KEY METRICS IN A HEALTHCARE BUSINESS

Cameron M. Cox, III, MHA, FACMPE

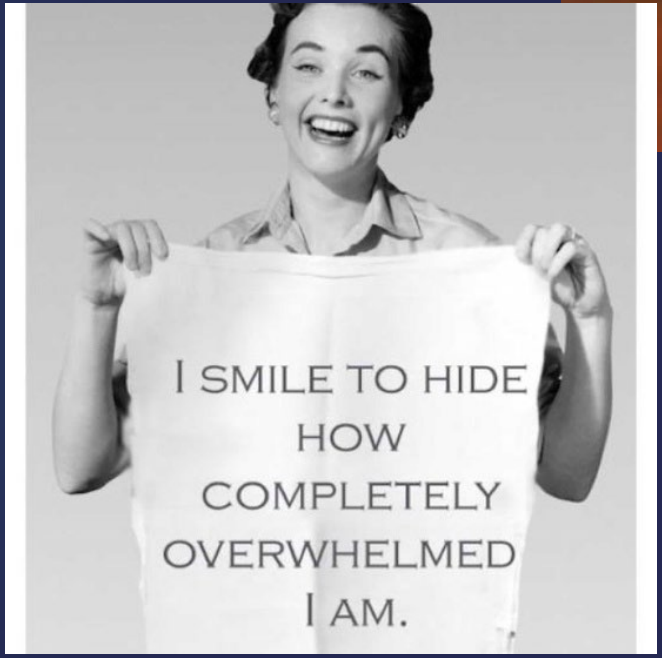
www.e3c3consulting.com

cam@e3c3consulting.com

919-368-0741


SHOW ME
THE DATA!!!


METRICS!
METRICS EVERYWHERE!


I SMILE TO HIDE
HOW
COMPLETELY
OVERWHELMED
I AM.

