

COMPARATIVE TREND ANALYSIS OF THE OUTCOMES OF ROBOT-ASSISTED LAPAROSCOPIC PROSTATECTOMY (RALP) BEFORE AND AFTER THE 2012 USPSTF RECOMMENDATION AGAINST PSA SCREENING.

Seetharam Bhat ¹, Onol F¹, Moschovas.M¹, Rogers T¹, Jenson C¹, Rocco B², Sandri M ².Patel V ¹.

1. Adventhealth Global robotics institute, Celebration FL,USA.

2 Università degli Studi di Modena e Reggio Emilia, Ministero Istruzione, Universita' e Ricerca, Minerva urologica e nefrologica .



Introduction:-

- USPSTF recommended - against PSA- based screening- 2012
- Change in practice pattern of patients receiving RALP
- We evaluated the possible influence of these changes
 - Nerve sparing
 - Oncological outcomes
 - Functional outcomes
 - Trifecta
 - Pentafecta

Materials and method

- RALP between 2008 to 2018 with 12 months followup
- 8564 patients – excluding salvage prostatectomy
- Sub grouped till December 2012(6 months after USPSTF recommendation) and afterwards based on nerve sparing.

Outcomes definitions

- **Potency** - ability to penetrate and satisfactorily complete the intercourse with or without PDE5 inhibitor usage.
- **Trifecta** - combination of continence, potency and absence of biochemical recurrence.
- **Pentafecta** outcomes is defined as trifecta along with absence of positive surgical margins and absence of post-operative complications.

Outcomes definitions

- **Nerve sparing definitions :-**

“Grade 1 Nerve sparing” - $\geq 95\%$ of overall NVB preservation.

“Grade 2 Nerve Sparing” - $\geq 75\%$ of overall NVB preservation.

