IMPACT OF LEGISLATIVE POLICY ON YOUNG WOMEN'S BREAST CANCER HEALTH

by

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DISSERTATION

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Abstract

Breast cancer is the second most common type of cancer among women in the United States (CDC, 2021). Approximately 12% of US women will be diagnosed with breast cancer during their lifetime and 3% will die from invasive breast cancer (American Cancer Society, 2021). It is one of the leading causes of cancer deaths in women, with an estimated 42,000 women dying annually in the US. Young Black women have lower survival rates, higher risks of metastatic recurrence, and a higher mortality rate (Young Survival Coalition, 2021). This quality improvement project utilized retrospective data to examine the impact of the EARLY Act Reauthorization of 2014 on breast cancer mortality and morbidity rates in young Black women under 50 years old. Young Black women under the age of 50 diagnosed with breast cancer living in Texas were the target patient population. Data before and after the enactment of the EARLY Act Reauthorization of 2014 was reviewed and analyzed in collaboration with a statistician. The data analyzed showed an overall decrease in mortality rates over time. A z test was used to compare the mortality rate for each group before and after enactment of the EARLY Act Reauthorization. The difference was found to be statistically significant for young Black women.

Keywords: Breast cancer awareness, breast cancer morbidity, breast cancer mortality

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Legislative Policy on Young Women's Breast Cancer Health

Breast cancer results from cells growing rapidly and out of control in the breast. It is among the most common types of cancer that affect women, making it the second most common type of cancer among women in the United States (CDC, 2021). Approximately 12% of US women will be diagnosed with breast cancer during their lifetime and 3% will die from invasive breast cancer (American Cancer Society, 2021). In 2017 alone, there were more than 250 000 new breast cancer cases in the US (Waks & Winer, 2019). In addition, it is one of the leading causes of cancer deaths in women, with an estimated 42,000 women dying annually in the US. Health disparities are evident for breast cancer deaths and diagnosis in young Black women. Black women have a higher incidence of breast cancer at a younger age and are more likely to die from invasive breast cancer at any age (American Cancer Society, 2021). Though there have been great improvements in early detection and breast cancer treatment, there are still higher breast cancer mortality rates in Black women (Richardson et al., 2016).

 A greater percentage of young women have been diagnosed with breast cancer in recent years, although most cases are found in women 50 years or older. It is a difficult diagnosis to treat for women of all ages; it is also overwhelming for young survivors, but young Black women have higher mortality rates and lower survival rates (CDC, 2020). A breast cancer diagnosis manifesting at a young age in Black women is associated with negative prognostic outcomes (Walsh et al., 2020).

More than 250,000 young women living in the US as of today were diagnosed with breast cancer under the age of 40. Furthermore, more than 1,000 young adults under age 40 die from invasive breast cancer every year (Young Survival Coalition, 2021). Breast cancer in young Black women tends to be diagnosed in later stages and is more aggressive compared to breast

cancer in older women. Young Black women have lower survival rates, higher risks of metastatic recurrence, and a higher mortality rate (Young Survival Coalition, 2021). To increase breast cancer awareness in young adults, improve the quality of life and health of young survivors and young women who are at greater risk for breast cancer, the EARLY Act Reauthorization of 2014 was enacted in December 2014 (GovTrack.us, 2021). The purpose of this law was to support young women with a breast cancer diagnosis, educational and outreach programs to educate health care professionals and the public about young women's breast health, and to promote research on breast cancer prevention in young women (GovTrack.us, 2021).

Literature Review

A review of the literature (ROL) was conducted on determining factors of health affecting breast cancer mortality and morbidity rates. The search engines included but were not limited to Academic Search Complete (EBSCOhost), Google Scholar, Wiley Online Library, Ovid Academic Search, CINAHL Plus Academic Search, and Elsevier Science.

