

The Effect of the Adoption of the National Accreditation Program for Rectal Cancer Process on Compliance Standards at A Single Institution

Garrett W Peters BS¹, Gregory Thomas MD², Jacob A Applegarth MD², Forrest Bohler BS¹, Shelli Bergeron RN², Harry J Wasvary MD^{1,2}

¹Oakland University William Beaumont School of Medicine, Rochester, MI.

²Department of Surgery, Division of Colon and Rectal Surgery, Corewell Health William Beaumont University Hospital, Royal Oak, MI.

Introduction

- The National Accreditation Program for Rectal Cancer (NAPRC) was developed to decrease variability and increase a multidisciplinary approach among rectal cancer care.
- There is considerable variability among institutions in compliance with the "Patient Care: Expectations and Protocols" standards, and it is unclear how compliance changes once an institution undergoes the accreditation process.
- Corewell Health William Beaumont University Hospital (formerly Beaumont Hospital, Royal Oak) is a large-volume institution that adopted the NAPRC process into clinical practice starting in August 2019.
- In this study, we evaluate institutional compliance before and after NAPRC accreditation adoption was undertaken.

Aims and Objectives

- This retrospective study aims to evaluate the hospital compliance with these standards before and after the accreditation process was undertaken in order to:
 - Determine whether the adoption strategies were effective in increasing compliance
 - Provide a timeline for other institutions looking to gain accreditation.

Methods

- Retrospective chart review for the standards (Table 1) was conducted on all rectal cancer patients receiving care at our institution from August 2016- August 2019 (pre-NAPRC group).
- Findings were then compared to the prospective data of rectal cancer patients collected from August 2019- 2023 (post-NAPRC group).

Table 1. NAPRC Patient Care Accreditation Standards.

Accreditation Standard	Included in Study
5.1 Review of Diagnostic Pathology	X
5.2 Staging Prior to Definitive Treatment (Local and Systemic)	X
5.3 Standardized Staging Reporting for MRI Results	
5.4 Carcinoembryonic Antigen Level	X
5.5 Rectal Cancer Multidisciplinary Team Treatment Planning Discussion	
5.6 Treatment Evaluation and Recommendation Summary	
5.7 Definitive Treatment Within 60 Days of Initial Clinical Evaluation	X
5.8 Surgical Resection and Standardized Operative Reporting	
5.9 Pathology Reports after Surgical Resection Completed Within Two Weeks	X
5.10 Photographs of Surgical Specimens	X
5.11 Multidisciplinary Team Post-Surgical Treatment Outcome Discussion	
5.12 Post-Surgical Treatment Outcome Discussion Summary	
5.13 Adjuvant Therapy after Surgical Resection	

NAPRC: National Accreditation Program for Rectal Cancer; MRI: magnetic resonance imaging.

Results

- Of the 353 patients included, 146 were pre-NAPRC and 207 were post-NAPRC. Of the seven compliance measures analyzed, 2 of the 7 were fully met in the pre-NAPRC group, while 6 of the 7 were fully met in the post-NAPRC group (Figure 1).
- Compared to pre-NAPRC, the post-NAPRC patients had a significant increase in compliance in obtaining a CT, MRI, CEA, and obtaining surgical specimen photographs (Table 2).
- There was no significant difference in compliance with diagnosis confirmed by biopsy, starting a treatment within a 60-day timeframe, or completing surgical pathology reports (Table 2).

Results

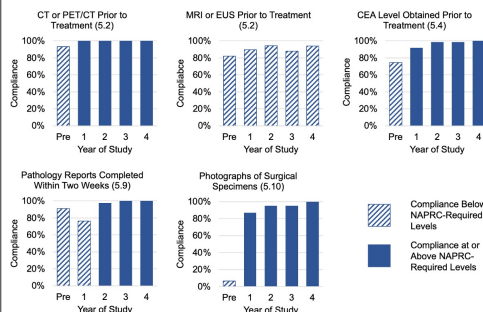


Figure 1. Compliance with patient care standards over time and the progress toward meeting National Accreditation Program for Rectal Cancer (NAPRC) required compliance levels. Pre: total of all years prior to NAPRC adoption (August 2016-July 2019); CT: computed tomography; PET/CT: positron emission tomography-computed tomography; MRI: magnetic resonance imaging; EUS: endoscopic ultrasound; CEA: carcinoembryonic antigen.

