Update to COVID-19 Exclusions in v2021 Software

The Agency for Healthcare Research and Quality (AHRQ) SAS Quality Indicators (QI) v2021 modules that include hospital-level indicators [Inpatient Quality Indicators (IQI), Pediatric Quality Indicators (PDI), and Patient Safety Indicators (PSI)] allow users the following options to specify how to handle COVID-19 discharges in the CONTROL program for each module:

- Option 1: The user can exclude COVID-19 discharges. This is recommended and is therefore the default choice. The software will calculate risk-adjusted rates, smoothed rates, and composites.
- Option 2: The user can include all discharges, with and without COVID-19. The software will only calculate numerators, denominators, and observed rates.
- Option 3: The user can include only COVID-19 discharges. The software will only calculate numerators, denominators, and observed rates.

This methodology in AHRQ SAS QI v2021 to exclude or include COVID-19 discharges for hospital-level indicators depends on identifying COVID-19 diagnosis codes on those discharges. The flag for COVID-19 diagnosis codes (COVIDDX) is only calculated for 2020 and 2021 data. The calculation is currently working correctly when using 2021 data, but is not working correctly with 2020 data. As a result, COVID-19 based exclusions for Option 1 and Option 3 described above are not working correctly when using 2020 data.

Outcomes when setting the flag for optional COVID-19 based exclusions (COVID_19) with 2020 data are described as follows.

- Option 1: Using the default flag to exclude COVID-19 discharges, the COVID-19 discharges are not excluded for 2020 data as intended. The software is expected to calculate numerators, denominators, observed rates, risk-adjusted rates, smoothed rates, and composites. However, for 2020 data, the observed rates, risk-adjusted rates, smoothed rates, and composites will not be correct. Option 1 will have the same numerators, denominators, and observed rates as Option 2.
- Option 2: Using the flag to include all discharges, with and without COVID-19, the software is expected to calculate only numerators, denominators, and observed rates. This option produces correct results.
- Option 3: Using the flag to include only COVID-19 discharges, the discharges that do not include COVID-19 diagnosis are not excluded for 2020 data as intended and the software is expected to calculate only numerators, denominators, and observed rates. As a result, Option 3 has the same outcome as Option 2.

The error occurs in the Measures programs for the PSI, PDI and IQI modules. To correct this, the Measures program will be updated by adding the red text below:

```
* ----------------------------------------------------------- ;
* --- DEFINE COVID STATUS  -------------------------- ;
* ----------------------------------------------------------- ;
attrib COVIDDX length=3
  label  = 'COVID-19 Diagnosis';

 COVIDDX = 0;
 if YEAR > 2020 then do;
   if %MDX($COVIDD.) then COVIDDX = 1;
 end;
 else if YEAR in (2020) then do;
  if DQTR in (1) then do;
    if %MDX($COVIDQ120D.) then COVIDDX = 1;
  end;
  else if DQTR in (2,3,4) then do;
   if %MDX($COVIDD.) then COVIDDX = 1;
  end;
 end;
```

A new release (v2021.0.1) of the AHRQ SAS QI Software with this change to the IQI, PDI, and PSI modules will be available on the AHRQ QI website (https://www.qualityindicators.ahrq.gov) on September 13, 2021. The release will correct the issues described above when running the AHRQ SAS QI Software using COVID-19 based exclusions (Option 1 and Option 3) with 2020 data. Results created using Option 2 will be unchanged.

As the original release of the AHRQ WinQI v2021 software correctly calculated the rates for 2020 and 2021 data, no updates are needed.