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Section 1: DMS Shortcuts

What: To add a patient to the diabetes register, the most common (and recommended) method is to enter patients one at a time through the Patient Management menu option. This allows you to verify that patients actually have diabetes before you enter them into the register.

You can also transfer a batch of patients using a Q-Man search template (see pages 50-51) or a File-Manager file. However, when you transfer a group of patients, you risk adding miscoded patients who do not actually have diabetes.

Why: To track patient care in relation to the *IHS Standards of Care for Patients with Type 2 Diabetes*.

When: When patients are diagnosed or identified as having diabetes

How: From the Diabetes Management System Main Menu:

1. Select Diabetes Management System Option: **PM**
2. Select PATIENT NAME: **LAST NAME, FIRST NAME** (any patient name or health record number/chart number)
3. Add this client to the Register? NO// **YES**
4. At this point, you will be directed to the Patient Management screen

```
    PM      Patient Management
    RP      Reports ...
    RM      Register Maintenance ...
    DEL     Delete Patient from the Register
    LM      ADD/EDIT DMS Letters
    SR      Switch to another DIABETES Register
    BHS     Browse Health Summary
    DA      Diabetes QA Audit Menu ...
    DMU     Update Diabetes Patient Data
    HS      Generate Health Summary
    MHS     Generate Multiple Health Summaries
    QMAN    Q-Man (PCC Query Utility)

Select Diabetes Management System Option: PM  Patient Management
Select PATIENT NAME: BUTTER
,PEANUT
                                        M 02-01-1978 XXX-XX-5555
TRN 700055

     BUTTER,PEANUT is not on
     the 20 DIABETES Register

Add this client to the Register? NO// Y
```

If the patient is not in the register, the system will prompt you to add this patient to the register.

Deleting a Patient from the Register

What: You may use the Delete Patient from the Register option to remove any patient who has not been diagnosed with diabetes. (For patients who are deceased or have moved out of the area, change register status under Patient Management #1 - Edit register data, p. 5.)

Note that this only removes the patient from the register. All demographic and visit information remains in the main clinic database (PCC).

Why: To delete miscoded patient(s) from your diabetes population.

When: As needed.

How: From the Diabetes Management System Main Menu:

1. Select Diabetes Management System Option: **DEL**
2. NAME OR CHART: **LAST NAME, FIRST NAME** (any patient name or health record number/chart number)
3. Are you certain you want to do this? No// **Y** (Yes)
4. Press RETURN to continue or '^' to exit. **<Enter>**

```
                    ************************************
                           IHS DIABETES REGISTER
                    ************************************

                           PATIENT LOOKUP UTILITY

                Select CLIENT

NAME OR CHART: BUTTER,PEANUT            M 02-01-1978 XXX-XX-5555   TRN 700055
IHS DIABETES     BUTTER,PEANUT          M 02-01-1978 XXX-XX-5555   TRN 700055

           ******  WARNING  ******

This procedure will delete ALL data for
            PEANUT BUTTER from the
            IHS DIABETES register.
Are you certain you want to do this? No// Y  (Yes)

Deletion of PEANUT BUTTER
   from the IHS DIABETES register...is now complete.
```

Patient information is not removed from the PCC repository, only from the diabetes register.

What: Register data includes register status, case manager, and review dates. These are only seen by people who use the Diabetes Register. The Patient Management screen also shows items such as the patient's name, address, health record number, and date of birth, which come from the PCC database and can only be changed by data entry or registration staff.

Why: Register data should help you manage your register by allowing you to group patients for reports (examples: running the cumulative audit on only active patients, generating patient panels for case managers) and scheduling chart reviews.

When: When patients are added to the register and updated as needed.

#1 - Edit register data

How: From the Diabetes Management System Main Menu:

1. Select Diabetes Management System Option: **PM**
2. Select PATIENT NAME: **LAST NAME, FIRST NAME** (any patient name or health record number/chart number)
3. Select Action: Quit// **1** (edit register data...see below)
4. Command: **S** (to save)
5. Command: **E** (to exit)

Field descriptions

- **Status** – Active, Inactive, Unreviewed, Transient, Deceased, Non-IHS, and Lost to follow-up
- **Case manager** – This person must be in your clinic database; enter as LAST,FIRST name; can be used to generate several different reports
- **Register prov[ider]** – Designate a provider other than the patient's primary care provider (optional); the provider must be in the clinic database; the field can be queried with GEN reports
- **Where followed** – Clinic where the patient is being seen
- **Contact** – Enter free text (1-30 characters) for reference by your diabetes team
- **Entry date** – Provided automatically when the individual is first entered into the diabetes register
- **Last edited** – The last date information in the PM screen was edited (automatic)
- **Last review** – You may use this field to track, for example, the last time the patient's chart was reviewed
- **Next review** – A future date when you want to review this patient's chart; use an actual date or shortcuts such as today's date plus 90 days (T+90) or today's date plus 3 months (T+3M), etc.