Different groups of shareholders are affected by the EARLY Act Reauthorization of 2014, and they include young women under the age of 50, young breast cancer survivors, high-risk women, and healthcare professionals (GovTrack.us, 2021). Through the Act, young women are encouraged to be aware of their personal breast cancer risk factors, early breast cancer detection, genetic counseling, preventative lifestyle changes, and self-awareness. Young breast cancer survivors receive caregiver support, emotional, financial, psychosocial, lifestyle, and risk reduction strategies to decrease chances of recurrence. Healthcare professionals receive the education that helps in increasing breast cancer awareness among healthcare professionals.

Determinants of Health & Health Disparities

   Research shows the existence of breast cancer disparities in the United States (Yedjou et al., 2019). Possible risk factors in breast cancer disparities include socioeconomic status, genetic and biological differences, stage at diagnosis, and healthcare access. Poverty, social injustice, and culture are among the socioeconomic determinants affecting young black women's disparity in breast cancer morbidity and mortality. Low-income Black women receive significantly lower breast cancer screening which contributes to late-stage diagnosis and inadequate treatment which results in a higher breast mortality rate among young Black women (Yedjou et al., 2019). Compared to White women, Black women are more likely to live in poverty. Poverty is linked to a lack of information and less education on breast cancer awareness and the importance of early detection which leads to late-stage diagnosis and lower breast cancer survival rates among young black women (Yedjou et al., 2019).

   Per Miller et al. (2017) and Yedjou et al. (2019), there is a significantly higher mortality rate among young Black women as compared to young White women and women from other races in the US. Scientific data show incidences of breast cancer among Black women are slightly comparable to white women, but young Black women are known to develop aggressive cases of breast cancers at earlier ages which lower their survival rates as compared to young White women (Yedjou et al., 2019; McKenzie et al., 2018). The higher breast cancer mortality rates and low survival rates among young Black women as compared to other ethnic groups are attributed to the late stage at diagnosis of breast cancer, lack of or barriers to health care access, genetic and biologic differences, and risk factor prevalence (DeGuzman et al, 2017; Santorelli et al., 2017). Barriers to early breast cancer screening and detection, lack of healthcare insurance

coverage, and lack of access to equal cancer treatment improvements are also linked to low survival rates among young Black women in the United States (Yedjou et al., 2019).

Policies and Initiatives

Historical reflections on breast cancer rates revealed poor access to services associated with low breast cancer survival and mortality rates. In the United States, breast cancer remained a hidden disease among American women until the 20th century (Osuch et al., 2012). To eradicate breast cancer in the US, the Breast Cancer Research Program (BCRP) was created in 1992. The objective was to fund innovative and high-impact research by partnering with scientists and consumers to fight breast cancer (National Breast Cancer Coalition, 2021). The BCRP has had a positive impact on eradicating breast cancer by challenging the scientific community to design research that addresses the urgency of eradicating breast cancer. They encourage innovation, creativity and enable productive collaborations to accelerate important research with clinical relevance (National Breast Cancer Coalition, 2021).

The Breast and Cervical Cancer Treatment Act was enacted in 2000 by Congress to improve access to breast cancer as well as cervical cancer screening. It was to ensure both women and men diagnosed with breast cancer were able to access the cancer treatment they deserve. With a need to address health disparities, congress enacted the National Breast and Cervical Cancer Early Detection Program (NBCCEDP) directing the CDC to implement strategies geared towards increasing access to breast and cervical screening as well as diagnostic services. The NBCCEDP agenda was to decrease morbidity, mortality, and cancer incidence by focusing on underserved patient populations. Studies suggest that NBCCEDP breast cancer screening led to reduced mortality and morbidity rates in underinsured low-income American women (Shulman, 2011).

In the year 2009, Breast Cancer Education and Awareness Requires Learning Young Act of 2009, also known as the EARLY Act, was enacted. This law was to increase public awareness on breast health and the breast cancer threats young women face as well as the risk factors different ethnic, racial, and cultural groups face. The focus was on risk factor awareness through public education and outreach programs. In December 2014, the EARLY Act Reauthorization of 2014 was reenacted (GovTrack.us, 2021). The aim of the bill was to support young women with a breast cancer diagnosis, educational and outreach programs to educate health care professionals and the public about young women's breast health, and research on breast cancer prevention in young women. Again in 2020, the EARLY Act Reauthorization of 2020 was passed into law (GovTrack.us, 2021).

