

Contemporary national trends and variations of pelvic lymph node dissection in patients undergoing robot-assisted radical prostatectomy



Leilei Xia, Ruchika Talwar, Raju R. Chelluri, Daniel J. Lee, Thomas J. Guzzo

Division of Urology, University of Pennsylvania Perelman School of Medicine, Philadelphia, PA

MP27-13

INTRODUCTION

- Previous studies showed suboptimal adherence to clinical practice guidelines for pelvic lymph node dissection (PLND) at the time of radical prostatectomy (RP).
- Robot-assisted RP (RARP) has become the predominant surgical management for localized prostate cancer in the US but contemporary national data on PLND adherence rate during RARP is still lacking.

OBJECTIVE

- To investigate the trend of PLND during RARP and possible variations of PLND rate at the national level.

METHODS

Data Source:

- National Cancer Database (2010-2016)

Inclusion Criteria:

- Patients with clinically localized (cT1-2N0M0) intermediate-risk and high-risk prostate cancer diagnosed between 2010 and 2016 who underwent RARP
- Age 40-80 years old

Outcomes of interest:

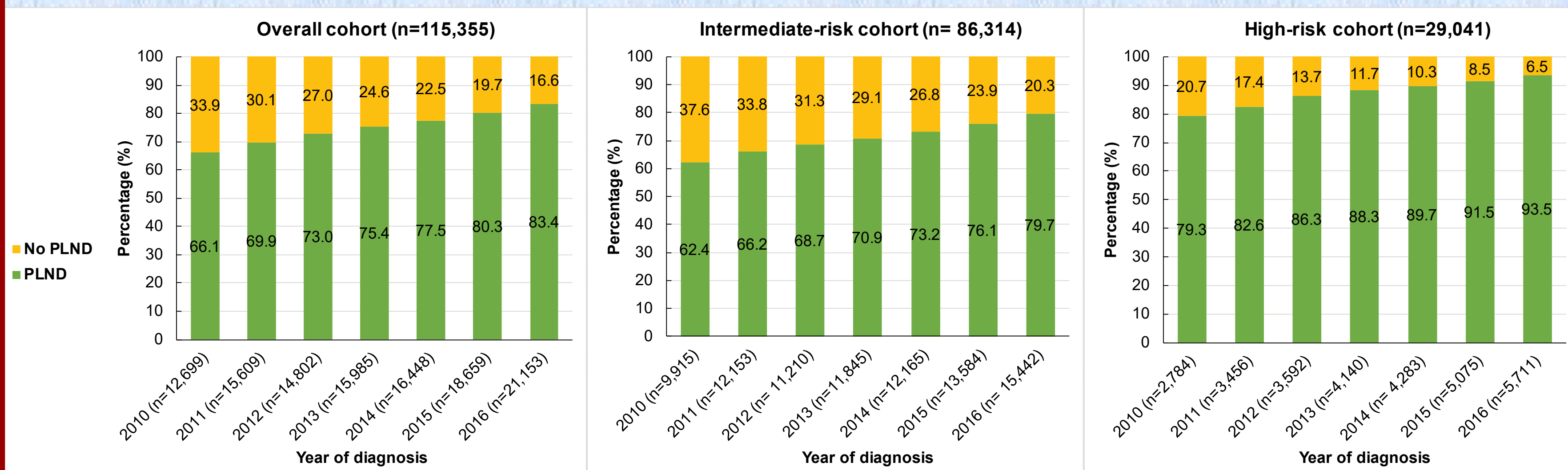
- PLND rate

Co-variables:

- Age, Charlson/Deyo score, race/ethnicity, insurance, socioeconomic status (SES), county type, travel distance
- Clinical T stage, PSA level, Gleason score
- Facility type, facility location, year of diagnosis

