RESOURCE AND PATIENT MANAGEMENT SYSTEM

Diabetes Management System

(BDM)

Diabetes Management System Supplement

Version 2.0 Patch 6
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Office of Information Technology (OIT)
Division of Information Resource Management
Albuquerque, New Mexico

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Preface

The purpose of this guide is to provide Diabetes Program staff with an overview of changes to the Diabetes Management System introduced in Patch 6. In addition, instructions are provided to run the electronic version of the 2013 Diabetes Audit, which is included in this patch.

Note:	Resource and Patient Management System software, including the Diabetes Management System, is subject to periodic updates based on Indian Health Service Diabetes Standards of Care. This manual provides documentation for the 2013 Diabetes Audit using the standards of care posted in December 2012.

1.0 Introduction

Patch 6 to the Diabetes Management System v2.0 contains several changes, as well as those made to the 2013 Diabetes Audit. The changes are summarized below.

1. Overview of changes for the 2013 Diabetes Audit

   a. Deletions

      - Tribal enrollment number is no longer being collected.
      - ECG (EKG) as an audit element has been removed from both the individual and cumulative audit.
      - Serum Creatinine has been removed from the cumulative audit. Instead estimated GFR (eGFR) ranges are used.
      - Refusals have been removed on both the individual and cumulative audit for all data elements except for immunizations.

   b. Changes

      - The "Incretin mimetic" and "GLP-1 analog" choices under DM Therapy have been combined into a single drug category called "GLP-1 meds".
      - Bydureon (exenatide extended-release) has been added within the "GLP-1 meds" group.
      - The Audit Report section on DM Therapy contains information on the number of diabetes meds the audited individuals are taking (one, two, three, or four or more meds), which includes both oral and injectable drugs.
      - The use of antiplatelet therapy is now measured only for patients with known cardiovascular disease instead of the general populations of males over 50 and females over 60.
      - On the cumulative audit, separate HDL cholesterol ranges are displayed for males and females.
      - On the Diabetes Audit Menu (DA) all Diabetes Program Audit menus have been removed prior to 2007. If a need exists to run an audit using the logic for audit years prior to 2007, those menus are still accessible and may be restored by IT staff with access to Menu Management.

   c. Additions

      - A new measure for Cardiovascular Disease has been added.

- Non-HDL Cholesterol has been added as an audit item. If not recorded as a value it is calculated from the last recorded HDL Cholesterol value obtained during the audit period subtracted from the last total Cholesterol value during the audit period.
- Estimated GFR is divided into valued categories instead of just indicating whether the test was done.
- A pilot element has been added to identify all audited records that have a HbA1c less than (<) 8.0, LDL cholesterol less than (<) 100, and mean BP less than (<) 140/ less than (<) 90.
- A second pilot element has been added to the cumulative audit to identify all audited records with an Estimated GFR which also have a quantitative urine protein test.

d. Significant changes have been made to the logic used for measuring some audit items. Audit Logic may be displayed using the Display Audit Logic (DAL) option under the Diabetes Audit QA Menu. The logic used for the 2013 audit is included in Appendix A: of this document.

2. The Diabetes Patient Care Supplement

   a. CVD Diagnosed has been added. A diagnosis of CVD on the problem list or at least two diagnoses of CVD as purpose of visit will trigger this display.

   b. Non-HDL Cholesterol has been added to the Laboratory Results section.

3. Other changes

   A new report has been added to the Reports Menu to identify patients with a positive TB test without documentation of completing treatment.

2.0 Preparing for the Audit

There are two important steps when preparing for an electronic audit in RPMS:

- Ensure that patients who will be audited are actively receiving care at the healthcare facility.
- Review and update taxonomies of medications, health factors, patient-education topics, and laboratory tests.

2.1 Guidelines for Selecting Patients

The Diabetes Program has provided the following guidelines for selecting patients for the 2013 Diabetes Audit.

Include patients who:

- Attend regular clinics or diabetes clinics.
- Sometimes refuse care or have special motivational problems (e.g., alcoholism).
- Are not currently attending clinic, but it is not known if they have moved or have found another source of care.

Exclude patients who:

- Have not had at least one primary care visit during the past 12 months. For the purposes of the audit, this includes walk-in clinic but does not dental, eye care, patient education, surgery clinics, or other non-primary clinics.
- Receive primarily referral or contract care.
- Have arranged other physician care outside your facility.
- Receive their primary care at another IHS or Tribal health facility
- Live in a jail, and receive their care at that facility
- Live in a nursing home, and receive their care at that facility.
- Attend an off-site dialysis unit and receive the majority of their care at that facility.
- Have gestational diabetes
- Have pre diabetes (impaired fasting glucose (IFG) or impaired glucose tolerance (IGT) only).
- Have moved - permanently or temporarily (should be documented).
- You are unable to contact a patient, defined as at least 3 tries in 12 months (should be documented in the medical record).
- Have died.

Patients who should be included in the 2012 Diabetes Audit need to meet two criteria:

- They must be active (have had at least one visit to a primary care clinic within the audit year).
- They must have Type 1 or Type 2 Diabetes.

Keep in mind that unless your diabetes register is constantly updated, some of the patients in an "Active" status may not qualify to be included in the audit. Those patients should be identified and should be excluded from the audit.

2.2 Using the Diabetes Register for the 2013 Diabetes Audit

One may use the Diabetes Register for the 2013 audit excluding patients who do not meet the audit criteria or you may create a subset of the Diabetes register including only those patients who do meet the audit criteria.

To use patients in the Diabetes Register for the audit, there are several reports that can be run to identify patients currently classified as active but who do not meet the audit criteria.

- Section 2.2.1 shows an option to identify patients in the Register who have a Register Diagnosis of Impaired Glucose Tolerance (IGT) or Gestational Diabetes Mellitus (GDM).
- Section 2.2.2 shows a Q-Man search that can identify patients who have not had a primary care visit during the audit year and therefore do not meet audit criteria of being an active patient.
- .When patients who do not meet the definition of active with a diagnosis of Type 1 or Type 2 Diabetes, have been identified, their status may be changed by using the option to Edit Register Data under Patient Management in the Diabetes Management System. Either the traditional RPMS Patient Management option may be used or Patient Management in the Visual DMS may be used. See Section 2.2.3 for changing the status of a Registered Patient.

Note:	When running reports, note that the IHS Division of Diabetes requires that the 2013 audit be submitted be for the calendar year ending December 31, 2012. Reports identifying patients with an active status should be run for a time frame between 1/1/2012 and 12/31/2012.

2.2.1 Identifying IHS Diabetes Register Patients with GDM or IGT

The IHS Diabetes Register allows entry of GDM and IGT as Register diagnoses. It has been recommended for a number of years that the IHS Diabetes Register include only patients with a diagnosis of Type 1 or Type 2 Diabetes. Patients with GDM and IGT should be followed via inclusion in another register. The Q-Man report in Figure 2-1 will only work if the patients in the register have been given a Register Diagnosis. In this dialogue, a search is made for patients on the register with a Register Diagnosis of Gestational Diabetes (GDM). The same script may be used to find patients on the Register who have a Register Diagnosis of Impaired Glucose Tolerance (IGT).

```
Q-MAN OPTIONS -> SEARCH PCC Database (dialogue interface)
What is the subject of your search? LIVING PATIENTS // REGISTER <Enter>
REGISTER

Which CMS REGISTER: IHS DIABETES <Enter>

Register being checked to update status of deceased patients

Select the Patient Status for this report
     1   Active
     2   Inactive
     3   Transient
     4   Unreviewed
     5   Deceased
     6   Non-IHS
     7   Lost to Follow-up
     8   All Register Patients

Which Status(es): (1-8): 1//<Enter>

Select the Diabetes Register Diagnosis for this report

  Select one of the following:
1      Type 1
2      Type 2
3      Type 1 & Type 2
4      Gestational DM
5      Impaired Glucose Tolerance
6      All Diagnoses

   Which Diagnosis: All Diagnoses// 4 <Enter> Gestational DM
```

Figure 2-1: Q-Man search to identify patients with Register Diagnosis of GDM

Figure 2-2 shows the Q-Man output options and list of patients.

```
                ***** Q-MAN OUTPUT OPTIONS *****
       Select one of the following:
       1   DISPLAY results on the screen
       2   PRINT results on paper
       3   COUNT 'hits'
       4   STORE results of a search in a FM search template
       5   SAVE search logic for future use
       6   R-MAN special report generator
```

```
       9   HELP
       0   EXIT
  Your choice: DISPLAY// 1 <Enter> DISPLAY results on the screen
   ...EXCUSE ME, LET ME PUT YOU ON 'HOLD' FOR A SECOND...


PATIENTS     CMI*DEV
         NUMBER
-------------------------------------------------------------------

MOUSE,MINNIE W* 29693
Total: 1
```

Figure 2-2: Report results

> **Note**: A patient whose name is marked with an asterisk (*) may have an alias.

When both reports have been run and you have lists of patients who are on the Diabetes Register with a diagnosis of GDM or IGT, you may use the Edit Register Data under Patient Management in the Diabetes Management System to change the status of these patients to Unreviewed prior to running the audit (see Section 2.2.3).

2.2.2 Identifying Patients in the IHS Diabetes Register Who May Not be Active

A simple Q-Man search (Figure 2-3) can be run to identify patients who have not had at least one primary care visit during the 12 months of the audit period. This may be especially useful at sites that have large numbers of patients whose Register status may not be accurate.

```
Q-MAN OPTIONS -> SEARCH PCC Database (dialogue interface)

What is the subject of your search? LIVING PATIENTS // REGISTER <Enter>
Which CMS REGISTER: IHS DIABETES <Enter>

Register being checked to update status of deceased patients.

Select the Patient Status for this report

     1   Active
     2   Inactive
     3   Transient
     4   Unreviewed
     5   Deceased
     6   Non-IHS
     7   Lost to Follow-up
     8   All Register Patients
Which Status (es): (1-8): 1// <Enter>Select the Diabetes Register Diagnosis
for this report. Select one of the following:
     1     Type 1
     2     Type 2
     3     Type 1 & Type 2
     4     Gestational Diabetes
     5     Impaired Glucose Tolerance
```

```
     6     All Diagnoses
Which Register Diagnosis: All Diagnoses// <Enter>
There are 831 register patients for the combination selected.
```

```
Attribute of IHS DIABETES REGISTER: VISIT

SUBQUERY: Analysis of multiple VISITS

First condition of "VISIT": CLINIC <Enter>

Enter CLINIC: [BGP PRIMARY CARE CLINICS <Enter> BGP PRIMARY CARE CLINICS]

Members of BGP PRIMARY CARE CLINICS Taxonomy =>

  GENERAL
  DIABETIC
  INTERNAL MEDICINE
  PEDIATRIC
  WELL CHILD
  FAMILY PRACTICE

Enter ANOTHER CLINIC: <-- You may wish to include Walk In or other clinics
you consider to be primary care clinics. The taxonomy BGP Primary Care
Clinics are used for GPRA reports and do not include these.

The following have been selected =>

     GENERAL
     DIABETIC
     INTERNAL MEDICINE
     PEDIATRIC
     WELL CHILD
     FAMILY PRACTICE

Want to save this CLINIC group for future use? No// <Enter>
Next condition of "VISIT": DURING THE PERIOD <Enter>
Exact starting date: 1/1/12 <Enter> (JAN 01, 2011)
Exact ending date: 12/31/12 <Enter> (DEC 31, 2011)

    Subject of subquery: VISIT
    CLINIC (GENERAL/DIABETIC...)
    BETWEEN JAN 1,2012 and DEC 31,2012@23:59:59

Next condition of "VISIT": NULL <Enter>

Computing Search Efficiency Rating

 Subject of search: PATIENTS
   MEMBER OF 'IHS DIABETES REGISTER-3500' COHORT
    Subject of subquery: VISIT
    CLINIC (GENERAL/DIABETIC...)
    BETWEEN JAN 1,2012 and DEC 31,2012@23:59:59
    'NULL' (None meet criteria)

Attribute of IHS DIABETES REGISTER: <Enter>

             ***** Q-MAN OUTPUT OPTIONS *****

  Select one of the following:

     1     DISPLAY results on the screen
```

```
     2     PRINT results on paper
     3     COUNT 'hits'
     4     STORE results of a search in a FM search template
     5     SAVE search logic for future use
     6     R-MAN special report generator
     7     DELIMITED file via screen capture
     9     HELP
     0     EXIT

Your choice: DISPLAY//<Enter> results on the screen
  ...EXCUSE ME, LET ME PUT YOU ON 'HOLD' FOR A SECOND...

PATIENTS     CIM-IH VISIT NUMBER
------------------------------------------------------------------------------

LINCOLN,DANA   100005 -
LE BLEU,EDITH*  100011 -
SCHMILLER,MALLO* 100013 -
BURR,NANETTE   100017 -
MWANGI,MAUDE*  100026 -
CONNERS,CHERYL  100028 -
MURRAY,MELANIE  100030 -
RITTER,CECELIA  100032 -
MENDELSON,JAMIE 100034 -
REDGREEN,JACK  100064 -
LE BLEU,DUDLEY  100075 -
CEPEDA,ROSS   100081 -
REEVES,ELLIE*  100091 -
```

Figure 2-3: Q-Man search for Active Register patients with no visit during audit year

2.2.3 Update Patient Register Status

Update the patient's Register Status in the Patient Management field (Figure 2-4) in the Diabetes Management System using the menu path shown in Figure 2-4 or Visual DMS.

```
DIABETES MANAGEMENT SYSTEM
PM   Patient Management
1 Edit Register Data
```

Figure 2-4: Menu path to update using the Patient Management option

Select 1 from the Patient Management Screen to select the option to Edit Register Data.

```
Register Data               Feb 18, 2013 09:06:49        Page:   of 1
       PATIENT: THOMS,DAISY                                 AGE: 55
       ADDRESS: 50 OAK STREET,ADAIR,OK,74330                DOB: 11/11/1957
         PHONE: 555-555-0093                                HRN: 100052
PRIM CARE PROV: STUDENT,FOURTEEN                            RES: ADAIR

         STATUS: ACTIVE

WHERE FOLLOWED:
 REGISTER PROV:                         CASE MGR:
       CONTACT: Woman's shelter 567-5309
```

```
    ENTRY DATE: JUL 12,2011                       LAST EDITED: FEB 18,2013
     DIAGNOSIS: TYPE 2                             ONSET DATE: MAR 1,1999
 COMPLICATIONS: CARDIOVASCULAR DISEASE             ONSET DATE: DEC 14,2002



          - Previous Screen   Q Quit   ?? for More Actions
1  Edit Register Data     8  DIABETES Medications   15 DIABETES Lab Profile
2  Complications          9  Review Appointments    17 Pat. Face Sheet
3  Comments               10 Audit Status           19 Local Option Entry
4  Health Summary         11 Flow Sheet             20 Diagnosis
5  Last Visit             12 Case Summary           21 Print Letter
6  Other PCC Visit        13 Edit Problem List
7  Medications            14 Lab Profile
Select Action: Quit// 1
```

Figure 2-5: Selecting 1 Edit Register Data to change Register Status

Enter the desired **Status** and press the down arrow until the cursor displays in the Command line as shown in Figure 2-6.

4. Type **Save** in the **Command** field and press Enter.
5. Type **Exit** in the **Command** field and press Enter to record the status update. The window will close.

```
Register Data                Feb 18, 2013 09:06:49        Page:    1 of    1
ÚÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ
³       PATIENT: THOMS,DAISY                                AGE: 55           ³
³       ADDRESS: 50 OAK STREET,ADAIR,OK,74330               DOB: 11/11/1957   ³
³       PHOME..: 555-555-009                                HRN: 100052       ³
³        STATUS: UNREVIEWED                                 RES: 3681         ³
³       CASE MANAGER:                                                         ³
³ REGISTER PROV:                                                              ³
³WHERE FOLLOWED:                                                              ³
³       CONTACT: Woman's shelter 567-5309                                     ³
³    ENTRY DATE: JUL 12,2011                 LAST EDITED: FEB 18,2013         ³
³   LAST REVIEW: JUL 12,2011                 NEXT REVIEW: OCT 12,2011         ³
³                                                                             ³
³DM AUDIT LOCAL OPTION CODE:                                                  ³
³DM AUDIT LOCAL OPTION TEXT:                                                  ³
³                                                                             ³
ÀÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ
_____________________________________________________________________________
Exit     Save     Refresh

Enter a command or '^' followed by a caption to jump to a specific field.


COMMAND: S to save followed by E to exit     Press <PF1>H for help    Insert
```

Figure 2-6: Changing Register Status from Active to Unreviewed

> **Note**: There are no official definitions of Register Status although recommendations for classifying Register patients may be provided by the area diabetes program staff. The definitions below may be used a guideline.

- **A** - Active patients who receive their primary health care at a facility and who have had care at a facility within the last year.
- **I** - Inactive patients who have not been seen within the last two years.
- **T** - Transient patients seen at the clinic within the past year but who do not receive their primary diabetic care at a facility, but only visit the clinic periodically for medications, or other services.
- **U** - Unreviewed patients on the Register who have not had a chart audit and medical review.
- **D** - Deceased patients

> **Note:** This status will be automatically updated if a date of death is recorded in the patient registration file. If a patient's status is changed to deceased in the Register, the patient registration file is not automatically updated.

- **N** - Non-IHS patients who receive their diabetic care at a facility.
- **L** - Lost to follow-up patients seen at a facility within the past two years but who have not had a visit in the last year.
- **N** - Noncompliant patients with repeated documented refusals of recommended services.

2.3 Creating a Template of Patients for the 2013 Diabetes Audit

If the IHS Diabetes Register is not current or has not been routinely used for management of patients with diabetes, it may be advantageous to use a Q-Man search to identify patients with diabetes who have had a visit to a primary care clinic during the audit period. The template (Figure 2-7) created from this query can be used to run the 2013 Diabetes Audit. One may run the Q-Man search using either the general patient population (Section 2.3.1) or the Diabetes Register (Section 2.3.2).

