

Supplemental online content for:

Associations Between Patient Experience With Care, Race and Ethnicity, and Receipt of CRC Treatment Among SEER-CAHPS Patients With Multiple Comorbidities

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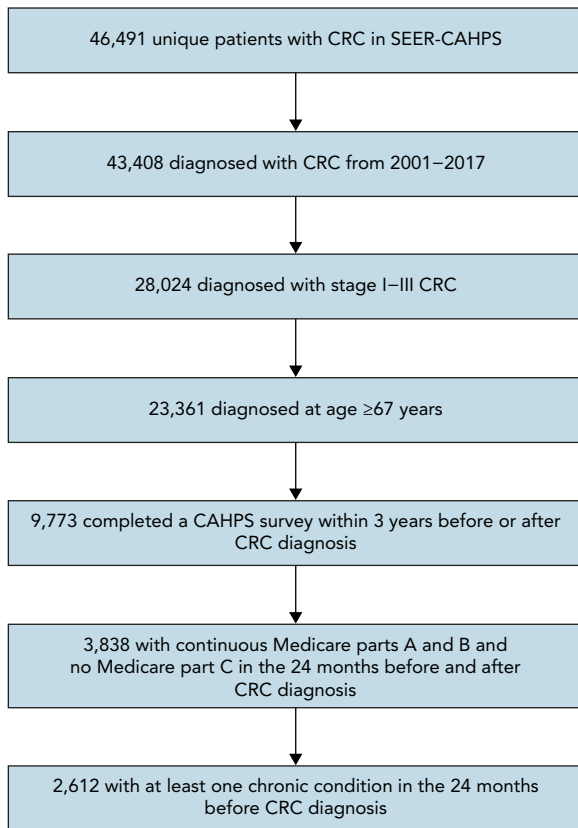
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eTable 1: How Diagnoses of Diabetes, Hyperlipidemia, and Hypertension Were Identified in Medicare Claims Files

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eFigure 1. Selection of study cohort.

Abbreviations: CAHPS, Consumer Assessment of Healthcare Providers and Systems; CRC, colorectal cancer.

eTable 1. How Diabetes, Hyperlipidemia, and Hypertension Were Identified in Medicare Claims Files

