

Supplementary Table 1. Probabilities Used in the Base Case Cost-Minimization Model*

Parameter	Probability (proportion)
Conventional radiation	
Bowel 0–1	0.95 (96/101)
Bowel 2–3	0.05 (5/101)
Urinary 0–1, if bowel 0–1	0.84 (81/96)
Urinary 2–3, if bowel 0–1	0.16 (15/96)
Urinary 0–1, if bowel 2–3	1 (5/5)
Urinary 2–3, if bowel 2–3	0 (0/5)
No failure, if bowel 0–1 & urinary 0–1	.91 (74/81)
Failure, if bowel 0–1 & urinary 0–1	.09 (7/81)
No failure, if bowel 0–1 & urinary 2–3	.80 (12/15)
Failure, if bowel 0–1 & urinary 2–3	.20 (3/15)
No failure, if bowel 2–3 & urinary 0–1	1 (5/5)
Failure, if bowel 2–3 & urinary 0–1	0 (0/5)
No failure, if bowel 2–3 & urinary 2–3	0
Failure, if bowel 2–3 & urinary 2–3	0
Hypofractionated radiation	
Bowel 0–1	0.89 (91/102)
Bowel 2–3	0.11 (11/102)
Urinary 0–1, if bowel 0–1	.88 (80/91)
Urinary 2–3, if bowel 0–1	.12 (11/91)
Urinary 0–1, if bowel 2–3	.64 (7/11)
Urinary 2–3, if bowel 2–3	.36 (4/11)
No failure, if bowel 0–1 & urinary 0–1	.94 (75/80)
Failure, if bowel 0–1 & urinary 0–1	.06 (5/80)
No failure, if bowel 0–1 & urinary 2–3	.91 (10/11)
Failure, if bowel 0–1 & urinary 2–3	.09 (1/11)
No failure, if bowel 2–3 & urinary 0–1	1 (7/7)
Failure, if bowel 2–3 & urinary 0–1	0 (0/7)
No failure, if bowel 2–3 & urinary 2–3	1 (4/4)
Failure, if bowel 2–3 & urinary 2–3	0 (0/4)

*Probabilities of toxicities based on patient level data from randomized trial. 0–1 = maximum grade 0 to grade 1 toxicities. 2–3 = maximum grade 2 to grade 3 toxicities.

Supplementary Table 2. CPT Codes Used to Estimate 2014 CMS Reimbursements

Treatment	Codes
Radiation	77263, 77290, 77014, 77334, 77300, 77338, 77421, 77301, 77418, 77427, 77336, 77370
Procedures	
Lower endoscopy codes	
Colonoscopy, diagnostic	45378, A4402
Colonoscopy, with control of bleeding	45382, A4402
Flexible sigmoidoscopy, diagnostic	45330, A4402
Flexible sigmoidoscopy, for control of bleeding	45334, A4402
Anesthesia for lower endoscopy, 45 minutes*	00810, 93005, 93010
Catheterization urinary	51702, A4320, A4351
Catheterization, with dilatation	51702, A4315, A4340
Catheterization, with indwelling Foley catheter [†]	51702, A4315, A4340, A4358
Catheterization, with bladder irrigation	51700, A4340, A4315, A4346
Cystourethroscopy	52000, A4311, A4340
Cystourethroscopy, with irrigation and clot removal	52001, A4311, A4340, A4346
Cystourethroscopy, with anesthesia, 45 minutes*	51700, A4340, A4315, A4346, 00910, 93005, 93010
Fluorourodynamic study	76000, 51600, 51741, 51726, 51728, 74455
Transurethral resection of the prostate, 1.25 hour*	52601, 00914, A4344, A4357, A4358
Internal urethrotomy and mitomycin-C injection, 1 hour*	51715, 52276, 00910, A4344, A4358, A4357, J9280
Imaging and work-up	
Imaging associated codes	
CT pelvis, with contrast	72193
CT abdomen, with/without contrast	74170
Intravenous pyelogram	74415
Post void residual ultrasound	51798
Renal ultrasound	76770
Transabdominal ultrasound	76700
Urine analysis and culture	81001, 87070, 87086
Urine cytology	88108
Clinic visits	
Outpatient new visit, level 3	99203, G0463
Outpatient established visit, level 3	99213, G0463
Emergency room visit, level 4	99284, 94760

Abbreviations, CPT, current procedural technology; CMS, Center for Medicare and Medicaid Services.