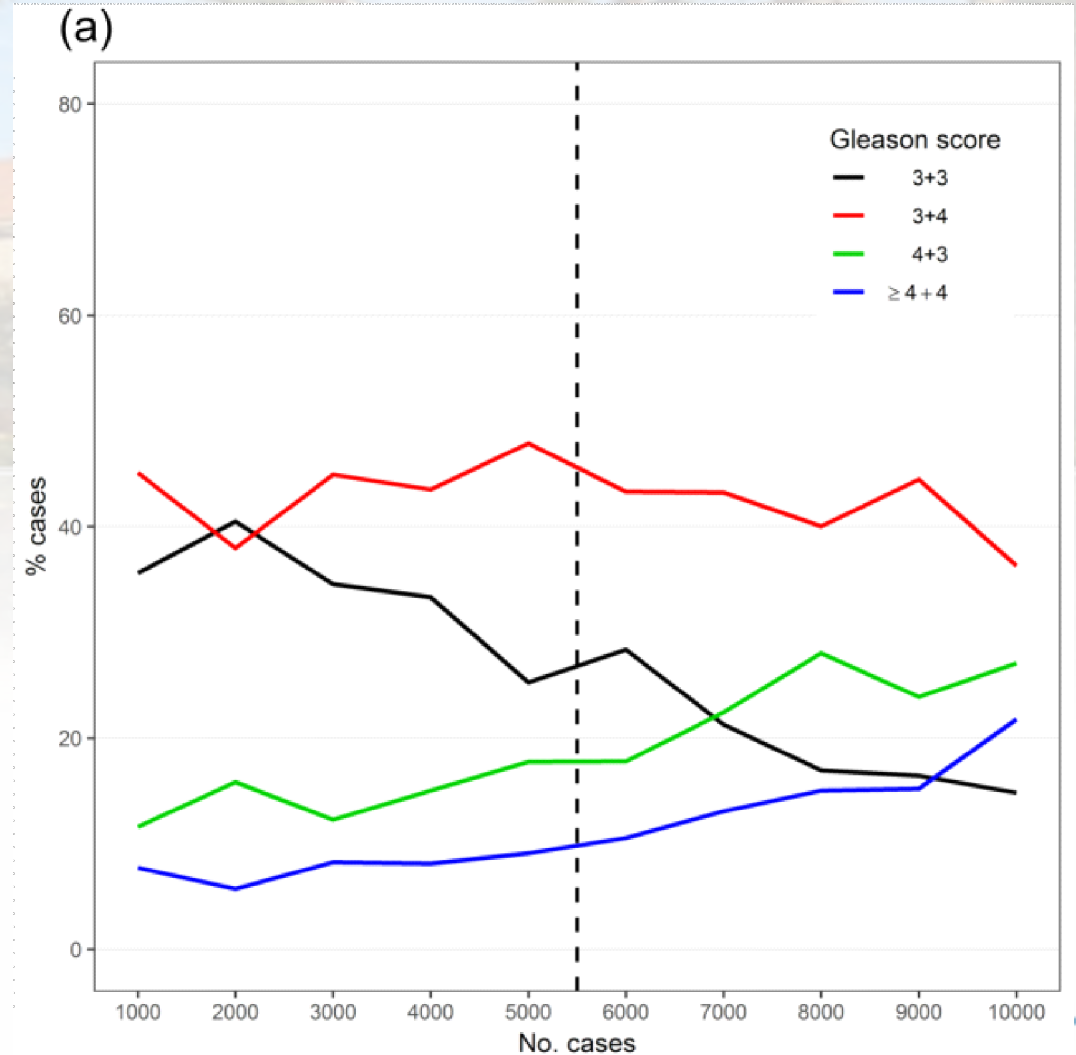
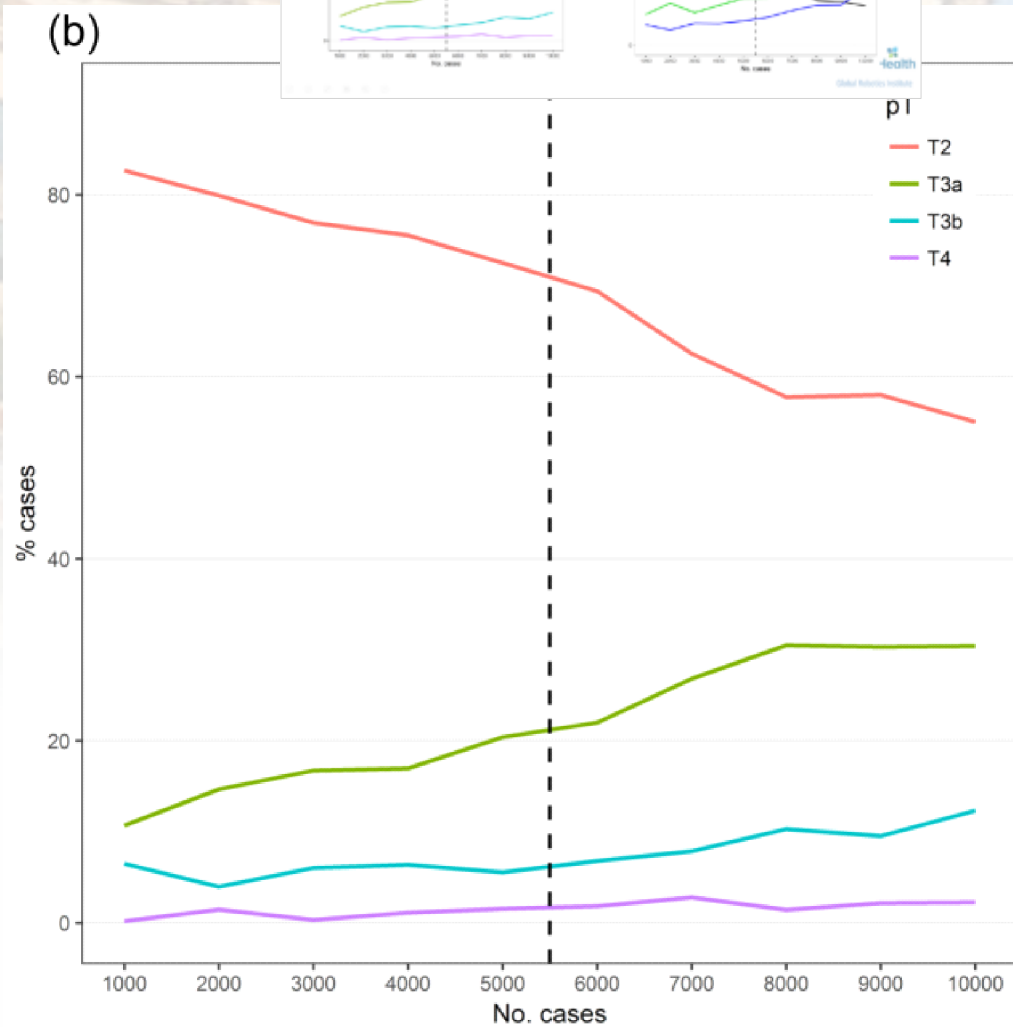
“Grade 3 Nerve Sparing” - $\geq 50\%$ of overall NVB preservation.

