



# Flex Program Guide: Using MBQIP Excel Files

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## About this guide

The Federal Office of Rural Health Policy (FORHP) provides state Medicare Rural Hospital Flexibility (Flex) grant program coordinators with quarterly Microsoft Excel files containing Medicare Beneficiary Quality Improvement Project (MBQIP) data, which include hospital level denominators and hospital level numerators or medians, depending on the measure type. These quarterly Excel data files can be analyzed in a variety of ways to help state Flex Programs prioritize measures, or identify groupings of hospitals for potential improvement activities.

This guide includes overviews of the various Excel data files, as well as basic instructions for how to manipulate the Excel data files to:

- Calculate hospital rates, state averages and benchmarks (such as the top 10 percent)
- Sort and/or group hospitals by rates or medians on individual measures



Tips and tricks for manipulating data in Excel are noted throughout the guide with this symbol.

For more information about prioritizing quality improvement efforts and interpreting MBQIP Hospital and State Data Reports, see the [MBQIP Quality Guide](#).

*Note:* The images provided in this guide were created using Microsoft Excel 2013; however, the concepts and basic steps should be the same regardless of the version of Excel being used.

## Understanding the data

### Overview

FORHP distributes data and reports to Flex staff as they become available. This means that you will receive data files on a rolling basis (for example, Q2 2016 Patient Safety & Outpatient data and reports were distributed in December 2016, while Q2 2016 HCAHPS data and reports were distributed in February 2017).

For Patient Safety & Outpatient and HCAHPS, you can expect to see the following files in each quarterly release:

- A file of non-submissions (Excel)
  - Name: XX\_XQYY\_NonSubmissions (where XX is your state abbreviation, X is the quarter (1, 2, 3, or 4) and YY is the short year (e.g. 16 for 2016, 17 for 2017))
- Reports for each hospital in your state (PDF)
  - Name: XX\_123456\_OP (where 123456 is the actual Provider Number/CCN (CMS Certification Number) for each hospital)
- Report for your state (PDF)
  - Name: XX\_OP
- A file of the actual hospital-level data for your state (Excel)
  - Name: XX\_MBQIP\_Outpatient\_Data\_XQYY or XX\_MBQIP\_HCAHPS\_Data\_XQYY

Note that two Patient Safety & Outpatient measures are only updated once per year. OP-22 data can be found in Q4 data releases (within a separate Excel file), and OP-27 can be found in Q1 data releases (as an additional column within the XX\_MBQIP\_Outpatient\_Data\_1QYY Excel file).

For EDTC data and reports, you will receive only PDF reports. This is because you should already possess the Excel file of hospital-level data (this is the Excel data submission template you submit to FORHP each quarter).

## Patient Safety & Outpatient Excel data files

### Understanding the data files

Patient Safety & Outpatient data files should look similar from quarter to quarter. A screenshot showing part of a sample data file is below:

|    | A     | B           | C        | D          | E              | F          | G         |
|----|-------|-------------|----------|------------|----------------|------------|-----------|
| 1  | State | Provider ID | IMM2 NUM | IMM2 DENOM | IMM2 Total Pop | OP1 Median | OP1 Count |
| 2  | XX    | XX1200      | 0        | 0          |                | 42         | 1         |
| 3  | XX    | XX1201      | 0        | 0          | 58             |            | 0         |
| 4  | XX    | XX1202      | 0        | 0          |                |            |           |
| 5  | XX    | XX1203      | 0        | 0          | 35             |            | 0         |
| 6  | XX    | XX1204      | 0        | 0          | 19             | 37         | 2         |
| 7  | XX    | XX1205      | 0        | 0          |                |            | 0         |
| 8  | XX    | XX1206      |          |            |                |            |           |
| 9  | XX    | XX1207      | 0        | 0          | 44             |            |           |
| 10 | XX    | XX1208      | 0        | 0          | 38             |            | 0         |
| 11 | XX    | XX1209      |          |            | 41             |            |           |
| 12 | XX    | XX1210      | 0        | 0          |                |            | 0         |
| 13 | XX    | XX1211      | 0        | 0          |                |            | 0         |
| 14 | XX    | XX1212      | 0        | 0          |                | 38         | 1         |

The first and second columns contain your state's abbreviation and ID numbers for each CAH. The first row (in blue) contains variable names – be sure to scroll all the way to the right in your data files to see all of the variables. Each row after the first contains data for one CAH.

For each measure, there are two columns to pay attention to, plus a third column that you should be aware of:

- The first column will have the measure name and then either **NUM** (if the measure is a percentage measure) or **Median** (if the measure is a median measure)
- The second column will have the same measure name and then either **DENOM** (for percentage measures) or **Count** (for median measures)
- The third column will have the measure set name for the measure of interest, then **Total Pop**.
  - Note that this Total Pop column will always be the last column before the columns for a new measure set begin. In the screenshot above, IMM2 NUM and IMM2 DENOM in columns C and D are the only two columns in the IMM population, so IMM2 Total Pop is in column E. Column F (OP1 Median) is the first column within the AMI/Chest Pain measure set.
  - The measures OP-4 and OP-5 are part of two measure sets: AMI and Chest Pain. Therefore, there are two separate populations associated with these measures. In the data file, the relevant population columns are named **AMI Total Pop** and **Chest Pain Total Pop**. There is also a third column specific to OP-4 and OP-5 named **AMI + Chest Pain Total Pop** that provides the total population specific to OP-4 and OP-5.<sup>1</sup>

<sup>1</sup> Note: **Chest Pain Total Pop** and **AMI + Chest Pain Total Pop** are included in the data files beginning with Q4 2016 data.

### Non-Submission list

Each quarter, you should also receive a Non-Submission list, such as the sample list below:

|    | A  | B      | C   | D    | E    | F     | G    | H    | I      | J     | K     |
|----|--|--------|-----|------|------|-------|------|------|--------|-------|-------|
| 1  | MBQIP Patient Safety and Outpatient Measures<br>2Q16 Non-Submissions |        |     |      |      |       |      |      |        |       |       |
| 2  | State  | CCN    | IMM | OP_1 | OP_2 | OP_3b | OP_4 | OP_5 | OP_18b | OP_20 | OP_21 |
| 3  | XX   | XX1200 |     |      |      |       |      |      |        |       |       |
| 4  | XX   | XX1201 |     |      |      |       |      |      | N      | N     | N     |
| 5  | XX   | XX1202 |     | N    | N    | N     | N    | N    |        |       |       |
| 6  | XX   | XX1203 |     |      |      |       |      |      |        |       |       |
| 7  | XX   | XX1204 |     |      |      |       |      |      |        |       |       |
| 8  | XX   | XX1205 |     |      |      |       |      |      |        |       |       |
| 9  | XX   | XX1206 | N   | N    | N    | N     | N    | N    | N      | N     | N     |
| 10 | XX   | XX1207 |     | N    | N    | N     |      |      |        |       |       |
| 11 | XX   | XX1208 |     |      |      |       |      |      |        |       |       |
| 12 | XX   | XX1209 | N   | N    | N    | N     |      |      |        |       |       |
| 13 | XX   | XX1210 |     |      |      |       |      |      |        |       |       |
| 14 | XX   | XX1211 |     |      |      |       |      |      |        |       |       |
| 15 | XX   | XX1212 |     |      |      |       |      |      |        |       |       |
| 16 | XX   | XX1213 |     |      |      |       |      |      |        |       |       |

Similar to the data file, the first and second columns contain your state’s abbreviation and ID numbers for each CAH. The second row (in blue) contains the variable names. After the first two columns, each column corresponds to a measure. Each row after the second contains information for one CAH.

This data file provides information about CAHs’ MBQIP data submission status for each measure. For any measure, if a CAH did not submit data, the letter “N” is shown. If a blank is shown, then the CAH submitted data.