First Discussion

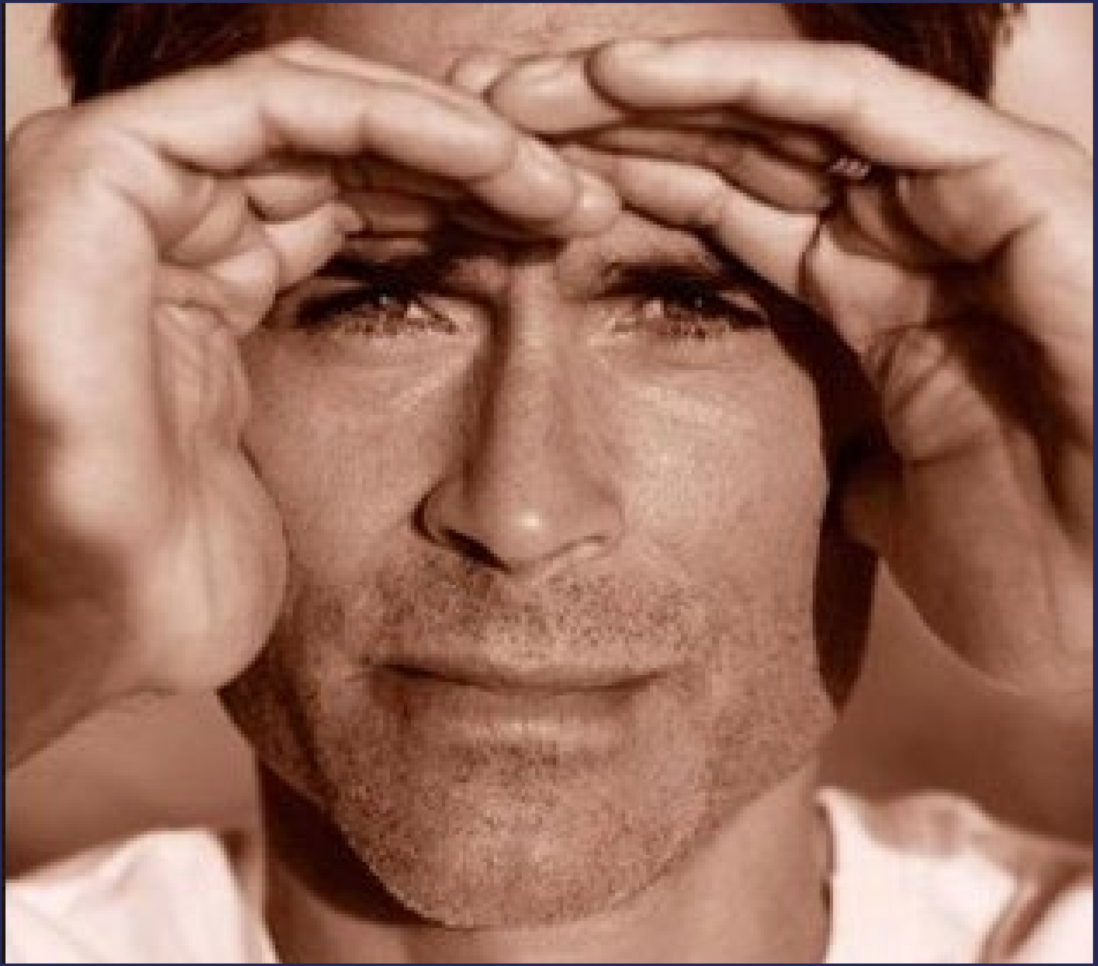
More data than you can shake a stick at

Overwhelming where to start…sometimes delays start

Be consistent when you do start

My Soap Box Moment.....

.....about what and why we should measure differently



Let’s start with in the box thinking

Source: Dilbert Classics
by Scott Adams

The Usual Ones

What we all expect

- Net Collections – Lots of trickery
- Gross Collections – Most important to understand
- Days in AR – many different formulas
- Accounts Receivables (AR Aging)

	January	February	March	April	May	June
Business Days	23	20	21	22	22	21
Insurance A/R	$ 2,178,620.61	$ 1,931,829.60	$ 1,898,139.80	$ 2,229,224.02	$ 1,949,547.63	$ 1,957,657.24
Patient A/R	$229,830.36	$226,091.70	$201,175.40	$88,428.07	$ 133,439.35	$147,825.47
A/R Balance	**$ 2,278,098.96**	**$ 2,157,921.30**	**$ 2,099,315.20**	**$ 2,317,652.09**	**$ 2,082,986.98**	**$2,105,482.71**
Days in A/R	20.93	20.19	19.74	21.66	18.70	18.94
Total Charges	$3,310,288.51	$3,192,137.69	$3,201,619.95	$3,315,026.52	$3,920,375.03	$3,343,230.24
Total Payments	$1,403,461.15	$1,610,861.27	$1,798,119.69	$1,610,206.86	$1,930,169.56	$1,833,498.69
Total Adjustments	$1,324,220.44	$1,564,774.36	$1,634,978.85	$1,473,100.11	$1,975,562.95	$1,710,241.01
Net Collection	82%	99%	107%	93%	100%	106%
Gross Collection	42%	50%	56%	49%	49%	55%
Average Daily Charges	$ 143,926	$ 159,607	$ 152,458	$ 150,683	$ 178,199	$ 159,201
Average Daily Payments	$ 61,020	$ 80,543	$ 85,625	$ 73,191	$ 87,735	$ 87,309

Business Days	July	August	September	October	November	December	Total
Business Days	23	21	22	23	20	23	261
Insurance A/R	$ 2,446,794.61	$ 1,418,186.53					
Patient A/R	$117,839.71	$159,349.94					
A/R Balance	**$ 2,564,634.32**	**$ 1,577,536.47**					
Days in A/R	22.75	14.17					19.64
Total Charges	$3,715,704.41	$3,090,624.31					$ 27,089,006.66
Total Payments	$1,541,910.13	$2,083,332.04					$ 13,811,559.39
Total Adjustments	$1,395,869.38	$2,081,169.40					$ 13,159,916.50
Net Collection	79%	135%					100%
Gross Collection	41%	67%					51%
Average Daily Charges	$ 161,552	$ 147,173					$ 156,584
Average Daily Payments	$ 67,040	$ 99,206					$ 79,836