2.3.1 Creating a template using the general population

The Q-Man search in Figure 2-7 shows the creation of a template looking for patients with at least one diagnosis of diabetes during the audit period and who have had at least one visit to a primary care clinic during the audit period.

```
What is the subject of your search? LIVING PATIENTS // <Enter> LIVING
PATIENTS <-- If you have a Diabetes Register, you may choose to begin with
that register.

Subject of search: PATIENTS ALIVE TODAY

Attribute of LIVING PATIENTS: VISIT <Enter>

SUBQUERY: Analysis of multiple VISITS

First condition of "VISIT": CLINIC <Enter>

Enter CLINIC: [BGP PRIMARY CARE CLINICS BGP PRIMARY CARE CLINICS]

Members of BGP PRIMARY CARE CLINICS Taxonomy =>

GENERAL
DIABETIC
INTERNAL MEDICINE
PEDIATRIC
WELL CHILD
FAMILY PRACTICE

Enter ANOTHER CLINIC: <--You may add additional clinics like WALK IN,
WOMENS HEALTH

The following have been selected =>

     GENERAL
     DIABETIC
     INTERNAL MEDICINE
     PEDIATRIC
     WELL CHILD
     FAMILY PRACTICE

Want to save this CLINIC group for future use? No// <Enter> (No)
Next condition of "VISIT": DURING THE PERIOD
Exact starting date: 1/1/2012 (JAN 01, 2012)
Exact ending date: 12/31/2012 (DEC 31, 2012)

     Subject of subquery: VISIT
     CLINIC (GENERAL/DIABETIC...)
     BETWEEN JAN 1,2012 and DEC 31,2012@23:59:59

Next condition of "VISIT": DX <Enter>
   1  DX
   2  DX PROCEDURE
CHOOSE 1-2: 1 <Enter>

Enter DX: 250.00-250.93
  250.00   DIABETES II/UNSPEC NOT UNCONTR
     ...OK? Yes// <Enter> (Yes)
 250.93   DIAB W/COMP I/JUV UNCONT   COMPLICATION/COMORBIDITY
     ...OK? Yes// <Enter> (Yes)

Codes in this range =>

250.00  DIABETES II/UNSPEC NOT UNCONTR
250.01  DIABETES I/JUV NOT UNCONTRL
250.02  DIABETES TYPE II/UNSPEC UNCON
250.03  DIABETES I/JUV UNCONTRL
```

```
250.10  DIAB W/KET TYPEII/UNSP CONT
250.11  DIAB W/KET TYPI JUV/NOT UNCONT
250.12  DIAB W/KET TYPII/UNSPC UNCONT
250.13  DIAB W/KET TYPEI JUV UNCONT
250.20  DIAB W/HYPER TYPII/UNSP CONT
250.21  DIAB W/HYPR TYPI/JUV CONT
250.22  DIAB W/HYPR TYPII/UNSP UNCONT
250.23  DIAB W/HYPR TYPI/JUV UNCONT
250.30  DIAB W/OTH COMA II/UNSPE CONT
250.31  DIAB W/OTH COMA TYPI/JUV CONT
250.32  DIAB W/OTH COMA TYII/UNSP UNCT
250.33  DIAB W/OTH COMA TYI/JUV UNCONT
250.40  DIAB W/RENAL TYII/UNSPEC CONT
250.41  DIAB W/RENAL TYI/JUV CONT
250.42  DIAB W/RENAL II/UNSPEC UNCONT
250.43  DIAB W/RENAL I/JUV UNCONT
250.50  DIAB W/OPHTH II/UNSPEC CONT
250.51  DIAB W/OPHTH I/JUV CONT
250.52  DIAB W/OPHTH II/UNSPEC UNCONT
250.53  DIAB W/OPHTH I/JUV UNCONT
250.60  DIAB W/NEUR II/UNSPEC CONT
250.61  DIAB W/NEUR I/JUV CONT
250.62  DIAB W/NEUR II/UNSPEC UNCONT
250.63  DIAB W/NEUR I/JUV UNCONT
250.70  DIAB W/CIRC DISOR II/UNSP CONT
250.71  DIAB W/CIRC DISOR I/JUV CONT
250.72  DIAB W/CIRC DISOR II/UNSP UNCN
250.73  DIAB W/CIRC DISOR I/JUV CONT
250.80  DIAB W/OTHER II/UNSPEC CONT
250.81  DIAB W/OTHER I/JUV CONT
250.82  DIAB W/OTHER II/UNSPEC UNCONT
250.83  DIAB W/OTHER I/JUV UNCONT
250.90  DIAB W/COMP II/UNSPEC CONT
250.91  DIAB W/COMP I/JUV CONT
250.92  DIAB W/COMP II/UNSPEC UNCONT
250.93  DIAB W/COMP I/JUV UNCONT

Code Range(s) Selected So Far =>

1) 250.00 - 250.93

Enter ANOTHER DX:

Want to save this DX group for future use? No// <Enter> (No)
     Subject of subquery: VISIT
     CLINIC (GENERAL/DIABETIC...)
     BETWEEN JAN 1,2012 and DEC 31,2012@23:59:59
     POV (250.01/250.11...)

Next condition of "VISIT": LOCATION OF ENCOUNTER <Enter> <- This condition
only needs to be used if you are part of a multidivisional database.

Enter ENCOUNTER LOCATION: CMI*DEV <Enter>   OKLAHOMA    TEST FACILITY
 01              OK      102345
Enter ANOTHER ENCOUNTER LOCATION:

The following have been selected =>

   CMI*DEV

     Subject of subquery: VISIT
```

```
     CLINIC (GENERAL/DIABETIC...)
     BETWEEN JAN 1,2012 and DEC 31,2012@23:59:59
     POV (250.01/250.11...)
     LOCATION OF ENCOUNTER (CMI*DEV)

Next condition of "VISIT": <Enter>

Computing Search Efficiency Rating

  Subject of search: PATIENTS
   ALIVE TODAY
     Subject of subquery: VISIT
     CLINIC (GENERAL/DIABETIC...)
     BETWEEN JAN 1,2012 and DEC 31,2012@23:59:59
     POV (250.01/250.11...)
     LOCATION OF ENCOUNTER (CMI*DEV)

             ***** Q-MAN OUTPUT OPTIONS *****

   Select one of the following:

     1     DISPLAY results on the screen
     2     PRINT results on paper
     3     COUNT 'hits'
     4     STORE results of a search in a FM search template
     5     SAVE search logic for future use
     6     R-MAN special report generator
     9     HELP
     0     EXIT

Your choice: DISPLAY// 4 <Enter> STORE results of a search in a FM search
template

Enter the name of the SEARCH TEMPLATE: PTS FOR DM AUDIT 13 <Enter>
Are you adding 'PTS FOR DM AUDIT 13' as
a new SORT TEMPLATE? No// Y <Enter> (Yes)
DESCRIPTION:
No existing text
Edit? NO//<Enter>

Want to run this task in background? No// <Enter> (No)

PATIENTS     CMI*DEV
(Alive)     NUMBER
------------------------------------------------------------------------

ABCDEFG,ABCD*   66666 +
ABDCDEL,ACDE*   77777 +
ABCDEM,ABCDM    88888 +
ABCDES,ABDCS    33333 +
```

Figure 2-7: Example of Q-Man search to identify patients with diabetes and at least one primary care visit during the audit period

> **Note**: FileMan users: This template will be attached to IHS's Patient file.

2.3.2 Creating a template of Register patients for the audit

If you already have a Diabetes Register but have not had time to maintain Register diagnoses and patient status, it may be easier to create a template of active patients on your register who have had at least one visit to a primary clinic during the audit year with a diagnosis of diabetes. The Q-Man search demonstrating how to create that template is shown in Figure 2-8.

```
What is the subject of your search?  LIVING PATIENTS // REGISTER  REGISTER
     REGISTER

Which CMS REGISTER:    IHS DIABETES

Register being checked to update status of deceased patients.

Select the Patient Status for this report

          1     Active
          2     Inactive
          3     Transient
          4     Unreviewed
          5     Deceased
          6     Non-IHS
          7     Lost to Follow-up
          8     All Register Patients

Which Status(es):  (1-8): 1// 8

Select the Diabetes Register Diagnosis for this report

     Select one of the following:

          1         Type 1
          2         Type 2
          3         Type 1 & Type 2
          4         Gestational DM
          5         Impaired Glucose Tolerance
          6         All Diagnoses

Which Register Diagnosis: All Diagnoses// 6  All Diagnoses.....................
................................................

There are 74 register patients for the combination selected.

Attribute of IHS DIABETES REGISTER: ALIVE
Alive at least until exactly what date: TODAY//12/31/12  (DEC 31, 2012)
Computing Search Efficiency Rating.....................................
..........


   Subject of search: PATIENTS
      MEMBER OF 'IHS DIABETES REGISTER-4104' COHORT
      ALIVE AS OF DEC 31,2012


Attribute of IHS DIABETES REGISTER: VISIT

SUBQUERY: Analysis of multiple VISITS
```

```
First condition of "VISIT": CLINIC              VISIT ATTRIBUTES

Enter CLINIC: [   BGP PRIMARY CARE CLINICS     BGP PRIMARY CARE CLINICS]

Members of   Taxonomy =>

GENERAL
DIABETIC
INTERNAL MEDICINE
PEDIATRIC
WELL CHILD
FAMILY PRACTICE


Enter ANOTHER CLINIC:

The following have been selected =>

     GENERAL
     DIABETIC
     INTERNAL MEDICINE
     PEDIATRIC
     WELL CHILD
     FAMILY PRACTICE



Want to save this CLINIC group for future use? No//   (No)

Next condition of "VISIT": DURING THE PERIOD              VISIT ATTRIBUTES

Exact starting date: 1/1/2012  (JAN 01, 2012)
Exact ending date: 12/31/2012  (DEC 31, 2012)


         Subject of subquery: VISIT
         CLINIC (GENERAL/DIABETIC...)
         BETWEEN BETWEEN JAN 1,2012 and DEC 31,2012@23:59:59

Next condition of "VISIT": DX
     1   DX            VISIT ATTRIBUTES
     2   DX PROCEDURE            VISIT ATTRIBUTES
CHOOSE 1-2: 1              VISIT ATTRIBUTES

Enter DX: 250.00-250.93
       DIABETES II/UNSPEC NOT UNCONTR
         ...OK? Yes//   (Yes)

  250.93     DIAB W/COMP I/JUV UNCONT     COMPLICATION/COMORBIDITY
         ...OK? Yes//   (Yes)


Codes in this range =>

250.00   DIABETES II/UNSPEC NOT UNCONTR
250.01   DIABETES I/JUV NOT UNCONTRL
250.02   DIABETES TYPE II/UNSPEC UNCON
250.03   DIABETES I/JUV UNCONTRL
250.10   DIAB W/KET TYPEII/UNSP CONT
250.11   DIAB W/KET TYPI JUV/NOT UNCONT
```

```
250.12   DIAB W/KET TYPII/UNSPC UNCONT
250.13   DIAB W/KET TYPEI JUV UNCONT
250.20   DIAB W/HYPER TYPII/UNSP CONT
250.21   DIAB W/HYPR TYPI/JUV CONT
250.22   DIAB W/HYPR TYPII/UNSP UNCONT
250.23   DIAB W/HYPR TYPI/JUV UNCONT
250.30   DIAB W/OTH COMA II/UNSPE CONT
250.31   DIAB W/OTH COMA TYPI/JUV CONT
250.32   DIAB W/OTH COMA TYII/UNSP UNCT
250.33   DIAB W/OTH COMA TYI/JUV UNCONT
250.40   DIAB W/RENAL TYII/UNSPEC CONT
250.41   DIAB W/RENAL TYI/JUV CONT
250.42   DIAB W/RENAL II/UNSPEC UNCONT
<>
250.43   DIAB W/RENAL I/JUV UNCONT
250.50   DIAB W/OPHTH II/UNSPEC CONT
250.51   DIAB W/OPHTH I/JUV CONT
250.52   DIAB W/OPHTH II/UNSPEC UNCONT
250.53   DIAB W/OPHTH I/JUV UNCONT
250.60   DIAB W/NEUR II/UNSPEC CONT
250.61   DIAB W/NEUR I/JUV CONT
250.62   DIAB W/NEUR II/UNSPEC UNCONT
250.63   DIAB W/NEUR I/JUV UNCONT
250.70   DIAB W/CIRC DISOR II/UNSP CONT
250.71   DIAB W/CIRC DISOR I/JUV CONT
250.72   DIAB W/CIRC DISOR II/UNSP UNCN
250.73   DIAB W/CIRC DISOR I/JUV CONT
250.80   DIAB W/OTHER II/UNSPEC CONT
250.81   DIAB W/OTHER I/JUV CONT
250.82   DIAB W/OTHER II/UNSPEC UNCONT
250.83   DIAB W/OTHER I/JUV UNCONT
250.90   DIAB W/COMP II/UNSPEC CONT
250.91   DIAB W/COMP I/JUV CONT
250.92   DIAB W/COMP II/UNSPEC UNCONT
<>
250.93   DIAB W/COMP I/JUV UNCONT

Press return to continue


Code Range(s) Selected So Far =>

1)  250.00 - 250.93

Enter ANOTHER DX:

Want to save this DX group for future use? No//   (No)


         Subject of subquery: VISIT
         CLINIC (GENERAL/DIABETIC...)
         BETWEEN BETWEEN JAN 1,2012 and DEC 31,2012@23:59:59
         POV (250.01/250.11...)

Next condition of "VISIT":

Computing Search Efficiency Rating....


   Subject of search: PATIENTS
      MEMBER OF 'IHS DIABETES REGISTER-4104' COHORT
```

```
      ALIVE AS OF DEC 31,2012
         Subject of subquery: VISIT
         CLINIC (GENERAL/DIABETIC...)
         BETWEEN BETWEEN JAN 1,2012 and DEC 31,2012@23:59:59
         POV (250.01/250.11...)


                     *****  Q-MAN OUTPUT OPTIONS  *****

     Select one of the following:

          1         DISPLAY results on the screen
          2         PRINT results on paper
          3         COUNT 'hits'
          4         STORE results of a search in a FM search template
          5         SAVE search logic for future use
          6         R-MAN special report generator
          7         DELIMITED file via screen capture
          9         HELP
          0         EXIT


     Your choice: DISPLAY// 4  STORE results of a search in a FM search template

Fileman users please note =>
This template will be attached to IHS' PATIENT file (#9000001)



Enter the name of the SEARCH TEMPLATE: DM REGISTER AUDIT 2013
  Are you adding 'DM REGISTER AUDIT 2013' as
    a new SORT TEMPLATE? No// Y  (Yes)
DESCRIPTION:
  No existing text
  Edit? NO//

Next, you will be asked about creating your template in background...

Answer 'YES' to run in background.

To run in background means to pass the template creation job off to Taskman.
Your terminal will be released so additional RPMS work may be performed while
the template is being created.  When finished, Taskman will send you a Mailman
message indicating that the job is ready.  Then, you may use the template in
future Qman searches, PGEN, VGEN and other reports that can utilize templates.

Answer 'NO', to create the search template in foreground.

While the template is being created, data will be displayed to your screen.
When the job has finished, you will have the opportunity to go to PGEN or VGEN.
Remember ... some templates may take a very long time to finish.

Press ENTER to continue or '^' to quit:

Want to run this task in background? No//   (No)


...HMMM, I'M WORKING AS FAST AS I CAN...

Search template completed...
```

Figure 2-8: Creating a template of patients for the audit using the Diabetes Register

2.4 Updating Taxonomies

The following taxonomies (Figure 2-9) are referenced in the 2013 RPMS Diabetes Audit. The DM AUDIT NON-HDL TESTS taxonomy is the only new one for 2013. Bydureon (exenatide extended release) has been added to the GLP-1 group. And while the Incretin Mimetic and GLP-1 taxonomies have remained separate, on the audit reports, the drugs in these two taxonomies are displayed together under the category of GLP-1 Meds.

Even though the taxonomies may have been updated for the 2012 audit, they must be reviewed and updated again before running the 2013 audit. This is due to new medications being added to the pharmacy formulary, new lab tests offered, and new education topics provided.

```
TAXONOMIES TO SUPPORT 2013 DIABETES AUDIT REPORTING
* Update Taxonomies

1)  BGP CMS SMOKING CESSATION MEDS   DRUG
2)  BGP GPRA ESTIMATED GFR TAX       LABORATORY TEST
3)  DM AUDIT 24HR URINE PROTEIN      LABORATORY TEST
4)  DM AUDIT ACARBOSE DRUGS          DRUG
5)  DM AUDIT ACE INHIBITORS          DRUG
6)  DM AUDIT AMYLIN ANALOGUES        DRUG
7)  DM AUDIT ANTI-PLATELET DRUGS     DRUG
8)  DM AUDIT ASPIRIN DRUGS           DRUG
9)  DM AUDIT BILE ACID DRUGS         DRUG
10)  DM AUDIT BROMOCRIPTINE DRUGS    DRUG
11)  DM AUDIT CESSATION HLTH FACTOR  HEALTH FACTORS
12)  DM AUDIT CHOLESTEROL TAX        LABORATORY TEST
13)  DM AUDIT COLESEVELAM DRUGS      DRUG
14)  DM AUDIT CREATININE TAX         LABORATORY TEST
15)  DM AUDIT DIET EDUC TOPICS       EDUCATION TOPICS
16)  DM AUDIT DPP4 INHIBITOR DRUGS   DRUG
17)  DM AUDIT EXERCISE EDUC TOPICS   EDUCATION TOPICS
18)  DM AUDIT EZETIMIBE DRUGS        DRUG
19)  DM AUDIT FIBRATE DRUGS          DRUG
20)  DM AUDIT FISH OIL DRUGS         DRUG
21)  DM AUDIT GLITAZONE DRUGS        DRUG
22)  DM AUDIT GLP-1 ANALOG DRUGS     DRUG
23)  DM AUDIT HDL TAX                LABORATORY TEST
24)  DM AUDIT HGB A1C TAX            LABORATORY TEST
25)  DM AUDIT INCRETIN MIMETIC       DRUG
26)  DM AUDIT INSULIN DRUGS          DRUG
27)  DM AUDIT LDL CHOLESTEROL TAX    LABORATORY TEST
28)  DM AUDIT LOVAZA DRUGS           DRUG
29)  DM AUDIT METFORMIN DRUGS        DRUG
30)  DM AUDIT MICROALBUMINURIA TAX   LABORATORY TEST
31)  DM AUDIT NIACIN DRUGS           DRUG
32)  DM AUDIT NON-HDL TESTS          LABORATORY TEST
33)  DM AUDIT OTHER EDUC TOPICS      EDUCATION TOPICS
34)  DM AUDIT P/C RATIO TAX          LABORATORY TEST
35)  DM AUDIT QUANT UACR             LABORATORY TEST
36)  DM AUDIT SEMI QUANT UACR        LABORATORY TEST
37)  DM AUDIT SMOKING CESS EDUC      EDUCATION TOPICS
```

```
38)  DM AUDIT STATIN DRUGS           DRUG
39)  DM AUDIT SULFONYLUREA DRUGS     DRUG
40)  DM AUDIT SULFONYLUREA-LIKE      DRUG
41)  DM AUDIT TB LAB TESTS           LABORATORY TEST
42)  DM AUDIT TRIGLYCERIDE TAX       LABORATORY TEST
43)  DM AUDIT URINALYSIS TAX         LABORATORY TEST
44)  DM AUDIT URINE PROTEIN TAX      LABORATORY TEST
```

Figure 2-9: Audit 2013 User-Populated taxonomies

The taxonomies may be reviewed and updated with the TU13 option under the DM13 menu of the Diabetes Audit or the corresponding Visual DMS Update Taxonomy option.

When updating lab test taxonomies, you will be see a warning displayed if you try to add a test panel to a laboratory test taxonomy that should only include individual tests. This warning is displayed because the audit logic cannot correctly display hemoglobin A1C, lipid breakdown, or estimated GFR according to value categories if panels are included in the taxonomy. Panel tests have no values associated with them; only the tests within the panels have values.

Some taxonomies may not have any members. For example, if quantitative A/C Ratio testing is performed at a facility or by the reference laboratory, it is unlikely that you would have any entries in the DM AUDIT SEMI QUANT UACR taxonomy. If only semi-quantitative A/C Ratio testing is performed at a facility (results reported as less than (<) 30, 30-300, or greater than (>) 300), be sure the A/C Ratio test is not in the DM AUDIT QUANT UACR taxonomy, as that taxonomy should only be used for truly quantitative A/C Ratio tests (results reported as a numeric value, e.g. 15, 28, 5).

Listed below are taxonomies that must be reviewed carefully in light of software changes or changes introduced in the 2013 Diabetes Audit. Possible members of the taxonomies are listed, but are by no means to be considered comprehensive.

2.4.1 Drug Taxonomies

The following guidelines (Table 2-1) are provided for populating drug taxonomies. New drugs may be available each year, so an updated list is provided for each of the drug taxonomies below. You may wish to review the lists of drugs with the pharmacist to be sure of those that are available at a facility.

