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Analysis of Patterns of Compliance with Accreditation Standards of National Accreditation Program for Rectal Cancer

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BACKGROUND: We identified commonly deficient standards across rectal cancer programs that underwent accreditation review by the National Accreditation Program for Rectal Cancer to evaluate for patterns of noncompliance.

STUDY DESIGN: With the use of the internal database of the American College of Surgeons, programs that underwent accreditation review from 2018 to 2020 were evaluated. The occurrence and frequency of noncompliance with the standards, using the 2017 standards manual, were evaluated. Programs were further stratified based on the year of review, annual rectal cancer volume, and Commission on Cancer classification.

RESULTS: A total of 25 programs with annual rectal cancer volume from 14 to more than 200 cases per year underwent accreditation review. Only 2 programs achieved 100% compliance with all standards. Compliance with standards ranged from 48% to 100%. The 2 standards with the lowest level of compliance included standard 2.5 and standard 2.11 that require all patients with rectal cancer to be discussed at a multidisciplinary team meeting before the initiation of definitive treatment and within 4 weeks after definitive surgical therapy, respectively. Patterns of noncompliance persisted when programs were stratified on the basis oof the year of survey, annual rectal cancer volume, and Commission on Cancer classification. The corrective action process allowed all programs to ultimately become successfully accredited.

CONCLUSION: During this initial phase of the National Accreditation Program for Rectal Cancer accreditation, the majority of programs undergoing review did not achieve 100% compliance and went through a corrective action process. Although the minimal multidisciplinary team meeting attendance requirements were simplified in the 2021 revised standards, noncompliance related to presentation of all patients at the multidisciplinary team meeting before and after definitive treatment highlights the need for programs seeking accreditation to implement optimized and standardized workflows to achieve compliance. (J Am Coll Surg 2022;234:368–376. © 2022 by the American College of Surgeons. Published by Wolters Kluwer Health, Inc. All rights reserved.)

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In 2020, approximately 43,000 new rectal cancer cases were diagnosed in the US, a country where rectal cancer care delivery is highly fragmented and widely variable.[1-3] These proven differences have implications in major outcomes such as postoperative mortality, incidence of permanent stoma creation, recurrence rates, and overall survival.[4-6] Outcomes have been shown to be contingent on volume, training, and specialization.[7,8] Barriers to improving outcomes include geographical size of the country, access to care, need to travel, variation in availability of physicians with experience, inconsistent practice patterns, and increasing rates of rectal cancer in younger populations.[9-13] Based on the European experience of standardizing rectal cancer care in a multidisciplinary fashion, OSTRiCh Consortium (Optimizing the Surgical Treatment of Rectal Cancer) was established in 2011.[14] Subsequently, through the Commission on Cancer (CoC), a quality program of the American College of Surgeons (ACS), the National Accreditation Program for Rectal Cancer (NAPRC) developed the accreditation process. NAPRC was established in a truly multidisciplinary fashion involving various specialties that care for rectal cancer. The multiple organizations representing various specialties that came together to build NAPRC included ACS, the American Society of Colon and Rectal Surgeons, the Society of Surgical Oncology, the Society of American Gastrointestinal and Endoscopic Surgeons, the American College of Radiology, the College of American Pathologists, and the Society for Surgery of the Alimentary Tract. The core of this program is the multidisciplinary discussions with review of essential data before treatment. NAPRC has defined standards that must be met by rectal cancer programs to receive accreditation.[15] These standards focus on evidence-based multidisciplinary care with emphasis on process measures and standardization in rectal cancer care delivery, because similar measures have shown improvement in other cancers.[16,17] The first rectal cancer program was accredited by NAPRC in 2018. Subsequently, additional rectal cancer programs of varying sizes have received accreditation, whereas a similar number are in the process. We analyzed the accreditation outcomes of the first 25 rectal cancer programs that underwent initial site visits from 2018 to 2020 through NAPRC. We evaluated patterns of noncompliance with accreditation standards, which if identified, may help programs that are getting started in the journey toward accreditation, ensuring that optimal resources are allocated to certain standards. Also, recognizing patterns will help in focusing the efforts of the NAPRC reviewers during the review process. Finally, identification of such patterns might help in revising accreditation standards if they are consistently nonachievable or not associated with consistent improvement in clinical outcomes.

METHODS

Rectal cancer programs that underwent initial accreditation visits from March 2018 through October 2020 from NAPRC were reviewed using the ACS internal database. The primary outcome was the occurrence and frequency of noncompliance with a standard. Programs were further stratified based on year of site review and the annual volume of rectal cancer cases, and categorized using the CoC classification.[18] Program annual case volume was identified using the National Cancer Database for 2018. The most frequently noncompliant standards were subsequently stratified by using these subclassifications. To avoid the identification of individual programs, classification based on geographical location was not performed due to the relative paucity of accredited programs in certain geographical areas.

