Ask But Not Receive: Racial Healthcare Disparities in Cancer Mortality

Joi Anthony-Gray Humanities Senior Seminar 2023 Micheal Ball

Introduction

Shonté Drakeford was diagnosed with stage four breast cancer at the age of 31. Years before that she visited the doctors multiple times complaining of problems with her breast, saying that she had lumps and complaining of discharge, but nothing was done. "I believe that I had early stage breast cancer as young as 25 years old, but I was not diagnosed until the age of 31. Six years went by without diagnostics, of asking and not receiving."¹ The doctors told her that she didn't need any more tests and that if the discharge ever turned bloody then to come back. They told her that she had, "fibrocystic breasts,"² meaning your breast has a lot of cysts and lumps and bumps and that she also has "dense breast tissue;"³ Because of this no mammogram was deemed to be needed, and they sent her home.

After she kept insisting something was wrong, they decided to remove the duct that was causing the discharge. When she developed a cyst and requested to have it drained, they denied her claiming that it was benign. When the cyst became hard, they then began to worry, and this led to her diagnoses of cancer.

Accounts like Shonté's illustrate a long-standing truth about the American healthcare system: that it has failed Black patients like her time and time again. It should never come down to a patient fighting even harder for their life when they took initiative to do something about it early on. If we take into consideration the fact that Ms. Drakeford was young, Black, and she had dense breast tissue, why was she repeatedly denied a mammogram? Questions like this address a fundamental problem at the heart of America's healthcare system: the persistence of healthcare disparities between Black people and other racial groups and how they affect cancer mortality rates that are due to various factors. In Ms. Drakeford's case, these disparities led to her being diagnosed with a likely-terminal case of stage IV metastatic breast cancer, and now she's forced to live with that reality.

¹Drakeford, Shonté. n.d. "Home." YouTube. Accessed March 13, 2023. <u>https://blackcancervoices.org/stories/fxP2WR84</u>.

² (Drakeford, n.d.)

³ (Drakeford, n.d.)

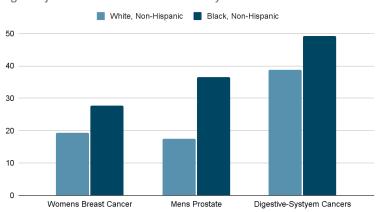
Health care disparities are inequalities in healthcare that arise due to sex, gender, race and much more. The National Cancer Institute says that, "Cancer affects all population groups in the United States, but due to social, environmental, and economic disadvantages, certain groups bear a disproportionate burden of cancer disparities compared with other groups."⁴ These disproportionate burdens can be due to anything from medical ignorance—such as doctors ignoring and neglecting to take into consideration patient concerns—to not having access to clinical trials because of transportation. Whatever the case may be, what may seem like small issues now only grow to make bigger and more dangerous outcomes and problems in the future. One of the most alarming of these unequal outcomes is the difference in the mortality rates among Black people and other racial groups in the United States. The ugly reality is that racial disparities are an everyday occurrence in health care, with Black people having higher death rates than all other racial/ethnic groups for many, although not all, cancer types. Racial cancer disparities persist because of the extensive history of unequal healthcare and can only be fixed if the issue is addressed and ideas are proposed to fix it.

This study proposes to examine this issue of disparity in mortality rates by race through three types of cancer. Prostate cancer, breast cancer in women and cancers of the digestive system were chosen specifically because they had the highest and most troubling death rate gap between the Black and White community. Between the Black, Non-Hispanic and White, Non-Hispanic cancer group, there is an overall 20.5% difference in mortality in the former for all cancer categories, looking at these results in an age-adjusted death rate to get the most accurate data as possible. When not using age as a factor, it helps to not account for the older population who are more likely to die from things or the younger population who are more likely to die from things or the younger population who are more likely to die from things or the younger population who are more likely to die from things or the younger population who are more likely to die from things or the younger population who are more likely to die from things or the younger population who are more likely to die from things. **Figure 1** shows that there is a 19.1% difference in prostate cancer deaths, 8.5% in female breast cancer, and 10.6% in digestive system cancers, all being higher in the Black community.⁵

⁴ "Cancer Disparities - NCI." 2022. National Cancer Institute.

https://www.cancer.gov/about-cancer/understanding/disparities.

⁵ U.S. Cancer Statistics Working Group. U.S. Cancer Statistics Data Visualizations Tool, based on 2021 submission data (1999-2019): U.S. Department of Health and Human Services, Centers for Disease Control and Prevention and National Cancer Institute; <u>https://www.cdc.gov/cancer/dataviz</u>, released in November 2022.



