



Excel Functions Every Excel User Should Know, Pt. 5

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I hope this RCM Advisor series covering basic Excel functions is very helpful for you. The March/April 2018 issue described SUMIF and SUMIFS, two powerful ways to sum cells that meet given criteria. In this issue, we will cover four functions that operate in very similar ways. The functions COUNTIF and COUNTIFS are like SUMIF and SUMIFS, but count based on criteria rather than sum. The functions AVERAGEIF and AVERAGEIFS follow the same approach but average data meeting the criteria. What follows is a brief description of the syntax of each of the four functions along with ideas on the how functions might be used.

COUNTIF

The syntax for COUNTIF is =COUNTIF (range, criteria), which is simpler than the SUMIF syntax we discussed in the last issue. Range is the series of cells you want to count if the logical test is true. Criteria is the logical test to apply to the range. Like SUMIF, any expression Excel can evaluate as true or false can be used as the criteria.

Consider the example in Figure 1. Column A has a list of payers and column B has a list of primary insurance balances. COUNTIF can count all of the Medicare balances with a formula like =COUNTIF(A3:A18, A20). The COUNTIF function simply looks at cells A3 to A18. If the value in those cells is Medicare (the value in cell A20), then COUNTIF counts the related cell in column B. The COUNTIF function can be used in conjunction with SUMIF. For example, there are four Medicare claims (COUNTIF) totaling \$9,300 (SUMIF).

COUNTIFS

COUNTIF is simple and straightforward if you only have one criteria. If you have more than one criteria, there is a COUNTIFS formula like the SUMIFS function in the last article. The syntax for COUNTIFS is very similar to COUNTIF. Simply enter the first criteria range, followed by the first criteria, then the second criteria range, followed by the second criteria, and so on.

FIGURE 1

	A	B
1		
2	A/R Primary Insurance	Balance
3	Medicare	\$ 1,000
4	BCBS	\$ 4,300
5	Medicaid	\$ 3,300
6	UHC	\$ 2,600
7	Medicare	\$ 4,300
8	Medicare	\$ 2,000
9	AETNA	\$ 3,600
10	CIGNA	\$ 1,300
11	Tricare	\$ 3,900
12	AETNA	\$ 2,600
13	Tricare	\$ 600
14	Medicaid	\$ 4,500
15	BCBS	\$ 700
16	BCBS	\$ 3,300
17	Medicare	\$ 2,000
18	CIGNA	\$ 1,200
19		
20	Medicare	4
21		

An example is shown in Figure 2. The data includes the provider in column A and the clinic location in column B. The formula in cell F3 is =COUNTIFS(A3:A24, D3, B3: B24, E3). Note the criteria are stored in cells D3 (provider) and E3 (location). Storing the criteria in cells rather than in the formula makes it easy to change the criteria without having to edit the formula. Storing the criteria in cells also makes it easier for staff who are not as familiar with Excel and COUNTIFS to interact with your spreadsheet.

You might use COUNTIFS to count the number of no shows at a given location, the number of call days by doctor and

FIGURE 2

	A	B	C	D	E	F
1						
2	Provider	Location		Provider	Location	
3	Anderson	North		Hernandez	South	5
4	Taylor	South				
5	Thomas	South				
6	Hernandez	South				
7	Taylor	South				
8	Anderson	South				
9	Anderson	South				
10	Hernandez	South				
11	Hernandez	South				
12	Hernandez	South				
13	Thomas	North				
14	Hernandez	North				
15	Anderson	South				
16	Thomas	South				
17	Taylor	North				
18	Thomas	North				
19	Taylor	South				
20	Hernandez	South				
21	Thomas	North				
22	Taylor	North				
23	Thomas	South				
24	Thomas	South				

day of the week, or to track the number of new patients by category. As we discussed in last month's article, if you need very flexible formulas to count and sum, pivot tables are a great way to analyze data. If you simply need a quick conditional count or sum, the COUNTIF/COUNTIFS and SUMIF/SUMIFS functions may be all you need.

AVERAGEIF and AVERAGEIFS

Like SUMIF and COUNTIF, Excel can also calculate averages based on criteria using AVERAGEIF and AVERAGEIFS. The syntax for AVERAGEIF is =AVERAGEIF(criteria range, criteria, average range). The criteria range is the range of cells to apply the criteria to. The average range is the range of cells to take an average of, if the criteria is met in the criteria range. The syntax for AVERAGEIFS is =AVERAGEIFS(average range, first criteria range, first criteria, second criteria range, second criteria, and so on). Note that the order of the parameters changes from AVERAGEIF to AVERAGEIFS. In AVERAGEIF, the criteria range is first. In AVERAGEIFS, the range to average is first.

This might be a little easier with an example. The staffing data in Figure 3 shows the past several pay periods for four employees who work in both office and clinic locations. The formula to calculate Krista's average hours in cell G3 is =AVERAGEIFS(C3:C22, A3:A22, E7, B3:B22, F7). The formula in cell G7 to calculate Alison's average hours when she is in an office location is =AVERAGEIFS(C3:C22, A3:A22, E7, B3:B22, F7). These average formulas might help you figure out the average number of new patients by per month by referring provider, the average accounts receivable balance by payer by provider, or the average reimbursement by procedure by payer.

Watch for more Excel functions, tips, and tricks in the next issue of *RCM Advisor*. For dozens of free articles and hundreds of free videos on using Excel in a medical practice, please visit www.mooreolutionsinc.com ■

FIGURE 3

	A	B	C	D	E	F	G
1							
2	Staff	Location	Hours		Staff		
3	Tom	Office	66		Krista		75.4
4	Kylie	Clinic	76				
5	Krista	Office	76				
6	Alison	Office	72		Staff	Location	
7	Tom	Office	77		Alison	Office	76
8	Kylie	Clinic	69				
9	Krista	Office	72				
10	Alison	Clinic	69				
11	Tom	Office	77				
12	Kylie	Clinic	75				
13	Krista	Office	68				
14	Alison	Clinic	68				
15	Tom	Clinic	83				
16	Kylie	Office	80				
17	Krista	Clinic	78				
18	Alison	Office	76				
19	Tom	Clinic	79				
20	Kylie	Office	70				
21	Krista	Office	83				
22	Alison	Office	80				

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