

# Patient Demographic Factors Associated with Radiation Cystitis Following Radiation for Prostate Cancer

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## INTRODUCTION

- Chronic radiation cystitis (RC) can develop months to years following radiation therapy for pelvic malignancy
- Symptoms include hematuria and irritative voiding symptoms that often require healthcare interventions
- Prior studies are limited by sample size, duration of follow up, and uniform populations
- Improving oncologic care has led to more pelvic cancer survivors

## OBJECTIVE

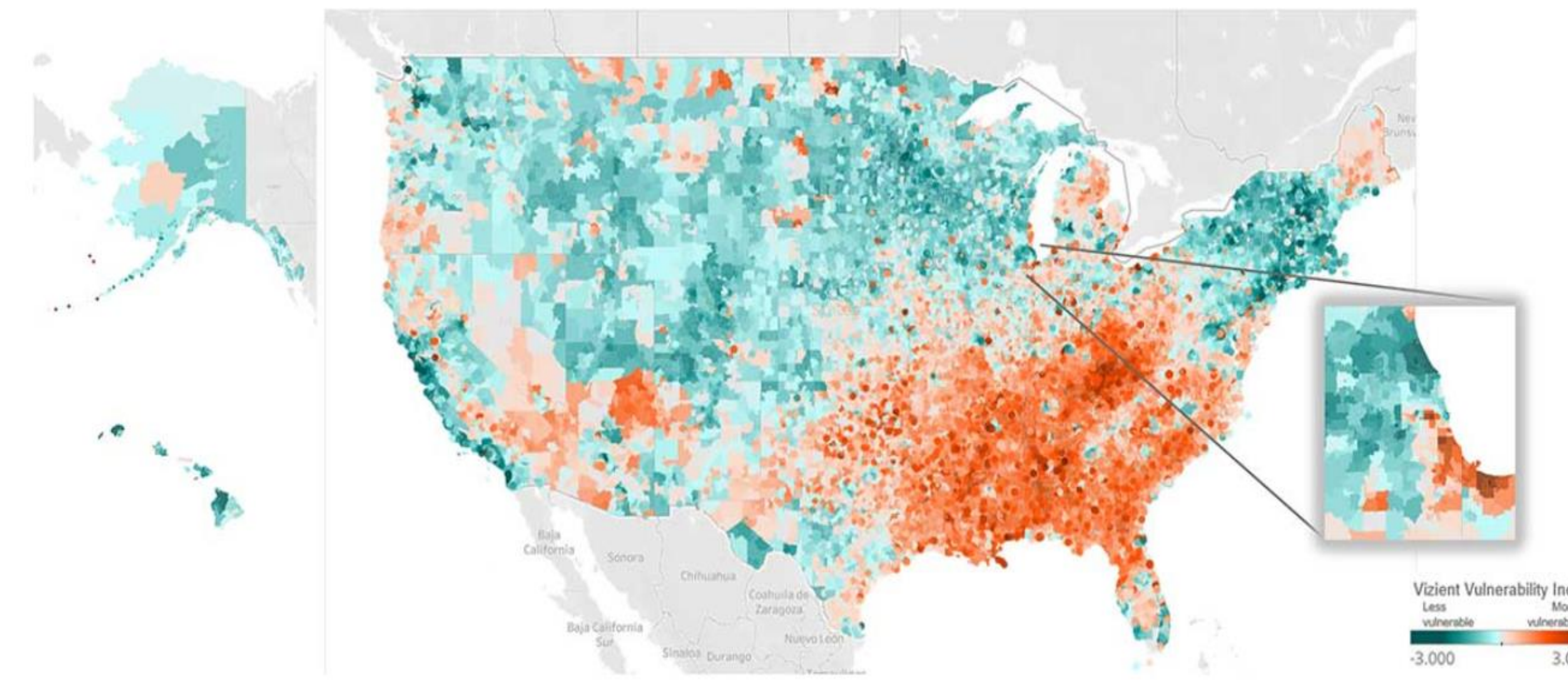
- Evaluate contemporary 5-year radiation cystitis rates and associated patient demographic factors following radiation treatment for prostate cancer

## METHODS

- Retrospective cohort study of the Vizient data
- Adult males with prostate cancer undergoing radiation treatment with a minimum of 5 yr follow up
- Identification through ICD 9,10, and CPT coding
- Rates of RC were identified after completion of index radiation treatment
- Demographic factors included age, sex, race, smoking history, ethnicity, insurance coverage, and socioeconomic status defined by neighborhood
- Multivariate logistic regression

Source of Funding: Dartmouth Cancer Center NCI P30CA023108

Figure 1. Vizient Vulnerability Index values for neighborhoods across the nation.



## RESULTS

	Radiation	Group %
	n = 143,567	%
Age	<55 (ref)	6,577 4.6%
	55-64	34,693 24.2%
	65-74	64,852 45.2%
	≥75	37,445 26.1%
Race	White (ref)	105,960 73.8%
	Black	23,148 16.1%
	Asian	3,107 2.2%
	Other/unknown	11,352 7.9%
Smoking history	No (ref)	122,391 85.3%
	Yes	21,176 14.7%
Ethnicity	Hispanic	6,826 4.8%
	Other/unknown (ref)	136,741 95.2%
Primary payer	Medicare	86,190 60.0%
	Medicaid	5,332 3.7%
	Commercial/private (ref)	41,694 29.0%
	Other	10,351 7.2%
Vizient Vulnerability Index	Quartile 1 (ref)	46,882 32.7%
	Quartile 2	42,713 29.8%
	Quartile 3	23,457 16.3%
	Quartile 4 - Most Vulnerable neighborhoods	30,515 21.3%
Metastasis	Yes	3,377 2.4%
	No	140,190 97.6%
Radiation Cystitis	Yes	31,348 21.8%

Table 2: Patient Demographic Factors Associated with Radiation Cystitis

Patient Factors		OR	95% CI	P-value
Age	55-64 (55 ref)	1.19	1.17 1.22	<.01
	65-74	1.23	1.20 1.26	<.01
	≥75	2.06	2.01 2.12	<.01
Race	White (ref)			
	Black	1.25	1.23 1.27	<.01
	Asian	1.11	1.07 1.15	<.01
	Other/unknown	0.84	0.82 0.86	<.01
Smoking history	No (ref)			
	Yes	1.03	0.92 1.14	0.28
Ethnicity	Hispanic	1.54	1.51 1.58	<.01
	Other/unknown (ref)			
	Commercial/private (ref)			
Primary payer	Medicare	1.43	1.41 1.46	<.01
	Medicaid	1.83	1.78 1.88	<.01
	Other	1.11	1.08 1.14	<.01
	Quartile 1 (ref)			
Vulnerability Index	Quartile 2	1.06	1.05 1.08	<.01
	Quartile 3	1.11	1.09 1.13	0.13
	Quartile 4 - Most Vulnerable neighborhoods	1.23	1.21 1.25	<.01
Metastasis	Yes	1.61	1.55 1.68	<.01
	No (ref)			

OR: Odds Ratio, CI = Confidence Interval, ref = reference,

## CONCLUSIONS

- In this cohort of prostate cancer survivors undergoing radiation therapy >20% developed RC with hematuria**
- Increased odds of RC in:
  - Older survivors
  - Black, Asian, Hispanic backgrounds
  - Publicly insured
  - Metastatic disease
  - Vulnerable neighborhoods
- Further research is needed to better understand RC development and management