Chronic Condition	Medicare Claims Files Searched and Claim Quantity Required	Time Frame of Medicare Claims Included in Search	ICD-9 and ICD-10 Diagnosis Codes (any diagnosis on the claim)
Diabetes	1. MEDPAR (1 claim) or, 2. HHA (1 claim) or, 3. Outpatient (2 claims) or, 4. Carrier (2 claims)	0–24 months before CRC diagnosis	249.00, 249.01, 249.10, 249.11, 249.20, 249.21, 249.30, 249.31, 249.40, 249.41, 249.50, 249.51, 249.60, 249.61, 249.70, 249.71, 249.80, 249.81, 249.90, 249.91, 250.00, 250.01, 250.02, 250.03, 250.10, 250.11, 250.12, 250.13, 250.20, 250.21, 250.22, 250.23, 250.30, 250.31, 250.32, 250.33, 250.40, 250.41, 250.42, 250.43, 250.50, 250.51, 250.52, 250.53, 250.60, 250.61, 250.62, 250.63, 250.70, 250.71, 250.72, 250.73, 250.80, 250.81, 250.82, 250.83, 250.90, 250.91, 250.92, 250.93, 357.2, 362.01, 362.02, 362.03, 362.04, 362.05, 362.06, 366.41, E08.00, E08.01, E08.10, E08.11, E08.21, E08.22, E08.29, E08.311, E08.319, E08.321, E08.3211, E08.3212, E08.3213, E08.3219, E08.329, E08.3291, E08.3292, E08.3293, E08.3299, E08.331, E08.3311, E08.3312, E08.3313, E08.3319, E08.339, E08.3391, E08.3392, E08.3393, E08.3399, E08.341, E08.3411, E08.3412, E08.3413, E08.3419, E08.349, E08.3491, E08.3492, E08.3493, E08.3499, E08.351, E08.3511, E08.3512, E08.3513, E08.3519, E08.3521, E08.3522, E08.3523, E08.3529, E08.3531, E08.3532, E08.3533, E08.3539, E08.3541, E08.3542, E08.3543, E08.3549, E08.3551, E08.3552, E08.3553, E08.3559, E08.359, E08.3591, E08.3592, E08.3593, E08.3599, E08.36, E08.37 × 1, E08.37 × 2, E08.37 × 3, E08.37 × 9, E08.39, E08.40, E08.41, E08.42, E08.43, E08.44, E08.49, E08.51, E08.52, E08.59, E08.610, E08.618, E08.620, E08.621, E08.622, E08.628, E08.630, E08.638, E08.641, E08.649, E08.65, E08.69, E08.8, E08.9, E09.00, E09.01, E09.10, E09.11, E09.21, E09.22, E09.29, E09.311, E09.319, E09.321, E09.3211, E09.3212, E09.3213, E09.3219, E09.329, E09.3291, E09.3292, E09.3293, E09.3299, E09.331, E09.3311, E09.3312, E09.3313, E09.3319, E09.339, E09.3391, E09.3392, E09.3393, E09.3399, E09.341, E09.3411, E09.3412, E09.3413, E09.3419, E09.349, E09.3491, E09.3492, E09.3493, E09.3499, E09.351, E09.3511, E09.3512, E09.3513, E09.3519, E09.3521, E09.3522, E09.3523, E09.3529, E09.3531, E09.3532, E09.3533, E09.3539, E09.3541, E09.3542, E09.3543, E09.3549, E09.3551, E09.3552, E09.3553, E09.3559, E09.359, E09.3591, E09.3592, E09.3593, E09.3599, E09.36, E09.37 × 1, E09.37 × 2, E09.37 × 3, E09.37 × 9, E09.39, E09.40, E09.41, E09.42, E09.43, E09.44, E09.49, E09.51, E09.52, E09.59, E09.610, E09.618, E09.620, E09.621, E09.622, E09.628, E09.630, E09.638, E09.641, E09.649, E09.65, E09.69, E09.8, E09.9, E10.10, E10.11, E10.21, E10.22, E10.29, E10.311, E10.319, E10.321, E10.3211, E10.3212, E10.3213, E10.3219, E10.329, E10.3291, E10.3292, E10.3293, E10.3299, E10.331, E10.3311, E10.3312, E10.3313, E10.3319, E10.339, E10.3391, E10.3392, E10.3393, E10.3399, E10.341, E10.3411, E10.3412, E10.3413, E10.3419, E10.349, E10.3491, E10.3492, E10.3493, E10.3499, E10.351, E10.3511, E10.3512, E10.3513, E10.3519, E10.3521, E10.3522, E10.3523, E10.3529, E10.3531, E10.3532, E10.3533, E10.3539, E10.3541, E10.3542, E10.3543, E10.3549, E10.3551, E10.3552, E10.3553, E10.3559, E10.359, E10.3591, E10.3592, E10.3593, E10.3599, E10.36, E10.37 × 1, E10.37 × 2, E10.37 × 3, E10.37 × 9, E10.39, E10.40, E10.41, E10.42, E10.43, E10.44, E10.49, E10.51, E10.52, E10.59, E10.610, E10.618, E10.620, E10.621, E10.622, E10.628, E10.630, E10.638, E10.641, E10.649, E10.65, E10.69, E10.8, E10.9, E11.00, E11.01, E11.10, E11.11, E11.21, E11.22, E11.29, E11.311, E11.319, E11.321, E11.3211, E11.3212, E11.3213, E11.3219, E11.329, E11.3291, E11.3292, E11.3293, E11.3299, E11.331, E11.3311, E11.3312, E11.3313, E11.3319, E11.339, E11.3391, E11.3392, E11.3393, E11.3399, E11.341, E11.3411, E11.3412, E11.3413, E11.3419, E11.349, E11.3491, E11.3492, E11.3493, E11.3499, E11.351, E11.3511, E11.3512, E11.3513, E11.3519, E11.3521, E11.3522, E11.3523, E11.3529, E11.3531, E11.3532, E11.3533, E11.3539, E11.3541, E11.3542, E11.3543, E11.3549, E11.3551, E11.3552, E11.3553, E11.3559, E11.359, E11.3591, E11.3592, E11.3593, E11.3599, E11.36, E11.37 × 1, E11.37 × 2, E11.37 × 3, E11.37 × 9, E11.39, E11.40, E11.41, E11.42, E11.43, E11.44, E11.49, E11.51, E11.52, E11.59, E11.610, E11.618, E11.620, E11.621, E11.622, E11.628, E11.630, E11.638, E11.641, E11.649, E11.65, E11.69, E11.8, E11.9, E13.00, E13.01, E13.10, E13.11, E13.21, E13.22, E13.29, E13.311, E13.319, E13.321, E13.3211, E13.3212, E13.3213, E13.3219, E13.329, E13.3291, E13.3292, E13.3293, E13.3299, E13.331, E13.3311, E13.3312, E13.3313, E13.3319, E13.339, E13.3391, E13.3392, E13.3393, E13.3399, E13.341, E13.3411, E13.3412, E13.3413, E13.3419, E13.349, E13.3491, E13.3492, E13.3493, E13.3499, E13.351, E13.3511, E13.3512, E13.3513, E13.3519, E13.3521, E13.3522, E13.3523, E13.3529, E13.3531, E13.3532, E13.3533, E13.3539, E13.3541, E13.3542, E13.3543, E13.3549, E13.3551, E13.3552, E13.3553, E13.3559, E13.359, E13.3591, E13.3592, E13.3593, E13.3599, E13.36, E13.39, E13.40, E13.41, E13.42, E13.43, E13.44, E13.49, E13.51, E13.52, E13.59, E13.610, E13.618, E13.620, E13.621, E13.622, E13.628, E13.630, E13.638, E13.641, E13.649, E13.65, E13.69, E13.8, E13.9

