RESOURCE AND PATIENT MANAGEMENT SYSTEM

Diabetes Management System

(BDM)

Addendum to User Manual

Version 2.0 Patch 7
January 2014
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Office of Information Technology
Division of Information Technology
Albuquerque, New Mexico

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Document Revision History

Date	Notes
February 2014	• Corrected spelling for Colesevelam. • Corrected spelling for Prasulgrel. • Deletion of Rosiglitazone and Metformin (Avandamet) from the DM Audit GLP-1 Drugs taxonomy and addition to the DM Audit Glitazone Drugs taxonomy. • Addition of Liraglutide (Victoza) to the DM Audit GLP-1 Drugs taxonomy.

Preface

The purpose of this guide is to provide Diabetes Program staff with an overview of changes to the Diabetes Management System (DMS) introduced in Patch 7. In addition, instructions are provided to run the electronic version of the 2014 Diabetes Audit, which is included in this patch.

Note:	Resource and Patient Management System software, including the DMS, is subject to periodic updates based on Indian Health Service Diabetes Standards of Care.

1.0 Introduction

1.1 DMS Changes

DMS v2.0 p7 contains the 2014 Diabetes Audit. A summary of the changes follows:

- Options have been added for populating taxonomies and running the 2014 Diabetes Audit.
- Options have been added for populating taxonomies and running the 2014 Pre Diabetes audit.
- The Master List has been modified to support the display of sub-totals.
- The user interface for selecting the display of patients when running the Master List report has been changed.
- A column has been added to the cumulative audit to display the denominator of eligible patients used to calculate the % of patients who met the audit criteria.
- New CVX codes have been added to the Influenza definition.
- All urine protein assessments have been removed except for that of Quantitative Urine Albumin/Creatinine Ratio (UACR). All Urine Protein taxonomies except the DM AUDIT QUANT UACR have been removed.
- Sex: An Unknown response option has been added.
- Serum Creatinine has been added back to the Laboratory test display.
- Estimated GFR will be calculated if no test in the BGP ESTIMATED GFR taxonomy is found but a serum creatinine value is found during the audit year.
- A documented medication has been removed from the logic for determining if a patient has HTN.
- Diet Instruction has been renamed Nutrition Instruction. The taxonomy for this measure remains DM AUDIT DIET EDUC TOPICS.
- Exercise instruction has been renamed Physical Activity instruction. The taxonomy for this measure remains DM AUDIT DM EXERCISE EDUC TOPICS.
- SGLT-2 inhibitor (Invokana) has been added as a new taxonomy for diabetes mellitus (DM) Therapy.
- Some changes have been made to the logic used for measuring some audit items. Audit Logic may be displayed using the Display Audit Logic option under the Diabetes Audit QA Menu in either RPMS or Visual DMS. Appendix A: contains the logic used for the 2014 audit.

- Audit Export (Data) file variables for 2014 have changed. Appendix B: lists the variables that have been added and those that have been removed.

1.2 Visual DMS Changes

Visual DMS has been updated as follows:

- Only the last four digits of the SSN are displayed when a patient is selected.
- Versions of the audit prior to 2007 have been removed.
- The option to Display Audit Logic has been added to the Diabetes QA Audit Menu.
- The List Labs/Medications used at this Facility Report (LMR) has been added to the Reports menu.
- An option to display Multiple Health Summaries has been added to the menu structure.

2.0 Preparing for the Audit

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

- Ensure that patients to 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 2014 Diabetes Audit.

- ***Include Patients who***:
  - Have a diagnosis of diabetes – Type 1 or Type 2.
  - Have at least one visit to a primary care clinic during the Audit period. Primary care clinics include:
    - General (01)
    - Diabetic (06)
    - Internal Medicine (13)
    - Pediatric (20)
    - Family Practice (28)
    - Chronic Disease (50)
    - Endocrinology (69)
- ***Exclude Patients who***:
  - Received the majority of their primary care outside your facility during the Audit period.
  - Are currently on dialysis ***and*** receive the majority of their primary care at the dialysis unit.
  - Have died before the end of the Audit period.
  - Have gestational diabetes.
  - Have pre-diabetes (impaired fasting glucose or impaired glucose tolerance [IGT]) only.
  - Have moved – permanently or temporarily (should be documented).

- You are unable to contact, defined as at least three tries in 12 months (should be documented in the medical record).

Keep in mind that unless the diabetes register is updated frequently, some of the patients listed as being in an ***Active*** status may not qualify to be included in the audit. Identify those patients and exclude them from the audit.

2.2 Using the Diabetes Register for the 2014 Diabetes Audit

Use the Diabetes Register for the 2014 audit, excluding patients who do not meet the audit criteria, or create a subset of the Diabetes register including only those patients who meet the audit criteria.

To use patients in the Diabetes Register for the audit, there are several reports available 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 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 DMS. Either the traditional RPMS Patient Management option may be used or **Patient Management** in 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 Indian Health Service (IHS) Division of Diabetes Treatment and Prevention (DDTP) requires that the 2014 audit be submitted be for the calendar year ending December 31, 2013. Reports identifying patients with an active status should be run for a time frame between 1/1/2013 and 12/31/2013.

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 retrieve a list of patients in the register who have been given a Register Diagnosis. In this dialogue, a search is made for patients on the register with a Register Diagnosis of GDM. The same script may be used to find patients on the Register who have a Register Diagnosis of 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
------------------------------------------------------------------------
```

```
PATIENT,DEMO I* 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 lists of patients who are on the Diabetes Register with a diagnosis of GDM or IGT have been produced, use the Edit Register Data under Patient Management in the DMS to change the status of these patients to Unreviewed prior to running the audit.

2.2.2 Identifying Possible Inactive Patients in the IHS Diabetes Register

A simple Q-Man search (Figure 2-3) can 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
  FAMILY PRACTICE
  CHRONIC DISEASE
  ENDOCRINOLOGY

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
     FAMILY PRACTICE
     CHRONIC DISEASE
     ENDOCRINOLOGY

Want to save this CLINIC group for future use? No// <Enter>
Next condition of "VISIT": DURING THE PERIOD <Enter>
Exact starting date: 1/1/13 <Enter> (JAN 01, 2013)
Exact ending date: 12/31/13 <Enter> (DEC 31, 2013)

    Subject of subquery: VISIT
    CLINIC (GENERAL/DIABETIC...)
    BETWEEN JAN 1,2013 and DEC 31,2013@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 1,2013 and DEC 31,2013@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
------------------------------------------------------------------------

PATIENT,DEMO A   100005 -
PATIENT,DEMO B*  100011 -
PATIENT,DEMO C*  100013 -
PATIENT,DEMO D   100017 -
PATIENT,DEMO E*  100026 -
PATIENT,DEMO F   100028 -
PATIENT,DEMO G   100030 -
PATIENT,DEMO H   100032 -
PATIENT,DEMO I   100034 -
PATIENT,DEMO J   100064 -
PATIENT,DEMO K   100075 -
PATIENT,DEMO L   100081 -
PATIENT,DEMO M*  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 DMS or Visual DMS.

To edit Register Data in DMS:

1. Open the Patient Management menu of DMS.

```
Register Data                Feb 18, 2014 09:06:49        Page:   of 1
       PATIENT: DEMO,PATIENT Q                              AGE: 73
       ADDRESS: 50 OAK STREET,ADAIR,OK,74330                DOB: 02/03/1940
         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 18,2014
     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 2-4: Selecting 1 Edit Register Data to change Register Status

2. At the "Select Action" prompt, type **1** and press Enter.

```
Register Data              Feb 18, 2014 09:06:49        Page:    1 of    1

       PATIENT: THOMS,DAISY                                AGE: 55
       ADDRESS: 50 OAK STREET,ADAIR,OK,74330               DOB: 11/11/1957
       PHOME..: 555-555-009                                HRN: 100052
        STATUS: UNREVIEWED                                 RES: 3681
       CASE MANAGER:
 REGISTER PROV:
WHERE FOLLOWED:
       CONTACT: Woman's shelter 567-5309
    ENTRY DATE: JUL 12,2011                  LAST EDITED: FEB 18,2014
   LAST REVIEW: JUL 12,2011                  NEXT REVIEW: OCT 12,2011

DM AUDIT LOCAL OPTION CODE:
DM AUDIT LOCAL OPTION TEXT:



_____________________________________________________________________________
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 2-5: Changing Register Status from Active to Unreviewed

3. Move the cursor to the Status field and type the new status value over the old one.
4. Press the down arrow to move the cursor to the "Command" prompt.
5. Type **Save** and press Enter.
6. To record the status update, type **Exit** at the "Command" prompt and press Enter. The window will close.

> **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 that follow may be used as 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 2014 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 2-6) created from this query can be used to run the 2014 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 2-6 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
CHRONIC DISEASE
FAMILY PRACTICE
ENDOCRINOLOGY

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

The following have been selected =>

     GENERAL
     DIABETIC
     INTERNAL MEDICINE
     PEDIATRIC
     CHRONIC DISEASE
     FAMILY PRACTICE
     ENDOCRINOLOGY

Want to save this CLINIC group for future use? No// <Enter> (No)
Next condition of "VISIT": DURING THE PERIOD
Exact starting date: 1/1/2013 (JAN 01, 2013)
Exact ending date: 12/31/2013 (DEC 31, 2013)

     Subject of subquery: VISIT
     CLINIC (GENERAL/DIABETIC...)
     BETWEEN JAN 1,2013 and DEC 31,2013@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 1,2013 and DEC 31,2013@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 1,2013 and DEC 31,2013@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 1,2013 and DEC 31,2013@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 14 <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 2-6: Q-Man search for 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 a Diabetes Register exists but Register diagnoses and patient status have not been maintained, it may be easier to create a template of active patients on the 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 2-7.

```
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//12/31/13  (DEC 31, 2012)
Computing Search Efficiency
Rating.........................................

   Subject of search: PATIENTS
      MEMBER OF 'IHS DIABETES REGISTER-4104' COHORT
      ALIVE AS OF DEC 31,2013

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
CHRONIC DISEASE
FAMILY PRACTICE
ENDOCRINOLOGY

Enter ANOTHER CLINIC:

The following have been selected =>

     GENERAL
     DIABETIC
     INTERNAL MEDICINE
     PEDIATRIC
     CHRONIC DISEASE
     FAMILY PRACTICE
     ENDOCRINOLOGY

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

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

Exact starting date: 1/1/2013  (JAN 01, 2013)
Exact ending date: 12/31/2013  (DEC 31, 2013)

         Subject of subquery: VISIT
         CLINIC (GENERAL/DIABETIC...)
         BETWEEN BETWEEN JAN 1,2013 and DEC 31,2013@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 1,2013 and DEC 31,2013@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 31,2013
         Subject of subquery: VISIT
         CLINIC (GENERAL/DIABETIC...)
         BETWEEN BETWEEN JAN 1,2013 and DEC 31,2013@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 2014
  Are you adding 'DM REGISTER AUDIT 2014' 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 2-7: Template of patients for the audit using the Diabetes Register

2.4 Updating Taxonomies

The taxonomies in Figure 2-8 are referenced in the 2014 RPMS Diabetes Audit. The DM AUDIT SGLP-2 taxonomy (item 34 in the list) is the only new one for 2014. Note also that all Urine Protein taxonomies except the DM AUDIT QUANT UACR have been removed:

- DM AUDIT 24HR URINE PROTEIN
- DM AUDIT P/C RATIO TAX
- DM AUDIT SEMI QUANT UACR
- DM AUDIT URINE PROTEIN TAX

Even though the taxonomies may have been updated for the 2013 audit, they must be reviewed and updated again before running the 2014 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 2014 DIABETES AUDIT REPORTING
* Update Taxonomies

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

