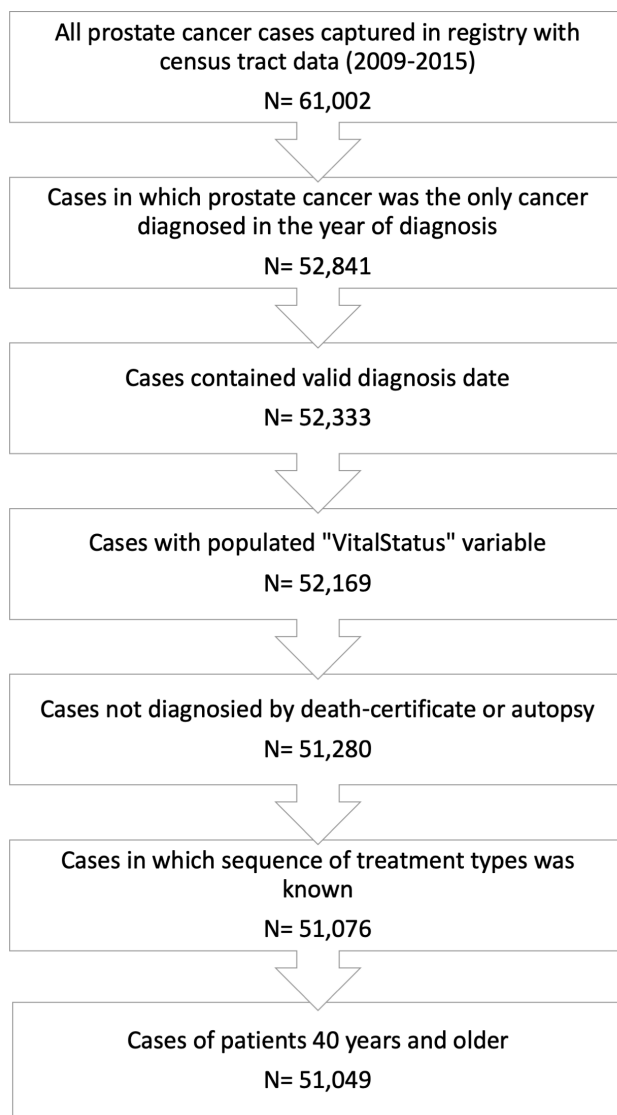
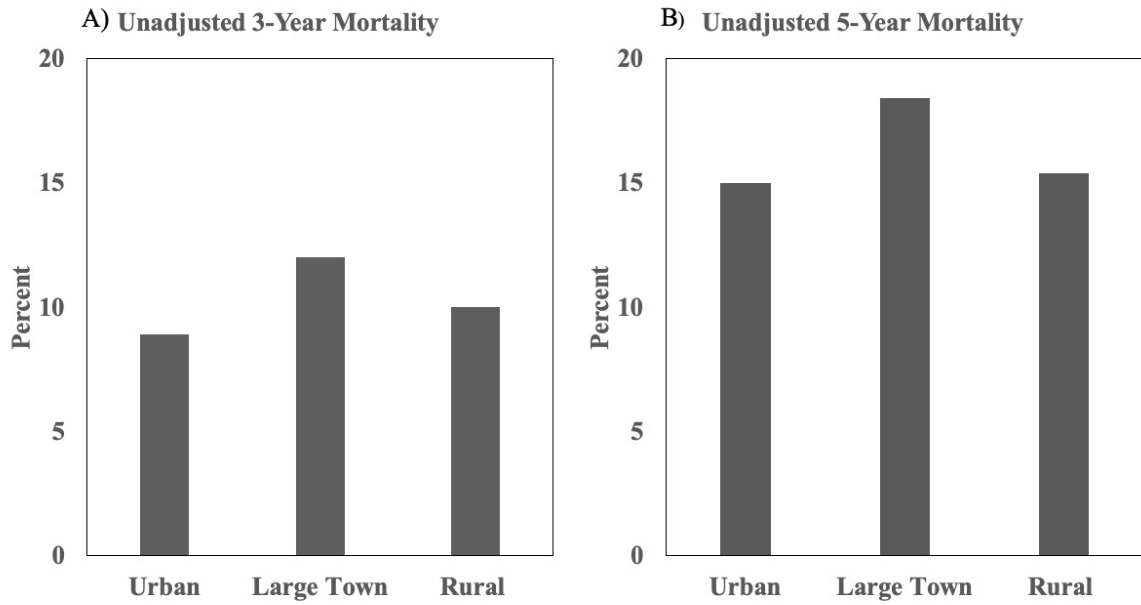


Supplemental Figure 1. Exclusion and inclusion criteria used to develop final analytic cohort.