To illustrate, here is what would be displayed in the Non-Submission list and common scenarios that could lead to that result (see [Appendix 1](#) for a more detailed list scenarios):

- If Blank in the Non-Submission list (meaning that the CAH is considered to be submitting):
  - CAH submitted cases to the warehouse
  - CAH did not submit cases to the warehouse, but submitted a zero in population & sampling
- If an “N” in the Non-Submission list (meaning that the CAH is not considered to be submitting for measure):
  - CAH did not submit cases to the warehouse, and did not submit anything in population & sampling
  - CAH submitted a number greater than zero in population & sampling, but did not submit any cases to the warehouse.

Note that the Non-Submission status directly corresponds to what is displayed on Patient Safety & Outpatient Measure reports. If a CAH has a rate or median, a “0”, or a “D/E” for a measure in its report, this is considered a submission. If a CAH has an “N/A” for a measure in the report, this is considered a non-submission. Explore [Interpreting MBQIP Hospital Data Reports for Quality Improvement](#) for more details about reports.

## Calculating rates

The MBQIP Excel files include the numerator and denominator for each of the MBQIP rate measures by hospital. A first step towards making use of the Excel file data is to calculate the hospital rates for each measure.

A rate measures the number of times the quality measure was met (numerator) out of the total number of opportunities to meet the measure (denominator).

Note: You will not want to create hospital rates for measures that are medians (e.g., OP-1, OP-3b, OP-5, etc.). For more information on how to begin using data for median measures see [Calculating Weighted State Averages for Median Measures](#).

To begin, determine the measure for which you wish to create a rate. Select the column to the right of the denominator for that measure by clicking on the letter that represents that column. Right click on that column and select *Insert*. A new column will appear to the left of the column you had selected.

|    | A     | B           | L           | M          | N       | O         | P  | Q         |
|----|-------|-------------|-------------|------------|---------|-----------|----|-----------|
| 1  | State | Provider ID | OP3b Median | OP3b Count | OP4 NUM | OP4 DENOM |    | OP5 Count |
| 2  | XX    | XX1200      | 51          | 4          | 5       | 5         | 2  |           |
| 3  | XX    | XX1201      |             |            | 3       | 3         | 20 |           |
| 4  | XX    | XX1202      |             |            |         |           |    |           |
| 5  | XX    | XX1203      |             |            | 2       | 6         | 9  |           |
| 6  | XX    | XX1204      |             |            | 5       | 7         | 6  |           |
| 7  | XX    | XX1205      | 145         | 2          | 8       | 10        | 18 |           |
| 8  | XX    | XX1206      |             |            |         |           |    |           |
| 9  | XX    | XX1207      |             |            | 9       | 9         | 6  |           |
| 10 | XX    | XX1208      | 30          | 3          | 6       | 7         | 32 |           |
| 11 | XX    | XX1209      |             |            | 3       | 6         | 4  | 4         |
| 12 | XX    | XX1210      |             |            | 4       | 6         | 15 | 5         |
| 13 | XX    | XX1211      |             |            | 5       | 7         | 18 | 6         |
| 14 | XX    | XX1212      | 80          | 1          | 8       | 8         | 3  | 4         |
| 15 | XX    | XX1213      |             |            | 9       | 9         | 8  | 8         |
| 16 | XX    | XX1214      |             |            | 2       | 2         | 6  | 2         |
| 17 | XX    | XX1215      |             |            |         |           |    |           |

Enter a name for the column. For this example the name is OP4\_RATE. In the cell below the new header name, enter a formula for calculating the rate. For this example the formula is =N2/O2, where N2 represents the cell containing the numerator and O2 represents the cell containing the denominator.

|    | A     | B           | L           | M          | N       | O         | P        | Q          |
|----|-------|-------------|-------------|------------|---------|-----------|----------|------------|
| 1  | State | Provider ID | OP3b Median | OP3b Count | OP4 NUM | OP4 DENOM | OP4_RATE | OP5 Median |
| 2  | XX    | XX1200      | 51          | 4          | 5       | 5         | =N2/O2   | 2          |
| 3  | XX    | XX1201      |             |            | 3       | 3         |          | 20         |
| 4  | XX    | XX1202      |             |            |         |           |          |            |
| 5  | XX    | XX1203      |             |            | 2       | 6         |          | 9          |
| 6  | XX    | XX1204      |             |            | 5       | 7         |          | 6          |
| 7  | XX    | XX1205      | 145         | 2          | 8       | 10        |          | 18         |
| 8  | XX    | XX1206      |             |            |         |           |          |            |
| 9  | XX    | XX1207      |             |            | 9       | 9         |          | 6          |
| 10 | XX    | XX1208      | 30          | 3          | 6       | 7         |          | 32         |
| 11 | XX    | XX1209      |             |            | 3       | 6         |          | 4          |
| 12 | XX    | XX1210      |             |            | 4       | 6         |          | 15         |
| 13 | XX    | XX1211      |             |            | 5       | 7         |          | 18         |
| 14 | XX    | XX1212      | 80          | 1          | 8       | 8         |          | 3          |
| 15 | XX    | XX1213      |             |            | 9       | 9         |          | 8          |
| 16 | XX    | XX1214      |             |            | 2       | 2         |          | 6          |
| 17 | XX    | XX1215      |             |            |         |           |          |            |

Click on the cell with the formula. Click on the plus sign (+) that appears when you hover over the bottom right corner of the cell and drag it down to copy the formula to the cells below.

|    | A     | B           | L           | M          | N       | O         | P           | Q          |
|----|-------|-------------|-------------|------------|---------|-----------|-------------|------------|
| 1  | State | Provider ID | OP3b Median | OP3b Count | OP4 NUM | OP4 DENOM | OP4_RATE    | OP5 Median |
| 2  | XX    | XX1200      | 51          | 4          | 5       | 5         | 1           | 2          |
| 3  | XX    | XX1201      |             |            | 3       | 3         | 1           | 20         |
| 4  | XX    | XX1202      |             |            |         |           | #VALUE!     |            |
| 5  | XX    | XX1203      |             |            | 2       | 6         | 0.333333333 | 9          |
| 6  | XX    | XX1204      |             |            | 5       | 7         | 0.714285714 | 6          |
| 7  | XX    | XX1205      | 145         | 2          | 8       | 10        | 0.8         | 18         |
| 8  | XX    | XX1206      |             |            |         |           | #VALUE!     |            |
| 9  | XX    | XX1207      |             |            | 9       | 9         | 1           | 6          |
| 10 | XX    | XX1208      | 30          | 3          | 6       | 7         | 0.857142857 | 32         |
| 11 | XX    | XX1209      |             |            | 3       | 6         | 0.5         | 4          |
| 12 | XX    | XX1210      |             |            | 4       | 6         | 0.666666667 | 15         |
| 13 | XX    | XX1211      |             |            | 5       | 7         | 0.714285714 | 18         |
| 14 | XX    | XX1212      | 80          | 1          | 8       | 8         | 1           | 3          |
| 15 | XX    | XX1213      |             |            | 9       | 9         | 1           | 8          |
| 16 | XX    | XX1214      |             |            | 2       | 2         | 1           | 6          |
| 17 | XX    | XX1215      |             |            |         |           | #VALUE!     |            |

While those cells are highlighted, right click and select *Format Cells*. In the Number tab, select Percentage from the Category list, leave the decimal places at 2, and click OK.