Project Question

Did the enactment of the EARLY Act Reauthorization of 2014 decrease breast cancer mortality and morbidity rates in Black women under 50 years old residing in Texas?

Project Objective

The project objective was to examine the impact of the EARLY Act Reauthorization of 2014 on breast cancer mortality and morbidity rates in Black women under 50 years old.

Framework

Cheryl Stetler's Model of Research Utilization was used to theoretically guide this project (See Appendix A). Stetler's Model of Research Utilization was developed in 1994 by Stetler who later revised it in 2001 (Stetler, 2001). The Stetler Model is individual practitioner-oriented hence it was utilized by the project lead in guiding this project. The framework helped in identifying the key steps and factors necessary for examining the impact of the EARLY Act Reauthorization of 2014. It formulated a series of critical thinking as well as decision-making

steps that facilitated effective use of the available data to appropriately guide this quality improvement project. The Stetler Model is among the original models developed as an evidence-based practice (EBP) model for nursing; hence, it is a common model that has received a lot of attention from healthcare professionals (Stetler, 2001).

The Stetler Model consists of five phases: preparation, validation, comparative evaluation/decision making, translation/application, and evaluation (Stetler, 2001). In phase, I, the preparation phase, the project lead searched and selected the program to be evaluated, which is the EARLY Act Reauthorization of 2014. Critical thinking was utilized throughout the process in relation to both internal and external factors influencing the program. During phase II, the validation phase, the project lead assessed all the sources of evidence and appraised the study findings. In phase III, the decision-making phase, a decision was made; the EARLY Act Reauthorization of 2014 reduced breast cancer mortality and morbidity rates in Black women under 50 years old. This decision was made based on the substantiating evidence gathered. Phase IV involved the translation of the project findings. In phase V, the evaluation phase, the project lead clarified the project's expected outcomes as they relate to the purpose of the project.

Methods

Design

This quality improvement project utilized retrospective data to evaluate breast cancer mortality and morbidity rates in women under 50 years old before and after the reenactment of the EARLY Act Reauthorization of 2014. Retrospective data was used because it allowed the lead to better formulate ideas on the impact of the Act Reauthorization of 2014 on mortality and morbidity as outcomes that had already occurred by the time the project was initiated. The project lead examined and evaluated available data using the Texas Department of State Health

Services and Texas Health Care Information Collection. The Texas Health Care Information Collection (THCIC) was created by Texas Legislature in 1995 to help consumers make informed healthcare decisions related to quality indicators set by the United States federal government (THCIC, 2021). Patient data evaluated included but was not limited to the diagnosis, gender, and age.

Population/Setting

Data on young breast cancer patients in Texas five years before and after the enactment of the EARLY Act Reauthorization of 2014 was included. Inclusion criteria included Black female patients with a breast cancer diagnosis, residing in Texas, and aged 15-50. This allowed for in-depth patient characteristics analysis as well as outcomes significant to the health policy initiative.

Measurement Methods

The Centers for Disease Control and Prevention (CDC) and the Department of Health and Human Services (HHS) were the databases utilized for this project. These databases (method) are open access to the public hence they did not require approval. The data measured included breast cancer mortality and morbidity rates in women under the age of 50 years old. These databases are considered reliable and valid. They apply rigorous scientific standards that warrant the reliability and accuracy of research results (CDC, 2017). For example, peer review is highly recognized as a principal means of quality control.