```
35)  DM AUDIT SMOKING CESS EDUC      EDUCATION TOPICS
36)  DM AUDIT STATIN DRUGS           DRUG
37)  DM AUDIT SULFONYLUREA DRUGS     DRUG
38)  DM AUDIT SULFONYLUREA-LIKE      DRUG
39)  DM AUDIT TB LAB TESTS           LABORATORY TEST
40)  DM AUDIT TRIGLYCERIDE TAX       LABORATORY TEST
41)  DM AUDIT URINALYSIS TAX         LABORATORY TEST
```

Figure 2-8: Audit 2014 User-Populated taxonomies

The taxonomies may be reviewed and updated with the TU14 option under the DM14 menu of the Diabetes Audit or the corresponding Visual DMS Update Taxonomy option.

When updating lab test taxonomies, attempting to add a test panel to a laboratory test taxonomy that should only include individual tests displays a warning. 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 providers never prescribe INVOKANA, the DM AUDIT SGLP-2 DRUG taxonomy will not have any members.

Taxonomies that follow must be reviewed carefully in light of software changes or changes introduced in the 2014 Diabetes Audit. Possible members of the taxonomies are listed, but are by no means to be considered comprehensive.

2.4.1 Drug Taxonomies

The guidelines of 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. 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 ACE INHIBITORS	Benazepril (Lotensin) Benazepril and hydrochlorothiazide (Lotensin HCT) Benazepril and amlodipine (Lotrel) Captopril (Capoten) Captopril and hydrochlorothiazide (Capozide) Enalapril (Vasotec) Enalapril and hydrochlorothiazide (Vaseretic) Enalapril and diltiazem (Teczem) Enalapril and felodipine (Lexxel) Fosinopril (Monopril) Lisinopril (Prinivil, Zestril) Lisinopril and hydrochlorothiazide (Prinzide, Zestoretic) Moexipril (Univasc) Perindopril (Aceon) Quinapril (Accupril) Ramipril (Altace) Trandolapril (Mavik) Trandolapril and verapamil (Tarka) Also include Angiotensin II Receptor Blockers (ARB) in this Taxonomy Azilsartan (Edarbi) Candesartan (Atacand) Eprosartan (Teveten) Irbsesartan (Avapro) Irbesartan and hydrochlorothizide (Avalide) Losartan (Cozaar) Losartan and hydrochlorothiazide (Cozaar) Olmesartan (Benicar) Telmisartan (Micardis) Valsartan (Diovan) Valsartan and hydrochlorothizide (Diovan/HCT)
DM AUDIT ACARBOSE DRUGS	Acarbose (Precose) Miglitol (Glyset)
DM AUDIT AMYLIN ANALOGUES	Pramlinitide (Symlin)

Taxonomy	Drugs
DM AUDIT ANTIPLATELET THERAPY	Any non-aspirin anti-platelet product including Heparin and Warfarin (Coumadin) Cilistazol (Pletal) Clopidogrel (Plavix) Dipyridamole (Persantine) Ticlopidine (Ticlid) Aspirin and Dipyridamole (Aggrenox) Prasugrel (Effient) Ticagrelor (Brilinta) Dabigatran Etexilate (Pradaxa) Rivaroxaban (Xarelto) Apixaban (Eliquis)
DM AUDIT ASPIRIN DRUGS	Any Aspirin (ASA) or Aspirin containing product. (Verasa, Rubrasa)
DM AUDIT BILE ACID DRUGS	Colestipol (Colestid) Colesevelam (Welchol) Cholestyramine Resin (Prevalite, Questran)
DM AUDIT BROMOCRIPTINE DRUGS	Bromocriptine 0.8 mg (Cycloset)
DM AUDIT COLESEVELAM DRUGS	Colesevelam (Welchol)
DM AUDIT DPP4 INHIBITOR DRUGS	Alogliptin (Nesina) Alogliptin and Metformin (Kazano) Alogliptin and Pioglitazone (Oseni) Linagliptin (Trajenta) Linagliptin and Metformin (Jentadueto) Sitagliptin (Januvia,) Sitagliptin and metformin (Janumet) Sitagliptin and Simvastatin (Juvisync) Saxagliptin (Onglyza) Saxagliptin and Metformin (Kombiglyze XR)
DM AUDIT EZETIMIBE	Ezetimibe (Zetia) Ezetimibe and Atorvastatin (Liptruzet) Ezetimibe and Simvastatin (Vytorin)
DM AUDIT FIBRATE DRUGS	Clofibrate (Atromid-S) Gemfibrozil (Lopid) Fenofibrate (Tricor, Lipofen, Antara, Lofibra, Triglide, Trilipix)
DM AUDIT FISH OIL DRUGS	Rx or OTC Fish Oil, excluding Lovaza

Taxonomy	Drugs
DM AUDIT GLITAZONE DRUGS (aka:Thiazolidinediones)	Troglitazone (Rezulin) - RECALLED Pioglitazone (Actos) Pioglitazone and Alogliptin (Oseni) Pioglitazone and Metformin (Actoplus met) Pioglitazone and Glimeperide (Duetact) Rosiglitazone and Glimeperide (Avandaryl) Rosiglitazone (Avandia) Rosiglitazone and Metformin (Avandamet)
DM AUDIT GLP-1 ANALOG DRUGS	Victoza
DM AUDIT INCRETIN MIMETICS	Exenatide (Byetta), Bydureon
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 LOVAZA DRUGS	Omega-3-acid ethyl esters (Lovaza)
DM AUDIT METFORMIN DRUGS	Metformin (Glucophage, Fortamet, Glumetza, Riomet) Metformin extended release (Glucophage XR, Glumetza) Metformin and Alogliptin (Kazano) Metformin and Glipizide (Metaglip) Metformin and Glyburide (Glucovance) Metformin and Linagliptin (Jentadueto) Metformin and Rosiglitazone(Avandamet) Metformin and Pioglitazone (Actoplus met) Metformin and Sitagliptin (Janumet) Metformin and Repaglinide (PrandiMet) Metformin and Saxagliptin (Kombiglyze XR)
DM AUDIT NIACIN DRUGS	Niacin (Niacor, Niaspan,) Niacin and Simvastatin (Simcor) Niacin and Lovastatin (Advicor)
DM AUDIT SGLT-2 DRUGS	Canagliflozin (Invokana)

Taxonomy	Drugs
DM AUDIT STATIN DRUGS	Atorvastatin (Lipitor) Atorvastatin and Ezetimibe (Liptruzet) Fluvastatin (Lescol) Lovastatin (Mevacor, Altocor,) Lovastatin and Niacin (Advicor) Pravastatin (Pravachol) Rosuvastatin (Crestor) Simvastatin (Zocor) Simvastatin and Niacin (Simcor) Simvastatin and Ezetimibe (Vytorin) Simvastatin and Sitagliptin (Juvisync) Atorvastatin and Amlodipine (Caduet) Pitivistatin (Livalo)
DM AUDIT SULFONYLUREA DRUGS	Acetohexamide (Dymelor) Chlorpropamide (Diabinese) Glimepiride (Amaryl) Glimepiride and rosiglitazone (Avandaryl) Glimepiride and pioglitazone (Duetact) Glipizide (Glucotrol) Glipizide and metformin (Metaglip) Glyburide(Diabeta,Micronase,Glynase, Glycron) Glyburide and metformin (GlucoVance) Tolazamide (Tolinase) Tolbutamide (Orinase)
DM AUDIT SULFONYLUREA-LIKE DRUGS	Nateglinide (Starlix) Repaglinide (Prandin) Repaglinide and Metformin (PrandiMet)

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, should 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, 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 and TREATMENT) DMC-CHRONIC COMPLICATIONS (PREVENTION and 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

All Urine Protein test taxonomies have been removed except for DM AUDIT QUANT UACR. 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. 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 CHOLESTEROL TAX	Cholesterol, Total Cholesterol, _Cholesterol, POC Cholesterol
DM AUDIT CREATININE TAX	Creatinine, POC Creatinine, Serum Creatinine, _Creatinine
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 QUANT UACR TAX	Microalbumin/Creatinine Ratio measured in actual numeric values (mg/g Creatinine). Look for tests A/C, A:C, Albumin/Creatinine, _A/C, -A/C, asterisk (*)A/C, Microalbumin/Creatinine, M-Alb/Creatinine.
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 2-9 is a Health Summary sample with recommended taxonomy placement noted after 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 2-9: Sample Health Summary

2.4.4 LMR–List Labs or Medications Used at this Facility

A report provided in DMS v2.0 p4 displays the laboratory tests reported or the drugs 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. To run the laboratory tests version of this report:

1. At the Diabetes Management Systems menu, type **RP** and press Enter.
2. At the Reports menu, type **LMR** (List Labs/Medications Used at this Facility) and press Enter.
3. At the "Do you wish to list" prompt, type **L** (**LAB TESTS**) and press Enter.
4. Type the beginning and ending dates for the report, pressing Enter after each.
5. At the "Do you wish to" prompt, do one of the following:
   - To print the output, accept the default (**P**) by pressing Enter. A prompt asking for the device name displays; type the device's name and press Enter.
   - To browse the output on the screen, type **B** and press Enter.

   A sample report is shown in Figure 2-10.

```
Feb 27, 2013                                                    Page 1
                    LAB TESTS Used at CIMARRON HOSPITAL
                  Date Range:  Jan 01, 2013 - Dec 31, 2013
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 2-10: Sample Report of Labs Reported during the Audit Year

To run the medications that have been prescribed version of this report:

1. At the Diabetes Management Systems menu, type **RP** and press Enter.
2. At the Reports menu, type **LMR** (List Labs/Medications Used at this Facility) and press Enter.
3. At the "Do you wish to list" prompt, type **M** (**MEDICATIONS**) and press Enter.
4. Type the beginning and ending dates for the report, pressing Enter after each.
5. At the "Do you wish to" prompt, do one of the following:
   - To print the output, accept the default (**P**) by pressing Enter. A prompt asking for the device name displays; type the device's name and press Enter.
   - To browse the output on the screen, type **B** and press Enter.

   A sample report is shown in Figure 2-11.

```
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 2-11: Sample Report of Drugs Prescribed during the Audit year

3.0 Running the 2014 Audit

The directions for creating and submitting an electronic Diabetes Audit data file are outlined in the Audit 2014 Instructions which follow or at: http://www.ihs.gov/MedicalPrograms/Diabetes/index.cfm?module=resourcesAuditResources

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. To run an individual audit using the Patient Management option:

1. At the Diabetes Management Systems menu, type **PM** and press Enter.
2. At the Patient Management menu, type **10** (Audit Status) and press Enter.
3. At the "Enter the Audit Date" prompt, type the ending date of the audit period desired and press Enter.
4. At the "Do you wish to print the Patient's Name…?" prompt, do one of the following:
   - To not print the patient's name on the audit sheet, accept the default (**N**) by pressing Enter.
   - To print the patient's name, type **Y** and press Enter.
5. At the "Do you wish to" prompt, do one of the following:
   - To print the output, accept the default (**P**) by pressing Enter. A prompt asking for the device name displays; type the device's name and press Enter.
   - To browse the output on the screen, type **B** and press Enter.

   A sample report is shown in Figure 3-1.

```
ASSESSMENT OF DIABETES CARE, 2014      DATE AUDIT RUN: Oct 22, 2013  Page: 1

Audit Period Ending Date: Dec 31, 2013  Facility Name: DEMO INDIAN HOSPITAL
REVIEWER initials: DKR                  Community: HASKELL
STATE of Residence: OK
CHART #: 211424    DOB: Feb 03, 1940    SEX: FEMALE
PRIMARY CARE PROVIDER:  PROVIDER,DEMOW\ W

DATE of Diabetes Diagnosis:
  DM Reg: Feb 17, 2004  Problem List: <not documented>  1st PCC DX: Feb 17, 2004
DM TYPE: 2  Type 2
  DM Register: TYPE 2   Problem List: <not documented>  PCC POV's: Type 2

TOBACCO USE: 2  Not a Current User NEVER SMOKED  Feb 17, 2004
  Cessation Counseling received?

HEIGHT (last ever): 60.00 inches Oct 01, 2013
Last WEIGHT in audit period: 210.00 lbs Oct 01, 2013     BMI: 41.0

HTN (documented diagnosis): 2  No
Last 3 BLOOD PRESSURES during audit period:  150/82 mm Hg Oct 01, 2013
                                             152/80 mm Hg Sep 01, 2013

Examinations during audit period
  FOOT EXAM-complete:             1  Yes - Diabetic Foot Exam - 10/01/2013
  EYE EXAM (dilated or retinal camera):
     1  Yes - Diabetic Eye Exam - 10/01/2013
  DENTAL EXAM:                    2  No

Education during audit period
  NUTRITION INSTRUCTION:            1  Yes (RD) RD: DM-N Oct 01, 2013
  PHYSICAL ACTIVITY INSTRUCTION:    1  Yes  DM-EXERCISE  10/01/2013
  DM Education (Other):             1  Yes DM-C  Oct 01, 2013

Mental Health
  Depression an active problem?  2  No
  If 'No', Screened for depression during audit period:
       1  Yes - Exam: DEPRESSION SCR 10/01/2013

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

ACE Inhibitor/ARB  Prescribed, as of the end of the audit period:
          1  Yes   MDF LISINOPRIL 10MG TAB  Oct 01, 2013
Aspirin/Antiplatelet Therapy  Prescribed, as of the end of the audit period:
          1  Aspirin/Antiplatelet Rx
Lipid Lowering Agent  Select all prescribed, as of the end of the
audit period:
```

```
      1 Statin (simvastatin/Zocor, others)
      2 Fibrate (gemfibroil/Lopid, others)
      3 Niacin (Niaspan, OTC niacin)
      4 Bile Acid Sequestrant (cholestyraminie/Questran, others)
   X  5 Ezetimibe (Zetia)
      6 Fish Oil
      7 Lovaza
      8 None

TB Testing
TB test done: 1  TB Positive  Oct 01, 2013  HF: TX INCOMPLETE
TB test result: 1  Positive TB Oct 01, 2013  HF: TX INCOMPLETE
    If PPD Pos, INH Tx Complete: 2 No  TX INCOMPLETE
    If PPD Neg, Last PPD:

CVD: Cardiovascular disease diagnosed:  2  No

Immunizations
  FLU VACCINE during audit period: 1  Yes  Oct 09, 2013
  PNEUMOVAX - ever:              2  No
  Td or Tdap in past 10 yrs:     2  No
  HEP B 3 dose series complete - ever: 2  No

LABORATORY DATA - most recent result during audit period
  HbA1c:                    10.1          Oct 01, 2013     HGB A1C (WWH)
  Serum Creatinine:         1.2 mg/dl     Oct 01, 2013     CREATININE
  eGFR value:               50            Oct 01, 2013     ESTIMATED GFR
  Total Cholesterol:        230 mg/dl     Oct 01, 2013     CHOLESTEROL
  HDL Cholesterol:          35 mg/dl      Oct 01, 2013     HDL
  LDL Cholesterol:          130 mg/dl     Oct 01, 2013     LDL (CALCULATED)
  Non-HDL Cholesterol:      195 mg/dl                      Calculated Value
  Triglycerides:            300 mg/dl     Oct 01, 2013     TRIGLYCERIDE

Urine Protein Testing during audit period

Urine Albumin:Creatinine Ratio (UACR) performed? Yes
       UACR value:          35            Oct 01, 2013     MICROALBUMIN/CREATI

COMBINED:  Meets ALL: A1C <8.0, LDL <100, mean BP <140/<90
     2  No  A1C: 10.1; LDL: 130; Mean BP: 151/81

Has e-GFR and UACR:  Yes

Local Option question:

Extended Local Option question:
```

Figure 3-1: Individual Audit

3.2 Running a Cumulative Audit

Figure 3-2 shows a script to run a Cumulative Audit. The audit may be either queued using the DM14 option in Visual DMS or run from the traditional RPMS menu. It is highly recommended that the 2014 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 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 problems are corrected before creating the Audit Export file.

Note that a list of taxonomies that have no members may display. 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 ...
DM14  2014 Diabetes Program Audit ...
DM14  Run 2014 Diabetes Program Audit

                ASSESSMENT OF DIABETES CARE, 2014

                    PCC DIABETES AUDIT

Enter the Official Diabetes Register: IHS DIABETES

Select 2014 Diabetes Program Audit Option: DM14  Run 2014 Diabetes Program Audit

In order for the 2014 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, 2014

                                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:  12/31/13  (DEC 31, 2013

     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 3-2: Running a Cumulative Audit

At the “DEVICE” prompt, type the printer name. This report can be queued to run later as shown in Figure 3-3.

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

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

Figure 3-3: Queuing the report to run later

> **Note**: A queued report cannot be printed to a locally connected printer usually referred to as a Slave printer

The 2014 cumulative audit is displayed in Figure 3-4.

```
LB                              Oct 16, 2013                        Page 1

            IHS DIABETES CARE AND OUTCOMES AUDIT REPORT - RPMS AUDIT
          AUDIT REPORT FOR 2014 (Audit Period 01/01/2013 to 12/31/2013)
                            for 2013 DEMO HOSPITAL
                          859 patients were audited
--------------------------------------------------------------------------------
                                            # of        #            Percent
                                            Patients    Considered
                                            (Numerator) (Denominator)

Gender
     Male                                        342         859        40%
     Female                                      517         859        60%

Age
     <15 years                                     0         859         0%
     15-44 years                                 120         859        14%
     45-64 years                                 381         859        44%
     65 years and older                          358         859        42%

Diabetes Type
     Type 1                                       27         859         3%
     Type 2                                      832         859        97%

Duration of Diabetes
     Less than 1 year                              0         859         0%
     Less than 10 years                           37         859         4%
     10 years or more                            512         859        60%
     Diagnosis date not recorded                 310         859        36%

Weight Control (BMI)
     Normal (BMI<25.0)                            34         859         4%
     Overweight (BMI 25.0-29.9)                  116         859        14%
     Obese (BMI 30.0 or above)                   346         859        40%
     Height or Weight missing                    363         859        42%

Blood Sugar Control
     HbA1c <7.0                                   84         859        10%
     HbA1c 7.0-7.9                                71         859         8%
```

```
     HbA1c 8.0-8.9                                  67         859         8%
     HbA1c 9.0-9.9                                  46         859         5%
     HbA1c 10.0-10.9                                39         859         5%
     HbA1c 11.0 or higher                           97         859        11%
     Not tested or no valid result                 455         859        53%

Mean Blood Pressure (of last 2, or 3 if available)
     <140/<90                                      340         859        40%
     140/90 - <160/<95                              98         859        11%
     160/95 or higher                               26         859         3%
     BP category Undetermined                      395         859        46%

Tobacco use
     Current Tobacco User                          143         859        17%
         In current users, counseled?    Yes        55         143        38%
                                         No         88         143        62%
     Not a current tobacco user                    482         859        56%
     Tobacco use not documented                    234         859        27%

  LB                            Oct 16, 2013                      Page 2

            IHS DIABETES CARE AND OUTCOMES AUDIT REPORT - RPMS AUDIT
           AUDIT REPORT FOR 2014 (Audit Period 01/31/2013 to 12/31/2013)
                             for 2013 DEMO HOSPITAL
                           859 patients were audited
--------------------------------------------------------------------------------
                                          # of        #            Percent
                                          Patients    Considered
                                          (Numerator) (Denominator)