“Grade 4 Nerve Sparing” - $< 50\%$ of overall NVB preservation.

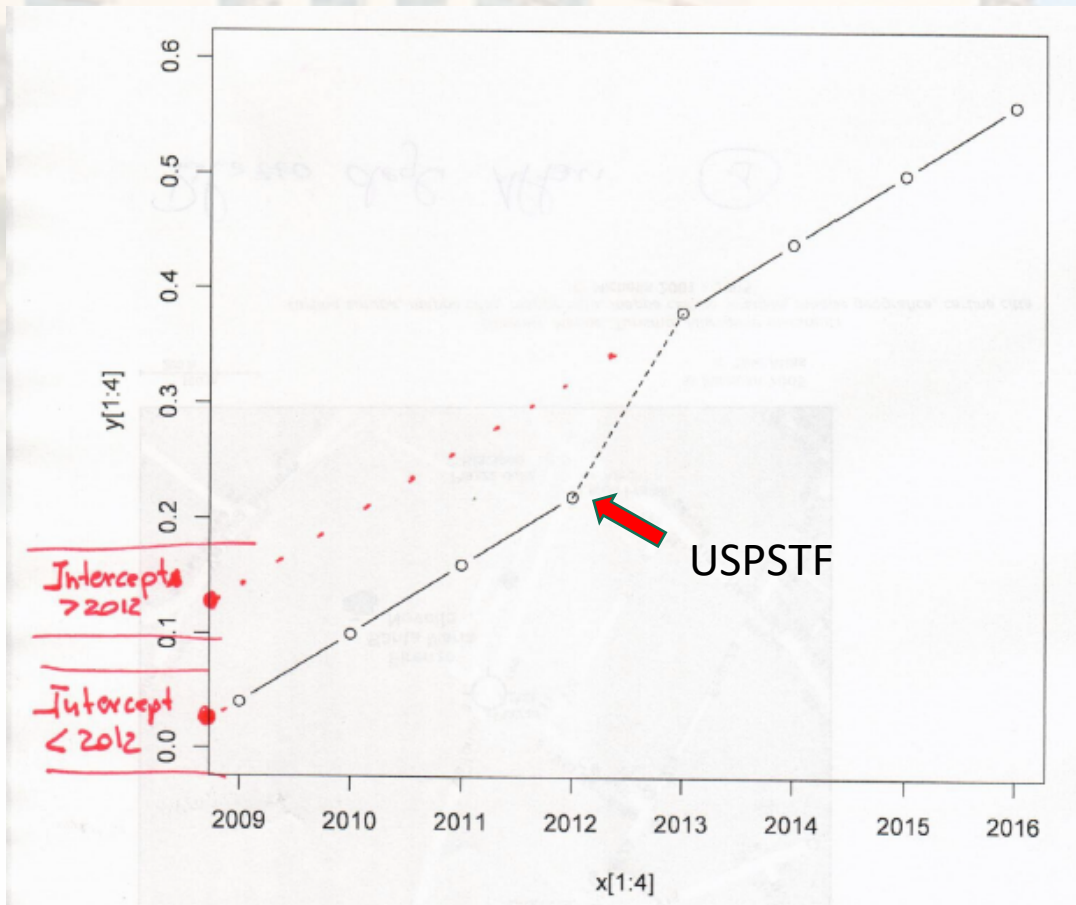
CHANGES IN ONCOLOGICAL FEATURES:-

- PSA increased from 6.0 to 7.4 ng/ml
- Increase in the positive slope of Gleason $\geq 4+4$ and non-organ-confined disease ($\geq pT3$)