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eTable 1. How Diabetes, Hyperlipidemia, and Hypertension Were Identified in Medicare Claims Files (cont.)

Chronic Condition	Medicare Claims Files Searched and Claim Quantity Required	Time Frame of Medicare Claims Included in Search	ICD-9 and ICD-10 Diagnosis Codes (any diagnosis on the claim)
Hyperlipidemia	1. MEDPAR (1 claim) or, 2. HHA (1 claim) or, 3. Outpatient (2 claims) or, 4. Carrier (2 claims)	0–12 months before CRC diagnosis	272.0, 272.1, 272.2, 272.3, 272.4, E78.0, E78.00, E78.01, E78.1, E78.2, E78.3, E78.4, E78.41, E78.49, E78.5
Hypertension	1. MEDPAR (1 claim) or, 2. HHA (1 claim) or, 3. Outpatient (2 claims) or, 4. Carrier (2 claims)	0–12 months before CRC diagnosis	362.11, 401.0, 401.1, 401.9, 402.00, 402.01, 402.10, 402.11, 402.90, 402.91, 403.00, 403.01, 403.10, 403.11, 403.90, 403.91, 404.00, 404.01, 404.02, 404.03, 404.10, 404.11, 404.12, 404.13, 404.90, 404.91, 404.92, 404.93, 405.01, 405.09, 405.11, 405.19, 405.91, 405.99, 437.2, H35.031, H35.032, H35.033, H35.039, I10, I11.0, I11.9, I12.0, I12.9, I13.0, I13.10, I13.11, I13.2, I15.0, I15.1, I15.2, I15.8, I15.9, I67.4, N26.2

Abbreviations: CRC, colorectal cancer; HHA, Home Health Agency.

eTable 2. How Stage-Specific Guideline-Concordant Treatment of CRC Was Identified in Medicare Claims Files