The NAPRC Standards Manual 2017 Edition *(Revised October 2017)* was used to assess compliance with the 19 listed standards.[19] In this edition, chapter 1 standards assess program management, such as standard 1.1 ensuring a program is CoC accredited (Table 1). Chapter 2 standards assess direct clinical services, whereas chapter 3 standards assess quality improvement. Some of the standards (1.7, 3.1, 3.2) were in development and were not used to determine accreditation. Also, standard 1.1 was related to CoC accreditation and not considered in further analysis because all programs had to be accredited by CoC to be eligible. Some of the standards, such as standard 1.4, measure 2 components of assessment. With this standard a program must have at least 2 meetings per month AND they must be attended by at least 1 member from each designated specialty; therefore, suffixes 1.4a and 1.4b are used, respectively, to assess these metrics, resulting in a total of 27 measured components to meet the 18 standards (Table 1). The study was approved by the Institutional Review Board of the University of California – San Francisco (IRB # 21-34131).

A brief description of the NAPRC site review is as follows. The tumor registrars, who are highly trained data management experts, and the rectal cancer program coordinator from individual programs include all the cases of rectal cancer that are accessioned in any healthcare system as part of the cancer center workflow/National Cancer Database registry. This list is submitted to the site reviewer who randomly chooses 20 cases that will be audited during the site review; these 20 cases serve as a representative sample of the processes to evaluate rectal cancer care delivery. Because NAPRC is one of the many quality programs under the ACS, NAPRC follows a workflow similar to its other quality programs. During the audit process, the site reviewers examine the medical records of 20 patients randomly chosen from the list provided by the rectal cancer program.

Table 1. 2017 Standards and Minimum Number of Patients Meeting Criteria to Achieve Compliance

Standard	Minimum % of patients to achieve compliance
1.1: CoC accreditation	Should be accredited by CoC
1.2a: Appointment of required members documented	100
1.2b: All surgeons appointed to the MDT	100
1.3: Individual attendance met	50 (attendance)
1.4a: MDT meetings at least 2 times per month	100
1.4b: Meeting had attendees from all specialties	100
1.5a: Audits documented in the MDT minutes	100
1.5b: Director to attend CoC meeting/provide documentation of attendance at CoC meeting at least 4 times/y	100
1.6: Appointment of coordinator documented	100
2.1a: Outside path report/slide obtained/reviewed before treatment	100
2.1b: Internal diagnosis–confirmation of rectal cancer before treatment	95
2.2a: Staging by CT (chest/abdomen/pelvis) completed	95
2.2b: Staging by MRI completed	95
2.3a: MRI read by RC-MDT radiologist	90
2.3b: Staging results in standardized format with required minimum elements	95
2.4: CEA level obtained	75
2.5: All patients were presented for initial treatment planning at RC-MDT before treatment began	100
2.6: Treatment recommendation summary provided to physician	50
2.7: Treatment started within 60 d	80
2.8: Surgical resection performed by RC-MDT surgeon	80
2.9a: Rectal cancer specimen read/reported by RC-MDT pathologist	90
2.9b: Pathology report completed within 2 wks, did not contain CAP elements and/or in synoptic format	95
2.10a: Specimen had photos	65
2.10b: Specimen photographed with at least 3 views	65
2.11: Patient presented to RC-MDT postoperatively and within 4 wks	100
2.12a: Treatment summary provided to physician	50
2.12b: Treatment summary provided to patient	50
2.13: Adjuvant therapy after surgical resection	50

CAP, College of American Pathologists; CEA, carcinoembryonic antigen; CoC, Commission on Cancer; MDT, multidisciplinary team; RC, rectal cancer.

Each chart is evaluated for compliance with every NAPRC standard. In addition, the reviewer observes the multidisciplinary team discussion and interviews the rectal cancer program director and the coordinator. These provide multiple opportunities to understand the strengths and weaknesses of the program, capturing the essence of the program.