	2019	2020	2021	2022	2023	2024	2025 Trend	Variance
Days in A/R	34.96	26.49	24.94	23.86	21.35	19.65	19.64	100%
Total Charges	$8,847,267	$19,530,842	$26,318,820	$32,460,459	$34,763,992	$36,680,000	$40,633,510	111%
Total Payments	$3,236,337	$9,168,280	$12,183,501	$14,926,673	$17,148,089	$17,991,214	$20,717,339	115%
Total Adjustments	$4,059,151	$10,719,600	$14,212,716	$16,782,510	$18,406,725	$18,614,051	$19,739,875	106%
Net Collection	82%	102%	100%	98%	102%	100%	100%	100%
Gross Collection	37%	47%	46%	46%	49%	49%	51%	105%
Business Days	**255**	**255**	**255**	**255**	**251**	**261**	**261**	
Average Chg/Day	$34,695	$76,592	$103,211	$127,296	$138,502	$140,536	$155,684	
Average Pmt/Day	$12,692	$35,954	$47,778	$58,536	$68,319	$68,932	$79,377	

Performance

More of what we expect

- No Show Rate
- Denial Rate (Clean Claims)
- Number of patients per day/month

No Show Rate

	Booked						Arrived						No Show					
Provider/Location	Jan	Feb	Mar	Apr	May	Jun	Jan	Feb	Mar	Apr	May	Jun	Jan	Feb	Mar	Apr	May	Jun
Grey	747	693	679	805	592	700	677	628	614	748	543	637	9%	9%	10%	7%	8%	9%
Main Office	370	341	331	396	334	353	333	310	298	374	315	318	10%	9%	10%	6%	6%	10%
Satellite 1	300	265	262	275	206	236	276	237	239	251	183	218	8%	11%	9%	9%	11%	8%
Satellite 2	77	87	86	134	52	111	68	81	77	123	45	101	12%	7%	10%	8%	13%	9%
House	742	573	659	562	682	660	676	532	632	512	631	620	9%	7%	4%	9%	7%	6%
Satellite 2	742	573	659	562	682	660	676	532	632	512	631	620	9%	7%	4%	9%	7%	6%
Howser	457	404	432	482	452	347	438	391	426	474	437	342	4%	3%	1%	2%	3%	1%
Main Office	457	404	432	482	452	347	438	391	426	474	437	342	4%	3%	1%	2%	3%	1%
McCoy	423	386	390	386	307	406	410	374	375	371	293	386	3%	3%	4%	4%	5%	5%
Main Office	423	386	390	386	307	406	410	374	375	371	293	386	3%	3%	4%	4%	5%	5%
Pompfrey	707	627	634	690	710	417	649	585	586	654	673	395	8%	7%	8%	5%	5%	5%
Main Office	421	385	381	440	393	214	389	363	350	420	373	203	8%	6%	8%	5%	5%	5%
Satellite 1	286	242	253	250	317	203	260	222	236	234	300	192	9%	8%	7%	6%	5%	5%
Quinn	697	561	575	663	691	532	603	510	500	587	618	462	13%	9%	13%	11%	11%	13%
Main Office	486	376	368	420	436	356	419	346	323	376	390	308	14%	8%	12%	10%	11%	13%
Satellite 1	211	185	207	243	255	176	184	164	177	211	228	154	13%	11%	14%	13%	11%	13%
Sheppard	785	658	671	726	832	698	682	594	607	661	747	647	13%	10%	10%	9%	10%	7%
Main Office	594	478	486	508	646	507	527	432	440	461	582	464	11%	10%	9%	10%	10%	8%
Satellite 2	191	180	185	218	186	191	155	162	167	200	165	183	19%	10%	10%	8%	11%	9%
Grand Total	4558	3902	4040	4314	4266	3760	4135	3614	3740	4007	3942	3489	9%	7%	7%	7%	8%	7%

Denial Rate (Clean Claims)

ANSI Denials by Date of Receipt

Total charge amount (most recent month)	$	2,330,277.38
Gross charges denied (prior month)	$	74,705.45
Clean claim percentage:		96.79%

	Date of Denial								
	# of Denials			% of Denials			ANSI Amount		
Carrier	Apr	May	Jun	Apr	May	Jun	Apr	May	Jun
Authorization	16	6	4	3%	1%	1%	$3,471	$2,589	$734
Benefits	53	63	37	11%	13%	13%	$7,486	$14,027	$4,187
Claim Error	8	4		2%	1%	0%	$1,261	$853	
Coding	67	55	32	13%	12%	11%	$15,714	$11,395	$7,503
Contracting/Credentialing	1	4	6	0%	1%	2%	$15	$709	$889
Eligibility	225	257	142	45%	55%	51%	$51,731	$84,737	$41,838
Medical Necessity	8	3	2	2%	1%	1%	$1,852	$983	$761
Medical Records	34	17	26	7%	4%	9%	$18,309	$10,891	$7,092
Miscellaneous	86	62	30	17%	13%	11%	$7,937	$8,070	$11,701
Grand Total	498	471	279	100%	100%	100%	$107,776	$134,254	$74,705