Table 2-1: DM Audit Drug Taxonomies

Taxonomy	Drugs
DM AUDIT SULFONYLUREA-LIKE DRUGS	Nateglinide (Starlix) Repaglinide (Prandin) Repaglinide and Metformin (PrandiMet)

Taxonomy	Drugs
DM AUDIT FIBRATE DRUGS	Clofibrate (Atromid-S) Gemfibrozil (Lopid) Fenofibrate (Tricor, Lipofen, Antara, Lofibra, Triglide, Trilipix)
DM AUDIT NIACIN DRUGS	Niacin (Niacor, Niaspan, Advicor) Niacin + Simvastatin (Simcor)
DM AUDIT BILE ACID DRUGS	Colestipol (Colestid) Colesevelam (Welchol)
DM AUDIT EZETIMIBE	Ezetimibe (Zetia) Ezetimibe and Simvastatin (Vytorin)
DM AUDIT FISH OIL DRUGS	Rx or OTC Fish Oil, excluding Lovaza
DM AUDIT COLESEVELAM DRUGS	Welchol
DM AUDIT LOVAZA DRUGS	Lovaza
DM AUDIT ACE INHIBITORS	Benazepril (Lotensin) Benazepril plus (+) hydrochlorothiazide (Lotensin HCT) Benazepril plus (+) amlodipine (Lotrel) Captopril (Capoten) Captopril plus (+) hydrochlorothiazide (Capozide) Enalapril (Vasotec) Enalapril plus (+) hydrochlorothiazide (Vaseretic) Enalapril plus (+) diltiazem (Teczem) Enalapril plus (+) felodipine (Lexxel) Fosinopril (Monopril) Lisinopril (Prinivil, Zestril) Lisinopril plus (+) hydrochlorothiazide (Prinzide, Zestoretic) Moexipril (Univasc) Perindopril (Aceon) Quinapril (Accupril) Ramipril (Altace) Trandolapril (Mavik) Trandolapril plus (+) verapamil (Tarka) Also include Angiotensin II Receptor Blockers (ARB) in this Taxonomy Candesartan (Atacand) Eprosartan (Teveten) Irbsesartan (Avapro) Irbesartan plus (+) hydrochlorothizide (Avalide) Losartan (Cozaar) Losartan plus (+) hydrochlorothiazide (Cozaar) Olmesartan (Benicar) Telmisartan (Micardis) Valsartan (Diovan) Valsartan plus (+) hydrochlorothizide (Diovan/HCT)
DM AUDIT ACARBOSE DRUGS	Acarbose (Precose) Miglitol (Glyset)

Taxonomy	Drugs
DM AUDIT ASPIRIN DRUGS	Any Aspirin (ASA) or Aspirin containing product. (Verasa, Rubrasa)
DM AUDIT ANTIPLATELET THERAPY	Any non-aspirin anti-platelet product including Heparin and Warfarin (Coumadin) Cilistazol (Pletal) Clopidogrel (Plavix) Dipyridamole (Persantine) Ticlopidine (Ticlid) Aspirin plus (+) Dipyridamole (Aggrenox)
DM AUDIT INSULIN DRUGS	Any Insulin product in Drug File – Insulin, REG, NPH, Lente, Ultralente, Insulin Lispro (Humalog), Insulin Glargine (Lantus), Insulin Detemir (Levimir) Insulin Aspart (Novolog), Insulin Glulisine (Apidra), Inhalable Insulin (Exubera),Pre-Mixed Insulins (70/30, 75/25)
DM AUDIT METFORMIN DRUGS	Metformin (Glucophage, Fortamet, Glumetza, Riomet) Metformin extended release (Glucophage XR, Glumetza) Metformin and Glipizide (Metaglip) Metformin and Glyburide (Glucovance) Metformin and Rosiglitazone(Avandamet) Metformin and Pioglitazone (Actoplus met) Metformin and Sitagliptin (Janumet) Metformin and Repaglinide (PrandiMet) Metformin and Saxagliptin (Kombiglyze XR)
DM AUDIT SULFONYLUREA DRUGS	Acetohexamide (Dymelor) Chlorpropamide (Diabinese) Glimepiride (Amaryl) Glimepiride plus (+) rosiglitazone (Avandaryl) Glimepiride plus (+) pioglitazone (Duetact) Glipizide (Glucotrol) Glipizide plus (+) metformin (Metaglip) Glyburide(Diabeta,Micronase,Glynase, Glycron) Glyburide plus (+) metformin (GlucoVance) Tolazamide (Tolinase) Tolbutamide (Orinase)
DM AUDIT GLITAZONE DRUGS (aka:Thiazolidinediones)	Troglitazone (Rezulin) - RECALLED Pioglitazone (Actos) Pioglitazone and Metformin (Actoplus met) Pioglitazone and Glimeperide (Duetact) Rosiglitazone and Glimeperide (Avandaryl) Rosiglitazone (Avandia) Rosiglitazone and Metformin (Avandamet)
DM AUDIT DPP4 INHIBITOR DRUGS	Sitagliptin (Januvia,) Sitagliptin plus (+) metformin (Janumet) Saxagliptin (Onglyza) Saxagliptin plus (+) Metformin (Kombiglyze XR)
DM AMYLIN ANALOGUES	Pramlinitide (Symlin)

Taxonomy	Drugs
DM AUDIT INCRETIN MIMETICS	Exenatide (Byetta), Bydureon
DM AUDIT GLP-1 ANALOG DRUGS	Liraglutide (Victoza)
DM AUDIT BROMOCRIPTINE DRUGS	Bromocriptine 0.8 mg (Cycloset)
DM AUDIT STATIN DRUGS	Atorvastatin (Lipitor) Fluvastatin (Lescol) Lovastatin (Mevacor, Altocor, Advicor) Pravastatin (Pravachol) Rosuvastatin (Crestor) Simvastatin (Zocor) Simvastatin and Niacin (Simcor) Simvastatin and Ezetimibe (Vytorin) Atorvastatin and Amlodipine (Caduet) Pitivistatin (Livalo)

2.4.2 Education Topic Taxonomies

All three DM Audit Education topic taxonomies; DM AUDIT DIET EDUC TOPICS, DM AUDIT OTHER EDUC TOPICS, and DM AUDIT EXERCISE EDUC TOPICS, need to be reviewed and updated to ensure that any new education topics are included.

Table 2-2 provides examples of education topics that may have been used during the audit year and that should be included in the three DM Education Topic taxonomies.

Note: If custom pick lists have been created for providers in EHR, you must ensure that these are standard education topics and that the DM AUDIT taxonomy files are updated accordingly.

Table 2-2: DM Audit Education Topic Taxonomies

Taxonomy	Topics
DM AUDIT DIET EDUC TOPICS	DM-DIET 2005 DM-MEDICAL NUTRITION THERAPY DM-MEDICAL NUTRITION THERAPY 2006 DM-NUTRITION DM-NUTRITION 2006 DMC-HEALTHY EATING DMC-NUTRITION 2006 DMCN-CARBOHYDRATE COUNTING DMCN-EATING AWAY FROM HOME DMCN-EVALUATING DIETS DMCN-EXCHANGE LISTS DMCN-FOOD SHOPPING DMCN-HEALTHY COOKING DMCN-INTRODUCTION TO FOOD LABELS DMC-N-AL NUTRITION (SESSION 7: GUIDELINES FOR THE USE OF ALCOHOL) 2006 DMC-N-CC NUTRITION (SESSION 2: INTRODUCTION TO CARBOHYDRATE COUNTING) 2006 DMC-N-D NUTRITION (SESSION 8: GUIDELINES FOR CHOOSING A HEALTHY DIET) 2006 DMC-N-EA NUTRITION (SESSION 6: GUIDELINES FOR EATING AWAY FROM HOME) 2006 DMC-N-EL NUTRITION (SESSION 3: INTRODUCTION TO EXCHANGE LISTS) 2006 DMC-N-FL NUTRITION (SESSION 1: INTRODUCTION TO FOOD LABELS) 2006 DMC-N-FS NUTRITION (SESSION 4: INTRODUCTION TO FOOD SHOPPING) 2006 DMC-N-HC NUTRITION (SESSION 5: INTRODUCTION TO HEALTHY COOKING) 2006 DMC-PG-N SESSION 2: HEALTHY EATING DURING PREGNANCY 2006 May also consider including: OBS-NUTRITION OBS-NUTRITION 2006 HTN-DIET 2006 HTN-MEDICAL NUTRITION THERAPY HTN-MEDICAL NUTRITION THERAPY 2006 HTN-NUTRITION HTN-NUTRITION 2006

Taxonomy	Topics
DM AUDIT EXERCISE EDUC TOPICS	DM-EXERCISE DM-EXERCISE 2006 DMC-EXERCISE DMC-EXERCISE 2006 DMCPG-MOVING TO STAY HEALTHY DMC-PG-PA SESSION 3: MOVING TO STAY HEALTHY DURING PREGNANCY 2006 May also consider including: OBS-EXERCISE OBS-EXERCISE 2006 HTN-EXERCISE HTN-EXERCISE 2006

Taxonomy	Topics
DM AUDIT OTHER EDUC TOPICS	DM-ACANTHOSIS NIGRICANS 2005 DM-ANATOMY AND PHYSIOLOGY DM-CASE MANAGEMENT DM-COMPLICATIONS DM-COMPLICATIONS 2006 DM-CULTURAL/SPIRITUAL ASPECTS OF HEALTH DM-CULTURAL/SPIRITUAL ASPECTS OF HEALTH 2006 DM-DISEASE PROCESS DM-DISEASE PROCESS 2006 DM-EQUIPMENT DM-EQUIPMENT 2006 DM-FOLLOW UP 2006 DM-FOLLOWUP DM-FOOT CARE 2006 DM-FOOT CARE AND EXAMINATIONS DM-FOOT CARE AND EXAMINATIONS 2006 DM-HOME MANAGEMENT DM-HOME MANAGEMENT 2006 DM-INFORMATION 2006 DM-KIDNEY DISEASE DM-KIDNEY DISEASE 2006 DM-LIFESTYLE ADAPTATIONS DM-LIFESTYLE ADAPTATIONS 2006 DM-LITERATURE DM-MEDICATIONS DM-MEDICATIONS DM-MEDICATIONS 2006 DM-PAIN MANAGEMENT DM-PAIN MANAGEMENT 2006 DM-PATIENT LITERATURE 2006 DM-PERIODONTAL DISEASE DM-PREVENTION DM-PREVENTION 2006 DM-SAFETY DM-SCREENING DM-SCREENING 2006 DM-STRESS MANAGEMENT DM-STRESS MANAGEMENT 2006 DM-TESTS DM-TREATMENT DM-WOUND CARE DM-WOUND CARE 2006 DMC-ACUTE COMPLICATIONS

Taxonomy	Topics
DM AUDIT OTHER EDUC TOPICS	DMC-ACUTE COMPLICATIONS 2006 DMC-BEHAVIORAL GOALS DMC-BEHAVIORAL GOALS (MAKING HEALTHY CHANGES) 2006 DMC-BLOOD SUGAR MONITORING, HOME 2006 DMC-CHRONIC COMPLICATIONS DMC-CHRONIC COMPLICATIONS (PREVENTION & TREATMENT) DMC-CHRONIC COMPLICATIONS (PREVENTION & TREATMENT) 2006 DMC-DIABETES MEDICINE DMC-DIABETES MEDICINE - INSULIN 2006 DMC-DISEASE PROCESS DMC-DISEASE PROCESS 2006 DMC-FOOT CARE DMC-FOOT CARE 2006 DMC-HOME BLOOD SUGAR MONITORING DMC-KNOW YOUR NUMBERS DMC-KNOWING YOUR NUMBERS (ABC) 2006 DMC-MEDICATIONS 2006 DMC-MIND, SPIRIT AND EMOTION DMC-MIND, SPIRIT AND EMOTION 2006 DMC-PRE-PREGNANCY COUNSELING 2006 DMC-PREPREGNANCY COUNSELING DMCN-USE OF ALCOHOL DMCPG-BLOOD SUGAR MONITORING DMCPG-MEDICATIONS DMCPG-PREGNANCY, DIABETES AND YOU DMCPG-STAYING HEALTHY AFTER DELIVERY DMCPG-STAYING HEALTHY DURING PREGNANCY DM-SM STRESS MANAGEMENT 2005 DMC-PG-BGM SESSION 5: HOME BLOOD SUGAR MONITORING DURING PREGNANCY 2006 DMC-PG-C SESSION 6: STAYING HEALTHY DURING PREGNANCY 2006 DMC-PG-DM SESSION 1: PREGNANCY, DIABETES AND YOU: FIRST STEPS TO A HEALTHY 2006 DMC-PG-M SESSION 4: MEDICINE DURING PREGNANCY 2006 DMC-PG-PP SESSION 7: STAYING HEALTHY AFTER DELIVERY 2006

2.4.3 Laboratory Test Taxonomies

There have been no changes to Laboratory Test taxonomies with the exception of the addition of the Non-HDL Cholesterol test taxonomy. Note that if no lab results have been reported in the category of non-HDL cholesterol, it will be calculated from the last Total Cholesterol and HDL Cholesterol reported during the audit period. There have been no other changes to Laboratory test taxonomies for the 2013 but it is anticipated that standards for urine protein testing may be changing for the 2014 audit. Table 2-3 lists the taxonomies that must be reviewed for potential changes in laboratory testing at a facility.

Table 2-3: DM Audit Laboratory Test Taxonomies

Taxonomy	Topics
BGP GPRA ESTIMATED GFR TAX	Estimated GFR, Calculated GFR, _GFR, Estimated, _GFR Non-African American, EST GFR, eGFR
DM AUDIT CREATININE TAX	Creatinine, POC Creatinine, Serum Creatinine, _Creatinine
DM AUDIT QUANT UACR TAX	Microalbumin/Creatinine Ratio measured in actual numeric values (mg/g Creat). Look for tests A/C, A:C, Albumin/Creatinine, _A/C, -A/C, asterisk (*)A/C, Microalbumin/Creatinine, M-Alb/Creatinine.
DM AUDIT 24 HR URINE PROTEIN	24 Hour Urine Protein in mg/24 hour
DM AUDIT P/C RATIO TAX	Protein/Creatinine Ratio, P/C Ratio in g/g
DM AUDIT SEMI QUANT UACR	Microalbumin/Creatinine Ratio reported as a semi-quantitative test. The most commonly reported results are <30, 30-300, or greater than (>) 300 mg/g Creat as measured by strip tests.
DM AUDIT URINE PROTEIN TAX	Urine Protein as reported on Urine Dipsticks. This is a semi-quantitative test and is usually reported as Ur Protein, Urine Protein, Protein, Urine, Urine Protein Screen, _Urine Protein.
DM AUDIT MICROALBUMINURIA TAX	Microalbumin, Albumin, Micro, Urine albumin in mg/L.
DM AUDIT CHOLESTEROL TAX	Cholesterol, Total Cholesterol, _Cholesterol, POC Cholesterol
DM AUDIT HDL TAX	HDL, HDL Cholesterol, POC HDL Cholesterol, _HDL Cholesterol
DM AUDIT HGB A1C TAX	Hemoglobin A1C, A1C, HGB A1C, HBA1C, HA1C, POC HEMOGLOBIN A1C, _A1C
DM AUDIT LDL CHOLESTEROL TAX	LDL, Direct LDL, LDL Cholesterol, LDL Cholesterol (calc), POC LDL Cholesterol, _LDL Cholesterol
DM AUDIT NON HDL TESTS	Non HDL Cholesterol
DM AUDIT TB LAB TESTS	QFT-G, T SPOT-TB, Quantiferon GOLD
DM AUDIT TRIGLYCERIDE TAX	Triglyceride, POC Triglyceride, _Triglyceride

With the advent of reference laboratory interfaces and Point of Care result entry, there is considerable variation in test nomenclature. Diabetes Program staff are encouraged to solicit assistance from both laboratory and pharmacy staff in updating taxonomies.

When deciding which tests should be included in a taxonomy, it is often useful to review test results on a health summary for a known compliant patient with diabetes. Once test names are determined, the appropriate tests may be added or deleted from taxonomies.

Figure 2-10 is a Health Summary sample with recommended taxonomy placement noted below the lab test on the health summary.

```
HGB A1C-GLYCO (R)         01/16/09 5.7    %    4.3-6.1
   DM AUDIT HGB A1C
LIPID PROFILE (R)         01/16/09
HDL CHOLESTEROL (R)       01/16/09 44    MG/DL  40-125
   DM AUDIT HDL CHOLESTEROL
TRIGLYCERIDE (R)         01/16/09 109    MG/DL  30-150
   DM AUDIT TRIGLYCERIDE
LDL CHOLESTEROL (R)       01/16/09 97    MG/DL  0-130
   DM AUDIT LDL CHOLESTEROL
CHOLESTEROL (R)         01/16/09 163    MG/DL  100-200
  DM AUDIT CHOLESTEROL
CHOL/HDL RATIO (R)        01/16/09 3.70   RATIO  0.00-4.44
CALCULATED GFR (R)        01/16/09
_GFR AFRICN AMER         01/16/09 >60    ML/MIN  >60-
  BGP GPRA ESTIMATED GFR
_GFR NON AFR AMR         01/16/09 >60    ML/MIN  >60-
  BGP GPRA ESTIMATED GFR
COMPREHENSIVE-14 METABOLIC (R)  01/16/09
AST (SGOT) (R)         01/16/09 18    U/L   0-40
ALT (SGPT) (R)         01/16/09 15    U/L   0-40
BUN (R)             01/16/09 11    MG/DL  5-19
ALBUMIN (R)           01/16/09 4.2    GM/DL  3.9-5.0
CHLORIDE (R)           01/16/09 104    MMOL/L  96-108
BILIRUBIN, TOTAL (R)       01/16/09 0.9    MG/DL  0.1-1.0
ALKALINE PHOS (R)        01/16/09 76    U/L   28-110
SODIUM (R)            01/16/09 139    MMOL/L  135-145
CREATININE (R)          01/16/09 0.86   MG/DL  0.50-1.00
  DM AUDIT CREATININE
CALCIUM (R)           01/16/09 8.9    MG/DL  8.5-10.5
POTASSIUM (R)          01/16/09 5.6 (H)  MMOL/L  3.5-5.5
PROTEIN, TOTAL (R)        01/16/09 7.7    GM/DL  6.7-8.3
GLUCOSE RANDOM (R)        01/16/09 68 (L)  MG/DL  70-100
CO2 (R)             01/16/09 23    MMOL/L  18-30
ANION GAP (R)          01/16/09 12    MM/L   5-16
URINE DIPSTICK (R)        03/10/08
  DM AUDIT URINALYSIS
URINE COLOR           03/10/08 O
URINE APPEARANCE         03/10/08 C
SPECIFIC GRAVITY         03/10/08 1.001       1.001-1.035
URINE UROBILINOGEN        03/10/08 NORMAL  EU/dL  .2-1
URINE BLOOD           03/10/08 N     mg/dL  NEG-
URINE BILIRUBIN         03/10/08 N     mg/dL  NEG-
URINE KETONES          03/10/08 L     mg/dL  NEG-
URINE GLUCOSE          03/10/08 500    mg/dL  NEG-
URINE PROTEIN          03/10/08 L     mg/dL  NEG-
```

```
  DM AUDIT URINE PROTEIN
URINE PH             03/10/08 5         5-9
URINE NITRITE          03/10/08 N         NEG-
URINE LEUKOCYTE ESTERASE     03/10/08 N         NEG-
M-ALB/CREAT RATIO (R)       01/22/09
_MICROALB, RANDOM        01/22/09 <5.0   MG/L   0.0-20.0
  DM AUDIT MICROALBUMINURIA
_ALB/CREAT RATIO         01/22/09 FOOTNOTE MG/GCR  0.0-16.9
  DM AUDIT QUANT UACR
_CREAT UR, MG/DL         01/22/09 138    MG/DL
_CREAT/100 Calc Malb       01/22/09 1.38   G/L
```

Figure 2-10: Sample Health Summary

2.4.4 LMR–List Labs or Medications Used at this Facility

A tool provided in Diabetes Management System patch 4 is a report that can be run to display the laboratory tests that have been reported or the drugs that have been prescribed during the audit year. In addition to displaying the laboratory tests or drugs, it identifies those that are already included in a taxonomy used by the audit.

Type **RP** in the Diabetes Management System menu and type **LMR** to continue, as shown in Figure 2-11:

```
************************************************
**           DIABETES MANAGEMENT SYSTEM           **
************************************************
VERSION 2.0 (Patch 6)
CIMARRON HOSPITAL
CURRENT USER: DOROTHY RUSSELL

REPORTS MENU - IHS DIABETES

   FU     Follow-up Needed
   LP     List Patient Appointments
   RR     Register Reports ...
   SMR    Blood Glucose Self Monitoring Report
   DPCS   Display a Patient's DIABETES CARE SUMMARY
   PLDX   Patients w/no Diagnosis of DM on Problem List
   NDOO   DM Register Pts w/no recorded DM Date of Onset
   LPRA   List Patients on a Register w/an Appointment
   DMV    DM Register Patients and Select Values in 4 Months
   HSRG   Print Health Summary for DM Patients W/Appt
   LMR    List Labs/Medications Used at this Facility

This report will list all lab tests or medications that are used at
CIMARRON HOSPITAL.  It will list the name, internal entry number,
number of occurrences, units and result example (lab only) and the taxonomies that
the item is a member of.

     Select one of the following:

          L         LAB TESTS
          M         MEDICATIONS (DRUGS)

Do you wish to list: LAB TESTS
```

```
Enter beginning Date for Search:  Feb 27, 2012// 1/1/2012  (JAN 01, 2012)

Enter ending date for Search:  12/31/2012  (DEC 31, 2012)

     Select one of the following:

          P         PRINT Output
          B         BROWSE Output on Screen

Do you wish to: P// PRINT Output
DEVICE: HOME//
Feb 27, 2012                                                  Page 1
                      LAB TESTS Used at CIMARRON HOSPITAL
                     Date Range:  Jan 01, 2012 - Dec 31, 2012
LAB TEST NAME                    IEN      # DONE    UNITS     RESULT
     TAXONOMIES
-------------------------------------------------------------------------
 HDL                             244             1              40
     DM AUDIT HDL TAX
 LDL                             901             1              120
     DM AUDIT LDL CHOLESTEROL TAX
ALBUMIN/CREATININE RATIO         9034            1              3
     DM AUDIT QUANT UACR
ANION GAP                        1160            2
BASIC METABOLIC PANEL            9999068         2
C DIFF A+B E/A (R)               9999195         3
CALCIUM                          180             2
CHLORIDE                         178             2
CHOLESTEROL                      183             1              240
     DM AUDIT CHOLESTEROL TAX
CO2                              179             2
CREATININE                       173             3              0.6
     DM AUDIT CREATININE TAX
CRYSTALS, FLUID                  9999199         1
CULTURE, HSV RAPID (R)           9999198         1
CYCLIC CITRULLINATED PEPTIDE A   9999172         1
DIAGNOSIS:                       9999089         3      WITHIN NORMAL LIMITS
DILANTIN                         210             1
ESTIMATED GFR                    9999103         3              >60
     BGP GPRA ESTIMATED GFR TAX
FERRITIN (SQ)                    9999175         2
FREE T3                          9999176         1
GLUCOSE                          175             5  mg/dL       145
H PYLORI AG EIA                  9999183         2
H. PYLORI AG EIA                 9999177         1
HEMOGLOBIN                       3               1  g/dL        5.0
LEAD                             262             1  mcg/dL      6.7
LIPASE (R)                       200             1  U/L         456
```

Figure 2-11: Report for Labs Reported during Audit Year

At the “DEVICE” prompt, type the printer name.