The screenshot shows an Excel spreadsheet with the following data in columns A through Q:

|    | A     | B           | L           | M          | N       | O         | P           | Q          |
|----|-------|-------------|-------------|------------|---------|-----------|-------------|------------|
| 1  | State | Provider ID | OP3b Median | OP3b Count | OP4 NUM | OP4 DENOM | OP4_RATE    | OP5 Median |
| 2  | XX    | XX1200      | 51          | 4          | 5       | 5         | 1           | 2          |
| 3  | XX    | XX1201      |             |            | 3       | 3         | 1           | 20         |
| 4  | XX    | XX1202      |             |            |         |           | #VALUE!     |            |
| 5  | XX    | XX1203      |             |            | 2       | 6         | 0.33333333  | 9          |
| 6  | XX    | XX1204      |             |            | 5       | 7         | 0.714285714 | 6          |
| 7  | XX    | XX1205      | 145         | 2          | 8       | 10        | 0.8         | 18         |
| 8  | XX    | XX1206      |             |            |         |           | #VALUE!     |            |
| 9  | XX    | XX1207      |             |            | 9       | 9         | 1           | 6          |
| 10 | XX    | XX1208      | 30          | 3          | 6       | 7         | 0.857142857 | 32         |
| 11 | XX    | XX1209      |             |            | 3       | 6         | 0.5         | 4          |
| 12 | XX    | XX1210      |             |            | 4       | 6         | 0.666666667 | 15         |
| 13 | XX    | XX1211      |             |            | 5       | 7         | 0.714285714 | 18         |
| 14 | XX    | XX1212      | 80          | 1          | 8       | 8         | 1           | 3          |
| 15 | XX    | XX1213      |             |            | 9       | 9         | 1           | 8          |
| 16 | XX    | XX1214      |             |            | 2       | 2         | 1           | 6          |
| 17 | XX    | XX1215      |             |            |         |           | #VALUE!     |            |

The 'Format Cells' dialog box is open, showing the 'Number' tab. The 'Category' list has 'Percentage' selected. The 'Decimal places' field is set to 2. The 'OK' button is also circled.

Do the same for any other rates you wish to calculate.

|    | A     | B           | L           | M          | N       | O         | P        |
|----|-------|-------------|-------------|------------|---------|-----------|----------|
| 1  | State | Provider ID | OP3b Median | OP3b Count | OP4 NUM | OP4 DENOM | OP4_RATE |
| 2  | XX    | XX1200      | 51          | 4          | 5       | 5         | 100.00%  |
| 3  | XX    | XX1201      |             |            | 3       | 3         | 100.00%  |
| 4  | XX    | XX1202      |             |            |         |           | #VALUE!  |
| 5  | XX    | XX1203      |             |            | 2       | 6         | 33.33%   |
| 6  | XX    | XX1204      |             |            | 5       | 7         | 71.43%   |
| 7  | XX    | XX1205      | 145         | 2          | 8       | 10        | 80.00%   |
| 8  | XX    | XX1206      |             |            |         |           | #VALUE!  |
| 9  | XX    | XX1207      |             |            | 9       | 9         | 100.00%  |
| 10 | XX    | XX1208      | 30          | 3          | 6       | 7         | 85.71%   |
| 11 | XX    | XX1209      |             |            | 3       | 6         | 50.00%   |
| 12 | XX    | XX1210      |             |            | 4       | 6         | 66.67%   |
| 13 | XX    | XX1211      |             |            | 5       | 7         | 71.43%   |
| 14 | XX    | XX1212      | 80          | 1          | 8       | 8         | 100.00%  |
| 15 | XX    | XX1213      |             |            | 9       | 9         | 100.00%  |
| 16 | XX    | XX1214      |             |            | 2       | 2         | 100.00%  |
| 17 | XX    | XX1215      |             |            |         |           | #VALUE!  |

After creating rates for each of the measures in which you are interested, delete any cells displaying #DIV/0! instead of a rate. A rate cannot be calculated for these because the denominator is 0 and you cannot divide by 0. You can also delete any cells displaying #VALUE! instead of a rate. #VALUE! is displayed because there is no data in the numerator and/or in the denominator.



Instead of manually deleting the #VALUE! or #DIV/0! messages, another option is to use formulas so that the #VALUE! or #DIV/0! message doesn't appear. For example, in the instruction step on page 5, instead of entering the formula =N2/O2, you can enter the formula =IF(ISERR(N2/O2),"",N2/O2).

### Calculating weighted state averages for median measures

A median is the middle value in a list of numbers that are ordered sequentially. In other words, half of the numbers in the list are smaller and half are larger. Medians do not provide an indication of how much larger, or smaller, the other values of the numbers are.

Median measures do not have numerators. There are several approaches to calculate a state average, depending on the data available to you. The MBQIP hospital reports calculate state average for timing measures by multiplying the median by the denominator, summing all of those values and dividing by the sum of all the denominators.

*Note:* There is a different process for calculating state rates for rate measures (e.g., OP-4). For more information on how to begin using data for rate measures, see [Calculating rates](#).

To begin, determine the measure for which you wish to create a state average. Select the column to the right of the denominator for that measure by clicking on the letter that represents that column. Right click on the column and select Insert. A new column will appear to the left of the column selected.

|    | A     | B           | T            | U           | V        |  |    |
|----|-------|-------------|--------------|-------------|----------|--|----|
| 1  | State | Provider ID | OP18b Median | OP18b Count | OP20 Med |  |    |
| 2  | XX    | XX1200      | 94           | 55          | 25       |  |    |
| 3  | XX    | XX1201      |              |             |          |  |    |
| 4  | XX    | XX1202      | 72           | 54          | 9        |  |    |
| 5  | XX    | XX1203      | 88           | 48          | 9        |  | 20 |
| 6  | XX    | XX1204      | 81           | 51          | 16       |  | 20 |
| 7  | XX    | XX1205      | 113          | 131         | 37       |  |    |
| 8  | XX    | XX1206      |              |             |          |  |    |
| 9  | XX    | XX1207      | 118          | 50          | 28       |  | 60 |
| 10 | XX    | XX1208      | 110          | 71          | 20       |  | 70 |
| 11 | XX    | XX1209      | 120          | 42          | 10       |  | 50 |
| 12 | XX    | XX1210      | 168          | 40          | 14       |  | 52 |
| 13 | XX    | XX1211      | 80           | 55          | 10       |  | 51 |
| 14 | XX    | XX1212      | 85           | 58          | 23       |  | 62 |
| 15 | XX    | XX1213      | 100          | 41          | 20       |  | 25 |
| 16 | XX    | XX1214      | 84           | 40          | 15       |  | 70 |
| 17 | XX    | XX1215      | 70           | 78          | 10       |  | 65 |

Enter a name for the column. For this example the name is OP18b\_medXdenom. In the cell below the new header name, enter a formula for the calculation. For this example the formula is =T2\*U2, where T2 represents the cell containing the median and U2 represents the cell containing the denominator.

|    | A     | B           | T            | U           | V                |
|----|-------|-------------|--------------|-------------|------------------|
| 1  | State | Provider ID | OP18b Median | OP18b Count | OP18b_medX denom |
| 2  | XX    | XX1200      | 94           | 55          | =T2*U2           |
| 3  | XX    | XX1201      |              |             |                  |
| 4  | XX    | XX1202      | 72           | 54          |                  |
| 5  | XX    | XX1203      | 88           | 48          |                  |
| 6  | XX    | XX1204      | 81           | 51          |                  |
| 7  | XX    | XX1205      | 113          | 131         |                  |
| 8  | XX    | XX1206      |              |             |                  |
| 9  | XX    | XX1207      | 118          | 50          |                  |
| 10 | XX    | XX1208      | 110          | 71          |                  |
| 11 | XX    | XX1209      | 120          | 42          |                  |
| 12 | XX    | XX1210      | 168          | 40          |                  |
| 13 | XX    | XX1211      | 80           | 55          |                  |
| 14 | XX    | XX1212      | 85           | 58          |                  |
| 15 | XX    | XX1213      | 100          | 41          |                  |
| 16 | XX    | XX1214      | 84           | 40          |                  |
| 17 | XX    | XX1215      | 70           | 78          |                  |

Click on the cell with the formula. Click on the plus sign (+) that appears when you hover over the bottom right corner of the cell and drag down to copy the formula to the cells below.

