[Improving Satisfaction All Around Thru Accurate Booking](#)

- Abstract Type: Quality Improvement

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Abstract

Was this study was industry sponsored?

Introduction

Case duration accuracy is essential for running an efficient ambulatory center (ASC). Over/underscheduling OR time leads to undesirable consequences. OR idle time, staff overtime, case cancellation or rescheduling can all negatively impact patients, staff, and an organization.1 Our ophthalmologic ASC is hospital-based which facilitates the intertwining of urgent retina cases with scheduled elective ambulatory cases. Ophthalmology ASCs that incorporate a structured call requirement are at a disadvantage for hiring. Our ophthalmology ASC performs 4,000 cases annually and late end times were causing decreased staff satisfaction which impacted our nurse retention. To positively impact our staff satisfaction, we focused on addressing surgical end times. Case duration accuracy is a key metric for end time accuracy.2 Our institution utilizes an Electronic Medical Record (EMR) formula to calculate predicted case duration for each procedure with individual surgeon historical data that analyzes the last 10 procedures booked, discards outliers, and averages the remaining procedures. We were finding low predictive accuracy with our EMR calculations. This inaccuracy caused undue burden on a lean specialized eye team that was without relief when cases ran late.

Methods

We analyzed average end of day times, individual ophthalmologist case duration accuracy, and the percentage the call team was utilized over a 6-month period in partnership with the chief of the retina division. We parceled the cases down by diagnosis causing the patient to require the surgery using simpler coding (which would still maintain billing accuracies). We gathered a team of ophthalmology and OR schedulers, nurse manager, anesthesiologist & surgeon champion to understand the scheduling process. We altered this process using simplified coding. After implementation of the new process, we analyzed the outcome data for positive changes relating to case accuracy and daily end time percentages.

Results

Results demonstrated scheduled cases were running late half the time & the call team was staying late about 50% of the time. We found that most ophthalmologists at our center were relatively

accurate except for two individuals – both high volume retina surgeons. For retina cases, it was noted that the EMR averaging was defaulting to surgeon preferred time because of the high degree of variability in allowed scheduling options. Multiple CPT codes in various combinations were being utilized for the same procedure so we decided to simplify booking choices. We aligned CPT code selection with the diagnosis associated with each surgery. Simplifying the coding had a positive impact for ophthalmology schedulers by streamlining workflow. Case duration accuracy improved from 61% and improved to 75% after the intervention. Due to ease of scheduling, the schedulers started using this process for another retina surgeon which increased accuracy from 26% to 55%.

Conclusion

Case duration accuracy is a primary driver for surgical end time in ASCs. Our staff were exhibiting burnout related to the unpredictability of surgical end time. Burnout decreases staff satisfaction and increases nursing turnover.3 Improving case duration accuracy for high volume retina surgeons through simplified but intentional CPT coding decreased late days for staff. We were able to improve OR efficiency through more predictable scheduling.4

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Surgeon Type	Accurate	Over	Under	Total Cases
Cataract	67%	0%	33%	3
Peds	100%	0%	0%	2
Peds	81%	10%	10%	21
Low Vol Retina	81%	13%	6%	16
Cataract	90%	2%	8%	343
Generalist	0%	0%	100%	1
Low Vol Retina	67%	8%	25%	36
Cataract	100%	0%	0%	2
Peds	68%	14%	18%	111
Oculoplastics	58%	17%	25%	262
High Vol Retina	**37%**	**18%**	**45%**	**169**
Peds	69%	3%	28%	29
Cataract	75%	0%	25%	12
Cataract	81%	14%	5%	220
Low Vol Retina	0%	0%	100%	1
Cataract	67%	0%	33%	3
Peds Genetics	47%	37%	17%	60
Cornea	56%	33%	11%	57
Cornea	71%	26%	4%	347
High Vol Retina	**21%**	**10%**	**69%**	**61**
Generalist	0%	0%	100%	1
Glaucoma	71%	22%	7%	153
Generalist	67%	0%	33%	3
Oculoneuro	65%	6%	29%	17
Cornea	63%	16%	21%	56
	68%	16%	16%	1986

Case Duration Accuracy by Individual Surgeon over a 6 month Period
Case Duration by individual surgeon reflected by the types of cases they each perform.
Screen Shot 2023-02-23 at 9.26.16 PM.png

		% of Time Nursing Was Leaving After Scheduled Shift End		
	# after shift	# utilizing call team	% day ends after shift	% day ends after block (utilizing call team)
Mondays (24)	20	16	83%	67%
Tuesdays (26)	12	8	46%	31%
Wednesdays (26)	15	9	58%	35%
Thursdays (26)	19	13	69%	50%
Fridays (24)	7	6	29%	25%

% of Time Nursing was Leaving After Shift was Scheduled to End

Days that were the most likely to keep nursing after their shifts were supposed to end all aligned with the days our high volume retina surgeons typically operate.

