```
/*****************************************************************************************/
/******  The following gives some sample code for an analysis on behalf of a
           HYPOTHETICAL potential ACE.  The ACE will serve select zip codes
           in Cook County .  It's network providers will be associated with the Cook County
           Health and Hospital System providers.  Rewrite this code to the specifics of
           your proposed ACE and analysis.  The current code is written in Teradata
           Assistant version 14.

         Note:  the analysis will show that CCHHS providers provide only a small portion
           of this population's current care.
 *****************************************************************************************/

/*****************************************************************************************/
/* Data Preparation */
/* Prepare the views that will be used for the analysis */
/* The FROM statements in all further code will reference these views */
/*****************************************************************************************/

/* create a view of your Recipient working table */
REPLACE VIEW ACERecipients11 AS
SELECT *
FROM HFSMPARKViews.CCI_RecipientSummaryFileV
      /* substitute your calendar year 2011 recipient summary table path and name here */
WHERE ACEEligibleInd=1 AND
      /* ACEEligibleInd=1 is actually not necessary as you have been provided only the ACE
      eligible population */
      CountyDesc='Cook' AND ZipCode IN ('60623','60608','60632','60609','60629','60636','60621');
      /* substitute your counties and/or zip codes here */
      /* be sure that you have accurately matched our spelling and spacing of county names! */

/* create a view of your Crosswalk working table */
REPLACE VIEW ACECrosswalk11 AS
SELECT Crosswalk.*
FROM HFSMPARKViews.RecipientProviderCrosswalkV AS Crosswalk
      /* substitute your calendar year 2011 recipient-provider crosswalk table path and name here */
JOIN ACERecipients11 ON
      Crosswalk.RecipientKeyID=ACERecipients11.RecipientKeyID;
      /* limits cross walk to your ACE recipients */

 /* create a view of your Provider working table */
REPLACE VIEW ACEProviders11 AS
SELECT *
FROM HFSMPARKViews.CCI_ProviderSummaryFileV
      /* substitute your calendar year 2011 provider summary table path and name here */
WHERE  HFSMPARKViews.CCI_ProviderSummaryFileV.ProviderKeyID IN (
      SELECT ProviderKeyID
      FROM ACECrosswalk11
      GROUP BY 1);

/* create a list of your ACE Network providers*/
REPLACE VIEW ACENetwork AS
SELECT ProviderKeyID,ProviderName, ProviderTypeDesc,ProvZipCode,OfficeCountyDesc
FROM HFSMPARKViews.CCI_ProviderSummaryFileV
WHERE ProviderKeyID LIKE '606361540%';
      /* substitute the where criteria to identify your providers by ProviderKeyID OR
      develop a list of provider key IDs by some other method and write to a table
      or view named ACENetwork */

/* create a view of your hospital admission file */
REPLACE VIEW ACEAdmits11 AS
SELECT *
FROM HFSMPARKViews.CCI_HospitalDetailFileV AS Admits
      /* substitute your calendar year 2011 hospital table path and name here */
WHERE Admits.RecipientKeyID IN (
      SELECT RecipientKeyID FROM ACERecipients11);

/* create a view of your ER file */
REPLACE VIEW ACEDrugs11 AS
SELECT *
FROM HFSMPARKViews.CCI_DrugDetailFileV AS Drugs
      /* substitute your calendar year 2011 emergency room table path and name here */
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WHERE Drugs.RecipientKeyID IN (
      SELECT RecipientKeyID FROM ACERecipients11);

/* create a view of your prescription drug file */
REPLACE VIEW ACE_ER11 AS
SELECT *
FROM HFSMPARKViews.CCI_ERDetailFileV AS ER
      /* substitute your calendar year 2011 prescription drug table path and name here */
WHERE ER.RecipientKeyID IN (
      SELECT RecipientKeyID FROM ACERecipients11);

/* create a view of your DRG1995 file */
/* this reference code file is available from the MPARK website */
REPLACE VIEW DRG1995 AS
SELECT *
FROM HFSMPARKViews.DRG1995V;
      /* substitute your DRG1995 table path and name here */

/* create a view of your Diagnosis file */
/* this reference code file is available from the MPARK website */
REPLACE VIEW Diag AS
SELECT *
FROM HFSMPARKViews.DiagnosisV;
      /* substitute your Diagnosis table path and name here */

