

SQL code to create function to identify procedures.txt

BEGIN

```
-- Start by identifying the cases where procedures were performed that definitively put the case into the
Other category. ProcID=null.
  if (VSTCV=1 or EndoProc=1 or OCarACDLE=1 or ResectSubA=1 or OCarCrTx=1 or OCarSVR=1 or CCancCase=1) or
(OCTumor<>1 and OCTumor is not null) or (OCPulThromDis<>1 and OCPulThromDis is not null) then
    Return null;
  else
    if (VADProc=2 and (UnplVAD=2 or UnplVAD is null)) or VADProc=3 or VADProc=4 then
      Return null;
    else
      if OCarASD=1 and (OCarASDTy=1 or OCarASDTy=2 or OCarASDTy is null) then
        Return null;
      else
        if OCarAFibSur=1 and OCarAFibAProc=2 then
          Return null;
        else
          if (OpTricus is not null and OpTricus<>1) or (OpPulm is not null and OpPulm<>1) then
            if UnplProc=1 or UnplProc=2 or UnplProc is null then
              Return null;
            else
              if UnplCABG=1 or UnplAV=1 or UnplMV=1 or UnplAo=1 or UnplVAD=1 then
                Return null;
              end if;
            end if;
          end if;
          if (UnplOth=2 or UnplOth is null) or UnplProc=2 then
            if OpONCard=1 or OCarLVA=1 or OCarVSD=1 or OCarTrma=1 or OCarOthr=1 then
              Return null;
            end if;
          end if;
          if (OCAoProcType is not null and OCAoProcType<>1) then
            if (UnplAo=2 or UnplAo is null) or (UnplAo=1 and UnplProc=2) then
              Return null;
            end if;
          end if;
        end if;
      end if;
    end if;
  end if;
end if;
```

SQL code to create function to identify procedures.txt

```
-- Now determine whether the procedure is an isolated CAB. ProcID=1.
if OpCAB=1 and (UnplCABG=2 or UnplCABG is null) then
    if OpValve=2 or OpValve is null then
        if (OCarCongProc1 is null or OCarCongProc1=10 or OCarCongProc1=1291 or OCarCongProc1=1305) and
            (OCarCongProc2 is null or OCarCongProc2=10 or OCarCongProc2=1291 or
OCarCongProc2=1305) and
            (OCarCongProc3 is null or OCarCongProc3=10 or OCarCongProc3=1291 or
OCarCongProc3=1305) then
            Return 1;    -- Isolated CAB procedure.
        else
            Return null;
        end if;
    else
        -- OpValve can only be 1 at this point.
        if UnplProc=3 then
            If (VSAV=2 or VSAV is null) or (VSAV=1 and UnplAV=1) then
                if (VSMV=2 or VSMV is null) or (VSMV=1 and UnplMV=1) then
                    if (OCarCongProc1 is null or OCarCongProc1=10 or OCarCongProc1=1291 or
OCarCongProc1=1305) and
                        (OCarCongProc2 is null or OCarCongProc2=10 or OCarCongProc2=1291 or
OCarCongProc2=1305) and
                        (OCarCongProc3 is null or OCarCongProc3=10 or OCarCongProc3=1291 or
OCarCongProc3=1305) then
                        Return 1;    -- Isolated CAB procedure.
                    else
                        Return null;
                    end if;
                end if;
            end if;
        end if;
    end if;
end if;

-- Procedure is not an isolated CABG, but could still be a valve or combination CAB + Valve procedure.

-- Determine whether the procedure is an isolated AVR or AVR + CAB. ProcID=2 or 4.
If OpValve=2 or OpValve is null then
    Return null;    -- If procedure is not an isolated CAB and no valve procedures were done, it is an
Other procedure.
else
    if VSAV=1 and (VSAVPr=1 or VSAVPr=9) then
        if (VSMV=2 or VSMV is null) or (VSMV=1 and UnplProc=3 and UnplMV=1) then
            if (OpCAB=2 or OpCAB is null) or (OpCAB=1 and UnplProc=3 and UnplCABG=1) then
                if (OCarCongProc1 is null or OCarCongProc1=10) and (OCarCongProc2 is null or
OCarCongProc2=10) and (OCarCongProc3 is null or OCarCongProc3=10) then
                    Return 2;    -- Isolated AVR procedure.
                else
```