Supplemental Figure 2. Unadjusted 3-year mortality (diagnosed 2009-2012) (A) and unadjusted 5-year mortality (diagnosed 2009-2010) (B).



Supplemental Table 1. Rural-Urban Commuting Codes (RUCA)

Primary RUCA Code	RUCA Category
1	1-Metropolitan area core: primary flow within an Urbanized Area
2	2-Metropolitan area high commuting: primary flow 30% or more to a UA
3	3-Metropolitan area low commuting: primary flow 10% to 30% to a UA
4	4-Micropolitan area core: primary flow within an Urban Cluster (UC) of 10,000 through 49,999 (large UC)
5	5-Micropolitan high commuting: primary flow 30% or more to a large UC
6	6-Micropolitan low commuting: primary flow 10% to 30% to a large UC
7	7-Small town core: primary flow within an Urban Cluster of 2,500 through 9,999 (small UC)
8	8-Small town high commuting: primary flow 30% or more to a small UC
9	9-Small town low commuting: primary flow 10% through 29% to a small UC
10	10-Rural areas: primary flow to a tract outside a UA or UC (including self)
99	Not coded: Census tract has zero population and no rural-urban identifier information

Supplemental Table 2. Multivariate Regression Analysis: Predictors of Treatment, stratified by low and intermediate/high risk prostate cancer, with addition of area deprivation index and urologist density as covariates.

	Treatment vs. No Treatment (All Patients) Odds Ratio [CI] N=51,049	Treatment vs. No Treatment (Low-risk patients only) Odds Ratio (CI) N=13,176	Treatment vs. No Treatment (Intermediate-risk patients only) Odds Ratio (CI) N=19,572	Treatment vs. No Treatment (High-risk patients only) Odds Ratio (CI) N=8,672
Sample Description	<i>Entire cohort</i>	<i>Gleason ≤ 6 & PSA ≤ 10</i>	<i>Gleason = 7 OR PSA >10 but ≤20</i>	<i>Gleason = 8-10 OR PSA > 20</i>
RUCA Groups				
Urban	Reference	Reference	Reference	Reference
Large Town	0.81 (0.73-0.90)	0.77 (0.66-0.89)	0.82 (0.66-1.00)	0.88 (0.70-1.11)
Rural	0.87 (0.76-1.00)	0.85 (0.69-1.03)	0.97 (0.76-1.26)	0.79 (0.59-1.06)
Median Age (year)				
40-54	Reference	Reference	Reference	Reference
55-59	0.78 (0.69-0.89)	0.79 (0.67-0.91)	0.76 (0.58-0.99)	0.88 (0.61-1.27)
60-64	0.63 (0.56-0.71)	0.58 (0.50-0.67)	0.73 (0.56-0.93)	0.84 (0.59-1.18)
65-69	0.57 (0.50-0.64)	0.49 (0.42-0.58)	0.65 (0.50-0.84)	0.85 (0.60-1.19)
70-74	0.49 (0.43-0.56)	0.42 (0.35-0.50)	0.50 (0.38-0.65)	0.84 (0.59-1.18)
>74	0.28 (0.24-0.32)	0.24 (0.19-0.29)	0.30 (0.23-0.39)	0.42 (0.30-0.57)
Race				
Non-Hispanic White	Reference	Reference	Reference	Reference
Non-White	0.76 (0.69-0.83)	0.77 (0.68-0.88)	0.71 (0.60-0.83)	0.81 (0.68-0.97)
Unknown	2.17 (1.76-2.68)	2.28 (1.71-3.07)	3.56 (2.26-5.80)	1.28 (0.84-1.97)
Insurance Status				
Private	Reference	Reference	Reference	Reference
Medicare	0.82 (0.76-0.89)	0.88 (0.78-0.99)	0.78 (0.67-0.91)	0.76 (0.64-0.92)
Medicaid	0.74 (0.63-0.83)	0.84 (0.64-1.10)	0.74 (0.54-1.03)	0.66 (0.48-0.90)
Uninsured	0.49 (0.35-0.70)	0.45 (0.26-0.79)	0.55 (.27-1.24)	0.52 (0.30-0.95)
Other/NOS/Military	0.87 (0.77-0.97)	0.95 (0.82-1.11)	0.68 (0.55-0.84)	0.91 (0.69-1.23)
Unknown	1.3 (1.10-1.59)	1.37 (1.07-1.80)	1.02 (0.73-1.51)	1.46 (0.99-2.18)
Stage at Diagnosis				
Localized	Reference	Reference	Reference	Reference
Regional Extension	8.91 (7.22-11.13)	35.26 (18.11-82.42)	11.13 (7.46-17.57)	5.13 (3.93-6.83)
Distant Metastasis	2.04 (1.73-2.41)	3.21 (0.55-61.26)	1.49 (0.70-3.69)	2.16 (1.81-2.57)
Unknown	0.25 (0.21-0.30)	0.20 (0.15-0.27)	0.22 (0.15-0.31)	0.34 (0.26-0.45)
PSA at Diagnosis (ng/mL)				
≤10	Reference	Reference	Reference	Reference
10.1– 20	0.96 (.88-1.06)	--	0.91 (0.77-1.07)	0.82 (0.65-1.05)

