

Reducing radiation could safely cut breast cancer treatment costs

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Over half of older women with early stage breast cancer received more radiation therapy than what might be medically necessary, adding additional treatment and health care costs, according to a study led by Duke Cancer Institute researchers.

The researchers found that the annual estimated cost for [radiation therapy](#) in women older than age 50 who were potentially eligible to cut back or eliminate the [treatment](#) was \$420.2 million in 2011. Had this group of women been treated with the alternative approaches that evidence suggests are as effective, the cost was estimated at \$256.2 million - a potential savings of \$164 million.

"It's important to look for opportunities in [cancer treatment](#) where we can safely reduce [health care](#) costs without compromising excellent outcomes," said Rachel A. Greenup, M.D., assistant professor of surgery and lead author of a study published March 14 in the *Journal of Oncology Practice*.

"Our study provides an example of a win-win situation, where patients can receive high-quality, evidence-based cancer care while also reducing the treatment burden for patients and the health care system," Greenup said.

Greenup and colleagues, including senior author E. Shelley Hwang, M.D., chief of breast surgery at the Duke Cancer Institute, used 2011 data from the National Cancer Database to identify more than 43,000 [breast cancer](#) patients aged 50 and older. All had small tumors that had not spread to the lymph nodes, and had been treated with lumpectomy.

Previous studies have shown that these patients can do equally well when treated with a four-week course of breast [radiation](#), as opposed to the traditional six-week regimen. An additional study demonstrated that carefully selected patients aged 70 and older had no additional survival benefit with radiation therapy when treated with tamoxifen after

lumpectomy.

Despite the published evidence, however, the Duke-led researchers found that 57 percent of patients who were potentially eligible to reduce or forego radiation still received the longer, costlier regimens.

Using Medicare reimbursement data, the researchers estimated that the cost per patient for the conventional, six-week radiation therapy was more than \$13,000. That compared to a little more than \$8,000 for the shorter regimen or no cost when radiation is eliminated.

Greenup said the financial analysis of cost savings in the study was limited because Medicare data do not provide as much information as insurance data, which were not available for this study. Additionally, she said, the available patient data do not provide reasons why women underwent the longer, costlier radiation treatments. In many instances, the treatment might have been warranted based on factors that were not evident in the database, or patients might have been uncomfortable reducing or omitting radiation.

Greenup said the study nonetheless highlights the need to apply evolving evidence to treatment decisions.

"Breast cancer treatment costs are projected to reach \$20 billion in 2020," Greenup said, citing National Cancer Institute statistics. "Of course high-quality care is the priority in [cancer](#) treatment, but our study suggests that utilization of evidence-based radiation treatment can translate into reductions in health care spending without sacrificing quality."

Provided by Duke University Medical Center

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