Data Collection/Procedure

The project lead obtained approval from the Graduate Nursing Review Committee (GNRC), a sub-committee of the University's Institutional Review Board (IRB). The project lead

then developed a timeline (see Appendix B). The project lead reviewed and analyzed data on breast cancer mortality and morbidity rates in the Texas Department of State Health Services (TDHHS) database. Available data five years before and after the enactment of the EARLY Act Reauthorization of 2014 was analyzed. For better measurement of the outcomes, breast cancer mortality and morbidity rates in young Black women under the age of 50 was examined and analyzed. A data collection tool (see Appendix C) was used to organize as well as present data. The data utilized was stored in the project lead's computer protected by a private password.

Procedure

The project lead analyzed the Department of Health and Human Services (HHS) efforts to provide breast cancer education and support to young women under the age of 50 as required by law. The project lead closely examined the efforts put in place across the four areas specifically supported in the act; prevention research, public education campaign, support grants, and health professional education campaign.

Under the public education campaign, the project lead examined efforts put in place to educate women at risk of breast cancer as well as those living with breast cancer. In 2014 and 2015, respectively, the CDC launched Know: BRCA, a risk assessment tool, and Bring Your Brave an online resource for breast cancer survivors (GAO, 2016). Under support grants, total grants awarded by the CDC to support young women with breast cancer were analyzed by the project lead. Under the health professional education campaign, efforts to keep health professionals current on young breast cancer health as well through continuing education were analyzed by the project lead. The project lead analyzed all the information gathered in reference to young black women's breast cancer deaths and incidents. This provided enough information by the end of the thirteenth week that helped in determining the impact of the EARLY Act

Reauthorization of 2014 on breast cancer mortality and morbidity rates in Black women under 50 years old.

Statistical Analysis

The data obtained by the project lead was analyzed in collaboration with a statistician. The data was entered, then analyzed using a Statistical Package for the Social Sciences (SPSS) version 28 software. A z test was used to examine the change in breast cancer mortality rates in young Black women before and after the enactment of the EARLY Act Reauthorization of 2014.

Ethical Considerations

A human subject protection certificate was obtained by taking a training (see Appendix E). Approval was obtained from the Graduate Nursing Review Committee (GNRC), a sub-committee, of the University's Institutional Review Board (IRB).

Conflict of Interest

The author declares no conflict of interest.

Results

Project Outcome

Data on breast cancer morbidity and mortality rates in Texas were obtained for two time periods: the five years before the reinstatement of the Act, and the five years after. Data can be seen in Appendix C. Specifically for Black women under 50, there were 2920 patients from 2010-2014, and 415 deaths during that time. From 2015 – 2019, there were 534 patients and 101 deaths. A z test for proportions was used due to the large difference in sample size between the two groups. The test showed there was a significant difference between the two time periods ($z =$ -2.7355), indicating mortality rates from breast cancer significantly decreased.

For further clarification, the mortality rates for each time period were compared for additional groups: all patients across ages and racial groups, all patients under 50 years old, white patients across ages, white patients under 50, and Black patients across age groups. None of these groups showed a significant difference in the mortality rate between the two time periods; the difference was only significant for Black women under 50 years of age (see Appendix D).

Discussion

Reinstating the EARLY Act Reauthorization of 2014 led to declines in breast cancer mortality and morbidity rates. The results show the Act helped to reduce breast cancer mortality rates for Black women, specifically those under the age of 50, but not for other age groups. There was a 75.7% decrease in breast cancer mortality rates in Black women under the age of 50. This report suggests the decrease in mortality and morbidity rates was due to early breast cancer detection among women through screening. Early breast cancer detection is critical to saving lives. It is critical to continue the fight against breast cancer, especially through preventative measures and early detection. In the future, a study should be conducted to find out why there were better outcomes for Black women under the age of 50 as compared to other age groups as seen in mortality and morbidity rates.

<div align="center">

Summary

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Key Findings

The project lead's health policy analysis helped illustrate those enacting policies such as the EARLY Act Reauthorization of 2014, have a high probability of impacting minority groups thus reducing mortality and morbidity rates overall. This policy analysis has highlighted three interventions policymakers can use to reduce breast cancer rates among women: addressing

racial disparities, improved breast cancer awareness, and preventative screens. Policymakers should continue to ensure access to preventative screenings such as mammograms, as affordable and accessible as possible through federal initiatives.