/* create a view of your Procedure file */
/* this reference code file is available from the MPARK website */
/* Note:  these are ICD-9 Procedure codes for use with hospital claims */
REPLACE VIEW ProcICD9 AS
SELECT *
FROM HFSMPARKViews.ProcedureV;
      /* substitute your Diagnosis table path and name here */


/*****************************************************************************************/
/* examine the demographic characteristics of your population */
/*****************************************************************************************/
      /* note:  for point-in-time population counts use CurrentEnrollmentInd=1 */
      /* the restriction gives recipients provided at the end of the year; otherwise you get all
      unique recipients over the course of the year */

         /* age and sex */
         SELECT
               AgeGrpCd,
               AgeGrpDesc,
               SUM(CASE WHEN genderdesc='Male' THEN 1 ELSE 0 END) AS Male,
               SUM(CASE WHEN genderdesc='Female' THEN 1 ELSE 0 END) AS Female,
               COUNT(*) AS TotalRecipients
         FROM ACERecipients11
         WHERE CurrentEnrollmentInd=1
         GROUP BY 1,2
         ORDER BY 1;
               /* note:  0 year olds are children born during the calendar year -- ACEs should be
               prepared for this many births! */
               /*  if a child's parents are non-documented immigrants, the child is enrolled without
               parents unless mom is pregnant or post-partum*/
               /*   this particular geography has many Hispanic undocumented adults and
               therefore there are proportionally many more children than in many other parts of
               the state */

         /* race and ethnicity */
         SELECT
            CASE
               WHEN EthnicityDesc LIKE 'Hisp%' THEN 'Hispanic'
               WHEN RaceDesc LIKE 'Black%' THEN 'Black'
               WHEN RaceDesc LIKE 'White%' THEN 'White'
               WHEN RaceDesc LIKE 'Asia%' THEN 'Asian'
               ELSE 'Unk/multi/other' END AS RaceEthnicity,
            COUNT(*) AS Recipients
         FROM ACERecipients11
         WHERE CurrentEnrollmentInd=1
```

```
    GROUP BY 1
    ORDER BY 1;

    /* zip code */
    SELECT
       ZipCode,
       SUM(CASE WHEN AgeGrpCd<=1 THEN 1 ELSE 0 END) AS Child,
       SUM(CASE WHEN AgeGrpCd>=2 THEN 1 ELSE 0 END) AS Adult,
       COUNT(*) AS TotalRecipients
    FROM ACERecipients11
    WHERE CurrentEnrollmentInd=1
    GROUP BY 1
    ORDER BY 1;

   /*  recipients with serious mental illness and CDPS mental health indicators */
    SELECT
       CASE WHEN AgeGrpCd<=1 THEN'Child' ELSE 'Adult' END AS Age,
       SUM(SMIInd) AS HFS_SMI,
       SUM(PSYH) AS CDPS_PsyH,
       SUM(PSYM) AS CDPS_PsyM,
       SUM(PSYML) AS CDPS_PsyML,
       SUM(PSYL) AS CDPS_PsyL,
       SUM(PSYSL) AS CDPS_PsySL,
       COUNT(*) AS TotalRecipients
    FROM ACERecipients11
    WHERE CurrentEnrollmentInd=1
    GROUP BY 1
    ORDER BY 1;
        /*  see metadata for a further description of these and other indicators */
        /*  MPARK tables use 0/1 indicators, in part, in order to facilitate counting via a simple
        summation as illustrated here */


 /*************************************************************************************************/
/* portion of care provided by ACE providers */
/*************************************************************************************************/

   /* PCP's serving the ACE population */
   SELECT
      CASE WHEN MCOAncDtInd=0 AND ACENetwork.ProviderName IS NOT NULL
         THEN 1 ELSE 0 END AS ACENetworkProv,
      MCOAncDtInd AS MCO,
      CASE WHEN MCOAncDtInd=1 THEN MCOAncDtDesc
         ELSE PCPName END AS MCOorPCPName,
      CASE WHEN MCOAncDtInd=1 THEN 'HMO'
         ELSE ACEProviders11.ProviderTypeDesc END AS Description,
      COUNT(*) AS TotalRecipients
   FROM ACERecipients11
      LEFT JOIN ACENetwork ON
         ACERecipients11.PCPKeyID= ACENetwork.ProviderKeyID
      LEFT JOIN ACEProviders11 ON
         ACERecipients11.PCPKeyID=ACEProviders11.ProviderKeyID
   WHERE CurrentEnrollmentInd=1
   GROUP BY 1,2,3,4
   ORDER BY 1 DESC, 2 DESC, 5 DESC;
        /* Why are there some null MCOorPCPNames?  the most common reason is timing --
        recipients have time after they become Medicaid eligible to select a MCO or PCP.