The same report may be initiated again to display the medications that have been prescribed, as shown in Figure 2-12.

```
This report will list all lab tests or medications that are used at
CIMARRON HOSPITAL. It will list the name, internal entry number,
```

```
number of occurrences, units and result example (lab only) and the
taxonomies that the item is a member of.

     Select one of the following:

          L         LAB TESTS
          M         MEDICATIONS (DRUGS)

Do you wish to list: MEDICATIONS (DRUGS)

Enter beginning Date for Search:  Feb 27, 2012// 1/1/2012  (JAN 01, 2012)

Enter ending date for Search:  12/31/2012  (DEC 31, 2012)

     Select one of the following:

          P         PRINT Output
          B         BROWSE Output on Screen

Do you wish to: P// PRINT Output
DEVICE: HOME//
Feb 27, 2012                                                    Page 1
                MEDICATIONS (DRUGS) Used at CIMARRON HOSPITAL
                   Date Range:  Jan 01, 2012 – Dec 31, 2012
MEDICATION/DRUG NAME            IEN      # DONE
     TAXONOMIES
-------------------------------------------------------------------
ACARBOSE 25MG TAB               84472          4
     DM AUDIT ACARBOSE DRUGS
ACETAMINOPHEN 325MG TAB         263            3
ACETAMINOPHEN WITH CODEINE 30M  342          301
ACETAMINOPHEN/CODEINE  12MG/5M  3958           5
ACETAZOLAMIDE 250MG TABS        638            2
ACETIC ACID 2% HC 1% OTIC       2810          13
ACETIC ACID 2% OTIC SOL         3868           1
ACYCLOVIR 200MG CAP             83978          7
ACYCLOVIR 800MG TAB             84481          2
ALBUTEROL 2MG TAB               84348          2
ALBUTEROL 4MG TAB               84333          5
ALBUTEROL INHALER 17GM          3769         247
ALBUTEROL REFILL                84459          1
ALBUTEROL SOL 0.5%              84042         66
ALBUTEROL SULFATE SYRUP 2MG/5M  84061         20
ALENDRONATE SODIUM 10MG TAB     84444          1
ALLEGRA                         84422          8
ALLOPURINOL 100MG TABS          1391          10
ALLOPURINOL 300MG TAB           3740          27
ALUMINUM ACETATE SOLN TAB       83607          1
AMANTADINE 100MG CAP            1606           3
AMIODARONE 200MG TAB            84092         17
AMITRIPTYLINE 25MG TAB          1639         100
AMLODIPINE BESYLATE 10MG TAB    84337         34
AMLODIPINE BESYLATE 2.5MG TAB   84335          2
AMLODIPINE BESYLATE 5MG TAB     84336         22
AMOXICILLIN 250MG CAP           4601           7
AMOXICILLIN 250MG/5ML           83611         78
AMOXICILLIN 500MG CAP           84024        135
AMOXICILLIN/CLAVULENATE 400MG/  84434         20
ANTIPYRINE/BENZOCAINE OTIC SOL  83614         19
ASCORBIC ACID 500MG TAB         1642         421
ASPIRIN 325MG E.C. TAB UD       84291          1
```

```
     DM AUDIT ASPIRIN DRUGS
ASPIRIN 325MG TAB               276           310
     DM AUDIT ASPIRIN DRUGS
ASPIRIN 650MG E.C. TAB          83618         113
     DM AUDIT ASPIRIN DRUGS
ASPIRIN 81MG TAB                83620           8
     DM AUDIT ASPIRIN DRUGS
ATENOLOL 25MG TAB               84328          42
ATENOLOL 50MG TAB               84329         301
ATORVASTATIN 40MG TABLETS       84416           7
     DM AUDIT STATIN DRUGS
ATORVASTATIN 80MG TABLETS       84503           8
     DM AUDIT STATIN DRUGS
ATROPINE SULFATE 0.4MG/1ML      2545            1
```

Figure 2-12: Report of Drugs Prescribed during Audit year

At the “DEVICE” prompt, type the printer name.

3.0 Running the 2013 Audit

The directions for creating and submitting an electronic Diabetes Audit data file are outlined in the Audit 2013 Instructions as well as below.

In RPMS audits may be run for individual patients, a template of patients, patients in a Register, or a random sample of patients in a Register.

Output options include an individual audit, a cumulative audit, individual and cumulative audits, or an audit export file. Even those doing manual audits may find it useful to print individual audit sheets which most likely have some information on them such as measurements.

3.1 Running an Individual Audit

Individual audits may be run at any time either via the Diabetes QA Audit Menu or via the Patient Management option to display the audit status. The menu path is shown in Figure 3-1.

```
Diabetes Management System
PM     Patient Management
10 Audit Status
```

Figure 3-1: Menu path for individual audit

After selecting, 10 – Audit Status,

1. Enter the ending date of the audit period desired.
2. You may print the patient's name on the audit sheet if desired.
3. The output may be browsed on the screen by selecting Browse or printed to a printer by selecting Print and then identifying the device for the printed audit.

```
Enter the date of the audit.  This date will be considered the ending
date of the audit period.  For most data items all data for the period one
year prior to this date will be reviewed.

Enter the Audit Date:  12/31/12  (DEC 31, 2012)
Do you wish to print the Patient's Name on the audit sheet? N// O


     Select one of the following:

          P         PRINT Output
          B         BROWSE Output on Screen

Do you wish to: P// B

 ASSESSMENT OF DIABETES CARE, 2013       DATE AUDIT RUN: Feb 18, 2013  Page: 1
```

```
Audit Period Ending Date: Dec 31, 2012  Facility Name: CIMARRON HOSPITAL
REVIEWER initials: DKR                  Community: CHOUTEAU
STATE of Residence: OK
CHART #: 192774    DOB: Jun 02, 1962    SEX: MALE
PRIMARY CARE PROVIDER:

DATE OF DIABETES DIAGNOSIS:
  DM Reg: Mar 28, 1997  Problem List: <not documented>  1st PCC DX: Mar 28, 1999
Diabetes Type: 1  Type 1
  DM Register: DM TYPE 1  Problem List: 250.00  PCC POV's: Type 2

TOBACCO USE: 1  Current User CESSATION-SMOKER  Jun 01, 2012
  Cessation Counseling received?  1  Yes- Jun 01, 2012 HF: CESSATION-SMOKER

HEIGHT (last ever): 71.00 inches Nov 12, 2003
Last WEIGHT in audit period: 210.00 lbs Dec 01, 2012     BMI: 29.3

HTN (documented diagnosis): 1  Yes - DX on Nov 04, 2000  Dec 05, 2000  Jan 28, 2
Last 3 BLOOD PRESSURES during audit period:  147/80 mm Hg Dec 01, 2012
                                             150/70 mm Hg Jun 01, 2012


EXAMINATIONS (during audit period)
  FOOT EXAM-complete:             1  Yes - Diabetic Foot Exam - 12/01/2012
  EYE EXAM (dilated or retinal camera):
     1  Yes - Diabetic Eye Exam - 12/01/2012
  DENTAL EXAM:                    1  Yes - Dental Exam - 12/01/2012

EDUCATION (in past year)
  Diet Instruction:       1  Yes (RD) RD: DM-N Dec 01, 2012
  Exercise Instruction:   1  Yes  DM-EXERCISE  12/01/2012
  DM Education (Other):   1  Yes DM-HM  Dec 01, 2012

MENTAL HEALTH
  Depression an active problem?  1  Yes - Problem List 296.80
  If 'No', Screened for depression (during audit period)?

DM THERAPY     Select all that currently apply:
      1 Diet & Exercise Alone
      2 Insulin
      3 Sulfonylurea (glyburide, glipizide, others)
      4 Glinide (Prandin, Starlix)
      5 Metformin (Glucophage, others)
      6 Acarbose (Precose) or miglitol (Glyset)
      7 Pioglitazone (Actos) or rosiglitazone (Avandia)
      8 GLP-1 med (Byetta, Bydureon, Victoza)
   X  9 DPP4 inhibitors (Januvia, Onglyza, Tradjenta)
      10 Amylin Analog (Symlin)
      11 Bromocriptine (Cycloset)
      12 Colesevelam (Welchol)

ACE Inhibitor/ARB Use: 1  Yes   CAPTOPRIL 25MG TAB  Dec 01, 2012
Aspirin/Antiplatelet Therapy: 2  None
Lipid Lowering Agent

      1 Statin (simvastatin/Zocor, others)
   X  2 Fibrate (gemfibroil/Lopid, others)
      3 Niacin (Niaspan, OTC niacin)
      4 Bile Acid Sequestrant (cholestyraminie/Questran, others)
      5 Ezetimibe (Zetia)
      6 Fish Oil - Rx or OTC
```

```
      7 Lovaza
      8 None

TB Testing
TB test done: 1 Skin test (PPD)
TB test result: 2  Negative 12/1/12 Reading: 0 Result:
    If PPD Pos, INH Tx Complete:
    If PPD Neg, Last PPD:        Dec 01, 2012

CVD: Cardiovascular disease diagnosed:  1  Yes - DX Nov 12, 2003 Nov 12, 2003

IMMUNIZATIONS
  Seasonal FLU VACCINE during audit period: 1  Yes  Dec 01, 2012
  PNEUMOVAX Ever:                1  Yes  Dec 01, 2012
  Td or Tdap in past 10 yrs:     1  Yes  Dec 01, 2012
  HEPATITIS B series complete (ever): 2  No

LABORATORY DATA - most recent result during audit period
  HbA1c (most recent):      12.0           Dec 01, 2012     HEMOGLOBIN A1C
  Serum Creatinine:
  eGFR value:               >60            Dec 01, 2012     ESTIMATED GFR
  Total Cholesterol:        250 mg/dl      Dec 01, 2012     CHOLESTEROL
  HDL Cholesterol:          30 mg/dl       Dec 01, 2012      HDL
  LDL Cholesterol:          150 mg/dl      Dec 01, 2012      LDL
  Non-HDL Cholesterol:      220 mg/dl                       Calculated Value
  Triglycerides:

Urine Protein Testing during audit period:
URINE TESTED FOR PROTEIN:   1  Yes         Dec 01, 2012     ALBUMIN/CREATININE

SPECIFIC TESTING DONE*:
     1 Urine Albumin:Creatinine Ratio
       UACR value:
     2 Urine Protein:Creatinine Ratio
     3 24 hr urine collection for protein
  X  4 Microalbumin:creatinine strips (e.g., Clinitek)
                            25             Dec 01, 2012     ALBUMIN/CREATININE
     5 Microalbumin only (e.g. Micral)
     6 UA dipstick

COMBINED:  Meets ALL: A1C <8.0, LDL <100, mean BP <140/<90
     2  No  A1C: 12.0; LDL: 150; Mean BP: 148/75
Local Option question:
Extended Local Option question:


          *UACR is the preferred test.
          See Audit 2013 Instructions for more information.
```

Figure 3-2: Running an Individual Audit

3.2 Running a Cumulative Audit

Figure 3-3 shows a script to run a Cumulative Audit. The audit may be either queued using the DM13 option in Visual DMS or run from the traditional RPMS menu.

It is highly recommended that the 2013 Cumulative Audit be run and reviewed twice before creating a data file. The first time, run a cumulative audit on all active members of the register with Type 1 and Type 2 Diabetes or on the template you have created of active patients with Type 1 or Type 2 Diabetes.

Review the initial cumulative audit carefully to be sure there are no audit elements that have no data or that have far larger or smaller numbers than would be expected. This will ensure that there is no missing data due to improperly populated taxonomies. If required, review taxonomy set up, edit taxonomies as needed, and run and review the cumulative audit again to make sure that the problem(s) are corrected before creating the Audit Export file.

Note that you may be shown a list of taxonomies that have no members. It is perfectly acceptable to have taxonomies with no members if the drugs or laboratory tests referenced are not used at the audit facility.

```
Diabetes Management System ...
DA   Diabetes QA Audit Menu ...
DM13  2013 Diabetes Program Audit ...
DM13  Run 2013 Diabetes Program Audit

                        ASSESSMENT OF DIABETES CARE, 2013

                        PCC DIABETES AUDIT

Enter the Official Diabetes Register: IHS DIABETES

Select 2013 Diabetes Program Audit Option: DM13  Run 2013 Diabetes Program
Audit

In order for the 2012 DM AUDIT Report to find all necessary data, several
taxonomies must be established.  The following taxonomies are missing or
have no entries:
LABORATORY TEST taxonomy  [DM AUDIT 24HR URINE PROTEIN] has no entries
DRUG taxonomy  [DM AUDIT AMYLIN ANALOGUES] has no entries
DRUG taxonomy  [DM AUDIT BROMOCRIPTINE DRUGS] has no entries
DRUG taxonomy  [DM AUDIT EZETIMIBE DRUGS] has no entries
DRUG taxonomy  [DM AUDIT FISH OIL DRUGS] has no entries
DRUG taxonomy  [DM AUDIT GLP-1 ANALOG DRUGS] has no entries
DRUG taxonomy  [DM AUDIT INCRETIN MIMETIC] has no entries
DRUG taxonomy  [DM AUDIT LOVAZA DRUGS] has no entries
LABORATORY TEST taxonomy  [DM AUDIT MICROALBUMINURIA TAX] has no entries
DRUG taxonomy  [DM AUDIT SULFONYLUREA-LIKE] has no entries
LABORATORY TEST taxonomy  [DM AUDIT TB LAB TESTS] has no entries

                        ASSESSMENT OF DIABETES CARE, 2013

                                PCC DIABETES AUDIT

Enter the Official Diabetes Register: IHS DIABETES

Enter the date of the audit.  This date will be considered the ending
date of the audit period.  For most data items all data for the period one
year prior to this date will be reviewed.

Enter the Audit Date:  12/31/12  (DEC 31, 2012)
```

```
     Select one of the following:

          P         Individual Patients
          S         Search Template of Patients
          C         Members of a CMS Register

Run the audit for: P// C  Members of a CMS Register
Enter the Name of the Register: IHS DIABETES
Do you want to select register patients with a particular status? Y// YES
Which status: A// ACTIVE

There are 1164 patients in the IHS DIABETES register with a status of A.

You have selected a register or template/cohort of patients.
You can run the audit just for the subset of patients in the cohort or
register who live in a particular community or have a particular primary
care provider.

Limit the audit to a particular primary care provider ? N//<ENTER> NO

Limit the patients who live in a particular community ? N//<ENTER> NO

There are 1164 patients selected so far to be used in the audit.

     Select one of the following:
          A         ALL Patients selected so far
          R         RANDOM Sample of the patients selected so far

Do you want to select: A// ALL Patients selected so far

     Select one of the following:

          1         Print Individual Reports
          2         Create Audit Export file
          3         Cumulative Audit Only
          4         Both Individual and Cumulative Audits

Enter Print option: 1// 3  Cumulative Audit Only

     Select one of the following:

          I         Include ALL Patients
          E         Exclude DEMO Patients
          O         Include ONLY DEMO Patients

Demo Patient Inclusion/Exclusion: E// <ENTER> Exclude DEMO Patients

     Select one of the following:

          P         PRINT Output
          B         BROWSE Output on Screen

Do you wish to: P// <ENTER>
```

Figure 3-3: Running a Cumulative Audit

At the “DEVICE” prompt, type the printer name (Figure 3-4). You can queue this report to run later as shown in Figure 3-4 on the desired printer.

```
Device: HOME// Q <Enter> QUEUE TO PRINT ON

Device: P171 <Enter>
Start Date/Time: T@2000 <Enter>
Device: P180
```

Figure 3-4: Queuing the report to run later

Note: You cannot print a queued report to a slave printer.

The 2013 cumulative audit is displayed in Figure 3-5.

```
DKR                              Jan 18, 2013                          Page 1

                  ***  IHS/RPMS CARE & OUTCOMES AUDIT 2013  ***
                        FOR IS TEST HEALTH CENTER
                  Reporting Period: Jan 01, 2012 to Dec 31, 2012

------------------------------------------------------------------------------

1164 patients were audited                                  n      Percent

Gender
       Female                                             580         50%
       Male                                               584         50%

Age
       <15 yrs                                              3          0%
       15-44 yrs                                          202         17%
       45-64 yrs                                          552         47%
       65 yrs and older                                   407         35%

Diabetes Type
       Type 1                                              23          2%
       Type 2                                           1,141         98%

Duration of Diabetes
       Less than 1 year                                    33          3%
       Less than 10 years                                 637         55%
       10 years or more                                   522         45%
       Diagnosis date not recorded                          5          0%

Weight Control (BMI)
       Normal (BMI<25.0)                                   79          7%
       Overweight (BMI 25.0-29.9)                         230         20%
       Obese (BMI 30.0 or above)                          712         61%
       Height or Weight missing                           143         12%

Blood Sugar Control
       HbA1c <7.0                                         420         36%
       HbA1c 7.0-7.9                                      205         18%
       HbA1c 8.0-8.9                                      127         11%
       HbA1c 9.0-9.9                                       72          6%
       HbA1c 10.0-10.9                                     47          4%
       HbA1c 11.0 or higher                                77          7%
       Not tested or not valid result                     216         19%

Mean Blood Pressure (of last 2, or 3 if available)
       <120/<70                                            83          7%
```

```
       120/70 - <130/<80                                  217        19%
       130/80 - <140/<90                                  241        21%
       140/90 - <160/<95                                  202        17%
       160/95 or higher                                    47         4%
       BP category Undetermined                           374        32%

Tobacco use
       Current Tobacco User                               377        32%
         Counseled - Yes      (n=  215 )    57%
         Counseled - No       (n=  162 )    43%
       Not a current tobacco user                         781        67%
       Tobacco use not documented                           6         1%

DIABETES TREATMENT
       Diet and Exercise Alone                            404        35%
  Diabetes meds currently used, alone or in combination
       Insulin                                            205        18%
       Sulfonylurea (glyburide, glipizide, others         324        28%
       Glinides (Prandin, Starlix)                          0         0%
       Metformin (Glucophage, others)                     376        32%
       Acarbose (Precose)/Miglitol (Glyset)                 0         0%
       Proglitizone (Actos) or rosiglitazone
          (Avandia)                                       196        17%
       GLP-1 med (Byetta, Bydureon, Victoza)                1         0%
       DPP4 inhibitors (Januvia, Onglyza, Tradjenta)      117        10%
       Amylin analogs (Symlin)                              0         0%
       Bromocriptine (Cycloset)                             0         0%
       Colesevelam (Welchol)                                0         0%

  Number of diabetes meds currently used
       One med                                            400        34%
       Two meds                                           267        23%
       Three meds                                          87         7%
       Four or more meds                                    6         1%

ACE INHIBITOR (OR ARB) USE
       Use in the 1,038  pts with known hypertension      669        64%
       Use in the   217  pts with elevated
          urine albumin**                                 150        69%

ANTIPLATELET THERAPY
   In the    489  pts with diagnosed CVD
       Aspirin or other Antiplatelet Rx use               392        80%
       None                                                97        20%

LIPID LOWERING AGENT USE
       Single lipid agent                                 470        40%
       Two or more lipid agents                            31         3%
       None                                               663        57%

       Of the 501 pts using one or more lipid agents:
         Statin (simvastatin, others)                     461        92%
           Statin use in the   489  pts with diagnosed CVD:  48%
                                                              (n=  235 )
         Fibrate (gemfibrozil/Lopid, others)               46         9%
         Niacin (Niaspan, OTC niacin)                      13         3%
         Bile Acid Sequestrant (cholestyramine)            11         2%
         Ezetimibe (Zetia)                                  0         0%
         Fish Oil - Rx or OTC                               2         0%
         Lovaza                                             0         0%
```

```
EXAMS - Yearly
       Foot Exam - Neuro & Vasc                          582        50%
       Eye Exam - Dilated                                561        48%
       Dental Exam                                       350        30%

DIABETES-RELATED EDUCATION - Yearly
       Diet Instruction by any provider                  421        36%
       Diet Instruction by RD                            353        30%
       Exercise Instruction                              408        35%
       Other Diabetes Education                          313        27%
       Any of above Self-Management Topics               636        55%

IMMUNIZATIONS                                                   (% refused)
       Seasonal Flu Vaccine during audit period           89         8% ( 6% )
       Pneumovax - ever                                  889        76% ( 3% )
       Td or Tdap (q 10 yrs)                             974        84% ( 3% )
       Hepatitis B series complete - ever                 30         3% ( 0% )

DEPRESSION identified as an active dx
       Yes                                               288        25%
       No                                                876        75%

       Of the 876 pts without an active dx
       of depression, proportion screened
       for depression in past year:
             Screened                                    503        57%
             Not Screened                                373        43%

LABORATORY EXAMS

eGFR to assess kidney function obtained during audit period
(Age 18 and above)
       >= 60 ml/min                                      682        59%
       30-59 ml/min                                      167        14%
       15-29 ml/min                                       21         2%
       < 15 ml/min                                         6         1%
       Not tested or no valid result                     285        25%

Non-HDL cholesterol obtained during audit period         714        61%
       Non-HDL <130 mg/dl                                338        29%
       Non-HDL 130-159 mg/dl                             167        14%
       Non-HDL 160-190 mg/dl                             104         9%
       Non-HDL >190 mg/dl                                105         9%
       Not tested or no valid result                     450        39%

LDL Cholesterol obtained during audit period             670        58%
       LDL <100 mg/dl                                    394        34%
       LDL 100-129 mg/dl                                 159        14%
       LDL 130-160 mg/dl                                  78         7%
       LDL >160                                           39         3%
       Not tested or no valid result                     494        42%

HDL Cholesterol obtained during audit period             714        61%
Females
       HDL =<50 mg/dl                                    232        40%
       HDL >50 mg/dl                                     111        19%
       Not tested or no valid result                     237        41%

Males
       HDL =<40 mg/dl                                    206        35%
       HDL >40 mg/dl                                     165        28%
```

```
       Not tested or no valid result                    213        36%

Triglycerides obtained during audit period              715        61%
       TG =<400 mg/dl                                   670        58%
       TG >400 mg/dl                                     45         4%
       Not tested or no valid result                      0         0%

Urine protein tested during audit period
       Yes                                              736        63%
       No                                               428        37%

Of the   736  pts tested for urine protein:
       Urine Albumin:Creatinine Ratio (UACR)            593        81%
       Urine Protein:Creatinine Ratio (UPCR)             28         4%
       24 hr urine protein                                6         1%
       Microalbumin:creat strip (e.g. Clinitek)           0         0%
       Microalbumin only (e.g. Micral)                    0         0%
       Standard UA dipstick protein                     109        15%

  Of the   849  pts with eGFR =>30,
  percent tested with UACR  546                                   64%

CARDIOVASCULAR DISEASE
       Diagnosed CVD                                    489        42%

Tuberculosis Status
       TB test +, untreated/incomplete or tx unknown    146        13%
       TB test +,INH treatment complete                  19         2%

       TB test -, placed after DM diagnosis             429        37%
       TB test -, placed before DM diagnosis             42         4%
       TB test -, date of DM Dx or TB test date unknown    0        0%
       TB test status unknown                           528        45%

PILOT ELEMENT: COMBINED OUTCOMES MEASURE
       Percent of records meeting ALL of the
       following criteria:  A1c <8.0, LDL <100,
       and mean BP <140/90                              160        14%
```

