Variation in the time interval from diagnosis to treatment of prostate cancer across the Pennsylvania Urologic Regional Collaborative (PURC).

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Introduction and Objective

Delay in treatment of prostate cancer (CaP) may impact oncologic and functional outcomes. We characterize the variation and evaluate for racial disparity in the time interval from diagnosis to definitive treatment of CaP across a large regional collaborative.

Methods

PURC is a prospective regional collaborative comprised of nine large academic and private urology practices in Southeastern PA and NJ, launched in 2015. Demographic and clinicopathologic data for men with clinically localized CaP were abstracted and interval from last prostate biopsy to Radiotherapy (RT) or Radical Prostatectomy (RP), was evaluated. Fisher's exact t-test, ANOVA, Wilcoxon rank sum test and generalized linear model with log link were utilized for univariable and multivariable analyses, respectively.

Results

Between January 2015 and May 2018, 6109 eligible patients were enrolled in PURC. Patients with clinically localized CaP that went on to RT or RP and had sufficient information were included, resulting in 1841 men in the cohort of interest. Demographic and clinicopathologic characteristic of the cohort are described in Table 1. Median intervals from diagnosis to treatment were 92 days and 86 days for AA and Caucasian men, respectively (p=0.018). On multivariable analysis, Caucasian race (p=0.015), higher AUA risk category (p<0.001), treatment at a practice site with lower patient throughput (p<0.002) and treatment with RP (p<0.001) were independently associated with shorter time interval to treatment, Table 2. Large variation was observed across individual practices.

Conclusions:

Median time interval between diagnosis and definitive treatment of prostate cancer across a large regional collaborative was 3 months. Clinically significant racial disparity in this time interval was not observed, although a large variation between treatment sites was noted. Understanding such treatment patterns is critical to assure high standards in quality of care.

Table 1: Demographic and Clinicopathologic characteristics

	African American N 449	Caucasian N 1,392	P-value
Age (yr)			< 0.001*
Median (IQR)	62.0 (57.0 - 67.0)	63.0 (58.0 - 68.0)	
Charlson score	3.0 (2.0 - 4.0)	3.0 (2.0 - 4.0)	0.62
PSA			< 0.001*
Median (IQR)	7.0 (5.0 - 12.0)	6.0 (5.0 - 9.0)	
AUA risk category			0.38
Very Low	18 (4.0%)	45 (3.2%)	
Low	55 (12.2%)	199 (14.3%)	
Favorable Intermediate	124 (27.6%)	409 (29.4%)	
Unfavorable Intermediate	107 (23.8%)	305 (21.9%)	
High	132 (29.4%)	355 (25.5%)	
Missing	13 (2.9%)	79 (5.7%)	
Type of Treatment			< 0.001*
External Beam Radiation Therapy	111 (24.7%)	234 (16.8%)	
Radical Prostatectomy	338 (75.3%)	1,158 (83.2%)	

† Medians with IQRs are reported for continuous variables

Table 2: Multivariable analysis - generalized linear model with log link

Variable	Coefficient	p-value
Age (yr)	0.9968	0.279
Race	0.9126	0.015*
Charlson score	1.008	0.9578
AUA Risk Group	0.9382	<0.001*
Practice Site Volume	1.0014	0.0018*
Treatment type (ref: XRT)	0.819	<0.001*