

# The Growing Trend of No Primary Surgery in Colorectal Cancer

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## 1. BACKGROUND

In patients with colorectal cancer (CRC), surgery of the primary site is commonly curative, hence remains the mainstay of treatment with excellent long-term outcomes. However, previous research has shown that some patients with potentially curable CRC do not undergo surgery of the primary tumor and the reasons behind this remain unclear.

## 2. OBJECTIVE

Our goal was to investigate the extent of the no-surgery trend among patients with CRC. In addition, we sought to understand the potential reasons that might explain non-operative management. The results of our study should be used to guide policy in the treatment of CRC across the nation.

## 3. METHODS

- National Cancer Database (NCDB) queried from 01/2010 to 12/2016.
- All patients with colon, rectosigmoid, or rectal adenocarcinoma were included (ICD codes C18-, C19-, C20-)

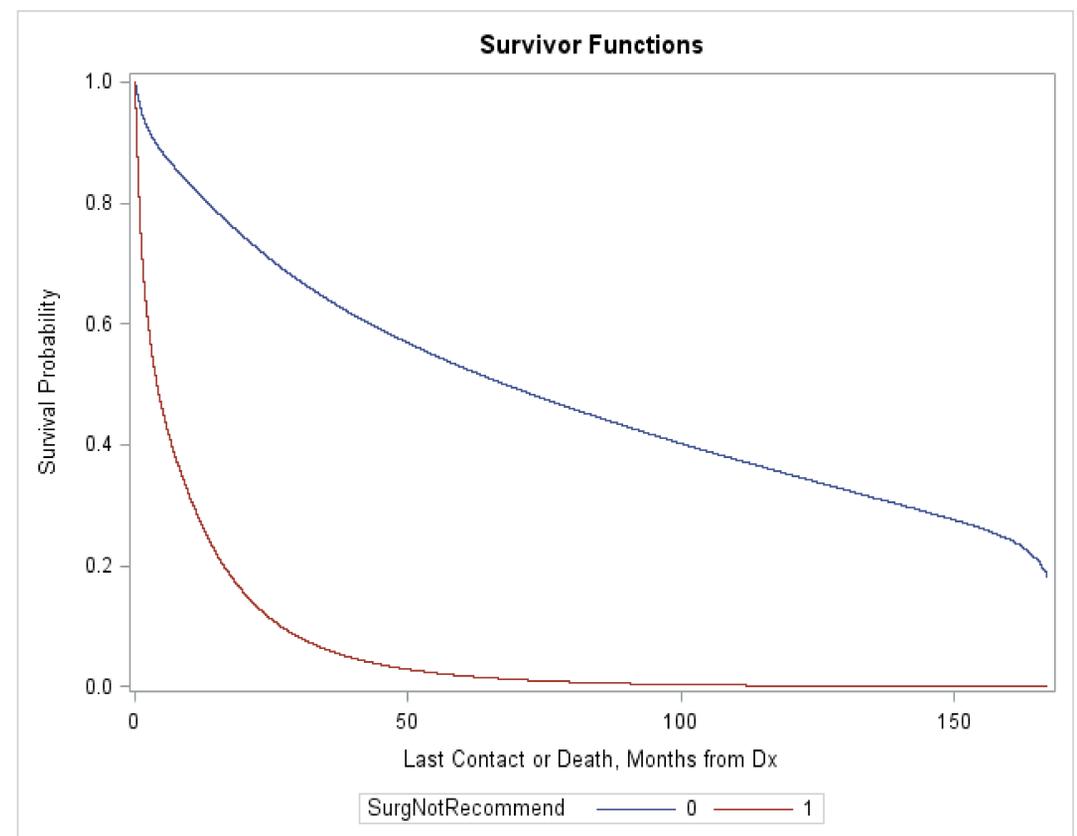
- Primary outcome: the rate of no surgical treatment on the primary tumor in patients with CRC
- Secondary outcome: Reasons for no surgery and risk factors associated with non-operative management

## 4. RESULTS

A total of 1,208,878 patients with CRC were identified. Of them, 174,946 (14.5%) did not undergo surgery for the primary tumor. Despite the stable incidence of colorectal cancer, the likelihood of “no surgery” increased by 170% across all primary sites, through the study period. “No surgery” was more commonly noted in rectal (23.2%), followed by rectosigmoid (14.7%), and colon cancer (11.8%). Overall, 51.3% of patients who did not undergo surgery had metastatic disease. Of note, the incidence of Stage IV disease remained stable over the study period. In 15,729 patients (9%) without metastatic disease, surgery to resect the primary tumor was not recommended.

On multivariable analysis, patients who were not recommended to have surgery were more likely to receive care at a single hospital, have a higher Charlson-Deyo Score, be older, of black race, or uninsured. Ultimately, patients who did not have surgery (red line) had substantially lower overall survival that those who did (blue line).

Reasons for not performing surgery:			
	Colon cancer N=103,240	Rectal cancer N=60,198	Rectosigmoid cancer N=13,861
Surgery was not performed	75,790(73.4%)	42,084 (69.9%)	10,295 (74.3%)
Surgery was not recommended	9,772 (9.5%)	4,818 (8.0%)	1,140 (8.2%)
Patient died prior to surgery	1,569 (1.5%)	909 (1.5%)	163 (1.2%)
Surgery not performed despite recommendations	1,509 (1.4%)	1,157(1.9%)	250 (1.8%)
Patient refused surgery	7,758 (7.4%)	4,681 (7.8%)	755 (5.4%)
Unknown if surgery was recommended	6,842 (6.8%)	6,549 (10.9%)	1,258 (9.1%)



## 5. CONCLUSIONS

Our study reveals that a substantial proportion of patients with CRC do not undergo surgery. Interestingly, the rate of “no surgery” increased during the study period. Interventions aimed at expanding access and promoting second opinions at other cancer hospitals might reduce the growing rate of no surgery in patients with CRC.