Figure 3-5: 2013 Cumulative Audit

3.3 Creating an Audit Export (Data) File

A script for running the 2013 Diabetes Audit and creating an Audit Export (Data) file for submission via the WebAudit is shown in Figure 3-6.

IHS recommends that the audit be run for the entire register unless a template must be created to eliminate patients on the register who are not active or do not have Type 1 or Type 2 diabetes.

```
Select 2013 Diabetes Program Audit Option: DM13  Run 2013 Diabetes Program
Audit

In order for the 2013 DM AUDIT Report to find all necessary data, several
taxonomies must be established. The following taxonomies are missing or
have no entries:

                       ASSESSMENT OF DIABETES CARE, 2013

                                PCC DIABETES AUDIT

Enter the Official Diabetes Register: IHS DIABETES

Enter the date of the audit. This date will be considered the ending
date of the audit period. For most data items all data for the period one
year prior to this date will be reviewed.

Enter the Audit Date:  12/31/12  (DEC 31, 2012)

     Select one of the following:

          P         Individual Patients
          S         Search Template of Patients
          C         Members of a CMS Register

Run the audit for: P// C Members of a CMS Register
Enter the Name of the Register: IHS DIABETES
Do you want to select register patients with a particular status? Y// YES
Which status: A// ACTIVE

There are 1164 patients in the IHS DIABETES register with a status of A.

You have selected a register or template/cohort of patients.
You can run the audit just for the subset of patients in the cohort or
register who live in a particular community or have a particular primary
care provider.

Limit the audit to a particular primary care provider ? N//<ENTER> NO

Limit the patients who live in a particular community ? N//<ENTER> NO

There are 1164 patients selected so far to be used in the audit.

     Select one of the following:

          A         ALL Patients selected so far
          R         RANDOM Sample of the patients selected so far

Do you want to select: A// ALL Patients selected so far
```

```
     Select one of the following:

          1         Print Individual Reports
          2         Create Audit Export file
          3         Cumulative Audit Only
          4         Both Individual and Cumulative Audits

Enter Print option: 1// 2 Create Audit Export file

The file generated will be in a "^" delimited format.  You can use this
file to review your data in EXCEL if you so choose.

Enter the name of the FILE to be Created (3-20 characters): DKR AUDIT 13

I am going to create a file called dkr audit 13.txt which will reside in
the C:\EXPORT\ directory on your RPMS server.
It is the same directory that the data export globals are placed.
See your site manager for assistance in finding the file
after it is created. Jot down and remember the following file name:
               **********    dkr audit 13.txt    **********
It may be several hours (or overnight) before your report and flat file are
finished.

The records that are generated and placed in file dkr audit 13.txt are in a
format readable by Excel. For a definition of the format please see your
user manual.

Is everything ok? Do you want to continue? Y// YES

     Select one of the following:

          I         Include ALL Patients
          E         Exclude DEMO Patients
          O         Include ONLY DEMO Patients

Demo Patient Inclusion/Exclusion: E// Exclude DEMO Patients
Won't you queue this ? Y// YES
Requested Start Time: NOW// T@2000
```

Figure 3-6: Creating an Audit Export file

Make a note of the file name and notify the RPMS site manager that you have run an audit. Provide the name of the file as well as the directory where the file is stored. The site manager will place the file in a shared folder on the server where it can be accessed and uploaded to the WebAudit.

4.0 Uploading the Export (Data) File to WebAudit

Once you have the data file, upload it into the WebAudit for data cleaning and report generation. For further information and WebAudit frequently asked questions (FAQs), visit the IHS Division of Diabetes Treatment and Prevention (DDTP) Web site at:

http://www.ihs.gov/MedicalPrograms/Diabetes/index.cfm?module=resourcesAudit

To upload the file:

1. Request and activate a WebAudit account if you do not already have one.
2. Type the user name and password to log into WebAudit.
3. Select **Diabetes WebAudit Facility Administration** from the **Applications** list box.
4. Select **Enter Facility Information.** Enter the information requested on the form.
5. Click **Save**.
6. Return to the main menu and select **Diabetes WebAudit** from the **Applications** list box.
7. Click **Upload Data**.
8. Click **Browse** and navigate to the data file (.txt extension); click **Open**.
9. When the .txt file has been selected, click **Upload**.

If the upload of the data file is successful, you will receive a message on the screen indicating that the file was successfully uploaded.

If the upload is unsuccessful, you will receive an onscreen message indicating that the file upload attempt was unsuccessful, with a brief description of the problem.

Once the file has been successfully uploaded, proceed with checking the data quality and/or producing reports, as outlined in the Audit 2013 Instructions.

5.0 Uploading Audit Export (Data) File to Excel

The 2013 Diabetes Audit export file is a delimited text file. This means that the file has all of the audit data elements for each patient on one row in fields separated by a caret (^). Not only can the file be uploaded to the WebAudit, but it can also be imported into Excel for local use. The data fields are identified by headers in the first row of the file.

See Appendix B: for the **Audit Export** file field definitions.

Figure 5-1 shows an Audit Export file opened in Notepad:

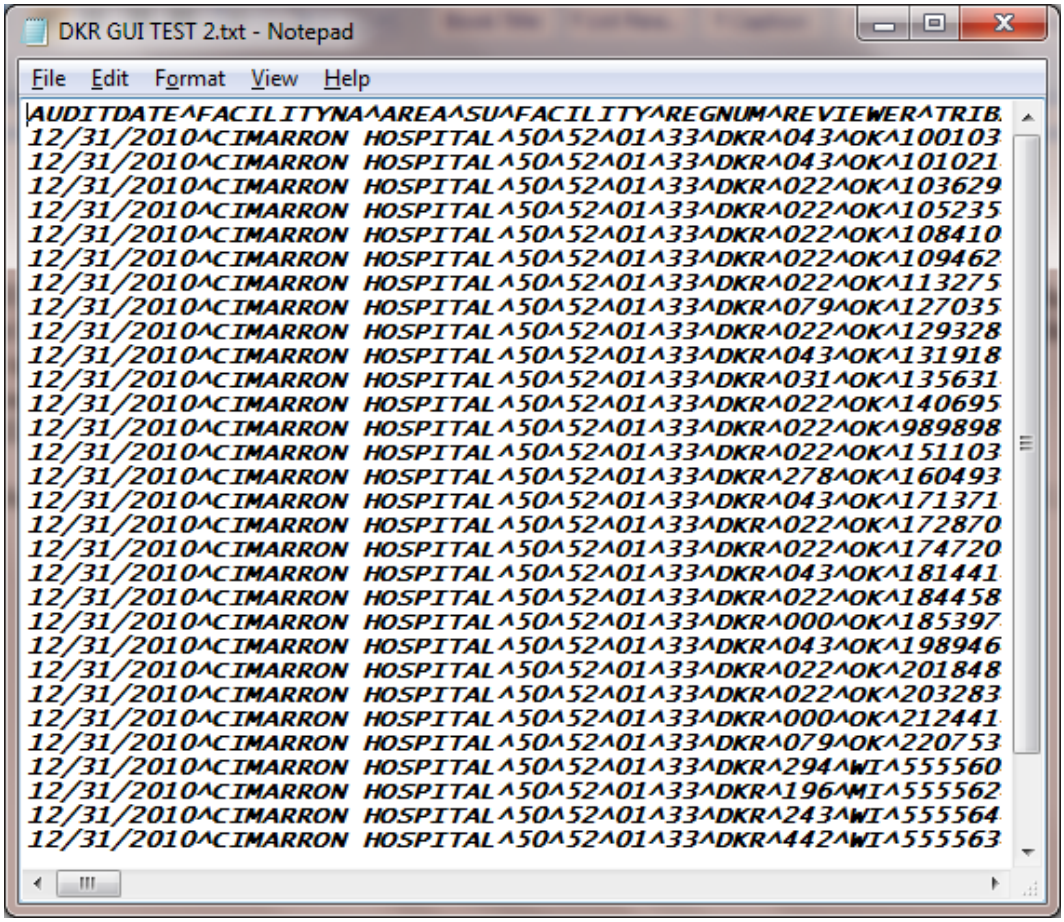

Figure 5-1: Audit Export file displayed in notepad

To import a file into Excel, do the following:

1. Open a blank Excel worksheet.
2. Click on **Open** and navigate to the folder where the Audit Export file resides.

3. Change the file type from Excel to **All Files** in the list box (Figure 5-2). This is necessary in order to see the Audit Export file, which is not in an Excel format at this time.

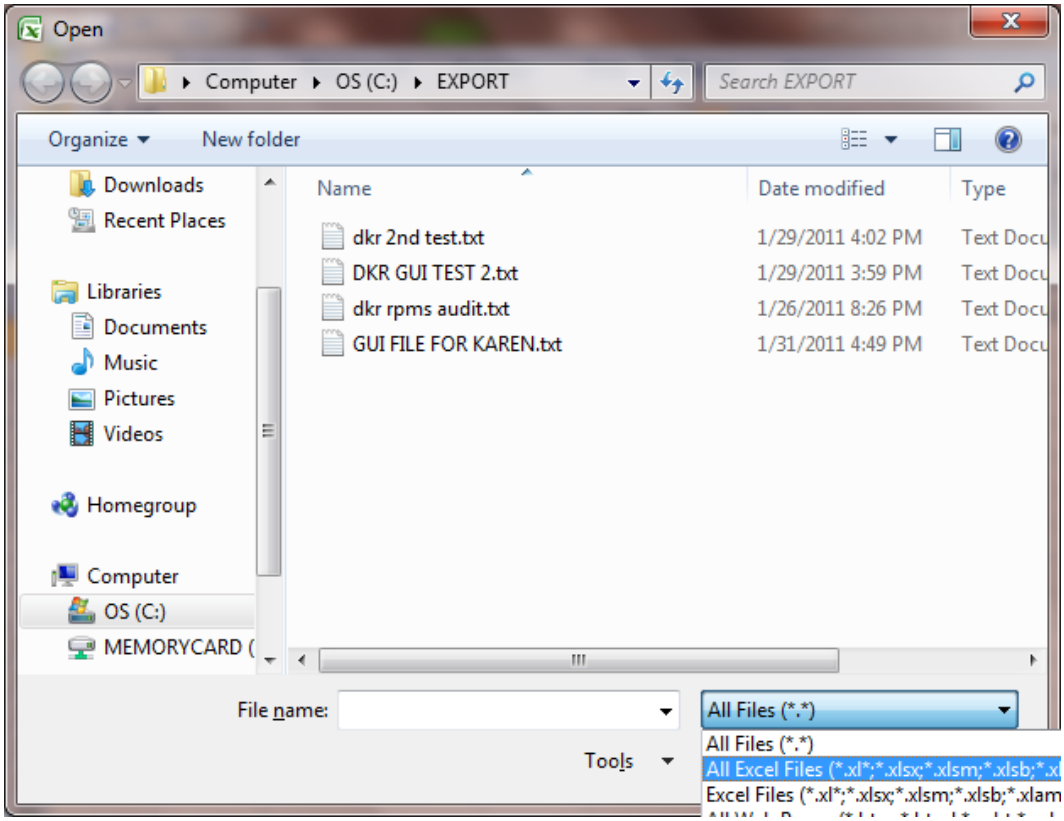

Figure 5-2: **Open** dialog in Excel

4. Select the Audit Export file to be imported.

5. Click **Open**. The **Text Import Wizard** will open.

6. If the **Text Import Wizard** does not correctly identify that this is a delimited file, check the box that indicates that this is a text delimited file. Click **Next**. (See Figure 5-3)

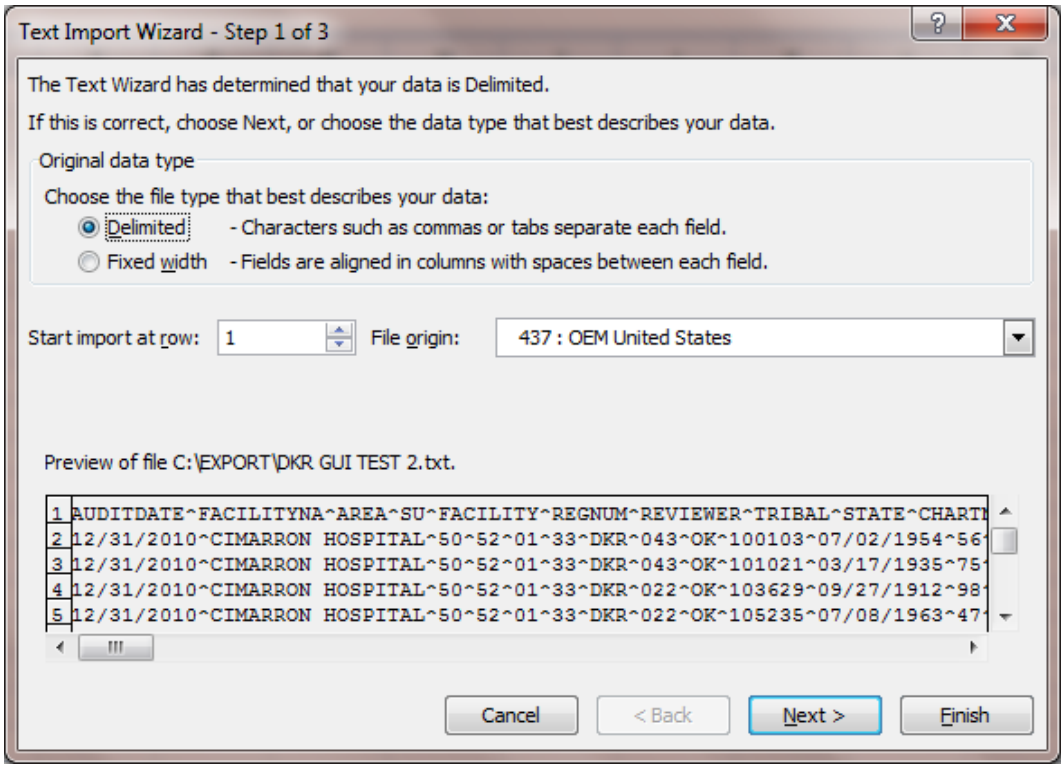

Figure 5-3: **Text Import Wizard Step 1 of 3** dialog

7. In Step 2 of the **Import Wizard**, identify the type of text delimiter.
8. Select the **Other** box and type a caret (^) (Figure 5-4) to identify the type of delimiter.
9. Uncheck the **Tab** check box as the caret is the text delimiter, not a TAB.

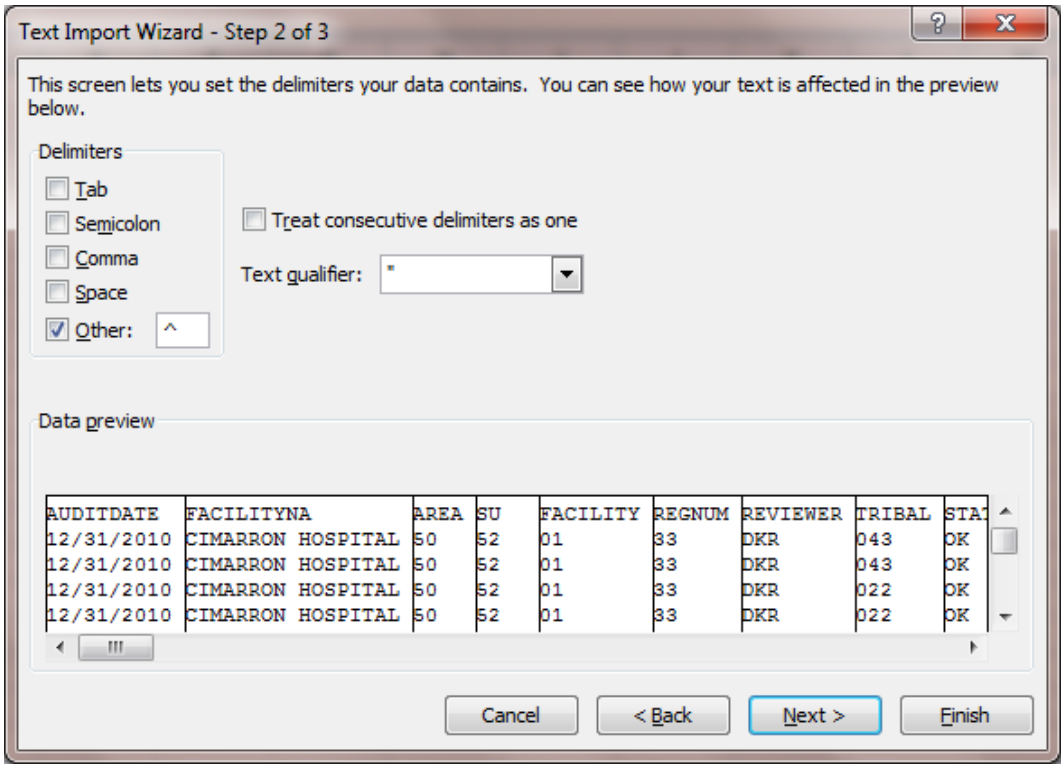

Figure 5-4: **Text Import Wizard Step 2 of 3** dialog

10. Click **Next**, when the delimiter has been defined. Vertical lines will display between the columns of data.

11. Click **Finish** to complete the import to Excel.

12. Columns may be expanded and data sorted as desired.

13. To save the file in Excel format, you must select **Save As** and then Save as type Excel.

Note:	Once a file has been opened in Excel, it may not be uploaded to the Web Audit. Be sure to save the Excel file in a secure folder as identified by the information technology (IT) staff.

