

# Monitoring the rate of positive surgical margins after radical prostatectomy and improving access to treatment (neo-adjuvant chemotherapy and cystectomy) for bladder cancer patients

## RCN Genitourinary Disease Site Group

### GENITOURINARY DS CO-LEADS



Dr. Franck Bladou and Dr. Simon Tanguay

Support staff:

- Alla'a Ali (Project Manager)
- Mohammad Afshin (Facilitator)
- Étienne Fortier-Dubois (Data Administrator)

### 2017-2018 PRIORITIES

- Improve patient care

PATIENT IMPACT	DESCRIPTION
<b>REDUCE RECURRENCE</b>	Monitor positive surgical margin rates to ensure best surgical quality when performing radical prostatectomy
<b>INCREASE SURVIVAL</b>	Identify actionable improvements to ensure earlier surgical intervention (cystectomy) for bladder cancer patients
<b>INCREASE SURVIVAL</b>	Ensure that patients with a biochemical recurrence after a radical prostatectomy are treated with salvage radiation therapy in a timely fashion

- Support each other's efforts in improving cancer care quality and innovation:

**2014 CQI Research Grant – F. Bladou**  
Improving the Quality of Care to Kidney Cancer Patients Undergoing Nephrectomy: Introduction of an Enhanced Recovery After Surgery (ERAS) Program

**2014 CQI Research Grant – A. Dragomir**  
Castration-Resistant Prostate Cancer: Evaluation of the Quality of Care, Disease Management, and Associated Costs in a Real Life Setting

**2016 CQI Research Grant – J. Kildea**  
Rectal toxicity prediction using accumulated-DVHs determined from daily CBCT imaging for hypofractionated radiotherapy of the prostate

**2016 CQI Research Grant – A. Dragomir**  
Quality of end-of-life of patients with prostate cancer

**2017 CQI Research Grant – L. Camilleau**  
Prevention and management of intra-visit BCG-related lower urinary tract symptoms in patients with non-muscle-invasive bladder cancer

**2017 QI<sup>2</sup> Grant – F. Bladou**  
Improving the quality of bladder cancer patients care across the RCN partner institutions: implementation ERAS protocol for radical cystectomy

### STEERING COMMITTEE

Meetings are generally called when indicator results need to be discussed and decisions made pertaining to improvement efforts.

2017 Meeting dates: March 20, September 18

Name	Institution	Discipline
Simon Tanguay	MUHC	Uro-oncologist
Marie Vanhuyse	MUHC	Medical oncologist
Luis Souhami	MUHC	Radiation oncologist
Fadi Brimo	MUHC	Pathologist
Franck Bladou	JGH	Uro-oncologist
Cristiano Ferrario	JGH	Medical oncologist
Tamim Niazi	JGH	Radiation oncologist
Mona Alameldin	JGH	Pathologist
Alla'a Ali	RCN	Project manager
Mohammad Afshin	RCN	Facilitator

### INDICATOR GU1: Positive surgical margin (PSM) rate for radical prostatectomy

- During radical prostatectomy, surgeons must remove all prostate cancer cells while leaving enough surrounding tissue to preserve erectile function and bladder control. This balancing act may result in some cancer cells remaining, a condition termed "positive surgical margin" (PSM).
- PSMs may generate anxiety and increase the risk of biochemical recurrence (BCR). Thus, the rate of PSM is considered an outcomes measure of surgical quality. Additionally, the likelihood of BCR is increased in cases where PSM length exceeds 3 mm, especially in patients with lower risk disease.<sup>1</sup>
- A consensus guideline, published in the Canadian Urological Association Journal in 2010, determines that an acceptable rate of PSM is < 25% for organ-confined disease (stage pT2).<sup>2</sup>

