



minnesota cancer alliance summit

2026 | *the power of collaboration*

February 26, 2026

McNamara Alumni Center

Minneapolis, MN



Breakout Session #1

Heritage Gallery

February 25, 2026

McNamara Alumni Center



Examining the Role of Food and Cooking Practices in Cancer Prevention

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- There are no relevant financial disclosures for this session.



Food is Medicine Approaches in Cancer Prevention

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February 26, 2026



Session Objectives

1. Identify why food, nutrition and food insecurity are important across the cancer spectrum.
2. Define and describe Food is Medicine approaches.
3. Explore the importance of cross sector collaboration.
4. Understand how to advocate and get started, providing both examples and resources.



Nutrition, Food Insecurity & Cancer

- Poor nutrition is the leading cause of illness in the United States.
 - Linked to increased risk of obesity, diabetes, heart disease, and some cancers.
 - Fruits and vegetables can play a particularly key role in both prevention and survivorship of leading types of cancer.
- In 2023, ~ 13% of U.S. households were considered food insecure at some point.
- Food insecurity disproportionately affects persons from racial and ethnic minority and socioeconomically disadvantaged populations.
 - These are groups that also experience the highest rates of cancer mortality.



Food is Medicine

Definition: An umbrella term for food-based approaches specifically designed to address health needs.

Moving beyond general 'healthy eating' advice to specific, prescribed interventions for people with diet-related health conditions.



FOOD IS MEDICINE



Adapted with permission from: Mozaffarian D, Blanck HM, Garfield KM, Wassung A, Petersen R. A Food is Medicine approach to achieve nutrition security and improve health. *Nat Med.* 2022;28(11):2238-2240. doi:10.1038/s41591-022-02027-3



The intervention landscape: Three pillars of care



Medically Tailored Meals (MTM)

Inter

Fully prepared meals designed for patients with complex needs.



Medically Tailored Groceries (MTG)

Inter

Selected raw ingredients for patients capable of cooking but requiring specific nutrients.



Produce Prescriptions

Inter

Vouchers or programs specifically for fresh fruits and vegetables to treat or prevent conditions.

Context: These are not general suggestions; they are structured interventions.



The potential to bend the cost curve

“In both simulations and practice, Food is Medicine approaches have demonstrated the potential to lower the cost of health care over time.”



Society: Lowered costs of chronic disease management.



Participants: Improved health outcomes.



Economy: Economic benefits to producers and distributors of healthy foods.



Why focus on community?

While the science is clinical,
the delivery is **communal**.

The future of FIM relies on the broad range of **community-based organizations (CBOs)** and community champions already doing the work.

Goal: To move from theoretical support to **practical implementation**, we must understand the ecosystem where food is actually grown, distributed, and consumed.



The objective: Directing funding to the frontline



Remind readers of the vast CBO ecosystem.

Highlight the valuable contributions of community champions.

Explore why and how funding can flow directly to them.

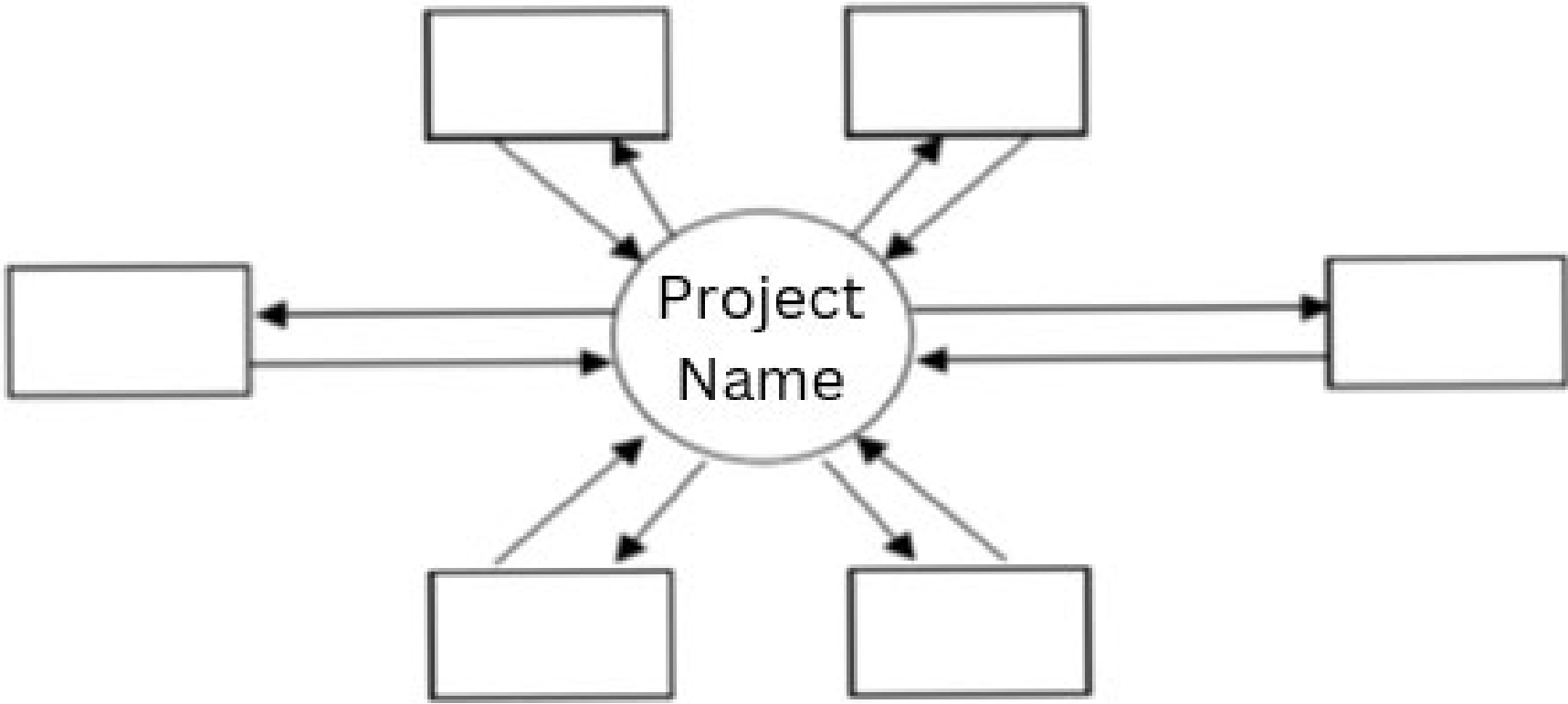
Successful FIM implementation requires funding to flow to the community organizations that hold the trust and access.



