

# Navigating Pennsylvania Cancer Patients Program: A Chart Review of Oncology Patient Disparities Among Urban and Rural Populations

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## Abstract

Cancer disparities are prevalent in the United States, particularly among minorities and rural populations. Barriers in the healthcare system hinder patient access to medical facilities and cancer treatments. Commonly cited personal barriers include competing survival priorities, lack of cancer prevention knowledge, and fatalistic beliefs.

As part of a larger demonstration project to evaluate the impact of patient navigation to help cancer patients overcome barriers to care we collected baseline data, through chart review, to determine the typical length of time between the diagnosis and treatment among a diverse population. A 30% stratified random sample of patients diagnosed with breast, lung, colorectal, prostate, and cervical cancer, from 7/1/05-12/31/06, was collected from an inner city hospital and a rural medical center. Diagnosis and treatment dates and cancer stage data were abstracted from hospital records. Kruskal-Wallis and Mann-Whitney U tests were used for data analysis. Quantitative results suggest that minority patients may experience a greater treatment delay than White patients at Temple (p<0.05) and that urban patients experience a longer treatment delay than rural patients (p<0.001). Insurance status did not seem to be associated with lack of access to cancer care. These findings will have important implications for the pilot patient navigation program that is designed to help reduce cancer disparities in Pennsylvania.

## Background

- Studies suggest that race and geographic location are associated with increasing health disparities in the United States
- Minorities are more likely than Whites
  - to be diagnosed at later cancer stages
  - experience a greater delay between diagnosis and treatment
- Standard time between cancer diagnosis and treatment is four to six weeks
- Rural populations are located far away from medical clinics or cancer centers, which can cause rural patients to be diagnosed at later stages of cancer
- Physical and personal barriers to treatment such as lack of insurance, inadequate knowledge of the health system, limited transportation, mistrust of the health care system, and competing priorities can contribute to health disparities

## Chart Review

### Program Aims

- The "Navigating Pennsylvania Cancer Patients Program and Study" meets the following goal in the Comprehensive Cancer Plan: To promote patient empowerment and informed decision making
- The goal of the PADOH is to ultimately improve cancer care for patients in the Commonwealth
- The PADOH provided funding to Fox Chase Cancer Center to address this need by way of a 3 year grant

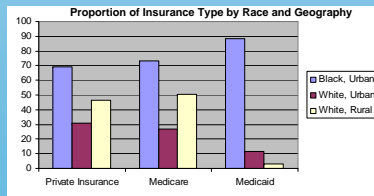
### Project Aims

- As part of a larger study this project had three aims:
- To determine if minorities are diagnosed at later stages of cancer and experience greater treatment delays compared to Whites in urban Philadelphia
  - To determine if rural patients are diagnosed at later stages of cancer and experience greater treatment delays when compared to urban patients
  - To determine if insurance status affects access to cancer treatment

## Methods

- Conducted data abstraction from paper and electronic medical records from two sites:
  - Urban Philadelphia, PA
  - Rural State College, PA
  - Variables include: gender, age, race, insurance, cancer type, cancer stage upon diagnosis (0-IV), date of diagnosis, and date of treatment
- A 30% stratified random sample was taken from patients' records diagnosed with breast, colorectal, prostate, cervical, or lung cancer between 7/1/05 – 12/31/06
- Analyzed data using Kruskal-Wallis and Mann Whitney U tests using SPSS 15.0

## Demographics



## Demographics

Urban University Hospital n=145	Rural Medical Center n=124
<b>Age</b> 27-84 mean 62.9	<b>Age</b> 38-91 mean 65.1
<b>Gender</b> Male, n=65 Female, n=80	<b>Gender</b> Male, n=56 Female, n=68
<b>Race</b> Black, n=95 Hispanic, n=18 White, n=32	<b>Race</b> Black, n=1 Other, n=2 White, n=120
<b>Type of Cancer</b> Breast, n=31 Cervical, n=7 Colorectal, n=37 Lung, n=26 Prostate, n=26	<b>Type of Cancer</b> Breast, n=41 Cervical, n=2 Colorectal, n=21 Lung, n=26 Prostate, n=34
<b>Stage Diagnosis</b> Early (0-II), n=44 Late (III-IV), n=35	<b>Stage Diagnosis</b> Early (0-II), n=61 Late (III-IV), n=28
<b>Diagnosis to Treatment, n=70</b>	<b>Diagnosis to Treatment, n=115</b>
<b>Insurance Type</b> Medicaid, n=31 Medicare, n=40 Private, n=50	<b>Insurance Type</b> Medicaid, n=3 Medicare, n=50 Private, n=43

## Results

### Comparison of Cancer Stage upon Diagnosis and Treatment Delay by Race/Ethnicity at Urban Hospital<sup>1</sup>

Race/Ethnicity	Cancer Stage Upon Diagnosis		Median Time Between Diagnosis and Treatment (in days)
	Early <sup>1</sup>	Late <sup>2</sup>	
<b>Black, n=53</b>	<b>52.8%</b>	<b>47.2%</b>	<b>49</b> (20.75, 103.0)
<b>Hispanic, n=9</b>	<b>55.6%</b>	<b>44.4%</b>	<b>64.5</b> (20.25, 73.5)
<b>White, n=17</b>	<b>64.7%</b>	<b>35.3%</b>	<b>19</b> (0, 50.5)
<b>P-value</b>	<b>0.692</b>		<b>P-value</b> <b>0.032*</b>

<sup>1</sup> Stage 1 & 2

<sup>2</sup> Stage 3 & 4

\* Does not include prostate cancer

## Results

### A Comparison of Cancer Stages upon Diagnosis and Time Delay Between Diagnosis and Treatment between Urban Hospital and Rural Medical Center<sup>\*</sup>

Population	Cancer Stage Upon Diagnosis		Median Time Between Diagnosis and Treatment (in days)
	Early	Late	
<b>Urban, n=79</b>	<b>55.7%</b>	<b>44.3%</b>	<b>44</b> (11, 91)
<b>Rural, n=89</b>	<b>68.5%</b>	<b>31.5%</b>	<b>20</b> (7, 35.5)
<b>P-value</b>	<b>0.086</b>		<b>P-value</b> <b>&lt;0.001*</b>

\* Does not include prostate cancer

## Results

### Median Day Between Diagnosis and Treatment by Each Insurance Type at Urban Hospital and Rural Medical Center<sup>\*</sup>

	Medicare	Private Insurance	Medicaid
<b>Urban</b>	<b>60</b> (22, 110.5) N=17	<b>35.5</b> (1, 58) N=24	<b>47</b> (7, 128) N=19
<b>Rural</b>	<b>23.5</b> (6, 45.75) N=49	<b>27</b> (14, 56) N=42	<b>16</b> (0, 88) N=3

\* No significant differences between insurance types within each site

## Conclusions

- Collecting data from medical charts is difficult due to missing data
- Some trends to consider:
  - Minority patients may experience a longer treatment delay than White patients at Urban Hospital
  - Urban patients experience a longer treatment delay than rural patients
- We did not find a relationship between insurance coverage impact cancer stage upon diagnosis or length of time between diagnosis and treatment for either site or racial group
- Generalizations are limited to small sample size and missing data

## Recommendations

- There is a need for patient navigators to help minority and rural cancer patients navigate the health care system and reduce barriers to treatment
- A much larger sample is needed for additional analyses and to draw firmer conclusions
- More research is needed to explore barriers to treatment that addresses the needs of urban minorities as well as rural populations

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