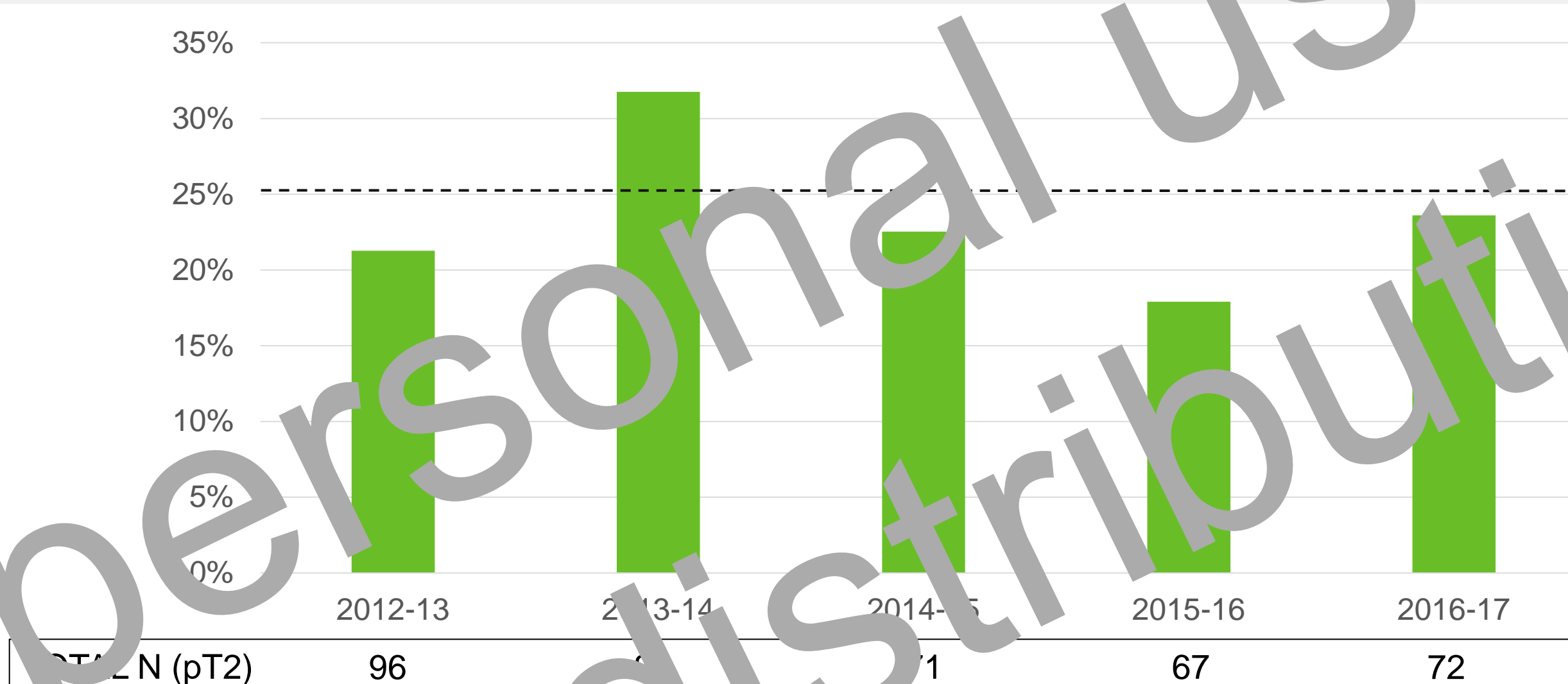


Fig 1: Rates of positive surgical margins for pT2 disease across the RCN, by fiscal year