RESULTS

A total of 25 programs were reviewed between March 2018 and October 2020. Eight programs were reviewed in 2018, 13 in 2019, and 4 in 2020. More programs submitted applications during the same period but did not undergo site reviews. With the use of the CoC classification, programs were categorized into academic comprehensive cancer program (ACAD, 5 programs), comprehensive community cancer program (7 programs), integrated network cancer programs (7 programs), and National Cancer Institute designated comprehensive cancer programs (6 programs). This classification is based on the type of facility, the structure of the program, the services provided, and the total number of cases accessioned every year. Caseload for the programs ranged from 14 rectal cancer cases per year to more than 200, based on National Cancer Database information from 2018. For the purpose of analysis, programs were grouped into 3 groups based on volume (11 to 40 cases, 41 to 80 cases, and >80 cases per year; Fig. 1).When categorized into groups, treating 21 to 30 rectal cancer cases annually was represented by the largest number of programs (n = 5, 20%). The second most frequent range was 51 to 60 rectal cancer cases per year, noted in 4 programs (18%). One program reported a volume of 11 to 20 cases of rectal cancer per year, whereas annual rectal cancer volume ranged 21 to 30 (5 programs), 31 to 40 cases (3 programs), 41 to 50 cases (3 programs), 51 to 60 (4 programs), 61 to 70 (2 programs), 71 to 80 (3 programs), 81 to 100 (2 programs), and >180 cases (2 programs).

Only 2 programs achieved 100% initial compliance with all 19 standards (Table 1). All other programs were required to complete corrective action to achieve compliance on all standards: 8 programs failed 1 to 3 measured standard components, 8 programs failed 4 to 6 measured standard components, and 7 programs failed 7 to 11 measured standard components (**Supplemental Digital Content 1 and 2**, available at http://links.lww.com/XCS/A35.

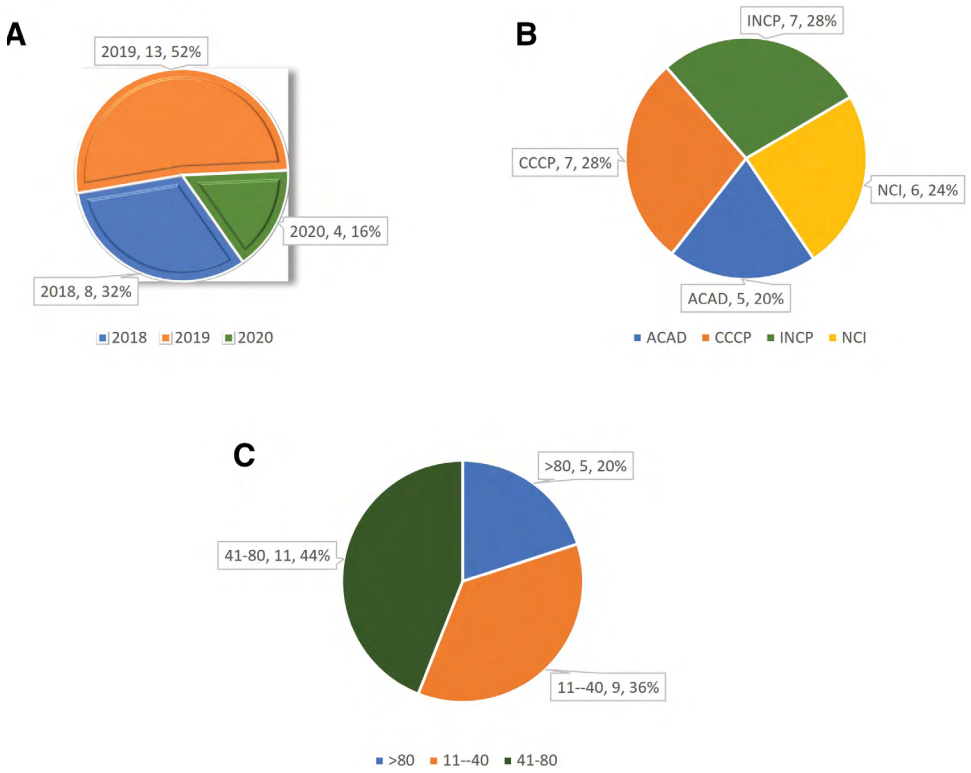

Figure 1. Distribution of programs reviewed by the National Accreditation Program for Rectal Cancer, stratified by year of review (A), Commission on Cancer classification (B), and annual rectal cancer volume (C). ACAD, academic; CCCP, comprehensive community cancer programs; INCP, integrated network cancer programs; NCI, National Cancer Institute designated programs.

One hundred percent compliance was achieved for 3 standard components (2.1, 2.4, and 2.8), 88% to 96% compliance was initially achieved for 11 standard components, 64% to 80% compliance was initially achieved for 9 standards components, and 48% to 60% compliance was initially achieved for 4 standard components (Table 2).