SQL code to create function to identify procedures.txt

```

        Return null;
    end if;
else
    -- OpCAB can only be 1 at this point.
    If (Unpl Proc=3 and (Unpl CABG=2 or Unpl CABG is null)) or (Unpl Proc=1 or Unpl Proc=2 or
Unpl Proc is null) then
        if (OCarCongProc1 is null or OCarCongProc1=10 or OCarCongProc1=1291 or
OCarCongProc1=1305) and
            (OCarCongProc2 is null or OCarCongProc2=10 or OCarCongProc2=1291 or
OCarCongProc2=1305) and
            (OCarCongProc3 is null or OCarCongProc3=10 or OCarCongProc3=1291 or
OCarCongProc3=1305) then
            Return 4;    -- AVR + CAB procedure.
        else
            Return null;
        end if;
    end if;
end if;
end if;
end if;
end if;

-- Determine whether the procedure is an isolated MVR or MVR + CAB.  ProcID=3 or 5.
if VSMV=1 and (VSMVPr=2) then
    if (VSAV=2 or VSAV is null) or (VSAV=1 and Unpl Proc=3 and Unpl AV=1) then
        if (OpCAB=2 or OpCAB is null) or (OpCAB=1 and Unpl Proc=3 and Unpl CABG=1) then
            if (OCarCongProc1 is null or OCarCongProc1=10) and (OCarCongProc2 is null or
OCarCongProc2=10) and (OCarCongProc3 is null or OCarCongProc3=10) then
                Return 3;    -- Isolated MVR procedure.
            else
                Return null;
            end if;
        else
            -- OpCAB can only be 1 at this point.
            If (Unpl Proc=3 and (Unpl CABG=2 or Unpl CABG is null)) or (Unpl Proc=1 or Unpl Proc=2 or
Unpl Proc is null) then
                if (OCarCongProc1 is null or OCarCongProc1=10 or OCarCongProc1=1291 or
OCarCongProc1=1305) and
                    (OCarCongProc2 is null or OCarCongProc2=10 or OCarCongProc2=1291 or
OCarCongProc2=1305) and
                    (OCarCongProc3 is null or OCarCongProc3=10 or OCarCongProc3=1291 or
OCarCongProc3=1305) then
                        Return 5;    -- MVR + CAB procedure.
                    else
                        Return null;
                    end if;
            end if;
        end if;
    end if;
end if;

```

SQL code to create function to identify procedures.txt

```

end if;
end if;

-- Determine whether the procedure is an AVR + MVR.   ProcID=6.
if VSAV=1 and (VSAVPr=1 or VSAVPr=9) and VSMV=1 and VSMVPr=2 then
    if (OpCAB=2 or OpCAB is null) or (OpCAB=1 and UnplProc=3 and UnplCABG=1) then
        if (OCarCongProc1 is null or OCarCongProc1=10) and (OCarCongProc2 is null or OCarCongProc2=10)
and (OCarCongProc3 is null or OCarCongProc3=10) then
            Return 6;    -- AVR + MVR procedure.
        else
            Return null;
        end if;
    end if;
end if;

-- Determine whether the procedure is an MV Repair or MV Repair + CAB.   ProcID=7 or 8.
if VSMV=1 and VSMVPr=1 then
    if (VSAV=2 or VSAV is null) or (VSAV=1 and UnplProc=3 and UnplAV=1) then
        if (OpCAB=2 or OpCAB is null) or (OpCAB=1 and UnplProc=3 and UnplCABG=1) then
            if (OCarCongProc1 is null or OCarCongProc1=10) and (OCarCongProc2 is null or
OCarCongProc2=10) and (OCarCongProc3 is null or OCarCongProc3=10) then
                Return 7;    -- MV Repair procedure.
            else
                Return null;
            end if;
        else
            -- OpCAB can only be 1 at this point.
            if (UnplProc=3 and (UnplCABG=2 or UnplCABG is null)) or (UnplProc=1 or UnplProc=2 or
UnplProc is null) then
                if (OCarCongProc1 is null or OCarCongProc1=10 or OCarCongProc1=1291 or
OCarCongProc1=1305) and
                    (OCarCongProc2 is null or OCarCongProc2=10 or OCarCongProc2=1291 or
OCarCongProc2=1305) and
                    (OCarCongProc3 is null or OCarCongProc3=10 or OCarCongProc3=1291 or
OCarCongProc3=1305) then
                    Return 8;    -- MV Repair + CAB procedure.
                else
                    Return null;
                end if;
            end if;
        end if;
    end if;
end if;

-- If ProcID still has not been determined, then it is an Other procedure.   ProcID = null.
return null;