Diabetes Treatment
     Diet and exercise alone                       462         859        54%
  Diabetes meds currently prescribed, alone or in combination
     Insulin                                       322         859        37%
     Sulfonylurea (glyburide, glipizide,
          others)                                  189         859        22%
     Glinide (Prandin, Starlix)                      0         859         0%
     Metformin (Glucophage, others)                219         859        25%
     Acarbose (Precose)/Miglitol (Glyset)            2         859         0%
     Proglitizone (Actos) or rosiglitazone
          (Avandia)                                  0         859         0%
     GLP-1 med (Byetta, Bydureon, Victoza)           5         859         1%
     DPP4 inhibitor (Januvia, Onglyza,
          Tradjenta)                                10         859         1%
     Amylin analog (Symlin)                          0         859         0%
     Bromocriptine (Cycloset)                        0         859         0%
     Colesevelam (Welchol)                           0         859         0%
     SGLT-2 Inhibitor (Invokana)                     0         859         0%

  Number of diabetes meds currently prescribed
     One med                                       173         859        20%
     Two meds                                      102         859        12%
     Three meds                                    118         859        14%
     Four or more meds                               4         859         0%

ACE Inhibitor or ARB Prescribed
     In patients with known hypertension*          341         674        51%
     In patients with increased
          urine albumin excretion**                 60          77        78%
```

```
Aspirin or Other Antiplatelet Therapy Prescribed
     In the 356 patients with diagnosed CVD        205         356        58%

Lipid Lowering Agent Prescribed
     Single lipid agent                            179         859        21%
     Two or more lipid agents                       29         859         3%
     None                                          651         859        76%

     In patients prescribed one or more lipid agents:
         Statin (simvastatin/Zocor, others)        182         208        88%
           Statin prescribed in patients
           with diagnosed CVD:                     110         356        31%
         Fibrate (gemfibrozil/Lopid, others)        26         208        13%
         Niacin (Niaspan, OTC niacin)                9         208         4%
         Bile Acid Sequestrant (cholestyramine/
           Questran, others)                         1         208         0%
         Ezetimibe (Zetia)                          18         208         9%
         Fish Oil                                    1         208         0%

         Lovaza                                      1         208         0%


   LB                            Oct 16, 2013                        Page 3

           IHS DIABETES CARE AND OUTCOMES AUDIT REPORT - RPMS AUDIT
          AUDIT REPORT FOR 2014 (Audit Period 01/01/2013 to 12/31/2013)
                              for 2013 DEMO HOSPITAL
                            859 patients were audited
--------------------------------------------------------------------------------
                                          # of        #            Percent
                                          Patients    Considered
                                          (Numerator) (Denominator)

Exams
     Foot Exam - Neuro & Vasc                    175         859        20%
     Eye Exam - Dilated or Retinal Camera        212         859        25%
     Dental Exam                                 193         859        22%

Diabetes-Related Education
     Nutritional - by any provider               212         859        25%
     Nutritional - by RD                          86         859        10%
     Physical Activity                           133         859        15%
     Other                                       374         859        44%
     Any of above topics                         396         859        46%

Immunizations
     Flu Vaccine during audit period             345         859        40%
           Refused - Flu Vaccine                  85         859        10%
     Pneumovax - ever                            595         859        69%
           Refused - Pneumovax                     8         859         1%
     Tetanus/Diptheria - past 10 years           562         859        65%
           Refused - Tetanus/Diptheria            12         859         1%
     Hepatitis B 3-dose series complete - ever   461         859        54%
           Refused - Hepatitis B                   9         859         1%

Depression An Active Problem
     Yes                                          82         859        10%
     No                                          777         859        90%

     In patients without active depression, screened
```

```
     for depression during the audit period:
             Screened                                326         777        42%
             Not Screened                            451         777        58%

Laboratory Exams

eGFR to assess kidney function
(In age 18 and above)                                433         859        50%
       eGFR >= 60 ml/min                             274         859        32%
       eGFR 30-59 ml/min                             108         859        13%
       eGFR 15-29 ml/min                              20         859         2%
       eGFR < 15 ml/min                               31         859         4%
       eGFR Not tested or no valid result            426         859        50%

Non-HDL cholesterol                                  257         859        30%
     Non-HDL <130 mg/dl                              172         859        20%
     Non-HDL 130-159 mg/dl                           43          859         5%
     Non-HDL 160-190 mg/dl                           26          859         3%
     Non-HDL >190 mg/dl                              16          859         2%
     Not tested or no valid result                   602         859        70%

    LB                              Oct 16, 2013                        Page 4

            IHS DIABETES CARE AND OUTCOMES AUDIT REPORT - RPMS AUDIT
           AUDIT REPORT FOR 2014 (Audit Period 01/01/2013 to 12/31/2013)
                            for 2013 DEMO HOSPITAL
                                                    859 patients were audited
--------------------------------------------------------------------------------
                                          # of        #            Percent
                                          Patients    Considered
                                          (Numerator) (Denominator)


LDL cholesterol                                      252         859        29%
     LDL <100 mg/dl                                  172         859        20%
     LDL 100-129 mg/dl                               53          859         6%
     LDL 130-160 mg/dl                               17          859         2%
     LDL >160                                        10          859         1%
     Not tested or no valid result                   607         859        71%

HDL cholesterol
   In females
     HDL =<50 mg/dl                                  125         517        24%
     HDL >50 mg/dl                                   32          517         6%
     Not tested or no valid result                   360         517        70%

   In males
     HDL =<40 mg/dl                                  59          342        17%
     HDL >40 mg/dl                                   41          342        12%
     Not tested or no valid result                   242         342        71%

Triglycerides                                        257         859        30%
     TG =<400 mg/dl                                  248         859        29%
     TG >400 mg/dl                                     9         859         1%
     Not tested or no valid result                   602         859        70%

Urine Albumin:Creatinine Ratio (UACR)
     Yes                                             160         859        19%
     No                                              699         859        81%
```

```
In 160 patients with UACR:
     Urine albumin excretion - Normal <30 mg/g      82         160        51%
     Urine albumin excretion - Increased
         30-300 mg/g                                56         160        35%
         >300 mg/g                                  21         160        13%

  In patients age 18 and above
           with eGFR =>30, UACR done               156         382        41%

Cardiovascular Disease
     Diagnosed CVD                                 356         859        41%

Tuberculosis Status
     TB test +, untreated or tx unknown             93         859        11%
     TB test +,INH treatment complete                4         859         0%

     TB test -, placed after DM diagnosis          281         859        33%
     TB test -, placed before DM diagnosis          33         859         4%
     TB test -, date of DM Dx or TB test date
         unknown                                    73         859         8%
     TB test status unknown                        375         859        44%

   LB                              Oct 16, 2013                        Page 5

            IHS DIABETES CARE AND OUTCOMES AUDIT REPORT - RPMS AUDIT
           AUDIT REPORT FOR 2014 (Audit Period 01/01/2013 to 12/31/2013)
                             for 2013 DEMO HOSPITAL
                             859 patients were audited
--------------------------------------------------------------------------------
                                          # of        #            Percent
                                          Patients    Considered
                                          (Numerator) (Denominator)

 Combined Outcome Measures
     Records meeting ALL of the following
     criteria:  A1c <8.0, LDL <100,
     and mean BP <140/<90                          45         859         5%

    In age 18 and above, records with
     both an eGFR and a UACR                      157         859        18%

* Known hypertension: Has hypertension listed as an active problem, or
diagnosed with hypertension.
** Increased urine albumin excretion: UACR =>30 mg/g.
```

Figure 3-4: 2014 Cumulative Audit

3.3 Creating an Audit Export (Data) File

A script for running the 2014 Diabetes Audit and creating an Audit Export (Data) file for submission via the WebAudit is shown in Figure 3-5.

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.

1. At the Diabetes Management Systems menu, type **DA** and press Enter.
2. At the Diabetes QA Audit menu, type **DM14** (2014 Diabetes Program Audit) and press Enter. The following sequence displays:

```
                ASSESSMENT OF DIABETES CARE, 2014

                    PCC DIABETES AUDIT

Enter the Official Diabetes Register: IHS DIABETES

Select 2014 Diabetes Program Audit Option: DM14  Run 2014 Diabetes Program
Audit

In order for the 2014 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, 2014

                                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:  12/31/13  (DEC 31, 2013)

     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 14

I am going to create a file called dkr audit 14.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 14.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 14.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 3-5: Creating an Audit Export file

3. Make a note of the file name and notify the RPMS site manager that an audit has been run. Provide the name of the file and 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

Upload the completed data file to WebAudit for data cleaning and report generation. For further information and WebAudit frequently asked questions, visit the IHS 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. Log in to the WebAudit.
3. Select **Enter Facility Info** from the left hand menu or from the Main Menu select **Diabetes WebAudit Facility Administration** then **Enter Facility Information**.
4. Enter the number of active patients in your diabetes registry that meet the inclusion and exclusion criteria in Section 3.0 and whether your community receives SDPI funds. If it does, provide your Grant Number, also known as an Award Number, which can be found in item 4 in the most recent Notice of Award for your SDPI funds.
5. Click **Save**.
6. Select **Upload Data** from the left hand menu or from the Main Menu select **Diabetes WebAudit** then **Upload Data**.
7. Individuals with access to multiple facilities will need to select a Facility.
8. Select an **Audit Type**. For the annual Audit submitted to the IHS Division of Diabetes, you will select **Annual Audit**. For all other Audits, select **Interim Audit**.
9. Click **Browse** and navigate to the data file, then click **Open**.
10. When the data file has been selected, click **Upload File**.
11. If the upload of the data file is successful, you will receive a message on the screen telling you that the file was successfully uploaded.
12. If the upload is unsuccessful, you will receive an on-screen message telling you that the file upload attempt was unsuccessful, with a brief description of the problem.
13. Once the file has been successfully uploaded, proceed with checking the data quality and generating reports as described in the Audit 2014 instructions.

5.0 Importing the Audit Export (Data) File to Excel

The 2014 Diabetes Audit export file is a delimited text file. This means that the file has all of the audit data elements for each patient in a single 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:

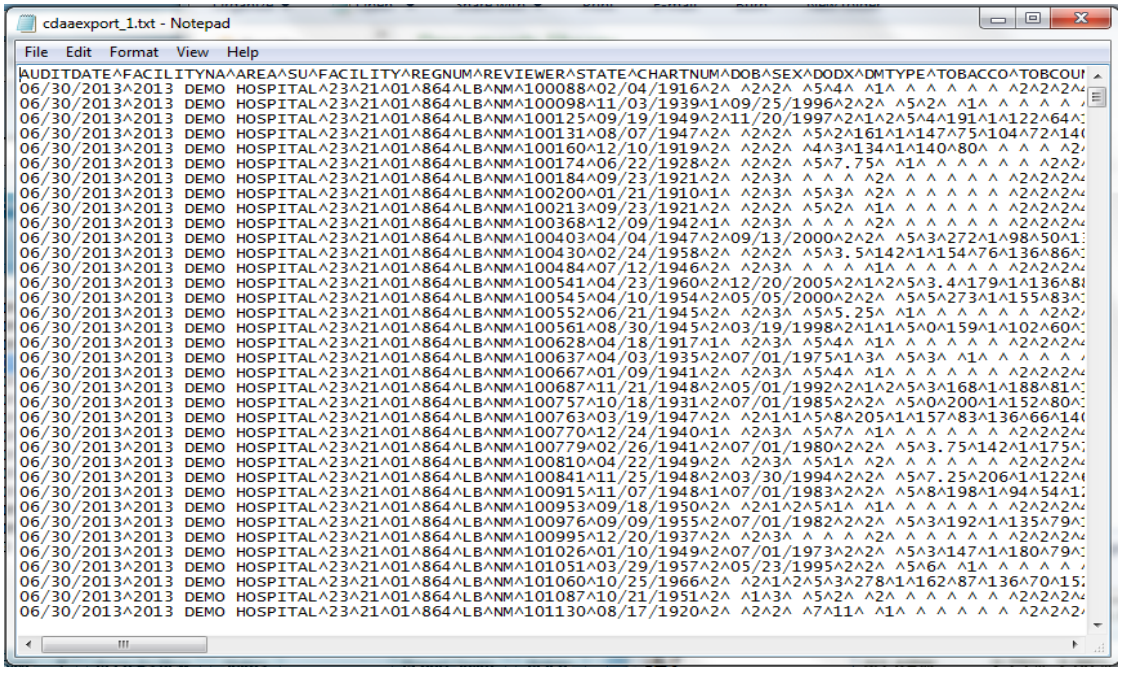


Figure 5-1: Audit Export file displayed in notepad

To import a file into Excel:

1. Open a blank Excel worksheet.
2. Click **Open** and browse to the folder containing the Audit Export file.

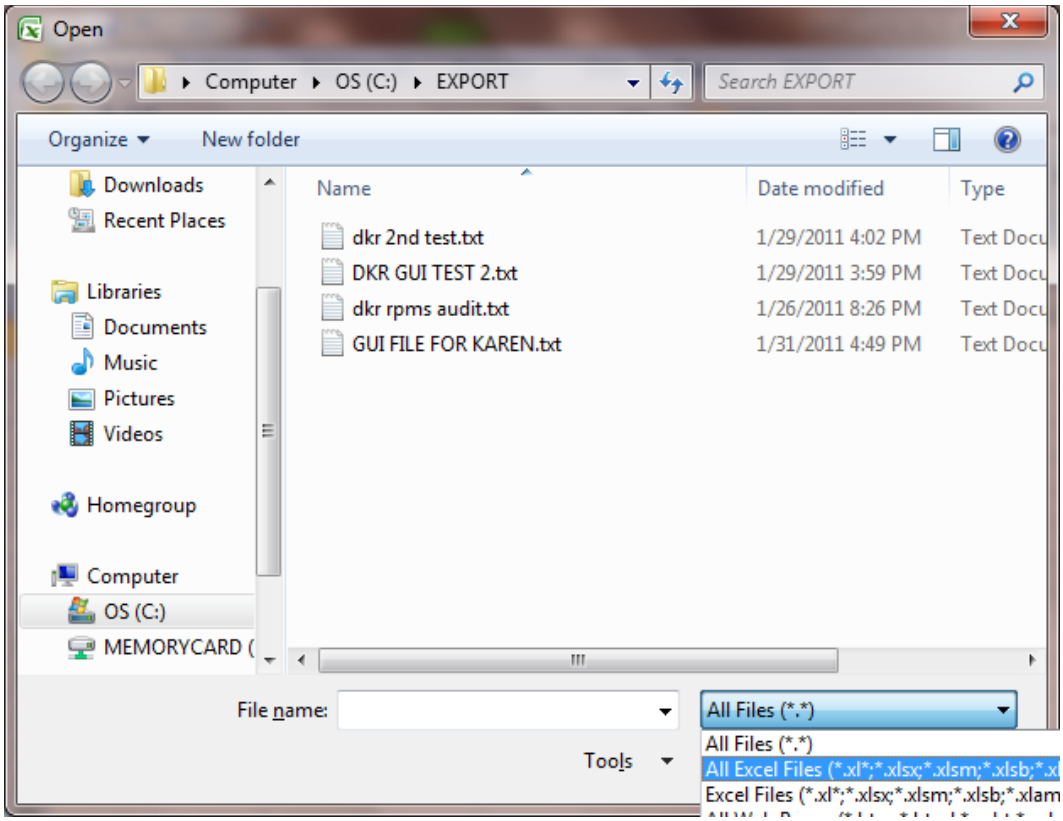


Figure 5-2: Excel **Open** dialog

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

4. Select the Audit Export file to be imported.

5. Click **Open**. The **Text Import Wizard** dialog, Step 1 of 3 (Figure 5-3) displays.

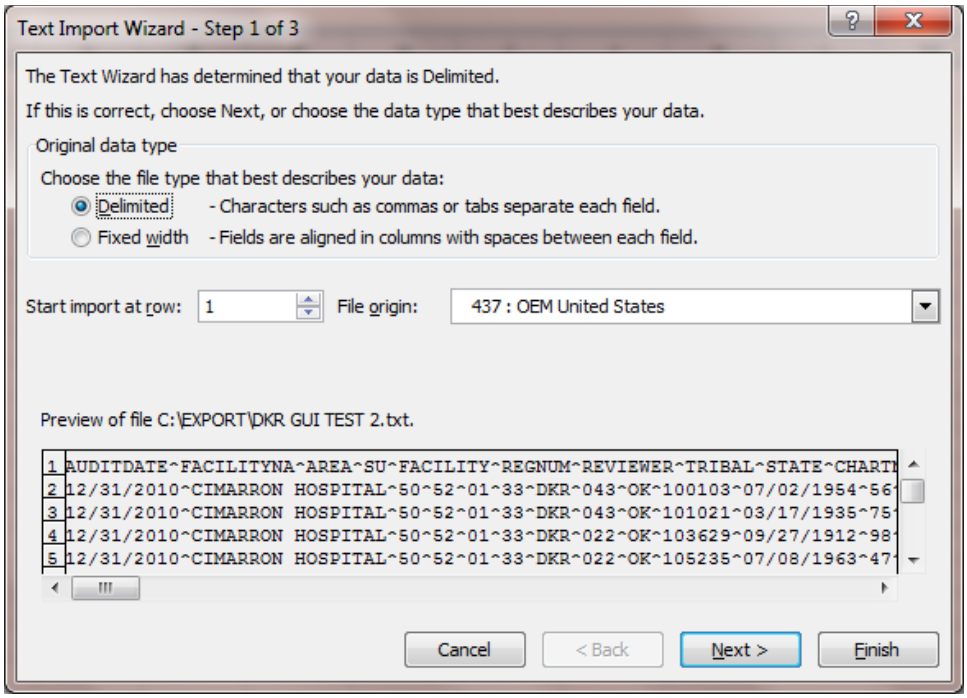


Figure 5-3: **Text Import Wizard** dialog, Step 1 of 3

6. If the **Text Import Wizard** does not correctly identify that this is a delimited file, select **Delimited**.

7. Click **Next**. The **Text Import Wizard** dialog, Step 2 of 3 (Figure 5-4) displays.

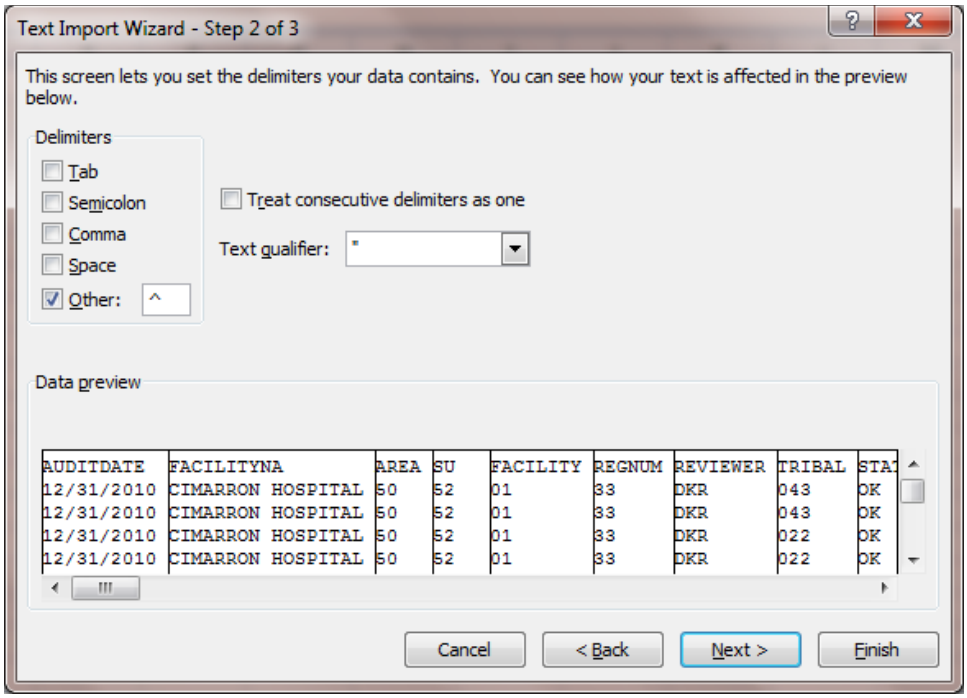


Figure 5-4: **Text Import Wizard** dialog, Step 2 of 3

8. Under **Delimiters**, select **Other** and type a caret (^) in the field to the right of the **Other** choice.
9. Deselect **Tab**.
10. Click **Next**. Vertical lines will display between the columns of data.
11. Click **Finish** to complete the import to Excel.

Columns may be expanded and data sorted as desired.

To save the file in Excel format:

1. Select **Save As**.
2. Save as type Excel. Save the Excel file in a secure folder as identified by the information technology staff.

Note: The Excel file cannot be uploaded to the Web Audit.

6.0 Displaying 2014 Diabetes Audit Logic

The revised logic for the 2014 Diabetes Audit is provided under the menu option DAL in the DA Diabetes QA Audit menu as shown in Figure 6-1:

1. At the Diabetes Management Systems menu, type **DA** and press Enter.
2. At the Diabetes QA Audit menu, type **DAL** (Display Audit Logic) and press Enter.
3. At the "Select DMS AUDIT ITEM DESCRIPTIONS AUDIT YEAR" prompt, Type **2014** for the audit year and press Enter to display the item list (Figure 6-1).

```
DM AUDIT ITEM DESCRIPTION     Oct 22, 2013 13:09:32          Page:    1 of    1
DM Logic Display

1)  AUDIT DATE              18)  FOOT EXAM (COMPLETE)  35)  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)  NUTRITION INSTRUCTIO  38)  TD OR TDAP IN PAST 1
5)  CHART NUMBER            22)  PHYSICAL ACTIVITY IN  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)  UACR
14)  WEIGHT                 31)  TB Test result        48)  COMBINED OUTCOMES ME
15)  BMI                    32)  TB RESULT POSITIVE,   49)  e-GFR and a UACR
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
```

Figure 6-1: Displaying 2014 Audit Logic

4. At the "Select Action" prompt, type **S** and press Enter to enable selection of an audit logic item for review.
5. At the next "Select Action" prompt, type the number of the logic item to be displayed and press Enter.

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

7.0 Audit Resources

DMS v2.0 User Manual, (bdm_020u.pdf).

Complete 2014 Diabetes Audit information is at the IHS DDTP web site (Figure 7-1): http://www.ihs.gov/MedicalPrograms/Diabetes/index.cfm?module=resourcesAudit:

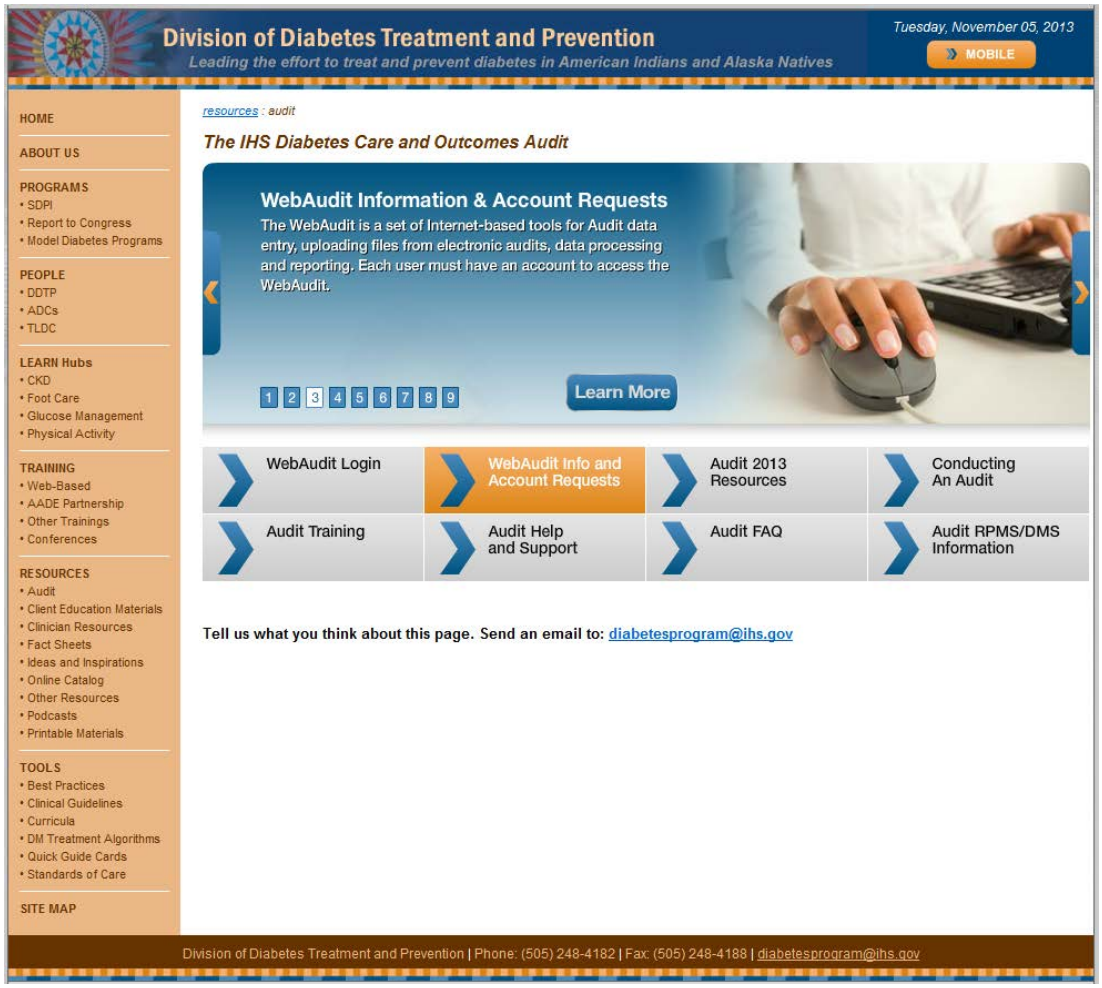


Figure 7-1: **IHS Diabetes Care and Outcome Audit** web site

IHS Standards of Care and Clinical Practice Recommendations: Type 2 Diabetes are at: http://www.ihs.gov/MedicalPrograms/Diabetes/index.cfm?module=soc.

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. The Diabetes Care Summary 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 should be reviewed and updated. To display the Diabetes Care Summary:

1. At the Diabetes Management Systems menu, type **DA** and press Enter.

2. At the Diabetes QA Audit menu, type **DPCS** (Display a Patient's DIABETES CARE SUMMARY) and press Enter. The Diabetes Care Summary (Figure 8-1) displays:

```
********** CONFIDENTIAL PATIENT INFORMATION [DKR]  Oct 22, 2013 **********
DIABETES PATIENT CARE SUMMARY                 Report Date:  10/22/2013
Patient Name:  FRANCIS,CAROL ANN    HRN: 211424  INDIAN/ALASKA NATIVE
Age:  67      Sex:  F      Date of DM Onset: 02/17/2004 (Diabetes Register)
DOB:  01/05/1946           DM Problem #: *** NONE RECORDED ***
                           Designated PCP: MORRISON,STEPHANIE L
Last Height:  60 inches    10/01/2013
Last Weight:  210 lbs      10/01/2013    BMI: 41.0
Last Waist Circumference: <None Recorded>
Tobacco Use:  Not a Current User NEVER SMOKED  Feb 17, 2004
HTN Diagnosed:  No
CVD Diagnosed:  No
ON ACE Inhibitor/ARB in past 6 months: Yes - 10/01/2013
Aspirin Use/Anti-platelet (in past yr):  Yes - 10/01/2013 ASPIRIN 325MG T
Last 3 BP:  150/82   10/01/2013        Is Depression on the Problem List?
(non ER)    152/80   09/01/2013          No
            200/94   02/17/2004   If no, Depression Screening in past year?
                                        Yes - Exam: DEPRESSION SCR
10/01/2013
In past 12 months:
Diabetic Foot Exam:   Yes - Diabetic Foot Exam - 10/01/2013
Diabetic Eye Exam:    Yes - Diabetic Eye Exam - 10/01/2013
Dental Exam:          No
Last Mammogram:
Last Pap Smear:       <None on file>

Immunizations:
Flu vaccine since August 1st:     Refused FLU VACCINE CVX 135 on 10/01/2013
Pneumovax ever:                    No
Hepatitis B series complete (ever):No
Td in past 10 yrs:                 No
PPD Status:  Known Positive PPD or Hx of TB (Health Factor recorded)
Last TB Status Health Factor: TX INCOMPLETE      Last CHEST X-RAY:

Laboratory Results (most recent):                RPMS LAB TEST NAME
 HbA1c:                   10.1         10/01/2013 HGB A1C (WWH)
 Next most recent HbA1c:
 Creatinine:                           10/21/2013 CREATININE
 Estimated GFR:                        10/21/2013 ESTIMATED GFR
```

```
 Total Cholesterol:        230         10/01/2013 CHOLESTEROL
  Non-HDL Cholesterol:     195         10/01/2013 [Calculated Value]
  LDL Cholesterol:         130         10/01/2013 LDL (CALCULATED)
  HDL Cholesterol:          35         10/01/2013 HDL
  Triglycerides:           300         10/01/2013 TRIGLYCERIDE
Urine Protein Assessment:
 UACR (Quant A/C Ratio):    35         10/01/2013 MICROALBUMIN/CREATININE R

DM Education Provided (in past yr):
  Last Dietitian Visit:
  DM-COMPLICATIONS           10/01/2013  DM-EXERCISE             10/01/2013
  DM-NUTRITION               10/01/2013
```

Figure 8-1: Diabetes Patient Care Summary sample

9.0 Master List

The Master List under Register Reports has been totally redesigned to better meet users' needs. The new Master List has a different approach to user selection of sorting criteria and provides a total for the number of patients on the report as well as a subtotal for each sub-category. In addition a column has been added to show each patient's last visit date.