*Estimated procedural time elapsed for calculation of general anesthesia reimbursements; [†]Estimated one month duration of indwelling foley catheter.

Supplementary Table 3. Average Wholesale Price Codes Used to Estimate 2014 Reimbursement

Medication, dose	Code
hydrocortisone acetate (Anusol HC, Proctocort), 25 mg	00713-0503-24
pramoxine hydrochloride foam (Proctofoam HC), 15 g	51862-0180-15
psyllium (Metamucil), 3.4 g	65557-0778-13
docusate sodium (Colace), 100 mg	57896-0401-01
magnesium hydrochloride (Milk of Magnesia), 30 mL	53807-0125-02
loperamide, 2 mg	10135-0159-13
diphenoxylate-atropine (Lomotil), 0.025 mg–2.5 mg	00025-0061-31
tamsulosin (Flomax), 0.4 mg	63739-0811-43
alfuzosin (Uroxatral), 10 mg	47335-0956-81
terazosin, 10 mg	60505-0118-00
terazosin, 2 mg	00904-6127-61
oxybutynin (Ditropan*), 10 mg	50458-0810-01
tolterodine tartrate (Detrol), 1 mg	59762-0170-06
tolterodine tartrate, (Detrol LA*), 4 mg	00009-5191-04
solifenacin (VESicare*), 5 mg	51248-0150-03
dutasteride (Avodart*), 0.5 mg	00173-0712-25
finasteride (Proscar), 5 mg	31722-0525-90
ciprofloxacin hydrochloride, 500 mg	24658-0250-01
levofloxacin (Levaquin), 500 mg	13668-0083-01
doxycycline, 100 mg	00591-0411-50
trimethoprim/sulfamethoxazole (Bactrim DS*), 800 mg–160 mg	13310-0146-01
ibuprofen, 200 mg	57896-0941-01
Calcium glycerophosphate (Prelief*)	41383-022001

*Pricing of the generic form of this medication was unavailable, the unit average wholesale price of the non-generic medication was provided.

Supplementary Table 4. Percent Distribution of Average Cost Components of Average Total Cost

Radiation toxicity	Radiation (% of all total cost ranges)	Toxicity (% range of all average total cost)	Procedures for toxicity (% range of average total cost)	Drugs for toxicity (% range of average total cost)
HIMRT				
0–1 bowel and urinary	97 (66-100)	3 (0-51)	1 (0-11)	2 (0-51)
0–1 bowel, 2–3 urinary	95 (82-100)	5 (0-21)	4 (0-13)	1 (0-11)
2–3 bowel, 0–1 urinary	93 (85-100)	7 (0-17)	5 (0-16)	1 (0-3)
2–3 bowel, 2–3 urinary	74 (54 -99)	26 (1-63)	15 (0-30)	11 (0-42)
CIMRT				
0-1 bowel and urinary	98 (80-100)	2 (0-25)	1 (0-17)	1 (0-25)
0–1 bowel, 2–3 urinary	94 (68-100)	6 (0-44)	3 (0-14)	4 (0-34)
2–3 bowel, 0–1 urinary	92 (82-95)	8 (4-20)	7 (4-20)	1 (0-2)
2–3 bowel, 2–3 urinary	*	*	*	*

Abbreviations: HIMRT, dose-escalated moderately hypofractionated intensity-modulated radiation therapy; CIMRT, conventional intensity-modulated radiation therapy; 0–1, grade 0 to grade 1 toxicity; 2–3, grade 2 to grade 3 toxicity. *No men developed both grade 2–3 bowel and urinary toxicities.