Patient Management Screen: Diagnosis

What: Type of diabetes and onset date are tracked here, similar to -- but not the same as -- the patient's problem list. You can also describe the severity in an optional field.

Why: The type and duration of diabetes have important ramifications for patient care, so it is important to make sure the onset date is included in the patient's record. The onset date is not necessarily the first visit for diabetes that the patient has at your clinic. The audit reports can find the type of diabetes and onset date from the patient's problem list, if it has been entered there, but those fields can only be updated by data entry staff at the request of a provider. This register field is convenient for diabetes program staff and can be used for reports.

When: The patient's diagnosis of diabetes and onset date should be updated when the patient is first entered onto the diabetes register.

#20 - Diagnosis

How: From the Diabetes Management System Main Menu:

1. Select the Diabetes Management System Option: **PM**
2. Select the PATIENT NAME: **LAST NAME,FIRST NAME** (any patient name or health record number)
3. Select Action: Quit// **20**
4. Select Action: Quit// **1** ADD Diagnosis
5. Which Diagnosis(s): (1-4): [**Choose diagnosis]**
6. Enter Date of Onset: **[Enter date of onset]**
7. Enter Severity: **N-Normal M-Mild S-Severe MO-Moderate** (optional)
8. Command: **S** to save
9. Command: **E** to exit
10. Select Action: Quit// <**Enter>**

```
Diagnosis           Mar 2, 2009 13:51:14      Page:    1 of  1

    NO.  Diagnosis                          ONSET DATE
    ---  -------------------------------    ----------




          - Previous Screen   Q Quit   ?? for More Actions
1   Add Diagnosis     2   Edit Diagnosis    3   Delete Diagnosis
Select Action:Quit// 1   Add Diagnosis
```

```
NO.  DIAG
---  --------------------
1    GESTATIONAL DM
2    IMPAIRED GLUCOSE TOLERANCE
3    TYPE 1
4    TYPE 2
```

What: View, edit, or add a complication for a particular patient. This list is similar to -- but not the same as -- the patient's problem list. Patients can have multiple complications. You can run reports to show complications by patient or to check the prevalence of conditions.

The list of complications tracked by the register can be changed in the Register Maintenance menu (see page 11).

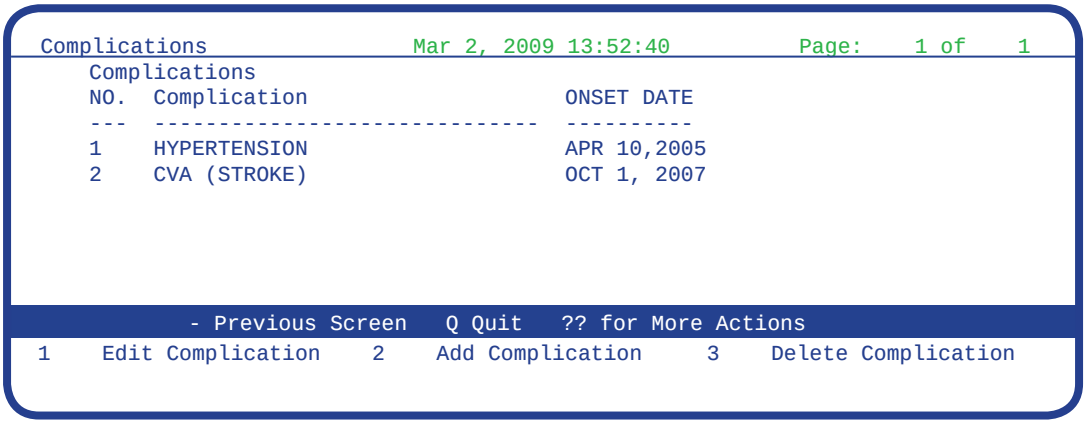
Why: To monitor and care for patient complications.

When: Modify as needed.