Number of patients per day/month

Provider/Location	Jan	Feb	Mar	Apr	May	Jun	
McCoy	676	532	632	512	631	620	3603
Sheppard	438	391	426	474	437	342	2508
Grey	410	374	375	371	293	386	2209
House	677	628	614	748	543	637	3847
Quinn	682	594	607	661	747	647	3938
Pompfrey	649	585	586	654	673	395	3542
Grand Total	**3532**	**3104**	**3240**	**3420**	**3324**	**3027**	**19647**
Business Days	22	20	22	21	22	21	21
Patients Per Day	161	155	147	163	151	144	936

Let’s get down to work

Patient (Customer) Metrics

- Customer Acquisition Costs
- Retention Rate
- Patient (Customer) Lifetime Revenue
- Patient (Customer) Satisfaction Metrics
- Patient (Customer) Wait Time

Customer Acquisition Costs

- What does it cost to actually secure a new patient into the practice?

$$\frac{\text{Total Cost to Acquire New Patient (Marketing Expense)}}{\text{Total Number of New Patients (in respective time frame)}}$$

Retention Rate

- Retention is essential in any business. Retention helps grow “sales” and creates more people to spread the word about your practice. This rate demonstrates repeat users of the practice.

Retention Rate = ((PE-PN)/PS)) X 100

PE = number of patients at the end of a certain time period (1 year, for example)

PN = number of new patients acquired during the same time period

PS = number of patients at the start of the time period

Patient (Customer) Lifetime Revenue

Type	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Grand Total
ED Revenue	$ 8,412	$ 3,613	$ 8,777	$ 4,445	$ 2,522	$11,210	$ 2,530	$ 6,216	$10,381	$ 6,077	$ 9,114	$ 9,368	$ 82,666
ED downstream-direct	$11,788	$ 5,887	$ 7,879	$ 7,077	$ 6,368	$ 8,948	$ 5,557	$13,781	$22,953	$11,277	$13,754	$ 9,367	$ 124,635
ED downstream-ancillary	$ 4,703	$ 4,413	$ 5,330	$ 2,205	$ 4,329	$ 545	$ 942	$ 2,096	$ 4,201	$ 3,796	$ 3,762	$ 4,981	$ 41,304
ED downstream-PA	$ -	$ 89	$ 519	$ 104	$ -	$ 284	$ 320	$ 1,507	$ 398	$ 455	$ 579	$ -	$ 4,255
ED downstream-other MD	$ 1,251	$ 122	$ 281	$ -	$ 435	$ 69	$ 1,070	$ 2,342	$ 2,516	$ 1,930	$ 883	$ 204	$ 11,102
Grand Total	$26,154	$14,124	$22,787	$13,831	$13,654	$21,055	$10,419	$25,941	$40,449	$23,534	$27,513	$24,499	$ 263,962

Dr	Unique patients	ED Revenue	Downstream-office	Downstream-ancillary	Downstream-midlevel	Downstream-partner MD	Average Lifetime Revenue
Bailey	140	$35,200	$65,410	$13,292	$6,502	$24,701	$1,036
Grey	10	$6,791	$40,418	$450	$1,962	$0	$4,962
Pompfrey	80	$21,998	$34,848	$4,862	$6,776	$19,393	$1,098
McCoy	50	$2,909	$63,857	$0	$4,462	$0	$1,425
Howser	25	$12,236	$19,713	$12,628	$1,935	$0	$1,860
Quinn	70	$49,742	$0	$0	$1,866	$6,222	$826
House	60	$23,472	$0	$0	$5,905	$47,311	$1,278
Grand Total	435	$152,347	$224,245	$31,232	$29,407	$97,628	$1,230

Patient (Customer) Wait Time

Check In Registrar	# Appts	Arrival Delay	Check In
John	3235	0:04:47	0:02:04
Jane	4323	0:05:18	0:01:08
Sally	128	0:18:26	0:01:29
Paul	43	0:03:06	0:05:16
Sue	4236	0:05:19	0:01:24
Grand Total	11965	0:05:20	0:01:30