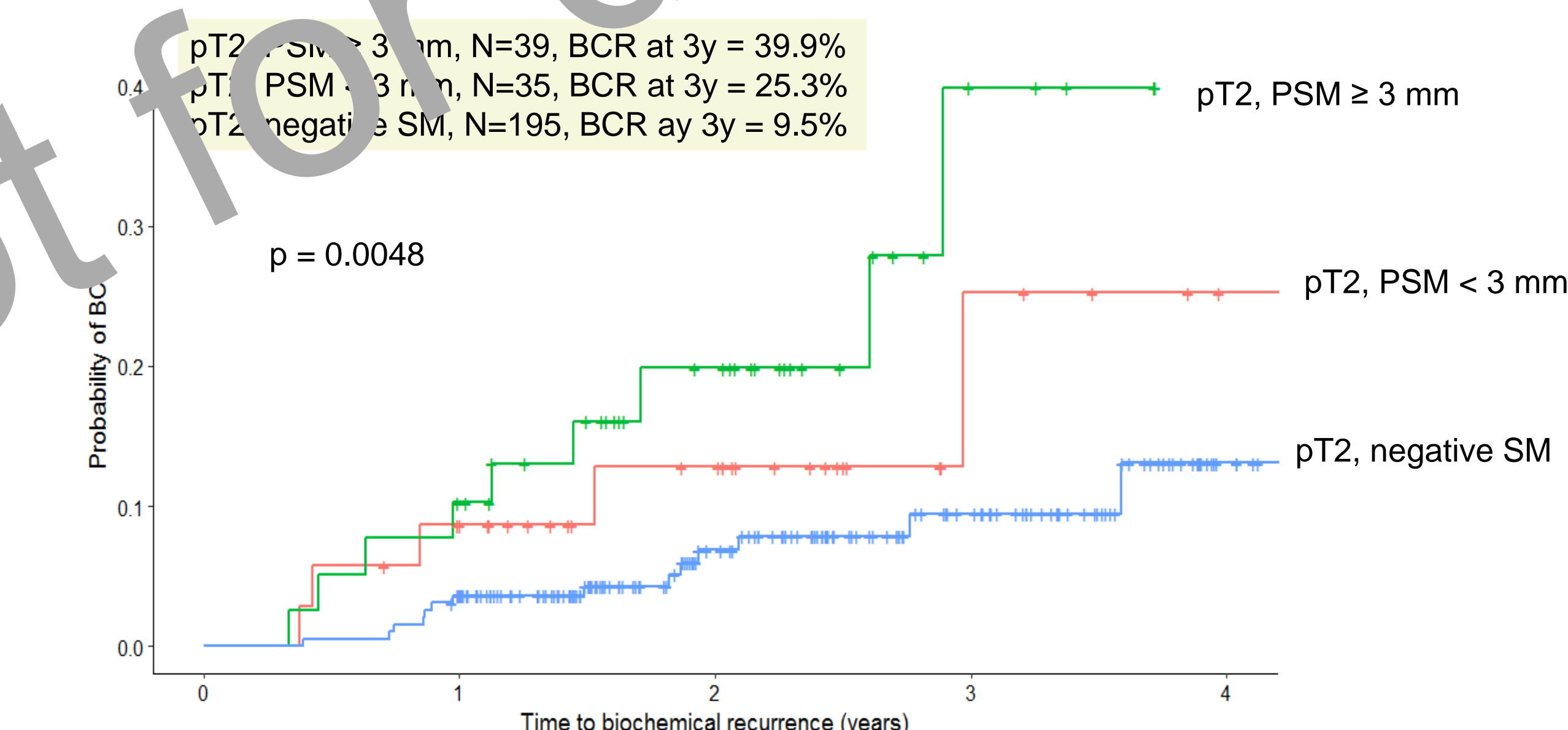


Fig 2: Time to biochemical recurrence for pT2 disease, by margin status and length

#### Key Messages

- Within the RCN, radical prostatectomies are centralized at the MUHC and JGH. The overall PSM rate for pT2 disease remains below 25%.
- While surgical expertise is cited as one of the major determining factors of PSM, other factors can also increase the risk of having PSM (Gleason score, nerve-sparing procedure, size and location of the cancer within the prostate).
- For the first time, a report on the PSM rate of individual surgeons was produced and shared with the surgeons, allowing them to evaluate their performance as compared to their peers. This is expected to motivate changes in practice and improve surgical care in the network.

### INDICATOR GU2: Neo-adjuvant chemotherapy and treatment delays for patients with bladder cancer

Standard treatment for T2 and T3 bladder cancer is neo-adjuvant chemotherapy (NACT) followed by radical cystectomy<sup>3</sup>; NACT has been shown to improve survival outcomes. In addition, preoperative delays have been associated with worse long-term prognosis<sup>4</sup>. The proportion of patients treated with NACT is therefore an outcomes measure of quality, as is the delay to first treatment (cystectomy or NACT).

A schematic of the patient trajectory to first treatment is shown below, with steps D to F pertaining only to patients receiving NACT.

