



RESOURCE AND PATIENT MANAGEMENT SYSTEM

Diabetes Management System (BDM)

Supplemental Information for Diabetes Management System Patch 3 and RPMS Diabetes Audit 2010 Instructions

Version 2.0 Patch 3
March 2010

Office of Information Technology (OIT)
Division of Information Resource Management
Albuquerque, New Mexico

Preface

The purpose of this guide is to provide Diabetes Program staff with an overview of changes to the Diabetes Management System introduced in Patch 3. In addition, instructions are provided on how to run the electronic version of the 2010 Diabetes Audit, which is included in this patch.

RPMS software, including the Diabetes Management System, is subject to periodic updates based on IHS Diabetes Standards of Care. This manual provides documentation for the 2010 Diabetes Audit using the standards of care in effect as of March 2009.

Table of Contents

1.0	Introduction.....	1
2.0	Preparing for the 2010 Audit.....	3
2.1	Guidelines for Selecting Patients	3
2.2	Using the Diabetes Register for the 2010 Diabetes Audit.....	4
2.2.1	Identifying IHS Diabetes Register Patients with GDM or IGT	4
2.2.2	Identifying Patients in the IHS Diabetes Register who May Not be Active.....	6
2.2.3	Updating Register Status.....	8
2.3	Creating a Template of Patients for the 2010 Diabetes Audit	10
2.4	Updating Taxonomies.....	13
2.4.1	Drug Taxonomies:	15
2.4.2	Education Topic Taxonomies:	17
2.4.3	Laboratory Test Taxonomies:.....	17
3.0	Running the 2010 Audit	20
3.1	Running a Cumulative Audit	20
3.2	Creating an Audit Export File	22
4.0	Uploading the .rec file to WebAudit	24
5.0	2010 Displaying Diabetes Audit Logic.....	25
6.0	Audit Resources	26
7.0	Diabetes Care Summary	27
8.0	Letter Management.....	29
8.1	Letter Inserts.....	29
8.2	Creating Custom Letters.....	32
8.3	Printing Custom Letter for Individual.....	32
8.4	Printing Custom Letter for Template or Register	33
8.5	Follow up Reports and Letters.....	34
9.0	Appendix – 2010 Diabetes Audit Logic.....	37
10.0	Contact Information	49

1.0 Introduction

Patch 3 to the Diabetes Management System Version 2.0 contains several changes, as well as the 2010 Diabetes Audit. The changes described below may have been included in previous enhancements to the software, but have not been documented in a user document.

- Beginning in 2009, the Diabetes Audit may only be found under the DA Diabetes Audit option in the Diabetes Management System and will not be included under the DM Diabetes QA Audit Menu in PCC Management Reports.
- There is no longer a prompt for participation in a SDPI program or a request for Grant # when running the electronic Diabetes Audit.
- The Diabetes Audit section dealing with testing for urine protein has been revised since the 2009 audit.
- Nine new taxonomies have been added for the 2010 Diabetes Audit:
 - DM AUDIT 24HR URINE PROTEIN
 - DM AUDIT BILE ACID DRUGS
 - DM AUDIT EZETIMIBE DRUGS
 - DM AUDIT FIBRATE DRUGS
 - DM AUDIT FISH OIL DRUGS
 - DM AUDIT LOVAZA DRUGS
 - DM AUDIT NIACIN DRUGS
 - DM AUDIT SULFONYLUREA-LIKE DRUGS
 - DM AUDIT TB LAB TESTS
- The 2010 Diabetes Audit checks the entire patient record for documented Tobacco Use, not just the audit year.
- Average Blood Pressure is displayed even if only two blood pressures are documented during the audit year, instead of three.
- The Diabetes Patient Care Summary has been revised as follows:
 - The Beneficiary/Classification is displayed.
 - Both Pap Smears and Mammograms have been removed.
 - Only the first urine protein test result found in the Audit sequence of Urine Protein testing is displayed.
- The Follow up Report option has been revised as follows:

- Follow up options have been added for EKG, Estimated GFR, Urine Protein testing, and TB testing.
- The Follow up options for Microalbumin and Pap smears were removed.
- Letter Maintenance has been extensively revised:
 - Letter inserts have been added for Primary Care (Designated Care Provider).
 - A display option has been developed to allow a letter creator to view the text associated with a letter insert prior to its use in a letter.
 - Options have been added to print letters for single patients, for a Register of patients, a template of patients, or patients with specific follow up needs.

2.0 Preparing for the 2010 Audit

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

1. Ensure that the patients who will be audited are, indeed, patients who are actively receiving care at your health care facility; and
2. 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 who should and who should not be included in the 2010 Diabetes Audit.

Include patients who:

- Attend regular clinics or diabetes clinics.
- Sometimes refuse care or have special motivational problems (e.g., alcoholism).
- Are not attending clinics; but you do not know if they have moved or have found another source of care.

Exclude patients who:

- Have not had at least one primary care visit during the past 12 months.
- Receive primarily referral or contract care paid by IHS.
- Have arranged other MD care paid with non-IHS monies.
- Receive their primary care at another IHS or Tribal health facility.
- Live in a jail, and receive their care there.
- Live in a nursing home, and receive their care there.
- Attend an off-site dialysis unit and receive the majority of their care there.
- Have gestational diabetes.
- Have pre-diabetes (IFG or IGT) only.
- Have moved — permanently or temporarily (should be documented)
- You are unable to contact, defined as at least 3 tries in 12 months (should be documented in the chart).
- Have died.

Patients who should be included in the 2010 Diabetes Audit need to meet two criteria:

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

The diabetes register may include people who are not considered active patients of the clinic and thus should not be audited. In addition, the diabetes register may have patients with a Register Diagnosis of GDM or IGT. Those patients should also be excluded from the audit.

2.2 Using the Diabetes Register for the 2010 Diabetes Audit

If you wish to use patients in your Diabetes Register for the audit, there are several reports that can be run to identify patients currently classified as active but who do not meet the audit definition of active.

- Shown in section 2.2.1 is an option to identify patients in the Register who have a Register Diagnosis of IGT or GDM.
- In Section 2.2.2 a Qman search is shown that can be used to identify patients who have not had a visit during the Audit year and therefore do not meet audit criteria of being an active patient.
- Once patients who do not meet this definition of Active with a Diagnosis of Type 1 or Type 2 Diabetes have been identified, their status may be changed using the 1. Edit Register Data under Patient Management in the Diabetes Management System. See Section 2.2.3 for changing the status of a Register Patient.

Note: The IHS Division of Diabetes is recommending that the 2010 audit submitted be for the calendar year ending December 31, 2009.

Please confirm with your Area Diabetes Consultant the dates that will be used for the 2010 Audit in your area.

2.2.1 Identifying IHS Diabetes Register Patients with GDM or IGT

Although the IHS Diabetes Register allows entry of GDM and IGT as Register diagnosis, 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. Patients with GDM and IGT should be followed via inclusion in another register.

Below is a Q-man search to identify patients with a Register Status of Active and a Register Diagnosis of GDM or 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

               ***** 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...

Please note:  Patients whose names are marked with an "*" may have aliases.
PATIENTS      CMI*DEV
              NUMBER
-----

MOUSE,MINNIE W* 29693
Total: 1

```

Figure 2-1: Example of Q-man search to identify patients with Gestational DM

Repeat this Qman query selecting 5 Impaired Glucose Tolerance to identify patients in your Register with a Register Diagnosis of IGT. Their status may be changed using the 1. Edit Register Data under Patient Management in the Diabetes Management System to Unreviewed. See Section 2.2.3.

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

This is a simple Q-man search that can be run to identify patients who have not had at least one primary care visit during the 12 months of the audit period. There are other reports that can identify patients who may not have had a visit in the last year, but this report is especially useful for Registers with large numbers of patients.