```

SQL code to create function to identify procedures.txt

```
EXCEPTION  
  WHEN NO_DATA_FOUND THEN  
    NULL;  
  WHEN OTHERS THEN  
    Null;  
    RAISE;  
END getProclD;  
/
```

1b.2. Provide performance scores on the measure as specified (current and over time) at the specified level of analysis.

The summary statistic provided is the Participants' observed event rates. An exact 95% exact binomial confidence interval was calculated for each participant's observed rate. A higher rate indicates better performance. The percentiles were calculated after ordering the participants' measures from the smallest to the largest. The 10th percentile value, for example, is the value that is larger than 10% of all participants.

Distribution	July 2011 - June 2012 Observed rate	July 2012 - June 2013 Observed rate
# Participant	1013	1009
# Operations	262047	257202
Mean	0.99	0.99
STD	0.06	0.041
IQR	0.0083	0.0044
0%	0.00	0.40
10%	0.97	0.98
20%	0.99	0.99
30%	0.99	1.00
40%	1.00	1.00
50%	1.00	1.00
60%	1.00	1.00
70%	1.00	1.00
80%	1.00	1.00
90%	1.00	1.00
100%	1.00	1.00
Midwest	304	301
Northeast	132	129
Other region	3	5
South	367	366
West	207	208

*Other region = outside of the four U.S. geographic regions.

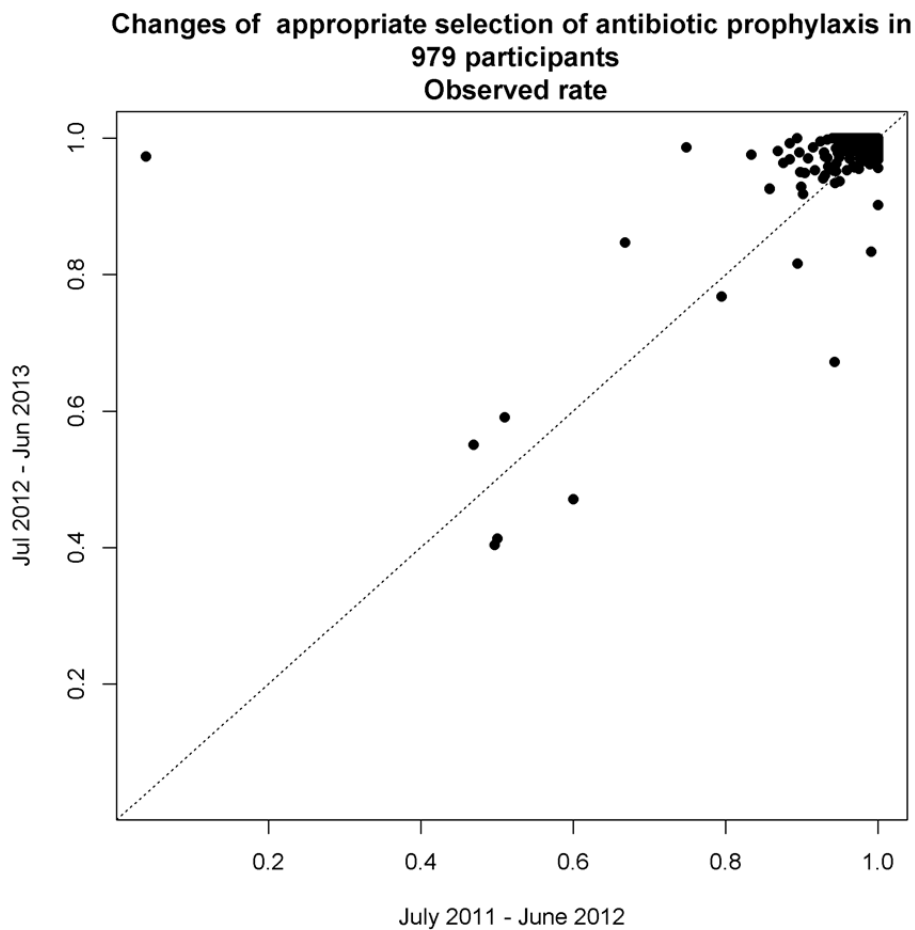
We report the measure for all STS participants with eligible cases even if the number of cases (denominator) is small. It is known that with or without risk adjustment, small number of cases yield less reliable estimates. Therefore, to facilitate a more reliable comparison across time periods, we also provided below the measure summary in only participants with 50 or more cases in all 12 months of the corresponding year.

