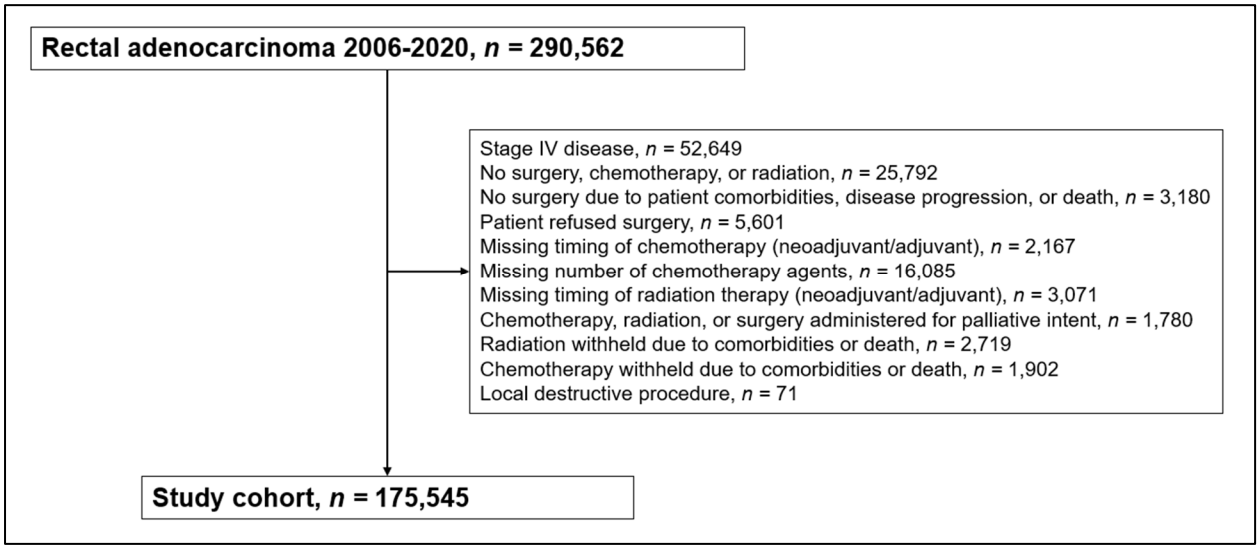
Supplemental Online Content

Loria A, Tejani MA, Temple LK, et al. Practice patterns for organ preservation in US patients with rectal cancer, 2006-2020. *JAMA Oncol*. Published online November 9, 2023. doi:10.1001/jamaoncol.2023.4845

This supplemental material has been provided by the authors to give readers additional information about their work.

eFigure 1. Derivation of the cohort



eTable 1. STROBE Statement

	Item No	Recommendation	Page
Title and abstract	1	(*a*) Indicate the study's design with a commonly used term in the title or the abstract	2
		(*b*) Provide in the abstract an informative and balanced summary of what was done and what was found	2,3
Introduction			
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported	3-6
Objectives	3	State specific objectives, including any prespecified hypotheses	4-6
Methods			
Study design	4	Present key elements of study design early in the paper	7
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	7
Participants	6	(*a*) *Cohort study*—Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up *Case-control study*—Give the eligibility criteria, and the sources and methods of case ascertainment and control selection. Give the rationale for the choice of cases and controls *Cross-sectional study*—Give the eligibility criteria, and the sources and methods of selection of participants	7
		(*b*) *Cohort study*—For matched studies, give matching criteria and number of exposed and unexposed *Case-control study*—For matched studies, give matching criteria and the number of controls per case	NA
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	7,8
Data sources/ measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group	7,8
Bias	9	Describe any efforts to address potential sources of bias	7,8
Study size	10	Explain how the study size was arrived at	eFigure 1
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	8
Statistical methods	12	(*a*) Describe all statistical methods, including those used to control for confounding	8
		(*b*) Describe any methods used to examine subgroups and interactions	8
		(*c*) Explain how missing data were addressed	8
		(*d*) *Cohort study*—If applicable, explain how loss to follow-up was addressed *Case-control study*—If applicable, explain how matching of cases and controls was addressed *Cross-sectional study*—If applicable, describe analytical methods taking account of sampling strategy	NA
		(*e*) Describe any sensitivity analyses	8
Results			

Participants	13*	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analyzed	9,10; eFigure 1
		(b) Give reasons for non-participation at each stage	10
		(c) Consider use of a flow diagram	eFigure 1
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders	9
		(b) Indicate number of participants with missing data for each variable of interest	9, Table 1
		(c) *Cohort study*—Summarize follow-up time (eg, average and total amount)	NA
Outcome data	15*	*Cohort study*—Report numbers of outcome events or summary measures over time	*NA*
		Case-control study—Report numbers in each exposure category, or summary measures of exposure	NA
		Cross-sectional study—Report numbers of outcome events or summary measures	*NA*
Main results	16	(*a*) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included	9-10
		(*b*) Report category boundaries when continuous variables were categorized	Table 1
		(*c*) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	NA
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses	9-10
Discussion			
Key results	18	Summarize key results with reference to study objectives	11
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias	11-14
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	11-14
Generalizability	21	Discuss the generalizability (external validity) of the study results	11-14
Other information			
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	None