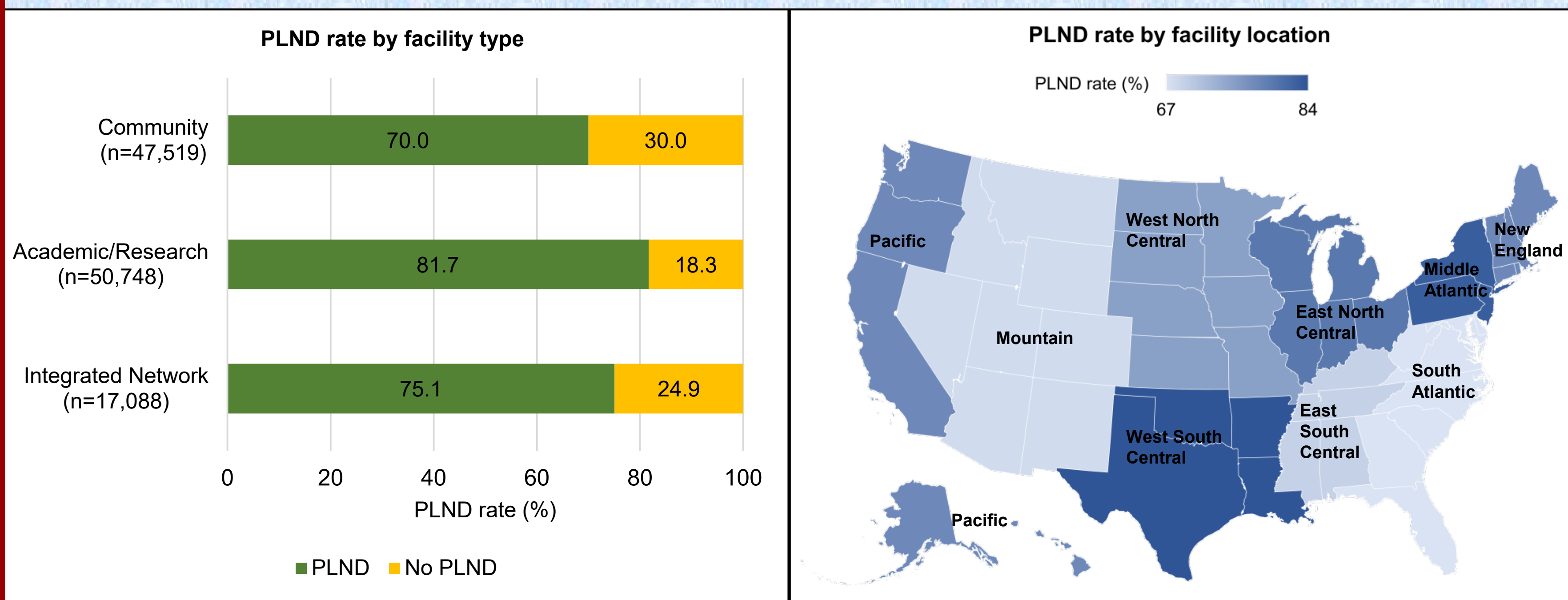
RESULTS

PLND rates from diagnosis year 2010 to 2016 in the overall cohort, intermediate-risk cohort, and high-risk cohort



115,355 patients in the final cohort
(intermediate-risk=86,314, high-risk=29,041)

PLND rate stratified by facility type and facility location



Academic centers have higher PLND rate
PLND rate varies by facility locations nationally

Multivariable logistic regression showing the associations between oncologic variables and PLND rate

	Overall cohort (n = 115,355)	
	OR (95% CI)	p-value
Clinical T stage		
T1-T2a	Ref.	
T2b-T2c	1.23 (1.18-1.29)	<0.001
PSA level (ng/ml)		
< 10	Ref.	
10 - <20	1.93 (1.85-2.02)	<0.001
≥ 20	2.14 (2.00-2.28)	<0.001
Gleason score		
6 (Grade Group 1)	Ref.	
7 (Grade Group 2-3)	4.36 (4.14-4.60)	<0.001
8 - 10 (Grade Group 4-5)	16.8 (15.7-18.0)	<0.001

RESULTS

Multivariable logistic regression showing the associations between demographic variables and PLND rate

	Overall cohort (n = 115,355)	
	OR (95% CI)	p-value
Age (per 5 y)	1.001 (0.998-1.004)	0.477
Charlson-Deyo score		
0	Ref.	
1	0.96 (0.92-1.00)	0.034
2	0.94 (0.85-1.03)	0.164
≥ 3	0.95 (0.81-1.12)	0.557
Race/ethnicity		
Non-Hispanic White	Ref.	
Non-Hispanic African American	0.98 (0.93-01.02)	0.317
Non-Hispanic Other	1.09 (0.99-1.20)	0.068
Hispanic	0.90 (0.84-0.98)	0.010
Insurance		
Private insurance	Ref.	
Younger Medicare (18-64 y)	0.94 (0.88-1.01)	0.100
Older Medicare (≥ 65 y)	0.97 (0.93-1.01)	0.145
Medicaid	0.99 (0.89-1.09)	0.772
Other government	0.93 (0.84-1.04)	0.193
Not insured	0.84 (0.74-0.95)	0.007
Socioeconomic status		
Low	Ref.	
Lower middle	0.98 (0.93-1.02)	0.301
Upper middle	1.06 (1.01-1.11)	0.017
High	1.17 (1.11-1.24)	<0.001
County type		
Metro	Ref.	
Urban	0.79 (0.75-0.83)	<0.001
Rural	0.61 (0.55-0.68)	<0.001
Travel distance (per 10 miles)	1.014 (1.009-1.018)	<0.001

CONCLUSIONS

- Contemporary national data showed significantly increased PLND rate in patients who underwent RARP for intermediate-risk and high-risk prostate cancer in recent years.
- However, there were still some variations in PLND rate among different patient populations and facilities.

DISCLAIMER

The data used in this study are derived from a de-identified NCDB file. The American College of Surgeons and the Commission on Cancer have not verified and are not responsible for the analytic or statistical methodology employed, or the conclusions drawn from these data by the investigators.