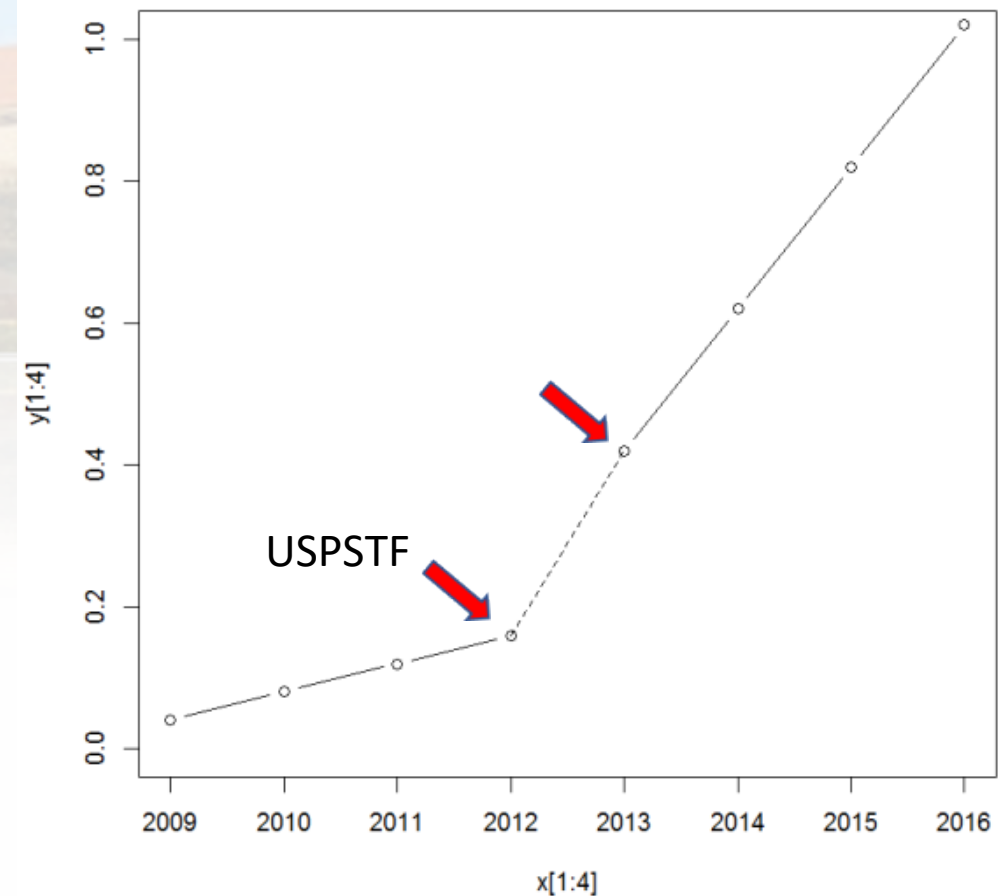
nds for adverse pathology



How to demonstrate USPSTF statement's impact ?