|    | A     | B           | T            | U           | V                |
|----|-------|-------------|--------------|-------------|------------------|
| 1  | State | Provider ID | OP18b Median | OP18b Count | OP18b_medX denom |
| 2  | XX    | XX1200      | 94           | 55          | 5170             |
| 3  | XX    | XX1201      |              |             | #VALUE!          |
| 4  | XX    | XX1202      | 72           | 54          | 3888             |
| 5  | XX    | XX1203      | 88           | 48          | 4224             |
| 6  | XX    | XX1204      | 81           | 51          | 4131             |
| 7  | XX    | XX1205      | 113          | 131         | 14803            |
| 8  | XX    | XX1206      |              |             | #VALUE!          |
| 9  | XX    | XX1207      | 118          | 50          | 5900             |
| 10 | XX    | XX1208      | 110          | 71          | 7810             |
| 11 | XX    | XX1209      | 120          | 42          | 5040             |
| 12 | XX    | XX1210      | 168          | 40          | 6720             |
| 13 | XX    | XX1211      | 80           | 55          | 4400             |
| 14 | XX    | XX1212      | 85           | 58          | 4930             |
| 15 | XX    | XX1213      | 100          | 41          | 4100             |
| 16 | XX    | XX1214      | 84           | 40          | 3360             |
| 17 | XX    | XX1215      | 70           | 78          | 5460             |
| 18 |       |             |              |             |                  |

Click on the cell immediately below the denominator for the first measure. Enter a formula for summing the denominators. For this example the formula is =SUM(U2:U17), where U2 represents the cell containing the first denominator and U17 represents the cell containing the last denominator.

|    | A     | B           | T            | U            | V                |
|----|-------|-------------|--------------|--------------|------------------|
| 1  | State | Provider ID | OP18b Median | OP18b Count  | OP18b_medX denom |
| 2  | XX    | XX1200      | 94           | 55           | 5170             |
| 3  | XX    | XX1201      |              |              | #VALUE!          |
| 4  | XX    | XX1202      | 72           | 54           | 3888             |
| 5  | XX    | XX1203      | 88           | 48           | 4224             |
| 6  | XX    | XX1204      | 81           | 51           | 4131             |
| 7  | XX    | XX1205      | 113          | 131          | 14803            |
| 8  | XX    | XX1206      |              |              | #VALUE!          |
| 9  | XX    | XX1207      | 118          | 50           | 5900             |
| 10 | XX    | XX1208      | 110          | 71           | 7810             |
| 11 | XX    | XX1209      | 120          | 42           | 5040             |
| 12 | XX    | XX1210      | 168          | 40           | 6720             |
| 13 | XX    | XX1211      | 80           | 55           | 4400             |
| 14 | XX    | XX1212      | 85           | 58           | 4930             |
| 15 | XX    | XX1213      | 100          | 41           | 4100             |
| 16 | XX    | XX1214      | 84           | 40           | 3360             |
| 17 | XX    | XX1215      | 70           | 78           | 5460             |
| 18 |       |             |              | =SUM(U2:U17) |                  |

Click on the cell immediately to the right of the formula you just entered (the cell below the final OP18b\_medXdenom value). Enter a formula for summing values in this column. For this example the formula is =SUM(V2:V17), where V2 represents the cell containing the first value and V17 represents the cell containing the last value.

|    | A     | B           | T            | U           | V                |
|----|-------|-------------|--------------|-------------|------------------|
| 1  | State | Provider ID | OP18b Median | OP18b Count | OP18b_medX denom |
| 2  | XX    | XX1200      | 94           | 55          | 5170             |
| 3  | XX    | XX1201      |              |             | #VALUE!          |
| 4  | XX    | XX1202      | 72           | 54          | 3888             |
| 5  | XX    | XX1203      | 88           | 48          | 4224             |
| 6  | XX    | XX1204      | 81           | 51          | 4131             |
| 7  | XX    | XX1205      | 113          | 131         | 14803            |
| 8  | XX    | XX1206      |              |             | #VALUE!          |
| 9  | XX    | XX1207      | 118          | 50          | 5900             |
| 10 | XX    | XX1208      | 110          | 71          | 7810             |
| 11 | XX    | XX1209      | 120          | 42          | 5040             |
| 12 | XX    | XX1210      | 168          | 40          | 6720             |
| 13 | XX    | XX1211      | 80           | 55          | 4400             |
| 14 | XX    | XX1212      | 85           | 58          | 4930             |
| 15 | XX    | XX1213      | 100          | 41          | 4100             |
| 16 | XX    | XX1214      | 84           | 40          | 3360             |
| 17 | XX    | XX1215      | 70           | 78          | 5460             |
| 18 |       |             |              |             | #VALUE!          |

Notice that column V in row 18 shows the error message #VALUE! – this is because there are errors in some cells in the range being added together (see row 3 and row 8). To correct this, you can manually delete the two #VALUE! messages:

|    | A     | B           | T            | U           | V               |
|----|-------|-------------|--------------|-------------|-----------------|
| 1  | State | Provider ID | OP18b Median | OP18b Count | OP18b_medXdenom |
| 2  | XX    | XX1200      | 94           | 55          | 5170            |
| 3  | XX    | XX1201      |              |             |                 |
| 4  | XX    | XX1202      | 72           | 54          | 3888            |
| 5  | XX    | XX1203      | 88           | 48          | 4224            |
| 6  | XX    | XX1204      | 81           | 51          | 4131            |
| 7  | XX    | XX1205      | 113          | 131         | 14803           |
| 8  | XX    | XX1206      |              |             |                 |
| 9  | XX    | XX1207      | 118          | 50          | 5900            |
| 10 | XX    | XX1208      | 110          | 71          | 7810            |
| 11 | XX    | XX1209      | 120          | 42          | 5040            |
| 12 | XX    | XX1210      | 168          | 40          | 6720            |
| 13 | XX    | XX1211      | 80           | 55          | 4400            |
| 14 | XX    | XX1212      | 85           | 58          | 4930            |
| 15 | XX    | XX1213      | 100          | 41          | 4100            |
| 16 | XX    | XX1214      | 84           | 40          | 3360            |
| 17 | XX    | XX1215      | 70           | 78          | 5460            |
| 18 |       |             |              | 814         | 79936           |
| 19 |       |             |              |             |                 |



Instead of manually deleting the #VALUE! message, another option is to use formulas so that the #VALUE! message doesn't appear. For example, in the instruction step on page X, instead of entering the formula =T2\*U2, you can enter the formula =IF(ISERR(T2\*U2),"",T2\*U2).

Click on the cell immediately below the formula you just entered in the OP\_1\_medXdenom column. Enter a formula for calculating the weighted state average. For this example the formula is =V18/U18, where V18 represents the cell containing the sum of the medXdenom calculations and U18 represents the cell containing the sum of the denominators.

|    | A     | B           | T            | U           | V               |
|----|-------|-------------|--------------|-------------|-----------------|
| 1  | State | Provider ID | OP18b Median | OP18b Count | OP18b_medXdenom |
| 2  | XX    | XX1200      | 94           | 55          | 5170            |
| 3  | XX    | XX1201      |              |             |                 |
| 4  | XX    | XX1202      | 72           | 54          | 3888            |
| 5  | XX    | XX1203      | 88           | 48          | 4224            |
| 6  | XX    | XX1204      | 81           | 51          | 4131            |
| 7  | XX    | XX1205      | 113          | 131         | 14803           |
| 8  | XX    | XX1206      |              |             |                 |
| 9  | XX    | XX1207      | 118          | 50          | 5900            |
| 10 | XX    | XX1208      | 110          | 71          | 7810            |
| 11 | XX    | XX1209      | 120          | 42          | 5040            |
| 12 | XX    | XX1210      | 168          | 40          | 6720            |
| 13 | XX    | XX1211      | 80           | 55          | 4400            |
| 14 | XX    | XX1212      | 85           | 58          | 4930            |
| 15 | XX    | XX1213      | 100          | 41          | 4100            |
| 16 | XX    | XX1214      | 84           | 40          | 3360            |
| 17 | XX    | XX1215      | 70           | 78          | 5460            |
| 18 |       |             |              | 814         | 79936           |
| 19 |       |             |              |             | =V18/U18        |

### Digging deeper

If you see any cells that display #VALUE! instead of a rate or average, consider doing some further investigation.

|   | A     | B           | L           | M          | N       | O         | P        |
|---|-------|-------------|-------------|------------|---------|-----------|----------|
| 1 | State | Provider ID | OP3b Median | OP3b Count | OP4 NUM | OP4 DENOM | OP4_RATE |
| 2 | XX    | XX1200      | 51          | 4          | 5       | 5         | 100.00%  |
| 3 | XX    | XX1201      |             |            | 3       | 3         | 100.00%  |
| 4 | XX    | XX1202      |             |            |         |           | #VALUE!  |
| 5 | XX    | XX1203      |             |            | 2       | 6         | 33.33%   |
| 6 | XX    | XX1204      |             |            | 5       | 7         | 71.43%   |

No data in this case means that the CAH did not submit data for this measure. However, this could be because the CAH did not have any eligible cases for the population.