```
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 DM
      5      Impaired Glucose Tolerance
      6      All Diagnoses

Which Register Diagnosis: All Diagnoses// <Enter>
```

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...

Please note:  Patients whose names are marked with an "*" may have aliases.

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

```

Figure 2-2: A Q-man Search to Identify Patients Who Have Not Had a Primary Care Visit During the 12 Months of the Audit Period

2.2.3 Updating Register Status

In the above report, Figure 2-2, note that DANA LINCOLN, Chart # 100005, has not had a primary care visit during the audit year. Her Register Status may be updated as follows using the Patient Management option in the Diabetes Management System.

```

DIABETES MANAGEMENT SYSTEM
PM      Patient Management
1  Edit Register Data

```

Figure 2-3: Updating Register Status Using the Patient Management Option

Choices for Register Status are:

- Active

- Inactive
- Transient
- Unreviewed
- Deceased
- Non-IHS
- Lost to Follow-Up
- Noncompliant

Select the appropriate Status and use the down arrow until the cursor reaches the Command line (see Figure 2-4). Type Save <ENTER> followed by Exit <ENTER> to record the status update and close the update box.

Cimarron Database

File Edit Options Send Receive Window Help

Register Data Jan 25, 2009 14:49:23 Page: 1 of 1

PATIENT: LINCOLN, DANA
ADDRESS: 1000 PARK AVENUE, NOWATA, OK, 74048
PHONE.: 555-555-000
STATUS: UNREVIEWED
CASE MANAGER:
REGISTER PROV:
WHERE FOLLOWED:
CONTACT:
ENTRY DATE: JUN 16, 2004
LAST REVIEW:
AGE: 26
DOB: 07/06/1982
HRN: 100005
RES: 3722
LAST EDITED:
NEXT REVIEW:

Exit Save Refresh

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

COMMAND: **SAVE** Press <PF1>H for help **Insert**

VT100 TCP/IP 17:04 0000

Figure 2-4: Register Data Screen

2.3 Creating a Template of Patients for the 2010 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 year. The template created from this query can be used to run the 2010 Diabetes Audit.

