

Jacobs BL, Zhang Y, Skolarus TA, Hollenbeck BK. Growth of high-cost intensity-modulated radiotherapy for prostate cancer raises concerns about overuse. Health Aff (Millwood). 2012;31(4).

Appendix A. Codes used to identify the study cohort

Radiation type	HCPCS code
3-dimensional conformal therapy planning*	77295 or 77290 and 76370 or 77290 and 77014
3-dimensional conformal therapy treatment	77401, 77402, 77403, 77404, 77406, 77407, 77408, 77409, 77411, 77412, 77413, 77414, 77416
IMRT treatment	77418, 0073T, or G0174

Source: Authors' analysis of linked Surveillance, Epidemiology, and End Results (SEER)-Medicare data.

Notes: *There are not specific treatment codes for 3-dimensional conformal therapy, which necessitates the use of planning codes. HCPCS is Healthcare Common Procedure Coding System.

Appendix B. Tumor grade and stage characteristics of the study population

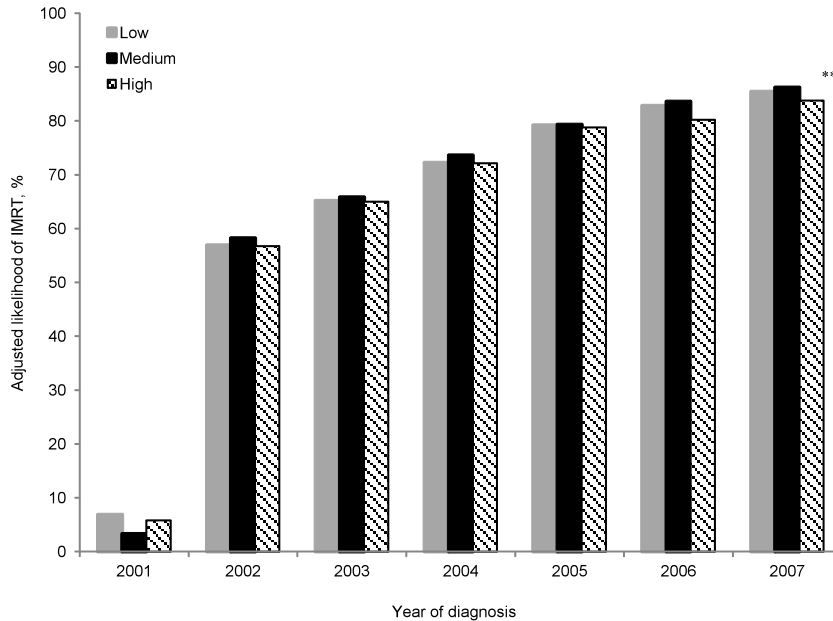
Characteristics	2001		2004		2007	
	3D-CRT (n=4874)	IMRT (n=401)	3D-CRT (n=1973)	IMRT (n=3052)	3D-CRT (n=579)	IMRT (n=4842)
Tumor grade[§]						
Well/moderately differentiated	3520 (72)	282 (70)	687 (35)	1317 (43)****	133 (23)	1747 (36)****
Poorly/undifferentiated	1240 (25)	111 (28)	1265 (64)	1696 (56)	424 (73)	3057 (63)
Clinical stage[†]						
T1	1758 (36)	169 (42)**	880 (45)	1478 (48)**	278 (48)	2566 (53)****
T2	2839 (58)	205 (51)	936 (47)	1383 (45)	223 (39)	1941 (40)
T3/T4	190 (4)	15 (4)	119 (6)	142 (5)	51 (8)	242 (6)

Source: Authors' analysis of linked Surveillance, Epidemiology, and End Results (SEER)-Medicare data.

Notes: Data are presented as number (percent). Typically, less differentiated and higher stage tumors have a worse prognosis due to the aggressiveness of disease. IMRT is intensity-modulated radiotherapy. 3D-CRT is 3-dimensional conformal therapy. Chi-square tests were performed for all categorical variables. [§]In all, 242 cases with unknown tumor grade. [†]In all, 306 cases with unknown clinical stage. Percentages might not sum to 100 because of rounding. **p<0.05 ***p<0.01 ****p<0.001

Appendix C.

Adjusted percentage of receiving IMRT compared to other radiation treatments, according to socioeconomic status



Source: Authors' analysis of linked Surveillance, Epidemiology, and End Results (SEER)-Medicare data.

Notes: The likelihood of IMRT utilization compared to 3-dimensional conformal therapy, 2-dimensional external beam radiotherapy, or brachytherapy was fairly uniform across all socioeconomic classes. IMRT is intensity-modulated radiotherapy. Model was adjusted for age, race, comorbidity, and tumor grade and stage. ** $p < 0.001$, omnibus Wald test