>20	0.68 (0.60-0.77)	--	--	0.57 (0.46-0.70)
Unknown	0.16 (0.13-0.20)	--	--	0.14 (0.11-0.18)
<i>Gleason Score on biopsy</i>				
≤6	Reference	Reference	Reference	Reference
3+4	3.55 (3.28-3.85)	--	3.17 (2.59-3.89)	2.58 (1.82-3.67)
4+3	4.16 (3.72-4.66)	--	3.86 (3.12-4.80)	2.42 (1.72-3.42)
7 NOS	7.16 (4.64-11.70)	--	6.34 (3.90-10.86)	6.95 (1.36-127.14)
8-10	5.41 (4.88-6.09)	--	--	3.56 (2.68-4.70)
Unknown	2.43 (1.99-2.97)	--	--	1.64 (1.23-2.19)
<i>Area Deprivation Index (ADI)†</i>				
ADI 1 st quartile	Reference	Reference	Reference	Reference
ADI 2 nd quartile		0.88 (0.78-0.99)	0.96 (0.81-1.14)	0.91 (0.74-1.12)
ADI 3 rd quartile		0.85 (0.75-0.96)	0.81 (0.69-0.96)	0.60 (0.50-0.73)
ADI 4 th quartile		0.88 (0.77-0.99)	0.77 (0.64-0.91)	0.69 (0.57-0.85)
<i>Urologist Density per 100,000‡</i>				
0	Reference	Reference	Reference	Reference
0-2	1.59 (1.37-1.84)	1.46 (1.18-1.81)	1.97 (1.51-2.58)	1.48 (1.10-2.00)
2-4	1.29 (1.13-1.47)	1.19 (0.98-1.45)	1.57 (1.23-1.98)	1.22 (0.93-1.59)
4-6	1.28 (1.11-1.47)	1.16 (0.94-1.42)	1.56 (1.21-1.99)	1.24 (0.93-1.63)
>6	1.08 (.85-1.38)	1.04 (0.74-1.48)	0.85 (0.57-1.29)	1.86 (1.04-3.44)

Abbreviations: CI, confidence interval; NOS, not otherwise specified; PSA, prostate-specific antigen, 426
 RUCA, Rural-Urban Commuting Area Codes; ADI, Area Deprivation Index

†ADI scores based on zip code, grouped by quartile, with 1st quartile being least deprived and 4th quartile being most deprived.

‡ Urologist density was obtained from Area Resource File 2006¹⁴. Urologist density per county was 430 obtained for each patient using their zip code.