Strengths of this project include, but are not limited to, its exclusive focus on young Black women under the age of 50. It is also designed to shed some light on inequalities in at-risk young Black women compared to other races and age groups. Also, the design allowed the ability to accumulate a large amount of data for different breast cancer patients in various age groups.

Limitations

The project findings are subject to at least three limitations. First, race and ethnicity data were obtained from public databases, and this might be subject to misclassification bias. Second, due to rigorous and extensive steps required in reporting cancer registry data, most of the data used is several years old. Lastly, cancer registries do not regularly collect risk factor data that could reflect the differences noted in this report.

Conclusion

Breast cancer continues to be among the most common types of cancer that affect women. More than 250 000 breast cancer new cases were reported in 2017 alone (Waks & Winer, 2019). About 2,300 men in the US are diagnosed with breast cancer each year, and about 42,000 women in the U.S. die from breast cancer every year (American Cancer Society, 2021). This makes it the second most common type of cancer in women. Early breast cancer detection through screening and treatment remains the best line of defense for this deadly disease. Early detection and treatment reduce mortality, morbidity rates and improve survival rates (Homan et al., 2021).

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Appendix A

Stetler Model
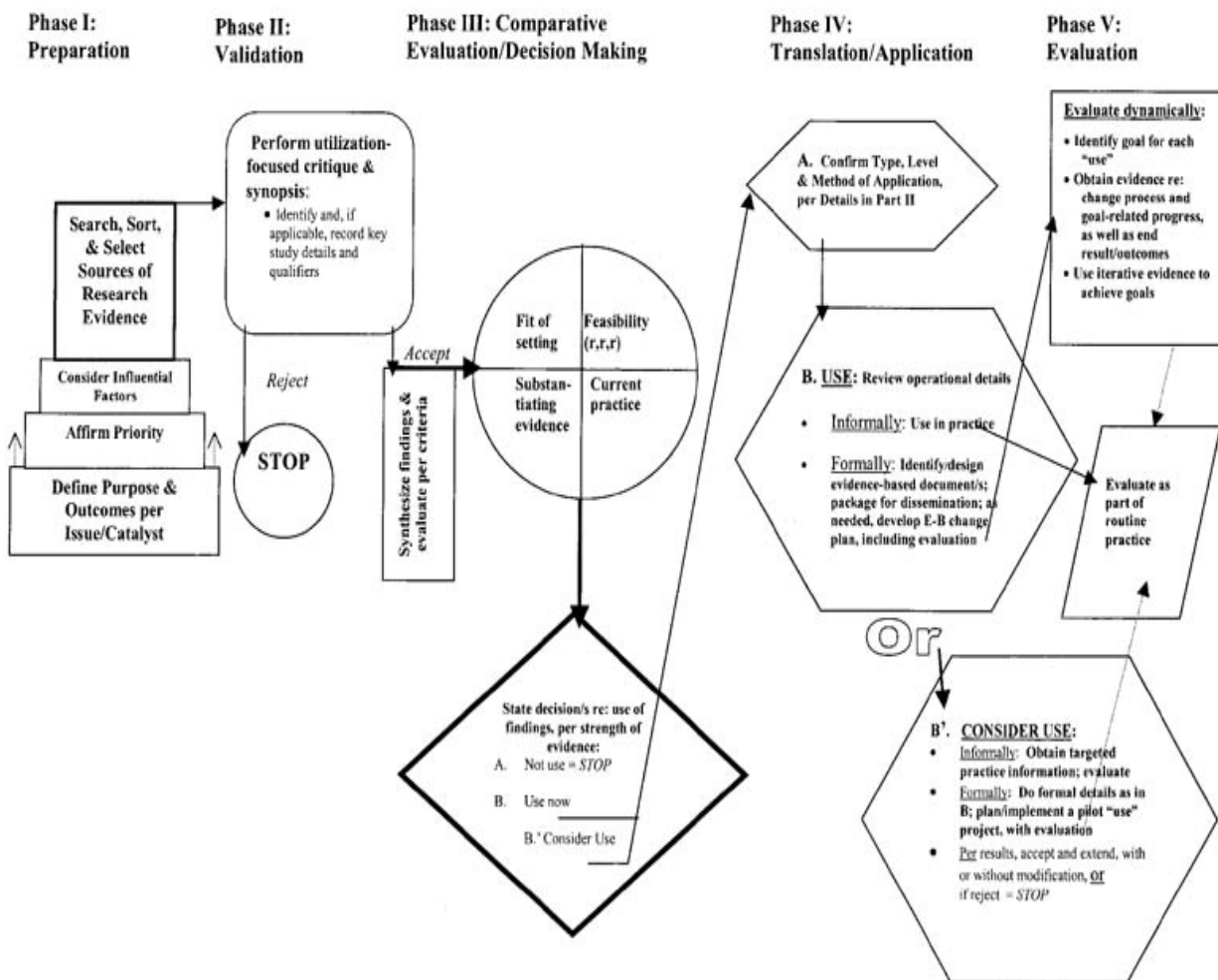
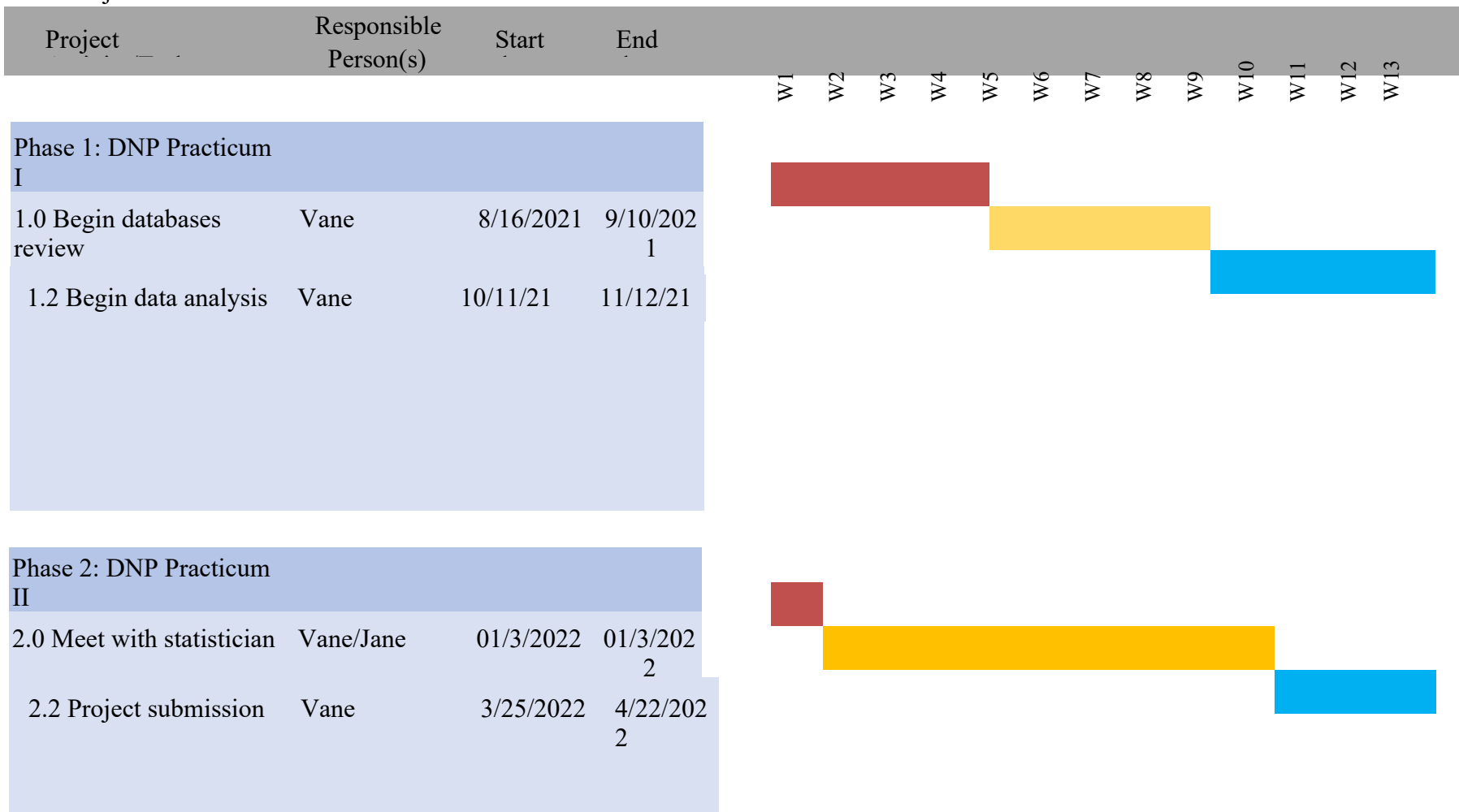Retrieved from https://www.researchgate.net/figure/fig1_268218163