The menu path for accessing the Master List has not been changed and is shown in Figure 9-1.

```
RP     Reports ...
RR     Register Reports ...
ML     Master List
```

Figure 9-1: Menu for Master List

The Master List may be run as follows in Figure 9-2. In this example, the user wishes a subtotal of patients sorted by Register Status.

```
Select Register Reports Option: ML
                              DEMO INDIAN HOSPITAL
                                DEMO,PROVIDER

                          DIABETES REGISTER MASTER LIST

This report will list all patients on the Diabetes Register.
You will be able to select which patients will be included on the list
based on any of the following:
     - Register Status
     - Age
     - Community of Residence
     - Gender
     - Case Manager
     - Where Followed

Enter the Name of the Register: IHS DIABETES

Do you want to select register patients with a particular status? Y// NO

Would you like to restrict the master list by Patient age range?
NO//<ENTER>

     Select one of the following:

          O         One particular Community
          A         All Communities
          S         Selected Set of Communities (Taxonomy)

Include Patients: A//<ENTER> All Communities

     Select one of the following:

          M         MALES
```

```
          F         FEMALES
          U         UNKNOWN
          A         ALL Genders

Include which Gender(s): A// <ENTER> ALL Genders
Do you want to select register patients with a particular CASE MANAGER?
N//<ENTER> NO
Do you want to select patients with a particular facility WHERE FOLLOWED?
N// <ENTER> NO

This list can be sorted by a primary and optionally a secondary sort value.

     Select one of the following:

          P         Patient Name
          S         Register Status
          A         Age
          C         Community
          G         Gender
          M         Case Manager
          W         Where Followed

Select Primary Sort Value: Register Status
You can optionally sort by a second sort value.  If you do not pick a
secondary sort value it will default to patient name.

     Select one of the following:

          P         Patient Name
          A         Age
          C         Community
          G         Gender
          M         Case Manager
          W         Where Followed


     Select one of the following:

          P         Print the List
          B         Browse the List on the Screen
          S         Save as a Search Template

Output Type: P// B

OUTPUT BROWSER               Oct 23, 2013 16:17:20       Page:    1 of    2

             ********** CONFIDENTIAL PATIENT INFORMATION **********
DKR                                                              Page 1
                              DEMO INDIAN HOSPITAL
                         DIABETES REGISTER MASTER LIST
              Total number of patient selected for this report: 9

HRN     PATIENT                 CASE MANAGER         LAST VISIT NEXT REVIEW
--------------------------------------------------------------------------------

     Register Status: ACTIVE   (Subtotal: 8)
211424  DEMO,PATIENT A                                  10/21/2013
201686  DEMO,PATIENT B                                  09/01/2013
127912  DEMO,PATIENT C                                  09/26/2013
```

```
876     DEMO,PATIENT D                                  09/26/2013
```

Figure 9-2: Creating Master List sorted by Patient Status

10.0 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 the 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 10-1 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 10-1: Add a Local option code and text

In Visual DMS, the Local Option may be displayed, added, or edited. To access the local option in Visual DMS:

1. Click to expand the **Patient Management** menu (Figure 10-2).

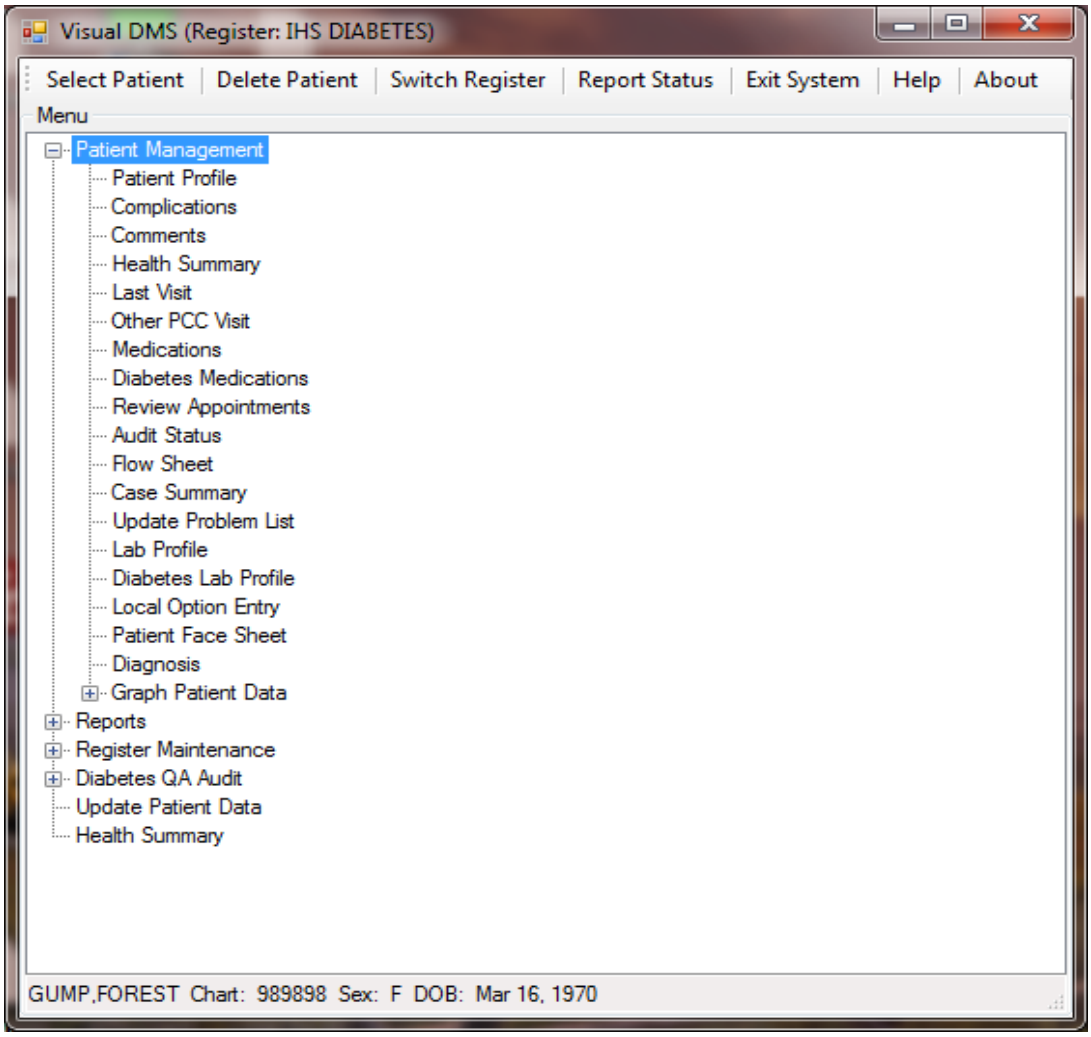


Figure 10-2: **Visual DMS** page with **Patient Management** menu expanded

2. Select **Local Option Entry** from the **Patient Management** menu; the **Local Option Entry** dialog Figure 10-3 displays.

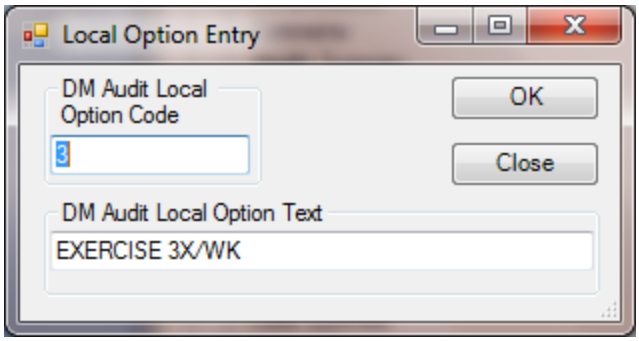


Figure 10-3: **Local Option Entry** dialog

3. Type the local code in the **DM Audit Local Option Code** field.
4. Type the option text in the **DM Audit Local Option Text** field.
5. Click **OK**.

11.0 Visual DMS – Patient Management

The Patient Management option has been modified in Visual DMS to display only the last four digits of a patient's Social Security Number.

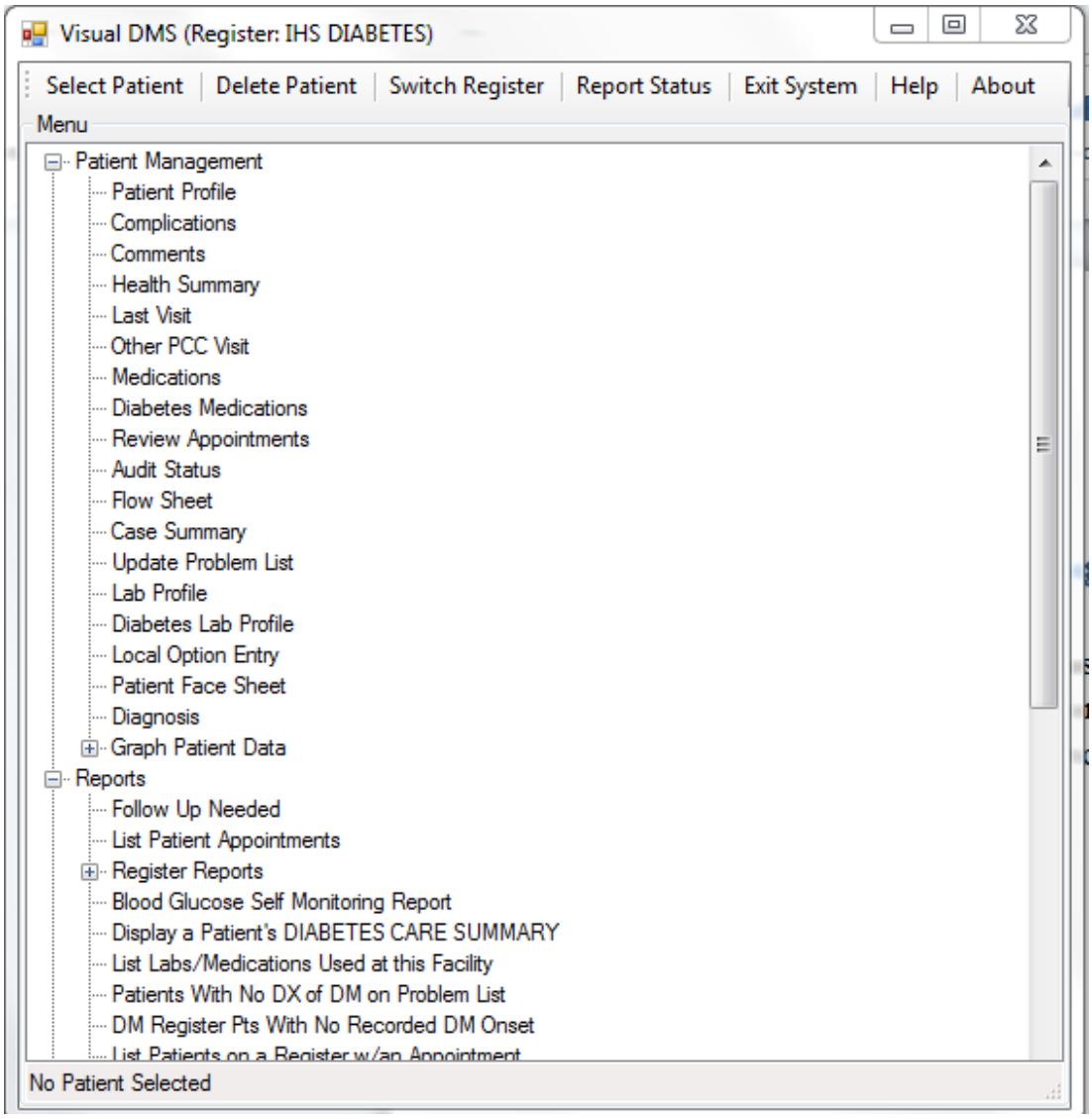


Figure 11-1: **Visual DMS** window

To view this change:

1. Click **Select Patient** from the toolbar on the **Visual DMS** window. The **Select Patient** dialog (Figure 11-2) displays.

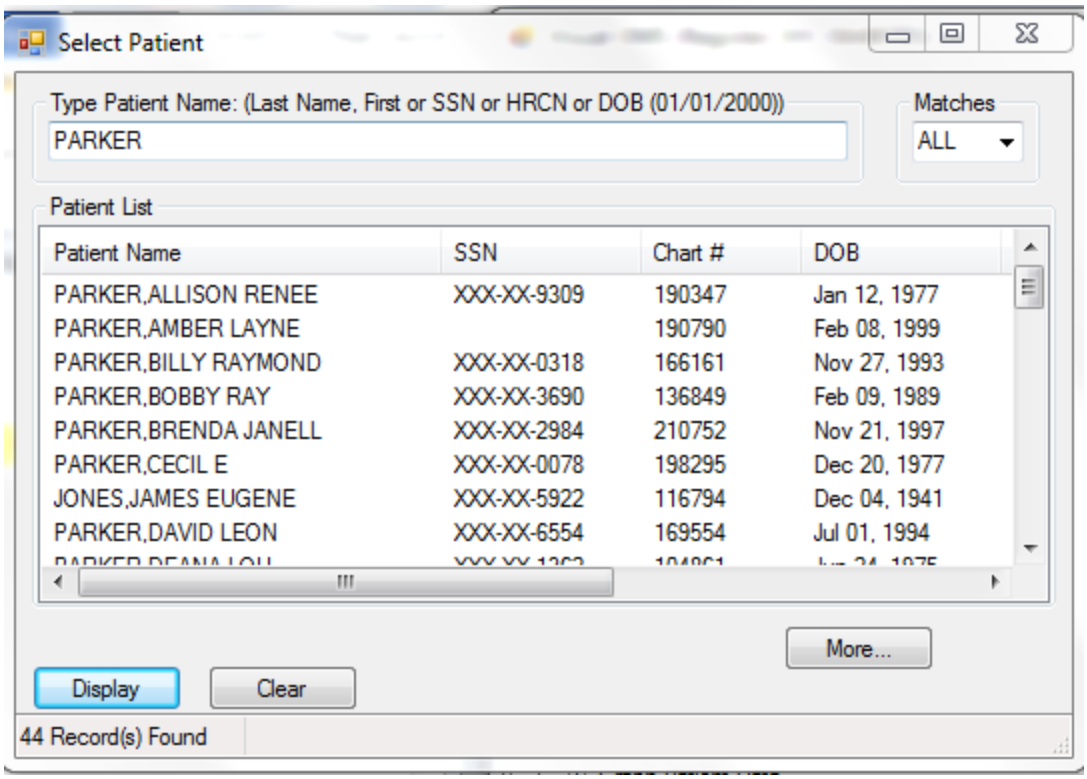


Figure 11-2: **Select Patient** dialog

2. Type the patient's Last Name or chart number in the **Type Patient Name** field.
3. Click **Display**. Note how the SSN is displayed.

12.0 Visual DMS – Multiple Health Summaries

The option to generate multiple health summaries has been added to the listed options available on the main Visual DMS Menu.

1. Click **Multiple Health Summaries** from the **Menu** on the **Visual DMS** page to display the **Health Summary** dialog (Figure 12-1).

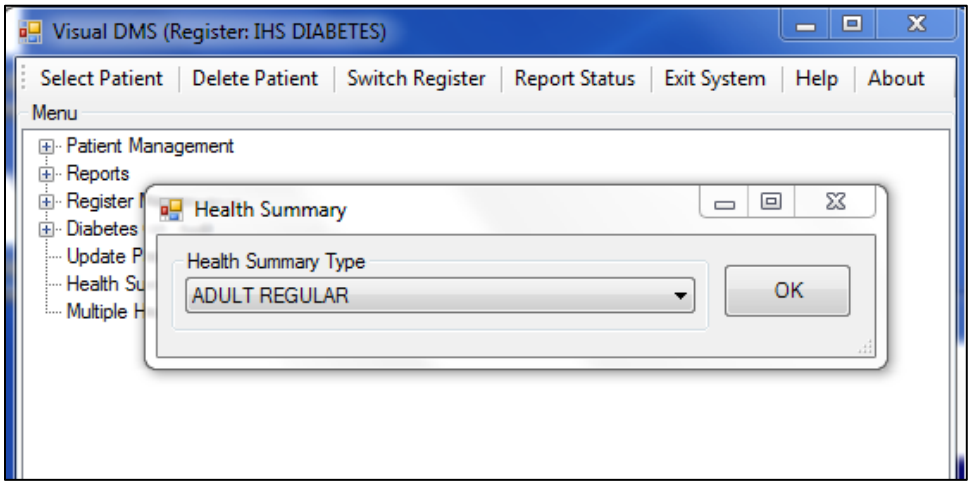


Figure 12-1: **Visual DMS** page with **Health Summary** dialog displayed

2. Select the type of health summary to be displayed from the **Health Summary** dialog's list. The **Multiple Patient Select** dialog (Figure 12-2) displays.