#2 - Complications

How: From the Diabetes Management System Main Menu:

1. Select Diabetes Management System Option: **PM**
2. Select PATIENT NAME: **LAST NAME, FIRST NAME** (any patient name or health record number/chart number)
3. Select Action: Quit// **2** (Complications)
4. Select Action: Quit// **2** (add a complication)
5. Which COMPLICATION(S): (1-10): **1-10** (choose from listed items)
6. DATE OF ONSET: **01/01/01** (or any other date such as 1998, Jan, 2001)
7. STATUS: **<Enter>**
8. COMMENTS: **<TAB>**
9. At command **Save** then **Exit**
10. Select Action: Quit// **<Enter>**



Remember to tab through at **COMMENTS**.

If you go too far and get stuck in the comments screen, you need to use the F1 key. Hit **F1, let go, and then hit E** to get you out of the comments screen.

If F1 doesn't work, try the Num Lock key and E.

Patient Management Screen: Individual Audit (Option 1)

What: This generates the IHS diabetes audit on one patient, giving a review of the patient's care over one year in comparison to the *IHS Standards of Care for Patients with Type 2 Diabetes*.

To print individual audits for all active patients on the register, see the tip box in the Cumulative Audit instructions.

Why: We encourage you to generate this report before each patient visit for case management as well as quality assurance. It is intended to alert providers to diabetes standards of care for which the patient is deficient.

The individual diabetes audit may also be used to check the accuracy of data.

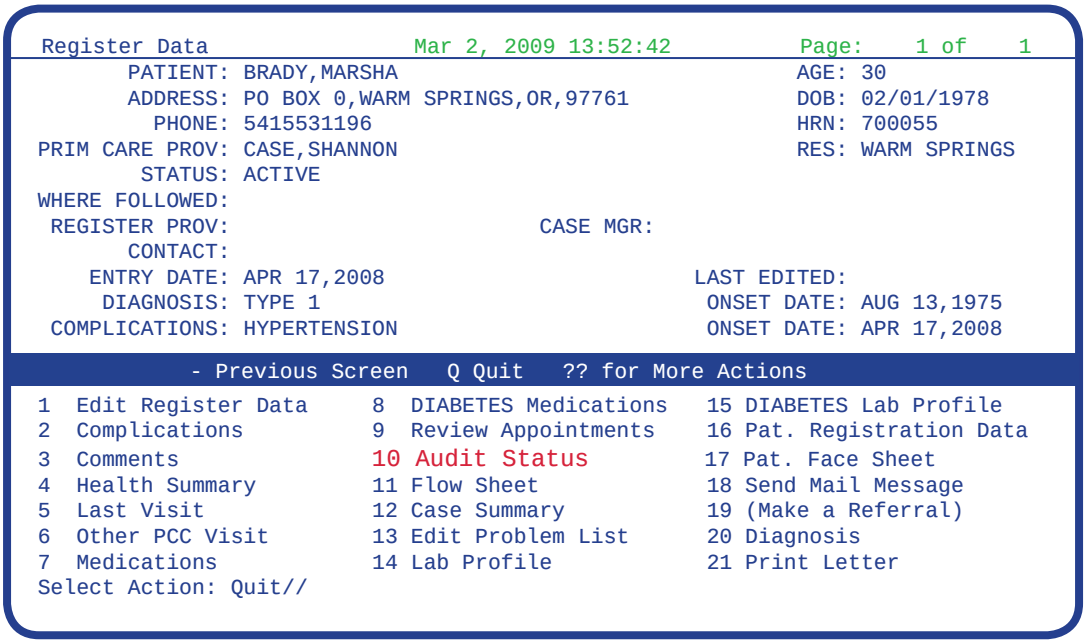
When: (1) Prior to each patient visit and (2) for checking data quality, for example prior to the annual diabetes audit.

#10 – Audit Status

The date you specify is the ending date of the audit…t**he audit will look back one year from the date you specify.**

How: From the Diabetes Management System Main Menu:

1. Select Diabetes Management System Option: **PM**
2. Select PATIENT NAME: **BRADY,MARSHA** (any patient name or HRN)
3. Select Action: Quit// **10** (Audit Status)
4. Enter the Audit Date: **T** (today) or (any specified date)
5. Enter Print option: 1// **1** (print individual reports)
6. Do you wish to print the patient's name on the audit sheet? N// **<Enter> or type Y for yes**
7. DEVICE: HOME// **<Enter>** to view on screen or **PRINTER NAME**, such as **SLAVE** or **S-O**, to print



Individual Diabetes Audit (Option 2)

What: The individual diabetes audit provides a complete review of the patient's care in comparison to the *IHS Standards of Care For Patients With Type 2 Diabetes*. You can use this option to print individual audits for more than one patient. You can choose whether or not to include the patient's name.