To discover if this is what happened, look at the Total Pop column(s) associated with the measure. In this example, scroll right and look at the AMI Total Pop column as well as the Chest Pain Total Pop column, since OP4 is part of both the AMI and the Chest Pain measure sets. No data has been entered in these columns either.

|   | A     | B           | N       | O         | P        | Q          | R         | S             | T                    | U                          |
|---|-------|-------------|---------|-----------|----------|------------|-----------|---------------|----------------------|----------------------------|
| 1 | State | Provider ID | OP4 NUM | OP4 DENOM | OP4_RATE | OP5 Median | OP5 Count | AMI Total Pop | Chest Pain Total Pop | AMI + Chest Pain Total Pop |
| 2 | XX    | XX1200      | 5       | 5         | 100.00%  | 2          | 5         |               |                      |                            |
| 3 | XX    | XX1201      | 3       | 3         | 100.00%  | 20         | 2         | 3             |                      | 3                          |
| 4 | XX    | XX1202      |         |           | #VALUE!  |            |           | 0             | 7                    | 7                          |
| 5 | XX    | XX1203      | 2       | 6         | 33.33%   | 9          | 5         | 1             | 0                    | 1                          |
| 6 | XX    | XX1204      | 5       | 7         | 71.43%   | 6          | 7         |               |                      |                            |
| 7 | XX    | XX1205      | 8       | 10        | 80.00%   | 18         | 8         |               |                      |                            |

This CAH would be treated as a Nonsubmission. Verify this by looking at this CAH in your state’s Nonsubmission list, under measure OP4. You can also look at this CAH’s Patient Safety & Outpatient report - this particular measure should display an “N/A.”

## HCAHPS Excel data files

### Understanding the data files

HCAHPS data files should look similar from quarter to quarter. A screenshot showing part of a sample data file is below:

|    | A     | B           | C                 | D                         | E           | F                  | G       | H      | I   |     |
|----|-------|-------------|-------------------|---------------------------|-------------|--------------------|---------|--------|-----|-----|
| 1  | STATE | PROVIDER_ID | COMPLETED_SURVEYS | TEXTUAL_COMPLETED_SURVEYS | QUESTION_ID | SOMETIMES_TO_NEVER | USUALLY | ALWAYS | YES |     |
| 2  | XX    | XX1200      | 72                | Fewer than 100            | Star Rating | N/A                | N/A     | N/A    | N/A | N/A |
| 3  | XX    | XX1200      | 72                | Fewer than 100            | Q 21        | N/A                | N/A     | N/A    | N/A | N/A |
| 4  | XX    | XX1200      | 72                | Fewer than 100            | Q9          | 4                  | 23      | 73     | N/A | N/A |
| 5  | XX    | XX1200      | 72                | Fewer than 100            | Q8          | 9                  | 22      | 69     | N/A | N/A |
| 6  | XX    | XX1200      | 72                | Fewer than 100            | Composite 6 | N/A                | N/A     | N/A    | 88  | 12  |
| 7  | XX    | XX1200      | 72                | Fewer than 100            | Composite 5 | 20                 | 21      | 59     | N/A | N/A |
| 8  | XX    | XX1200      | 72                | Fewer than 100            | Composite 4 | 6                  | 25      | 69     | N/A | N/A |
| 9  | XX    | XX1200      | 72                | Fewer than 100            | Composite 3 | 7                  | 13      | 80     | N/A | N/A |
| 10 | XX    | XX1200      | 72                | Fewer than 100            | Composite 2 | 5                  | 14      | 81     | N/A | N/A |
| 11 | XX    | XX1200      | 72                | Fewer than 100            | Composite 1 | 3                  | 14      | 83     | N/A | N/A |
| 12 | XX    | XX1200      | 72                | Fewer than 100            | Composite 7 | 5                  | 39      | 56     | N/A | N/A |
| 13 | XX    | XX1200      | 72                | Fewer than 100            | Q 22        | N/A                | N/A     | N/A    | N/A | N/A |
| 14 | NC    | XX1201      | 140               | Between 100 and 299       | Star Rating | N/A                | N/A     | N/A    | N/A | N/A |
| 15 | NC    | XX1201      | 140               | Between 100 and 299       | Q 21        | N/A                | N/A     | N/A    | N/A | N/A |

As was the case in the OP data files, the first and second columns contain your state’s abbreviation and ID numbers for each CAH. The first row (in blue) contains variable names – be sure to scroll all the way to the right in your data files to see all of the variables. Each row after the first contains data for one CAH.

Beyond the first two columns, HCAHPS files are arranged differently than the other MBQIP files. Each HCAHPS measure included in the MBQIP HCAHPS files gets its own row for each hospital – meaning that each hospital has 12 rows of data (one each for Composite 1 through 7, Q8, Q9, Q21, Q22, and the Star Rating). The measure name can be found in Column E, named **QUESTION\_ID**.

The exact number of surveys completed by each hospital is located in Column C, **COMPLETED\_SURVEYS**, and the category of completed surveys is located in Column D, **TEXTUAL\_COMPLETED\_SURVEYS**. For each hospital, the contents of both of these columns should remain the same for each of the 12 rows.

HCAHPS survey questions that are part of MBQIP have different response categories. Depending on the question, the patient responding to the survey might respond by selecting:

- Yes or No

- A rating, on a scale from 0 (worst) to 10 (best)
- Never, Sometimes, Usually, or Always
- Definitely no, Probably yes, or Probably no

In the HCAHPS Excel data files, these types of responses are shown as follows:

- Yes (Column I) or No (Column J) – in purple in the image below
- Rating from 0 to 6 (Column K), from 7 to 8 (Column L), or from 9 to 10 (Column M) – in blue
- Sometimes or Never (Column F), Usually (Column G), or Always (Column H) – in red
- Definitely no (Column N), Probably yes (Column O), Definitely yes (Column P) – in orange

| E           | F                  | G       | H      | I   | J   | K          | L          | M           | N             | O            | P              |
|-------------|--------------------|---------|--------|-----|-----|------------|------------|-------------|---------------|--------------|----------------|
| QUESTION_ID | SOMETIMES_TO_NEVER | USUALLY | ALWAYS | YES | NO  | RATING_0_6 | RATING_7_8 | RATING_9_10 | DEFINITELY_NO | PROBABLY_YES | DEFINITELY_YES |
| Star Rating | N/A                | N/A     | N/A    | N/A | N/A | N/A        | N/A        | N/A         | N/A           | N/A          | N/A            |
| Q 21        | N/A                | N/A     | N/A    | N/A | N/A | 6          | 25         | 69          | N/A           | N/A          | N/A            |
| Q9          | 4                  | 23      | 73     | N/A | N/A | N/A        | N/A        | N/A         | N/A           | N/A          | N/A            |
| Q8          | 9                  | 22      | 69     | N/A | N/A | N/A        | N/A        | N/A         | N/A           | N/A          | N/A            |
| Composite 6 | N/A                | N/A     | N/A    | 88  | 12  | N/A        | N/A        | N/A         | N/A           | N/A          | N/A            |
| Composite 5 | 20                 | 21      | 59     | N/A | N/A | N/A        | N/A        | N/A         | N/A           | N/A          | N/A            |
| Composite 4 | 6                  | 25      | 69     | N/A | N/A | N/A        | N/A        | N/A         | N/A           | N/A          | N/A            |
| Composite 3 | 7                  | 13      | 80     | N/A | N/A | N/A        | N/A        | N/A         | N/A           | N/A          | N/A            |
| Composite 2 | 5                  | 14      | 81     | N/A | N/A | N/A        | N/A        | N/A         | N/A           | N/A          | N/A            |
| Composite 1 | 3                  | 14      | 83     | N/A | N/A | N/A        | N/A        | N/A         | N/A           | N/A          | N/A            |
| Composite 7 | 5                  | 39      | 56     | N/A | N/A | N/A        | N/A        | N/A         | N/A           | N/A          | N/A            |
| Q 22        | N/A                | N/A     | N/A    | N/A | N/A | N/A        | N/A        | N/A         | 3             | 14           | 83             |