6.0 Displaying 2013 Diabetes Audit Logic

The revised logic for the 2013 Diabetes Audit is provided under the menu option DAL Display Audit Logic in the DA Diabetes QA Audit menu as shown in Figure 6-1.

```
Diabetes Management System ...
DA   Diabetes QA Audit Menu ...
DAL  Display Audit Logic
Select the Audit Year
Select DMS AUDIT ITEM DESCRIPTIONS AUDIT YEAR: 2013 <ENTER>
```

Figure 6-1: Example of menu to display Diabetes Audit Logic

1. At the "Select DMS AUDIT ITEM DESCRIPTIONS AUDIT YEAR" prompt, type the audit year and press Enter.
2. At the "Select Action" prompt, type **S** and press Enter to review the logic for any audit item (see Figure 6-2).
3. At the "Select Action" prompt, type the number of the logic item to be displayed.

```
DM AUDIT ITEM DESCRIPTION     Feb 18, 2013 11:10:24          Page:    1 of    1
DM Logic Display

1)  AUDIT DATE              18)  FOOT EXAM (COMPLETE)  35)  SEASONAL FLU VACCINE
2)  FACILITY NAME           19)  EYE EXAM (dilated or  36)  PNEUMOVAX EVER
3)  REVIEWER INITIALS       20)  DENTAL EXAM           37)  HEPATITIS B
4)  STATE OF RESIDENCE      21)  DIET INSTRUCTION      38)  TD OR TDAP IN PAST 1
5)  CHART NUMBER            22)  EXERCISE INSTRUCTION  39)  HBA1C (most recent)
6)  DATE OF BIRTH           23)  DM EDUCATION (OTHER)  40)  SERUM CREATININE
7)  SEX                     24)  DEPRESSION AN ACTIVE  41)  ESTIMATED GFR
8)  PRIMARY CARE PROVIDE    25)  DEPRESSION SCREENING  42)  TOTAL CHOLESTEROL
9)  DATE OF DIABETES DIA    26)  DM THERAPY            43)  HDL CHOLESTEROL
10)  DM TYPE                27)  ACE INHIBITOR/ARB     44)  LDL CHOLESTEROL
11)  TOBACCO USE            28)  ASPIRIN/ANTIPLATELET  45)  TRIGLYCERIDES
12)  TOBACCO REFERRED FOR   29)  LIPID LOWERING AGENT  46)  NON-HDL
13)  HEIGHT                 30)  TB TESTING            47)  URINE TESTED FOR PRO
14)  WEIGHT                 31)  TB Test result        48)  COMBINED OUTCOMES ME
15)  BMI                    32)  TB RESULT POSITIVE,
16)  HYPERTENSION DOCUMEN   33)  TB RESULT NEGATIVE,
17)  BLOOD PRESSURES (LAS   34)  CVD

          Enter ?? for more actions
S    Select Item          A    Display All Items    Q    Quit

Select Action: +// S <ENTER>
```

Figure 6-2: Displaying 2013 Audit Logic

See Appendix A: for a complete listing of logic for all audit items.

7.0 Audit Resources

Diabetes Management System v2.0 User Manual, (bdm_020u.pdf)

All information related to the 2013 Diabetes Audit may be viewed at the IHS Division of Diabetes website (Figure 7-1): http://www.ihs.gov/MedicalPrograms/Diabetes/index.cfm?module=resourcesAudit2011Resources

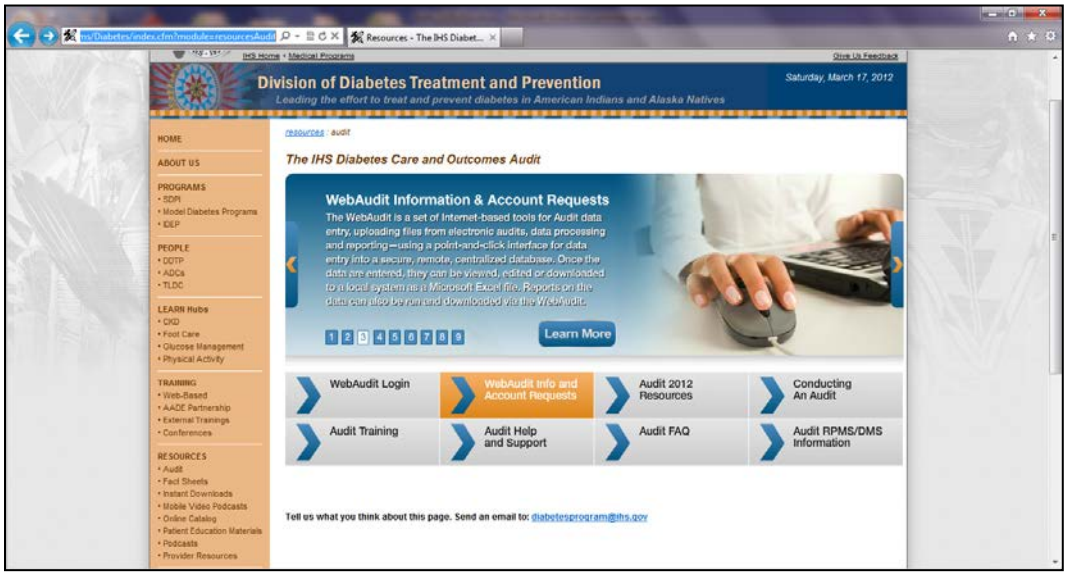

Figure 7-1: **IHS Diabetes Care and Outcome Audit** website

IHS Standards of Care and Clinical Practice Recommendations: Type 2 Diabetes

8.0 Diabetes Care Summary

The Diabetes Care Summary or Supplement displays as the last page of a Health Summary or can be displayed or printed as a standalone document using the menu as shown in Figure 8-1:

```
Diabetes Management System ...
DA   Diabetes QA Audit Menu ...
DPCS  Display a Patient's DIABETES CARE SUMMARY
```

Figure 8-1: Diabetes Care summary menu

The Diabetes Patient Care Summary (DPCS) (Figure 8-2) uses the same taxonomies and logic used for the Diabetes Audit. Results display based on the last data available rather than the audit year. Missing or inaccurate data may be a warning that taxonomies need to be reviewed and updated.

Changes to the Diabetes Care Summary for 2013 include the addition of CVD and non-HDL Cholesterol.

```
********** CONFIDENTIAL PATIENT INFORMATION [DKR]  Feb 18, 2013 **********
DIABETES PATIENT CARE SUMMARY                 Report Date:  02/18/2013
Patient Name:  KNIGHT,BORIS    HRN: 192774  INDIAN/ALASKA NATIVE
Age:  50      Sex:  M         Date of DM Onset: 03/28/1997 (Diabetes Register)
DOB:  06/02/1962              DM Problem #: CIMH2
                              Designated PCP:
Last Height:  71 inches       11/12/2003
Last Weight:  210 lbs         12/01/2012    BMI: 29.3
Last Waist Circumference: <None Recorded>
Tobacco Use:  Current User CESSATION-SMOKER  Jun 01, 2012
HTN Diagnosed:  Yes
CVD Diagnosed:  Yes - DX Nov 12, 2003 Nov 12, 2003
ON ACE Inhibitor/ARB in past 6 months: Yes - 12/01/2012
Aspirin Use/Anti-platelet (in past yr):  No
Last 3 BP:  147/80   12/01/2012        Is Depression on the Problem List?
(non ER)    150/70   06/01/2012          Yes - Problem List 296.80
            115/59   11/12/2003

In past 12 months:
Diabetic Foot Exam:   Yes - Diabetic Foot Exam - 12/01/2012
Diabetic Eye Exam:    Yes - Diabetic Eye Exam - 12/01/2012
Dental Exam:          Yes - Dental Exam - 12/01/2012

Immunizations:
Flu vaccine since August 1st:      Yes  12/01/2012
Pneumovax ever:                    Yes  12/01/2012
Hepatitis B series complete (ever):No
Td in past 10 yrs:                 Yes  12/01/2012
Last Documented TB Test:   PPD  0    12/01/2012
Last TB Status Health Factor:                    Last CHEST X-RAY: 07/01/2003

Laboratory Results (most recent):                     RPMS LAB TEST NAME
 HbA1c:                   12.0            12/01/2012 HEMOGLOBIN A1C
 Next most recent HbA1c:  11.0 %          10/29/2003 HEMOGLOBIN A1C
 Creatinine:               1.0 mg/dL      11/12/2003 CREATININE
```

```
 Estimated GFR:            >60             12/01/2012 ESTIMATED GFR

 Total Cholesterol:        250             12/01/2012 CHOLESTEROL
  Non-HDL Cholesterol:     220             12/01/2012 [Calculated Value]
  LDL Cholesterol:         150             12/01/2012  LDL
  HDL Cholesterol:          30             12/01/2012  HDL
  Triglycerides:
Urine Protein Assessment:
 UACR (Quant A/C Ratio):<None Found>
 Alternate Urine Protein Test in past year:
 UACR (Semi-Quant A/C)      25             12/01/2012 ALBUMIN/CREATININE RATIO

DM Education Provided (in past yr):
  Last Dietitian Visit:     07/31/2000  DIABETES SELF CARE CLASS - SESSION 4 -
  DM-EXERCISE                12/01/2012  DM-HOME MANAGEMENT         12/01/2012
  DM-NUTRITION               12/01/2012

KNIGHT,BORIS                      DOB: 6/2/1962       Chart #CIMH 192774
```

Figure 8-2: Diabetes Patient Care Summary sample

9.0 Adding Local Option Information

If a site needs to add or update Local option information before running the audit or for internal use, it may do so in RPMS or Visual DMS using the Patient Management option.

Local options have two components:

- A code between 0 and 9 (site decides what codes represent)
- text (determined by site)

> **Note**: There are currently no reports in RPMS other than the Diabetes Audit that will allow display or summary of local option entries.

Figure 9-1 shows a Local Option for a Self-Management Goal of Exercise 3 times per week has been added.

```
PM     Patient Management

Register Data                Feb 27, 2012 10:25:28       Page: 1 of 1
       PATIENT: GUMP,FOREST                                AGE: 40
       ADDRESS: 102 FRONT STREET,HUGO,OK,74366             DOB: 03/16/1970
         PHONE: 715-456-8970                               HRN: 989898
PRIM CARE PROV: SHORR,GREGORY                              RES: CLAREMORE
        STATUS: ACTIVE
WHERE FOLLOWED: SELLS HOSP
 REGISTER PROV: CURTIS,A CLAYTON       CASE MGR:
       CONTACT: Mother
    ENTRY DATE: MAY 17,2006                          LAST EDITED: JAN 29,2012
     DIAGNOSIS: IMPAIRED GLUCOSE TOLERANCE            ONSET DATE: SEP 2,2004
     DIAGNOSIS: TYPE 2                                ONSET DATE: JUN 12,2006
 COMPLICATIONS: RETINOPATHY                           ONSET DATE: MAY 17,2006
                PERIODONTITIS                                     FEB 8,2010
                CVA (STROKE)                                      JAN 12,2012
          - Previous Screen   Q Quit   ?? for More Actions
1  Edit Register Data     8  DIABETES Medications   15 DIABETES Lab Profile
2  Complications          9  Review Appointments    17 Pat. Face Sheet
3  Comments               10 Audit Status           18 Send Mail Message
4  Health Summary         11 Flow Sheet             19 Local Option Entry
5  Last Visit             12 Case Summary           20 Diagnosis
6  Other PCC Visit        13 Edit Problem List      21 Print Letter
7  Medications            14 Lab Profile
Select Action: Quit// 19 <ENTER>

DM AUDIT LOCAL OPTION CODE: 3
DM AUDIT LOCAL OPTION TEXT: EXERCISE 3X/WK
```

Figure 9-1: Add a Local option code and text

In Visual DMS, the Local Option may be displayed, added, or edited. See Figure 9-2 and Figure 9-3.

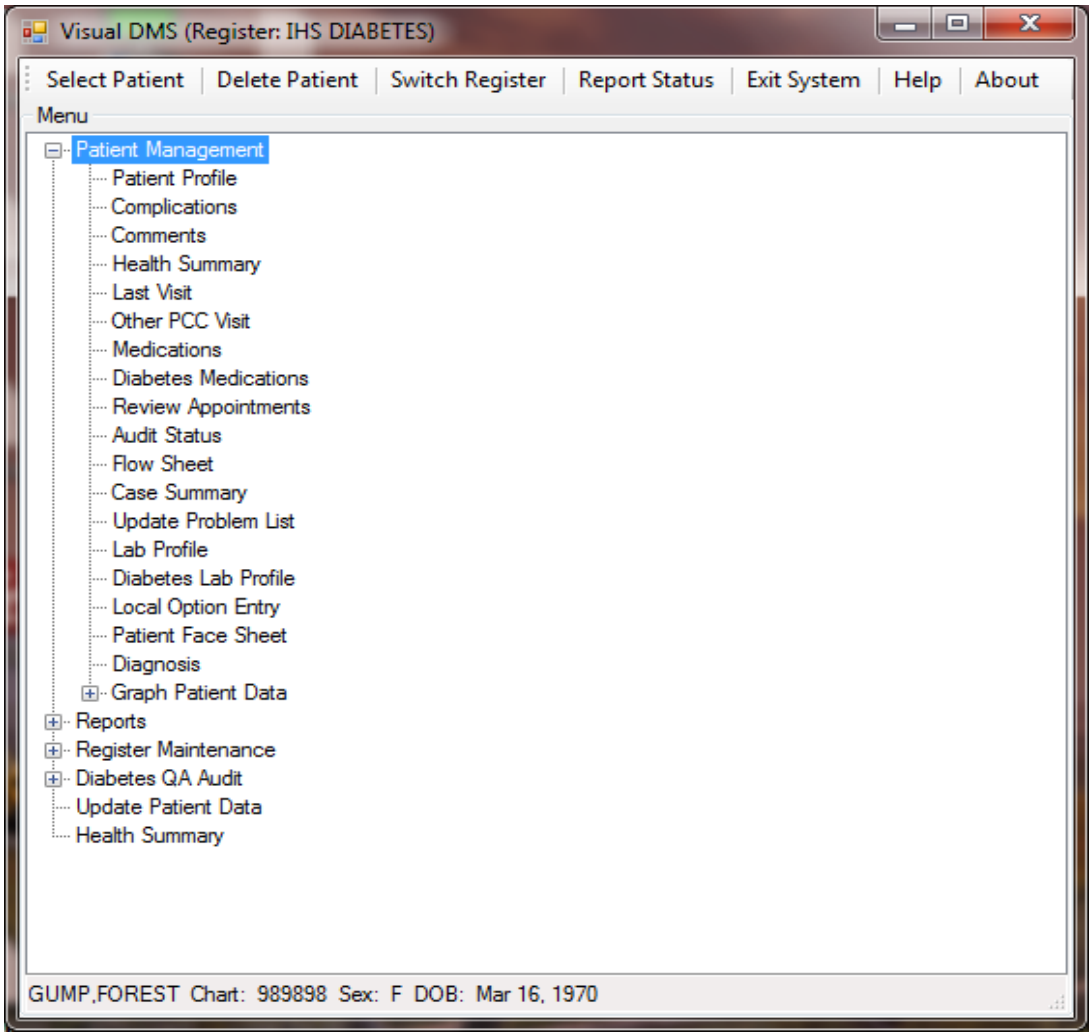

Figure 9-2: Local Option Entry on **Patient Management** menu

Type the local code in the DM Audit Local Option Code field as shown in Figure 9-3.

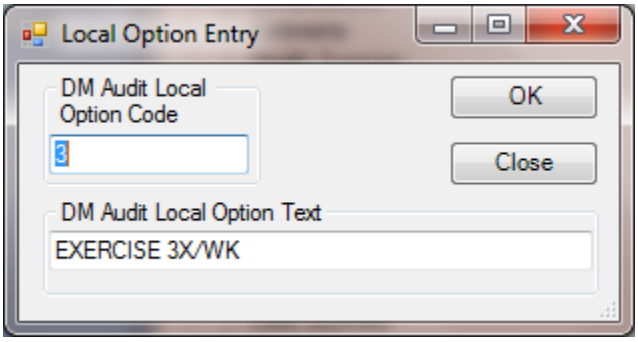

Figure 9-3: Review or update **Local Option Entry** dialog

Appendix A: 2013 Diabetes Audit Logic

```
DM AUDIT LOGIC DESCRIPTIONS
------------------------------------------------------------------------------
                                  AUDIT DATE
This is the ending date of the audit period.  The user supplies this
date.  It is used as the ending date to calculate the time range when
looking for values. For example, if the audit date is December 31, 2012
then data is examined during the year prior to this audit date (January 1,
2012 through December 31, 2012).


                                FACILITY NAME
This is the name of the facility at which the audit is being run.  It is
the division or facility to which the user logged in.  (The DUZ(2)
variable is used).


                              REVIEWER INITIALS
Initials of the person running the audit.  A maximum of 3 initials may be
used. This information is taken from the File 200 (New Person) entry for
the user.


                              STATE OF RESIDENCE
This is the state in which the patient resides at the time the audit was
done.  This is captured from the mailing address.


                                 CHART NUMBER
Health record number of the patient at the facility at which the audit is
run.


                                DATE OF BIRTH
The patient's Date of Birth.  Obtained from data entered through patient
registration.


                                     SEX
The gender of the patient. Obtained from data entered through patient
registration.


                            PRIMARY CARE PROVIDER
The name of the primary care (designated) provider documented in RPMS.
Taken from field .14 of the patient file.


                         DATE OF DIABETES DIAGNOSIS
The diabetes onset date.  This date is used in the calculation of the
duration of diabetes. 3 different dates are displayed to the user:
       The date of onset from the Diabetes Register.
       The earliest date of onset from all diabetes related problems on
the problem list. The problem list is scanned for all problems in the
ICD diagnosis code range 250.00-250.93.
       The 1st recorded diagnosis (POV) of diabetes in PCC.  ICD codes:
250.00-250.93.

Cumulative Audit:  When calculating the duration of diabetes, the
```

```
earliest of the date of onset from the diabetes register or the problem
list date of onset is used.  Duration of diabetes is calculated from that
date to the date of the audit.  If neither the date of onset in the
register nor the date of onset in the problem list is recorded, the
duration of diabetes is not calculated.  The first diagnosis date from
POV is not used.

AUDIT Export file: The earliest date found from the Diabetes register or
the problem is exported.  Format:  MM/DD/YYYY


                                    DM TYPE
The computer audit uses the following logic in determining the type of
diabetes:  (once a 'hit' is made, no further processing done)
1.      If the diagnosis documented in the Diabetes Register is NIDDM the
type is assumed to be Type 2.
2.      If the diagnosis documented in the Diabetes Register is "TYPE II"
the type is assumed to be Type 2.
3.      If the diagnosis documented in the Diabetes Register contains a
'2' the type is assumed to be Type 2.
4.      If the diagnosis documented in the Diabetes Register contains
IDDM the type is assumed to be type 1.
5.      If the diagnosis documented in the Diabetes Register contains a
'1' the type is assumed to be Type 1.
6.      If no diagnosis is documented in the Diabetes Register, or it
does not contain any of the above strings the problem list is then
scanned.  If any diabetes diagnosis on the problem list has a 5th digit
of 0 or 2 then the type is assumed to be 2.  Example:  diagnosis on the
problem list is 250.00, the 5th digit is 0 and type 2 is assumed.
7.      If any diabetes diagnosis on the problem list has a 5th digit of
1 or 3 then the type is assumed to be type 1.
8.      If no diagnosis exists on the problem list or in the diabetes
register, then the last PCC purpose of visit related to diabetes is
reviewed. If it contains a 5th digit of 0 or 2 then the type is assumed
to be Type 2, if the 5th digit is a 1 or 3 then the type is assumed to be
type 1.


                                  TOBACCO USE
Tobacco use status of the patient.  The tobacco use is determined in the
following way:  The last documented of the following items is found:

-       Health Factor in the TOBACCO (SMOKING) Category.
-       Health Factor in the TOBACCO (SMOKELESS - CHEWING/DIP) Category.
        Note:  if those categories do not exist, then the last health
        factor in the TOBACCO category is found.  If any of the health
        factors found indicates that the person is a Tobacco User they are
        categorized as a tobacco user.

Health factors in the TOBACCO (SMOKING) Category:
       NON-TOBACCO USER     - Not a Current User
       CURRENT SMOKER, STATUS UNKNOWN - Current User
       PREVIOUS (FORMER) SMOKER  - Not a Current User
       CESSATION-SMOKER  - Current User
       CEREMONIAL USE ONLY - Not a Current User
       CURRENT SMOKER, EVERY DAY - Current User
       CURRENT SMOKER, SOME DAY - Current User
       NEVER SMOKED  - Not a Current User
       SMOKING STATUS UNKNOWN - Not Documented

Health factors in the TOBACCO (SMOKELESS - CHEWING/DIP) Category:
```

```
       CURRENT SMOKELESS  - Current User
       PREVIOUS (FORMER) SMOKELESS - Not a Current User
       CESSATION-SMOKELESS - Current User
       SMOKELESS TOBACCO, STATUS UNKNOWN -  Not Documented
       NEVER USED SMOKELESS TOBACCO - Not a Current User

Health factors in the TOBACCO Category:
        NON-TOBACCO USER  - Not a Current User
        CURRENT SMOKER  - Current User
        CURRENT SMOKELESS  - Current User
        PREVIOUS SMOKER  - Not a Current User
        PREVIOUS SMOKELESS - Not a Current User
        CURRENT SMOKER & SMOKELESS - Current User
        CESSATION-SMOKELESS - Current User
        CESSATION-SMOKER - Current User

-       The PCC Problem list and purpose of visits are scanned for any of
the following diagnoses:
-       Diagnoses contained in the BGP GPRA SMOKING DXS taxonomy.
        305.1-305.13
        649.00-649.04
        V15.82
-       Any visit with Dental ADA code 1320 documented.
-       Any visit with the following CPT codes documented:
        BGP SMOKING CPTS taxonomy:  99406-99407,1034F-1036F, G0375-G3076

The last documented of the above items is used to determine if the patient
is a current tobacco user or not. If none of the above are found then the
value is 3  Not Documented.

If the value found is one of the following then the value is 2  Not a
Current User:
  See list above for Non User Health factors
    V15.82
    305.13
    1036F

For all others the value is 1  Current User.


                  TOBACCO REFERRED FOR CESSATION COUNSELING
If the patient is a current tobacco user cessation counseling is
determined in the following manner:
  1.  The patient's health factors recorded in the past year are
      reviewed for a recorded health factor that is contained in the
      DM AUDIT CESSATION HLTH FACTOR taxonomy or any tobacco health
      factor that contains the word "CESSATION"
      If one is found then a value of 1 - Yes is displayed.

  2.  Patient education codes containing "TO-", "-TO", "-SHS", 305.1,
      305.1* (old codes), 649.00-649.04, V15.82, D1320, 99406, 99407,
      G0375 (old code), G0376 (old code), 4000F, G8402 or G8453;

  3.  A visit to Clinic code 94 (tobacco cessation clinic);

  4.  Dental code 1320 recorded during the past year;

  5.  CPT code D1320, 99406, 99407 , G0375 (old code), G0376 (old code),
      4000F, 4001F, G8402 or G8453 during the report period.

  6.  Prescription for Tobacco Cessation Aid:  Any of the following
```