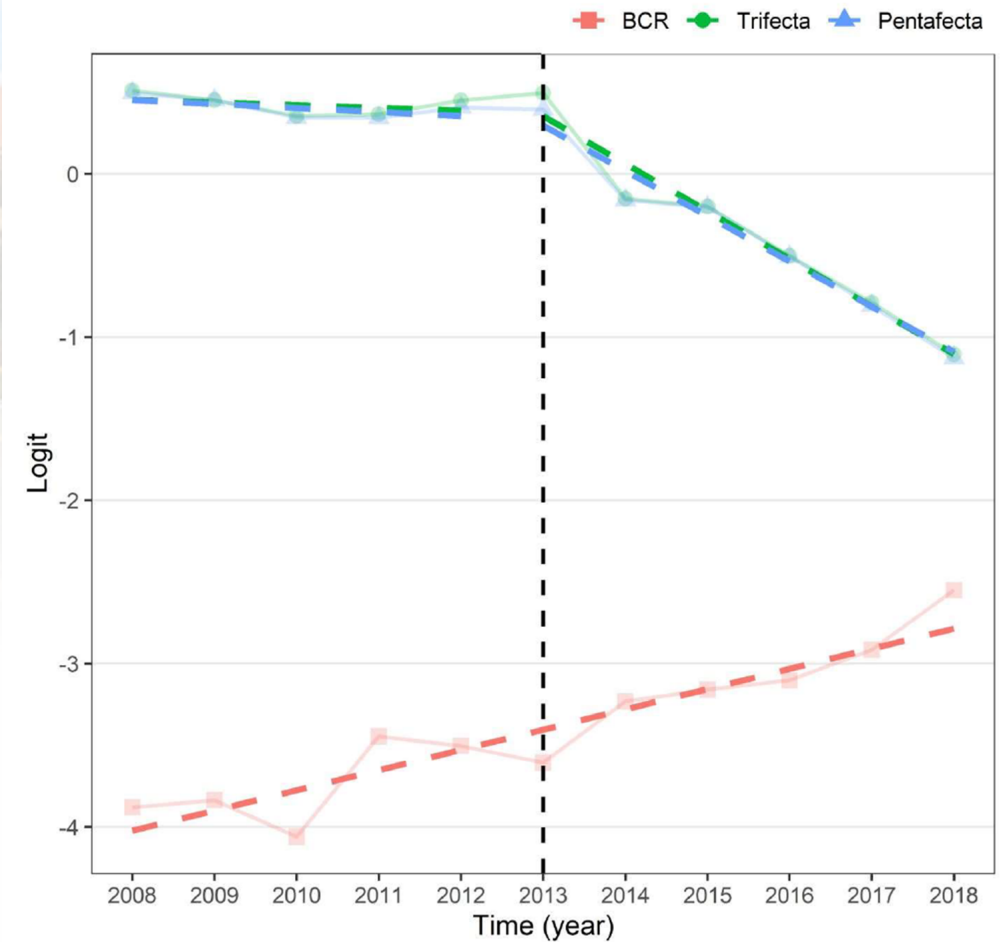
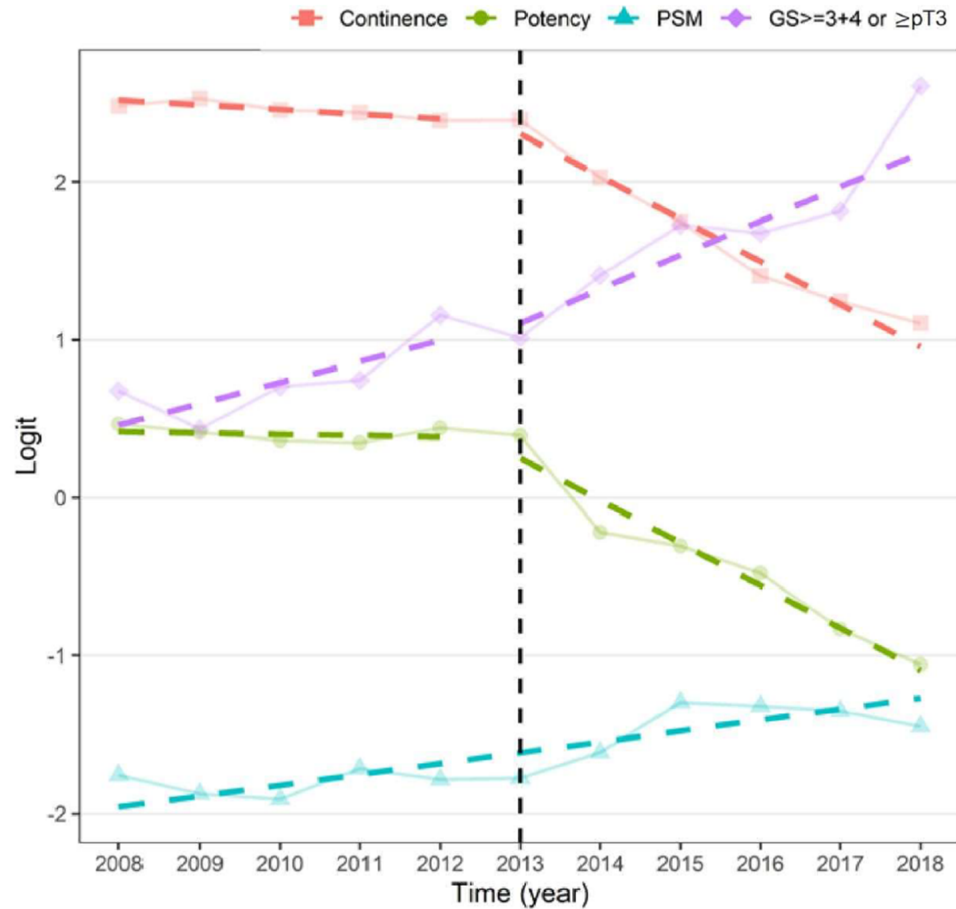