Surgeon/Procedure/CPT	Accurate <15	Accurate Total	Overscheduled 15-29	30-45	>45	Overscheduled Tot	Underscheduled 15-29	30-45	>45	Underscheduled To	Grand Total
HIGH VOLUME RETINA	48	48	14	11	5	30	19	12	30	61	139
VITRECTOMY, USING 25-GAUGE INSTRUMENTS	48	48	14	11	5	30	19	12	30	61	139
67036	16	16	1	1		2	4	3	10	17	35
6703667121	4	4					4	2	4	10	14
67025670286703667040	2	2					1		4	5	7
67025670366704067041	1	1	1	2		3	2	1		3	7
6703667040	3	3	2	1	2	5	1	1		2	10
670256703667040	1	1						1	1	2	3
669856698667036					1	1	1	1		2	3
A67108									2	2	2
67025670286703667036670406704167500							1		1	2	2
67025670286703667036670406704167121							1		1	2	2
6618066982670366704067500									1	1	1
67028670366704067121									1	1	1
6685067025670366704067041 67108									1	1	1
6698566986670286703667040	1	1						1		1	2
65815670366704067040									1	1	1
6618067025670366704067041									1	1	1
667626698567036							1			1	1
66985670286703667040	1	1					1			1	2
6702867036			1			1	1			1	2
669856703667040	1	1						1		1	2
670366704167228	1	1					1			1	2
670256702867036									1	1	1
670256702867036670406704067041	1	1		1		1		1		1	3
669826703667121	1	1						1		1	2
6698566986703667040			1	1		2					2
66850669856703667040	1	1									1
67028670366704067500	1	1									1
6698567028670366704067121	1	1									1
670366704067500	1	1									1
6702567036	1	1									1
670256702867036670406704067500	1	1		1		1					2
667626702567036			1			1					1
658156702867036					1	1					1
668256685067036				1		1					1
670366704067041	2	2	2	3	1	6					8
670256703667041			1			1					1
6703667041	2	2	2			2					4
670256704067041	1	1									1
669866703667041	1	1									1
6523567036			1			1					1
6698567036	2	2	1			1					3
67025670286703667041	1	1									1

Examples of the Variation in Scheduling Utilized to Schedule Cases

The EMR system would then default to the surgeon preferred time with any procedure accounted for as less than 10 cases.

Surgeon	2022 Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	2023 Jan	Grand Total		Before	Transition	After
Low Volume Retina																		
Accurate	100%	100%	71%	75%	100%	50%	67%	100%	100%	100%	0%		100%	86%				
Not Accurate	0%	0%	29%	25%	0%	50%	33%	0%	0%	0%	100%		0%	14%				
High Volume Retina - in Pilot																Before	Transition	After
Accurate	69%	33%	74%	43%	100%	86%	67%	100%	0%	67%	50%	100%	100%	64%		61%	68%	75%
Not Accurate	31%	67%	26%	57%	0%	14%	33%	0%	100%	33%	50%	0%	0%	36%		39%	32%	25%
Pediatric Retina																		
Accurate			#DIV/0!	#DIV/0!	50%	50%	33%	100%	100%	100%	100%	0%	86%	76%				
Not Accurate			#DIV/0!	#DIV/0!	50%	50%	67%	0%	0%	0%	0%	100%	14%	24%				
High Volume Retina																		
Accurate	40%	44%	8%	64%	60%	50%	83%	83%	60%	55%	67%	44%	33%	50%		26%	64%	55%
Not Accurate	60%	56%	92%	36%	40%	50%	17%	17%	40%	45%	33%	56%	67%	50%		74%	36%	45%
Grand Total																		

Case Duration Accuracy of High Volume Retina Surgeons Before & After Implementation

Case duration accuracy improved from 61% and improved to 75% after the intervention. Due to ease of scheduling, the schedulers started using this process for another high volume retina surgeon which increased accuracy from 26% to 55%.

Diagnoses	CPT codes used
Floaters	67039
ERM, macular hole	67042
RD with vitrectomy/buckle	67108
TRD or Giant tear or RD with membrane peel	67113
Silicone oil removal	67121 or 67036
Scleral fixated IOL	66986 or 66985
Scleral buckle only	67107

Most Common Surgeries Performed by High Volume Retina Surgeon and Codes Chosen to reflect diagnoses
Retina CPT codes that were chosen to reflect diagnoses for needing surgery
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