INTRODUCTION
There will be an estimated 81,400 bladder cancer diagnoses made in 2020 in the United States, with 25% of these patients presenting with muscle invasion.

Gold standard treatment for muscle invasive bladder cancer (MIBC) consists of platinum-based neoadjuvant chemotherapy (NAC) with radical cystectomy (RC), pelvic lymph node dissection (PLND), and urinary diversion.

Alternatively, partial cystectomy (PC) provides a fullthickness excision of the bladder that preserves organ function with significantly less surgical morbidity.

AUA Guidelines recommend that any attempt at curative surgery of MIBC include a PLND (Strong Recommendation; B) with excision of external iliac, internal iliac, and obturator nodes of which compose a ‘standard’ dissection (Clinical Principle).

Although the appropriate extent of PLND remains undefined ahead of the results of the SWOG 1011 trial, previous work has demonstrated the survival benefit of a node dissection in RC with a yield higher than 10.

METHODS
A retrospective cohort analysis of n=13,652 cT2N0M0 patients who underwent PC and RC between 2004–2016 was performed using the National Cancer Database (NCDB). The primary outcome was overall survival, analyzed using the Kaplan-Meier method and multivariable Cox-proportional hazards regression. A univariable logistic regression model primary outcome was overall survival, analyzed using the Kaplan-Meier method and multivariable Cox-proportional hazards regression. A univariable logistic regression model was used to identify treatment trends over time. Multivariable models were adjusted for confounding demographic and clinicopathologic variables.

RESULTS
• Of the 13,652 patients identified, 726 (5.3%) received PC and 12926 (94.7%) received RC.
• From 2004–2016, the use of PC decreased from 8% to 3.2% (p<0.001) with PLND increasing from 44.2% to 57.1% (p=0.001).
• In contrast, 92.5% of RC in 2016 contained a PLND.

• Relative to RC, PC was associated with significantly decreased adjusted odds of 90-day mortality (aOR=0.70), significantly better adjusted overall survival (aHR=0.85), significantly decreased adjusted odds of readmission (aOR=0.58) and an adjusted 5-day shorter average post-operative hospital stay.
• However, the PC group was significantly associated with increased adjusted odds of positive surgical margins (aOR=2.01) and salvage adjuvant radiation (aHR=4.95).
• Compared to cases where no PLND was performed, the adjusted hazard ratio (aHR) for 1 to 9 nodes was 0.85 (p=0.187) and 0.54 (p=0.001) for 10 or more nodes.
• If we group PC patients into 1 to 15 node and 15+ node yield, we have respective aHRs relative to no NDN of 0.78 (p=0.038) and 0.54 (p=0.008).
• PC with PLND improved overall survival versus PC alone (aHR=0.75; all respective significance reported p<0.05).
• No significant difference in 30-day mortality between PC only and PC plus PLND may indicate fewer perioperative complications.

CONCLUSIONS
PC with PLND is associated with decreased mortality compared to RC, but with higher rates of recurrent cancer determined by positive margin status that requires subsequent treatment.

The favorable survival outcomes of PC likely reflects clinician-driven appropriate patients selection.

Although PLND in PC has risen in recent years, numbers are low compared to RC contributing to disease recurrence and worse survival outcomes.

Limitations are intrinsic to the NCDB, including no cancer specific survival data, no surgical modality data before 2010, and limited follow up data in terms of salvage radical cystectomy.

PLND should be performed at the time of PC with a minimum of 10 nodes removed affording an estimated reduction in mortality hazard greater than 15%. Additionally, there seems to be added benefit to higher nodal yield especially beyond 15 nodes.

The aHR for 1 to 9 nodes was insignificant due to statistical power but is clinically relevant and supported by the 1 to 15 node group with a larger sample size.

PLND in the setting of PC for MIBC should be prioritized with emphasis on excising lymph nodes beyond a count of ten with more significant benefit in a yield higher than 15. We suggest that patients that recieve PC without PLND are receiving suboptimal care and a resulting worse outcome survival.

REFERENCES