

## Supplementary Online Content

Saraswathula A, Chen MM, Colevas AD, Divi V. Assessing care value for older patients receiving radiotherapy with or without cisplatin or cetuximab for locoregionally advanced head and neck cancer. *JAMA Otolaryngol Head Neck Surg*. Published online October 17, 2019. doi: 10.1001/jamaoto.2019.2381

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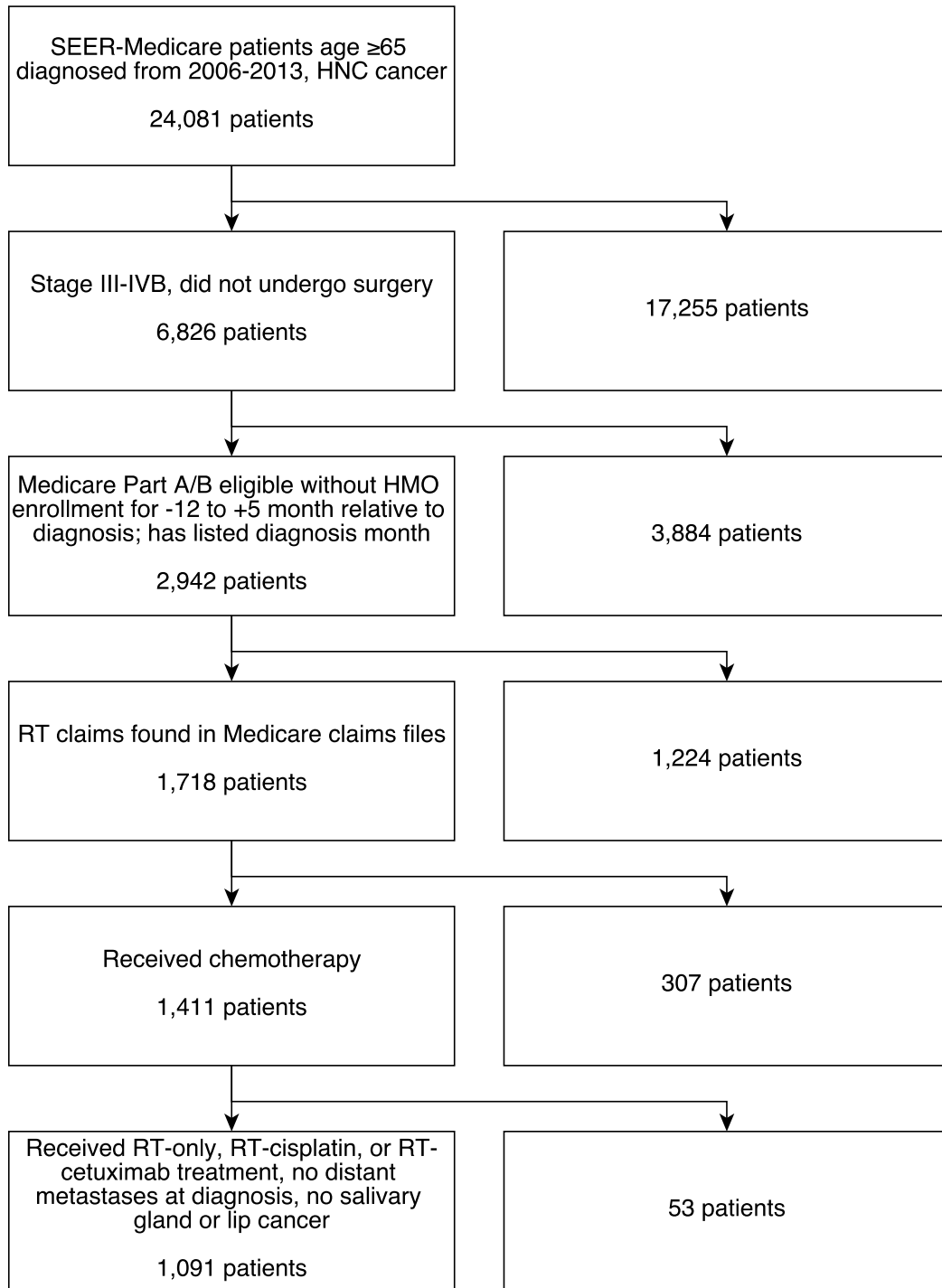
**eTable 4.** Unmatched Cox Proportional Hazards Model for Patients Receiving RT Only, RT Cisplatin, and RT Cetuximab, Adjusted for Age, Sex, Site, Stage, and Charlson Index; Hazard Ratios (HRs) for Mortality Shown for Overall Cohort and Stratified by Age

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This supplementary material has been provided by the authors to give readers additional information about their work.