Age-Adjusted Cancer Death Rates By Race

This project also works to focus on a few key disparities, examining Black people's higher cancer mortality rate, Black women being more likely to die from breast cancer and other disparities are centered around specific cancers, like the higher mortality rate for black patients in prostate and digestive system cancers. This project also focuses on why and how these disparities may arise, separating them into groups by environmental, behavioral, genetic and social factors.

Section 1

Digestive, Breast and Prostate cancer

Looking at prostate cancer risk, Black males are at an increased genetic predisposition than White males. "Chromosome 8q24 variants have been shown in several studies to be associated with prostate cancer risk and are more common in African American men. Some studies have also shown a higher rate of variations in cell apoptosis genes such as BCL2 and tumor- suppressor genes such as EphB2 in African American men."⁶ This does not mean that because these genes are present that the patient will develop cancer, this simply means that the risk is increased. Environmental factors like the foods and air your body consumes can trigger these genes to develop cancer.

⁶ Wu, Ina, and Charles S. Modlin. 2012. "Disparities in prostate cancer in African American men: What primary care physicians can do." *Cleavland Clinic Journal of Medicine* 79 (5): 113 - 120. Google Scholar.

Risk factors for breast cancer in women include dense breast tissue. This is when the tissue in the breast has more connective tissue than fatty tissue and this makes it hard for potential tumors to present themselves on mammograms. This is more common in black women than their white counterparts. Genetic mutations like the BRCA gene–which is a tumor suppressor–is also a determinant factor of higher risk breast cancer patients. This gene, when working normally, helps cell proliferation. A higher cell proliferation can form tumors which can be cancerous to the body which is why making sure these genes work properly is imperative. Mutations of this gene can cause a higher rate of developing some cancers.⁷

Things like reproductive and family history are something to look at too. Factors that can be changed are physical activity, health and alcohol intake.⁸ Digestive system cancers leading cause include alcohol consumption and tobacco smoking, as well as infection, diet and obesity.⁹ It's hard to prevent these risks when you are not given the proper tools to do so.

What are Healthcare disparities?

Living in impoverished areas that may have a lack of clean water and air can increase your chances of being diagnosed with cancer.¹⁰ The Clairton Coke Works, The largest coke manufacturing facility in the United States and operates nine coke (a solid fuel made by heating coal in the absence of air so that the volatile components are driven off. This is used to smelt iron ore in a blas furnace.) oven batteries and produces approximately 4.7 million tons of coke annually,¹¹ that fail to abide with the federal air pollution standards is one major example that is

https://www.cdc.gov/cancer/breast/young_women/bringyourbrave/hereditary_breast_cancer/ind ex.htm.

⁷ "Hereditary Breast Cancer and BRCA Genes | Bring Your Brave | CDC." 2023. Centers for Disease Control and Prevention.

⁸ "What Are the Risk Factors for Breast Cancer?" 2022. CDC. https://www.cdc.gov/cancer/breast/basic_info/risk_factors.htm.

⁹ Arnold, Melina. 2020. "Global Burden of 5 Major Types Of Gastrointestinal Cancer." NCBI. <u>https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8630546/</u>.

¹⁰ ("Cancer Disparities - NCI" 2022)

¹¹ "Clairton Plant." n.d. Historic Pittsburgh. Accessed March 23, 2023. <u>https://historicpittsburgh.org/islandora/object/pitt:8223.5828.RR</u>.

very prevalent.¹² The most polluted areas happen to be in predominantly black neighborhoods or surrounding them. The problem with the Clairton Coke Works happens to be the pollution system they have is not working and it's releasing more pollution than what's regulated. The United States Steel Corporation is privy to this knowledge but refuses to fix the problem and continues to pay the fines for breaking these regulations. Assuming that this facility is very important to the manufacturing of coke in in the US and the reason they ingnore such blatant disregard for the health of residers in that area is because so much revenue comes from the plant and this, the governments willingness to accept repeated fines in place of protecting our citizens is an illustration of government oppression and this fact in itself is a large contributor to these disparities.