The standards with which the programs were initially most frequently noncompliant, achieving only 48% compliance, were standard 2.5 that requires that all patients who have rectal cancer be presented at the rectal cancer multidisciplinary team (RC-MDT) for treatment planning discussion before the initiation of definitive treatment, and standard 2.11 regarding the requirement to present patients again at RC-MDT within 4 weeks of definitive surgical treatment (13 programs each).

Among the 13 standard components with less than 80% compliance, 14 programs failed to meet standards 1.3 and/or 1.4 related to the RC-MDT attendance requirement, either by not having attendees from each specialty present (standard 1.4b, 6 programs), and/or for attendees not having participated in at least 50% of RC-MDT meetings (standard 1.3, 8 programs).

Fifteen programs failed to comply with standards 2.2 and/or 2.3 related to rectal cancer imaging, either by failing to obtain staging CT scans (standard 2.2a, 6 programs) and/or a pelvic MRI before the initiation of treatment (standard 2.2b, 6 programs), or by not having the staging MRI read by a radiologist member of the RC-MDT (standard 2.3a, 10 programs) or not having the MRI reported in a standardized format for more than 5% of reviewed cases (standard 2.3b, 9 programs).

Seven programs failed to comply with standard 2.6 that requires that treatment recommendation summaries be sent to referring physicians, and 9 programs failed the requirement to send a treatment summary to referring physicians (standard 2.12a, 6 programs) and to patients (standard 2.12b, 8 programs).

Finally, noncompliance was also noted among 10 sites that failed to meet standard 2.9 (more than 95% of definitive rectal cancer surgical resection specimens of the primary tumor should be read and the pathology report be completed by a pathology member of the RC-MDT).

When evaluating program compliance with NAPRC standards between 2018 and 2020, adherence with standards 2.6 and 2.12 related to sending treatment recommendation and treatment summaries was noted to improve over time (Table 3). Noncompliance issues noted in 2019 with pretreatment MRI, MRI read by a radiologist member of

Table 2. Overall Patterns of Noncompliance with Accreditation Standards

Standard	Total programs with noncompliant rating, n (total n of accredited programs = 25)	Compliance, %
2.5: All patients were not presented for initial treatment planning at RC-MDT before treatment began	13	48
2.11: Patient not presented to RC-MDT postsurgery or not presented within 4 wks	13	48
2.3a: MRI not read by RC-MDT radiologist	10	60
2.9a: Rectal cancer specimen not read/reported by RC-MDT pathologist	10	60
2.3b: Staging results not in standardized format with required minimum elements	9	64
1.3: Individual attendance not met	8	68
2.12b: Treatment summary not provided to patient	8	68
2.6: Treatment recommendation summary not provided to physician	7	72
1.4b: Meeting did not have attendees from all specialties	6	76
2.2a: Staging by CT (chest/abdomen/pelvis) not completed	6	76
2.2b: Staging by MRI not completed	6	76
2.12a: Treatment summary not provided to physician	6	76
2.10b: Specimen did not have at least 3 views	5	80
2.1a: Outside pathology report/slide not obtained/reviewed before treatment	3	88
1.4a: Did not meet 2 times per mo	2	92
2.13: Adjuvant therapy after surgical resection	2	92
1.2a: Appointment of required members not documented	1	96
1.2b: All surgeons were not appointed to the MDT	1	96
1.5a: Audits not documented in the MDT minutes	1	96
1.5b: Director did not attend CoC meeting/provide documentation of attendance at CoC meeting	1	96
1.6: Appointment of coordinator not documented	1	96
2.7: Treatment not started within 60 d	1	96
2.9b: Pathology report not completed within 2 weeks, did not contain CAP elements and/or not in synoptic format	1	96
2.10a: Specimen had no photo	1	96
2.1b: Internal diagnosis–no confirmation of rectal cancer before treatment	0	100
2.4: CEA level not obtained	0	100
2.8: Surgical resection not performed by RC-MDT surgeon	0	100

CEA, carcinoembryonic antigen; CoC, Commission on Cancer; MDT, multidisciplinary team; RC, rectal cancer.

the RC-MDT, and/or MRI and pathology reports being reported in a standardized format were no longer identified among programs reviewed in 2020. However, noncompliance with standard 2.5 requiring that all patients be presented at RC-MDT before the initiation of treatment has persisted among 3 to 5 programs per year. In addition, 5 programs in 2018 and 4 programs in 2020 failed to comply with standard 2.11 that requires that all patients be presented at RC-MDT within 4 weeks of definitive surgical treatment. In 2020, 3 programs demonstrated failure to adhere to the attendance requirement at RC-MDT.