Depending on the HCAHPS survey question, a given column in the range of Column F through Column P will contain an N/A (if the response type does not fit the survey question) or numbers. The numbers should be interpreted as percentages without the percentage symbol – for example, the number 88 translates to 88%, the number 3 translates to 3%, and so forth. If a hospital has an N/A in Column D (number of completed surveys) then no surveys were returned, and Columns F through P will all show an N/A.

Moving through the remainder of the data file, Column Q shows the star rating the hospital was assigned, if at least 100 surveys were returned. If fewer than 100 surveys were returned, then a star rating could not be calculated and Column Q will display N/A. In this case, Column R will also display footnote 6. (For more details on other possible footnotes and their meanings, visit <https://www.medicare.gov/hospitalcompare/data/Footnotes.html>).

Columns S, T, U, and V provide the start and end dates of the data included in the HCAHPS data file. Columns S and U display this as calendar year quarters, while Columns T and V display this as calendar year dates.

Column W shows the survey response rate. This is the percentage of surveys that had a response, out of the number that were administered. As before, these numbers should be interpreted as percentages without the percentage symbol. In the example that follows, the number 30 translates to 30%.

| Q           | R         | S             | T          | U           | V          | W           |
|-------------|-----------|---------------|------------|-------------|------------|-------------|
| STAR_RATING | FOOTNOTES | START_QUARTER | START_DATE | END_QUARTER | END_DATE   | H_RESP_RATE |
| N/A         | 6         | 3Q2015        | 07/01/2015 | 2Q2016      | 06/30/2016 | 30          |
| N/A         | 6         | 3Q2015        | 07/01/2015 | 2Q2016      | 06/30/2016 | 30          |
| N/A         | 6         | 3Q2015        | 07/01/2015 | 2Q2016      | 06/30/2016 | 30          |
| N/A         | 6         | 3Q2015        | 07/01/2015 | 2Q2016      | 06/30/2016 | 30          |
| N/A         | 6         | 3Q2015        | 07/01/2015 | 2Q2016      | 06/30/2016 | 30          |
| N/A         | 6         | 3Q2015        | 07/01/2015 | 2Q2016      | 06/30/2016 | 30          |
| N/A         | 6         | 3Q2015        | 07/01/2015 | 2Q2016      | 06/30/2016 | 30          |
| N/A         | 6         | 3Q2015        | 07/01/2015 | 2Q2016      | 06/30/2016 | 30          |
| N/A         | 6         | 3Q2015        | 07/01/2015 | 2Q2016      | 06/30/2016 | 30          |
| N/A         | 6         | 3Q2015        | 07/01/2015 | 2Q2016      | 06/30/2016 | 30          |
| N/A         | 6         | 3Q2015        | 07/01/2015 | 2Q2016      | 06/30/2016 | 30          |
| N/A         | 6         | 3Q2015        | 07/01/2015 | 2Q2016      | 06/30/2016 | 30          |
| N/A         | 6         | 3Q2015        | 07/01/2015 | 2Q2016      | 06/30/2016 | 30          |
| N/A         | 6         | 3Q2015        | 07/01/2015 | 2Q2016      | 06/30/2016 | 30          |

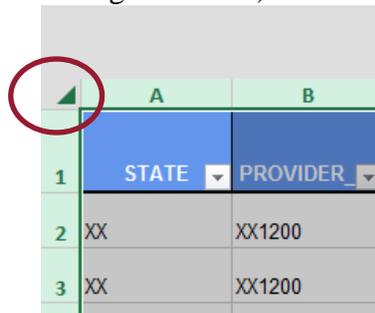
**Non-Submission list**

The non-submission list for HCAHPS is quite straightforward: for a given reporting period, all of the hospitals listed in the non-submission list are non-submitters. If a hospital is not listed in the non-submission list, then they are considered reporting. If you would like, you can verify the non-submission list by double-checking the HCAHPS data file for your state to ensure that the hospitals on that list display an “N/A” in Column D (number of completed surveys).

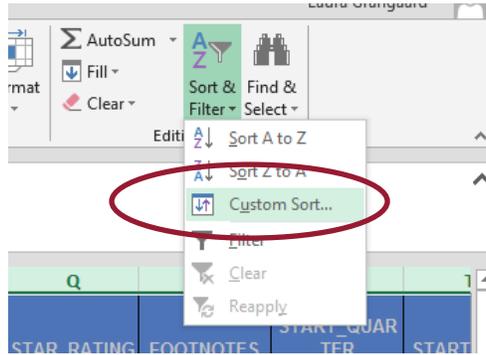
**Working with HCAHPS data**

Because of the way HCAHPS data is organized, some manipulation is helpful in order to more easily work with and analyze the data.

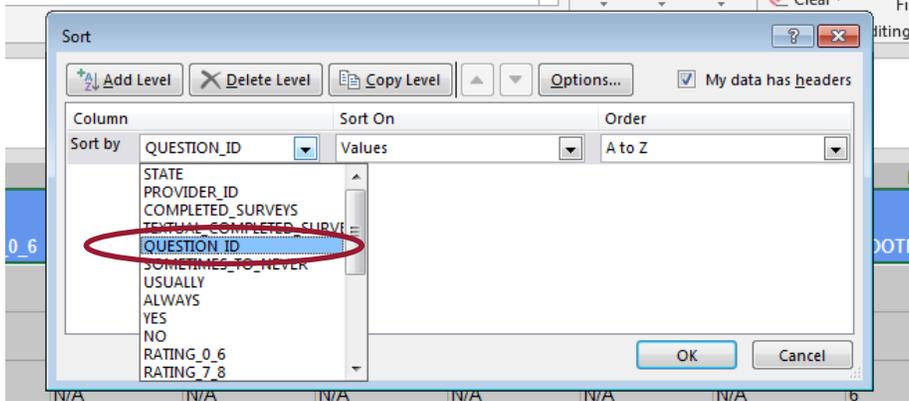
Select all of the data (click the top-left triangle to do so):



Click “Sort & Filter” and then select “Custom Sort...”



In the “Sort By” dropdown, select QUESTION\_ID and then click OK.