Cross Sector Collaborations



Reciprocal Partner Mapping Activity



Reciprocity Examples

Health Care —————> Food System (farmers/producers/retailers)

- Referrals
- Funding for food (community benefit programs?)

Food System —————> Health Care

- Healthy food
- Nutrition education

Can you think of other things that each brings to the table?



Produce Prescription Programs

- Improve food security
- Lower chronic disease risks
- Provide access to local, nutrient-dense produce



University of MN Landscape Arboretum VRx

- Clinic referrals
- 16 weekly distributions
- Various partners involved
 - Local public health
 - Healthcare clinics
 - Extension
 - UMLA Arboretum + local farmers
 - miCASA
- Community resources
- Nutrition education
- Evaluation



Farm at the Arboretum

1. **Crops were shaped by participant preferences and cultural relevance**
2. **Learned about standardized harvest practices and quality standards**
3. **Conversations with participants directly informed what was grown and how it was shared**
4. **VRx provided a stable, local market - Cropland project**
5. **Cross-site coordination and communication - Black StoryTellers Alliance**
6. **Apprentice leadership & ownership with decisions and farm outcomes**





ship
statewide health
improvement partnership
AITKIN



Evaluation Findings

FOOD RX

Sustaining
the local
food system
through
Food Rx



Participants Are Identified



Hunger Vital Sign identifies risk for food insecurity if they answer either or both of the statements as "often true" or "sometimes true" (vs. "never true").

- 1.) Within the past 12 months, we worried whether our food would run out before we got money to buy more.
- 2.) Within the past 12 months, the food we bought just didn't last, and we didn't have money to get more.

Pathways



Participants want to participate in Food Rx to receive fruits and vegetables.



Local farmers supply fruits and vegetables and sell to the Aitkin Farmers Market Hub.



Farm direct retailers are welcoming to participants with Riverwood Connects Market Bucks.



The Aitkin Farmers Market Hub coordinates deliveries to the hospital to aggregate boxes or bags.

RIVERWOOD CONNECTS Food Rx: Pantry Pack

Issue Date: _____
 Patient Name: _____
 MRN #: _____
 Provider or Nurse: _____
 Department: _____



Please complete this form and document Food Rx: Pantry Pack in encounter note as Food Insecurity.

The Food Rx: Pantry Pack is an emergency food support available to assist patients who have been identified in need. There is no financial guidelines or qualifications. Providers and staff can provide to those at your discretion.

If additional support is needed, please connect with RN Care Coordinators within the clinic or Social Workers in the Hospital.

Please send this form back to:
 Rachel Johnson, Population Health Program Manager, Aitkin Clinic
 E: rjohnson@rhealth.org
 O: (218) 429-3900



RIVERWOOD CONNECTS PATIENTS SERVED

July 2023 → November 2023 → July 2024

Patients enrolled into the Food Rx Program



2023 - 2024 Year in Review



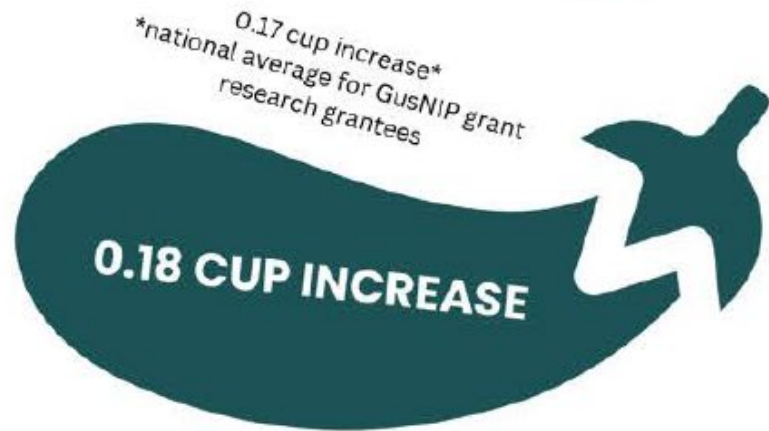
Change in Health Status



Preliminary data shows 23% of participants self reported their health status improved.



Preliminary data shows 50% of participants self reported their health has stayed the same.



0.17 cup increase*
*national average for GusNIP grant
research grantees

Preliminary data between the baseline and 7 month follow-up on daily cups of fruits and veggies found that, on average, there was a 0.18 cup increase per day.



Advocate for Food is Medicine

- **Champion FiM in whatever space you are in**
 - **Health care / Clinician**
 - **Public Health**
 - **Patient**
 - **Advocate**
 - **Food System**
- **Reach out to your local SHIP coordinator**
 - **[SHIP Local Contacts - MN Dept. of Health](#)**
- **It takes many people working together to make a successful FiM program - plug in where you can**



Additional Resources



Sources & Further Reading

Key Resource:

Food Is Medicine Research Action Plan (Food & Society at the Aspen Institute) – A deep dive summary of peer-reviewed research through 2024.