When evaluating program compliance based on CoC classification and rectal cancer volume over the same period, lack of compliance with standard 2.11 was reported among 3 to 5 institutions of all program types except ACAD programs (Table 4). Lack of compliance with standards 2.5 and 2.11 has persisted among programs irrespective of yearly rectal cancer volume, with 3 to 5 noncompliant programs in each case volume bracket (11 to 40, 40 to 80, and >80 cases per year; Table 5).

DISCUSSION

The goal of NAPRC accreditation is for institutions to demonstrate compliance with a minimum set of standards to ensure that the highest quality of evidence-based rectal cancer care is delivered, regardless of practice type or setting or annual rectal cancer volume. This first audit of the performance of programs that underwent NAPRC site review between 2018 and 2020 highlights the successes and challenges in reaching compliance with NAPRC accreditation standards.

Table 3. Noncompliance with Accreditation Standards, Stratified by Year of Accreditation Achieved by Program

Year of accreditation, standard most frequently noncompliant	Noncompliant program/ total programs reviewed that year, n/N
2018	
2.5: All patients were not presented for initial treatment planning at RC-MDT before treatment began	5/8
2.6: Treatment recommendation summary not provided to physician	5/8
2.11: Patient not presented to RC-MDT postsurgery or not presented within 4 weeks	5/8
2.12b: Treatment summary not provided to patient	5/8
2019	
2.3a: MRI not read by RC-MDT radiologist	6/13
2.2b: Staging by MRI not completed	5/13
2.3b: Staging results not in standardized format with required minimum elements	5/13
2.5: All patients were not presented for initial treatment planning at RC-MDT before treatment began	5/13
2.9a: Rectal cancer specimens not read/reported by RC-MDT Pathologist	5/13
2020	
2.11: Patient not presented to RC-MDT postsurgery or not presented within 4 wk	4/4
1.3: Individual attendance not met	3/4
2.5: All patients were not presented for initial treatment planning at RC-MDT before treatment began	3/4

Standards that were not met by at least 50% of the programs in each category or the top 3 standards that were frequently not achieved in each category are shown in Tables 3,4, 5.
RC-MDT, rectal cancer multidisciplinary team.

The 25 institutions that underwent site review were evenly split among ACAD, comprehensive community cancer program , integrated network cancer programs, and National Cancer Institute designated programs, with annual rectal cancer volume ranging from 14 to well over 200 cases per year, highlighting the intended diversity of practice types and rectal cancer volumes across institutions caring for patients with rectal cancer. With the exception of 2 sites, all 23 sites were found to be noncompliant with 1 to 11 standards and were required to comply with a corrective action process. Before July 2019, submission of action plans to resolve noncompliance with standards was essential to receive accreditation. After July 2019, programs with deficiencies were still required to develop action plans. Then they implemented the action plans and went through a 6-month period of self-review. Documentation of subsequent compliance for the deficient standards was required to achieve accreditation after the 6-month review.

Much can be learned from this audit by all stakeholders committed to improving the quality of rectal cancer care at institutions across the US, including rectal cancer programs that evaluate resources and processes needed to implement standards, rectal cancer care providers seeking to incorporate standards into their practices and workflow,

Table 4. Noncompliance with Accreditation Standards, Stratified by Commission on Cancer Classification

CoC class, standard most frequently noncompliant	Noncompliant program/ reviewed program in that cohort, n/N
ACAD	
2.3a: MRI not read by RC-MDT radiologist	3/5
2.3b: Staging results not in standardized format with required minimum elements	3/5
2.9: Rectal cancer specimen not read/reported by RC-MDT pathologist	3/5
CCCP	
2.5: All patients were not presented for initial treatment planning at RC-MDT before treatment began	4/7
1.4b: Meeting did not have attendees from all specialties	3/7
2.11: Patient not presented to RC-MDT postoperative or not presented within 4 wks	3/7
INCP	
2.11: Patient not presented to RC-MDT postoperative or not presented within 4 wks	6/7
2.5: All patients were not presented for initial treatment planning at RC-MDT before treatment began	5/7
2.12b: Treatment summary not provided to patient	5/7
NCI	
2.3a: MRI not read by RC-MDT radiologist	4/6
2.9a: Rectal cancer specimens not read/reported by RC-MDT pathologist	3/6
2.11: Patient not presented to RC-MDT postoperative or not presented within 4 wks	3/6

Standards that were not met by at least 50% of the programs in each category or the top 3 standards that were frequently not achieved in each category are shown in Tables 3, 4, 5.
ACAD, academic; CCCP, comprehensive community cancer programs; INCP, integrated network cancer programs; NCI, National Cancer Institute designated programs; RC-MDT, rectal cancer multidisciplinary team.