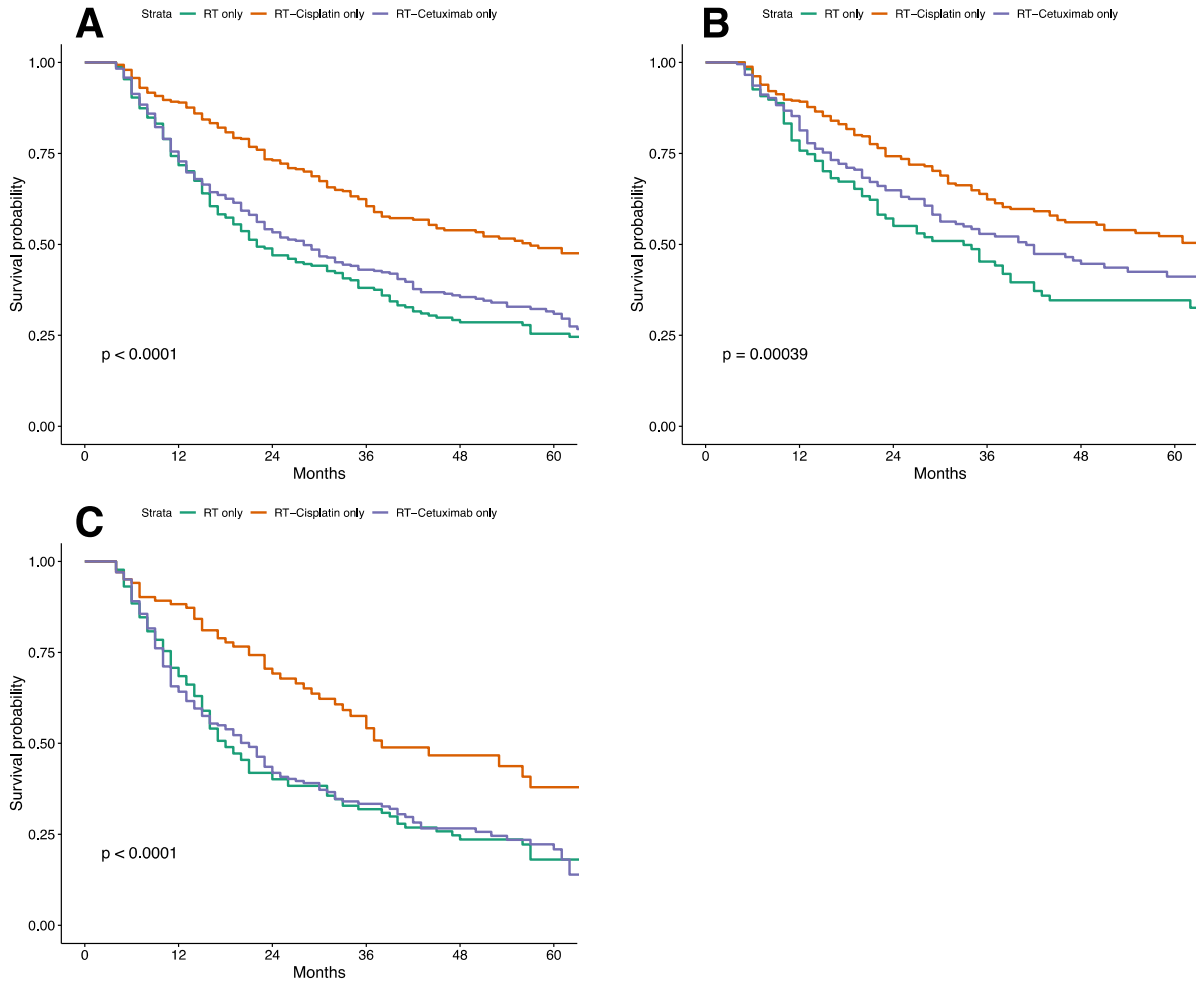
**eFigure 1. Cohort Construction**

STROBE flow diagram demonstrating the construction of the cohort.



**eFigure 2.** Kaplan-Meier Survival Curves

Kaplan-Meier curves for overall survival of patients (A) age 65+ years, (B) age 65-74 years, and (C) age 75+ years receiving RT-only, RT-cisplatin, and RT-cetuximab.