Newsletter:

Join Food & Society's Newsletter



Sources & Further Reading

Key Resource:

Produce prescription programs and network needs in Minnesota



Other Resources

Nutrition Incentive Hub

<https://www.nutritionincentivehub.org/>



FoodRX Programs For Clinics - Public Health Law Center

<https://www.publichealthlawcenter.org/sites/default/files/resources/PHLC-FoodRx-Programs-for-Clinics.pdf>



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Do Meat Cooking Methods Contribute to Prostate Cancer Disparities? The potential connection between Bar-B-Q and Prostate Cancer in African American Men

Minnesota Cancer Alliance Summit
February 26, 2026

Clarence Jones¹, Medjda Bellamri², Logan Spector²,
and Robert Turesky²

¹Hue-Man Partnership, ²Masonic Cancer Center,
University of Minnesota, Minneapolis, MN



Masonic Cancer Center

UNIVERSITY OF MINNESOTA

Comprehensive Cancer Center designated by the National Cancer Institute



Is Eating Well-Done Cooked Red Meat Linked to Prostate Cancer Risk?



Health » Well-done red meat linked to aggressive prostate cancer

Well-done red meat linked to aggressive prostate cancer

By Amanda Gardner, Health.com

Updated 5:03 PM ET, Wed November 23, 2011



"This is another piece of evidence for the notion that ... grilled meat, contains carcinogens," Ronald D. Ennis says.

- Prostate cancer is the *second leading cause of cancer death* in U.S. men.
- The International Agency for Research on Cancer (IARC) classifies cooked red meat as a *probable carcinogen* for humans.
- IARC links cooked red meat to colorectal, pancreatic, and *prostate cancer*.
- Multiple *DNA-damaging* and *cancer-causing* chemicals form in cooked red meat.
- What chemicals in cooked meat damage prostate DNA?

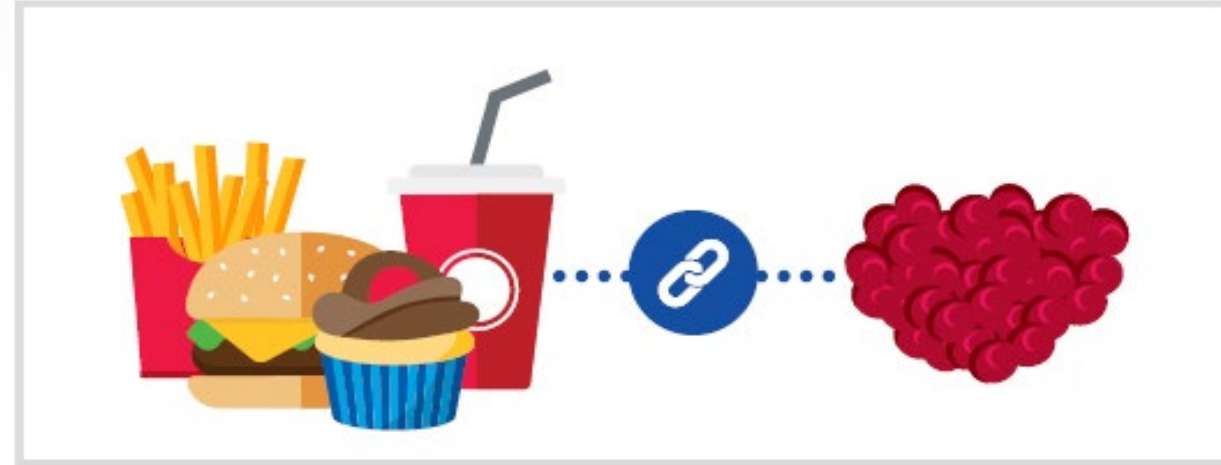
The burden of diet-attributable cancers is higher among Black adults

Disparities in Incidence and Death Rates between African Americans and Whites for Selected Cancer Types

INCIDENCE RATES*

| Cancer Type | African Americans | Whites | Rate Ratio |
|----------------------------------|-------------------|--------|------------|
| Multiple myeloma | 14.3 | 6.4 | 2.23 |
| Prostate, males | 172.8 | 102.0 | 1.69 |
| Stomach | 9.6 | 5.7 | 1.68 |
| Liver and intrahepatic bile duct | 11.9 | 7.4 | 1.61 |
| Colorectal | 45.5 | 36.5 | 1.25 |
| Pancreas | 15.7 | 12.7 | 1.24 |

American Association for Cancer Research (AACR) Cancer Disparities Progress Report 2020



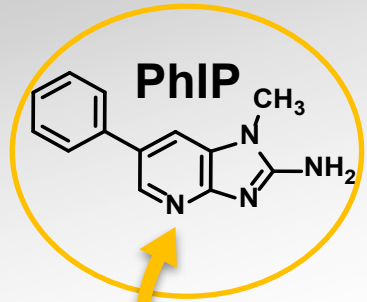
Poor diet is projected to contribute to 3 million cancer cases, 1.74 million cancer deaths, and \$254 billion in lifetime cost among current U.S. adults

Does high intake of barbecued or well-done meat increase prostate cancer risk in Black men?

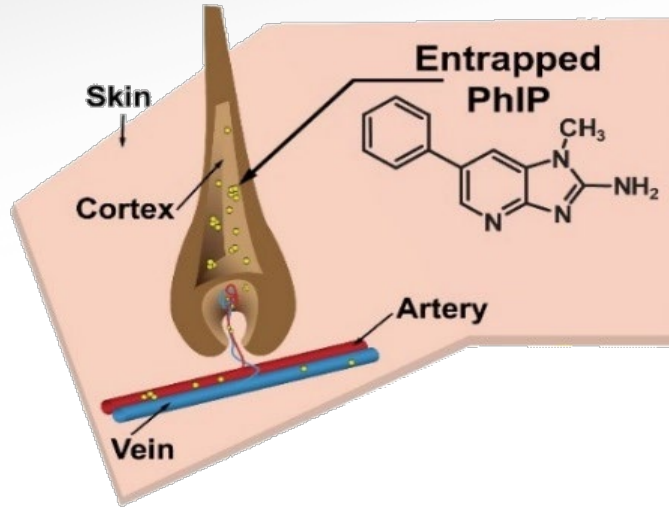
THE GOOD NEWS IS...