Directions for running this Q-man search are shown below.

```
What is the subject of your search?  LIVING PATIENTS // <Enter> LIVING PATIENTS

  Subject of search: PATIENTS
    ALIVE TODAY

Attribute of LIVING PATIENTS: VISIT <Enter>

SUBQUERY: Analysis of multiple VISITS

First condition of "VISIT": CLINIC <Enter>

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

Members of BGP PRIMARY CARE CLINICS Taxonomy =>

GENERAL
DIABETIC
INTERNAL MEDICINE
PEDIATRIC
WELL CHILD
FAMILY PRACTICE

Enter ANOTHER CLINIC:

The following have been selected =>

    GENERAL
    DIABETIC
    INTERNAL MEDICINE
    PEDIATRIC
    WELL CHILD
    FAMILY PRACTICE

Want to save this CLINIC group for future use? No// <Enter> (No)
Next condition of "VISIT": DURING THE PERIOD
Exact starting date: 1/1/2009  (JAN 01, 2009)
Exact ending date: 12/31/2009  (DEC 31, 2009)

    Subject of subquery: VISIT
    CLINIC (GENERAL/DIABETIC...)
    BETWEEN BETWEEN JAN 1,2009 and DEC 31,2009@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/UNSPC 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 BETWEEN JAN 1,2009 and DEC 31,2009@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 BETWEEN JAN 1,2009 and DEC 31,2009@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 BETWEEN JAN 1,2009 and DEC 31,2009@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

Fileman users please note =>

This template will be attached to IHS' PATIENT file (#9000001)

Enter the name of the SEARCH TEMPLATE: **PTS FOR DM AUDIT 10** <Enter>

Are you adding 'PTS FOR DM AUDIT 10' 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	+

2.4 Updating Taxonomies

The following taxonomies are referenced in the 2010 RPMS Diabetes Audit.

1)	BGP GPRA ESTIMATED GFR TAX	LABORATORY TEST
2)	DM AUDIT 24HR URINE PROTEIN	LABORATORY TEST
3)	DM AUDIT A/C RATIO TAX	LABORATORY TEST
4)	DM AUDIT ACARBOSE DRUGS	DRUG
5)	DM AUDIT ACE INHIBITORS	DRUG
6)	DM AUDIT AMYLIN ANALOGUES	DRUG
7)	DM AUDIT ANTI-PLATELET DRUGS	DRUG
8)	DM AUDIT ASPIRIN DRUGS	DRUG
9)	DM AUDIT BILE ACID DRUGS	DRUG
10)	DM AUDIT CESSATION HLTH FACTOR	HEALTH FACTORS
11)	DM AUDIT CHOLESTEROL TAX	LABORATORY TEST
12)	DM AUDIT CREATININE TAX	LABORATORY TEST
13)	DM AUDIT DENTAL EXAM ADA CODES	ADA CODES
14)	DM AUDIT DIABETES EDUC TOPICS	EDUCATION TOPICS
15)	DM AUDIT DIET EDUC TOPICS	EDUCATION TOPICS
16)	DM AUDIT DPP4 INHIBITOR DRUGS	DRUG
17)	DM AUDIT EXERCISE EDUC TOPICS	EDUCATION TOPICS
18)	DM AUDIT EZETIMIBE DRUGS	DRUG
19)	DM AUDIT FIBRATE DRUGS	DRUG
20)	DM AUDIT FISH OIL DRUGS	DRUG
21)	DM AUDIT GLITAZONE DRUGS	DRUG
22)	DM AUDIT 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 OTHER EDUC TOPICS	EDUCATION TOPICS
32)	DM AUDIT P/C RATIO TAX	LABORATORY TEST
33)	DM AUDIT SEMI QUANT UACR	LABORATORY TEST
34)	DM AUDIT SMOKING CESS EDUC	EDUCATION TOPICS
35)	DM AUDIT STATIN DRUGS	DRUG
36)	DM AUDIT SULFONYLUREA DRUGS	DRUG
37)	DM AUDIT SULFONYLUREA-LIKE	DRUG
38)	DM AUDIT TB LAB TESTS	LABORATORY TEST
39)	DM AUDIT TRIGLYCERIDE TAX	LABORATORY TEST
40)	DM AUDIT URINALYSIS TAX	LABORATORY TEST ←Not used in 2010.
41)	DM AUDIT URINE PROTEIN TAX	LABORATORY TEST

Figure 2-5: 2010 User-Populated Taxonomies

The taxonomies may be either reviewed and updated using the D1TU option under the DM10 menu of the Diabetes Audit or the corresponding Visual DMS Update Taxonomy option.

Note: When updating taxonomies using the traditional RPMS option, you will be provided with a warning when trying to add a test panel to a lab test taxonomy which should only include individual tests. This warning feature will not be available in Visual DMS until the release of IHS PCC Suite (BJPC) Version 2.0 patch 3.

All taxonomies may not be populated. For example, if quantitative A/C Ratio testing is performed at your facility or by your reference laboratory, it is highly unlikely that you would have any entries in the DM AUDIT SEMI QUANT UACR taxonomy. If *only* semi-quantitative A/C Ratio testing is performed at your facility (results reported as <30, 30-300, or >300), be sure to remove this A/C Ratio test from the DM AUDIT A/C RATIO TAX, as that taxonomy should *only* be used for quantitative A/C Ratio tests (results reported as a numeric value, e.g., 15, 28, 5).

Listed below are taxonomies that must be reviewed carefully in light of software changes or changes introduced in the 2010 Diabetes Audit. Changes primarily relate to testing for URINE PROTEIN, LIPID LOWERING DRUGS, and EDUCATION TOPICS. Possible members of the taxonomies are listed, but are by no means to be considered comprehensive.

2.4.1 Drug Taxonomies:

The following Guidelines are provided for populating the new Drug taxonomies. Many new drugs are available so an updated list is provided for each of the drug taxonomies below. You may wish to review the lists of drugs with your pharmacist to be sure of those that are available at your facility.

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

	Valsartan + hydrochlorothizide (Diovan/HCT)
DM AUDIT ACARBOSE DRUGS	Acarbose (Precose) Miglitol (Glyset)
DM AUDIT ASPIRIN DRUGS	Any Aspirin(ASA)or Aspirin containing product. (Verasa, Rubrasa)
DM AUDIT ANTIPLATELET THERAPY	Any non-aspirin anti-platelet product including Heparin and Warfarin (Coumadin) Cilistazol (Pletal) Clopidogrel (Plavix) Dipyridamole (Persantine) Ticlopidine (Ticlid) Aspirin + Dipyridamole (Aggrenox)
DM AUDIT INSULIN DRUGS	Any Insulin product in Drug File – Insulin, REG, NPH, Lente, Ultralente, Insulin Lispro(Humalog), Insulin Glargine (Lantus), Insulin Aspart (Novolog), Insulin Glulisine (Apidra), Insulin Detemir (Levemir) Inhalable Insulin (Exubera)*,Pre-Mixed Insulins (70/30, 75/25)
DM AUDIT METFORMIN DRUGS	Metformin (Glucophage, Fortamet) Metformin extended release (Glucophage XR, Glumetza) Metformin & Glipizide (Metaglip) Metformin & Glyburide (Glucovance) Metformin & Rosiglitazone(Avandamet) Metformin & Pioglitazone (Actoplus met) Metformin & Sitagliptin (Janumet) Metformin & Repaglinide (PrandiMet)
DM AUDIT SULFONYLUREA DRUGS	Acetohexamide (Dymelor) Chlorpropamide (Diabinese) Glimepiride (Amaryl) Glimepiride + rosiglitazone (Avandaryl) Glimepiride + pioglitazone (Duetact) Glipizide (Glucotrol) Glipizide + metformin (Metaglip) Glyburide(Diabeta,Micronase,Glynase)Glyburide + metformin (GlucoVance) Tolazamide (Tolinase) Tolbutamide (Orinase)
DM AUDIT GLITAZONE DRUGS (aka:Thiazolidinediones)	Troglitazone (Rezulin)* Pioglitazone (Actos) Pioglitazone & Metformin (Actoplus met) Pioglitazone & Glimeperide (Duetact) Rosiglitazone & Glimeperide (Avandaryl) Rosiglitazone (Avandia) Rosiglitazone & Metformin (Avandamet)
DM AUDIT DPP4 INHIBITOR DRUGS	Sitagliptin (Januvia,) Sitagliptin + metformin (Janumet) Saxagliptin (Onglyza)
DM AUDIT INCRETIN MIMETICS	Exenatide (Byetta) Liraglutide (Victoza)
DM AUDIT STATIN DRUGS	Atorvastatin (Lipitor) Fluvastatin (Lescol)

	Lovastatin (Mevacor, Altacor, Advicor) Pravastatin (Pravachol) Rosuvastatin (Crestor) Simvastatin (Zocor) Simvastatin & Ezetimibe (Vytorin) Atorvastatin & Amlodipine (Caduet)
--	---

2.4.2 Education Topic Taxonomies:

During the second half of 2009 a patch was distributed nationally which inactivated many of the DM and DMC education topics and in the process appended a suffix of 2006 to the original DM and DMC education topics. New education topics were installed with no suffix, e.g., DM-NUTRITION, DM-EXERCISE. Because both sets of education topics may have been documented during the audit year, all three DM AUDIT EDUCATION topic taxonomies – DM AUDIT DIET EDUC TOPICS, DM AUDIT DIABETES EDUC TOPICS, and DM AUDIT EXERCISE EDUC TOPICS will need to be reviewed and updated to ensure that both sets of education topics are included.

2.4.3 Laboratory Test Taxonomies:

Urine protein testing guidelines for the 2010 Audit have once again been modified. Listed below are taxonomies that must be reviewed carefully in light of software changes or changes introduced in the 2010 Diabetes Audit.

BGP GPRA ESTIMATED GFR TAX	Estimated GFR, Calculated GFR, _GFR, Estimated, _GFR Non Afr Am
DM AUDIT A/C RATIO TAX	Microalbumin/Creatinine Ratio measured in actual numeric values (mg/g Creat). Look for tests A/C, A:C, Albumin/Creatinine, _A/C, -A/C, *A/C, Microalbumin/Creatinine, M-Alb/Creatinine.
DM AUDIT 24HR URINE PROTEIN	24 Hour Urine Protein in mg/24 Hr
DM AUDIT P/C RATIO TAX	Protein/Creatinine Ratio, P/C Ratio in g/g
DM AUDIT SEMI QUANT UACR	Microalbumin/Creatinine Ratio reported as a semi-quantitative test. The most commonly reported results are <30, 30-300, or >300 mg/g Creat as measured by strip tests.
DM AUDIT URINE PROTEIN TAX	Urine Protein as reported on Urine Dipsticks. This is a semi-quantitative test and is usually reported as Ur Protein, Urine Protein, Protein, Urine, Urine Protein Screen, _Urine Protein.
DM AUDIT MICROALBUMINURIA TAX	Microalbumin, Albumin, Micro, Urine albumin in mg/L.
DM AUDIT TB LAB TESTS	QFT-G, T SPOT-TB

With the advent of reference laboratory interfaces and Point of Care result entry, there is considerable variation in test nomenclature, and 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. Once test names are determined, the appropriate tests may be added or deleted from taxonomies.

Below is a sample Health Summary with recommended taxonomy placement:

HGB A1C-GLYCO (R)	01/16/09	5.7	%	4.3-6.1
DM AUDIT HGB A1C <Enter>				
LIPID PROFILE (R)	01/16/09			
HDL CHOLESTEROL (R)	01/16/09	44	MG/DL	40-125
DM AUDIT HDL CHOLESTEROL <Enter>				
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 <Enter>				
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	0.50-1.00Can you
remove this blank line?	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			
Can you remove this blank line?				
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 A/C RATIO					
_CREAT UR, MG/DL	01/22/09	138	MG/DL		
_CREAT/100 Calc Malb	01/22/09	1.38	G/L		

Figure 2-6: Sample Health Summary

3.0 Running the 2010 Audit

*It is highly recommended that you run the 2010 electronic audit a minimum of two times. The first time, run a cumulative audit on *all* active members of your register with Type 1 and Type 2 Diabetes *or* on the template you have created of active patients with Type 1 or Type 2 Diabetes to ensure that you are not missing any data due to improperly populated taxonomies.*

*Review the cumulative audit carefully to be sure there are no audit elements that have no data or that have far larger numbers than would be expected. If needed, review taxonomy set up and run the cumulative audit again to make sure that the problem(s) are corrected *before* creating the Audit Export file.*

The directions for running an electronic Diabetes Audit are explained both in the Audit 10 instructions and the Diabetes Management System User Manual Version 2.0.

3.1 Running a Cumulative Audit

A script is shown below of how to run a Cumulative Audit. The audit may be either queued using the DM10 option in Visual DMS or run from traditional RPMS using the menu path:

```
Diabetes Management System ...
DA    Diabetes QA Audit Menu ...
DM10  2010 Diabetes Program Audit ...
DM10  Run 2010 Diabetes Program Audit

                ASSESSMENT OF DIABETES CARE, 2010

                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:  12/31/09  (DEC 31, 2009)

    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//<ENTER> YES
Which status: A// <ENTER> ACTIVE
```

```

There are 32 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 32 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// <ENTER> 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: 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> DEMO Patients
DEVICE: HOME// <=Enter printer number or name

```

Figure 3-1 Running a Cumulative Audit

When prompted for device, you may type Q and then Queue the report to run later in order to minimize RPMS impact during working hours. (See Figure 3.3 below.)