**eTable 1.** Healthcare Common Procedure Coding System (HCPCS) Codes Used in Medicare Claims Analysis

<b>Healthcare Common Procedure Coding System (HCPCS) codes</b>	
	77401, 77402, 77403, 77404, 77405, 77406, 77407, 77408, 77409, 77410, 77411, 77412, 77413, 77414, 77415, 77416, 77417, 77418, 77419, 77420, 77421, 77422, 77423, 77424, 77425, 77520, 77521, 77522, 77523, 77524, 77525, 77750, 77751, 77752, 77753, 77754, 77755, 77756, 77757, 77758, 77759, 77760, 77761, 77762, 77763, 77764, 77765, 77766, 77767, 77768, 77769, 77770, 77771, 77772, 77773, 77774, 77775, 77776, 77777, 77778, 77779, 77780, 77781, 77782, 77783, 77784, 77785, 77786, 77787, 77788, 77789, 77790, 77791, 77792, 77793, 77794, 77795, 77796, 77797, 77798, 77799, G0173, G0251, G0256, G0261, G0339, G0340, 77280, 77285, 77290, 77305, 77310, 77315, 77300, 77301, 77302, 77303, 77304, 77305, 77306, 77307, 77308, 77309, 77310, 77311, 77312, 77313, 77314, 77315, 77316, 77317, 77318, 77319, 77320, 77321, 77322, 77323, 77324, 77325, 77326, 77327, 77328, 77329, 77330, 77331, 77332, 77333, 77334, 77338, 77399, 77301, 77418, 0073T, 76950, 77014, 76370, 77421, 0197T, 77295
<b>Codes for radiotherapy</b>	J9999, J9267, J9265, J9264, J9263, J9190, J9171, J9062, J9060, J9055, J9045, J9043, J8999, S9331, S9330, S9329, S5020, S5019, Q0085, Q0084, Q0083, J7150, G9032, G9031, G9030, G9029, G9028, G9027, G9026, G9025, G9024, G9023, G9022, G9021, G8374, G8373, G8372, G0362, G0361, G0360, G0359, G0358, G0357, G0355, C9418, C9215, C8955, C8954, C8953, 4180F, 0519F, 0169T, 99602, 99601, 96549, 96549, 96548, 96547, 96546, 96545, 96545, 96544, 96543, 96542, 96542, 96541, 96540, 96539, 96538, 96537, 96536, 96535, 96534, 96533, 96532, 96531, 96530, 96530, 96529, 96528, 96527, 96526, 96525, 96524, 96523, 96523, 96522, 96522, 96521, 96521, 96520, 96520, 96519, 96518, 96517, 96516, 96515, 96514, 96513, 96512, 96511, 96510, 96509, 96508, 96507, 96506, 96505, 96504, 96503, 96502, 96501, 96500, 96499, 96498, 96497, 96496, 96495, 96494, 96493, 96492, 96491, 96490, 96489, 96488, 96487, 96486, 96485, 96484, 96483, 96482, 96481, 96480, 96479, 96478, 96477, 96476, 96475, 96474, 96473, 96472, 96471, 96470, 96469, 96468, 96467, 96466, 96465, 96464, 96463, 96462, 96461, 96460, 96459, 96458, 96457, 96456, 96455, 96454, 96453, 96452, 96451, 96450, 96449, 96448, 96447, 96446, 96445, 96444, 96443, 96442, 96441, 96440, 96439, 96438, 96437, 96436, 96435, 96434, 96433, 96432, 96431, 96430, 96429, 96428, 96427, 96426, 96425, 96424, 96423, 96422, 96421, 96420, 96419, 96418, 96417, 96416, 96415, 96414, 96414, 96413, 96412, 96412, 96411, 96410, 96409, 96408, 96407, 96406, 96405, 96404, 96403, 96402, 96401, 96379, 96368, 96367, 96366, 96365, 95991, 95990, 90799, 90784, 90783, 90782, 90781, 90780, 90779, 90776, 90775, 90774, 90773, 90772, 90768, 90767, 90766, 90765, 62365, 62362, 62361, 62360, 61517, 61215, 36823, 36640, 36260
<b>Codes for chemotherapy</b>	
<b>Codes for specific chemotherapy drugs</b>	J9055, J9060, J9062