To print individual audits for all active patients on the register, see the tip box in the Cumulative Audit instructions.

Why: Since the individual diabetes audit parallels the *IHS Standards of Care For Patients With Type 2 Diabetes*, we encourage you to generate this report before each patient visit for case management as well as quality assurance.

When: (1) Prior to each patient visit and (2) prior to the annual diabetes audit

How: From the Diabetes Management System Main Menu:

1. Select Diabetes Management System Option: **DA** Diabetes QA Audit Menu
2. Select Diabetes QA Audit Menu Option: **DM11** 2011 Diabetes Program Audit ...
3. Select 2010 Diabetes Program Audit Option: **DM11** Run 2011 Diabetes Program...
4. Enter the Official Diabetes Register: **IHS DIABETES** or name of your diabetes register
5. Enter the Audit Date: **T** for today's date or enter any other date
6. Run the audit for: P// **P** Individual Patients
7. Select PATIENT NAME: **LAST NAME, FIRST NAME** (any patient name or health record number/chart number)
8. Select PATIENT NAME: **<Enter>** or type additional names
9. Enter Print option: 1// **<Enter>** Print Individual Reports
10. Do you wish to print the patient's name on the audit sheet? N// **<Enter>** or **Y** for Yes
11. DEVICE: HOME// **<Enter>** to view on screen or **PRINTER NAME** to print

Sample Individual Diabetes Audit

```
Audit Period Ending Date: Dec 31, 2009  Facility Name: TRAINING HC
REVIEWER initials:                      Community: PORTLAND
TRIBAL AFFIL: 015 BLACKFEET TRIBE, MONTANA   STATE of Residence: OR
CHART #: 7761    DOB: Jul 15, 1930    SEX: MALE
PRIMARY CARE PROVIDER:

DATE OF DIABETES DIAGNOSIS:
  DM Reg: 1993  Problem List: <not documented>  1st PCC DX: Jul 10, 1996
Diabetes Type: 2  Type 2
  DM Register: TYPE 2  Problem List: <not documented>  PCC POV's: Type 2

TOBACCO USE: 2  Not a Current User NON-TOBACCO USER  Sep 28, 2009
  Cessation Counseling received?

HEIGHT (last ever): 70.00 inches Jun 10, 2009
Last WEIGHT in audit period: 257.00 lbs Jun 22, 2009     BMI: 36.9

HTN (documented DX): 1  Yes - DX on Sep 09, 2005  Jan 02, 2008  Jun 04, 2008
Last 3 BLOOD PRESSURES during audit period:  142/86 mm Hg Oct 22, 2009
                                             138/62 mm Hg Jun 22, 2009
                                             110/70 mm Hg Jun 10, 2009

EXAMINATIONS (during audit period)
  FOOT EXAM-complete:             1  Yes - Diabetic Foot Exam - Oct 09, 2009
  EYE EXAM (dilated or retinal camera):
          1  Yes - Diabetic Eye Exam - Feb 15, 2009
  DENTAL EXAM:                    1  Yes - Dental Exam - Jul 27, 2009

EDUCATION (in past year)
  Diet Instruction:       1  Yes (RD)  RD: DIETICIAN Visit: Oct 12, 2009  RD: DI
ETICIAN Visit: Oct 09, 2009  RD: DIETICIAN Visit: Oct 09, 2009 RD: DM-N Jul 06,
2009
  Exercise Instruction:   1  Yes  DM-EXERCISE  Jul 07, 2009
  DM Education (Other):   1  Yes DM-DP  Sep 14, 2009

MENTAL HEALTH
  Depression an active problem?  2  No
  If 'No', Screened for depression (during audit period)?
       2  No

DM THERAPY     Select all that currently apply:
      1 Diet & Exercise Alone
      2 Insulin
      3 Sulfonylurea (glyburide, glipizide, others)
      4 Sulfonylurea-like (Prandin, Starlix)
      5 Metformin (Glucophage, others)
      6 Acarbose (Precose) or miglitol (Glyset)
      7 Pioglitazone (Actos) or rosiglitazone (Avandia)
   X  8 Incretin Mimetics (Byetta)
      9 DPP4 inhibitors (Januvia, Onglyza)
      10 Amylin Analogues (Symlin)
      11 GLP-1 analog (Victoza)
      12 Bromocriptine (Cycloset)
      13 Refused/Unknown
```

```
ACE Inhibitor/ARB Use: 2  No
Aspirin/Antiplatelet Therapy: 1  Aspirin/Antiplatelet Rx
Lipid Lowering Agent

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

TB Testing
TB test done: 1 Skin test (PPD)
TB test result: 2  Negative 6/12/09 Reading: 0 Result:
    If PPD Pos, INH Tx Complete:
    If PPD Neg, Last PPD:        Jun 12, 2009

ECG

Date of Last ECG:               Feb 09, 2007

IMMUNIZATIONS
  Seasonal FLU VACCINE (not H1N1) during audit period: 1  Yes  Oct 09, 2009
  PNEUMOVAX Ever:               1  Yes  Nov 29, 2004
  Td or Tdap in past 10 yrs:    1  Yes  Nov 07, 2007

LABORATORY DATA during audit period

  HbA1c (most recent):      5.7           Jun 12, 2009     HEMOGLOBIN A1C
  Creatinine:
    Estimated GFR (eGFR) documented in the medical record:
                            1  Yes        Jun 12, 2009     EST. GFR
                            eGFR value: >60
  Total Cholesterol:        112 mg/dl     Jun 12, 2009     CHOLESTEROL
  HDL Cholesterol:          42 mg/dl      Jun 12, 2009     HDL
  LDL Cholesterol:          51 mg/dl      Jun 12, 2009     LDL CHOLESTEROL
  Triglycerides:            93 mg/dl      Jun 12, 2009     TRIGLYCERIDE

Urine Protein Testing during audit period:

URINE TESTED FOR PROTEIN:   1  Yes        Jun 12, 2009     ALBUMIN, MICRO

SPECIFIC TESTING DONE:
     1 Urine Albumin:Creatinine Ratio
       UACR value:
     2 Urine Protein:Creatinine Ratio
     3 24 hr unrine collection for protein
     4 Microalbumin:creatinine strips (e.g., Clinitek)
  X  5 Microalbumin only (e.g. Micral)
                            5.0           Jun 12, 2009     ALBUMIN, MICRO
     6 UA dipstick

Local Option question:
```