Table 5. Noncompliance with Accreditation Standards, Stratified by Annual Rectal Cancer Volume from 2018 National Cancer Database Data

Annual rectal cancer volume, standard most frequently noncompliant	Noncompliant program/reviewed program in that cohort, n/N
11–40	
1.3: Individual attendance not met	5/9
2.5: All patients were not presented for initial treatment planning at RC-MDT before treatment began	5/9
2.3: Staging results not in standardized format with required minimum elements	4/9
2.11: Patient not presented to RC-MDT postoperative or not presented within 4 wks	4/9
41–80	
2.11: Patient not presented to RC-MDT postoperative or not presented within 4 wks	6/11
2.3a: MRI not read by RC-MDT radiologist	5/11
2.5: All patients were not presented for initial treatment planning at RC-MDT before treatment began	5/11
2.9a: Rectal cancer specimen not read/reported by RC-MDT Pathologist	5/11
>80	
2.5: All patients were not presented for initial treatment planning at RC-MDT before treatment began	3/5
2.11: Patient not presented to RC-MDT postoperative or not presented within 4 wks	3/5

Standards that were not met by at least 50% of the programs in each category or the top 3 standards that were frequently not achieved in each category are shown in Tables 3,4, 5.
RC-MDT, rectal cancer multidisciplinary team.

and the NAPRC Accreditation Committee that continuously provides guidance to programs seeking accreditation. This audit provides valuable feedback that will serve to develop strategies to increase initial compliance with standards and increase the chance that the program will achieve accreditation.

This audit highlighted several unexpected challenges encountered by programs in achieving compliance with some of the most rigorous NAPRC standards. First, 13 programs initially failed to meet the requirement that 100% of patients with rectal cancer be presented at the RC-MDT before the initiation of treatment (standard 2.5), and 13 programs also failed to demonstrate that patients were presented at RC-MDT within 4 weeks of definitive surgical resection (standard 2.11). Interestingly, these 2 deficiencies persisted over the entire study period and occurred across all study practices irrespective of annual rectal cancer volume. The first deficiency highlights the need for a radical change in institutional patterns and workflow for patients newly diagnosed with rectal cancer, whereby referring physicians, both from within and outside the institution, must be educated regarding the importance of referring patients promptly to a member of the RC-MDT to ensure that patients who have rectal cancer are staged appropriately and presented before the initiation of treatment. The second deficiency also highlights the need for a change in workflow for postoperative rectal cancer patients. Therapeutic decisions regarding the need for type and duration of adjuvant treatment are typically made before surgery. Hence, unless findings on final pathology dictate a change in the treatment plan, postoperative rectal cancer patients may be underprioritized relative to new rectal cancer cases, and not re-presented at the RC-MDT within 4 weeks of surgery. Achieving compliance with this standard may require sites to automate the presentation of all postoperative patients within 4 weeks from definitive surgical treatment. Second, 6 programs failed to document that staging CT scans or staging pelvic MRIs were obtained before the initiation of treatment. Achieving compliance with this staging requirement will require close collaboration with and education of referring physicians, to ensure that neoadjuvant treatment is not initiated until patients have been presented at MDT. This change in workflow for patients newly diagnosed with rectal cancer will provide the opportunity to order additional testing and to comply with the relevant NAPRC standards.

The audit highlighted expected as well as unexpected deficiencies across several domains relevant to the delivery of rectal cancer care. Attendance at each MDT meeting by members of each specialty (1.4b) and minimal individual attendance requirements for each representative specialty (1.3) have been among the frequent deficiencies. Deficiencies in individual attendance of at least 50% of MDT meetings was most prevalent in 2020 (1.3, 3 of 4 programs were noncompliant), and sites often pointed out the logistical challenge posed with the attendance requirement when there was only 1 or 2 representative members of the RC-MDT. In response to this feedback, the NAPRC recently modified the attendance requirement in the updated 2020 standards by requiring a minimal 30% meeting attendance for lead specialists and 20% for the other members, with the exception of surgeons who are still required to attend 50% of MDT meetings.[15] During the COVID-19 pandemic, rectal cancer programs have had to convert in-person to virtual MDT meetings. The virtual format is anticipated to become the new standard at most programs, and with the lower and simplified

attendance requirements, will likely improve compliance with this standard. Among other expected deficiencies, the logistical challenges of providing consistent and timely RC-MDT–related documentation across practices were not surprising, especially during the early phase of standards implementation. Deficiencies related to documentation that treatment recommendations and summaries were sent to referring physicians (2.6 and 2.12a) and patients (12.2b) were noted among programs. The NAPRC has since adjusted its requirements related to providing summaries to treating physicians rather than referring physicians and to patients; however, an emphasis remains on informing and educating patients about their treatment and ensuring that all treating physicians and team members have access to this vital information. It is anticipated that programs will develop workflow solutions through electronic medical records to facilitate these steps.