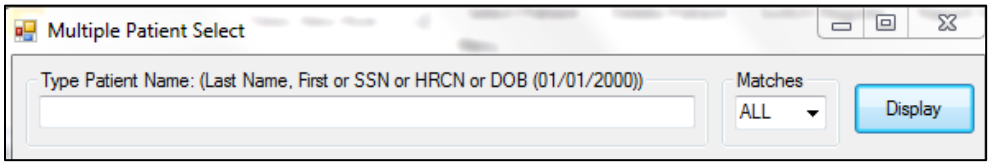


Figure 12-2: **Multiple Patient Select** dialog, upper portion

3. Type the patient's last name or chart number in the **Type Patient Name** field and click **Display**. The dialog redisplays (Figure 12-3) with the patient's information displayed in the **Patient List** field.

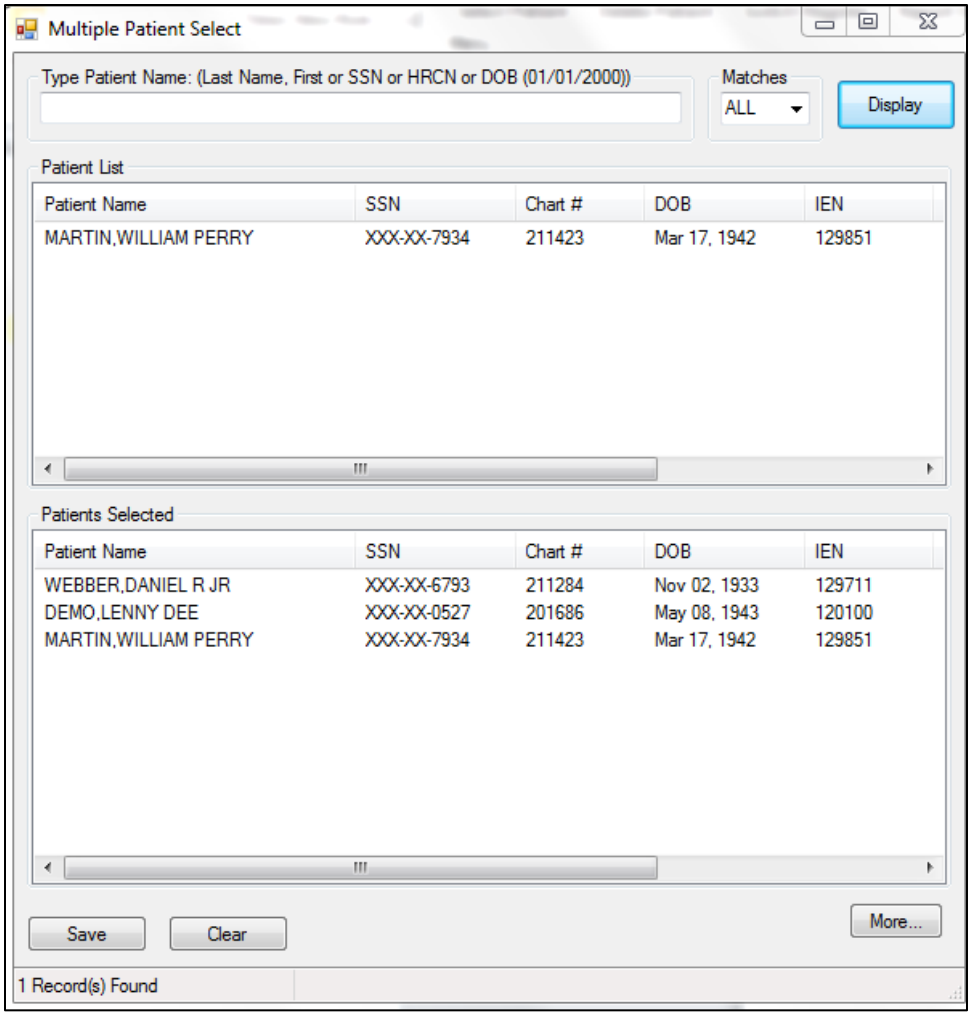


Figure 12-3: **Multiple Patient Select** dialog

4. Click the name in the **Patient List** to place the patient on the **Patients Selected** list in the lower half of the dialog.

5. Repeat Steps 3 and 4 to add additional patients to the **Patients Selected** list.

6. Click **Save** to generate a separate health summary in Microsoft® Word® format for each patient.

> **Note**: Even though a patient name may remain in the Patient List field, once their name appears in the Patients Selected field, a health summary will be generated for that patient.

13.0 Visual DMS – Display Audit Logic

The option **Display Audit Logic** has been added to the **Diabetes QA Audit Menu**. To display Audit Logic:

1. Click to expand the **Diabetes QA Audit** menu on the **Visual DMS** dialog (Figure 13-1).

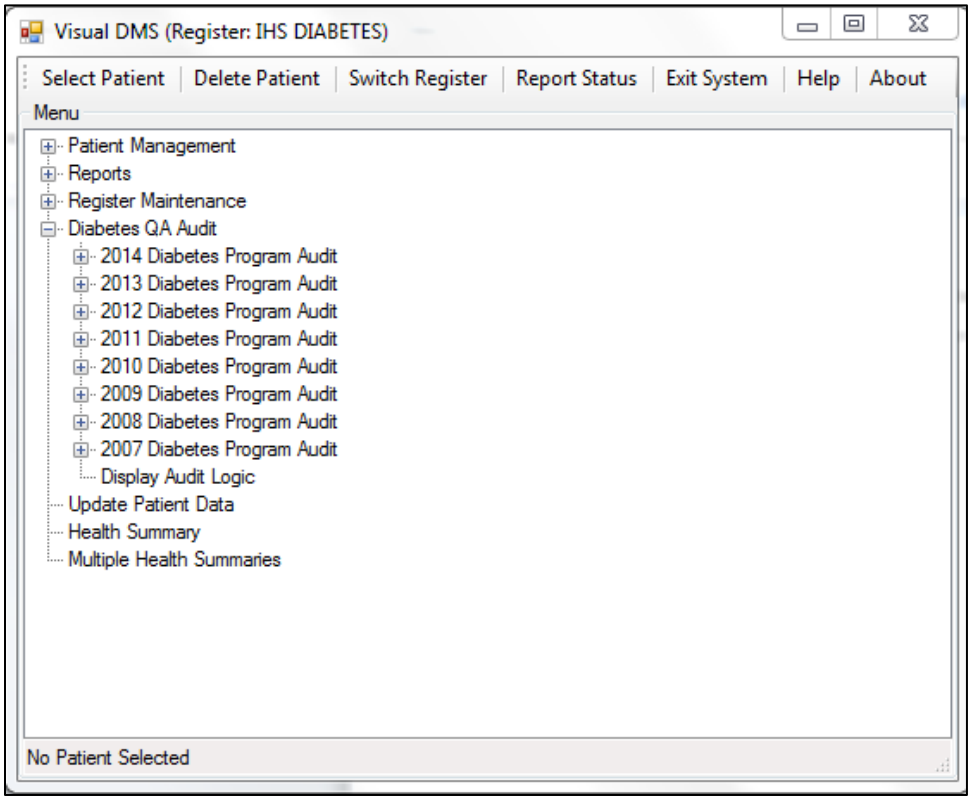


Figure 13-1: **Visual DMS** page, showing the **Display Audit Logic** menu option

2. Click **Display Audit Logic** to display the **Display Audit Logic** dialog (Figure 13-2).

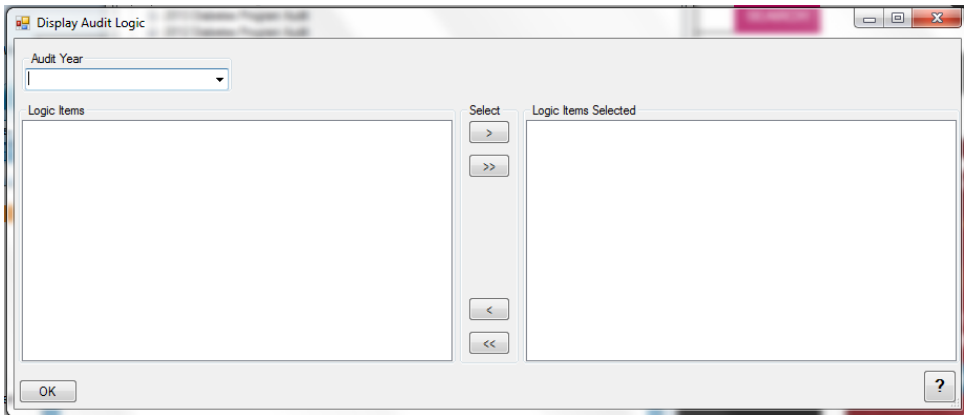


Figure 13-2: **Display Audit Logic** dialog

3. Select the **Audit Year** from the list. The Logic Items display in the field on the left half of the dialog.

4. Click one or more **Logic Items** (hold down control key while clicking to select more than one item) to highlight them.

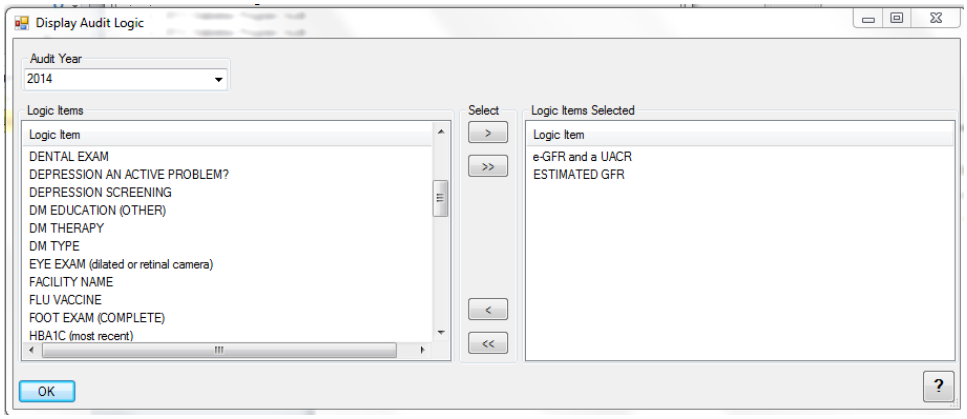


Figure 13-3: **Display Audit Logic** dialog showing data items selected

5. Click the right arrow (>) button to move the selected **Logic Items** to the **Logic Items Selected** field (Figure 13-3).

6. Click **OK;** the Audit Logic for the selected **Logic Items** displays in a dialog (Figure 13-4).

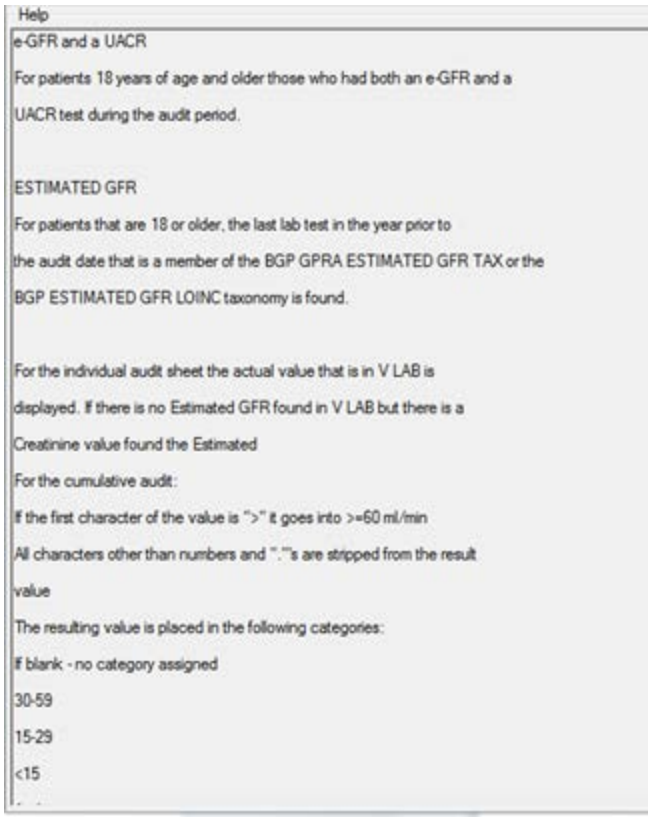


Figure 13-4: Dialog displaying Audit Logic for eGFR and UACR and ESTIMATED GFR

14.0 Visual DMS – List Labs/Medications Used at This Facility

The option to print the Lists of Labs or Medications used at a facility during the audit period helps in identifying any labs or medications that may have been missed when populating taxonomies.

