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## **Price Tag on Progress: Rising Chemotherapy Cost for Colorectal Cancer — Evidence From Medicare Claims Analysis**

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**Background:** Chemotherapy treatment of colorectal cancer has made impressive progress in the past 10 years. In addition to the traditional 5-fluorouracil, newer anticancer drugs are available including irinotecan and oxaliplatin. Monoclonal antibodies like bevacizumab and cetuximab have been integrated into modern treatment regimens. However, there is relatively little information regarding the extent of the economic impact of biologic agents on colon cancer treatment.

**Purpose:** To investigate trends in chemotherapy utilization and cost among Medicare beneficiaries with colon cancer, and examine the economic impact of biologic agents on colon cancer treatment.

**Patients and Methods:** We identified patients from Medicare claims data who were diagnosed with colon cancer at age 65 or older in 2001 to 2005. Chemotherapy claims, reimbursement, and number of users for any chemotherapy claim and selective chemotherapy agents were evaluated monthly for the study period. Descriptive time series plots were used to compare chemotherapy use and cost.

**Results:** Overall, among 76,261 patients with a diagnosis of colon cancer during 2001 to 2005, 10,705 had a total of 247, 224 claims for chemotherapy, resulting in \$117,042,875 in Medicare cost. Annual chemotherapy claims increased from 45,756 (2001) to 49,368 (2004), while claims for chemotherapy slightly decreased in 2005 (50,357) compared with 2004 (51,660). Medicare costs for chemotherapy in colorectal cancer patients increased 24.3% from \$29,292,814 in 2004 to \$36,391,159 in 2005. Medicare claims for oxaliplatin and biologic agents, such as bevacizumab and cetuximab, increased dramatically, from 0.01% (2003) to 11.4% (2005), 0% (2004) to 11.95% (2005), and 0% (2004) to 5.95% (2005) of total chemotherapy claims, respectively. Chemotherapy claims for 5-fluorouracil and irinotecan decreased during the study period.

**Conclusion:** The substantial increase in Medicare cost among patients receiving chemotherapy for colon cancer was associated with increasing use of the newer biologic agents bevacizumab and cetuximab. The nationwide and population-based Medicare claims provide potential for examining the trends, costs, and cost effectiveness of chemotherapy use.