Early Detection Saves Lives! When caught early, more than **99%** of people diagnosed with prostate cancer will be alive in five years.

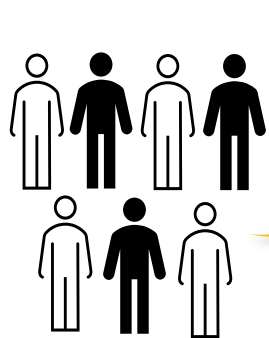
Biomonitoring PhIP, a Cooked Meat Carcinogen in Hair



PhIP gets entrapped in hair

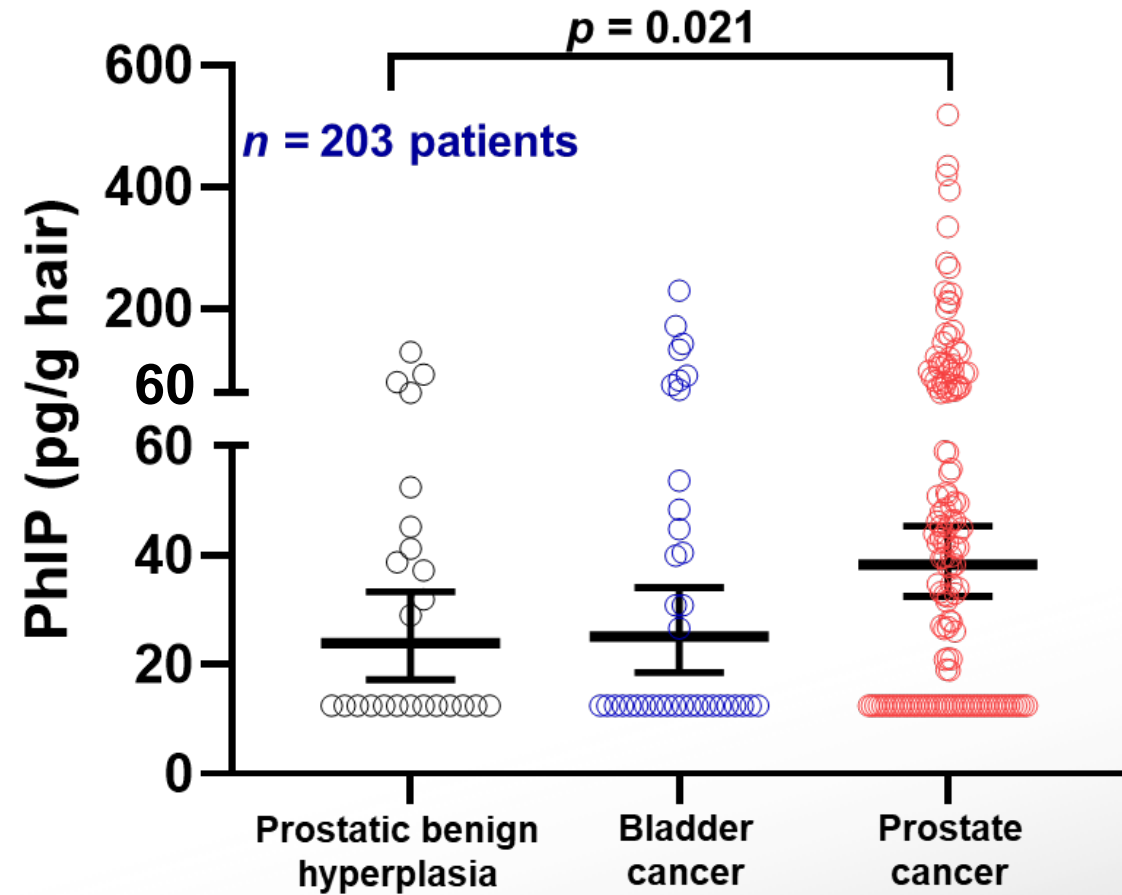


Can PhIP in hair predict aggressive prostate cancer risk?



Prostate cancer, Bladder cancer, Prostatic benign hyperplasia, under treatment in Department of Urology, UMN

PhIP measurement by mass spectrometry



PhIP hair levels are **higher in prostate cancer patients** than in patients with bladder cancer or prostatic benign hyperplasia

Transforming Community Health By Strengthening Families

Work
With Us

What Drives Us

Mission

Identify and address the health crisis among your young and middle-aged men, primarily men of color.

Vision

Strengthen community health through innovative partnerships.

Values

Integrity, honesty, transparency, teamwork

Hue-MAN builds coalitions, listens carefully, and takes action to improve community health.



Coalitions

We unite people and organizations around a shared purpose.



Listening

We listen to ensure our work reflects the voices, values, and priorities of our community.



Community Health

We support systems change to close gaps in healthcare access and outcomes through outreach, partnership, education, and research.



In collaboration with Clarence Jones and the Hue-MAN Partnership, we examined cooked meat intake in Black and White men to assess its potential role in prostate cancer risk

Does frequent consumption of well-done cooked meat and poultry contribute to elevated prostate cancer risk for African American men?



Hue-MAN
@HueMANpartnership · Community Organization



THE LEGENDS at Berry
NEW 1, 2 & 3 MO with Rents
62+ Active Living with up to 3 MO