**eTable 2.** Sources Within SEER-Medicare Data for Various Study Variables

<b>Patient Baseline Characteristics</b>	
<b>Primary site (head and neck cancer)</b>	Patient Entitlement and Diagnosis Summary File (PEDSF) files
<b>Sociodemographics: age, sex, race/ethnicity</b>	PEDSF
<b>Comorbidities</b>	Medicare Provider and Analysis Review files, National Claims History (NCH) files, Outpatient (OUTPAT) files for year prior to diagnosis, Chronic Conditions Flag files
<b>Diagnosis month and year</b>	PEDSF
<b>Medicare and HMO enrollment</b>	PEDSF
<b>Survival</b>	PEDSF
<b>AJCC stage</b>	PEDSF
<b>Treatment</b>	
<b>Chemotherapy</b>	OUTPAT, NCH
<b>Radiation therapy</b>	OUTPAT, NCH
<b>Inpatient admissions</b>	MEDPAR
<b>ED visits</b>	NCH
<b>Spending</b>	MEDPAR, OUTPAT, NCH, DME, HHA

**eTable 3.** Comparison of Covariates Based on Data Missingness for Charlson Comorbidity

Index

	<b>Not missing</b>	<b>Missing</b>	<b>p</b>
<b>N</b>	1024	67	
<b>Age (mean (sd))</b>	74.02 (6.61)	72.73 (6.52)	0.122
<b>Male (%)</b>	258 (25.2)	18 (26.9)	0.873
<b>White (%)</b>	872 (85.2)	62 (92.5)	0.413
<b>Oropharynx (%)</b>	546 (53.3)	37 (55.2)	0.871
<b>Stage (%)</b>			
<b>Stage III</b>			0.978
	357 (34.9)	24 (35.8)	
<b>Stage IV</b>			
	667 (65.1)	43 (64.2)	
<b>Treatment (%)</b>			
<b>RT only</b>			0.647
	357 (34.9)	24 (35.8)	
<b>RT-cisplatin</b>			
	667 (65.1)	43 (64.2)	
<b>RT-cetuximab</b>			
	357 (34.9)	24 (35.8)	

**eTable 4.** Unmatched Cox Proportional Hazards Model for Patients Receiving RT Only, RT Cisplatin, and RT Cetuximab, Adjusted for Age, Sex, Site, Stage, and Charlson Index; Hazard Ratios (HRs) for Mortality Shown for Overall Cohort and Stratified by Age

	<b>Overall</b>	<b>65-74 y</b>	<b>75+ y</b>
<b>RT-only</b>	1.00 (ref.)	1.00 (ref.)	1.00 (ref.)
RT-cisplatin	0.68 (0.54-0.87)	0.67 (0.49-0.92)	0.56 (0.38-0.83)
RT-cetuximab	0.96 (0.77-1.18)	0.73 (0.52-1.02)	1.06 (0.80-1.39)

**eTable 5.** Post-Propensity-Score Matching Characteristics for Patients in Both Matched Analyses Shown With Standardized Mean Differences (SMD) or Difference in Proportions (DIP)

	RT only/RT-cisplatin analysis			RT only/RT-cetuximab analysis		
	RT only	RT-cisplatin	SMD or DIP	RT only	RT-cetuximab	SMD or DIP
<b>N</b>	170	170		215	215	
<b>Age (mean (sd))</b>	73.75 (5.62)	73.38 (5.29)	-0.079	76.38 (7.19)	75.21 (7.48)	-0.173
<b>Male (%)</b>	126 (74.1)	118 (69.4)	0.047	149 (69.3)	151 (70.2)	-0.009
<b>Site (%)</b>						
<b>Oral cavity</b>	17 (10.0)	14 (8.2)	-0.018	39 (18.1)	40 (18.6)	0.005
<b>Oropharynx</b>	76 (44.7)	90 (52.9)	0.082	83 (38.6)	89 (41.4)	0.028
<b>Larynx, hypopharynx</b>	77 (45.3)	66 (38.8)	-0.065	93 (43.3)	86 (40.0)	-0.033
<b>Stage (%)</b>						
<b>Stage III</b>	60 (35.3)	69 (40.6)		88 (40.9)	78 (36.3)	
<b>Stage IV</b>	110 (64.7)	101 (59.4)		127 (59.1)	137 (63.7)	
<b>Charlson comorbidity index (mean(sd))</b>	2.09 (2.20)	1.63 (1.91)	-0.250	2.32 (2.30)	2.39 (2.19)	0.033