Distribution	July 2011 - June 2012 Observed rate	July 2012 - June 2013 Observed rate
# Participant	878	858
# Operations	252406	242809
Mean	0.99	0.99
STD	0.054	0.044
IQR	0.0086	0.0049
0%	0.039	0.40
10%	0.973	0.98
20%	0.989	0.99
30%	0.994	1.00
40%	0.996	1.00
50%	1.000	1.00
60%	1.000	1.00
70%	1.000	1.00

80%	1.000	1.00
90%	1.000	1.00
100%	1.000	1.00
Midwest	259	256
Northeast	122	112
Other region	2	2
South	313	307
West	182	181

*Other region = outside of the four U.S. geographic regions.

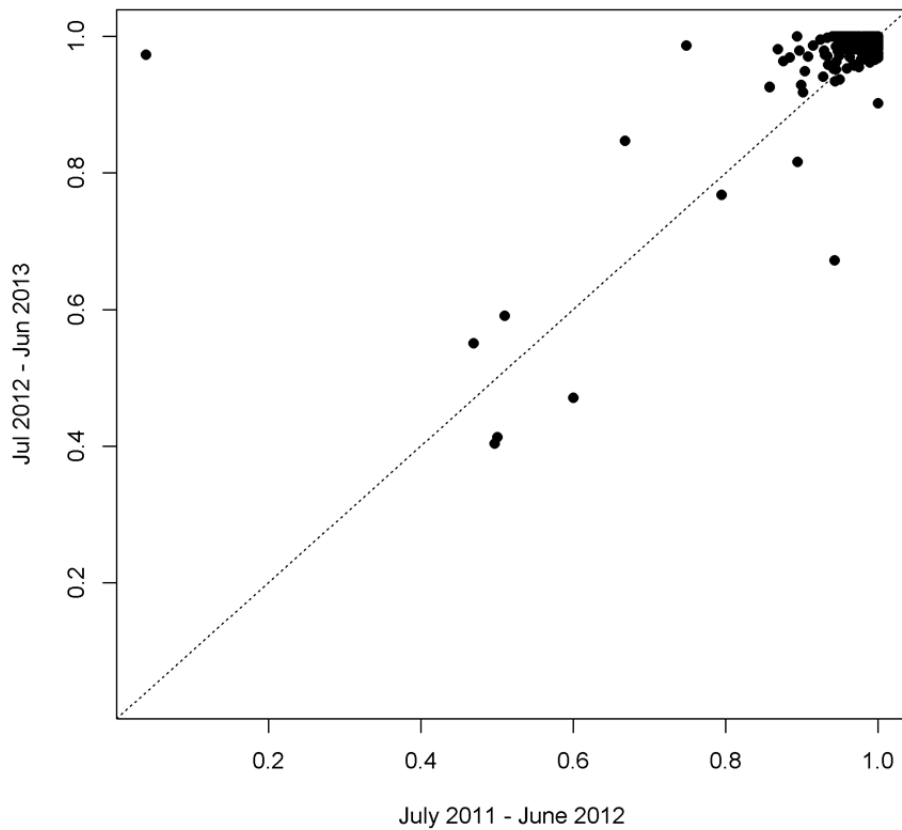
The figures below show the changes in participant specific observed rates between two most recent adjust years. Only participants that reported data to STS in both years are included.



The Spearman rank correlation of the measure between the two time periods is 0.39.

Similarly, we created the figures comparing the observed rates from the two years in participants with more than 50 cases or more and reported data every month in each year.

Changes of appropriate selection of antibiotic prophylaxis in
791 participants
Observed rate



The Spearman rank correlation of the measure between the two time periods in these relatively larger participants is 0.39.