documented anytime during the Report Period:
1. Prescription for medication in the site-populated BGP CMS SMOKING CESSATION MEDS taxonomy that does not have a comment of RETURNED TO STOCK.
2. Prescription for any medication with name containing "NICOTINE PATCH", "NICOTINE POLACRILEX", "NICOTINE INHALER", or "NICOTINE NASAL SPRAY", or "NICOTINE TRANS" that does not have a comment of RETURNED TO STOCK.

7. If none of the above are found, a 2 - No is displayed.

HEIGHT

The last recorded Height value taken on or before the ending date of the audit.
AUDIT Export file: The last recorded height prior to the audit date is passed to the EPI record. The height is rounded to 2 decimal digits. For example, 60.25 inches. The height in feet and inches is also passed on the epi record.

WEIGHT

The last recorded Weight value taken during the audit period.

AUDIT Export: The last recorded weight during the audit period is passed to the web audit. The weight is rounded to the nearest whole pound.

BMI

BMI is calculated in the following way: The last weight in the 2 years prior to the audit date and the last height recorded anytime before the audit date are used to calculate the BMI. Where W is weight in lbs and H is height in inches: W=W*.45359,H=(H*.0254),H=(H*H),%=(W/H),%=$J(%,4,1)

Cumulative Audit: BMI is used and percentages of overweight and obese patients are calculated. If the patient did not have a height or weight recorded as described above they fall into the "BMI could not be calculated" category.

HYPERTENSION DOCUMENTED

If Hypertension is on the problem list or the patient has had at least 3 visits with a diagnosis of hypertension ever then it is assumed that they have hypertension.

BLOOD PRESSURES (LAST 2/3)

The last 3 recorded Blood Pressure values on non-ER clinic visits in the year prior to the audit date are obtained. If 3 blood pressures are not available then the last 2 are obtained.

AUDIT Export file: The last 3 (if available) or else last 2 systolic and diastolic values as well as the mean of the systolic values and diastolic values are passed on to the EPI record. If there are not at least 2 values the mean is not calculated.

FOOT EXAM (COMPLETE)

The logic used in determining if a complete foot exam has been done is as follows:
1. A documented DIABETIC FOOT EXAM, COMPLETE (CODE 28) is searched

```
for in the year prior to the audit date.  This is recorded in V Exam.  If
found, no other processing is done, an exam is assumed to have been done.
2.      A visit on which a podiatrist (provider class codes 33 -
PODIATRIST, 84 - (PEDORTHIST) or 25 - CONTRACT PODIATRIST) that is not a
DNKA visit is searched for in the year prior to the audit date.  If
found, it is assumed the exam was done and no further processing is done.
3.      A visit to clinic 65 - PODIATRY or B7 -Diabetic Foot clinic that
is not a DNKA is searched for in the year prior to the audit date.  If
found, no other processing is done.
4.      If none of the above are found, the last documented refusal
is searched for, if that refusal is "Not Medically Indicated" the value is
"No".  All other refusal types are ignored.

If none of the above are found the value is "No".


                     EYE EXAM (dilated or retinal camera)
The logic used in determining if a diabetic eye exam has been done is as
follows:
1.      The system looks for the last documented Diabetic Eye Exam in
the computer record in the year prior to the audit date.
Diabetic Eye Exam is defined as:
  a     EXAM 03 - Diabetic Eye Exam
  b.    CPT in the DM AUDIT EYE EXAM CPTS:
        2019F
        2020F - 2021F
        2022F
        2024F
        2026F
        67028
        67038
        67039
        67040
        92002 - 92014
        92250
        S0620
        S0621
        S3000
  c.    ICD Procedure 95.02 or 95.03.
2.      If one is found, no further processing is done.
3.      If no documented exam or CPT is found, then all PCC Visits in the
year prior to the end of the audit are scanned for a non-DNKA,
non-Refraction visit to an Optometrist or Ophthalmologist (24, 79, 08) or
an Optometry or Ophthalmology Clinic (17, 18, 64 or A2). If found, then a
yes and an indication of what was found is displayed.  Refraction is
defined as a POV on the visit of: 367.89, 367.9, 372.0, 372.1.  DNKA is
defined as any visit with a primary purpose of visit with a provider
narrative containing the following phrases:  DNKA, DID NOT KEEP
APPOINTMENT, DID NOT KEEP APPT.
5.      If none of the above is found, then the last documented refusal
is found, if the last documented refusal is NMI - Not Medically
Indicated then the value assigned is 2 - No.  All other refusals are
ignored.
6.      If none of the above items are found the value is 2 No.


                                  DENTAL EXAM
The logic used in determining if a dental exam has been done is as
follows:
1.      A documented DENTAL EXAM (CODE 30) is searched for in the year
prior to the audit date.  If found, no other processing is done.
```

```
2.      A visit to clinic 56 - DENTAL clinic that is not a DNKA is
searched for in the year prior to the audit date.  If found, no other
processing is done.
3.      A visit on which a dentist (provider class code 52 -DENTIST) that
is not a DNKA visit is searched for in the year prior to the audit date.
If found, and there is any ADA code other than 9991, then it is assumed
the exam was done and no further processing is done.
4.      If none of the above is found, then the last documented refusal
is found, if the last documented refusal is a NMI - Not Medically
Indicated then the value assigned is 2 - No.  All other refusals are
ignored.
5.      If none of the above are found, the value is 2 - No.


                                DIET INSTRUCTION
The values in the audit are:
       1      RD
       2      Other
       3      Both RD & Other
       4      None
All visits in the year prior to the audit date are examined. Chart review
visits are skipped (Chart review is defined as service category of C or
clinic code of 52).
 - If the primary provider on any visit is a DIETICIAN or NUTRITIONIST
   (codes 29, 07 or 34) then RD is assigned.
 - If the visit does not have one of the above providers but has a
   Diagnosis of V65.3 then Other is assigned.
 - If the visit has a CPT documented of 97802, 97803, or 97804 then RD
   is assigned.
 - If the visit contains any of the following education topics
   Topic in the DM AUDIT DIET EDUC TOPICS taxonomy
   Topic ending in -N
   Topic ending in -DT
   Topic ending in -MNT
   Topic beginning with MNT-
   The V PAT ED entry is examined and if the provider documented in
   that entry is a Dietician or Nutritionist the RD is assigned if
   the provider is blank or not an dietician/nutritionist then Other
   is assigned.

At this point:
- if RD is assigned and Other is not then the value assigned is 1 - RD.
- if RD and Other is assigned then the value assigned is 3 - RD & Other.
- if Other is assigned and RD is not then the value assigned is 2 - Other.

Processing stops if a value is assigned.

If none of the above is documented, the value is 4 - None


                              EXERCISE INSTRUCTION
All visits in the year prior to the audit date are examined.
If there is a visit on which a patient education topic in the DM AUDIT
EXERCISE EDUC TOPICS taxonomy, or any topic ending in "-EX" is documented
then a 1 - Yes.  No further processing is done.

All visits in the year prior to the audit date are examined for a POV of
V65.41 and if one is found a 1 - Yes is displayed.

If neither of the above is documented, the value is 2 - None
```

DM EDUCATION (OTHER)

All education topics documented in the year prior to the audit date are examined. If the topic meets the following criteria then the value assigned is 1 - Yes:

- topic does not end in -EX, -N, -DT or -MNT
- topic does not begin with MNT-
- topic is in the DM AUDIT OTHER EDUC topics taxonomy or the name of the topic begins with 250, DM or DMC

If neither of the above is documented, the value is 2 - None

DEPRESSION AN ACTIVE PROBLEM?

The patient's problem lists in both PCC and the Behavioral Health module are reviewed for any problem with the following ICD codes:

1) 290.13 -290.13
2) 290.21 -290.21
3) 290.43 -290.43
4) 296.00 -296.89
5) 298.0 -298.0
6) 300.13 -300.13
7) 300.4 -300.4
8) 301.12 -301.12
9) 309.0 -309.1
10) 309.28 -309.28
11) 311. -311.

or for the following Behavioral Health problem codes: 14, 15. If no problem found on the problem list then the PCC and BH systems are reviewed for at least 2 diagnoses (POV's) of the codes listed above in the year prior to the audit date. If either a problem is found on the problem list or 2 POV's are found then the value on the audit is 1 - Yes. If not, then value of 2 - No is assigned.

DEPRESSION SCREENING

The PCC and Behavioral health databases are reviewed for any of the Following documented in the past year:

V Exam 36 or Behavioral Health Module Depression Screening
Diagnosis - V POV V79.0
Education Topics - V EDUCATION or Behavioral Health Module DEP-SCR
V Measurement PHQ2, PHQ9, PHQT
Behavioral Health Module Diagnosis (POV) of 14.1
Diagnosis in DM AUDIT DEPRESSIVE DISORDERS taxonomy in V POV
Diagnosis in DM AUDIT DEPRESSIVE DISORDERS taxonomy in BH
Problem Code of 14 or 15 in BH

If any of the above is found then a value of 1 - Yes is assigned.

(No) if no documentation of depression screening found.

DM THERAPY

All Visits in the 6 months prior to the audit date are reviewed. If any medication in the taxonomy specified is found, then an 'X' is placed by the therapy name. If no medications are found then the Diet & Exercise Alone item is marked with an 'X'.

Therapy	Taxonomy Name
Insulin	DM AUDIT INSULIN DRUGS
Sulfonylurea	DM AUDIT SULFONYLUREA DRUGS

```
   Glinide                DM AUDIT SULFONYLUREA LIKE
   Metformin              DM AUDIT METFORMIN DRUGS
   Acarbose               DM AUDIT ACARBOSE DRUGS
   Proglitazone           DM AUDIT GLITAZONE DRUGS
   GLP-1 med              DM AUDIT INCRETIN MIMETIC
                          DM AUDIT GLP-1 ANALOG DRUGS
   DPP4 inhibitors        DM AUDIT DPP4 INHIBITOR DRUGS
   Amylin analogues       DM AUDIT AMYLIN ANALOGUES
   Bromocriptine          DM AUDIT BROMOCRIPTINE DRUGS
   Colesevelam            DM AUDIT COLESEVELAM DRUGS


                              ACE INHIBITOR/ARB
1.      If any drug in the DM AUDIT ACE INHIBITORS taxonomy or any drug
with a VA Drug Class of CV800 or CV805 has been prescribed in the 6
months prior to the audit date a Yes is displayed.
2.      If no drugs are found, a No is displayed.


                         ASPIRIN/ANTIPLATELET THERAPY
All medications in the past year are reviewed for males over 50 and
females over 60. If any of them are in the DM AUDIT ASPIRIN DRUGS or DM
AUDIT ANTI-PLATELET DRUGS taxonomies then a value of 1 - Yes is assigned,
no further processing is done.

The Non-VA meds component in the pharmacy patient file is reviewed for
any drug in the above mentioned taxonomies or an orderable item whose
first 7 characters is "ASPIRIN" and whose 8th character is not a "/".
If one is found then a value of 1 - Yes is assigned and no further
processing is done.

If no Aspirin drugs are found then a 2 - None is assigned.


                            LIPID LOWERING AGENT
All medications prescribed in the 6 months prior to the audit date are
examined.  Each is checked against the following taxonomies.  If one
is found an X is placed beside that drug type on the audit sheet.
- DM AUDIT STATIN DRUGS
- DM AUDIT FIBRATE DRUGS
- DM AUDIT NIACIN DRUGS
- DM AUDIT BILE ACID DRUGS
- DM AUDIT GLITAZONE DRUGS
- DM AUDIT EZETIMIBE DRUGS
- DM AUDIT FISH OIL DRUGS
- DM AUDIT LOVAZA DRUGS

If none are found then 8-None is marked with an X.


                                 TB TESTING
The type of TB Test done is determined in the following way:
1.     If the patient has a TB health factor recorded, TB on the problem
list or any diagnoses of TB documented in the PCC then the test type is
documented as 1 - Skin Test (PPD), no further processing is done.
2.     All recorded PPD entries and TB lab tests using the DM AUDIT
TB TESTS TAX prior to the audit date are gathered.  If at least one is
found the latest one is used, if it is a Skin test then 1 - Skin test
(PPD) is documented, if it is a lab test then 2 - Blood Test is
documented.
3.  If there are none found then the value is 4 - UNKNOWN/NOT OFFERED.
```

TB Test result

The TB test result is determined in the following way:
1. If the patient has a TB health factor recorded, TB on the problem list or any diagnoses of TB documented in the PCC then the test result is documented as 1 - Positive, no further processing is done.
2. All recorded PPD entries and TB lab tests using the DM AUDIT TB TESTS TAX prior to the audit date are gathered. If at least one is found the latest one is used, if it is a Skin test and the reading or result is Positive (reading >9) then it is documented as 1 - Positive, if reading or result of last PPD is negative, then the values is 2 - Negative, if the test type is a blood test then the value of the test is examined, if it is Positive then 1 - Positive is recorded, if it is negative then 2 - Negative is documented. If the results are null the a value of 4 - Unknown is documented.
3. If there are none found then the value is 4 - UNKNOWN/NOT OFFERED.

TB RESULT POSITIVE, IHN TX COMPLETE

If the value of the TB Test result is POSITIVE then the last TB health factor is looked at for determining TB Treatment status. The last recorded TB Health factor is displayed. The TB Health factors are: TB - TX COMPLETE TB - TX INCOMPLETE TB - TX UNKNOWN TB - TX UNTREATED

TB RESULT NEGATIVE, TEST DATE

If the value of TB test result is NEGATIVE then the date of the last TB test is displayed.

CVD

If CVD is found on the problem list or patient had at least two diagnoses ever of CVD then the patient is assumed to have CVD. Diagnoses codes used:

1) 393. -398.99
2) 402.00 -402.91
3) 410.0 -414.9
4) 415.1 -415.19
5) 424.0 -424.99
6) 425.0 -425.9
7) 426.0 -427.9
8) 428.0 -428.9
9) 429.2 -429.2
10) 433.0 -434.91
11) 440.1 -440.29
12) 440.4 -440.4
13) 443.21 -443.29
14) 443.81 -443.89
15) 443.9 -445.89
16) 451.11 -451.19
17) V45.01 -V45.01
18) V45.81 -V45.82

If no diagnosis is found then the patient's record is searched for any of the following documented ever. If found, patient is assumed to have CVD.
A) CABG Procedure: V POV V45.81; V CPT: 33510-33514, 33516-33519, 33521-33523, 33533-33536, HCPCS: S2205-S2209; V Procedure: 36.1* or 36.2*.

B) PCI Procedure: V POV: V45.82; V CPT: 92980, 92982, 92995; HCPCS: G0290; V Procedure: 00.66, 36.01 (old code), 36.02 (old code), 36.05,

(old code), 36.06-36.07.

SEASONAL FLU VACCINE

The patient's data is scanned for an Influenza vaccine in the 12 months prior to the audit date. Influenza vaccine defined as:

- Immunization CVX codes: 15, 16, 88, 111, 135, 140, 141, 144
- CPT codes: DM AUDIT SEASONAL FLU CPTS:

LOW VALUE: 90654	HIGH VALUE: 90658
LOW VALUE: 90660	HIGH VALUE: 90662
LOW VALUE: G0008	HIGH VALUE: G0008
LOW VALUE: G8108	HIGH VALUE: G8108

- Diagnosis codes: V04.81, V06.6

If no documented immunization is found, a documented refusal in the past 12 months is searched for. If neither are found a No is assumed.
Values: Yes, No, Refused.

PNEUMOVAX EVER

Data is scanned for Pneumococcal vaccine any time prior to the audit date. A Pneumovax is defined as:

- Immunization CVX codes: 33, 100, 109, 133
- Diagnoses: V06.6, V03.82
- CPT codes: BGP PNEUMO IZ CPTS taxonomy (90669, 90670, 90732, G0009, G8115)
- Procedure: 99.55

If none is found, the refusal file is checked for a documented refusal of this vaccination. Refusals documented in both the PCC and the Immunization register are reviewed. If neither are found a No is assumed.
Values: Yes, No, Refused.

HEPATITIS B

The audit looks to see if the patient has a series of 3 Hepatitis B vaccinations.
HEP B definition:
CVX codes 8, 42, 43, 44, 45, 51, 102, 104, 110, 132, 146
CPT codes contained in the BGP HEPATITIS CPTS taxonomy: 90636, 90723, 90731, 90740, 90743, G0010, Q3021, Q3023

Vaccinations must be given at least 20 days apart. If 3 are found the audit displays 1 - Yes.

If less than 3 vaccines found the system will look for evidence of desease: Problem List or V POV of 070.2-070.23, 070.3-070.33, V02.61. If found the audit displays 2 - No.

If 3 vaccines are not found and evidence of disease is not found the system searches for a refusal documented in the past year.
Refusal definitions: Immunization Package refusal or PCC refusal of the above listed CVX or CPT codes.