CRC Stage at Diagnosis	CRC Stage-Specific Treatment	Medicare Claims Files Searched	Time Frame of Medicare Claims Included in Search	ICD-9 or ICD-10 Diagnosis Codes (any diagnosis on the claim)	CPT Codes	HCPCS Codes	Revenue Center Codes
I, II, or III	Surgical resection	1. MEDPAR 2. Outpatient 3. Carrier	0–6 months after CRC diagnosis	17.3, 17.31, 17.32, 17.33, 17.34, 17.35, 17.36, 45.7, 45.71, 45.72, 45.73, 45.74, 45.75, 45.76, 45.79, 45.8, 45.81, 45.82, 45.83, 48.4, 48.40, 48.41, 48.42, 48.43, 48.49, 48.5, 48.50, 48.51, 48.52, 48.59, 48.6, 48.61, 48.62, 48.63, 48.64, 48.65, 48.69, ODTE4ZZ, ODTF4ZZ, ODTG4ZZ, ODTM4ZZ, ODTN4ZZ, ODTE8ZZ, ODTF8ZZ, ODTG8ZZ, ODTM8ZZ, ODTN8ZZ, ODTE0ZZ, ODTF0ZZ, ODTG0ZZ, ODTM0ZZ, ODTN0ZZ, ODTE7ZZ, ODTF7ZZ, ODTG7ZZ, ODTM7ZZ, ODTN7ZZ,	44110, 44111, 44130, 44139, 44140, 44141, 44143, 44144, 44145, 44146, 44147, 44150, 44151, 44152, 44153, 44155, 44156, 44157, 44158, 44160, 44202, 44203, 44204, 44205, 44206, 44207, 44208, 44210, 44211, 44212, 44238, 44239, 44950, 44955, 44960, 44970, 44979, 45110, 45111, 45112, 45113, 45114, 45116, 45119, 45120, 45121, 45123, 45126, 45130, 45135, 45160, 45170, 45171, 45172, 45190, 45378, 45383, 45384, 45385, 45392, 45395, 45397	NA	NA

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eTable 2. How Stage-Specific Guideline-Concordant Treatment of CRC Was Identified in Medicare Claims Files (cont.)

CRC Stage at Diagnosis	CRC Stage-Specific Treatment	Medicare Claims Files Searched	Time Frame of Medicare Claims Included in Search	ICD-9 or ICD-10 Diagnosis Codes (any diagnosis on the claim)	CPT Codes	HCPCS Codes	Revenue Center Codes
I and II	Surveillance colonoscopy	1. MEDPAR 2. Outpatient 3. Carrier	6–18 months after surgical resection for CRC	45.21, 45.22, 45.23, 45.25, 45.27, 45.41, 45.42, 45.43, 48.24, 48.36, 0DJD8ZZ, 0DBE8ZX, 0DBH8ZX, 0DBN8ZX, 0DDE8ZX, 0DDH8ZX, 0DDN8ZX, 0D9E8ZX, 0D9H8ZX, 0D9N8ZX, 0DBP8ZX, 0D9P8ZX, 0DBP8ZZ	44388, 44389, 44390, 44394, 44397, 44401, 44402, 44403, 44404, 44405, 44406, 44407, 44408, 45355, 45378, 45379, 45380-45393, 45398	G0105, G0121, G0120, G6019, G6020, G6024, G6025	NA
III	Adjuvant chemotherapy	1. Outpatient 2. Carrier	After surgical resection for CRC and within 3 months of CRC diagnosis	NA	36640, 51720, 96400, 96405, 96406, 96408, 96410, 96412, 96414, 96420, 96422, 96423, 96425, 96440, 96445, 96450, 96501, 96504, 96505, 96508, 96510, 96511, 96512, 96520, 96524, 96530, 96538, 96540, 96542, 96545, 96549, 96550, 96555	C8953, C8954, C8955, G03550335, G0356, G0359, G0361, J9190, J0640, J9263, J8520, J8521, Q0083, Q0084, Q0085, S9329, S9330, S9331, WW089, WW090, WW091, WW093, WW094, WW096	0331, 0332,

Abbreviations: CRC, colorectal cancer; NA, not applicable.