```

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

Device: P171 <Enter>          <- Note that you cannot print to a SLAVE printer.
Start Date/Time: T@2000 <Enter>

```

Figure 3-2 Queuing the Report to Run Later

3.2 Creating an Audit Export File

A script for running the 2010 Diabetes Audit and creating an Audit Export file for the WebAudit is displayed below.

```

                                ASSESSMENT OF DIABETES CARE, 2010
                                PCC DIABETES AUDIT

Enter the Official Diabetes Register: IHS DIABETES <Enter>

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: 12/31/09 <Enter> (DEC 31, 2009)

    Select one of the following:

        P          Individual Patients
        S          Search Template of Patients <- Use this option if you have
                   created a template of active patients
        C          Members of a CMS Register <- Use this option if all of the
                   active patients in your Register have a
                   Register Diagnosis and none of the
                   active patients has a Register
                   Diagnosis of GDM or IGT.

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

There are 830 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>

Limit the patients who live in a particular community? N// <Enter>

There are 830 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// <Enter> ALL Patients selected so far
                   Unless there is some compelling reason, all
                   active patients in the Register should be
                   audited.

    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 <Enter>
Enter the name of the FILE to be Created (3-8 characters): CIMDEV10 <Enter>

I am going to create a file called cimdev09.rec which will reside in the C:\APPTMP
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.
PLEASE jot down and remember the following file name:
          *****      cimdev10.rec      *****
It may be several hours (or overnight) before your report and flat file are
finished.

The records that are generated and placed in file cimdev10.rec are in a format
readable by EPI INFO. For a definition of the format please see your user manual.

Is everything ok?  Do you want to continue? Y//<Enter>

    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
Won't you queue this ? Y// <Enter> YES
Requested Start Time: NOW//T@2000 <Enter> (JAN 25, 2010@20:00:00) <- Select a time
                                when most users are not using the RPMS
                                system.
```

Figure 3-1: Creating an Audit Export File

Notify your RPMS site manager that you have run this audit and provide the name of the file, as well as the directory where it was stored. Your site manager will be able to place this file in a shared folder on your server where it can be accessed in order to upload it to the WebAudit.

4.0 Uploading the .rec file to WebAudit

Once you have the data file, you need to bring it into the WebAudit for data cleaning and report generation. The steps for uploading a file to the Web Audit are listed below. For further information and WebAudit FAQs, please visit the DDTP website at:

<http://www.ihs.gov/MedicalPrograms/Diabetes/index.cfm?module=resourcesAuditConducting>.

1. Request and activate a WebAudit account if you do not already have one.
2. Log in to the WebAudit using your user name and password.
3. Select “Diabetes WebAudit Facility Administration” from the Applications list.
4. Select “Enter Facility Information”
5. Press the Save button.
7. Return to the Main Menu and select “Diabetes WebAudit” from the Applications list.
8. Select “Diabetes WebAudit” from the Applications list.
9. Press the Upload Data button.
10. Press the Browse button and navigate to the data file (.rec file), then press Open.
11. When the .rec file has been selected, press the Upload button.

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. You will also receive an email confirmation.

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.

Once the file has been successfully uploaded, you may proceed with checking the data quality and/or producing reports.

5.0 2010 Displaying Diabetes Audit Logic

The revised logic for the 2010 Diabetes Audit is provided under the menu option DAL Display Audit Logic in the menu DA Diabetes QA Audit Menu.

```
Diabetes Management System ...
DA   Diabetes QA Audit Menu ...
DAL   Display Audit Logic
Select the Audit Year
Select DMS AUDIT ITEM DESCRIPTIONS AUDIT YEAR: 2010 <ENTER>
```

The logic for any audit item may be selected for review by typing S <ENTER> indicating that a selection will be made and then choosing the number of the logic item to be displayed.

DM AUDIT ITEM DESCRIPTION		Feb 15, 2010 10:28:31	Page: 1 of 1
DM Logic Display			
1) AUDIT DATE	16) BLOOD PRESSURES (LAS	31) TB RESULT POSITIVE,	
2) FACILITY NAME	17) FOOT EXAM (COMPLETE)	32) TB RESULT NEGATIVE,	
3) REVIEWER INITIALS	18) EYE EXAM (dilated o	33) ECG	
4) TRIBAL ENROLLMENT CO	19) DENTAL EXAM	34) SEASONAL FLU VACCINE	
5) STATE OF RESIDIENCE	20) DIET INSTRUCTION	35) PNEUMOVAX EVER	
6) DATE OF BIRTH	21) EXERCISE INSTRUCTION	36) TD OR TDAP IN PAST 1	
7) SEX	22) DM EDUCATION (OTHER)	37) HBA1C (most recent)	
8) PRIMARY CARE PROVIDE	23) DEPRESSION AN ACTIVE	38) CREATININE	
9) DATE OF DIABETES DIA	24) DEPRESSION SCREENING	39) ESTIMATED GFR	
10) DM TYPE	25) DM THERAPY	40) TOTAL CHOLESTEROL	
11) TOBACCO REFERRED FOR	26) ACE INHIBITOR/ARB	41) HDL CHOLESTEROL	
12) HEIGHT	27) ASPIRIN/ANTIPLATELET	42) LDL CHOLESTEROL	
13) WEIGHT	28) LIPID LOWERING AGENT	43) TRIGLYCERIDES	
14) BMI	29) TB TESTING	44) URINE TESTED FOR PRO	
15) HYPERTENSION DOCUMEN	30) TB Test result		
Enter ?? for more actions			
S	Select Item	A	Display All Items
Q	Quit		
Select Action: +// S <ENTER>			

Figure 5-1 Displaying 2010 Audit Logic

The complete listing of Audit Logic is displayed in Section 7.0 Appendix.

6.0 Audit Resources

Diabetes Management System Version 2.0 User Manual, (bdm_0200u.pdf)

Audit10 Instructions and forms: www.dmaudit.com

For information regarding the WebAudit: DDTPWebAuditAdmins@ihs.gov.

IHS Standards of Care for Adults with Type 2 Diabetes:

http://www.ihs.gov/MedicalPrograms/Diabetes/HomeDocs/Tools/ClinicalGuidelines/Standards_Care_508Rev.pdf

7.0 Diabetes Care Summary

The Diabetes Care Summary or Supplement may be displayed as the last page of a Health Summary or may be displayed or printed as a standalone document using the menu path:

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

The Diabetes Patient Care Summary displayed using this option uses the same taxonomies which support the Diabetes Audit as well as the same logic. However, results are displayed based on the last data available instead of just the audit year. Missing or inaccurate data displayed on this document may be a warning that taxonomies may need review and updating.

Note: The Diabetes Care Summary displayed using this option demonstrates the modifications made in the Diabetes Management System Version 2.0 patch 3. These changes will not be seen on the Diabetes Care Summary displayed on the Health Summary until IHS Patient Suite (BJPC) Version 2.0 patch 2 is released in the spring of 2010.

Changes to the Diabetes Care Summary include exclusion of Pap Smear and Mammogram status, addition of a display of Beneficiary Class, and display of only the first Urine Protein test which meets audit criteria.

