Medicine Subspecialties	12.2%
Emergency Medicine	8.4%
Pediatric Subspecialties	1.5%
Other*	30.5%
Surgical Subspecialties	26.4%
No Specialty	4.7%

2021 AAPA Salary Survey.
All data based on clinically practicing PAs in the U.S.

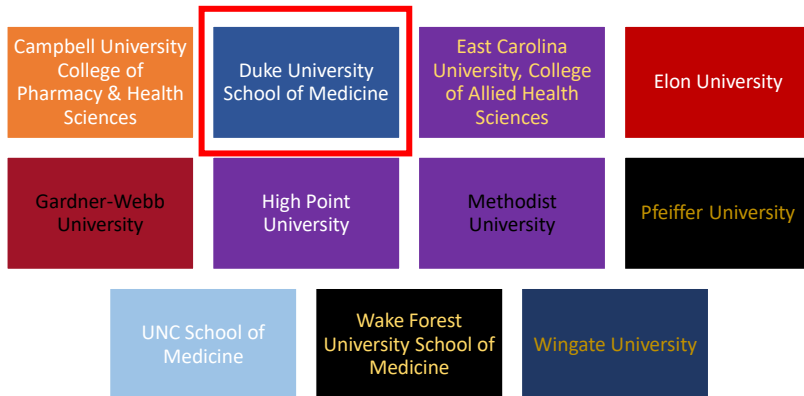
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NC PA Programs (11)



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NC PA Programs (11)



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Requirements

- Bachelor's Degree (any major)
- Direct Patient Care Experience
- Graduate Record Examination (GRE)
- Shadowing a PA
- Academic References
- CASPA Application
- * Please note: All PA programs have specific requirements



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Required Prerequisite Coursework

		
Anatomy	Physiology	Biology
		
Chemistry	Math	English

*Prerequisite coursework is going to vary by each PA program



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Fun Facts



The PA Profession was first established in 1967.



There are approximately 150,000 PAs in the US.



The average length of PA school is 26 months.



There are approximately 277 PA programs in the US.



PAs practice in a variety of specialties and medical settings, in every state



PAs can switch specialties without obtaining additional schooling.

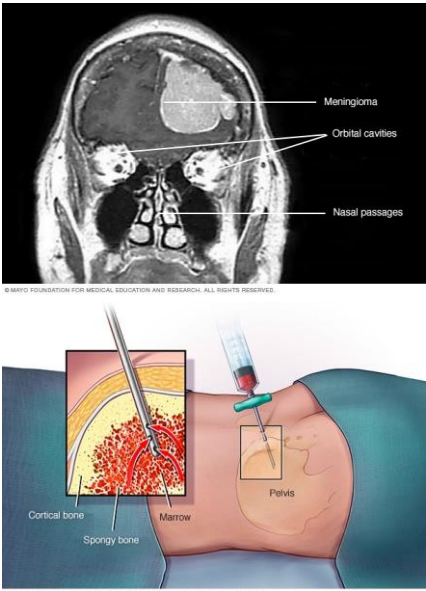


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Pediatric cancer

- Cancer is the leading cause of death from disease among children
- Acute lymphocytic leukemia is the most common cancer diagnosed in kids.
- Other common types of pediatric cancer include brain tumors and lymphomas.

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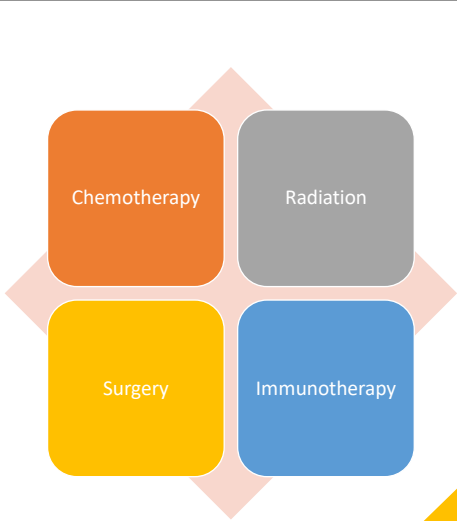
The top image is a coronal MRI scan of the head showing a large, well-circumscribed, extra-axial mass in the anterior cranial fossa, labeled as a meningioma. Labels also point to the orbital cavities and nasal passages. The bottom image is a diagram of a bone marrow biopsy. It shows a cross-section of a bone with labels for cortical bone, spongy bone, and marrow. A needle is shown inserted into the marrow, and a syringe is shown collecting a sample. The label 'Pelvis' is also present.

