

Additional file 1

Table S1 Disease management costs (PF and PD health states) and end-of-life/terminal care costs

Resource name	No. required per 4 weeks	Unit cost (\$US)	Reference
PF			
Office visit	0.104	79.67	CMS Physician Fee Schedule. HCPCS code: 99214 (office visit, established patient, facility price), National payment amount
Community nurse visit	0	25.84	CMS Physician Fee Schedule. HCPCS code: 99212 (office visit, established patient, facility price), National payment amount
CT scan	0.028	467.99	CMS Physician Fee Schedule. HCPCS code: 74160 (CT abdomen w/ dye, facility price, all modifiers), National payment amount
MRI	0.036	920.90	CMS Physician Fee Schedule. HCPCS code: 74182 (MRI abdomen w/ dye, facility price, all modifiers), National payment amount
Blood test, CBC	0.081	8.87	CMS Physician Fee Schedule: 85004, Medicare Laboratory Fee Schedule (2017)
Comprehensive metabolic panel	0.756	11.60	CMS Laboratory Fee Schedule: 80048, Medicare Laboratory Fee Schedule (2017)
Morphine sulphate, oral	0.019	0.89	WAC, Medi-Span; 15 mg every 4 hours
Morphine sulphate, IV drug acquisition	0	6.76	WAC, Medi-Span (assumed 10 mg per day dosage)
Morphine sulphate, IV administration	0.027	58.14	CMS Physician Fee Schedule. HCPCS code: 96376 (injection, facility price), National payment amount
Oxycodone HCl, oral	0.051	1.01	WAC, Medi-Span; 60 mg every 4 hours
PD			
Office visit	0.188	79.67	CMS Physician Fee Schedule. HCPCS code: 99214 (office visit, established patient, facility price), National payment amount
Community nurse visit	0	25.84	CMS Physician Fee Schedule. HCPCS code: 99212 (office visit, established patient, facility price), National payment amount
CT scan	0.044	467.99	CMS Physician Fee Schedule. HCPCS code: 74160 (CT abdomen w/ dye, facility price, all modifiers), National payment amount
MRI	0.047	920.90	Centers for Medicare & Medicaid Service - Physician Fee Schedule. HCPCS code: 74182 (MRI abdomen w/ dye, facility price, all modifiers), National payment amount
Blood test, CBC	0.079	8.87	CMS Physician Fee Schedule: 85004, Medicare Laboratory Fee Schedule (2017)
Comprehensive metabolic panel	0.736	11.60	CMS Laboratory Fee Schedule: 80048, Medicare Laboratory Fee Schedule (2017)
Morphine sulphate, oral	0.033	0.89	WAC, Medi-Span; 15 mg every 4 hours

Resource name	No. required per 4 weeks	Unit cost (\$US)	Reference
Morphine sulphate, IV drug acquisition	0.001	6.76	WAC, Medi-Span (assumed 10 mg per day dosage)
Morphine sulphate, IV administration	0.058	58.14	CMS Physician Fee Schedule. HCPCS code: 96376 (injection, facility price), National payment amount
Oxycodone HCl, oral	0.11	1.01	WAC, Medi-Span; 60 mg every 4 hours
End-of-life/terminal care costs			
Resource Name	No. Required	Unit Cost (\$US)	Reference
End-of-life care	1	10,713.01	Cost initially sourced from Perrin et al. and inflated from 2014 to 2017. Values using a "Medical care" CPI in Table 25, page 82 of 121 [https://www.bls.gov/cpi/cpid1705.pdf]

CBC, complete blood count; CMS, US Centers for Medicare and Medicaid Services; CPI, consumer price index; IV, intravenous; PD, progressive disease health state; PF, progression-free disease health state; WAC, wholesale acquisition cost

Table S2 Drug acquisition costs used in the base-case model

Treatment	Formulation per vial/cap	Vial size or tablets per pack	Unit cost per vial or pack 2015 (\$US)	Reference
Nivolumab	10 mg/mL	10 mL	2545.15	Medi-Span WAC price
Nivolumab	10 mg/mL	4 mL	1018.06	Medi-Span WAC price
Everolimus	10 mg	28	13,233.17	Medi-Span WAC price
Axitinib	5 mg	60	13,680.23	Medi-Span WAC price
Pazopanib	200 mg	120	11,018.87	Medi-Span WAC price
Sunitinib	50 mg	28	16,208.76	Medi-Span WAC price
Temsirolimus	25 mg/mL	1 mL	1718.05	Medi-Span WAC price
Bevacizumab	25 mg/mL	16 mL	3034.16	Medi-Span WAC price
Sorafenib	200 mg	120	16,479.43	Medi-Span WAC price
Cabozantinib	20 mg	84	14,788.84	Medi-Span WAC price

WAC, wholesale acquisition cost

Table S3 Subsequent treatments used in base-case model (treatment duration based on the Global Oncologic Learnings for Dovitinib in Renal Cell Carcinoma Trial^a)

Subsequent treatment	Cost of treatment^b (\$US)	Nivolumab arm	Everolimus arm
Nivolumab	44,685.99	0%	0%
Everolimus	52,821.96	48%	9%
Axitinib	50,977.14	45%	60%
Pazopanib	41,121.51	17%	26%
Sunitinib	48,419.59	13%	14%
Temsirolimus	29,799.00	5%	5%
Bevacizumab	44,402.41	6%	9%
Sorafenib	61,343.22	12%	15%
Best supportive care	316.11	0%	0%
Cabozantinib	58,994.46	8%	3%

^a Reference: Lancet Oncol. 2014;15:286–96.

^b For a treatment duration of 3.65 months. Costs include drug acquisition, drug administration, and monitoring