ABOUT · ALL SECTIONS · EVENTS · OBITS · SISTER SPOKESMAN · JOBS & OPPOR

Health activist collaborates to leverage change

January 22, 2020 · by Dwight Hobbes

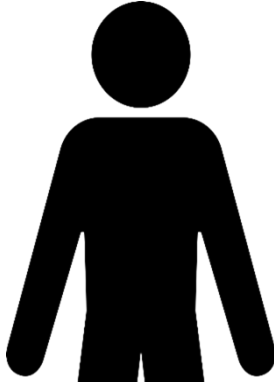


Clarence Jones of the Hue-MAN Partnership



Well-done cooked meat and poultry

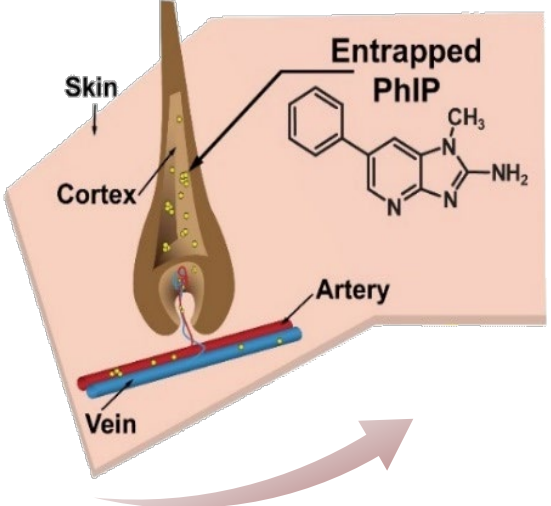
FFQ



Hair collection



PhIP accumulation in hair



PhIP quantification by LC/MS



African American barbershops are vital community hubs for civic engagement



Hue-MAN partnership works with local barbershops to promote dialogue on social and health issues including diabetes, high blood pressure, and prostate cancer that disproportionately affect the African American community