1. Click to expand the **Reports** menu on the **Visual DMS** dialog (Figure 14-1).

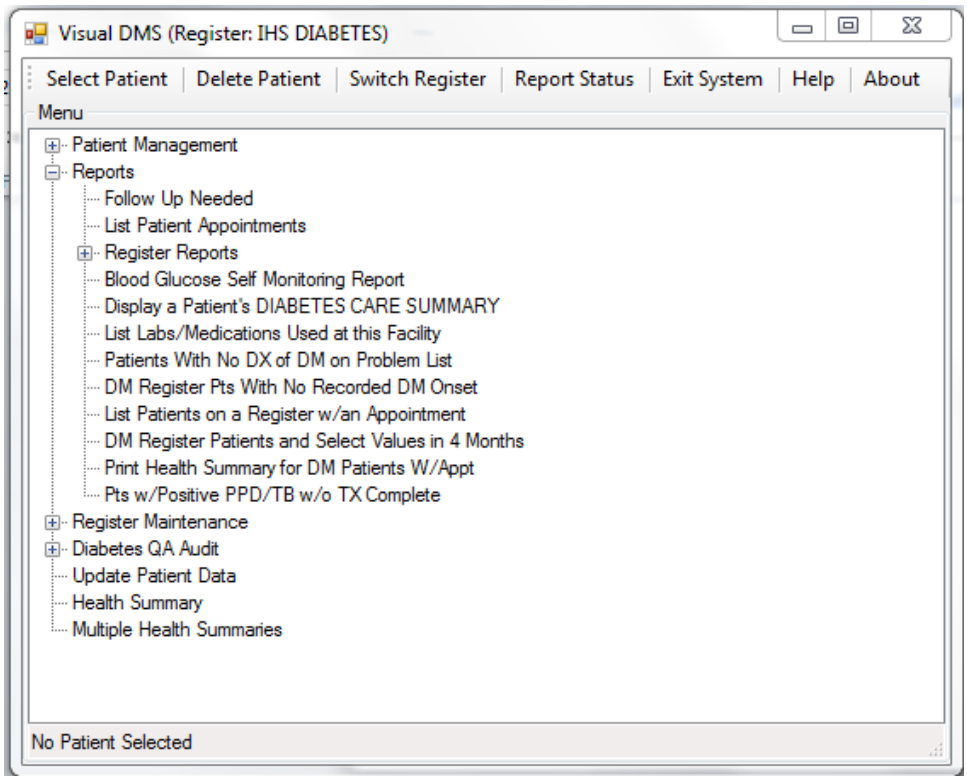


Figure 14-1: **Visual DMS** page with **Reports** menu expanded

2. Click **List Labs/Medications Used at this Facility** to display the **Lab/Medication Report** dialog (Figure 14-2).

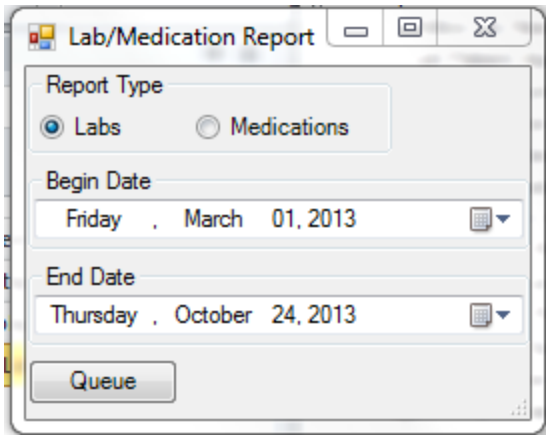


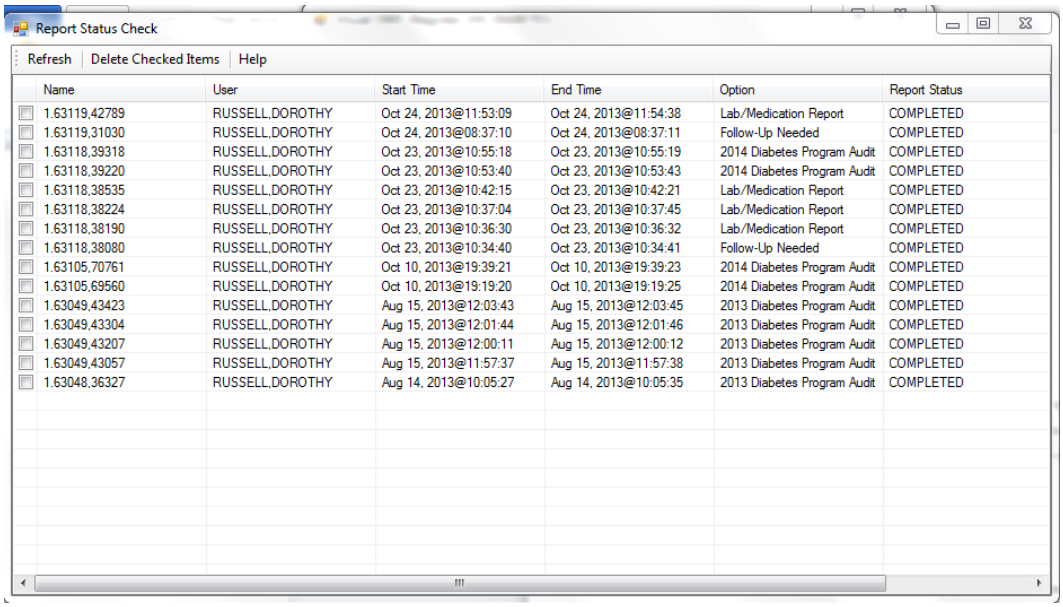
Figure 14-2: **Lab/Medication Report** dialog

3. Select the **Report Type**.

4. Set the **Begin Date** and **End Date** for the report and click **Queue**. The report is queued to run in the background.

> **Note**: The Diabetes Audit only reviews drugs prescribed during the six months preceding the audit date except for Aspirin. Labs are checked for the entire audit year. Selection options are shown in Figure 14-2.

5. To check report status, click **Report Status** on the **Visual DMS** main page. The **Report Status Check** page (Figure 14-3) displays.



Name	User	Start Time	End Time	Option	Report Status
1.63119,42789	RUSSELL,DOROTHY	Oct 24, 2013@11:53:09	Oct 24, 2013@11:54:38	Lab/Medication Report	COMPLETED
1.63119,31030	RUSSELL,DOROTHY	Oct 24, 2013@08:37:10	Oct 24, 2013@08:37:11	Follow-Up Needed	COMPLETED
1.63118,39318	RUSSELL,DOROTHY	Oct 23, 2013@10:55:18	Oct 23, 2013@10:55:19	2014 Diabetes Program Audit	COMPLETED
1.63118,39220	RUSSELL,DOROTHY	Oct 23, 2013@10:53:40	Oct 23, 2013@10:53:43	2014 Diabetes Program Audit	COMPLETED
1.63118,38535	RUSSELL,DOROTHY	Oct 23, 2013@10:42:15	Oct 23, 2013@10:42:21	Lab/Medication Report	COMPLETED
1.63118,38224	RUSSELL,DOROTHY	Oct 23, 2013@10:37:04	Oct 23, 2013@10:37:45	Lab/Medication Report	COMPLETED
1.63118,38190	RUSSELL,DOROTHY	Oct 23, 2013@10:36:30	Oct 23, 2013@10:36:32	Lab/Medication Report	COMPLETED
1.63118,38080	RUSSELL,DOROTHY	Oct 23, 2013@10:34:40	Oct 23, 2013@10:34:41	Follow-Up Needed	COMPLETED
1.63105,70761	RUSSELL,DOROTHY	Oct 10, 2013@19:39:21	Oct 10, 2013@19:39:23	2014 Diabetes Program Audit	COMPLETED
1.63105,69560	RUSSELL,DOROTHY	Oct 10, 2013@19:19:20	Oct 10, 2013@19:19:25	2014 Diabetes Program Audit	COMPLETED
1.63049,43423	RUSSELL,DOROTHY	Aug 15, 2013@12:03:43	Aug 15, 2013@12:03:45	2013 Diabetes Program Audit	COMPLETED
1.63049,43304	RUSSELL,DOROTHY	Aug 15, 2013@12:01:44	Aug 15, 2013@12:01:46	2013 Diabetes Program Audit	COMPLETED
1.63049,43207	RUSSELL,DOROTHY	Aug 15, 2013@12:00:11	Aug 15, 2013@12:00:12	2013 Diabetes Program Audit	COMPLETED
1.63049,43057	RUSSELL,DOROTHY	Aug 15, 2013@11:57:37	Aug 15, 2013@11:57:38	2013 Diabetes Program Audit	COMPLETED
1.63048,36327	RUSSELL,DOROTHY	Aug 14, 2013@10:05:27	Aug 14, 2013@10:05:35	2013 Diabetes Program Audit	COMPLETED

Figure 14-3: Reports displayed in the **Report Status Check** page

6. Click a report listing to display that report in a Microsoft Word document (Figure 14-4). Any Lab or Medication already included in a taxonomy will be identified with that taxonomy indented and listed under the Lab or Medication.

```
                MEDICATIONS (DRUGS) Used at DEMO INDIAN HOSPITAL
                    Date Range:  Jul 01, 2013 - Dec 31, 2013
MEDICATION/DRUG NAME            IEN      # DONE
     TAXONOMIES
-------------------------------------------------------------------
ACETAMINOPHEN 120MG SUPP RTL    83605          1
ACETAMINOPHEN 120MG/CODEINE 12  84130         96
ACETAMINOPHEN 300MG W/CODEINE   84144      2,496
ACETAMINOPHEN 325MG TAB         263            2
ACETAZOLAMIDE 250MG TAB         638           26
ACETAZOLAMIDE 500MG CAP         83840          3
ACETIC ACID 2% OTIC SOLN        3868          14
ACETYLCYSTEINE 20% SOLN         1634           2
ACYCLOVIR 200MG CAP             84020        166
ALBUTEROL 0.083% INH SOLN (SAM  84358          3
ALBUTEROL 2MG/5ML SYRUP         84069        189
ALBUTEROL 90MCG/INHALATION MDI  3769       4,436
ALBUTEROL INHALATION  0.5% SOL  84142        636
ALBUTEROL/IPRATROPIUM INH SOLN  84359          4
ALBUTEROL/IPRATROPIUM/TAC INH   84450          3
ALENDRONATE 70MG TAB            84443        849
ALLOPURINOL 100MG TABS          1391         123
ALLOPURINOL 300MG TAB           3740          58
ALUMINUM ACETATE POWDER (TOPIC  84649          63
ALUMINUM HYDROXIDE GEL          83948          2
ALUMINUM SO4/CALCIUM ACETATE S  83607          72
AMANTADINE 100MG CAP            1606           27
AMCINONIDE 0.1% OINTMENT        83965          47
AMIODARONE HCL 200MG TAB        83954        184
AMITRIPTYLINE 25MG TAB          1639         803
AMITRIPTYLINE 75MG TAB          2122         204
AMLODIPINE 10MG TAB             84253      2,502
AMLODIPINE 5MG TAB              84255        192
AMOXICILLIN 250MG CAPSULE       83996        167
AMOXICILLIN 250MG/5ML ORAL SUS  84143        776
AMOXICILLIN 500MG CAPSULE       83997      2,128
AMOXICILLIN 875MG/CLAVULANATE   84658          9
AMOXICILLIN/CLAVULANATE 400MG/  84305          3
AMOXICILLIN/CLAVULANATE 500MG   84285          3
AMOXICILLIN/CLAVULANATE 600MG/  84497        252
AMOXICILLIN/CLAVULANATE 875MG   84286          8
ANTIPYRINE/BENZOCAINE OTIC SOL  83614        167
ASPIRIN 325MG CAP               83843          1
     DM AUDIT ASPIRIN DRUGS
ASPIRIN 325MG E.C. TAB          277        1,893
     DM AUDIT ASPIRIN DRUGS
ASPIRIN 325MG E.C. TAB U/D      84507          2
     DM AUDIT ASPIRIN DRUGS
ASPIRIN 325MG TAB               276            9
     DM AUDIT ASPIRIN DRUGS
ASPIRIN 81MG E.C. TAB U/D       83620          1
     DM AUDIT ASPIRIN DRUGS
ATORVASTATIN 20MG TAB (ICP)     84474          4
     DM AUDIT STATIN DRUGS
ATORVASTATIN 40MG TAB           84337        308
```

```
     DM AUDIT STATIN DRUGS
ATORVASTATIN 80MG TAB           84435         273
     DM AUDIT STATIN DRUGS
ATROPINE 0.1MG/ML SYRINGE INJ   1643            1
ATROPINE SULF 1% OPHTH SOLN     767             4
```

Figure 14-4: List of Medications used at this Facility

Appendix A: 2014 Diabetes Audit Logic

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 export 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 export 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 different days) 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 export record. If there are not at least 2 values the mean is not calculated.

Note: If more than 1 Blood Pressures is recorded on any 1 day the latest one is used.

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.

                              NUTRITION 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

                           PHYSICAL ACTIVITY INSRUCTION
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
Invokana	DM AUDIT SGLT-2 INHIBITOR DRUG

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. 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.

The individual audit displays this information for all patients. The cumulative audit only tallies aspirin/antiplatelet therapy for patients with diagnosed CVD.

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

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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.

                                   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:
15,16,88,111,123,135,140,141,144,149,150,151,153,155,158
-  CPT codes:  DM AUDIT SEASONAL FLU CPTS:
LOW VALUE: 90653                          HIGH VALUE: 90658
LOW VALUE: 90660                          HIGH VALUE: 90662
LOW VALUE: 90664                          HIGH VALUE: 90668
LOW VALUE: 90672                          HIGH VALUE: 90673
LOW VALUE: 90685                          HIGH VALUE: 90688
LOW VALUE: 90724                          HIGH VALUE: 90724
LOW VALUE: G0008                          HIGH VALUE: G0008
LOW VALUE: G8108                          HIGH VALUE: G8108
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-  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
disease:  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 is 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

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 Audit export:
All characters other than numbers and "." s 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. If there is no Estimated GFR found in V LAB but there is a Creatinine value found the Estimated
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
Audit export:
All characters other than numbers or "."'s 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.

Audit Export:
All characters other than numbers and "."'s 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 by gender. 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.

In females
HDL =<50 mg/dl
HDL >50 mg/dl
Not tested or no valid result

In males
HDL =<40 mg/dl
HDL >40 mg/dl
Not tested or no valid result

Audit Export:
All characters that are not numbers or "."'s 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

Audit Export:
All characters that are not numbers or "."'s 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

Audit Export:
All characters other than numbers and "."'s 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.

Both the Total Cholesterol and HDL tests have to have been done during the audit period. The tests do not have to have been done on the same day.

```
                                        UACR
The system looks for 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 in the line for UACR Done.  The result of
the test is also displayed.

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.

                            COMBINED OUTCOMES MEASURE
The combined outcome measure displays a 1 - Yes on the audit if the
patient had all of the following during the audit period:  A1c < 8.0, LDL
< 100, and mean BP <140/<90.

                                    e-GFR and a UACR
For patients 18 years of age and older those who had both an e-GFR and a
UACR test during the audit period.
```

Appendix B: Audit Export (Data) File Definition

The 2014 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 in Table B-1.

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

Table B-1 lists the current variable names and a brief description of each. Table B-2 lists those variables that were added for 2014; Table B-3 lists those that have been removed.