Change in the intercept (same slope but different intercept)



Different slopes and intercepts

Comparison of trends patient outcomes after 2012 US task force recommendation.



Did it affect all patients?

| Patient groups | Continence | | | Potency | | | BCR | | |
|---|-------------------------------|----------------------------|---------|-------------------------------|----------------------------|---------|-------------------------------|----------------------------|---------|
| | January 2008 to December 2012 | January 2013 to March 2018 | P value | January 2008 to December 2012 | January 2013 to March 2018 | P value | January 2008 to December 2012 | January 2013 to March 2018 | P value |
| Age less than 55, SHIM \geq 22 and D Amico class 1 | 354(98.9) | 232(97.5) | .191 | 333(93) | 211(88.7) | .065 | 19(5.3) | 9 (3.8) | .669 |
| Age less than 55, SHIM \geq 22 and D Amico class 2 | 254(97.3) | 260(96.3) | .504 | 232(88.9) | 224(83) | .058 | 43(16.5) | 29(10.7) | .033 |
| Age less than 55, SHIM \geq 22 and D Amico class 3 | 54(96.4) | 60(84.5) | .028 | 47(83.9) | 45(63.4) | .010 | 14(25) | 15(21.1) | .535 |
| Age between 55-65 years, SHIM \geq 22 and D Amico class 1 | 409(95.6) | 289(95.1) | .754 | 375(87.6) | 231(76) | .000 | 24(5.6) | 10(3.3) | .332 |
| Age between 55-65 years, SHIM \geq 22 and D Amico class 2 | 341(96.6) | 454(93.6) | .053 | 292(82.7) | 339(69.9) | .000 | 53(15) | 52(10.7) | .110 |
| Age between 55-65 years, SHIM \geq 22 and D Amico class 3 | 102(93.6) | 137(85.6) | .042 | 70(64.2) | 69(43.1) | .001 | 28(25.7) | 35(21.9) | .562 |
| Age > 65 years, SHIM \geq 22 and D Amico class 1 | 143(92.3) | 82(82.8) | .021 | 100(64.5) | 55(55.6) | .153 | 0 | 1(1) | .210 |
| Age > 65 years, SHIM \geq 22 and D Amico class 2 | 132(92.3) | 192(80.7) | .002 | 97(67.8) | 96(40.3) | .000 | 3(2.1) | 11(4.6) | .439 |
| Age > 65 years, SHIM \geq 22 and D Amico class 3 | 43(95.6) | 107(78.7) | .009 | 27(60) | 49(36) | .005 | 5(11.1) | 13(9.6) | .786 |

Stage wise PSM

- Overall, the positive surgical margins (PSM) rate was 16.7%.
- Total PSM rate increased from 14.1% to 18.9% after the USPSTF recommendation ($p < 0.001$)
- No significant change in Stage wise PSM after 2012.
 - $< pT2$ ($p = .469$)
 - $pT3a$ ($p = .948$)
 - $pT3b$ ($p = .162$)
 - $pT4$ ($p = .446$)

Conclusion:-

- After the task force recommendation -
 - Worsening oncological features
 - Higher grade and stage of disease.
- Increased volume of disease
 - Less optimal candidates for Full NS
 - More candidates received Partial NS

Conclusion:-

- Our adaptation to the oncologic changes has effected negatively the overall functional outcomes after surgery.

Lesser optimal low risk candidates



Full NS



High quality outcomes



Thank You