eTable 2. Type and sequence of multimodal therapy over time

Type and sequence of therapy, No. (%)	2006-2008	2009-2011	2012-2014	2015-2017	2018-2020
Clinical Stage I	n = 5,492	n = 7,138	n = 6,760	n = 6,060	n = 5,143
Surgery alone	2,535 (46.16)	3,635 (50.92)	3,542 (52.4)	3,323 (54.83)	2,863 (55.14)
Radiation alone	781 (14.22)	904 (12.66)	875 (12.94)	726 (11.98)	582 (11.32)
Surgery → adjuvant radiation	552 (10.05)	774 (10.84)	719 (10.64)	628 (10.36)	500 (9.72)
Surgery → adjuvant chemotherapy	130 (2.37)	226 (3.17)	296 (4.38)	367 (6.06)	385 (7.49)
Neoadjuvant radiation → surgery[a]	803 (14.62)	798 (11.18)	683 (10.1)	514 (8.48)	359 (6.98)
Neoadjuvant radiation → surgery → adjuvant chemotherapy[a]	296 (5.39)	386 (5.41)	338 (5.00)	236 (3.89)	181 (3.52)
Multi-agent chemotherapy & radiation alone	89 (1.62)	114 (1.16)	104 (1.54)	105 (1.73)	142 (2.76)
Multi-agent chemotherapy & radiation → surgery[a]	266 (4.84)	254 (3.56)	145 (2.14)	91 (1.5)	92 (1.79)
Neoadjuvant chemotherapy → surgery[a]	33 (0.6)	37 (0.52)	52 (0.77)	64 (1.06)	60 (1.17)
Chemotherapy alone	7 (0.13)	10 (0.14)	6 (0.09)	6 (0.1)	6 (0.12)
Clinical Stage II-III	n = 12,760	n = 17,168	n = 20,975	n = 23,566	n = 25,330
Neoadjuvant radiation → surgery → adjuvant chemotherapy[a]	2,751 (21.56)	4,760 (27.73)	6,419 (30.6)	7,577 (32.15)	6,361 (25.11)
Multi-agent chemotherapy & radiation → surgery[a]	1,769 (13.86)	2,012 (11.72)	2,181 (10.4)	2,486 (10.55)	5,634 (22.24)
Neoadjuvant radiation → surgery[a]	4,308 (33.76)	5,577 (32.48)	7,029 (33.51)	7,199 (30.55)	5,180 (20.45)
Radiation alone	1,560 (12.23)	1,945 (11.33)	2,499 (11.91)	3,054 (12.96)	3,287 (12.98)
Multi-agent chemotherapy & radiation alone	546 (4.28)	561 (3.27)	772 (3.68)	1,263 (5.36)	2,931 (11.57)
Surgery alone	725 (5.68)	966 (5.63)	865 (4.12)	773 (3.28)	745 (2.94)
Neoadjuvant chemotherapy → surgery[a]	106 (0.83)	176 (1.03)	279 (1.33)	547 (2.32)	600 (2.37)
Surgery → adjuvant chemotherapy	192 (1.5)	295 (1.72)	352 (1.68)	320 (1.36)	330 (1.3)
Surgery → adjuvant radiation	797 (6.25)	864 (5.03)	565 (2.69)	334 (1.42)	239 (0.94)
Chemotherapy alone	6 (0.05)	12 (0.07)	14 (0.07)	13 (0.06)	23 (0.09)

Unknown Clinical Stage	n = 13,361	n = 7,637	n = 7,241	n = 8,664	n = 8,250
Surgery alone	5,068 (37.93)	3,032 (39.7)	3,097 (42.77)	3,826 (44.16)	3,440 (41.7)
Radiation alone	1,557 (11.65)	1,065 (13.95)	1,044 (14.42)	1,278 (14.75)	1,448 (17.55)
Surgery → adjuvant chemotherapy	624 (4.67)	399 (5.22)	578 (7.98)	792 (9.14)	831 (10.07)
Surgery → adjuvant radiation	2,404 (17.99)	1,213 (15.88)	1,040 (14.36)	963 (11.11)	766 (9.28)
Neoadjuvant radiation → surgery[a]	1,743 (13.05)	832 (10.89)	677 (9.35)	735 (8.48)	552 (6.69)
Neoadjuvant radiation → surgery → adjuvant chemotherapy[a]	901 (6.74)	563 (7.37)	418 (5.77)	588 (6.79)	471 (5.71)
Multi-agent chemotherapy & radiation → surgery[a]	661 (4.95)	311 (4.07)	180 (2.49)	216 (2.49)	341 (4.13)
Multi-agent chemotherapy & radiation alone	263 (1.97)	139 (1.82)	115 (1.59)	148 (1.71)	271 (3.28)
Neoadjuvant chemotherapy → surgery[a]	115 (0.86)	67 (0.88)	75 (1.04)	103 (1.19)	111 (1.35)
Chemotherapy alone	25 (0.19)	16 (0.21)	17 (0.23)	15 (0.17)	19 (0.23)

[a]Eligible for the subgroup analysis of pathologic complete response rates in Figure 3. Surgery is proctectomy or transanal local excision.