These areas also tend to lack affordable healthy food and safe exercising locations to premote healthy diets and habits to reduce the chances of various diseases. A study using a geographic information system tool saw that impoverished neighborhoods had an abundance of stores that sold alcoholic beverages and convienient stores that lack food of good nutritional value compared to the less impoverished areas. "The first study showed that, of 82 neighborhoods studied in four northern/central California cities, the most deprived neighborhoods contained more places that sold alcohol than the least deprived neighborhoods.....Higher convenience store concentrations—whether measured by density, distance, or number of convenience stores within a one-mile radius of participants' households—are significantly associated with higher levels of individual smoking."¹³

These findings also fall under the behavioral category as well. Living in these impoverished areas promotes such unhealthy habits that constitute behavioral factors. Excessive tobacco use, excessive drug use, and physical inactivity that leads to obesity are all heightened in low socioeconomic areas. This dates back to aged housing policies like redlining, which can be defined as a discriminatory practice that consists of the systematic denial of services such as

¹² Frazier, Reid. 2021. "Group worries that new air pollution permit could allow Clairton coke works to pollute more | StateImpact Pennsylvania." StateImpact. <u>https://stateimpact.npr.org/pennsylvania/2021/03/22/group-worries-that-new-air-pollution-permit-could-allow-clairton-coke-works-to-pollute-more/.</u>

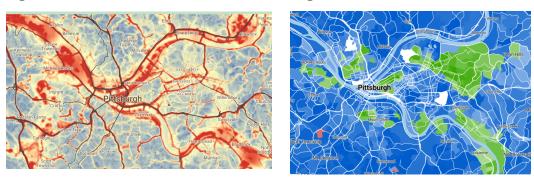
¹³ Hood, Ernie. 2005. "Dwelling Disparities: How Poor Housing Leads to Poor Health." NCBI. <u>https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1257572/</u>.

mortgages, insurance loans, and other financial services to residents of certain areas, based on their race or ethnicity.¹⁴ These areas tend to be rich in stores that hold foods of no nutritional value, tobacco products and alcoholic drinks along with abundances of factories and industrial sites that pollute the air just like the Clairton Coke Works or the Homestead Steel Works ¹⁵

Factors that fall under the environmental category can range anywhere from access to healthcare to lack of insurance and money.¹⁶ While poverty and transportation may not seem like a big deal in a smaller perspective, looking at them from a bigger picture you can see that this is where most of the disparities begin. You can not be checked out or diagnosed with any possible illness if you can not arrange transportation to the treatment facility. Things like public transportation and paid-for driving services are inconsequential when you don't have the funds to pay, a bus stop near your house or one that will get you a competent healthcare facility. Imagine that you did have fare to catch the bus to see a medical professional–not everyone has access to insurance that covers the bulk of your visit or the thousands of dollars to pay at the time of services rendered. These factors set back populations tremendously and society overlooks them because they do not "jump out" at them.

Figure 2:

Figure 3:



¹⁴ "redlining | Wex | US Law | LII / Legal Information Institute." n.d. Law.Cornell.Edu. Accessed March 14, 2023. <u>https://www.law.cornell.edu/wex/redlining</u>.

¹⁵ Tong, Michelle, Latoya Hill, and Samantha Artiga. 2022. "Racial Disparities in Cancer Outcomes, Screening, and Treatment." KFF.

https://www.kff.org/racial-equity-and-health-policy/issue-brief/racial-disparities-in-cancer-outcomes-screen ing-and-treatment/.

¹⁶ Tuckson, Reed. 2004. "Understanding Health Disparities." *Health Policy Institute of Ohio*, (November), 32.

https://www.healthpolicyohio.org/wp-content/uploads/2014/02/healthdisparities2005.pdf.

Figure 2 shows a map of the most polluted areas in pittsburgh.¹⁷ **Figure 3** shows a map of the areas in Pittsburgh by percentage of black residents.¹⁸ When looking at the two together you can see that the most polluted areas are in black communities or very close to them.

Social factors would consist of societal pressures and cultural norms. For example, health care system distrust is very prevalent in sexual minorities and is often associated with fear of stigmatization due to that. On top of being looked down upon for having a different sexual orientation, now you're fearful about being looked down upon for being black and queer.¹⁹ Instances like this make patients fearful of seeking medical care not just for cancer but for any illness. Growing up in a Black household, many young people are taught to be strong and independent; these teachings lead to a disparity among the Black-Queer community because they fear that going to the doctors to get anything tested is a sign of weakness. "The macho male culture may have a strong negative influence on the willingness of the African male to undergo PSA testing and rectal examination for prostate cancer detection. 'Real Men' behavior is displayed as a badge of honor in the community." ²⁰