Eligibility and Recruitment for Cooked Meat Exposure Study

Eligibility Criteria



Men \geq 21 years
Healthy
Non-Hispanic White



Natural hair color
No dyes
No chemical straighteners



All meat types
All meat cooking methods



Smokers
Non-smokers

Recruitment Strategy

**MINNESOTA
STATE FAIR**

Men \geq 21 years
Healthy
Non-Hispanic White



HUE-MAN
Partnership

Men \geq 21 years
Healthy
Black

Final Cohort



45 Black men

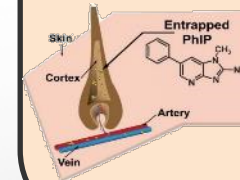


52 Non-Hispanic White men

Study Completion

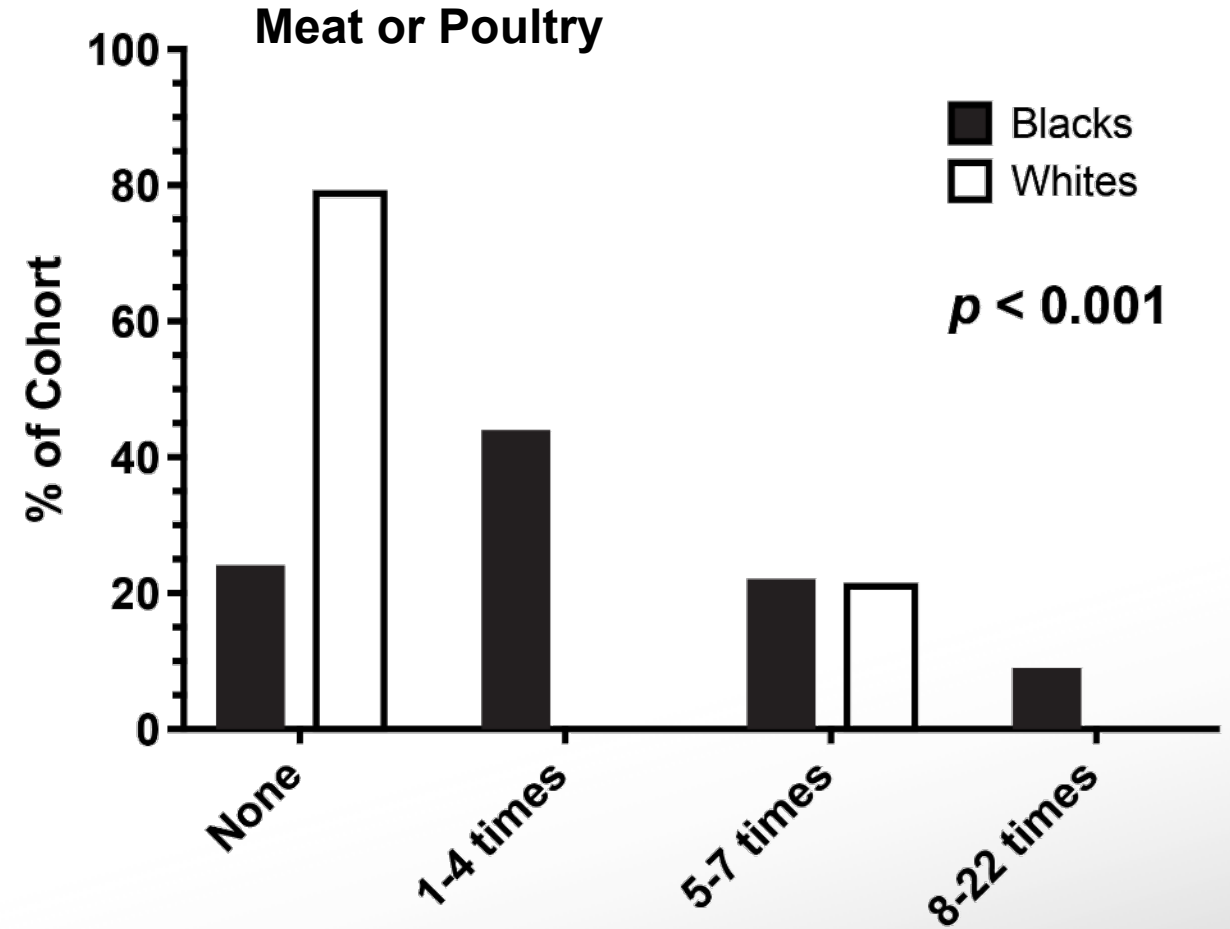


Food frequency questionnaire completed



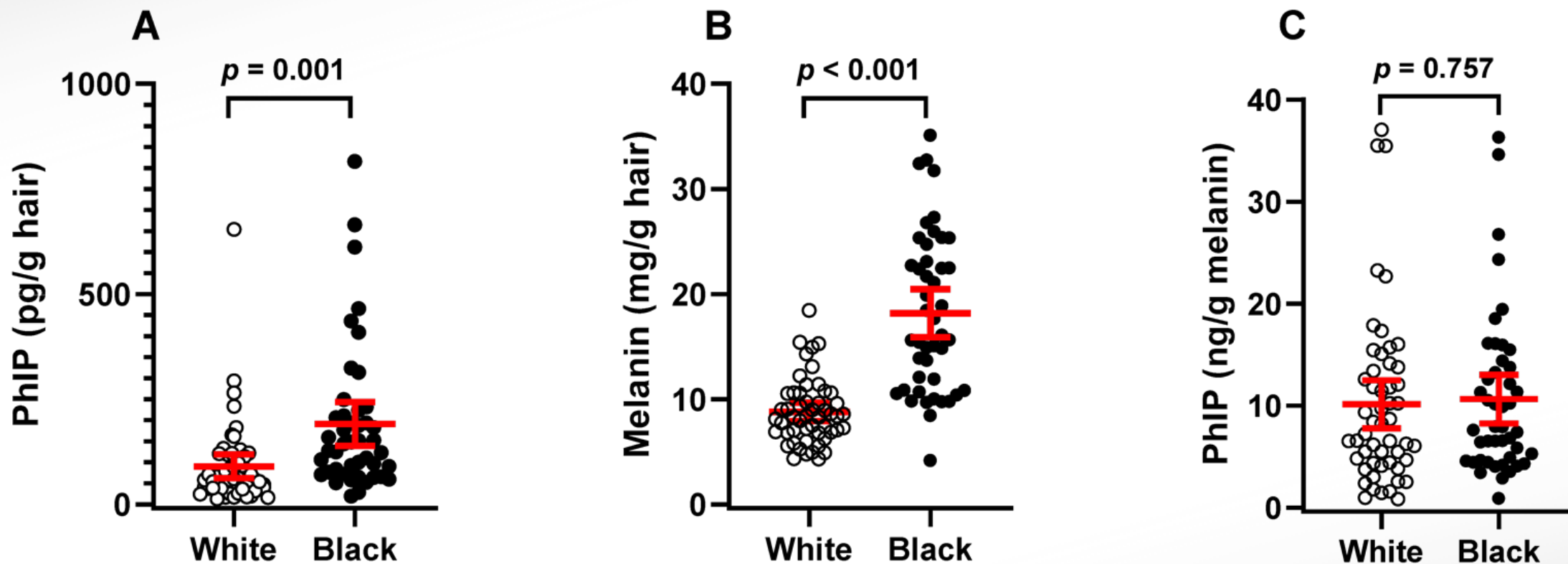
PhIP measured in hair

Frequencies of charred/barbecued meat consumption by Black and White men per week



Black men ate significantly more charred or barbecued meat than White men

PhIP levels, melanin, and PhIP levels adjusted for melanin for Black and non-Hispanic White male cohorts



Could differences in hair color affect how we interpret PhIP levels measured in hair?

Recognizing the Critical Role of the Hue-MAN Partnership in Our Collaboration and Published Work



Article

Biomonitoring PhIP, a Potential Prostatic Carcinogen, in the Hair of Healthy Men of African and European Ancestry

Robert J. Turesky^{1,*}, Clarence Jones², Jingshu Guo^{1,3}, Kari Cammerrer¹, Laura A. Maertens⁴, Emmanuel S. Antonarakis⁵, Zhanni Lu⁶ and Logan G. Spector^{6,*}

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 - ² Hue-Man Partnership, 2400 Park Ave., Minneapolis, MN 55404, USA; clarencejones7428@gmail.com
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- * Correspondence: rturesky@umn.edu (R.J.T.); spect012@umn.edu (L.G.S.)

Abstract: Heterocyclic aromatic amines (HAAs), formed during the cooking of meat, are potential human carcinogens, underscoring the need for long-lived biomarkers to assess exposure and cancer risk. Frequent consumption of well-done meats containing 2-amino-1-methyl-6-phenylimidazo[4,5-*b*]pyridine (PhIP), a prevalent HAA that is a prostatic carcinogen in rodents and DNA-damaging agent in human prostate cells, has been linked to aggressive prostate cancer (PC) pathology. African American (AA) men face nearly twice the risk for developing and dying from PC compared to White men. We previously demonstrated that scalp hair is a reliable biospecimen for measuring PhIP intake using liquid chromatography-mass spectrometry. This study aimed to determine whether PhIP dietary intake is higher in AA men, potentially contributing to this health disparity. Healthy AA men were found to have a significantly higher mean hair PhIP level (2.12-fold) than White men on free-choice diets. However, this difference was not statistically significant after adjusting for melanin content. Further research is needed to understand how hair pigmentation, follicular density, and other morphological features of hair influence PhIP accumulation. These insights can improve the accuracy of using hair PhIP levels as a biomarker for exposure and its potential associations with cancer risk.

Keywords: biomarkers; carcinogens; cooked meat; hair dosimeter; heterocyclic aromatic amines; PhIP; prostate cancer