        Furthermore, some recipients may not be required to select under current rules. */

    /* dollar % of  FFS care provided by ACE providers */
   SELECT
      CASE WHEN ACENetwork.ProviderKeyID IS NOT NULL THEN 'ACE Network Provider'
         ELSE 'Non-Network Provider' END AS Relationship,
      SUM(ACECrosswalk11.TotalCost) AS TotalCost
    FROM ACERecipients11
      LEFT JOIN ACECrosswalk11 ON
         ACERecipients11.RecipientKeyID=ACECrosswalk11.RecipientKeyID
      LEFT JOIN ACENetwork ON
         ACECrosswalk11.ProviderKeyID=ACENetwork.ProviderKeyID
    WHERE MCOInd=0
    GROUP BY 1
```

```
 ORDER BY 1;
  /* includes partial year recipients */
  /* excludes HMO recipients */

        /* note:  this query produces the same total as the previous query except that it does not
        differentiate between network and non-network providers -- use of the Crosswalk table is
        essential to such a differentiation */
        SELECT
            SUM(ACERecipients11.TotalCost) AS TotalCost
        FROM ACERecipients11
        WHERE MCOInd=0;

/* rank ordering of hospitals by number of  (fee-for-service) admissions */
SELECT
   CASE WHEN ACENetwork.ProviderName IS NOT NULL
       THEN 1 ELSE 0 END AS ACENetworkProv,
   ACEAdmits11.ProviderKeyID,
   HospitalName,
   COUNT(*) AS Admits,
   SUM(CoveredDays) AS Days,
   SUM(HFSCost) AS Cost
FROM ACEAdmits11
   LEFT JOIN ACENetwork ON
      ACEAdmits11.ProviderKeyID=ACENetwork.ProviderKeyID
GROUP BY 1,2,3
ORDER BY 1 DESC, 4 DESC;

/* rank ordering of hospitals by number of (fee-for-service) delivery admissions */
SELECT
   CASE WHEN ACENetwork.ProviderName IS NOT NULL
       THEN 1 ELSE 0 END AS ACENetworkProv,
   ACEAdmits11.ProviderKeyID,
   HospitalName,
   COUNT(*) AS Admits,
   SUM(CoveredDays) AS Days,
   SUM(HFSCost) AS Cost
FROM ACEAdmits11
    LEFT JOIN ACENetwork ON
      ACEAdmits11.ProviderKeyID=ACENetwork.ProviderKeyID
WHERE TOS='IPMatDelv'
      /* this can be changed to identify other IP types of service */
GROUP BY 1,2,3
ORDER BY 1 DESC, 4 DESC;

        /*  Note:  next is the alternative path to a rank ordering of hospitals by number of (fee-for-service)
        delivery admissions  -- the advantage of the above path rather than the next one is ready detail
        is available via the Admits table concerning each admission */
        /* this path, however, can be used to see who is providing services for ANY type of service or
        aggregation thereof  -- simply substitute IPMatDelv for another TOS -- as illustrated in the
        FQHC query */
        SELECT
           CASE WHEN ACENetwork.ProviderName IS NOT NULL
               THEN 1 ELSE 0 END AS ACENetworkProv,
           ACECrosswalk11.ProviderKeyID,
           ACEProviders11.ProviderName,
           SUM(ACECrosswalk11.Events) AS Admits,
           SUM(ACECrosswalk11.UnitsofService) AS Days,
           SUM(ACECrosswalk11.Cost) AS Cost
        FROM ACECrosswalk11
            LEFT JOIN ACENetwork ON
               ACECrosswalk11.ProviderKeyID=ACENetwork.ProviderKeyID
            LEFT JOIN ACEProviders11 ON
               ACECrosswalk11.ProviderKeyID=ACEProviders11.ProviderKeyID
        WHERE TOS='IPMatDelv'
              /* this can be changed to rank ANY type of service */
        GROUP BY 1,2,3
        ORDER BY 1 DESC, 4 DESC;

/* rank order of  FQHC services */
SELECT
   CASE WHEN ACENetwork.ProviderName IS NOT NULL
```

```
        THEN 1 ELSE 0 END AS ACENetworkProv,
    ACECrosswalk11.ProviderKeyID,