How do we diagnose cancer?

- History and Physical exam
- Labs
- Imaging
- Biopsies

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Treatment



The diagram shows four treatment modalities arranged in a 2x2 grid, each in a rounded square: Chemotherapy (orange), Radiation (grey), Surgery (yellow), and Immunotherapy (blue). The squares are connected by a light pink diamond shape.

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Disparities

- Race and ethnic
- Social economical
- Access to care
- Representation in clinical trials
- Treatment non-adherence
- Language barriers

•Demographic and socioeconomic disparities in pediatric cancer in the United States: Current knowledge, deepening understanding, and expanding intervention by Alina Beltrami, Alexandra Hilliard, and Adam Green

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Clinical trials

The Children's Oncology Group (COG), a National Cancer Institute supported clinical trials group, is the world's largest organization devoted exclusively to pediatric cancer research.

[Learn More >](#)



Photo Courtesy of Palmetto Health Richland

*Children oncology group

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Life after Cancer

- We continue to follow patients until they are 30 to monitor for any late effect complications from cancer therapy.

Childhood Cancer Survivorship Treatment Summary		
Demographics		
Name:	Date of Birth:	
Primary Oncologist:		
Cancer Diagnosis		
Diagnosis:	Date of diagnosis (age):	Date of therapy completed:
Relapse?	Date of Relapse diagnosis:	Date of relapse therapy completed:
On treatment complications:		
Chemotherapy Protocol (***) On study <input type="checkbox"/> / NO <input type="checkbox"/> (Check one)		
<small>Note: The following medications have been found to have potential late effects associated with use. This list may not be comprehensive of all medications received during therapy.</small>		
Medication Names:	Cumulative Dose (if needed)	
Radiation: Yes <input type="checkbox"/> No <input type="checkbox"/> if yes, answer the following questions:		
Body area treated / Date:	Cumulative dose:	
Hematopoietic Cell Transplant: Yes <input type="checkbox"/> No <input type="checkbox"/> if yes, answer the following questions:		
Transplant type: Autologous <input type="checkbox"/> Allogeneic <input type="checkbox"/>		
Chronic Graft vs Host: Previously diagnosed Yes <input type="checkbox"/> No <input type="checkbox"/> Currently active Yes <input type="checkbox"/> No <input type="checkbox"/>		
Surgery/Procedures		
Central Line Placement & Removal		
Lumbar Punctures with Intrathecal Chemotherapy		
Potential Late Effects	Follow Up Recommendations	
<ul style="list-style-type: none"> • Cardiovascular Problems • Organ damage/ Secondary Cancers • Osteoporosis • Thyroid Problems • Fertility Problems • Dental Problems • Eye Problems 	<ul style="list-style-type: none"> • EKG/ECHO every ** years • Annual Labs: CBC, CMP, Lipid panel, UA, and periodic Vit D • Daxa Scan between ages 20-25 • Periodic TSH/FT4 and/or endocrinology evaluation • Fertility Concerns: Irregular periods, sexual dysfunction, etc. • Dental visit every 6 months • Annual eye exam 	
<small>Important: Please continue to see your primary care provider for annual evaluations and recommended screenings. Also, if any signs or symptoms arise raising concern for a late effect from your cancer therapy reach out to our office.</small>		

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Pathologists' Assistants – PA (ASCP) in Healthcare

Michelle P. Johnson, MHS, PA (ASCP)^{CM}
 Consulting Associate, Department of Pathology
 Duke University School of Medicine
 Clinical Adjunct Instructor, High Point University

 Duke University School of Medicine

Pathologists' Assistant Program

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BLINC BYU Leadership Center Network **What is pathology?**



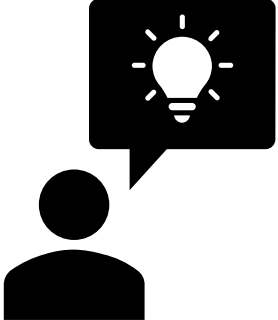
study of nature trails	0%
study of disease	0%
study of traffic patterns	0%

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Objectives:

- Define pathologists' assistants through the eyes of the American Association of Pathologists' Assistants
- List a type of cancer that forms in bones
- Describe the art of skills utilized in the surgical pathology and autopsy pathology settings
- Discuss how the information gleaned from pathology practices impacts the care of the patient being served through the process
- The learner will observe the living diversity in the current student population of the Duke Pathologists' Assistant Program



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Pathology



Using clinical practice with basic science concepts to understanding structural and functional changes in cells, tissues and organs that define disease processes.