Black boys are also taught that being anything but straight is wrong. Going to the doctors is a struggle enough but society makes rectal exams edvidence of "gay chrecterisrtics", making Black men who are going to the doctors even more hesitant because they are trying not to "fit this persona". A refusal to have a rectal examination is a vital component of this social persona. "Media headlines suggest that this refusal of the digital rectal examination underscores a more fundamental behavioural (sic) trait, namely, homophobia. Is it coincidental that Jamaica, cited on one hand as having the highest prevalence of prostate cancer in the world, is noted to be the most homophobic place on earth. Other Caribbean Islands and Africa have also been noted to

¹⁷ "Pollution Map." n.d. Breathe Project. Accessed March 19, 2023. <u>https://breatheproject.org/pollution-map/</u>.

 ¹⁸ "Race, Diversity, and Ethnicity in Pittsburgh, PA | BestNeighborhood.org." n.d. Best Neighborhood. Accessed March 19, 2023. <u>https://bestneighborhood.org/race-in-pittsburgh-pa/</u>.
¹⁹ Roberts, LeAnne, Bianca Wilson, Maya Green, and Christopher Harris. 2021. "Black & LGBTQ+: At the intersection of race, sexual orientation & identity." American Medical Association.<u>https://www.ama-assn.org/delivering-care/population-care/black-lgbtq-intersection-race-sexual-orientation-identity</u>.

²⁰ Roberts, Robin. 2014. "From bench to bedside: the realities of reducing global prostate cancer disparity in black men." *e Cancer Medical Science*, (08), 9. 10.3332/ecancer.2014.458.

have homophobic actions.²¹ These societal factors can be detrimental to not only a patients mindset but to those they influence. Societal pressuers and stigmas shouldnt be a factor when your health is at risk.

Section 2: Personal Narratives

Using the source, "BlackCancerVoices.org" helped to understand these disparities through a more humanizing light. Various patients shared their stories and experiences with being diagnosed for the first time, being scared and clueless about a disease that takes over their whole life, and how they coped and found methods to dealing with the health care system and managing their treatments.

Monisha Parkers was diagnosed with Breast cancer in November of 2014. She took all the steps to make sure that she could stay on top of her health, like self breast exams and check ups, as breast cancer had ran in her family. She felt a lump during one of her exams and she called her mom and went to the doctors immediately. She describes this experience as, "One day there was nothing there, and the next day, I could look in the mirror and see the lump."²². After further screenings, she was diagnosed with cancer. She reported feeling, "And it was like the world stopped for a second. It was devastating."²³. Even though she had seen her relatives live with this disease she was terrified for herself.

Parkers knew nothing about this disease, all she knew was that it impacted lives. As a health care provider it is your job to make your patient feel as prepared as you possibly can when diagnosing them. Parkers joined support groups, did extensive research and shuffled through many oncologists until she found something that worked for her and someone who took her cancer journey as seriously thoroughly as she did. She reported that an oncologist told her that she would need to have her ovaries removed and scheduled the appointment for such, without sufficiently informing Parkers why. "Even after I finished my chemo, my oncologist (I switched

²¹ (Roberts 2014, 1-9)

²² Parkers, Monisha. n.d. "Home." YouTube. Accessed March 14, 2023. <u>https://blackcancervoices.org/stories/AAJsgUf1</u>.

²³ (Parkers, n.d.)

a few times), she had already gone and scheduled surgery for me to have my ovaries removed. It wasn't something that I had talked to her about in depth, so I was so confused as to why the surgery was scheduled.²⁴.

She talked about the various support groups she joined and the differences among them. How the options presented to the Black community was vastly different from those offered to their white counterparts. She says something very important here, "There's no Black cancer, no white cancer, but there's definitely a difference in the options that you're given"²⁵. Cancer is a universal disease that affects all of the population, not just one specific fraction. No patient should have to experience feeling neglected, overlooked, or rushed through on top of being diagnosed with something that's life changing. Like she said there's no black cancer and there is no white cancer, so there should never be a difference in the care and attention, as clear as these ones, you give to your patients.

While mistrust and provider biases are a big part of cancer and healthcare disparities, this is not the only factor that causes them. Corey Manning was diagnosed with prostate cancer in February of 2020. He went for his regular check up, and his doctor said that his PSA levels were elevated, even though they told him not to worry. "They said my PSA levels were slightly elevated. I didn't know what that was. I said, "Okay." And they were like, "Yeah, but I wouldn't worry about that, you'll be fine. You're still young and that doesn't mean you have cancer."".²⁶ When they called him later with the results, he was diagnosed with cancer. He went in for surgery and they were able to remove all of the cancer. Mr. Manning is a cancer survivor and advocate for those who need it.