```
***** CONFIDENTIAL PATIENT INFORMATION [DKR] Feb 15, 2010 *****
DIABETES PATIENT CARE SUMMARY Report Date: Feb 15, 2010
Patient Name: GUMP,FOREST HRN: 989898 INDIAN/ALASKA NATIVE
Age: 39 Sex: F Date of DM Onset: 1980 (Diabetes Register)
DOB: Mar 16, 1970 DM Problem #: CIMH16
Designated PCP: SHORR,GREGORY
Last Height: 56 inches Nov 13, 2006
Last Weight: 129 lbs Jan 10, 2008 BMI: 28.9
Last Waist Circumference: 40 May 20, 2005
Tobacco Use: CESSATION-SMOKER Dec 15, 2007
HTN Diagnosed: Yes
ON ACE Inhibitor/ARB in past 6 months: No
Aspirin Use/Anti-platelet (in past yr): No
Last 3 BP: 140/80 Nov 13, 2006 Is Depression on the Problem List?
(non ER) 140/79 May 25, 2006 No
180/100 May 18, 2006 If no, Depression Screening in past year?
Yes - Exam: DEPRESSION SCREENING Nov 12,
2009
In past 12 months:
Diabetic Foot Exam: No
Diabetic Eye Exam: No
Dental Exam: No
DM Education Provided (in past yr):
Last Dietitian Visit: Dec 29, 2004 DM
```

Immunizations:		
Seasonal Flu vaccine since August 1st:	No	Dec 15, 2007
Pneumovax ever:	Yes	May 18, 2006
Td in past 10 yrs:	Yes	May 18, 2006
Last Documented TB Test:	PPD 1	May 16, 2006
Last TB Status Health Factor:		Last CHEST X-RAY: Jul 11, 2007
EKG:	Jan 18, 2010	NORMAL
Laboratory Results (most recent):		
HbA1c:	8.5	Dec 12, 2009 HEMOGLOBIN A1C
Creatinine:	2.3	Feb 04, 2010 CREATININE
Estimated GFR:	25	Feb 04, 2010
Total Cholesterol:	278	Sep 25, 2009 CHOLESTEROL
LDL Cholesterol:	145	Sep 25, 2009 LDL
HDL Cholesterol:	30	Sep 25, 2009 HDL
Triglycerides:	340	Sep 25, 2009 TRIGLYCERIDE
Urine Protein Assessment:		
A/C Ratio:	24	Oct 03, 2009 A/C QUANT
GUMP,FOREST	DOB: 3/16/1970	Chart #CIMH 989898

Figure 7-1 Diabetes Care Summary

8.0 Letter Management

The tools for letter management have been modified in this patch to provide:

- Options to print letters for follow up reports, individual patients, a template of patients, or a Register of patients.
- Tools to display text included in educational letter inserts prior to insertion of those insert(s) into letter(s).

Letter Management may be accessed either as an option from the primary Diabetes Management System menu or via the Register Maintenance option. Visual DMS does not currently have the capability to construct or generate custom letters.

8.1 Letter Inserts

Letter inserts are the RPMS equivalent of Mail Merge fields in Microsoft WORD. Wherever a letter insert is used in a letter, the corresponding RPMS field, whether date, patient name, or follow up need will be printed for the recipient of that letter. The letter inserts available in Diabetes Management System Version 2.0 patch 3 are listed below.

Letter Inserts	Feb 15, 2010 11:46:38	Page:	1 of	1
NO.	INSERT			
+-----				
1	FIRST NAME			
2	LAST NAME			
3	ADDRESS			
4	PRIMARY CARE PROVIDER			
5	REGISTER PROVIDER			
6	FOLLOW UP			
7	CHART			
8	DATE			
9	EDUCATE			
10	FOOT EXAM EDUCATION			
11	EYE EXAM EDUCATION			
12	DENTAL EXAM EDUCATION			
13	FLU SHOT EDUCATION			
14	PNEUMO EDUCATION			
15	TETANUS EDUCATION			
16	TB TEST EDUCATION			
17	A1C HEMOGLOBIN EDUCATION			
18	CREATININE EDUCATION			
19	URINE PROTEIN TEST EDUCATION			
20	LIPID PANEL EDUCATION			
21	FOLLOW UP WITH EDUCATION			
22	NUTRITION EDUCATION			
23	EXERCISE EDUCATION			
24	A/C RATIO EDUCATION			
25	CENTER			

It is highly recommended that the user access the Letter Management option and review the letter inserts and how they may be used prior to composing any letters.

```
Diabetes Management System
LM Letter Management
LAE ADD/EDIT DMS Letters
```

When the Letter Creation Screen is displayed, Select 4 in order to view the Letter Inserts and how to use them.

DMS Letters	Feb 15, 2010 12:28:17	Page:	1 of	1
NO.	LETTER			
---	-----			
1	AA DM LTR			
2	AMK YEARLY EYE EXAMS			
3	DB immunizations			
4	DKR ANNUAL FLU LETTER			
5	DKR ANNUAL FLU SHOT			
6	DKR HIGH A1C			
7	DKR NEW LETTER			
- Previous Screen Q Quit ?? for More Actions				
1	EDIT Letter	3	DELETE Letter	
2	ADD Letter	4	List Letter Inserts	
Select Action: Quit// 4 <ENTER>				

Figure 8-1 Listing Letter Inserts

When the letter inserts are displayed, select H General Insert Information, to display information about general use of the inserts. Several special inserts are not really designed to be used in letters but may be used in formatting the letter or reviewing the educational text included in the Educate inserts.

Letter Inserts	Feb 15, 2010 12:31:23	Page:	1 of	2
NO.	INSERT			
1	FIRST NAME			
2	LAST NAME			
3	ADDRESS			
4	PRIMARY CARE PROVIDER			
5	REGISTER PROVIDER			
6	FOLLOW UP			
7	CHART			
8	DATE			
9	EDUCATE			
10	FOOT EXAM EDUCATION			
11	EYE EXAM EDUCATION			
12	DENTAL EXAM EDUCATION			
13	FLU SHOT EDUCATION			
14	PNEUMO EDUCATION			
15	TETANUS EDUCATION			
16	TB TEST EDUCATION			
+	Enter ?? for more actions			

```

I Individual Insert Information      - Previous Screen
H General Insert Information        Q Quit
+ Next Screen
Select Action: Next Screen// H General Insert Information

```

Figure 8-2 Accessing General Insert Information

The General Insert Information may be Browsed on the screen by using the ↑ or ↓ or pressing the Enter key to move to the next screen. The entire text of General Insert Information may be printed by typing, PL, at the Select Action: prompt.

```

BDM LETTER INSERT HELP      Feb 15, 2010 12:42:31      Page:   1 of   1
General Information about letter inserts.
-----
You can include any of the INSERTS listed above by entering the NO.
surrounded
by the '|' character.  For example, to include the patient's name and
address you can add 2 lines to your letter such as:

|1| |2| (or you can use |FIRST NAME| |LAST NAME|)
|3| (or you can use |ADDRESS|)

This will add 1 line for the name and multiple lines for street, city,
etc.

Please note that you can only use inserts from the list above.

Those inserts that include EDUCATION are designed to print a brief
overview of why that exam, immunization, lab test, etc. is important for
patient care.

5 FOLLOWUP will print a list of all diabetic care needs as identified on
the FOLLOW UP REPORT menu that a patient is due for now or within the
next 30 days.  If a previous record for a particular follow up need is
found, it will display the date of that exam, education, immunization,
etc.

8 EDUCATE is an insert designed to print a listing of the text for all
available education inserts.  It is not really designed for use in
patient letters but as a tool for a Diabetes Program Manager to review
the education text prior to insertion into a letter.

21 FOLLOW UP WITH EDUCATION is an insert to display a list of all
diabetic care needs as identified on the FOLLOW UP REPORT menu.  In
addition the EDUCATE text associated with each follow up need is
displayed after the identified item.