    ACEProviders11.ProviderName,
    SUM(ACECrosswalk11.Events) AS Events,
    SUM(ACECrosswalk11.UnitsofService) AS UnitsofService,
    SUM(ACECrosswalk11.TotalCost) AS Cost
FROM ACECrosswalk11
    LEFT JOIN ACENetwork ON
        ACECrosswalk11.ProviderKeyID=ACENetwork.ProviderKeyID
    LEFT JOIN ACEProviders11 ON
        ACECrosswalk11.ProviderKeyID=ACEProviders11.ProviderKeyID
WHERE TOS='FQHC'
      /* this can be changed to rank ANY type of service */
GROUP BY 1,2,3
ORDER BY 1 DESC, 4 DESC;

 /* rank ordering of emergency rooms by number of (fee-for-service) visits */
 /* using emergency room table */
SELECT
   CASE WHEN ACENetwork.ProviderName IS NOT NULL
        THEN 1 ELSE 0 END AS ACENetworkProv,
   ACE_ER11.ProviderKeyID,
   ACE_ER11.HospitalName,
   COUNT(*) AS ERVisits
FROM ACE_ER11
   LEFT JOIN ACENetwork ON
        ACE_ER11.ProviderKeyID=ACENetwork.ProviderKeyID
GROUP BY 1,2,3
ORDER BY 1 DESC, 4 DESC;

 /* top 20 emergency room primary diagnoses */
SELECT TOP 20
   DiagCd1,
   DiagDesc,
   COUNT(*) AS ERVisits
FROM ACE_ER11
   LEFT JOIN ACENetwork ON
        ACE_ER11.ProviderKeyID=ACENetwork.ProviderKeyID
   LEFT JOIN Diag ON
        ACE_ER11.DiagCd1=Diag.DiagCd
GROUP BY 1,2
ORDER BY 3 DESC;

/* top 20 prescription drugs by cost */
SELECT TOP 20
    BrandName,
    CompoundCd,
    COUNT(UNIQUE RecipientKeyID) AS UniqRecipients,
    SUM(Cost)
FROM ACEDrugs11
GROUP BY 1,2
ORDER BY 4 DESC;
       /* note:  lack of brand name and compoundcd=2 indicates that the drug
       is a compound; see metadata for information as to how compound
       drugs appear in the table */


 /*************************************************************************************/
/* understanding costs and utilization for care management potential */
/*************************************************************************************/
    /* note:  for this analysis is is best to look at recipients who were enrolled in
    FFS for the entire year (or the entire portion of the year that they were enrolled)
    and to include recipients who were only enrolled a portion of the year  and not
    just those enrolled at a point-in-time */
    /* because some recipients are enrolled only a portion of the year, costs and
    utilization rates must be calculated using number of enrolled days */

    /* total costs per member per year (PMPY), by major type of service
    and hospital admissions and days per thousand recipients (PT) */
    SELECT
        AgeGrpCd,
```

```
AgeGrpDesc,
CASE WHEN AgeGrpCd>1 THEN GenderDesc ELSE '' END AS Sex,
COUNT(*) AS UniqRecipients,
SUM(TotalCost)*365/SUM(NbrOfEnrolledDays) AS AvgCost,
SUM(IPOtherEvents  +
                                IPMatNonDelvEvents+
                                IPMatDelvEvents+
                                IPNewBornEvents+
                                ERUndocAlienEvents+
                        IPPsychEvents+
                        IPSubAbuseEvents)*365000/SUM(NbrOfEnrolledDays) AS IPAdmitsPT,
    SUM(IPOtherUnitsofService+
                                IPMatNonDelvUnitsofService+
                                IPMatDelvUnitsofService+
                                IPNewBornUnitsofService+
                                ERUndocAlienUnitsofService+
                        IPPsychUnitsofService+
                        IPSubAbuseUnitsofService)*365000/SUM(NbrOfEnrolledDays) AS IPDaysPT,
    SUM(IPOtherCost+
                                IPMatNonDelvCost+