Appendix B

Project Timeline

Project Title: Impact of Legislative Policy on Young women's Breast Cancer Health

Project Lead: Vane Omosa

Project Start: 8/16/2021

Project	Responsible Person(s)	Start	End	W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13
Phase 1: DNP Practicum I																
1.0 Begin databases review	Vane	8/16/2021	9/10/2021													
1.2 Begin data analysis	Vane	10/11/21	11/12/21													
Phase 2: DNP Practicum II																
2.0 Meet with statistician	Vane/Jane	01/3/2022	01/3/2022													
2.2 Project submission	Vane	3/25/2022	4/22/2022													

Appendix C

Data Collection Tool

Average annual number and rate of female breast cancer deaths (2010–2014) and invasive cases (2009–2013) among women, by black or white race, and age group in Texas-US

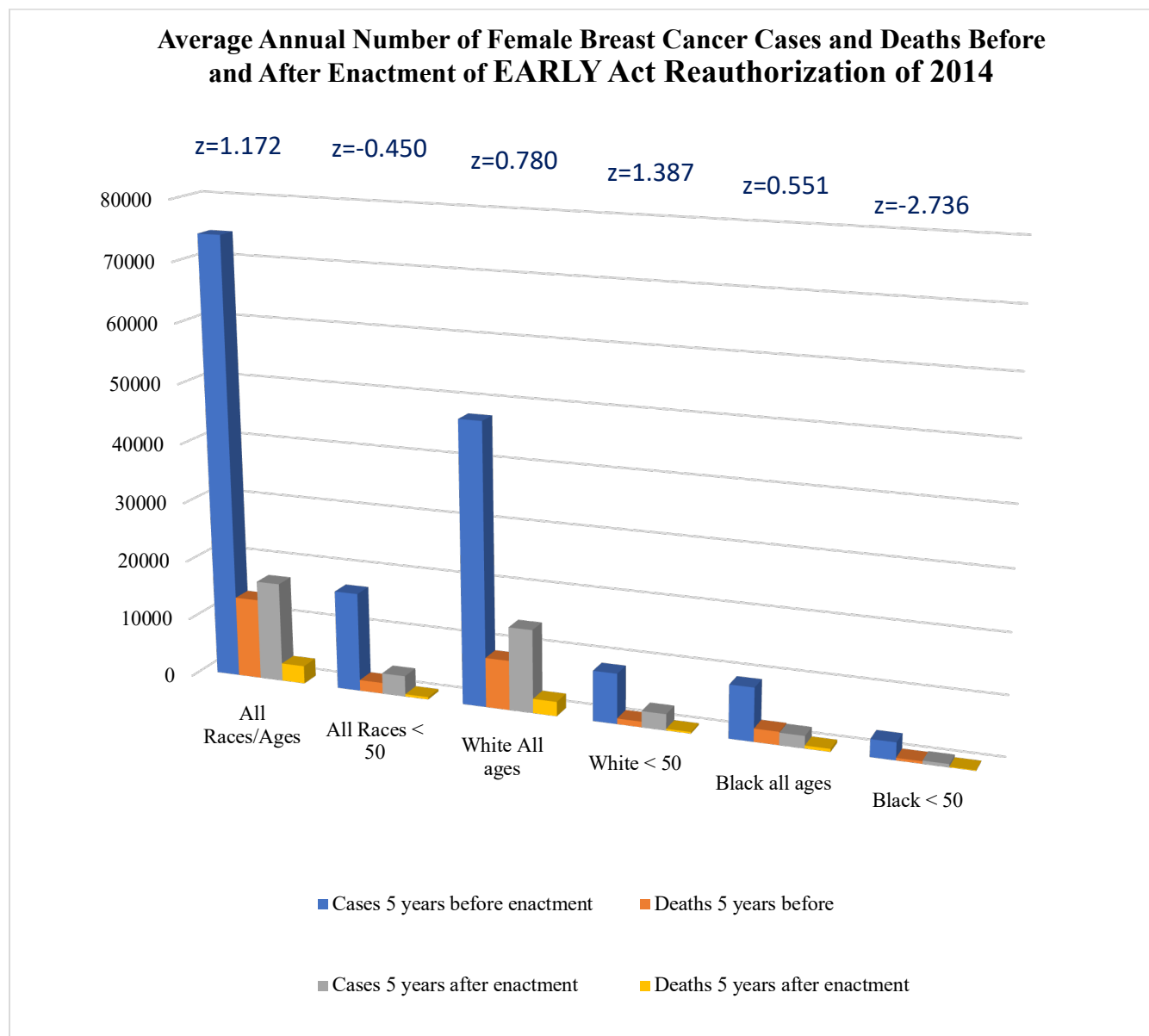| Data Collection Tool				
Project	Impact of Legislative Policy on Young women's Breast Cancer Health			
Project Lead: Vane Omosa			Date: 8/16/21-4/1/22	
Race/age group (years)	Mortality		Morbidity	
	No.	Rate (95% CI)	No.	Rate (95% CI)
All Races/Ages	13,577	20.4 (20.0–21.7)	74,277	114.5 (113.7–115.4)