TD OR TDAP IN PAST 10 YEARS

Immunizations are scanned for any tetanus vaccine in the 10 years prior to the audit date. If none is found, a documented refusal is searched for.
If neither are found a No is assumed.
Values: Yes, No, Refused.
Logic used to find a TD vaccine:

```
  Immunization CVX codes : 1, 9, 20, 22, 28, 35, 50, 106, 107, 110, 112,
113, 115, 120, 130, 132, 138, 139, 142
  CPT Codes:
   LOW VALUE: 90698                        HIGH VALUE: 90698
   LOW VALUE: 90700                        HIGH VALUE: 90701
   LOW VALUE: 90702                        HIGH VALUE: 90702
   LOW VALUE: 90703                        HIGH VALUE: 90703
   LOW VALUE: 90714                        HIGH VALUE: 90714
   LOW VALUE: 90715                        HIGH VALUE: 90715
   LOW VALUE: 90718                        HIGH VALUE: 90718
   LOW VALUE: 90720                        HIGH VALUE: 90723


                              HBA1C (most recent)
All lab tests in the V LAB file in the year prior to the audit date are
found using the DM AUDIT HGBA1C TAX taxonomy and the BGP HGBA1C LOINC
CODES taxonomies.  Only tests that have a result are used, if the
result of the V LAB is blank, contains "CANC" or contains "COMMENT"
the V Lab is skipped.
  Individual Audit:
The date and result of test is displayed.

  Cumulative Audit:
If the result contains a ">" it goes into the 11.0 or higher category.
If the result contains a "<" it goes into the <7.0 category.
At this point everything is stripped from the result value except for
numbers and ".".  If after stripping what is left is something other than
a number then it is put in the undocumented category.  If what is left
is a numerical value it is put in the appropriate category below:
       HbA1c <7.0
       HbA1c 7.0-7.9
       HbA1c 8.0-8.9
       HbA1c 9.0-9.9
       HbA1c 10.0-10.9
       HbA1c 11.0 or higher
       Undocumented

E-Audit export:
When exported all characters that are not a number or a "." are stripped
from the result value, so if the value is <7.0 what is exported is 7.0.


                                SERUM CREATININE
The last lab test with a result in the year prior to the audit date that
is a member of the DM AUDIT CREATININE TAX taxonomy or the BGP
CREATININE LOINC CODES taxonomy is found in V LAB.  All tests with a
result containing "CANC" are skipped.

Specimen types are not examined so if the same creatinine test is used
for serum creatinine as for urine creatinine, the audit is unable to
distinguish between these values.

Result reporting:
For the individual audit sheet the actual value that is in V LAB is
displayed.
For the cumulative audit:  If no test with a result was found it falls
into the not tested/unknown category.  If there was a result, all
characters that are not numbers or "."'s are stripped from the result
value.  If the first character of the stripped result is not a number or
a "." the value is placed in the not tested/unknown category.  The
stripped result is evaluated and put in the >=2.0 or <2.0 categories.
```

```
Serum Creatinine obtained during audit period            0         0%
       Creatinine >= 2.0 mg/dl                           0         0%
       Creatinine < 2.0 mg/dl                            0         0%
       Creatinine not tested/unknown                     1       100%

For the E-Audit export:
All non number/"." characters are stripped from the result value and that
value is truncated to a total of 4 characters with 1 decimal digit.


                                ESTIMATED GFR
For patients that are 18 or older, the last lab test in the year prior to
the audit date that is a member of the BGP GPRA ESTIMATED GFR TAX or the
BGP ESTIMATED GFR LOINC taxonomy is found.

For the individual audit sheet the actual value that is in V LAB is
displayed.
For the cumulative audit:
If the first character of the value is "<" it goes into >=60 ml/min
All characters other than numbers and "."'s are stripped from the result
value
The resulting value is placed in the following categories:
If blank - no category assigned
30-59
15-29
<15
E-Audit export:
All non number/"." characters are stripped from the result value and that
value is truncated to a total of 4 characters with 1 decimal digit.


                             TOTAL CHOLESTEROL
The last lab test with a result in the year prior to the audit date that
is a member of the DM AUDIT TOTAL CHOLESTEROL TAX taxonomy or the BGP
TOTAL CHOLESTEROL LOINC taxonomy is found in V LAB.


Cumulative Audit:
The result is used in the calculation of the NON-HDL section.

E-Audit Export:
All non number/"." characters are stripped from the result value and that
value is then rounded to the closest whole number and truncated to a
total of 3 characters with 0 decimal digits.


                               HDL CHOLESTEROL
The last lab test with a result in the year prior to the audit date that
is a member of the DM AUDIT HDL CHOLESTEROL TAX taxonomy or the BGP HDL
LOINC CODES taxonomy is found in V LAB.


Cumulative Audit:
The result of the test is examined and is put into the following
categories.  If the result is blank OR the 1st digit of the result is not
a number then it is put in the Unable to determine result category since
we cannot interpret the result.  For example, if the value is
"cancelled", it will fall into unable to determine.
       HDL <35 mg/dl
       HDL 35-45 mg/dl
```

```
       HDL 46-55 mg/dl
       HDL >55
       Not tested/No valid result

E-Audit Export:
All non number/"." characters are stripped from the result value and that
value is then rounded to the closest whole number and truncated to a
total of 3 characters with 0 decimal digits.


                                LDL CHOLESTEROL
The last lab test with a result in the year prior to the audit date that
is a member of the DM AUDIT LDL CHOLESTEROL TAX taxonomy or the BGP LDL
LOINC CODES taxonomy is found in V LAB. Tests with a result containing
"CANC" are ignored.

Cumulative Audit:
The result of the test is examined and is put into the following
categories.  If the 1st digit of the result is not a number then it is put
in the Unable to determine result category since we cannot interpret the
result.  For example, if the value is "UNK",
it will fall into unable to determine.
       LDL <100 mg/dl
       LDL 100-129 mg/dl
       LDL 130-160 mg/dl
       LDL >160
       Not tested

E-Audit Export:
All non number/"." characters are stripped from the result value and that
value is then rounded to the closest whole number and truncated to a
total of 3 characters with 0 decimal digits.


                                TRIGLYCERIDES
The last lab test with a result in the year prior to the audit date that
is a member of the DM AUDIT TRIGLYCERIDES TAX taxonomy or the BGP
TRIGLYCERIDE LOINC CODES taxonomy is found in V LAB.  Only tests with a
result are used, tests with a result containing "CANC" or "COMMENT" are
also skipped.

Cumulative Audit:
The result of the test is examined and is put into the following
categories.  If the result is blank OR the 1st digit of the result is not
a number then it is put in the Unable to determine result category since
we cannot interpret the result.  For example, if the value is
"cancelled", it will fall into unable to determine.
       TG <150 mg/dl
       TG 150-199 mg/dl
       TG 200-400 mg/dl
       TG >400 mg/dl
       Not tested

E-Audit Export:
All non number/"." characters are stripped from the result value and that
value is then rounded to the closest whole number and truncated to a
total of 3 characters with 0 decimal digits


                                    NON-HDL
All V Lab entries that have a non-cancelled, non-comment result are
```

```
found using the following taxonomies:
DM AUDIT NON-HDL TESTS
DM AUDIT NON-HDL LOINC

If no test is found this value is calculated by taking the total
cholesterol value minus the HDL value.  If either Total Cholesterol or
HDL is not present the value is not calculated.


                          URINE TESTED FOR PROTEIN
For all urine protein tests, the last test with a result during the audit
year is used for the audit beginning with Quantitative UACR.  If a
Quantitative UACR test is not found, the last UPCR test with a result
during the audit year is searched for.  If no UPCR is found during the
audit year, the last 24 HR URINE PROTEIN test with a result during the
audit year is searched for. The logic continues through each type of
protein test if no test is found in the preceding category. If no Urine
protein test with a result is found during the audit year, a No is
recorded for Urine Protein testing.
1.  A test contained in the DM AUDIT QUANT UACR lab taxonomy or DM AUDIT
A/C RATIO LOINC taxonomy, if found then the patient is assigned a value
of 1 - Yes and an X is placed by the 1 - Quantitative Albumin:Creatinine
Ratio (UACR).  If the test found does not have a valid numeric result
then the system will look for a microalbumin test on the same visit date.
If found then the patient is assigned a value of 1 - Yes and an X is
placed by the 1 - Quantitative Albumin:Creatinine Ratio (UACR). If this
scenario occurs, a value of 5 is passed to the Audit Export.
2.  A test contained in the DM AUDIT P/C RATIO taxonomy or the DM AUDIT
P/C RATIO LOINC, if found, the patient is assigned a value of 1 - Yes and
an X is placed by the 2 - Urine Protein:Creatinine Ratio.
3.  A test contained in the DM AUDIT 24HR URINE PROTEIN taxonomy, if
found, the patient is assigned a value of 1 - Yes and an X is placed by
the 3 - 24 hr urine collection for protein.
4.  A test contained in the DM AUDIT SEMI QUANT UACR taxonomy, if found,
the patient is assigned a value of 1 - Yes and an X is placed by the 4 -
Microalbumin:creatinine strips.  The value is examined and coded as one
of the following:
       1  <30 mg/g
       2  30-300 mg/g
       3  >300 mg/g
5.  A test contained in the DM AUDIT MICROALBUMINURIA TAX taxonomy, if
found, the patient is assigned a value of 1 - Yes and an X is placed by 5
-Microalbumin only.  The result is examined and coded as follows:
       1       <20 mg/L
       2       >=20 mg/L
6.      A test contained in the DM AUDIT URINE PROTEIN TAX taxonomy, if
found, the patient is assigned a value of 1 - Yes and an X is place by 6
- UA Dipstick.  The value is examined and coded as follows:
       1       Normal or trace
       2       Abnormal (>= 1+)

7.  If none of the above is found, the patient is assigned a value of
    2 - No.
```

Appendix B: Audit Export (Data) File Definition

The 2013 Audit Export (Data) file is a text file, using (^) as the delimiter. If a data point is missing, a space should appear between the delimiters (e.g., ^ ^).

Line 1 is the variable name line, and contains the audit variables in the order that they appear below.

Lines 2-x will contain the data, with each line representing a single record (see Figure 5-1 on page 45).

Table B- 1displays the variable names and a brief description.

(Additions from the 2012 Audit are shown in **bold** font; deletions from the 2012 Audit are shown in *italic* font).

Table B- 1: Audit Export File Definition

Order	Variable Name	Description
1	AUDITDATE	Ending date of the audit in xx/xx/xxxx format; 12/31/2012 for the 2013 audit cycle.
2	FACILITYNA	Name or abbreviation for the facility
3	AREA	2 digit IHS code for Area (1st 2 digits of ASUFAC code)
4	SU	2 digit IHS code for Service Unit (middle 2 digits of ASUFAC code)
5	FACILITY	2 digit IHS code for Facility (last 2 digits of ASUFAC code)
6	REGNUM	Number of active diabetes pts being cared for at the facility
7	REVIEWER	Reviewer's initials, up to 3 characters
*	*TRIBAL*	*3 digit IHS Tribal Affiliation code*
8	STATE	2 character postal abbreviation for state of residence
9	CHARTNUM	Patient's chart number
10	DOB	Date of Birth
11	AGE	Age in full years
12	SEX	1=Male, 2=Female
13	DODX	Date of diabetes diagnosis
14	DURDM	Calculated duration of diabetes in full years
15	DMTYPE	1=Type 1 2=Type 2 (or type uncertain)
16	TOBACCO	1=Current tobacco user, 2=Not a current user, 3=Not documented
17	TOBCOUNSEL	Tobacco cessation counseling received: 1=Yes, 2=No, *3=Refused*
18	FEET	Last recorded height in feet (combine with the next variable, INCHES)

19	INCHES	Last recorded height in inches (or in combination with previous variable, FEET)
20	HEIGHT	Last recorded height in inches
21	WEIGHT	Last recorded non-pregnant weight in lbs.
22	BMI	Calculated body mass index based on HEIGHT and WEIGHT
23	HTNDXTX	Is there a history of hypertension, based on diagnosis or Rx: 1=Yes 2=No
24	SYST1	Most recent systolic BP
25	DIAST1	Most recent diastolic BP
26	SYST2	Next most recent systolic BP
27	DIAST2	Next most recent diastolic BP
28	SYST3	Third most recent systolic BP
29	DIAST3	Third most recent diastolic BP
30	SYSMEAN	Calculated mean systolic BP based on last 3 if available, otherwise last 2
31	DIAMEAN	Calculated mean diastolic BP based on last 3 if available, otherwise last 2
32	FOOTEXAM	Complete diabetic foot exam: 1=Yes, 2=No, *3=Refused*
33	EYEEXAM	Dilated retinal exam or retinal camera exam: 1=Yes, 2=No, *3=Refused*
34	DENTALEXAM	Examination of teeth and gingiva: 1=Yes, 2=No, *3=Refused*
35	DIETINSTR	Dietary instruction: 1=Yes by RD 2=Yes by non-RD, 3=Yes by RD & non-RD, 4=None, *5=Refused*
36	EXERCISE	Exercise education: 1=Yes, 2=No, 3=Refused
37	DMEDUC	Diabetes education other than diet and exercise: 1=Yes, 2=No, *3=Refused*
38	DEPDX	Active diagnosis of depression: 1=Yes, 2=No
39	DEPSCREEN	Screened for depression (if above is "No"): 1=Yes, 2=No, *3=Refused*
40	TXDIET	Only therapy for diabetes is diet and exercise (no meds): 1=Yes, 2=No
41	TXINSUL	Taking any insulin: 1=Yes, 2=No
42	TXSUREA	Taking a sulfonylurea (such as glyburide or glipizide): 1=Yes, 2=No
43	TXSUREALK	Taking a glitinide (s'urea-like med) such as Prandin or Starlix: 1=Yes, 2=No
44	TXMETFORM	Taking metformin: 1=Yes, 2=No
45	TXACARB	Taking acarbose (Precose) or miglitol (Glyset): 1=Yes, 2=No
46	TXGLIT	Taking a TZD ("glitazone") drug like pioglitazone (Actos) or rosiglitazone (Avandia): 1=Yes, 2=No
47	**TXGLP1MED**	**Taking injectable GLP-1 med (Byetta, Bydureon, Victoza): 1=Yes, 2=No**
*	*TXBYETTA*	*Taking injectable incretin mimetic (Byetta): 1=Yes, 2=No (This group was combined with TXGLP1 to make new group, TXGLP1MED)*
48	TXDPP4	Taking DPP4 inhibitor (Januvia, Onglyza, Tradjenta): 1=Yes, 2=No
49	TXAMYLIN	Taking injectable amylin analog (Symlin): 1=Yes, 2=No

*	*TXGLP1*	*Taking GLP-1 analog (Victoza): 1=Yes, 2=No (This group was combined with TXGLP1 to make new group, TXGLP1MED)*
50	TXBROMO	Taking bromocriptine (Cycloset): 1=Yes, 2=No
51	TXCOLESEV	Taking colesevelam (Welchol): 1=Yes, 2=No
*	*TXREFUNK*	*Diabetes therapy is unknown or refused: 1=Yes, 2=No*
52	ACE	Taking an ACE inhibitor or ARB: 1=Yes, 2=No, *3=Refused or adverse reaction*
53	ASPIRIN	Taking daily aspirin or anticoagulant: 1=Yes, 2=No, *3=Refused or adverse reaction*
54	LLSTATIN	Taking a statin drug (simvastatin, lovastatin, others): 1=Yes, 2=No
55	LLFIBRATE	Taking a fibrate (gemfibrozil/Lopid): 1=Yes, 2=No
56	LLNIACIN	Taking niacin (Niaspan, OTC niacin): 1=Yes, 2=No
57	LLBAS	Taking a bile acid seqestrant (cholestyramine/Questran, others): 1=Yes, 2=No
58	LLEZETIM	Taking ezetimibe (Zetia): 1=Yes, 2=No
59	LLFISHOIL	Taking fish oil: 1=Yes, 2=No
60	LLLOVAZA	Taking Lovaza: 1=Yes, 2=No
61	LLNONEREF	Taking no lipid lowering drugs: 1=Yes, 2=No
*	*TBTESTDONE*	*Skin (PPD) or blood test for TB done ever: 1=Yes, 2=No, 3=Refused 4=Unknown/not offered*
*	*TBTESTRSLT*	*TB test result: 1=Positive, 2=Negative, 3=Refused 4=Unknown*
*	*TBINHTX*	*[only completed if TBTESTRESLT=1] INH treatment complete: 1=Yes, 2=No, 3=Refused 4=Unknown*
62	**TBTESTDONE2**	**Skin (PPD) or blood test for TB done ever: 1=Yes, 2=No, 3=Unknown/not offered**
63	**TBTESTRSLT2**	**TB test result: 1=Positive, 2=Negative, 3=Unknown**
64	**TBINHTX2**	**[only completed if TBTESTRESLT=1] INH treatment complete: 1=Yes, 2=No, 3=Unknown**
65	TBTESTDATE	[only completed if TBTESTRESLT=2] Date of last TB test in xx/xx/xxxx format
66	TBSTATUS	Single digit code: 1=TB pos, INH tx complete; 2=TB pos, INH tx incomplete/unk; 3=TB neg, tested after DODX; 4=TB neg, tested before DODX; 5=TB status unknown; 6=TB neg, DODX or TBTESTDATE unknown
*	*EKGDONE*	*Has ECG been done (ever): 1=Yes, 2=No*
*	*EKGDATE*	*Date of last ECG in xx/xx/xxxx format*
67	**CVDDX**	**Diagnosed cardiovascular disease (CVD) present: 1=Yes, 2=No**
68	FLUVAX	Flu vaccine during audit period: 1=Yes, 2=No, 3=Refused
69	PNEUMOVAX	Pneumococcal vaccine ever: 1=Yes, 2=No, 3=Refused
70	TD	Tetanus (Td or Tdap) in past 10 years: 1=Yes, 2=No, 3=Refused
71	HEPBVAX	Hepatitis B vaccine series (ever): 1=Yes, 2=No, 3=Refused

72	HBA1C	Most recent HbA1c during audit period (to single decimal)
73	HBA1CDATE	Date of most recent HbA1c during audit period in xx/xx/xxxx format
74	CREATDONE	Serum creatinine tested during audit period: 1=Yes, 2=No
75	CREATVALUE	Serum creatinine value in mg/dl (to single decimal)
*	*EGFR*	*Estimated GFR documented in medical record: 1=Yes, 2=No*
76	**EGFRDONE**	**Estimated GFR determined during the audit period: 1=Yes, 2=No**
77	EGFRVALUE	Estimated GFR value, (to single decimal)
78	CHOLDONE	Total cholesterol tested during audit period: 1=Yes, 2=No
79	CHOLVALUE	Total cholesterol value
80	HDLDONE	HDL cholesterol tested during audit period: 1=Yes, 2=No
81	HDLVALUE	HDL cholesterol value
82	**NONHDLDONE**	**NonHDL cholesterol calculation able to be done (i.e, both CHOLVALUE and HDLVALUE present): 1=Yes, 2=No**
83	**NONHDLVALUE**	**Calculated numeric value (CHOLVALUE minus HDLVALUE)**
84	LDLDONE	LDL cholesterol tested during audit period: 1=Yes, 2=No
85	LDLVALUE	LDL cholesterol value
86	TRIGDONE	Triglycerides tested during audit period: 1=Yes, 2=No
87	TRIGVALUE	Triglyceride value
88	UPTESTDONE	Urine tested for protein during audit period: 1=Yes, 2=No, *3=Refused*
89	UPTESTTYP2	Urine test type: 1=UACR, 2=UPCR, 3=24hr protein, 4=Microalb:creat strips, 5=Microalbumin only, 6=UA dipstick
90	UPACRVAL	Urine albumin:creatinine ratio value in milligrams per gram (mg/g)
91	UPPCRVAL	Urine protein:creatinine ratio value in grams per gram (g/g)
92	UP24HRVAL	Urine 24 hr collection for protein in milligrams per 24 hours (mg/day)
93	UPMACCAT	Urine albumin:creatinine strips (e.g., Clinitek): 1= <30 mg/g, 2=30-300 mg/g, 3= >300 mg/g
94	UPMACAT	Urine microalbumin only (e.g., Micral): 1= <20 mg/L 2= >=20 mg/L
95	UPUADIPCAT	Standard urine dipstick for protein: 1=Normal or Trace 2=Abnormal (1+ or more)
96	**COMBINED**	**Meets ALL of the following: A1C <8.0, LDL <100, mean BP <140/<90: 1=Yes, 2=No**
97	LOCAL	Local option question result (single digit, 0-9)
98	LOCALEXT	Extended local option question, 30 char free text
99	SOURCESYS	Data source: "RPMS", "NEXTGEN", "EPI INFO", etc

Contact Information

If you have any questions or comments regarding this distribution, please contact the OIT Help Desk (IHS).

Phone: (505) 248-4371 or (888) 830-7280 (toll free)

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