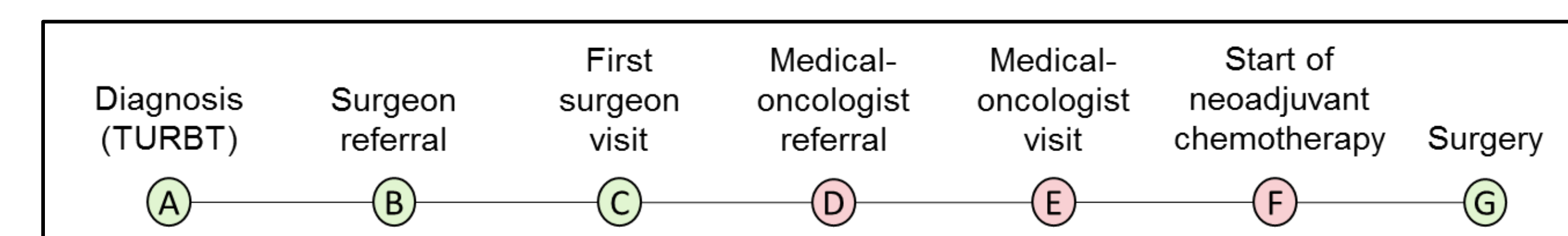


Fig 3: Breakdown of patients by NACT eligibility and receipt, 2014-2016

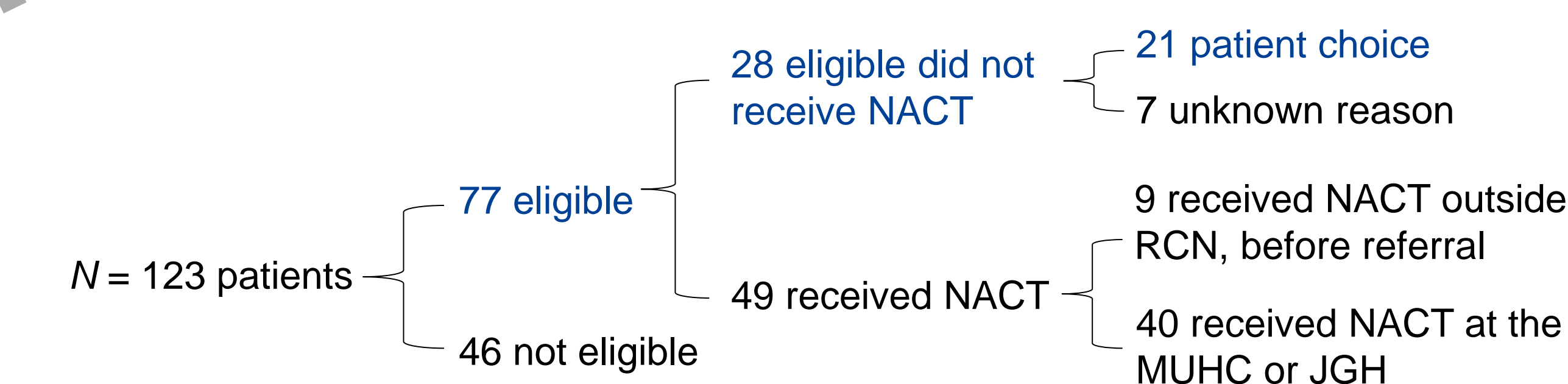


Table 1: Summary statistics (in calendar days) for delays in the trajectory

	N	Median	75 <sup>th</sup> percentile	90 <sup>th</sup> percentile	Target	% meeting target
Diagnosis to surgery (A→G) <sup>5</sup>	70	77	99	164	90 <sup>4</sup>	61.4%
Diagnosis to NACT (A→F)	35	49	61.5	76.6	-	-
Surgery referral to consultation (B→C)	73	8	13	21.3	14*	79.5%
Surgery consultation to treatment (C→G) <sup>5</sup>	65	37	50	67.4	28*	33.8%
NACT referral to consultation (D→E)	30	8.5	14	20.1	14*	76.7%
NACT consultation to treatment (E→F)	31	14	20.5	30	28*	87.1%

\* Cancer Care Ontario targets: 14 days referral to consult; 28 days consult to treatment

#### Key Messages

- 36% of eligible patients did not get NACT, mostly by choice.
- For patients who did not receive NACT, the median delay between diagnosis and surgery is 77 days, which is within the target of 90 days. However, the MUHC median is 74 while the JGH median is 105 days.
- Suggested improvements:
  - Dialogue with outside referral centers to encourage earlier patient referral (A→G/F)
  - Prioritize all NACT patients when triaging for earlier chemotherapy access (E→F)

<sup>1</sup> Sooriakumaran P et al. The impact of length and location of positive margins in predicting biochemical recurrence after robot-assisted radical prostatectomy with a minimum follow-up of 5 years. *BJU Int* 2015; 115: 106-113.  
<sup>2</sup> Webster TM, et al. CCO Guidelines for radical prostatectomy: striving for continuous quality improvement in community practice. *Can Urol Assoc J* 2012;6:442-5  
<sup>3</sup> Gotto GT, et al. Predictors of referral for neoadjuvant chemotherapy prior to radical cystectomy for muscle-invasive bladder cancer and changes in practice over time. *Can Urol Assoc J* 2015; 9(7-8):236-41.  
<sup>4</sup> Alva AS, et al. Efficient delivery of radical cystectomy after neoadjuvant chemotherapy for muscle-invasive bladder cancer: a multidisciplinary approach. *Cancer* 2012; 118(1):44-53  
<sup>5</sup> Excludes patients who received NACT

For questions, contact allaa.ali@mcgill.ca