

Supplemental online content for:

A Population-Based Study of Morbidity After Pancreatic Cancer Diagnosis

Reith R. Sarkar, BS; Katherine E. Fero, MD, MAS; Daniel M. Seible, MD; Neil Panjwani, MD;
Rayna K. Matsuno, PhD; and James D. Murphy, MD, MS

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eTable 1: ICD-9 and HCPCS Codes Utilized for Diagnosis and Treatment

eTable 2: Twelve-Month Cumulative Incidence of Local and Nonlocal Complications Requiring Hospitalization,
Stratified by Radiotherapy or Chemotherapy

eTable 1. ICD-9 and HCPCS Codes Utilized for Diagnosis and Treatment

SEER Variable		SEER Code		
Pancreatic cancer		8000, 8010, 8020, 8021, 8022, 8141, 8140, 8211, 8230, 8500, 8521, 8050, 8453, 8470, 8471, 8472, 8473, 8481, 8503		
Medicare Variable		ICD-9 Diagnosis Code	ICD-9 Procedure Code	HCPCS Codes
Treatment variables	Chemotherapy	V581, V5811, V5812, V662, V672	9925	G0345, G0346, G0347, G0348, G0349, G0350, G0351, G0353, G0354, G0355, G0356, G0357, G0358, G0359, G0360, G0361, G0362, G0363, G9021, G9022, G9023, G9024, G9025, G9026, G9027, G9028, G9029, G9030, G9031, G9032, J9000–J9999, J8520–J8999, Q0083, Q0084, Q0085, 96400–96499, 96500–96599
	Radiotherapy (including simulation, planning, daily treatments, and weekly management)			61793, 61796, 61797, 61798, 61799, 61800, 63620, 63621, 76370, 77014, 77261, 77262, 77263, 77280, 77285, 77290, 77295, 77299, 77300, 77301, 77305, 77310, 77315, 77321, 77326, 77327, 77328, 77331, 77332, 77333, 77334, 77336, 77338, 77370, 77371, 77372, 77373, 77399, 77401, 77402, 77403, 77404, 77405, 77406, 77407, 77408, 77409, 77410, 77411, 77412, 77413, 77414, 77415, 77416, 77417, 77418, 77419, 77420, 77421, 77422, 77423, 77425, 77427, 77430, 77431, 77432, 77435, 77470, 77499, 77520, 77522, 77523, 77525, 77761, 77762, 77763, 77776, 77777, 77778, 77781, 77782, 77783, 77784, 77785, 77786, 77787, 77789, 77790, 77799, 0082T, 0083T, 0190T, 0197T, G0173, G0174, G0178, G0242, G0243, G0251, G0256, G0261, G0338, G0339, G0340
	Surgical resection		52.5, 52.51, 52.52, 52.53, 52.59, 52.6, 52.7	48140, 48145, 48146, 48150, 48152, 48153, 48154, 48155, 48160
Local complications	Biliary	5750, 57510, 57511, 57512, 5761, 5762, 5763, 5764, 5768, 5769, 7824		
	Pain-related	33818, 33819, 33828, 33829, 3383, 3384, 78900, 78901, 78902, 78903, 78904, 78905, 78906, 78907, 78909		
	Pancreas-related	5770, 5771, 5778, 5779		
	Upper gastrointestinal bleed or ulcer	53100, 53101, 53110, 53130, 53131, 53140, 53141, 53150, 53151, 53160, 53170, 53190, 53191, 53200, 53201, 53210, 53211, 53220, 53221, 53230, 53231, 53240, 53241, 53250, 53251, 53260, 53270, 53271, 53290, 53291, 53300, 53310, 53330, 53340, 53350, 53360, 53370, 53390, 53391, 53501, 53511, 53541, 53551, 53561		
	Radiation toxicity	9092, 990, E8792		

(continued on next page)

Abbreviation: HCPCS, Healthcare Common Procedure Coding System.

eTable 1. ICD-9 and HCPCS Codes Utilized for Diagnosis and Treatment (cont.)

Medicare Variable	ICD-9 Diagnosis Code	ICD-9 Procedure Code	HCPCS Codes
Nonlocal complications	Thromboembolic events	4532, 4533, 45340, 45341, 45342, 45350, 45351, 45352, 4536, 45371, 45372, 45373, 45375, 45376, 45377, 45379, 45381, 45382, 45383, 45384, 45385, 45386, 45387, 45389, 4539	
	Cytopenia	2800, 2809, 28411, 28412, 28419, 2851, 28522, 28529, 2853, 2858, 2859, 2875, 28800, 28809	
	Dehydration	27650, 27651, 27652	
	Nausea/Vomiting/Motility problem	5362, 5363, 53640, 53641, 53642, 53649, 5368, 5372, 5373, 5374, 53789, 5581, 5601, 56039, 56081, 56089, 5609, 5643, 78701, 78702, 78703, 78791	
	Malnutrition and cachexia	260, 261, 262, 2630, 2631, 2638, 2639, 7830, 78321, 7837, 7994	
	Ascites	78951, 78959	
	Pathologic fracture	73310, 73311, 73312, 73313, 73314, 73315, 73316, 73319	
	Chemotherapy-related toxicity	E9331	

Abbreviation: HCPCS, Healthcare Common Procedure Coding System.

Table 2. Twelve-Month Cumulative Incidence of Local and Nonlocal Complications Requiring Hospitalization, Stratified by Radiotherapy or Chemotherapy^a

Local Complication	Radiotherapy	12-Month Cumulative Incidence, %			
		All Patients (N=21,500)	Resectable (N=3,092)	Unresectable (N=7,110)	Metastatic (N=11,298)
Biliary disorder	Yes	37.0	31.9	43.9	29.4
	No	29.0	27.6	43.0	22.1
Upper gastrointestinal ulcer/bleed	Yes	9.9	5.9	12.9	9.4
	No	4.7	3.1	6.2	4.3
Pain	Yes	7.4	5.4	7.8	9.5
	No	5.7	5.9	4.9	6.0
Pancreas-related	Yes	12.9	14.4	13.1	9.9
	No	11.9	14.1	15.7	8.1
Radiation toxicity	Yes	1.1	1.2	1.2	0.8
	No	0	0	0	0
Local composite	Yes	49.1	41.6	56.3	44.9
	No	39.2	38.0	52.0	32.9
Nonlocal Complication	Chemotherapy				
DVT/PE	Yes	8.9	6.1	7.0	11.4
	No	5.0	4.0	3.2	6.2
Cytopenia	Yes	35.0	28.4	39.6	35.1
	No	26.7	21.7	28.6	26.3
Dehydration	Yes	16.0	14.5	17.0	16.1
	No	11.7	11.6	12.1	11.5
Nausea/Vomiting/Motility problem	Yes	24.8	21.8	28.5	23.9
	No	18.0	19.2	19.6	16.7
Malnutrition and cachexia	Yes	23.8	19.6	26.4	23.9
	No	22.5	21.9	23.6	21.9
Ascites	Yes	6.6	4.5	6.0	7.9
	No	5.4	3.1	3.3	7.1
Pathologic fracture	Yes	0.9	0.6	0.7	1.0
	No	0.8	0.7	0.4	1.1
Chemotherapy-related toxicity	Yes	1.4	1.1	1.5	1.5
	No	0	0	0	0
Nonlocal composite	Yes	57.9	43.3	62.0	61.8
	No	52.8	42.0	53.5	54.2

Abbreviation: DVT/PE, deep vein thrombosis/pulmonary embolism.

^aEach patient may have presented with >1 symptom.