Diabetes Patient Care Summary

What: The diabetes patient care summary provides a complete review of the patient's care in relation to the *IHS Standards of Care for Patients with Type 2 Diabetes*. It includes the same data items as the audit report except medications.

Some clinics print the diabetes patient care summary at the end of the regular adult health summary.

Why: The diabetes patient care summary is an alternative to the individual audit. It gives dates of service, even if those dates are outside the one-year range of the audit date.

Since the diabetes patient care summary parallels the *IHS Standards of Care for Patients with Type 2 Diabetes*, we encourage you to generate this report before each patient visit for case management as well as for quality assurance.

When: (1) Prior to each patient visit, (2) prior to the annual diabetes audit

How: From the Diabetes Management System Main Menu:

1. Select Diabetes Management System Option: **DA** Diabetes QA Audit Menu...
2. Select Diabetes QA Audit Menu Option: **DPCS** Display a Patient's DIABETES CARE...
3. Select PATIENT NAME: **LAST NAME, FIRST NAME** (any patient name or health record number/chart number)
4. Do you wish to: P// **P** PRINT Output or **B** BROWSE Output on Screen
5. DEVICE: HOME// **<Enter>** to view on screen or **PRINTER NAME**, such as **SLAVE** or **S-O**, to print

TIP: You can also find the DPCS on the RP - REPORTS menu.

```
                *** Print Diabetes Patient Care Supplement ***


Select PATIENT NAME: ABUN
E,KATHLEEN S
                                        F 09-08-1974 XXX-XX-9706   TRN 25634



     Select one of the following:

          P         PRINT Output
          B         BROWSE Output on Screen

Do you wish to: P// RINT Output
DEVICE: HOME//
```

```
********** CONFIDENTIAL PATIENT INFORMATION []  Apr 01, 2010 **********
DIABETES PATIENT CARE SUMMARY                  Report Date:  Apr 01, 2010
Patient Name:  WILEY EINSTEIN COYOTE        HRN: 7761  INDIAN/ALASKA NATIVE
Age:  79      Sex:  M         Date of DM Onset: 1993 (Diabetes Register)
DOB:  Jul 15, 1930            DM Problem #: *** NONE RECORDED ***
                              Designated PCP:
Last Height:  70 inches       Jun 10, 2009
Last Weight:  257 lbs         Jun 22, 2009  BMI: 36.9
Tobacco Use:  NON-TOBACCO USER  Sep 28, 2009
HTN Diagnosed:  Yes
ON ACE Inhibitor/ARB in past 6 months: No
Aspirin Use/Anti-platelet (in past yr):  Yes - Oct 22, 2009 WARFARIN 5MG
Last 3 BP:  142/86   Oct 22, 2009      Is Depression on the Problem List?
(non ER)    138/62   Jun 22, 2009        No
            110/70   Jun 10, 2009      If no, Depression Screening in past year?
                                         No
In past 12 months:
Diabetic Foot Exam:   Yes - Diabetic Foot Exam - Oct 09, 2009
Diabetic Eye Exam:    No
Dental Exam:          Yes - Dental Exam - Jul 27, 2009
DM Education Provided (in past yr):
  Last Dietitian Visit:     Oct 12, 2009  DIABETES II/UNSPEC NOT UNCONTR
  DM-DISEASE PROCESS        Sep 14, 2009