Table B-1: Audit Export File Definition

Order	Variable Name	Description	Timeframe	Format/Values/Units	Comments
1	AUDITDATE	Ending date of the audit period - 12/31/2013	N/A	mm/dd/yyyy	
2	FACILITYNA	Name or abbreviation for the facility	N/A	Character (max length=9)	
3	AREA	2 digit IHS code for Area	N/A	Character (max length=2)	First 2 characters of ASUFAC code
4	SU	2 digit IHS code for Service Unit	N/A	Character (max length=2)	Middle 2 characters of ASUFAC code
5	FACILITY	2 digit IHS code for Facility	N/A	Character (max length=2)	Last 2 characters of ASUFAC code
6	REGNUM	Number of active diabetes patients at facility that meet inclusion/ exclusion criteria	N/A	Numeric	

Order	Variable Name	Description	Timeframe	Format/Values/Units	Comments
7	REVIEWER	Reviewer's initials	N/A	Character (max length=3)	
8	STATE	Postal abbreviation for state of residence	N/A	Character (max length=2)	
9	CHARTNUM	Patient's chart number	N/A	Numeric or character (max length=9)	
10	DOB	Date of Birth	N/A	mm/dd/yyyy	
11	SEX	Gender	N/A	Numeric field where: 1=Male 2=Female 3=Unknown	
12	DODX	Date of diabetes diagnosis	N/A	mm/dd/yyyy	
13	DMTYPE	Diabetes type	N/A	Numeric field where: 1=Type 1 2=Type 2 (or uncertain)	
14	TOBACCO	Tobacco use	Most recent	Numeric field where: 1=Current tobacco user 2=Not a current user 3=Not documented	
15	TOBCOUNSEL	[Only if TOBACCO=1] Tobacco cessation counseling received	Audit period	Numeric field where: 1=Yes 2=No	
16	FEET	Last recorded height feet part	Last ever	Numeric	combine with INCHES
17	INCHES	Last recorded height inches part	Last ever	Numeric	total or in combination with FEET
18	WEIGHT	Weight in lbs	Audit period, most recent	Numeric	

Order	Variable Name	Description	Timeframe	Format/Values/Units	Comments
19	HTNDX	Hypertension diagnosed	Ever	Numeric field where: 1=Yes 2=No	
20	SYST1	Most recent systolic BP (mmHg)	Audit period	Numeric	
21	DIAST1	Most recent diastolic BP (mmHg)	Audit period	Numeric	
22	SYST2	Next most recent systolic BP (mmHg)	Audit period	Numeric	
23	DIAST2	Next most recent diastolic BP (mmHg)	Audit period	Numeric	
24	SYST3	Third most recent systolic BP (mmHg)	Audit period	Numeric	
25	DIAST3	Third most recent diastolic BP (mmHg)	Audit period	Numeric	
26	FOOTEXAM	Complete diabetic foot exam	Audit period	Numeric field where: 1=Yes 2=No	
27	EYEEXAM	Dilated retinal exam or retinal camera exam	Audit period	Numeric field where: 1=Yes 2=No	
28	DENTALEXAM	Examination of teeth and gingiva	Audit period	Numeric field where: 1=Yes 2=No	

Order	Variable Name	Description	Timeframe	Format/Values/Units	Comments
29	DIETINSTR	Nutrition instruction	Audit period	Numeric field where: 1=Yes by RD 2=Yes by non-RD 3=Yes by RD and non-RD 4=None	
30	EXERCISE	Physical activity instruction	Audit period	Numeric field where: 1=Yes 2=No	
31	DMEDUC	Diabetes education other than nutrition and physical activity	Audit period	Numeric field where: 1=Yes 2=No	
32	DEPDX	Active diagnosis of depression	Audit period	Numeric field where: 1=Yes 2=No	
33	DEPSCREEN	[Only if DEPDX=2] Screened for depression	Audit period	Numeric field where: 1=Yes 2=No	
34	TXDIET	Only therapy for diabetes is diet and exercise (no meds)	Last 6 months of audit period	Numeric field where: 1=Yes 2=No	• If this item=1:Yes, then all other TX fields should=2:No. • If all other TX fields=2:No, then this item should=1:Yes.
35	TXINSUL	Prescribed any insulin	Last 6 months of audit period	Numeric field where: 1=Yes 2=No	
36	TXSUREA	Prescribed a sulfonylurea (such as glyburide or glipizide)	Last 6 months of audit period	Numeric field where: 1=Yes 2=No	

Order	Variable Name	Description	Timeframe	Format/Values/Units	Comments
37	TXSUREALK	Prescribed a glitinide (sulfonylurea-like med) such as Prandin or Starlix	Last 6 months of audit period	Numeric field where: 1=Yes 2=No	
38	TXMETFORM	Prescribed metformin	Last 6 months of audit period	Numeric field where: 1=Yes 2=No	
39	TXACARB	Prescribed acarbose (Precose) or miglitol (Glyset)	Last 6 months of audit period	Numeric field where: 1=Yes 2=No	
40	TXGLIT	Prescribed a TZD ("glitazone") drug like pioglitazone (Actos) or rosiglitazone (Avandia)	Last 6 months of audit period	Numeric field where: 1=Yes 2=No	
41	TXGLP1MED	Prescribed injectable GLP-1 med (Byetta, Bydureon, Victoza)	Last 6 months of audit period	Numeric field where: 1=Yes 2=No	
42	TXDPP4	Prescribed DPP4 inhibitor (Januvia, Onglyza, Tradjenta)	Last 6 months of audit period?	Numeric field where: 1=Yes 2=No	
43	TXAMYLIN	Prescribed injectable amylin analog (Symlin)	Last 6 months of audit period	Numeric field where: 1=Yes 2=No	
44	TXBROMO	Prescribed bromocriptine (Cycloset)	Last 6 months of audit period	Numeric field where: 1=Yes 2=No	

Order	Variable Name	Description	Timeframe	Format/Values/Units	Comments
45	TXCOLESEV	Prescribed colesevelam (Welchol)	Last 6 months of audit period	Numeric field where: 1=Yes 2=No	
46	TXSGLT2	Prescribed SGLT2 inhibitor (Invokana)	Last 6 months of audit period	Numeric field where: 1=Yes 2=No	
47	ACE	Prescribed an ACE inhibitor or ARB	Last 6 months of audit period	Numeric field where: 1=Yes 2=No	
48	ASPIRIN	Ordered daily aspirin or anticoagulant	Last 6 months of audit period	Numeric field where: 1=Yes 2=No	
49	LLSTATIN	Prescribed a statin drug (simvastatin, lovastatin, others)	Last 6 months of audit period	Numeric field where: 1=Yes 2=No	
50	LLFIBRATE	Prescribed a fibrate (gemfibrozil/Lopid)	Last 6 months of audit period	Numeric field where: 1=Yes 2=No	
51	LLNIACIN	Prescribed niacin (Niaspan, OTC niacin)	Last 6 months of audit period	Numeric field where: 1=Yes 2=No	
52	LLBAS	Prescribed a bile acid seqestrant (cholestyramine/Questran, others)	Last 6 months of audit period	Numeric field where: 1=Yes 2=No	
53	LLEZETIM	Prescribed ezetimibe (Zetia)	Last 6 months of audit period	Numeric field where: 1=Yes 2=No	
54	LLFISHOIL	Ordered fish oil	Last 6 months of audit period	Numeric field where: 1=Yes 2=No	

Order	Variable Name	Description	Timeframe	Format/Values/Units	Comments
55	LLLOVAZA	Prescribed Lovaza	Last 6 months of audit period	Numeric field where: 1=Yes 2=No	
56	LLNONE	Taking no lipid lowering drugs	Last 6 months of audit period	Numeric field where: 1=Yes 2=No	• If this item=1:Yes, then all other LL fields should=2:No. • If all other LL fields=2:No, then this item should=1:Yes.
57	TBTESTDONE2	Skin (PPD) or blood test for TB done	Ever	Numeric field where: 1=Skin test (PPD) 2=Blood test (QFT-G, T SPOT-TB) 3=Unknown/not offered	
58	TBTESTRSLT2	[Only if TBTESTDONE2= 1 or 2] TB test result	Ever	Numeric field where: 1=Positive 2=Negative 3=Unknown	
59	TBINHTX2	[Only if TBTESTRSLT2=1] INH treatment complete	Ever	Numeric field where: 1=Yes 2=No 3=Unknown	
60	TBTESTDATE	[Only if TBTESTRSLT2=2] Date of last TB test	Ever	mm/dd/yyyy	
61	CVDDX	Diagnosed cardiovascular disease (CVD)	Ever	Numeric field where: 1=Yes 2=No	
62	FLUVAX	Flu vaccine	Audit period	Numeric field where: 1=Yes 2=No 3=Refused	

Order	Variable Name	Description	Timeframe	Format/Values/Units	Comments
63	PNEUMOVAX	Pneumococcal vaccine	Ever	Numeric field where: 1=Yes 2=No 3=Refused	
64	TD	Tetanus (Td or Tdap)	Past 10 years	Numeric field where: 1=Yes 2=No 3=Refused	
65	HEPBVAX	Hepatitis B 3 dose vaccine series	Ever	Numeric field where: 1=Yes 2=No 3=Refused	
66	HBA1C	HbA1c test result (%)	Most recent in audit period	Numeric, one decimal	
67	HBA1CDATE	Date of most recent HbA1c	Most recent in audit period	mm/dd/yyyy	
68	CREATVALUE	Serum creatinine value (mg/dl)	Most recent in audit period	Numeric, two decimals	
69	EGFRVALUE	Estimated GFR value	Most recent in audit period	Numeric, one decimal	DMS: Estimated GFR value is used if present. If an Estimated GFR value is not present but a serum creatinine value is present during the audit period, an Estimated GFR value is calculated.
70	CHOLVALUE	Total cholesterol value	Most recent in audit period	Numeric, no decimals	
71	HDLVALUE	HDL cholesterol value (mg/dl)	Most recent in audit period	Numeric, no decimals	
72	LDLVALUE	LDL cholesterol value (mg/dl)	Most recent in audit period	Numeric, no decimals	
73	TRIGVALUE	Triglyceride value (mg/dl)	Most recent in audit period	Numeric, no decimals	

Order	Variable Name	Description	Timeframe	Format/Values/Units	Comments
74	UPACRDONE	Urine albumin:creatinine ratio test performed	Audit period	Numeric field where: 1=Yes 2=No	
75	UPACRVAL	Urine albumin:creatinine ratio value (mg/g)	Most recent in audit period	Numeric	
76	LOCAL	Local option question		Numeric, single digit, 0-9	
77	LOCALEXT	Extended local option question		Character (max length=50)	
78	SOURCESYS	Data source: "RPMS", "NEXTGEN", "EPI INFO", etc.		Character (max length=10)	

Table B-2: Variables added to the 2014 Audit Export (Data) file

Order	Variable Name	Description
19	HTNDX	Hypertension diagnosed
46	TXSGLT2	Prescribed SGLT2 inhibitor (Invokana)
56	LLNONE	Taking no lipid lowering drugs
74	UPACRDONE	Urine albumin:creatinine ratio test performed

Table B-3: Variables removed from the 2014 Audit Export (Data) file

Variable Name	Description
AGE	Age in full years
DURDM	Duration of diabetes in full years
HEIGHT	Last recorded height in inches
BMI	Calculated body mass index based on HEIGHT and WEIGHT
SYSMEAN	Mean systolic BP (mmHg)
DIAMEAN	Mean diastolic BP (mmHg)
TBSTATUS	TB status
CREATDONE	Serum creatinine tested
EGFRDONE	Estimated GFR determined
CHOLDONE	Total cholesterol tested
HDLDONE	HDL cholesterol tested
NONHDLDONE	NonHDL cholesterol calculable (i.e, both CHOLVALUE and HDLVALUE present)
NONHDLVALUE	NonHDL cholesterol value
LDLDONE	LDL cholesterol tested
TRIGDONE	Triglycerides tested
UPTESTDONE	Urine tested for protein during audit period: 1=Yes, 2=No
UPTESTTYP2	Urine test type: 1=UACR, 2=UPCR, 3=24hr protein, 4=Microalb:creat strips, 5=Microalbumin only, 6=UA dipstick
UPPCRVAL	Urine protein:creatinine ratio value in grams per gram (g/g)
UP24HRVAL	Urine 24 hr collection for protein in milligrams per 24 hours (mg/day)
UPMACCAT	Urine albumin:creatinine strips (e.g., Clinitek): 1= <30 mg/g, 2=30-300 mg/g, 3= >300 mg/g

Variable Name	Description
UPMACAT	Urine microalbumin only (e.g., Micral): 1= <20 mg/L 2= >=20 mg/L
UPUADIPCAT	Standard urine dipstick for protein: 1=Normal or Trace 2=Abnormal (1+ or more)
COMBINED	Meets ALL of the following: • A1C <8.0 • LDL <100 • mean BP <140/<90

Appendix C: CVD Diagnoses

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1)  393 – 398      Chronic Rheumatic Heart Disease
          393 Chronic rheumatic pericarditis
          394.x  Diseases of mitral valve
          395.x  Diseases of aortic valve
          396.x  Diseases of mitral and aortic valves
          397.x  Diseases of other endocardial structures
          398.xx Other rheumatic heart disease

2)  402     Hypertensive Heart Disease
          402.0x Malignant
          402.1x Benign
          403.9x Unspecified

3)  410.0 -414.9   Ischemic heart disease

4)  415.1   Pulmonary embolism and infarction
          415.11 Iatrogenic pulmonary embolism and infarction
          415.12 Septic pulmonary embolism
          415.13 Saddle embolus of pulmonary artery
          415.19 Other

5)  424.0 -424.99  Other diseases of endocardium:
          424.0 Mitral valve disorders
          424.1 Aortic valve disorders
          424.2 Tricuspid valve disorders
          424.3 Pulmonary valve disorders
          424.9x Endocarditis, valve unspecified

6)  425     Cardiomyopathy
          425.0  Endomyocardial fibrosis
          425.1x Hypertrophic cardiomyopathy
          425.2  Obscure cardiomyopathy of Africa
          425.3  Endocardial fibroelastosis
          425.4  Other primary cardiomyopathies
          425.5  Alcoholic cardiomyopathy
          425.7  Nutritional and metabolic cardiomyopathy
          425.8  Cardiomyopathy in other diseases classified elsewhere
          425.9  Secondary cardiomyopathy, unspecified

7)  426     Conduction disorders
          426.0  Atrioventricular block, complete
          426.1x Atrioventricular block, other and unspecified
          426.2  Left bundle branch hemiblock
          426.3  Other left bundle branch block
          426.4  Right bundle branch block
          426.5x Bundle branch block, other and unspecified
          426.6  Other heart block
          426.7  Anomalous Atrioventricular excitation
          426.8x Other specified conduction disorders
          426.9  Conduction disorder, unspecified

8)  427.0 -427.9   Cardiac dysrhythmias
          427.0 Paroxysmal supraventricular tachycardia
          427.1 Paroxysmal ventricular tachycardia
          427.2 Paroxysmal tachycardia, unspecified
          427.3 Atrial fibrillation and flutter
          427.4 Ventricular fibrillation and flutter
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         427.5 Cardiac arrest
         427.6 Premature beats
         427.8 Other specified cardiac dysrhythmias
         427.9 Cardiac dysrhythmia, unspecified

9)  428.0 -428.9   Heart failure
         428.0 Congestive heart failure, unspecified
         428.1 Left heart failure
         428.2 Systolic heart failure
         428.3 Diastolic heart failure
         428.4 Combined systolic and diastolic heart failure
         428.9 Heart failure, unspecified

10) 429.2 -429.2   Cardiovascular disease, unspecified
         (includes "arteriosclerotic cardiovascular disease (ASCVD),
         cardiovascular arteriosclerosis, cardiovascular degeneration,
         disease or sclerosis with mention of arteriosclerosis)

11) 433.0 -434.91  Occlusion and stenosis of precerebral arteries (433.xx)
                   (includes embolism, narrowing, obstruction or thrombosis
                   of basilar, carotid, and vertebral arteries)

                   Occlusion of cerebral arteries (434.xx)
                   (includes thrombosis, embolism, or occlusion,
unspecified)

12) 440.1 -440.29  Atherosclerosis
                   440.1 Of renal artery
             440.2 Of native arteries of the extremities

13) 440.4 -440.4   Chronic total occlusion of artery of the extremities

14) 443.21 -443.29 Other arterial dissection

15) 443.81 -443.89 Other specified peripheral vascular diseases

16) 443.9 -445.89  Peripheral vascular disease
         443.9 Peripheral vascular disease, unspecified
         445 Atheroembolism (445.0 Of extremities, 445.8 Of other sites)

17) 451.1x   Phlebitis and thrombophlebitis of deep vessels of lower
extremities


18) V45.01      Cardiac pacemaker


19) V45.81      Aortocoronary bypass status (postprocedural state)
    V45.82      Percutaneous transluminal coronary angioplasty status

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.
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Acronym List

CVD	Cardiovascular Disease
CVX	Center for Disease Control National Center of Immunization and Respiratory Diseases Code Set
DM	Diabetes Mellitus
DMS	Diabetes Management System
DDTP	IHS Division of Diabetes Treatment and Prevention
GDM	Gestational Diabetes Mellitus
HTN	Hypertension
IGT	Impaired Glucose Tolerance
IHS	Indian Health Service
LMR	List Labs or Medications Used at this Facility
POC	Point of Care
RPMS	Resource and Patient Management System
UACR	Urine Albumin/Creatinine Ratio

Contact Information

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

Phone: (888) 830-7280 (toll free)

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Email: support@ihs.gov