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Definition: a highly trained allied health professional providing services under the direction and supervision of a pathologist

ACADEMICALLY AND PRACTICALLY TRAINED TO PROVIDE ACCURATE AND TIMELY PROCESSING OF A VARIETY OF LABORATORY SPECIMENS, RANGING FROM ROUTINE BIOPSIES TO HIGHLY COMPLEX RESECTIONS IN SURGICAL PATHOLOGY LABORATORIES

ACADEMICALLY AND PRACTICALLY TRAINED TO PERFORM A POST-MORTEM EXAMINATION FROM START TO FINISH, IN COLLABORATION WITH A PATHOLOGIST ON THE AUTOPSY SERVICE

What is a pathologists' assistant?

www.pathassist.org

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First program in 1969 – Dr. Thomas Kinney at Duke University



Increase in medical schools caused concern for an increase in the autopsy workload



Certificate -> BS -> MHS



AAPA Fellow -> ASCP certification



Photos courtesy of Duke Pathology Archives

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Let's follow a specimen:

A 14-year-old boy presents with pain in his shoulder following pitching a no-hitter with his travel team.



c/o Michelle P. Johnson

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Over the course of 4 months of follow-up appointments, the patient describes another site of pain in his left thigh, which is worsened during games while running between bases. An MRI reveals a large mass which is not associated with an adjacent soft tissue tumor, and there is not edema outside of the bone. The surgical specimen is below:



©/o Michelle P. Johnson

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Do you think this is a benign tumor, or a malignancy?

Benign

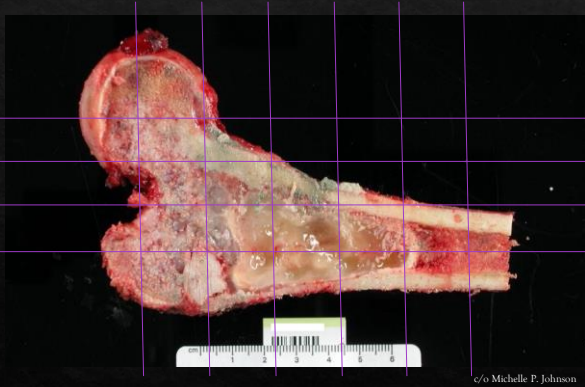
Malignant



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How did the pathologists' assistant handle the specimen so the pathologist could make the diagnosis?



1 - Compare the imaging studies with the specimen from surgery and evaluate the medical record of the patient

2 - Measure and describe the specimen

3 - Dissect and submit a slab section to fully evaluate the tumor and approach to margins

4 - Discuss the results with the care team when necessary

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The Answer:



malignant

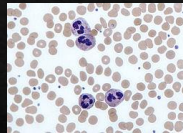
This is a chondroblastic osteosarcoma, commonly diagnosed in adolescents and young adults

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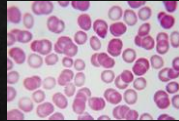
90% of objective data in electronic patient records derived from pathology laboratories



c/o Michelle P. Johnson
histology



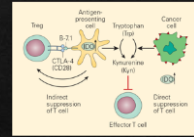
cytology



hematology



microbiology



immunology

Photos: Creative Commons

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90% of objective data in electronic patient records derived from pathology laboratories



chemical pathology



genetics



toxicology



forensic pathology

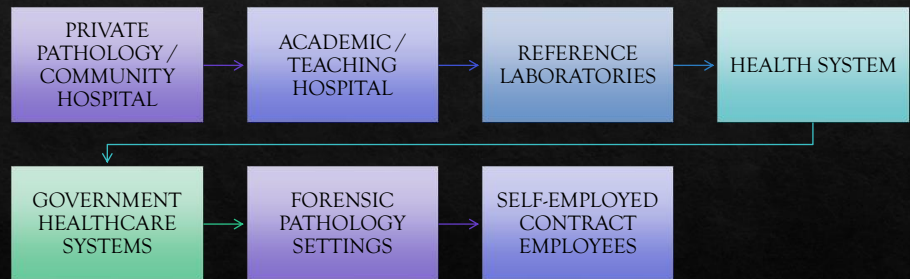
Photos: Creative Commons

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Where do pathologists' assistants work?