  DM-EXERCISE               Jul 07, 2009
  DM-NUTRITION              Jul 06, 2009

Immunizations:
Seasonal Flu vaccine since August 1st:  Yes  Oct 09, 2009
Pneumovax ever:                Yes  Nov 29, 2004   Nov 24, 2004
Td in past 10 yrs:             Yes  Nov 07, 2007
Last Documented TB Test:   PPD  0    Jun 12, 2009
Last TB Status Health Factor:                    Last CHEST X-RAY:
EKG:                           Feb 09, 2007          NORMAL

Laboratory Results (most recent):
HbA1c:                    5.7        Jun 12, 2009 HEMOGLOBIN A1C
 Creatinine:              1.05       Jun 04, 2008 CREATININE
 Estimated GFR:           >60        Jun 12, 2009
Total Cholesterol:        112        Jun 12, 2009 CHOLESTEROL
 LDL Cholesterol:         51         Jun 12, 2009 LDL CHOLESTEROL
 HDL Cholesterol:         42         Jun 12, 2009 HDL
 Triglycerides:           93         Jun 12, 2009 TRIGLYCERIDE
Urine Protein Assessment:
 A/C Ratio (semi-quant)   5.0        Jun 12, 2009 ALBUMIN, MICRO

COYOTE, WILEY EINSTEIN          DOB: 7/15/1930      Chart # 7761
```

Cumulative Diabetes Audit

What: The cumulative diabetes audit summarizes care and outcomes for a group of patients you specify (usually active patients on the register). It shows all items from the *IHS Standards of Care For Patients With Type 2 Diabetes*.

Why: You can use the cumulative diabetes audit to set goals and monitor progress in meeting the IHS standards of care (or documenting the care that is provided). It is also required annually as part of the Special Diabetes Program for Indians (SDPI).

When: Monthly – quarterly – annually for the IHS Diabetes Audit

How: From the Diabetes Management System Main Menu:

1. Select Diabetes Management System Option: **DA** Diabetes QA Audit Menu
2. Select Diabetes QA Audit Menu Option: **DM11** 2011 Diabetes Program...
3. Select 2010 Diabetes Program Audit Option: **DM11** Run 2011 Diabetes ...
4. Checking for Taxonomies to support the 2011 Audit: HIT RETURN: **<ENTER>**
   (Note: You will likely see empty taxonomy errors for taxonomies related to labs and medications not used at your facility. These are OK.)
5. Enter the Official Diabetes Register: **IHS DIABETES** (or name of register)
6. Enter the Audit Date: **T** for today or enter exact date
7. Run the audit for: P// **C** Members of a CMS Register
8. Enter the Name of the Register: **IHS DIABETES** (or name of register)
9. Do you want to select register patients with a particular status? Y// **YES**
10. Which status: A// **<Enter>** for Active, or type other status
11. Limit the audit to a particular primary care provider? N// **<Enter>** for no
12. Limit the patients who live in a particular community? N// **<Enter>** for no
13. Do you want to select: A// **<Enter>** for ALL Patients selected so far
14. Enter Print option: 1// **3** Cumulative Audit Only
15. Demo Patient Inclusion/Exclusion: 3// **<Enter>**
16. DEVICE: HOME// **<Enter>** to view on screen or **PRINTER NAME**, such as **SLAVE** or **S-O**, to print