Appt Type	# Appts	Arrival Delay	Check In	Intake	Wait - Lobby	Wait - Room	Exam	Visit Time	Sign Off	Check Out	Length of Visit
Sheppard	1549	0:06:31	0:01:31	0:20:14	0:12:47	0:40:01	0:13:12	0:24:24	0:04:50	0:10:42	1:02:31
Grey	2062	0:04:50	0:01:25	0:17:54	0:07:35	0:29:41	0:09:42	0:22:22	0:00:07	0:06:59	0:51:40
Bailey	1389	0:07:30	0:01:38	0:18:56	0:09:44	0:42:01	0:18:49	0:27:37	0:04:14	0:12:04	1:07:52
Howser	1217	0:05:02	0:02:01	0:16:12	0:14:28	0:38:04	0:18:02	0:26:03	0:04:01	0:05:10	1:02:22
Quinn	1962	0:05:05	0:01:30	0:20:37	0:09:53	0:39:59	0:14:05	0:28:19	0:16:20	0:09:21	1:03:05
McCoy	2113	0:04:12	0:01:23	0:16:21	0:07:14	0:28:18	0:09:40	0:18:25	0:04:14	0:08:22	0:47:32
Pompfrey	1678	0:05:05	0:01:15	0:22:03	0:11:52	0:48:54	0:17:17	0:24:13	0:06:31	0:07:53	1:11:35
Grand Total	11970	0:05:21	0:01:30	0:18:54	0:10:07	0:37:28	0:13:52	0:24:11	0:07:49	0:08:38	0:59:58

Inventory Metrics

- Profit Margin on inventory (aggregate/individual)
- ROI on products
- Inventory Turnover

Profit Margin on Inventory

Profit on inventory =

Revenue from inventory sales - Cost of goods sold

- Profit on inventory is a financial metric that represents the profit earned by a healthcare practice on the sale of its inventory or stock of medical supplies, drugs, or equipment. It is important for healthcare practices to monitor their profit on inventory regularly to ensure that they are pricing their inventory correctly and managing their inventory efficiently. A high profit on inventory indicates that the healthcare practice is selling its inventory at a markup that is sufficient to cover its costs and generate a profit. However, a low profit on inventory may suggest that the healthcare practice needs to adjust its pricing, reduce its costs, or improve its inventory management practices.

ROI on Products/Service

ROI (Return on Investment) measures the gain or loss generated on an investment relative to the amount of money invested. ROI is usually expressed as a percentage and is typically used for financial decisions, to compare a company's profitability or to compare the efficiency of different investments with a product line or service line.

$$\frac{\text{Net Profit}}{\text{Cost of Investment}}$$

Multiply this by 100 and explain as percent

Inventory Turnover

Why?

- Inventory turnover shows how many times a company has sold and replaced inventory during a given period
- This helps businesses make better decisions on pricing, servicing, marketing, and purchasing new inventory
- A low turnover implies weak sales and possibly excess inventory, while a high ratio implies either strong sales or insufficient inventory

$$\frac{\text{Cost of Goods Sold}}{\text{Average Inventory}}$$

(Beginning Inventory – Ending Inventory)/2

Brass Tacks

Revenue – Does it match your forecast/budget?

Gross Profit Margin – Measures a company's efficiency of operations

EBITDA – Profit is good, but the real test is EBITDA. This reveals the true operational profits without the effects of non-cash accounting entries.

RVU, RVU, RVU, RVU!!!

Relative Value Units

Implemented in 1992 by CMS

Sets the reimbursement rate for each CPT code

Each CPT code has three RVU parts

- Physician effort/intensity RVU
- Practice Expense RVU
- Malpractice Expense RVU

RVU Teaser

- The only true common denominator that physician practices have.
- Baselining expenses per RVU and revenue per RVU can be invaluable
- Just ask Medical Economics ☺
  - *"Knowing the costs and revenues associated with specific procedures and payers can yield an additional benefit, Cohen notes. In most cases, costs and revenues tend to increase relative to each other. But occasionally a practice may encounter certain procedures where, for whatever reason, the cost-to-revenue ratio is much higher than in others.*
    - *Source:* https://www.medicaleconomics.com/health-law-policy/rvus-valuable-tool-aiding-practice-management/page/0/2*"*

Thank you!

Cameron Cox, III, MHA, FACMPE

(919) 368-0741

cam@e3c3consulting.com

www.e3c3consulting.com