Compliance with synoptic reporting for staging pelvic MRIs (2.3b), and documentation that pelvic MRIs are read by the appointed RC-MDT radiologist (2.3a) and that pathology of rectal cancer specimens was reviewed by the appointed RC-MDT pathologist (2.9a) have also been problematic for some programs, particularly for ACAD institutions (2.3a,2.3b, 2.9a) and National Cancer Institute designated programs (2.3a, 2.9a) institutions. Reporting of rectal cancer MRI and total mesorectal excision pathology in synoptic format has become increasingly adopted across institutions, and facilitated by standardized templates being made available by the Society of Abdominal Radiology template[20] and the College of American Pathologists.[21] Compliance with these standards requires adjustment in workflow to ensure that the report is reviewed by the RC-MDT representative and documented in MDT minutes.

Program volume did not protect against deficiencies (Table 5); however, fewer deficiencies were found in the highest-volume group. Although standards 2.5 and 2.11 were a challenge regardless of program size, standard 2.3 was met with more difficulty in both the lower-volume and a middle-volume group, whereas standards 1.3 and 2.9a were challenges for each, respectively. Highest-volume centers may have preexisting processes that promote a focused scope of team members and therefore meet fewer challenges with these standards.

Overall, much can be learned from this audit of the initial group of programs applying for and undergoing site survey toward NAPRC accreditation. Reviewing program deficiencies allows aspiring programs to better calibrate where resources and efforts may be needed. Only by learning from the experience of those who have gone through an accreditation process, interested programs can learn where they may fail, despite acknowledging the clearly written standards. By publishing the common areas where standards were not met, as they initiate their organizational processes, future programs can concentrate on these common areas to optimize future successes. We have also used these results to target our educational efforts through webinars, NAPRC website postings, and revisions to the manual. Workflow issues with preoperative staging and referral for discussion at the RC-MDT before treatment initiation can be resolved with targeted efforts and system-wide education. Mobilizing multiple team members and adjusting the levels of responsibility and accountability require effort and engagement. Ensuring that all stakeholders are committed to accreditation before investing a significant amount of time and work is critical for the success of rectal cancer programs seeking accreditation. Fortunately, most programs going through site review addressed deficiencies early in program development and have been able to sustain compliance. Consistency in compliance with standards will need to be closely monitored as these programs enter reaccreditation cycles. Many of the recent modifications to the standards relative to MDT attendance and communication with the treating rather than the referring physician, as well as the tremendously enhanced use of video connectivity, should help programs ensure compliance with the NAPRC standards.

Our study has a few limitations. Our analysis includes only 25 programs and therefore might not represent the outcomes for all centers providing rectal cancer care in the US; however, given that there was wide representation of all types of programs in our analysis, we surmise that our results reflect real-world outcomes. Revised standards went into effect in January 2021, and therefore outcomes will be different when programs are evaluated by these newer standards. We do not know whether programs are able to sustain the workflows that enable them to achieve accreditation because programs have not entered the reaccreditation cycle. Furthermore, as programs enter reaccreditation cycles in 2022, especially in the postpandemic era, different patterns of noncompliance may emerge that will need to be analyzed. Another potential limitation is the lack of follow-up if programs were able to maintain compliance with standards.

Because the overall goal of NAPRC accreditation is to raise the level of rectal cancer care for all patients, the NAPRC will continue to engage experts from multiple fields and take on the burden of vetting and prioritizing standards so that individual programs can focus on implementation and deliver the best possible care for patients with rectal cancer. All centers treating rectal cancer are encouraged to learn from the lessons learned from this audit in the hopes that they develop strategies to implement NAPRC standards to the benefit of all patients.

CONCLUSION

Our analysis of the first 25 programs that underwent accreditation review by NAPRC demonstrates that the majority of programs underwent a corrective action process before NAPRC accreditation. Standards that require that all patients with rectal cancer be presented before the initiation of treatment and after definitive surgical therapy were the 2 most frequently noncompliant. Other common patterns of noncompliance pertained to attendance requirements, reporting by MDT members, synoptic reports, and interdisciplinary communication. Programs should be aware of these potential deficiencies and should expect to receive a corrective action after their initial site visit, if they are found to be noncompliant. However, this study shows that interested programs did become accredited after the corrective action plan was successfully implemented.