You’ll notice that the order of the HCAHPS data has now changed. Rather than all 12 of a hospital’s rows being located together, they are now ordered so that all of the questions of a similar type are together. To illustrate, see the “before” and “after” screenshots below that compare the first 5 rows of our example dataset (note that our example dataset only contains 3 hospitals):

**Before:**

|   | A     | B         | C          | D              |
|---|-------|-----------|------------|----------------|
| 1 | STATE | PROVIDER_ | COMPLETED_ | TEXTUAL_CO     |
| 2 | XX    | XX1200    | 72         | Fewer than 100 |
| 3 | XX    | XX1200    | 72         | Fewer than 100 |
| 4 | XX    | XX1200    | 72         | Fewer than 100 |
| 5 | XX    | XX1200    | 72         | Fewer than 100 |

**After:**

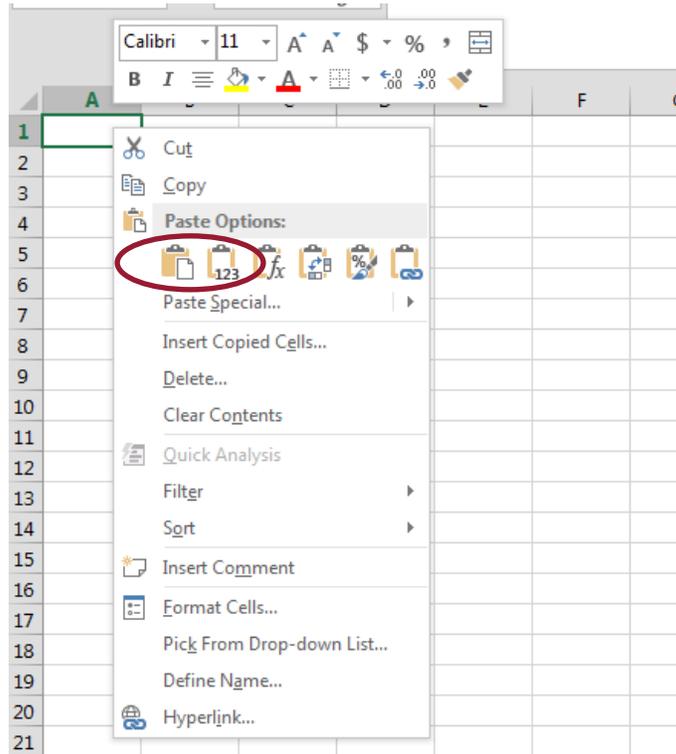
|   | A     | B         | C          | D                   |
|---|-------|-----------|------------|---------------------|
| 1 | STATE | PROVIDER_ | COMPLETED_ | TEXTUAL_CO          |
| 2 | XX    | XX1200    | 72         | Fewer than 100      |
| 3 | XX    | XX1201    | 140        | Between 100 and 299 |
| 4 | XX    | XX1202    | 180        | Between 100 and 299 |
| 5 | XX    | XX1200    | 72         | Fewer than 100      |

From here, you can more easily pull out and summarize the data by question type. As one example, if you wanted to understand the range of “Always” responses for Composite 1 among your hospitals, you could copy all of the Composite 1 data into a new spreadsheet and easily work with it there.

Select the rows of interest (be sure to select the entire row, all the way through the last column), right-click, and choose “Copy”:

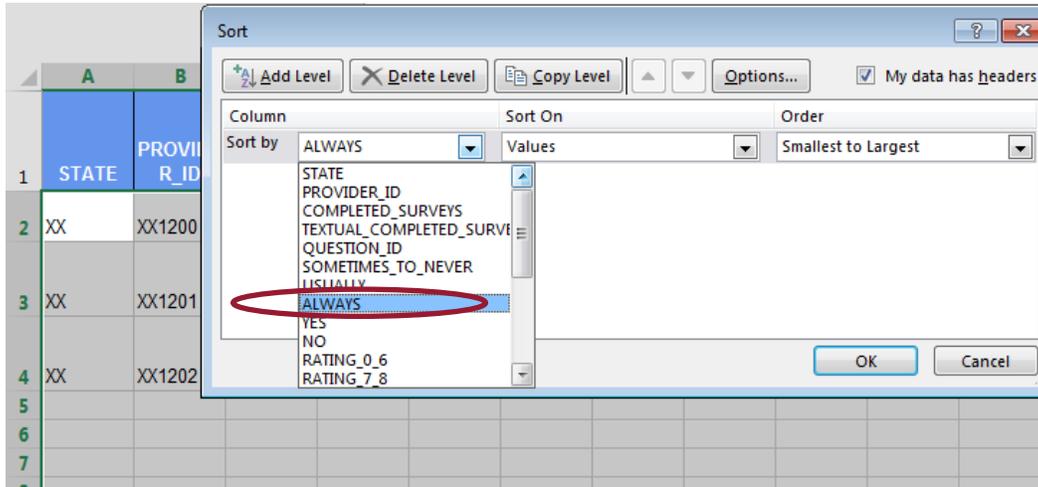
|   | A   | B | C         | D                                 | E           | F                      | G       | H      |
|---|-----|---|-----------|-----------------------------------|-------------|------------------------|---------|--------|
| 1 | STA |   | COMPLETED | TEXTUAL_CO<br>MPLETED_SU<br>RVEYS | QUESTION_1  | SOMETIMES_<br>TO_NEVER | USUALLY | ALWAYS |
| 2 | XX  |   |           | Over than 100                     | Composite 1 | 3                      | 14      | 83     |
| 3 | XX  |   | 140       | Between 100<br>and 299            | Composite 1 | 3                      | 23      | 74     |
| 4 | XX  |   | 180       | Between 100<br>and 299            | Composite 1 | 10                     | 22      | 68     |
| 5 | XX  |   | 72        | Fewer than 100                    | Composite 2 | 5                      | 14      | 81     |

Open up a new Excel document. You can also add a new tab to the document you’re currently working in. Right-click in cell A1 and then choose “Paste”:



From here, you can manipulate the data for Composite 1. If you’d like to understand the range of “Always” responses, you can:

- Sort the data by Column H (ALWAYS). The lowest response will be at the top, and the highest response will be at the bottom.



- Use the equations MIN() and MAX() to find the minimum (lowest) and maximum (highest) responses in the range:

| A     | B           | C                 | D                         | E           | F                  | G       | H           | I   |
|-------|-------------|-------------------|---------------------------|-------------|--------------------|---------|-------------|-----|
| STATE | PROVIDER_ID | COMPLETED_SURVEYS | TEXTUAL_COMPLETED_SURVEYS | QUESTION_ID | SOMETIMES_TO_NEVER | USUALLY | ALWAYS      | YES |
| XX    | XX1200      | 72                | Fewer than 100            | Composite 1 | 3                  | 14      | 83          | N/A |
| XX    | XX1201      | 140               | Between 100 and 299       | Composite 1 | 3                  | 23      | 74          | N/A |
| XX    | XX1202      | 180               | Between 100 and 299       | Composite 1 | 10                 | 22      | 69          | N/A |
|       |             |                   |                           |             |                    |         | =MIN(H2:H4) |     |

## EDTC Excel data files

### Understanding the data files

EDTC Excel data files are actually the templates that each state uses to compile hospital-level EDTC measures each quarter. An example of the template follows, hypothetically completed by the state Flex team with sample data:

|    | A  | B                                | C                                    | D                           | E                   | F                              | G                                | H                         | I                            | J                 |
|----|--|----------------------------------|--------------------------------------|-----------------------------|---------------------|--------------------------------|----------------------------------|---------------------------|------------------------------|-------------------|
| 1  | Emergency Department Transfer Communication State Report |                                  |                                      |                             |                     |                                |                                  |                           |                              |                   |
| 2  | State  | XX                               |                                      |                             |                     |                                |                                  |                           |                              |                   |
| 3  | Reporting Period   | 1Q2016                           |                                      |                             |                     |                                |                                  |                           |                              |                   |
| 4  | # CAHs in State  | 24                               |                                      |                             |                     |                                |                                  |                           |                              |                   |
| 5  | Submitting data this quarter                             | 18                               |                                      |                             |                     |                                |                                  |                           |                              |                   |
| 6  |  |                                  |                                      |                             |                     |                                |                                  |                           |                              |                   |
|    |  | # Records Reviewed (denominator) | EDTC-1: Administrative Communication | EDTC-2: Patient Information | EDTC-3: Vital Signs | EDTC-4: Medication Information | EDTC-5: Practitioner Information | EDTC-6: Nurse Information | EDTC-7: Procedures and Tests | All EDTC Measures |
| 7  | Hospital CCN#  |                                  |                                      |                             |                     |                                |                                  |                           |                              |                   |
| 8  | XX1200   | 45                               | 45                                   | 45                          | 45                  | 45                             | 45                               | 43                        | 45                           | 43                |
| 9  | XX1201   | 40                               | 35                                   | 34                          | 35                  | 40                             | 36                               | 30                        | 34                           | 13                |
| 10 | XX1202   | 40                               | 35                                   | 34                          | 35                  | 40                             | 36                               | 30                        | 34                           | 13                |
| 11 | XX1203   | 45                               | 45                                   | 44                          | 45                  | 43                             | 41                               | 40                        | 43                           | 30                |

The state Flex team enters data into this template each quarter. Rows 1 through 5 hold overall details related to the state’s EDTC reporting for the quarter. Row 7 contains variable names for EDTC. Hospital-level data begins starting in Row 8: for each hospital, the Flex team enters the number (not a percent) of records reviewed in Column B, and also enters the number (not a percent) of records meeting each EDTC measure in Column C through J.