eTable 3. Distribution of Self-Reported CAHPS Patient Experiences With Care by Patient Characteristics									
	Getting Care Quickly			Getting Needed Care			Physician Communication		
	Less Than Excellent n (%)	Excellent n (%)	P Value	Less Than Excellent n (%)	Excellent n (%)	P Value	Less Than Excellent n (%)	Excellent n (%)	P Value
Total, N	1,618	511		618	1,343		600	1,371	
Age at CRC diagnosis, mean [SD], y	77.8 [6.4]	77.8 [6.5]	.9793	77.7 [6.3]	77.7 [6.3]	.8919	78.3 [6.6]	77.5 [6.4]	.0229
Sex			.0006			.5379			.7158
Male	793 (49.0)	206 (40.3)		294 (47.6)	659 (49.1)		280 (46.7)	652 (47.6)	
Female	825 (51.0)	305 (59.7)		324 (52.4)	684 (50.9)		320 (53.3)	719 (52.4)	
Race/Ethnicity			.0240			.0262			.2196
Non-Hispanic White	1,378 (85.6)	440 (86.4)		518 (84.4)	1,169 (87.2)		513 (85.6)	1,157 (85.0)	
Non-Hispanic Black	76 (4.7)	35 (6.9)		28 (4.6)	71 (5.3)		27 (4.5)	90 (6.6)	
Hispanic	82 (5.1)	23 (4.5)		33 (5.4)	59 (4.4)		31 (5.2)	66 (4.9)	
Non-Hispanic Asian	74 (4.6)	11 (2.2)		35 (5.7)	41 (3.1)		28 (4.7)	49 (3.6)	
Education level			<.0001			.0004			.7851
Less than high school	378 (23.4)	156 (30.5)		130 (21.0)	328 (24.4)		151 (25.2)	339 (24.7)	
High school	554 (34.2)	191 (37.4)		189 (30.6)	493 (36.7)		219 (36.5)	484 (35.3)	
Greater than high school	686 (42.4)	164 (32.1)		299 (48.4)	522 (38.9)		230 (38.3)	548 (40.0)	
Area-level poverty concentration			.2767			.8870			.7891
0 to <10%	871 (57.2)	262 (55.3)		351 (59.3)	728 (58.4)		327 (57.8)	723 (56.4)	
10 to <20%	418 (27.4)	147 (31.0)		155 (26.2)	340 (27.3)		158 (27.9)	361 (28.2)	
≥20%	235 (15.4)	65 (13.7)		86 (14.5)	179 (14.4)		81 (14.3)	198 (15.4)	
SEER region			.1099			.0128			.0596
West	570 (35.2)	155 (30.3)		235 (38.0)	444 (33.1)		196 (32.7)	447 (32.6)	
Midwest	193 (11.9)	56 (11.0)		64 (10.4)	168 (12.5)		88 (14.7)	153 (11.2)	
Northeast	544 (33.6)	184 (36.0)		217 (35.1)	441 (32.8)		211 (35.2)	477 (34.8)	
South	311 (19.2)	116 (22.7)		102 (16.5)	290 (21.6)		105 (17.5)	294 (21.4)	
Months from CRC diagnosis to CAHPS survey completion, median (IQR)	1.45 (35.2)	3.27 (35.8)	.0413	4.32 (34.6)	−0.73 (34.5)	.0017	−0.72 (35.7)	2.97 (35.2)	.0221
Year of CRC diagnosis, median (IQR)	2008 (6)	2007 (5)	.1007	2008 (5)	2007 (6)	<.0001	2007 (6)	2008 (5)	.0314
CRC stage at diagnosis			.3665			.8160			.5135
I	799 (49.4)	264 (51.7)		307 (49.7)	677 (50.4)		292 (48.7)	705 (51.4)	
II	485 (30.0)	156 (30.5)		188 (30.4)	390 (29.0)		187 (31.2)	410 (29.9)	
III	334 (20.6)	91 (17.8)		123 (19.9)	276 (20.6)		121 (20.2)	256 (18.7)	
Modified CCI score ^a			.5004			.1822			.9277
0	851 (52.6)	280 (54.8)		312 (50.5)	735 (54.7)		309 (51.5)	718 (52.4)	
1	438 (27.1)	125 (24.5)		168 (27.2)	346 (25.8)		162 (27.0)	367 (26.8)	
≥2	329 (20.3)	106 (20.7)		138 (22.3)	262 (19.5)		129 (21.5)	286 (20.9)	
Diagnosis of diabetes	671 (41.5)	214 (41.9)	.8705	253 (40.9)	554 (41.3)	.8961	235 (39.2)	598 (43.6)	.0656
Diagnosis of hyperlipidemia	1,198 (74.0)	389 (76.1)	.3460	464 (75.1)	1,003 (74.7)	.8506	443 (73.8)	1,030 (75.1)	.5429
Diagnosis of hypertension	1,377 (85.1)	449 (87.9)	.1193	532 (86.1)	1,150 (85.6)	.7888	520 (86.7)	1,182 (86.2)	.7878

Abbreviations: CAHPS, Consumer Assessment of Healthcare Providers and Systems; CCI, Charlson comorbidity index; CRC, colorectal cancer.

^aExcludes cancer and diabetes.