Author Contributions

Study conception and design: Raman, Tsoraides, Sylla, Sarin, Farkas, DeKoster, Hull, Wexner

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REFERENCES

1. American Cancer Society. Key Statistics for Colorectal Cancer. Available at: https://www.cancer.org/cancer/colon-rectal-cancer/about/key-statistics.html. Accessed December 9, 2020.
2. Brady JT, Xu Z, Scarberry KB, et al; Consortium for Optimizing the Treatment of Rectal Cancer (OSTRiCh). Evaluating the current status of rectal cancer care in the US: where we stand at the start of the Commission on Cancer's National Accreditation Program for Rectal Cancer. J Am Coll Surg. 2018;226:881–890.
3. Abelson JS, Bauer PS, Barron J, et al. Fragmented care in the treatment of rectal cancer and time to definitive therapy. J Am Coll Surg. 2021;232:27–33.
4. Hodgson DC, Zhang W, Zaslavsky AM, et al. Relation of hospital volume to colostomy rates and survival for patients with rectal cancer. J Natl Cancer Inst 2003;95:708e716.
5. Ricciardi R, Roberts PL, Read TE, et al. Who performs proctectomy for rectal cancer in the United States? Dis Colon Rectum 2011;54:1210–1215.
6. Etzioni DA, Cannom RR, Madoff RD, et al. Colorectal procedures: what proportion is performed by American Board of Colon and Rectal Surgery-certified surgeons? Dis Colon Rectum 2010;53:713–720.
7. Porter GA, Soskolne CL, Yakimets WW, et al. Surgeon-related factors and outcome in rectal cancer. Ann Surg 1998;227:157–167.
8. Harmon JW, Tang DG, Gordon TA, et al. Hospital volume can serve as a surrogate for surgeon volume for achieving excellent outcomes in colorectal resection. Ann Surg 1999;230:404–11; discussion 411.
9. Helewa RM, Turner D, Wirtzfeld D, et al. Geographical disparities of rectal cancer local recurrence and outcomes: a population-based analysis. Dis Colon Rectum 2013;56:850–858.
10. Lin CC, Bruinooge SS, Kirkwood MK, et al. Association between geographic access to cancer care and receipt of radiation therapy for rectal cancer. Int J Radiat Oncol Biol Phys 2016;94:719–728.
11. Xu Z, Becerra AZ, Justiniano CF, et al. Is the distance worth it? Patients with rectal cancer traveling to high-volume centers experience improved outcomes. Dis Colon Rectum 2017;60:1250–1259.
12. Swords DS, Skarda DE, Sause WT, et al. Surgeon-level variation in utilization of local staging and neoadjuvant therapy for stage II-III rectal adenocarcinoma. J Gastrointest Surg 2019;23:659–669.
13. Daly MC, Jung AD, Hanseman DJ, et al. Surviving rectal cancer: examination of racial disparities surrounding access to care. J Surg Res 2017;211:100–106.
14. Monson JRT, Dietz DW, Boughey JC, et al. Improving rectal cancer outcomes through advocacy, education, and research: the OSTRiCh Consortium and the new NAPRC. Bull Am Coll Surg 2016;101:45–46.
15. American College of Surgeons. 2020 Standards and Resources. Available at https://www.facs.org/quality-programs/cancer/naprc/standards/2020. Accessed June 22, 2021.
16. Chang JH, Vines E, Bertsch H, et al. The impact of a multidisciplinary breast cancer center on recommendations for patient management: the University of Pennsylvania experience. Cancer 2001;91:1231–1237.
17. Birchall M, Bailey D, King P; South West Cancer Intelligence Service Head and Neck Tumour Panel. Effect of process standards on survival of patients with head and neck cancer in the south and west of England. Br J Cancer 2004;91:1477–1481.
18. American College of Surgeons. About Cancer Program Categories. Available at https://www.facs.org/Quality-Programs/Cancer/CoC/accreditation/categories. Accessed on June 22, 2021.
19. American College of Surgeons. 2017 Standards and Resources. Available at https://www.facs.org/quality-programs/cancer/naprc/standards/2017. Accessed on May 5, 2021.
20. Society of Abdominal Radiology. Disease Focused Panels. Available at https://abdominalradiology.org/sar-subpages/dfp-panels. Accessed June 24, 2021.
21. College of American pathologists. Protocol for the Examination of Resection Specimens From Patients With Primary Carcinoma of the Colon and Rectum. Available at https://documents.cap.org/protocols/cp-gilower-colonrectum-resection-20-4100.pdf. Accessed June 24, 2021.