25 CENTER is a formatting insert.  By placing this insert at the
beginning of a line of text, any text that follows the insert will be
centered on the letter.  This is useful for placing a Facility Name,
Address, and Telephone Number Heading on each letter.

```

Figure 8-3 General Insert Information

If I Individual Insert Information had been selected instead of G General Insert Information as shown in Figure 8-2, the user would be prompted to enter the number of the individual insert which they would like to review. For example, by selecting 17, the user would be able to review the text for A1C HEMOGLOBIN EDUCATION as follows.

```

25      CENTER

      Enter ?? for more actions
H  General Insert Information      Q  Quit
+  Next Screen
Select Action: Quit// I  Individual Insert Information
Select LETTER INSERTS:  (17-25): 17 <ENTER>
  
```

```

A1C HEMOGLOBIN EDUCATION

This item will display the Hemoglobin A1c education text in your letter.

Education Text is:

The HEMOGLOBIN A1C Blood Test looks at average blood sugar over the prior
3 months and is a very useful tool to evaluate your degree of control
with diabetes.  This usually is done every 3-4 months.
Press enter to continue:
  
```

Figure 8-4 A1C HEMOGLOBIN EDUCATION text

8.2 Creating Custom Letters

Letters may be created as desired by Selecting 2 Add Letter on the Letter Creation Screen as shown in Figure 8-1. Please refer to the Diabetes Management System User Manual (bdm_0200.u) for detailed instructions. Letters may be very general or they may be tailored to a specific Follow up Need to be used in conjunction with Follow up Reports. There is no limit on the number of inserts that can be used in a letter. Some users may find it easier to construct their letters first in Microsoft WORD and then copy and paste the letter into the RPMS screen editor screen.

Note: The ability to copy and paste a letter from WORD to RPMS can only be done if the user's Preferred Editor in RPMS is the Screen Editor as opposed to the Line Editor.

8.3 Printing Custom Letter for Individual

Custom Letters may be generated from three places in the Diabetes Management System. Under the option Patient Management, 21 Print Letter, may be selected. The user may then select from the list of available custom letters. Upon selecting the number of the desired letter and identifying the printer, the custom letter may be printed.

```

DMS letters currently on file:

NO.  LETTER                      NO.  LETTER                      NO.  LETTER
---  -
1    AA DM LTR                    2    AMK YEARLY EYE EXAMS  3    DB immunizations
4    DKR ANNUAL FLU LETTE        5    DKR ANNUAL FLU SHOT  6    DKR HIGH A1C
7    DKR NEW LETTER

Select LETTER NO.:  (1-7): 6 <ENTER>

DEVICE: HOME// <=Printer Name or Number

```

Figure 8.3-1 Printing an Individual Patient Letter

```

                                CIMARRON HOSPITAL
                                5678 TEST WAY
                                OKLAHOMA CITY, OK 56789
                                DIABETES WELLNESS CENTER
                                TELEPHONE: 578-9870

Feb 15, 2010

FOREST GUMP
102 FRONT STREET
HUGO, OK 74366

DEAR FOREST GUMP:

You recently had a laboratory test for Hemoglobin A1C. The result is
_____.

The HEMOGLOBIN A1C Blood Test looks at average blood sugar over the prior
3 months and is a very useful tool to evaluate your degree of control
with diabetes. This usually is done every 3-4 months.

If you have any questions about this test, please call Susan Smith at
567-8970.

Sincerely,

John Smith, RN
Diabetes Clinic Manager

```

Figure 8.3-2 Custom Letter

8.4 Printing Custom Letter for Template or Register

Custom letters may be printed for several patients at a time, a template of selected patients, or for all patients in a Register by using the Letter Management option, CLS Print Custom Letters for Selected Patients.

The user will first be prompted to select a custom letter from the list of available letters, then identify the recipient(s) of the letter, and finally identify the printer on which the letters will print. A custom letter will print for each individual in the template.

```

DMS letters currently on file:

NO.  LETTER                      NO.  LETTER                      NO.  LETTER
---  -
1    AA DM LTR                    2    AMK YEARLY EYE EXAMS        3    DB immunizations
4    DKR ANNUAL FLU LETTE        5    DKR ANNUAL FLU SHOT        6    DKR HIGH A1C
7    DKR NEW LETTER

Select LETTER NO.: (1-7): 6 <ENTER>
Select one of the following:

      1      Individual Patient(s)
      2      Search Template of Patients
      3      Members of a Case Management Register

Create list for letters by: 2 <ENTER>
Select SORT TEMPLATE: DKR HIGH A1CS
Select one of the following:

      P      PRINT Output
      B      BROWSE Output on Screen

Do you wish to: P//<ENTER> PRINT Output
DEVICE: HOME// <= Printer Name or Number

```

Figure 8.4-1 Creating Letters for a Template of Patients

8.5 Follow up Reports and Letters

Custom letters may also be generated for all patients identified with specific follow up needs. Use the menu path as follows:

```

Diabetes Management System
RP   Reports ...
FU   Follow-up Needed

```

When the option, Follow-up Needed, is selected, the user will be prompted to select one of the listed follow up items. **Note** that a report and letters may be generated for any of these follow up needs. However, there are no educational letter inserts available for 19 EKG, 14 Depression Screening, nor for Estimated GFR.

```

DIABETES REGISTER - FOLLOW-UP NEEDED REPORTS
(Patients due now or within the next 30 days.)

1      ALL Exams/Procedures-----
  11    Foot Exam                      12    Eye Exam
  14    Depression Screening           18    Dental Exam
  19    EKG
  2      ALL Patient Education-----
  21    Nutrition                      22    Exercise

```

```

23  General Info
3   ALL Immunizations/Vaccines-----
31  Seasonal Flu Shot           32  Pneumovax
33  Td/Tdap                     34  TB Test
4   ALL Lab Tests-----
41  LDL Cholesterol            42  HDL Cholesterol
43  Cholesterol                 44  Triglyceride
45  Creatinine                 46  Hemoglobin Alc
47  Urine Protein Testing       48  Estimated GFR
49  A/C Ratio

Type 'ALL' to include ALL Follow-up Needed
Which Report: 31 <ENTER>

```

Figure 8.5-1 Follow up Needs Reports

Upon selection of a Follow up need, the user will be prompted whether to use Register Members or a Search Template, the Status of the Patients to be screened, the Diagnoses to be used, how the report will be sorted, and whether a report, letters, or both will be printed.

```

Select one of the following:

1      Use Register Members
2      Use A Search Template

Which Group: Use Register Members// <ENTER>
Select the Patient Status for this report

Select one of the following:

A      Active
I      Inactive
T      Transient
U      Unreviewed
D      Deceased
N      Non-IHS
NON    Noncompliant
Z      All Register Patients

Which patients: Active// <ENTER>
Select the Diabetes 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// <ENTER>

Include list of patient's
upcoming appointments? NO// <ENTER>

```

```

Print the Follow-up Report/Letters by

    Select one of the following:

        1      Community
        2      Primary Provider
        3      Where Followed

Which one: Community// <ENTER>

(Press <ENTER> to select ALL Communities

Which Community: <ENTER>

Communities Selected:

    ALL

    Select one of the following:

        1      Follow-up Report
        2      Follow-up Letter
        3      Both

Which one: Follow-up Report// 3 Both

    DMS letters currently on file:

NO.  LETTER                NO.  LETTER                NO.  LETTER
---  -
1    AA DM LTR              2    AMK YEARLY EYE EXAMS  3    DB immunizations
4    DKR ANNUAL FLU LETTE  5    DKR ANNUAL FLU SHOT  6    DKR HIGH A1C
7    DKR NEW LETTER