©/o Michelle P. Johnson



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Where can you read more about the pathologists' assistant career?

The American Association of Pathologists' Assistants - "the not-for-profit volunteer organization of allied health practitioners dedicated to advocacy and advancement of pathologists' assistants"

https://www.pathassist.org/page/What_is_a_PA

https://www.pathassist.org/page/AboutUs_NAACLS

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 Pathologists' Assistant Program

Class of 2025



c/o Michelle P. Johnson



JONNA



CHRIS



BRIAN



CALEB



JESS



AYESHA



EMMA



EMILY

Headshot photos courtesy of Duke Pathology Archives
Photographer: Steve Conlon

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 Pathologists' Assistant Program

Class of 2024



c/o Michelle P. Johnson



ADA



STEPHANIE



MAKAYLA



OLIVIA



SALEM



AISHA



HUNTER



SYDNEY

Headshot photos courtesy of Duke Pathology Archives
Photographer: Steve Conlon

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How an Introvert Ended Up in the Field of Cancer Community Outreach and Engagement

Exploring Cancer
October 27, 2023

Veronica A. Carlisle, MPH, CHES



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BLUNC UNC Lineberger Cancer Center **Are there any students in the audience interested in pursuing a career in public health?**

Yes	<div style="width: 0%;"></div>	0%
No	<div style="width: 0%;"></div>	0%

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Where I started: Pre-Cancer Community Outreach and Engagement



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UNC Lineberger Comprehensive Cancer Center - Research



Study Project Manager

- Managed and provided oversight to study
- Recruited beauty salons and stylists
- Developed focus group guides and conduct focus groups
- Developed educational campaigns
- Developed data collection instruments
- Provided oversight of data collection



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UNC Lineberger Comprehensive Cancer Center – Community Education

Community Health Educator

- Developed and disseminated educational material
- Developed and maintained community partnerships
- Partnered to conduct educational events



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UNC Lineberger Comprehensive Cancer Center – Community Outreach and Engagement



Sr. Community Health Educator

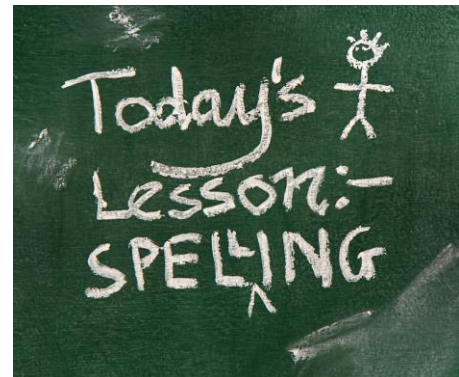
- Facilitate UNC Lineberger Community Advisory Board
- Provide oversight of community outreach activities strategic plan
- Provide community and researcher education
- Manage students
- Develop and maintain community partnerships
- Provide technical assistance to researchers conducting community engaged research
- Provide project management for office initiatives




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What I've learned

- Even an introvert can work in cancer community outreach and engagement :)
- Career paths
 - are not always straight
 - may not be what we've planned
 - will have challenges
- Build or join a support network
- Take time to enjoy your work life and life



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 **Questions/Comments?**

Nobody has responded yet.
Hang tight! Responses are coming in.

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Exploring Cancer is a webinar series taught by cancer biologists, physicians, public health experts, and other cancer specialists from NCCU, UNC-Chapel Hill, and NC A&T.

UNC Lineberger Cancer Network

 **NC Central** UNIVERSITY  **UNC**  **LINEBERGER COMPREHENSIVE** CANCER CENTER  **NORTH CAROLINA AGRICULTURAL** AND TECHNICAL STATE UNIVERSITY

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Exploring Cancer

Examining the Role of Biology, Race, Class, and Socioeconomics

Upcoming Live Webinar



November 10

11:00 AM

Precision Medicine and Immunotherapy



Ugwuji Maduekwe, MD, MMSc, MPH, FACS, FSSO

Associate Professor of Surgery
Deputy Director of the Advancing a Healthier
Wisconsin Endowment
Medical College of Wisconsin

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Exploring Cancer

Examining the Role of Biology, Race, Class, and Socioeconomics

Thank you for participating!

You may now return to the UNCLCN Learning Portal to complete a course evaluation and claim your certificate.

For any technical issues or questions, contact us at

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