Tip: Choose **1** or **4** to print **individual** sheets for all active patients

```
DM11    Run 2011 Diabetes Program Audit
TC11    Check Taxonomies for the 2011 DM Audit
TU11    Update/Review Taxonomies for 2011 DM Audit
EAUD    Run the 2010 Audit w/predefined set of Pts
        ----------------------------------------
PR11    Run 2011 PreDiabetes/Metabolic Syndrome Audit
PRTC    Check Taxonomies for the 2011 Pre-Diabetes Audit
PRTU    Update/Review Taxonomies for 2011 PreDiab Audit
```

*** IHS/RPMS CARE & OUTCOMES AUDIT 2011 ***
FOR PORTLAND AREA
Reporting Period: Jan 01, 2010 to Dec 31, 2010

6343 patients were audited

	n	Percent
*** Please NOTE: 6 Patients were not included in this cumulative audit because their date of onset was after the audit date.		
Gender		
Female	3401	54%
Male	2942	46%
Age		
<15 yrs	12	0%
15-44 yrs	1264	20%
45-64 yrs	3367	53%
65 yrs and older	1700	26%
Diabetes Type		
Type 1	128	2%
Type 2	6215	98%
Duration of Diabetes		
Less than 1 year	398	6%
Less than 10 years	3424	55%
10 years or more	2231	35%
Diagnosis date not recorded	688	10%
Weight Control (BMI)		
Normal (BMI<25.0)	311	5%
Overweight (BMI 25.0-29.9)	1049	17%
Obese (BMI 30.0 or above)	4804	75%
Height or Weight missing	179	3%
Blood Sugar Control		
HbA1c <7.0	2603	41%
HbA1c 7.0-7.9	1190	19%
HbA1c 8.0-8.9	661	10%
HbA1c 9.0-9.9	501	8%
HbA1c 10.0-10.9	406	7%
HbA1c 11.0 or higher	573	9%
Undocumented	409	7%
Mean Blood Pressure		
<120/<70	532	8%
120/70 - <130/<80	1797	28%

130/80 - <140/<90	1958	31%
140/90 - <160/<95	1174	19%
160/95 or higher	339	5%
BP category Undetermined	543	9%
Tobacco use		
Current Tobacco User	2259	36%
Counseled - Yes	926	41%
Counseled - No	1333	59%
Counseled - Refused	63	1%
Not a current tobacco user	4042	63%
Tobacco use not documented	42	1%

The figures in this sample audit report are from the 2011 Portland Area Audit (calendar year 2010).

Sample Cumulative Diabetes Audit

DIABETES TREATMENT			
Diet and Exercise Alone	1282	19%	
Insulin	1870	31%	
Sulfonylurea	1631	25%	
Sulfonylurea-like (Prandin, Starlix)	10	0%	
Metformin	3652	58%	
Acarbose/Miglitol	7	0%	
Glitizone	1157	17%	
Incretin mimetics (Byetta)	25	0%	
DPP4 inhibitors (Januvia, Onglyza)	125	2%	
Amylin analogues (Symlin)	2	0%	
GLP-1 analog (Victoza)	12	0%	
Bromocriptine (Cycloset)	0	0%	
Any Oral med combination	1356	21%	
Any Insulin + other med combination	1187	19%	
Refused or Undetermined	13	0%	
ACE INHIBITOR (OR ARB) USE			
Use in pts with known hypertension	3824	76%	
Use in pts with albuminuria	1049	73%	
ANTIPLATELET THERAPY (Men age >50, Women >60)			
Aspirin or other Antiplatelet Rx	2492	73%	
None	641	25%	
Refused or Adverse reaction	56	2%	
LIPID LOWERING AGENT USE			
Single lipid agent	2768	44%	
Two or more lipid agents	673	10%	
None or refused	2902	45%	
Of the 3441 pts using one or more lipid agents:			
Statin (simvastatin, others)	3088	90%	
Fibrate (gemfibrozil/Lopid, others)	567	16%	
Niacin (Niaspan, OTC niacin)	161	5%	
Bile Acid Sequestrant (cholestyramine)	19	1%	
Ezetimibe (Zetia)	130	4%	
Fish Oil - Rx or OTC	232	6%	
Lovaza	37	1%	
EXAMS - Yearly			(% refused)
Foot Exam - Neuro & Vasc	3513	55%	(0%)
Eye Exam - Dilated	3228	49%	(0%)
Dental Exam	3033	56%	(0%)
DIABETES-RELATED EDUCATION - Yearly			(% refused)
Diet Instruction by any provider	2689	43%	(0%)
Diet Instruction by RD	1163	20%	
Exercise Instruction	2184	35%	(0%)
Other Diabetes Education	3555	57%	(0%)
Any of above Self-Management Topics	4219	67%	
IMMUNIZATIONS			(% refused)
Seasonal Flu Vaccine during audit period	3684	58%	(6%)
Pneumovax - ever	5068	80%	(2%)
Td or Tdap (q 10 yrs)	5325	84%	(2%)
DEPRESSION identified as an active dx			
Yes	1859	29%	
No	4484	71%	
Of the 4484 pts without an active dx of depression, proportion screened for depression in past year:			
Screened	2855	61%	
Not Screened	1622	39%	
Refused Screening	7	0%	