Academic Editor: Andrew Povey

Received: 27 November 2024

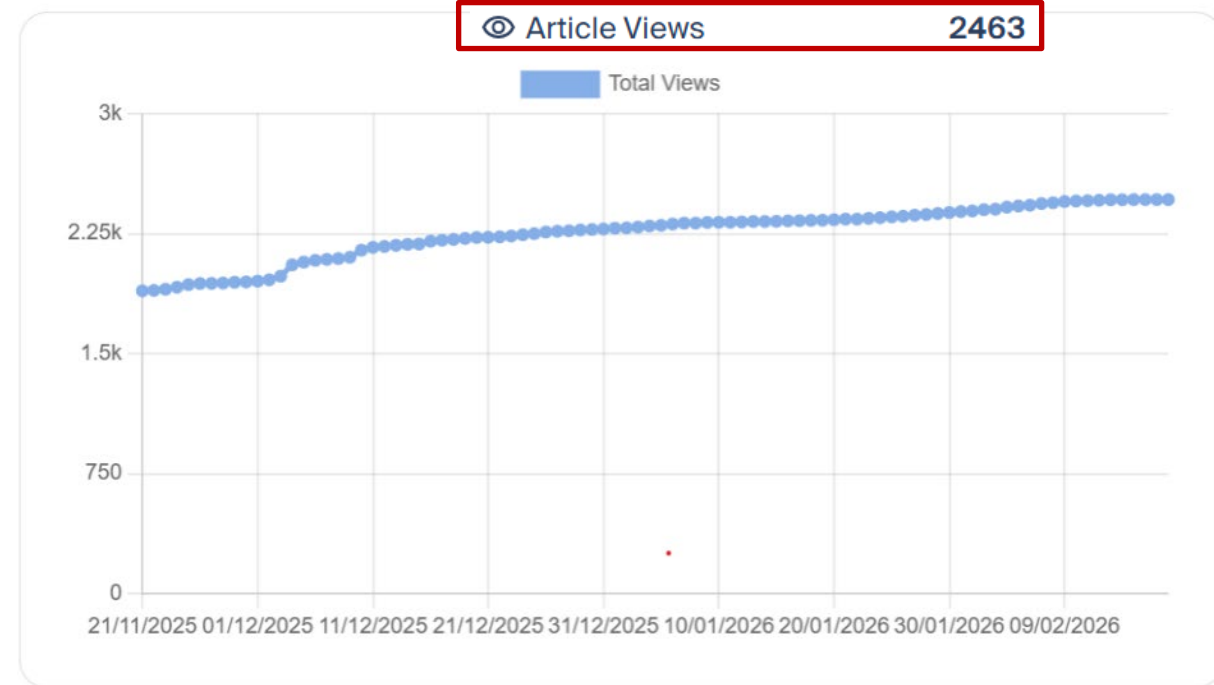
Revised: 20 December 2024

Accepted: 4 January 2025

Published: 8 January 2025

Citation: Turesky, R.J.; Jones, C.; Guo, J.; Cammerrer, K.; Maertens, L.A.; Antonarakis, E.S.; Lu, Z.; Spector, L.G.

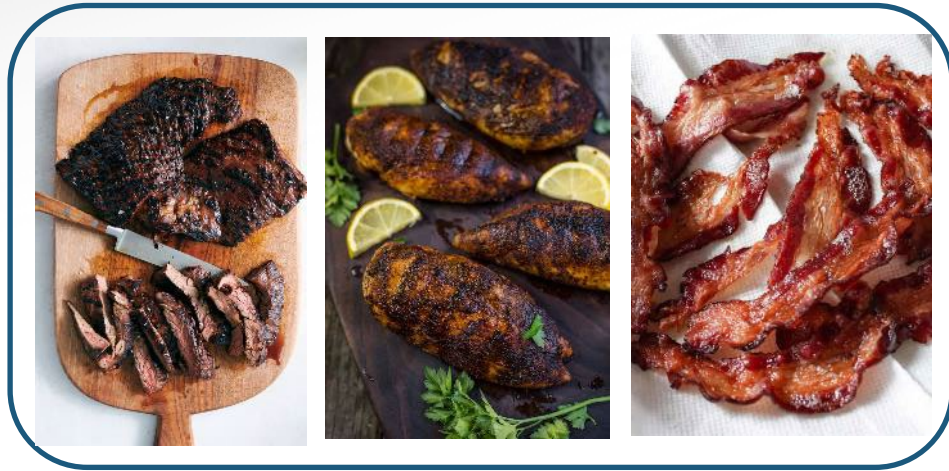
Article Access Statistics Article Metrics