In his interview, he expressed feeling the pressure of societal stigmas when going to get checked out. "Yeah. I was fearful that if I have a man stick his finger up my butt, that automatically meant I was gay, but it doesn't [sic]. And I don't know how many of us black men have died from cancer because we are scared that a finger in our butt means that we [sic] gay"²⁷.

²⁴ (Parkers, n.d.)

²⁵ (Parkers, n.d.)

²⁶ (Manning, n.d.)

²⁷ Manning, Corey. n.d. "Home." YouTube. Accessed March 22, 2023. <u>https://blackcancervoices.org/stories/ve7KR8Xn</u>.

Stigmas like these deter patients that fit this criteria from seeking medical care of any sort. Society pushes these beliefs onto people that get passed down from generations, creating these disparities. Having prostate exams doesn't automatically make you gay and gay people that have prostate exams shouldnt feel marginalized because of an opinion a healthcare provider may or may not have. Societal pressuers and stigmas shouldnt be a factor when your health is at risk.

Manning is now an advocate for those who have cancer or are having these symptoms and are forgoing care due to these fears. He expressed having a support group of others that understood and could relate with him made him feel more comfortable with getting checked out and facing his disease head on. "It was great for me to talk to others who had cancer, regardless of what cancer they had, because only they could identify with the emotions that I was going through. And because they were able to say they were going through those things, in fact, helped me feel more comfortable about going through what I was going through. It really empowered me."²⁸Societal factors, like this one expressed in Mr. Mannings narrative, can really hinder and community of individuals. The realization that disparities can be caused by things that seem small scale can really broaden someones perspective on the topic.

Using the facts from section 1 and the first person accounts from this section helps to empathize with this topic. Knowing that this disease is real and humans actually live with the reality everyday makes the topic at hand seem more pressing. Mrs. Drakeford, Mrs. Parker, and Mr. Manning will live with this disease or the possibility of it returning for the rest of their life, they have and will continue to experience these disparities just because of the color of their skin, and they will continue to have this disadvantage in the healthcare system if nothing is done to subdue these inequalities. For Black people, there is often this cloud of anxiety surrounding these disparities. It is terrifying for anyone who is Black living with these diseases, knowing that by virtue of being black you have a much higher risk of mortality–for no other reason but race.

²⁸ (Manning, n.d.)

Conclusion

Disparities surrounding lack of access to health care and transportation, genetic differences, healthcare provider bias, lack of access to healthier habits and governmental oppression hinder our society on a daily basis. People are forced to live with diseases that stem from some factors that are out of human jurisdiction and others that seem to be pushed aside. Because the population demographic is constantly changing we need to find a way to address and solve the issue. We need to be able to treat all of the population effectively and to do this we need to know where the issue starts.

In order to begin rectifying these troubling disparities, they must first be properly acknowledged. In order to do that, it is essential that the full complexity of this phenomenon be addressed. It is not sufficient to treat this issue as a medical oversight, one that can be remedied without much difficulty. While there are efforts being made, nothing will work if we continue this cycle of inequitable treatment. Introducing small super markets or fresh produce in to corner or dollars store can help the food inequality, being more environmentally friendly, like having the government care that factories are breaking the pollution standard, instead of letting them pay fines for it, but making them find a solution to the problem; it needs to be about the lives of those who are suffering and not the income.

Just as awareness needs to be raised in the communities most at risk, the medical field also must acknowledge and reform practices that, intentionally or not, contribute to these healthcare disparities that affect these cancer mortality rates. For instance, raising awareness about cancer research trials to all your patients instead of a fraction can help towards a more inclusive reflection of everyone in the United State instead of just the privileged class. Additionally, medical providers should be more forthcoming about the severity of of disease, this can help to ease patients into being more comfortable reaching out for help and asking questions about what they can do to be on a better track to good health. Doctors and nurses need to recognize that their patiens are not lab experiments or documentation number scribbled in a note pad somewhere, they are human beings. Lastly, the medical field should prioritize technology that is able to work on patients of all races and ethnicities, rather that assuming that what worked for mostly-white research participants will work just as well for everyone else.

