

Milestones and Medicare Outcome Descriptives

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Milestones vs Medicare outcomes cohort details

- Medicare cases: inpatient from 2015-2017
- Milestone graduates: 2015-2017
- Procedure: Partial Colectomy
- Practice months after graduation: 24 months

1. Cohort Description

Overall Cohort

n_case	1508
n_surgeon	433
n_hosp	440
n_patient	1498
POA_severe_complication_rate	17%
POA_any_complication_rate	30%
death_rate	12%
readmit_rate	37%
reop_rate	5%

Case level characteristics

Characteristic	N = 1,508
flg_male	635 (42%)
age_at_admit	77 (8)[70, 82]
race_white	1,341 (89%)
AHRQ_score	14 (12)[4, 21]
flg_admit_emerg	920 (61%)
had_assist_surg	498 (33%)

Characteristic	N = 1,508
cases_per_12month	3.83 (2.53)[2.12, 4.94]
colectomy_type	
lap	483 (32%)
open	1,025 (68%)
hosp_beds	
<350	993 (66%)
>=350	507 (34%)
val_hosp_mcdays2inptday_ratio	0.20 (0.10)[0.14, 0.24]
val_hosp_rn2bed_ratio	2.06 (0.73)[1.60, 2.44]

- val_hosp_mcdays2inptday_ratio: Total facility medicaid days/total facility inpatient days ratio
- val_hosp_rn2bed_ratio: Registered nurse to bed ratios
- for countious variables, the stats are *mean (sd)[p25, p75]*

2. Milestone ratings

2.1 Overall mean

Descriptive table

Characteristic	Overall, N = 1,508	mean<8, N = 261	mean>=8, N = 1,247	p-value
flg_male	635 (42%)	109 (42%)	526 (42%)	>0.9
age_at_admit	76 (70, 82)	75 (70, 83)	76 (70, 82)	0.9
race_white	1,341 (89%)	223 (85%)	1,118 (90%)	0.062
AHRQ_score	12 (4, 21)	14 (6, 22)	11 (3, 21)	0.070
emergent_admission	920 (61%)	166 (64%)	754 (61%)	0.4
had_assist_surg	498 (33%)	73 (28%)	425 (34%)	0.066
cases_per_12month	3.20 (2.12, 4.94)	2.80 (1.60, 4.00)	3.53 (2.12, 5.20)	<0.001
colectomy_type				0.2
lap	483 (32%)	74 (28%)	409 (33%)	
open	1,025 (68%)	187 (72%)	838 (67%)	
hosp_beds				<0.001
<350	993 (66%)	204 (78%)	789 (64%)	
>=350	507 (34%)	56 (22%)	451 (36%)	
val_hosp_mcdays2inptday_ratio	0.20 (0.14, 0.24)	0.21 (0.15, 0.25)	0.20 (0.14, 0.24)	0.5
val_hosp_rn2bed_ratio	1.95 (1.60, 2.44)	1.98 (1.61, 2.52)	1.95 (1.60, 2.44)	>0.9

2.2 Professional ratings

Descriptive table

Characteristic	Overall, N = 1,508	mean<8, N = 252	mean>=8, N = 1,256	p-value
flg_male	635 (42%)	107 (42%)	528 (42%)	>0.9
age_at_admit	76 (70, 82)	75 (70, 82)	76 (70, 82)	>0.9
race_white	1,341 (89%)	216 (86%)	1,125 (90%)	0.095
AHRQ_score	12 (4, 21)	14 (6, 23)	11 (3, 21)	0.026
emergent_admission	920 (61%)	162 (65%)	758 (61%)	0.2
had_assist_surg	498 (33%)	85 (34%)	413 (33%)	0.9
cases_per_12month	3.20 (2.12, 4.94)	2.80 (1.60, 4.06)	3.53 (2.12, 5.20)	<0.001

Characteristic	Overall, N = 1,508	mean<8, N = 252	mean≥8, N = 1,256	p-value
colectomy_type				0.2
lap	483 (32%)	72 (29%)	411 (33%)	
open	1,025 (68%)	180 (71%)	845 (67%)	
hosp_beds				<0.001
<350	993 (66%)	199 (79%)	794 (64%)	
≥350	507 (34%)	52 (21%)	455 (36%)	
val_hosp_mcdaysinptday_ratio	0.20 (0.14, 0.24)	0.21 (0.14, 0.26)	0.20 (0.14, 0.24)	0.7
val_hosp_rn2bed_ratio	1.95 (1.60, 2.44)	2.02 (1.64, 2.48)	1.94 (1.59, 2.44)	0.5