Well-Done Meat Forms High Levels of Cancer-Causing Chemicals

How to decrease risk

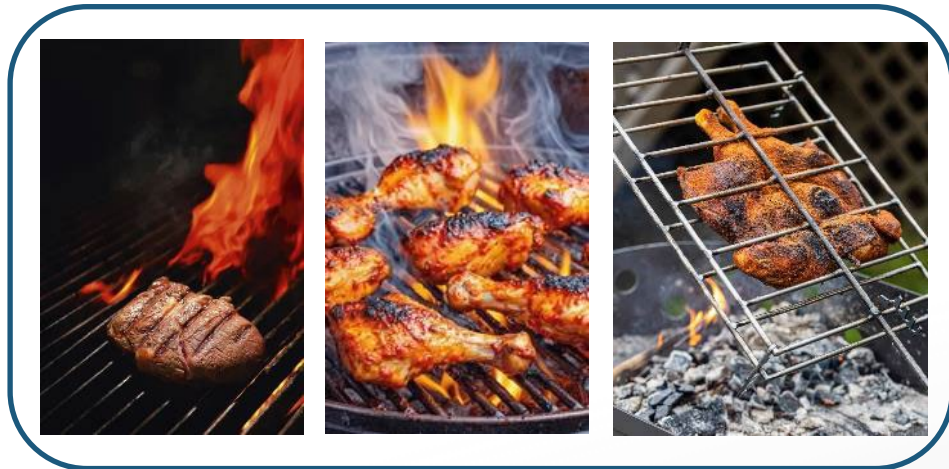
Avoid Charred and well-done meats



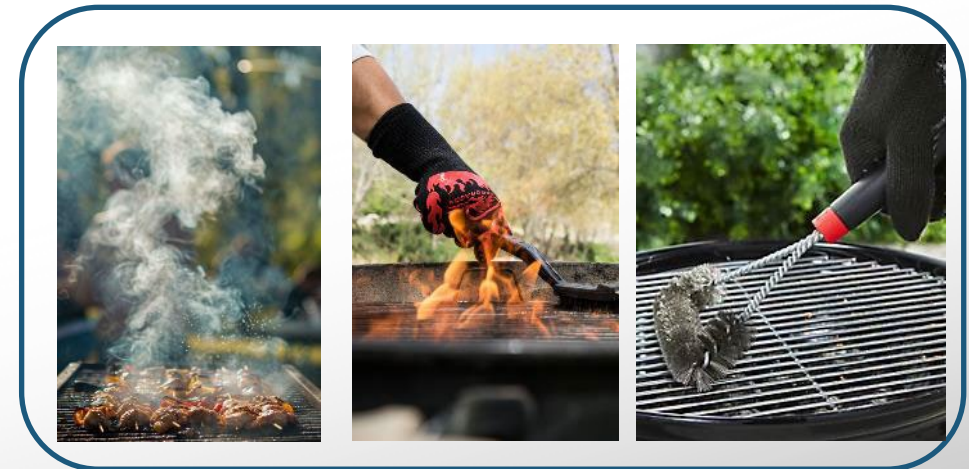
Flip meat often and use marinades



Avoid open flame grilling



Avoid breathing the smoke and use gloves



Well-Done Meat Forms the Highest Levels of Cancer-Causing Chemicals — Cooking to Medium is Safer!



Medium rare



Well-done



Medium



Well-done



Medium



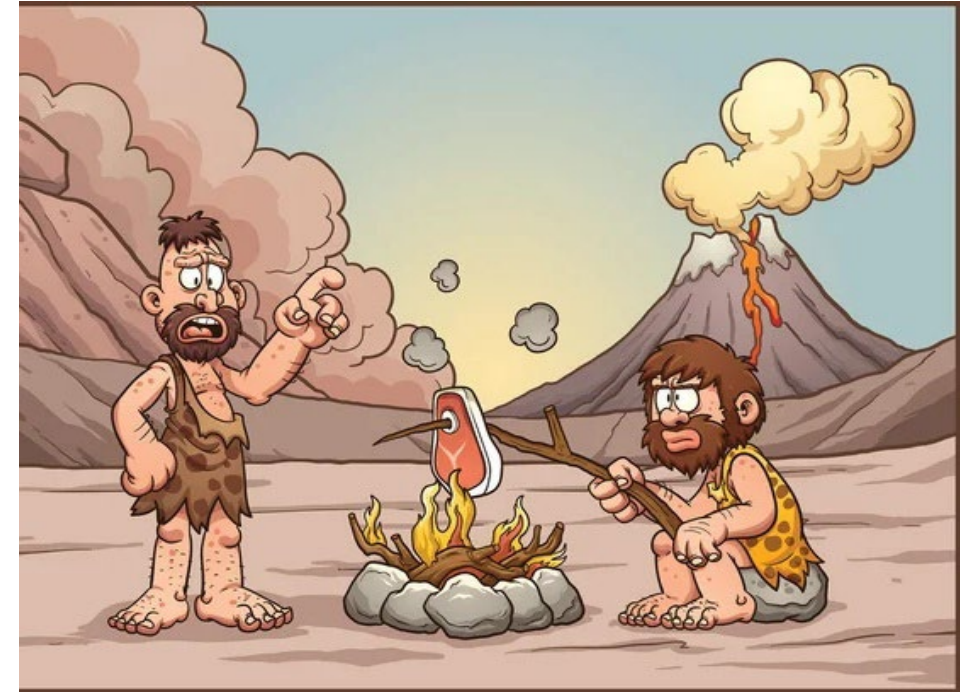
Very well-done

There are healthy foods and beverages that protect against cancer-causing agents



Key takeaways

- Avoid eating well-done, charred meat! Meat cooked *medium to medium rare is safer*.
- Eat processed meats in limited amounts; *meat cured without nitrite is safer*.
- Eat a *varied diet* (fish, poultry, plant-based diets) with plenty of cruciferous vegetables.
- Public Health Institutes worldwide use *our exposure and mechanistic toxicology data* in formulating regulatory policies and public health recommendations for healthy diets.
- Changing the public's perceptions about *meat and healthy diets is a long-term goal*.



Man has eaten cooked meat ever since the advent of fire over 780,000 years ago

Actions and Next Steps

Actions

- Black men eat *more well-done meat* and face a *higher prostate cancer risk*.
- Higher *PhIP hair levels in Black* vs White men
- Shared guidance on *safer cooking practice, healthier diets, and cancer prevention* through Hue-MAN meetings, Hawthorne Neighborhood Council, and HEALTH CHATTER webinar.
- Published *collaboratively with Hue-MAN* partnership (*Toxics*, 2025)

Next steps

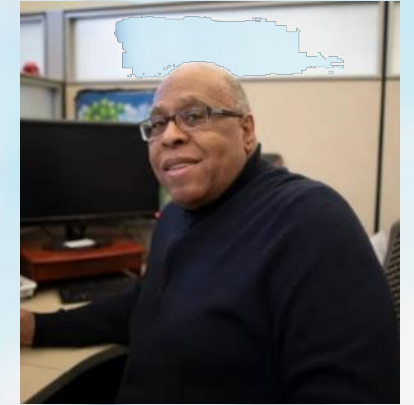
- Evaluate *PhIP hair* levels as a *biomarker of prostate cancer risk*.
- Identify *complementary biomarkers* of well-done meat intake to improve risk prediction
- Examine the *protective effects* of healthy foods, including salads and cruciferous vegetables
- Secure intra- and extramural *funding with Hue-MAN* to address diet-related cancer disparities

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Ph.D.

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- The **Volunteers, Barbers, and Patients!!**



Clarence Robert Jones
M.A.

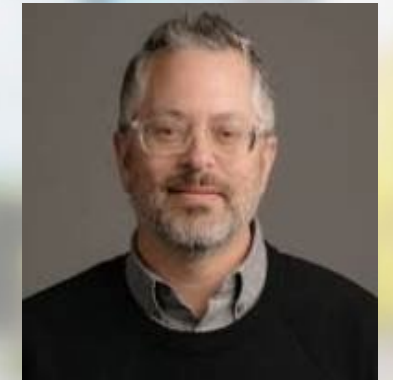
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