Select LETTER NO.: (1-7): 5

DEVICE: HOME//<= Printer Name or Number

```

Figure 8.5-2 Generating Follow-up Report and Letters

Upon selection of a printer, a Follow up report sorted by Community will be printed. The report will then be followed by a stack of letters, each customized for individuals identified on the report for that specific follow up need.

9.0 Appendix – 2010 Diabetes Audit Logic

DM AUDIT LOGIC DESCRIPTIONS

AUDIT DATE

This is the ending date of the audit period. The user supplies this date. It is used as the ending date to calculate the time range when looking for values. For example, if the audit date is December 31, 2009 then data is examined during the year prior to this audit date (January 1, 2009 through December 31, 2009).

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.

TRIBAL ENROLLMENT CODE

The patient's tribe code as entered in Patient Registration.

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.

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 ICD9 code range: 250.00-250.93.

The 1st recorded diagnosis (POV) of diabetes in PCC. ICD9 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.

EPI Info Export: The earliest date found from the Diabetes register or the problem list 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 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. All recorded patient education provided to the patient is reviewed. If any topic in the DM AUDIT SMOKING CESS EDUC taxonomy or any topic with a mnemonic starting with TO-Q, or a topic TO-LA is found then a value of 1 - Yes is displayed.
3. If the patient had a visit to clinic 94 - Tobacco Cessation clinic in the year prior to the audit date then a 1 - Yes is displayed.
4. If the patient had a dental visit with an 1320 ADA code recorded a 1 - Yes is displayed.
5. If the patient had a refusal of any education topic in the DM AUDIT SMOKING CESS EDUC taxonomy or a refusal of topic TO-Q or TO-LA then a value of 3 - Refused is displayed.
6. 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.

EPI Info Export: The last recorded height prior to the audit date is passed to the EPI record. The height is rounded to 2 decimal digits.

For example, 60.25 inches. The height in feet and inches is also passed on the epi record.

WEIGHT

The last recorded Height value taken on or before the ending date of the audit.

EPI Info Export: The last recorded height prior to the audit date is passed to the EPI record. The height is rounded to 2 decimal digits.

For example, 60.25 inches. The height in feet and inches is also passed on the epi record.

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. The percentages don't add up to 100. The obese patients are included in the overweight category as well.

HYPERTENSION DOCUMENTED

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

BLOOD PRESSURES (LAST 2/3)

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

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

FOOT EXAM (COMPLETE)

The logic used in determining if a complete foot exam has been done is as follows:

1. A documented DIABETIC FOOT EXAM, COMPLETE (CODE 28) is searched for in the year prior to the audit date. This is recorded in V Exam. If found, no other processing is done, an exam is assumed to have been done.
2. A visit on which a podiatrist (provider class codes 33 - PODIATRIST, 84 - (PEDORTHIST) or 25 - CONTRACT PODIATRIST) that is not a DNKA visit is searched for in the year prior to the audit date. If found, it is assumed the exam was done and no further processing is done.
3. A visit to clinic 65 - PODIATRY 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, a documented refusal (REF) or No

Response to Follow-up (NRF) of a diabetic foot exam is searched for. If found, value is "Refused". If none of the above is found, or "Not Medically Indicated" has been documented 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 patient's computer record. Diabetic Eye Exam is defined as:
 - a. EXAM 03 - Diabetic Eye Exam
 - b. CPT in the APCH DIABETIC EYE EXAM CPTS (2019F, 2020F, 2021F, 2022F, 2024F, 2026F, 92002-92012, 92214, 92015, 92250, S3000)
2. If one is found, no further processing is done.
3. If no exam is found then all visits in the time period are scanned for documentation of CPT code 92002-92015.
4. If none of these CPT codes are found, then all PCC Visits in the year prior to the end of the audit are scanned for a non-DNKA, non-Refractive 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 refusals file is checked for documentation of a patient refusal or no response to follow-up of a diabetic eye exam. If found, a note indicating the refusal is displayed. If Not Medically indicated is documented then the value displayed is No-Not Medically indicated.

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, a documented refusal of a DENTAL exam is searched for. If found, value is "Refused". If a visit to dental clinic with only an ADA code of 9991 is found, it is documented as a "Refused".
5. If none of the above found, the value is "No". This includes Not Medically Indicated

DIET INSTRUCTION

The values in the audit are:

- 1 RD
- 2 Other
- 3 Both RD & Other
- 4 None
- 5 Refused

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 a refusal of one of these education topics is documented the value is 5
- Refused.

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

EXERCISE INSTRUCTION

All visits in the year prior to the audit date are examined.

If there is a visit on which a patient education topic in the DM AUDIT EXERCISE EDUC TOPICS taxonomy, or any topic ending in "-EX" is documented then a 1 - Yes. No further processing is done.

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

If a refusal of one of these education topics is documented the value is 3
- Refused.

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 a refusal of one of these education topics is documented the value is 3
- Refused.

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:

LOW VALUE: 290.21	HIGH VALUE: 290.21
LOW VALUE: 296.00	HIGH VALUE: 296.89
LOW VALUE: 298.0	HIGH VALUE: 298.0
LOW VALUE: 300.4	HIGH VALUE: 300.4
LOW VALUE: 301.12	HIGH VALUE: 301.12
LOW VALUE: 308.3	HIGH VALUE: 308.3
LOW VALUE: 309.0	HIGH VALUE: 309.1
LOW VALUE: 309.28	HIGH VALUE: 309.28
LOW VALUE: 311.	HIGH VALUE: 311.

or for the following Behavioral Health problem codes: 14, 15, 18, 24. 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 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
- " Behavioral Health Module Diagnosis (POV) of 14.1
- " Diagnosis in BGP MOOD DISORDERS taxonomy in V POV
- " Diagnosis in BGP MOOD 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.

Refusal of Depression Screening is checked in the Refusals file. Exam code 36 must be used to document the refusal.

(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 all documented medication refusals in the past year are reviewed to see if any med within any of the below listed taxonomies was refused. If it was, an X is placed beside item 9 - Unknown/Refused. If no medications or refusals are found then the Diet & Exercise Alone item is marked with an 'X'.

We are unable to calculate the Unknown/Refused group.

Therapy	Taxonomy Name
Insulin	DM AUDIT INSULIN DRUGS
Sulfonylurea	DM AUDIT SULFONYLUREA DRUGS
Sulfonylurea-like	DM AUDIT SULFONYLUREA LIKE
Metformin	DM AUDIT METFORMIN DRUGS
Acarbose	DM AUDIT ACARBOSE DRUGS

Glitazones	DM AUDIT GLITAZONE DRUGS
Incretin mimetics	DM AUDIT INCRETIN MIMETIC
DPP4 inhibitors	DM AUDIT DPP4 INHIBITOR DRUGS
Amylin analogues	DM AUDIT AMYLIN ANALOGUES

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 any of the drugs in the DM AUDIT ACE INHIBITORS taxonomy is documented as refused then it is counted as "Refused". A not medically indicated documentation is considered a No.
3. If none of the above criteria is met, 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.

If there is a documented refusal (non-NMI refusal) of any drug in the DM AUDIT ASPIRIN DRUGS or DM AUDIT ANTI-PLATELET DRUGS taxonomies then a value of 3 - Refused is assigned.

If there is a documented NMI refusal of any drug in the DM AUDIT ASPIRIN DRUGS or DM AUDIT ANTI-PLATELET DRUGS taxonomies then a value of 2 - None is assigned.

