

## PROSTATE CANCER

# What is the cost of modern cancer treatment?

Prostate cancer is often considered to be a marker of health-care spending, owing to the rising costs of providing treatment for the 180,000 men diagnosed with the disease each year.

New technologies and adjuvant therapies are extremely attractive to patients and clinicians; however, their clinical benefit has often not been proven in randomized trials, and the costs compared to standard treatments are not always known.

A group from Boston, MA, has sought to address this issue. The team used linked data from the Surveillance,

Epidemiology and End-Results (SEER) database and Medicare to determine the cost of adjuvant therapies after radical prostatectomy, by comparing the cost of prostatectomy alone to that of prostatectomy plus adjuvant therapy. Using the database, the team identified 4,247 men diagnosed with prostate cancer between 2004 and 2006, 600 of whom received adjuvant therapy. They then determined which factors were associated with adjuvant therapy uptake, and investigated the additional costs of these treatments compared to prostatectomy alone. Gleason score, PSA level, risk group and SEER region were all associated with receipt of adjuvant therapies, whereas higher surgeon volume was associated with lower odds of receiving these treatments. The median costs associated with postprostatectomy hormonal therapy, radiation or hormonal plus radiation therapy were \$1,361, \$12,040 and \$23,487, respectively.

The same group also retrospectively investigated treatment patterns and costs of using new technologies to manage prostate cancer, compared to the cost of their better-established counterparts.

Once again using

SEER–Medicare data, they determined the uptake rate and costs of open prostatectomy versus minimally invasive prostatectomy (MIRP), and standard 3D conformal radiotherapy (3D-CRT) versus intensity-modulated radiation therapy (IMRT), from 2001 to 2005. As expected, the number of patients undergoing MIRP and IMRT increased during this period, with a concomitant decrease in the use of more-established treatment modalities. The mean incremental cost of MIRP versus open radical prostatectomy was, interestingly, only \$293; however, this did not take into account the set-up costs of a robotic MIRP program, which can total \$1 million. The incremental cost of IMRT versus 3D-CRT, either in combination with brachytherapy or alone, was nearly \$11,000. When these figures were extrapolated to encompass the entire US population, the excess spending totaled \$282 million for IMRT, \$59 million for brachytherapy with IMRT and \$4 million for MIRP, compared to the less-costly alternatives.

Although these new modalities have been rapidly adopted, there are currently limited data to support a clear clinical benefit. As it is almost impossible to reverse a trend towards using a new treatment once it is in clinical use, these data suggest that more-rigorous trials and cost analyses should be performed before new treatments are offered to patients.

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**Original articles** Williams, S. B. *et al.* Utilization and expense of adjuvant cancer therapies following radical prostatectomy. *Cancer* doi:10.1002/cncr.26012 | Nguyen, P. L. *et al.* Cost implications of the rapid adoption of newer technologies for treating prostate cancer. *J. Clin. Oncol.* 29, 1517–1524 (2011)



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