<50	1,838	8.9	16,656	61.7
White	8,355	20.5 (20.1–21.0)	47,435	125.4 (124.2-126.5)
<50	943	12.3	8,427	73.4
Black	2198	30.9 (29.6–32.2)	8,916	124.6 (122.0–127.3)
<50	415	18.1	2,920	102.2

Dashboard Data Cont'

Average annual number and rate of female breast cancer deaths (2015-2019) and invasive cases (2014–2018) among women, by black or white race, and age group in Texas- US

Data Collection Tool				
Project	Impact of Legislative Policy on Young women's Breast Cancer Health			
Project Lead: Vane Omosa			Date: 8/16/21-4/1/22	
Race/age group (years)	Mortality		Morbidity	
	No.	Rate (95% CI)	No.	Rate (95% CI)
All Races/Ages	3,004	19.9 (19.6, 20.2)	16,792	114.2 (113.4- 115.0)
<50	396	4.5 (4.3, 4.7)	3,498	40.7 (40.1- 41.3)
White	2,426	19.2 (18.8, 19.5)	14,005	115.3 (114.5-116.2)
<50	277	4.0 (3.8, 4.2)	2,714	40.2 (39.6, 40.9)
Black	495	28.5 (27.3, 29.7)	2,059	117.8 (115.5, 120.2)
<50	101	8.1 (7.4, 8.9)	534	44.8 (43.1, 46.6)

Appendix D

Figure 1

Average Annual Number of Female Breast Cancer Cases and Deaths Before and After Enactment of EARLY Act Reauthorization of 2014

Appendix E

Human Subject Protection Certificate