If no prescriptions or refusals are found then the following is done to determine if there is an Adverse Reaction documented:

All POVs are searched for diagnoses 995.0-995.3 with an E-code, if found then a value of 3 - Refused/Adverse Reaction is assigned.

All POV's are searched for V14.8 with a provider narrative containing ASPIRIN or ASA, if found a value of 3 - Refused/Adverse Reaction is assigned.

The problem list is searched for V14.8, or 995.0-995.3 with a provider narrative containing ASPIRIN or ASA, if found a value of 3 - Refused/Adverse Reaction is assigned.

The allergy tracking package is searched for any allergy containing the term "ASPIRIN", if found a value of 3 - Refused/Adverse Reaction is assigned.

The allergy tracking package is searched for any drug allergy where the drug has a VA CLASS CODE of CN103, BL100, BL110 or BL117, if found a value of 3 - refused/Adverse Reaction is assigned.

LIPID LOWERING AGENT

All medications prescribed in the 6 months prior to the audit date are examined. Each is checked against the following taxonomies. If one is found an X is placed beside that drug type on the audit sheet.

- DM AUDIT STATIN DRUGS
- DM AUDIT FIBRATE DRUGS
- DM AUDIT NIACIN DRUGS
- DM AUDIT BILE ACID DRUGS
- DM AUDIT GLITAZONE DRUGS
- DM AUDIT EZETIMIBE DRUGS

- DM AUDIT FISH OIL DRUGS
- DM AUDIT LOVAZA DRUGS

If no drugs are found then if a refusal of any drug within the above mentioned taxonomies is documented the value 5- Refused is displayed. The adverse reaction tracking package is checked for any drug with a VA Drug Class code of CV350. If one is found a 5-Refused or Adverse Reaction is displayed.

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 refusal file is checked. If a refusal is on file then the value is 3- REFUSED. If no refusal is found then the value is 4 - UNKNOWN/NOT OFFERED. No further processing is done.

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 value is 2 - Negative, if the test type is a blood test then the value of the test is examined, if it is Positive then 1 - Positive is recorded, if it is negative then 2 - Negative is documented. If the results are null the value of 4 - Unknown is documented.
3. If there are none found then the refusal file is checked. If a refusal is on file then the value is 3- REFUSED. If no refusal is found then the value is 4 - UNKNOWN/NOT OFFERED. No further processing is done.

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.

ECG

The date of the last ECG ever before the audit date. ECG is searched for the following ways:

ECG Summary in the V DIAGNOSTIC PROCEDURE file. (This is populated by the EKG mnemonic in data entry).

ICD OPERATION/PROCEDURE codes 89.50, 89.51, 89.52 or 89.53

ICD DIAGNOSIS: 794.31

CPT Codes:

LOW VALUE: 0178T	HIGH VALUE: 0178T
LOW VALUE: 0179T	HIGH VALUE: 0179T
LOW VALUE: 0180T	HIGH VALUE: 0180T
LOW VALUE: 3120F	HIGH VALUE: 3120F
LOW VALUE: 93000	HIGH VALUE: 93024
LOW VALUE: 93025	HIGH VALUE: 93042
LOW VALUE: 93224	HIGH VALUE: 93237
LOW VALUE: 93268	HIGH VALUE: 93268
LOW VALUE: 93270	HIGH VALUE: 93272
LOW VALUE: 93278	HIGH VALUE: 93278
LOW VALUE: G0403	HIGH VALUE: G0405

SEASONAL FLU VACCINE

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

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

LOW VALUE: 90655	HIGH VALUE: 90658
LOW VALUE: 90660	HIGH VALUE: 90662
LOW VALUE: G0008	HIGH VALUE: G0008
LOW VALUE: G8108	HIGH VALUE: G8108

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
- Diagnoses: V06.6, V03.82
- CPT codes: BGP PNEUMO IZ CPTS taxonomy (90669, 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.

TD OR TDAP IN PAST 10 YEARS

Immunizations are scanned for any tetanus vaccine in the 10 years prior to the audit date. If none is found, a documented refusal is searched for.

If neither are found a No is assumed.

Values: Yes, No, Refused.

Logic used to find a TD vaccine:

Immunization CVX codes : 1, 9, 20, 22, 28, 35, 50, 106, 107, 110, 112, 113, 115, 120
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. The last 1 with a result is used. If there is not 1 with a result then one without a result are used.

Individual Audit:

The date and result of test is displayed. If there is no result, the result will be blank but the date will display.

Cumulative Audit:

The result of the last HbA1c test is examined and is put into the following categories. If the result contains a ">" it goes into the 11.0 or higher category. If the result is blank OR the 1st digit of the result is not a number (and is not a >) then it is put in the Undocumented category since we cannot interpret the result. For example, if the value is "cancelled" will fall into undocumented.

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

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. If none with results are found then the last one without a result is used.

ESTIMATED GFR

To determine whether or not an Estimated GFR was done, 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.

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. If none with results are found then the last one without a result is used.

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.

Desirable (<200 mg/dl)
Borderline (200-239 mg/dl)
High (240 mg/dl or more)
Not tested/No valid result

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. If no test with a result is found the last one without a result is used.

Cumulative Audit:

The result of the test is examined and is put into the following categories. If the result is blank OR the 1st digit of the result is not a number then it is put in the Unable to determine result category since we cannot interpret the result. For example, if the value is "cancelled", it will fall into unable to determine.

HDL <35 mg/dl
HDL 35-45 mg/dl
HDL 46-55 mg/dl
HDL >55
Not tested/No valid result

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. If none with a result is found, then the last one without a result is used.

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.

LDL <100 mg/dl
LDL 100-129 mg/dl
LDL 130-160 mg/dl
LDL >160
Not tested

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. If no test with a result is found, the last one without a result is used.

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

URINE TESTED FOR PROTEIN

1. A test contained in the DM AUDIT A/C RATIO lab taxonomy or DM AUDIT A/C RATIO LOINC taxonomy, if found then the patient is assigned a value of 1 - Yes and an X is placed by the 1 - Quantitative Albumin:Creatinine Ratio (UACR). If the test found does not have a valid numeric result then the system will look for a microalbuminuria test.
2. A test contained in the DM AUDIT P/C RATIO taxonomy or the DM AUDIT P/C RATIO LOINC, if found, the patient is assigned a value of 1 - Yes and an X is placed by the 2 - Urine Protein:Creatinine Ratio.
3. A test contained in the DM AUDIT 24HR URINE PROTEIN taxonomy, if found, the patient is assigned a value of 1 - Yes and an X is placed by the 3 - 24 hr urine collection for protein.
4. A test contained in the DM AUDIT SEMI QUANT UACR taxonomy, if found, the patient is assigned a value of 1 - Yes and an X is placed by the 4 - Microalbumin:creatinine strips. The value is examined and coded as one of the following:
 - 1 <30 mg/g
 - 2 30-300 mg/g
 - 3 >300 mg/g
5. A test contained in the DM AUDIT MICROALBUMINURIA TAX taxonomy, if found, the patient is assigned a value of 1 - Yes and an X is placed by 5 -Microalbumin only. The result is examined and coded as follows:
 - 1 <20 mg/L
 - 2 >=20 mg/L
6. A test contained in the DM AUDIT URINE PROTEIN TAX taxonomy, if found, the patient is assigned a value of 1 - Yes and an X is placed by 6 - UA Dipstick. The value is examined and coded as follows:
 - 1 Normal or trace
 - 2 Abnormal (>= 1+)
7. A refusal of any test in the above 6 taxonomies is searched for, if found, the patient is assigned a value of 3 - Refused.
8. If none of the above is found, the patient is assigned a value of 2 - No.

10.0 Contact Information

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

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

Fax: (505) 248-4363

Web: <http://www.ihs.gov/GeneralWeb/HelpCenter/Helpdesk/index.cfm>

Email: support@ihs.gov