

Title: Clinical and financial impact of readmissions following colorectal resection: An analysis of predictors, outcomes, and cost

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Background: Following passage of the Affordable Care Act, 30-day readmissions have come under greater scrutiny, with penalties levied for higher than expected readmission rates. We examined risk factors for 30-day readmission following colorectal resection and evaluated the financial impact of readmissions on the healthcare system.

Methods: The University HealthSystem Consortium Clinical Database was queried for adults undergoing colorectal surgery for cancer, diverticular disease, inflammatory bowel disease, or benign tumors from 2008-2012. Predictors of 30-day readmission were assessed with multivariable logistic regression. Additional endpoints included time to readmission, readmission diagnosis, readmission length of stay (LOS), and readmission cost.

Results: A total of 70,484 patients met study inclusion criteria, 13.7% (9,632) of which were readmitted within 30 days of discharge. The strongest independent predictors of readmission were: LOS ≥ 4 days (OR 1.44; 95% CI 1.32-1.57), stoma (OR 1.54; 95% CI 1.46-1.61), and non-home discharge (OR 1.68; 95% CI 1.57-1.81). Of those readmitted, half occurred within 7 days, 13% required ICU care, 6% had a reoperation, and 2% died during the readmission stay. The median combined total direct hospital cost was over two times higher (\$26,917 v. \$13,817; $p < 0.001$) than non-readmitted patients. Compared with late readmissions, those readmitted within 7 days were more likely to have a reoperation (8% v. 4%, $p < 0.001$), be admitted to the ICU (14% vs. 12%, $p < 0.001$), and had a longer median readmission LOS (5d vs. 4d, $p < 0.001$).

CONCLUSIONS: 30-day readmissions following colorectal resection occur frequently and incur a significant financial burden on the healthcare system. Highest-risk patients include those with longer LOS, stoma, and non-home discharge. Future studies aimed at targeted interventions may reduce readmissions and curb escalating healthcare costs.