                                IPMatDelvCost+
                                IPNewBornCost+
                                ERUndocAlienCost+
                        IPPsychCost+
                        IPSubAbuseCost)*365/SUM(NbrOfEnrolledDays) AS IPCostPMPY,
    SUM(    ERCost)*365/SUM(NbrOfEnrolledDays)  AS ER,
    SUM(    PrescDrugsCost      )*365/SUM(NbrOfEnrolledDays)  AS DrugCostPMPY,
    SUM(    RehabMHCost+
                        RehabSACost      )*365/SUM(NbrOfEnrolledDays) AS RehabSAMHCostPMPY,
    SUM(    NursingFacilityCost+
                        HospiceCost+
                        ICFMRPrivateCost+
                                ICFMRPublicCost+
                                MentalHealthRegCost)*365/SUM(NbrOfEnrolledDays)  AS NonAcuteInstCostPMPY,
                                /* these costs should be minimal for a non-elderly, non-disabled population */
    SUM(HCBSRHCost+
                                HCBSPCCost        +
                                HCBSDHCost+
                                HCBSHMCost+
                                HCBSOSCost+
                                HCBSSECost        +
                                HCBSCMCost+
                                HCBSADHCost+
                                HCBSHHACost+
                                HCBSRespiteCost+
                                HCBSESPSCost+
                                HCBSPVSCost)*365/SUM(NbrOfEnrolledDays)  AS HCBSWaiver,
                                /* should be zero as waiver recipients are an excluded population */
    SUM(    MedHIPPMCOCost+HospEncounterAddOnPayment)*365/SUM(NbrOfEnrolledDays)  AS MCOCostPMPY,
        /* should be zero as MCO enrollees are excluded */
    SUM(    PCCMCost)*365/SUM(NbrOfEnrolledDays)  AS PCCMCapCostPMPY,
    SUM(PhysSurgRegCost+
                                OutPatientCost+
                                ClinicServicesCost+
                                FQHCCost+
                                FqhcRhcMHCost+
                                RHCCost+
                                LabRadiologyCost+
                                OtherServicesCost  +
                                NonERMedTransCost+
                                TCMCost+
                                DentalServicesCost+
                                PDDECost+
                                OtherPracServCost+
                                PvtDutyNursingCost+
                                SchoolBasedCost+
                                NursesCost+
                                SHLCost+
                                PhysicalTherapyCost+
                                OccTherapyCost+
                                EPSDTCost+
```

```
                                    RehabOtherCost+
                                    SterlCost+
                                    AbortionCost+
                                    HomeHealthCost+
                                    AdminCost+
                                    CoinsurDeductCost+
                                    PHPCost )*365/SUM(NbrOfEnrolledDays)  AS OtherCostPMPY
FROM ACERecipients11
WHERE MCOInd=0  /* not in MCO anytime during year */
GROUP BY 1,2,3
ORDER BY 1,3
;
 /* IMPORTANT:  Newborns are enrolled on average 1/2 of the calendar year and their costs are
  almost entirely in the first 6 months of the year.  The PMPY for a zero-year old as shown in this
  output is therefore essentially double the first year of life cost. */
```