Table 3. Compliance for Patients Before and After NAPRC Adoption.

NAPRC Standard	Pre-NAPRC Patients (2016-Aug 2019)		Post-NAPRC Patients (Aug 2019 - 2023)		P-Value
	Compliant	Non-Compliant	Compliant	Non-Compliant	
Diagnosis confirmed by biopsy (5.1)	144 (98.6)	2 (1.4)	206 (99.5)	1 (0.5)	0.369
CT or PET/CT prior to treatment (5.2)	135 (93.1)	10 (6.9)	207 (100)	0 (0)	<0.001
MRI or EUS prior to treatment (5.2)	118 (81.9)	26 (18.1)	187 (90.8)	19 (9.2)	0.015
CEA level obtained prior to treatment (5.4)	108 (74.5)	37 (25.5)	200 (97.1)	6 (2.9)	<0.001
First definitive treatment within 60 days of initial evaluation (5.7)	112 (80.6)	27 (19.4)	143 (86.1)	23 (13.9)	0.19
Pathology reports completed within two weeks of surgical resection (5.9)	100 (90.9)	10 (9.1)	95 (92.2)	8 (7.8)	0.728
Photographs of surgical specimens (5.10)	7 (6.4)	103 (93.6)	90 (91.8)	8 (8.2)	<0.001

Data are given as n (%).

NAPRC: National Accreditation Program for Rectal Cancer; CT: computed tomography; PET/CT: positron emission tomography-computed tomography; MRI: magnetic resonance imaging; EUS: endoscopic ultrasound; CEA: carcinoembryonic antigen.

P-values <0.05 were considered significant and are bolded.

Conclusions

- Adoption of the NAPRC accreditation process into clinical practice at a single institution significantly improved compliance with multiple patient care standards, including staging with CT and MRI.
- Within one to two years of institutional changes, our institution transitioned from not meeting NAPRC accreditation in multiple patient care areas to fully meeting all with the exception of one.
- Future work will determine whether NAPRC accreditation improves patient outcomes
- As rectal cancer care moves towards a more multidisciplinary, standardized approach, this study shows that institutions who successfully obtain this highly sought-after accreditation will increase adherence to important evidence-based cancer care practices.

References

1. Common Cancer Sites - Cancer Stat Facts. SEER. Accessed February 26, 2024. <https://seer.cancer.gov/statfacts/html/bbrctotl.htm>
2. Hsu YH, Poon K, Morris DL, Liaw W. Systematic review and meta-analysis of hospital and surgeon volume/outcome relationships in colorectal cancer surgery. *J Gastrointest Oncol*. 2017;8(2):54-64. doi:10.1215/1751-2057-2017-0120
3. About NAPRC. ACS. Accessed July 25, 2023. <https://www.naprc.org/about-naprc>
4. Linton KY, Hamilton S, Harris J, et al. ASCO 2006 updates of recommendations for the use of tumor markers in gastrointestinal cancer: JCO Oncol. 2006;24(35):5315-5327. doi:10.1200/JCO.2006.08.2644
5. Lee L, David DW, Fleming FJ, et al. Accreditation readiness in US multidisciplinary rectal cancer: A survey of OSTRICH member institutions. *JAMA Surgery*. 2016;151(10):158-160. doi:10.1093/asasurg/151.10.158
6. Kapadia MR, Swanson PJ, Weisick C, et al. The value of national accreditation program for rectal cancer: A survey of accredited programs and programs seeking accreditation. *Surgery*. Published online January 23, 2024. doi:10.1016/j.surg.2023.12.005
7. Ko C, Chaudhry S. The need for a multidisciplinary approach to cancer care. *Journal of Surgical Research*. 2000;105(1):55-57. doi:10.1006/jsr.2000.5649
8. Samra A, Selvakumar CR. Current trends in staging rectal cancer. *World J Gastroenterol*. 2011;17(17):208-214. doi:10.3746/wjg.v17.i17.208

Acknowledgements

The authors would like to thank the OUBW School of Medicine Embark Capstone Program for their support and guidance during this project. Additionally, the authors would like to thank NAPRC coordinator Kim Rowland for her assistance in documenting accreditation standards and Amanda Bachand and Rose Callahan for their work in editing the manuscript.



Read our publication in
The American Surgeon!