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# Clinical and Financial Impact of Readmissions Following Colorectal Resection: An Analysis of Predictors, Outcomes, and Cost

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**Presenter Information**

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**Comments**

Abstract of poster presented at the 2014 UMass Center for Clinical and Translational Science Research Retreat, held on May 20, 2014 at the University of Massachusetts Medical School, Worcester, Mass.

Nichole Cherng participated in this study as a medical student in the Senior Scholars research program at the University of Massachusetts Medical School.

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**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  $\geq$ 4 days (OR 1.44; 95% CI 1.32-1.57), stoma (OR 1.54; 95% CI 1.46-1.51), 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.