### Working with the data

The [EDTC Comparison Template](#) is intended to assist Flex Programs in calculating EDTC rates and producing comparison graphs for critical access hospitals (CAHs) for hospital and state Emergency Department Transfer Communication (EDTC) performance – this can be a useful resource in working with EDTC data. The EDTC data templates are protected, which means that you cannot add calculations to work with the data in the template itself. By copying the EDTC template data into the EDTC Comparison Template, it’s possible to interact with the data.

## Tips & Tricks for Manipulating Data in Excel



While this is by no means an exhaustive list, here are some additional functions and tips & tricks for working in Excel. Note that the example screenshots are not based on MBQIP data, but are included to illustrate what you might expect to see regardless of the data you're working with.

### Find the average (mean) of a range of numbers

Click in an empty cell, then type `=AVERAGE(` and select the full range of the numbers you are interested in. Close the parentheses, then hit “Enter” on your keyboard to see the average.

|    |
|----|
| 4  |
| 4  |
| 6  |
| 6  |
| 8  |
| 8  |
| 10 |

=AVERAGE(I6:I12)

### Find the median of a range of numbers

You can use a function, or you can sort from smallest to largest and then identify the middle point. Read on to learn how to sort. To use a function, click in an empty cell, then type `=MEDIAN(` and select the full range of the numbers you are interested in. Close the parentheses, then hit “Enter” on your keyboard to see the average.

|    |
|----|
| 4  |
| 4  |
| 6  |
| 6  |
| 8  |
| 8  |
| 10 |

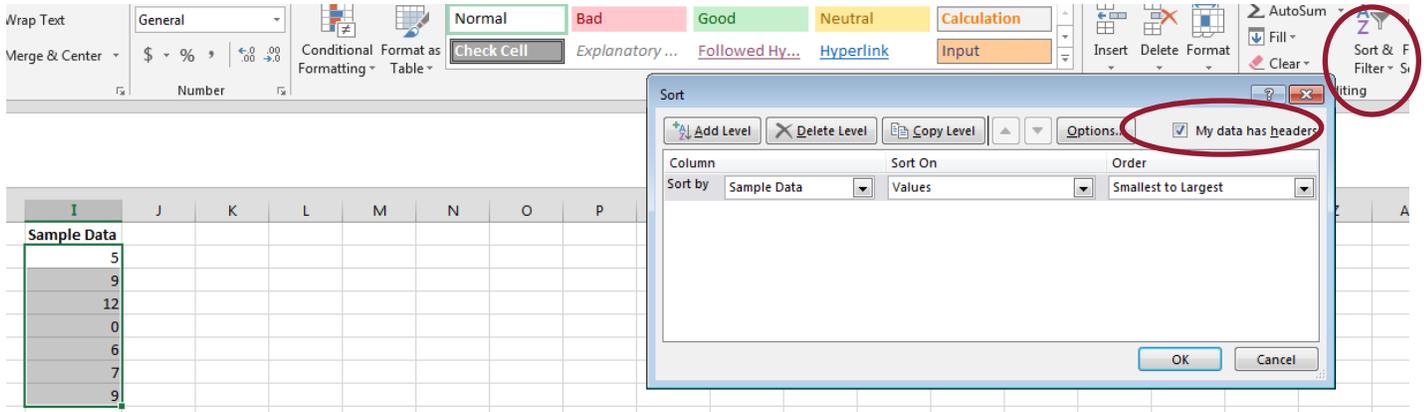
=MEDIAN(I6:I12)

### Sort by rate or median

Sorting by rate or median can make it simpler to quickly identify high performers and those with opportunity for improvement on individual measures. Whether you are sorting by a rate or by a median, the steps are exactly the same and equally valuable. To begin, select the entire cell range you wish to sort. Include the header row.

| H | I           | J |
|---|-------------|---|
|   | Sample Data |   |
|   | 5           |   |
|   | 9           |   |
|   | 12          |   |
|   | 0           |   |
|   | 6           |   |
|   | 7           |   |
|   | 9           |   |

On the Data tab, select *Sort & Filter* and then choose *Custom Sort*. Make sure that the box next “My data has headers” is checked, and then choose the order for sorting (Smallest to Largest is selected). Click “OK.”



Finally, check to make sure that your data looks to be sorted correctly based on the ordering you selected.

| I           |
|-------------|
| Sample Data |
| 0           |
| 5           |
| 6           |
| 7           |
| 9           |
| 9           |
| 12          |

### Systematically remove error messages

If Excel displays error messages such as #VALUE! or #DIV/0!, you can use formulas so that these do not appear. Examples of how to do this are described in the text above, both [here](#) and again [here](#).

### Expand your toolkit

Here are a handful of other Excel functions that can help save you time – try a quick online search to learn about these options, and don’t be afraid to search for other functions too!

- **Filters** – these limit your data so that you only see the rows you’re most interested in
- **New functions** – such as =COUNT (to count up the number of records in a certain range of data) or =IF (to conditionally format) or =MIN and =MAX (to find the minimum and maximum in a certain range of data)
- **Shortcuts** – keyboard shortcuts such as CTRL-A (to select everything), or timesavers such as how to add more than one new row or column at once
- **Remove Duplicates** – to systematically remove duplicate items within a certain range of data
- **Find/Replace** – to systematically change everything of a certain value to a different value

## Appendix 1: Reporting scenarios

| Denominator or Count | Population | Displayed in Data Report | Displayed on Non-submission List | Case Explanation  |
|----------------------|------------|--------------------------|----------------------------------|---|
| Blank                | Blank      | N/A                      | N                                | Did not submit cases to Quality Net warehouse via CART or other vendor tool and did not submit population to QualityNet via secure login                                      |
| Blank                | #>0        | N/A                      | N                                | Did not submit cases to the Quality Net warehouse via CART or other vendor tool and submitted population greater than 0 to QualityNet via secure login                        |
| Blank                | 0          | 0                        |                                  | Did not submit cases to Quality Net warehouse via CART or other vendor tool and submitted a population of 0 to QualityNet via secure login                                    |
| #>0                  | Blank      | Average/rate             |                                  | Submitted eligible cases to Quality Net warehouse via CART or other vendor tool and did not submit population to QualityNet via secure login                                  |
| #>0                  | #>0        | Average/rate             |                                  | Submitted eligible cases to Quality Net warehouse via CART or other vendor tool and submitted a population greater than 0 to QualityNet via secure login                      |
| #>0                  | 0          | Average/rate             |                                  | Submitted eligible cases to Quality Net warehouse via CART or other vendor tool and submitted a population of 0 to QualityNet via secure login                                |
| 0                    | Blank      | D/E                      |                                  | Submitted to Quality Net warehouse via CART or other vendor tool, but no eligible cases for measure, and did not submit population to QualityNet via secure login             |
| 0                    | #>0        | D/E                      |                                  | Submitted to Quality Net warehouse via CART or other vendor tool, but no eligible cases for measure, and submitted a population greater than 0 to QualityNet via secure login |
| 0                    | 0          | D/E                      |                                  | Submitted to Quality Net warehouse via CART or other vendor tool, but no eligible cases for measure, and submitted a population of 0 to QualityNet via secure login           |