As the stories of Mr. Manning, Mrs. Drakeford, and Mrs, Parkers along with a plethora of others show, the medical field often fails in providing equal care to everyone. Introducing these practices mentioned above is not a total solution to the years of this indifferent, ignorant, and intolerant treatment, but a step towards a better future. Cancer affects every type of person in the United States, but it does not affect them equally. In order to help the population as a whole we need address and assess, and only then will America's healthcare system be equitable for all and not just one. Until health outcomes are no longer dependant on non-medical factors, this country has an obligation to its citizens to seek every opportunity to make that dream a reality.

References

"Age-Adjustment." n.d. National Library of Medicine. Accessed March 13, 2023.

https://www.nlm.nih.gov/nichsr/stats_tutorial/section2/mod5_age.html.

Arnold, Melina. 2020. "Global Burden of 5 Major Types Of Gastrointestinal Cancer." NCBI. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8630546/.

"Cancer Disparities - NCI." 2022. National Cancer Institute.

https://www.cancer.gov/about-cancer/understanding/disparities.

"Clairton Plant." n.d. Historic Pittsburgh. Accessed March 23, 2023.

https://historicpittsburgh.org/islandora/object/pitt:8223.5828.RR.

Drakeford, Shonté. n.d. "Home." YouTube. Accessed March 13, 2023.

https://blackcancervoices.org/stories/fxP2WR84.

Frazier, Reid. 2021. "Group worries that new air pollution permit could allow Clairton coke works to pollute more | StateImpact Pennsylvania." StateImpact.

https://stateimpact.npr.org/pennsylvania/2021/03/22/group-worries-that-new-air-pollution -permit-could-allow-clairton-coke-works-to-pollute-more/.

"Hereditary Breast Cancer and BRCA Genes | Bring Your Brave | CDC." 2023. Centers for Disease Control and Prevention.

https://www.cdc.gov/cancer/breast/young_women/bringyourbrave/hereditary_breast_can cer/index.htm.

Hood, Ernie. 2005. "Dwelling Disparities: How Poor Housing Leads to Poor Health." NCBI. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1257572/. Manning, Corey. n.d. "Home." YouTube. Accessed March 22, 2023.

https://blackcancervoices.org/stories/ve7KR8Xn.

Parkers, Monisha. n.d. "Home." YouTube. Accessed March 14, 2023.

https://blackcancervoices.org/stories/AAJsgUf1.

"Pollution Map." n.d. Breathe Project. Accessed March 19, 2023.

https://breatheproject.org/pollution-map/.

"Race, Diversity, and Ethnicity in Pittsburgh, PA | BestNeighborhood.org." n.d. Best Neighborhood. Accessed March 19, 2023.

https://bestneighborhood.org/race-in-pittsburgh-pa/.

- "redlining | Wex | US Law | LII / Legal Information Institute." n.d. Law.Cornell.Edu. Accessed March 14, 2023. <u>https://www.law.cornell.edu/wex/redlining</u>.
- Roberts, LeAnne, Bianca Wilson, Maya Green, and Christopher Harris. 2021. "Black & LGBTQ+: At the intersection of race, sexual orientation & identity." American Medical Association.

https://www.ama-assn.org/delivering-care/population-care/black-lgbtq-intersection-race-s exual-orientation-identity.

- Roberts, Robin. 2014. "From bench to bedside: the realities of reducing global prostate cancer disparity in black men." *e Cancer Medical Science*, (08), 9. 10.3332/ecancer.2014.458.
- Tong, Michelle, Latoya Hill, and Samantha Artiga. 2022. "Racial Disparities in Cancer Outcomes, Screening, and Treatment." KFF.

https://www.kff.org/racial-equity-and-health-policy/issue-brief/racial-disparities-in-cance r-outcomes-screening-and-treatment/. Tuckson, Reed. 2004. "Understanding Health Disparities." *Health Policy Institute of Ohio*, (November), 32.

https://www.healthpolicyohio.org/wp-content/uploads/2014/02/healthdisparities2005.pdf.

"What Are the Risk Factors for Breast Cancer?" 2022. CDC.

https://www.cdc.gov/cancer/breast/basic_info/risk_factors.htm.

"What Causes Prostate Cancer?" 2019. American Cancer Society.

https://www.cancer.org/cancer/prostate-cancer/causes-risks-prevention/what-causes.html.

Wu, Ina, and Charles S. Modlin. 2012. "Disparities in prostate cancer in African American men:What primary care physicians can do." *Cleavland Clinic Journal of Medicine* 79 (5): 113

- 120. Google Scholar.