2.3 Operative ratings

Descriptive table

Characteristic	Overall, N = 1,508	mean<8, N = 240	mean≥8, N = 1,268	p-value
flg_male	635 (42%)	96 (40%)	539 (43%)	0.5
age_at_admit	76 (70, 82)	76 (70, 83)	76 (70, 82)	0.6
race_white	1,341 (89%)	204 (85%)	1,137 (90%)	0.045
AHRQ_score	12 (4, 21)	14 (6, 22)	11 (3, 21)	0.055
emergent_admission	920 (61%)	157 (66%)	763 (61%)	0.14
had_assist_surg	498 (33%)	75 (31%)	423 (33%)	0.6
cases_per_12month	3.20 (2.12, 4.94)	2.80 (1.55, 3.60)	3.53 (2.12, 5.20)	<0.001
colectomy_type				0.014
lap	483 (32%)	60 (25%)	423 (33%)	
open	1,025 (68%)	180 (75%)	845 (67%)	
hosp_beds				<0.001
<350	993 (66%)	181 (76%)	812 (64%)	
≥350	507 (34%)	58 (24%)	449 (36%)	
val_hosp_mcdaysinptday_ratio	0.20 (0.14, 0.24)	0.21 (0.15, 0.25)	0.19 (0.14, 0.24)	0.13
val_hosp_rn2bed_ratio	1.95 (1.60, 2.44)	1.93 (1.57, 2.52)	1.95 (1.61, 2.43)	0.5

2.4 Leadership ratings

Descriptive table

Characteristic	Overall, N = 1,508	mean<8, N = 194	mean≥8, N = 1,314	p-value
flg_male	635 (42%)	85 (44%)	550 (42%)	0.7
age_at_admit	76 (70, 82)	76 (70, 84)	76 (70, 82)	0.4
race_white	1,341 (89%)	170 (88%)	1,171 (89%)	0.6
AHRQ_score	12 (4, 21)	13 (6, 21)	11 (3, 21)	0.4
emergent_admission	920 (61%)	124 (65%)	796 (61%)	0.4
had_assist_surg	498 (33%)	50 (26%)	448 (34%)	0.027
cases_per_12month	3.20 (2.12, 4.94)	2.80 (2.12, 4.00)	3.20 (2.12, 5.20)	0.002
colectomy_type				0.4
lap	483 (32%)	56 (29%)	427 (32%)	
open	1,025 (68%)	138 (71%)	887 (68%)	
hosp_beds				<0.001
<350	993 (66%)	159 (82%)	834 (64%)	
≥350	507 (34%)	34 (18%)	473 (36%)	

Characteristic	Overall, N = 1,508	mean<8, N = 194	mean≥8, N = 1,314	p-value
val_hosp_mcdays_inptday_ratio	0.20 (0.14, 0.24)	0.21 (0.13, 0.25)	0.19 (0.14, 0.24)	0.3
val_hosp_rn2bed_ratio	1.95 (1.60, 2.44)	2.04 (1.61, 2.49)	1.93 (1.60, 2.44)	0.5

2.5 Assistant surgeon cases and hospital size across ratings

Descriptive table Summary table to look across 4 different milestone ratings by if *had_assist_surgeon* and *hospital bed size*.

overall_mean	Overall, N = 1,508	mean<8, N = 261	mean≥8, N = 1,247	p-value
had_assist_surg	498 (33%)	73 (28%)	425 (34%)	0.066
hosp_beds				<0.001
<350	993 (66%)	204 (78%)	789 (64%)	
≥350	507 (34%)	56 (22%)	451 (36%)	

Professional	Overall, N = 1,508	mean<8, N = 252	mean≥8, N = 1,256	p-value
had_assist_surg	498 (33%)	85 (34%)	413 (33%)	0.9
hosp_beds				<0.001
<350	993 (66%)	199 (79%)	794 (64%)	
≥350	507 (34%)	52 (21%)	455 (36%)	

Operative	Overall, N = 1,508	mean<8, N = 240	mean≥8, N = 1,268	p-value
had_assist_surg	498 (33%)	75 (31%)	423 (33%)	0.6
hosp_beds				<0.001
<350	993 (66%)	181 (76%)	812 (64%)	
≥350	507 (34%)	58 (24%)	449 (36%)	

Leadership	Overall, N = 1,508	mean<8, N = 194	mean≥8, N = 1,314	p-value
had_assist_surg	498 (33%)	50 (26%)	448 (34%)	0.027
hosp_beds				<0.001
<350	993 (66%)	159 (82%)	834 (64%)	
≥350	507 (34%)	34 (18%)	473 (36%)	