The figures in this sample audit report are from the 2011 Portland Area Audit (calendar year 2010).

LABORATORY EXAMS

Serum Creatinine obtained during audit period	5640	88%
Creatinine >= 2.0 mg/dl	130	2%
Creatinine < 2.0 mg/dl	5510	87%
Creatinine not tested/unknown	703	12%
Estimated GFR documented during audit period (Age 18 and above)	5440	86%
Total Cholesterol obtained during audit period	5041	79%
Desirable (<200 mg/dl)	3708	58%
Borderline (200-239 mg/dl)	894	14%
High (240 mg/dl or more)	439	7%
Not tested/unknown	1302	21%
LDL Cholesterol obtained during audit period	4948	78%
LDL <100 mg/dl	3045	48%
LDL 100-129 mg/dl	1205	19%
LDL 130-160 mg/dl	507	8%
LDL >160	190	3%
Not tested/unknown	1395	22%
HDL Cholesterol obtained during audit period	4377	69%
HDL <35 mg/dl	825	13%
HDL 35-45 mg/dl	1713	27%
HDL 46-55 mg/dl	1078	17%
HDL >55	761	12%
Not tested/unknown	1966	31%
Triglycerides obtained during audit period	4694	74%
TG <150 mg/dl	1839	29%
TG 150-199 mg/dl	1015	16%
TG 200-400 mg/dl	1459	23%
TG >400 mg/dl	381	6%
Not tested/unknown	1649	26%
Urine protein tested during audit period		
Yes	5207	82%
No	1129	18%
Refused	0	0%
Of the 5207 pts tested:		
Urine Albumin:Creatinine Ratio (UACR)	3278	63%
Urine Protein:Creatinine Ratio (UPCR)	134	3%
24 hr urine protein	4	0%
Microalbumin:creat strip (e.g. Clinitek)	332	6%
Microalbumin only (e.g. Micral)	307	6%
Standard UA dipstick protein	1152	22%
Electrocardiogram (Age 30 and above)		
Performed in past 3 years	2663	44%
Performed in past 5 years	3439	57%
Ever performed	4747	78%
Tuberculosis Status		
TB test +, untreated/incomplete or tx unknown	715	11%
TB test +,INH treatment complete	93	1%
TB test -, placed after DM diagnosis	1843	29%
TB test -, placed before DM diagnosis	788	12%
TB test -, date of Dx or TB test date unknown	193	3%
TB test status unknown	2706	43%

The figures in this sample audit report are from the 2011 Portland Area Audit (calendar year 2010).

Master List

What: The Master List allows you to sort and select register patients by one or more of the following variables:

1. Age
2. Case manager
3. Current community
4. Patient
5. Public Health Nurse
6. Sex
7. Status
8. Where Followed

You can also sort by a combination of these register items; for example, a common query is generating an alphabetical list of patients by status.

Why: We encourage you to generate the master list periodically and review the patient listing for status changes and/or case management purposes.

When: Monthly - Quarterly

How: From the Diabetes Management System Main Menu:

1. Select Diabetes Management System Option: **RP** Reports ...
2. Select Reports Option: **RR** Register Reports ...
3. Select Register Reports Option: **ML**
4. Your choice: **7** (status)
5. Do you want to sort by a particular STATUS? No// **Y**
6. Your choice: **U** (unreviewed)
7. Within STATUS, want to sort by another attribute? No// **YES**
8. Your choice: **4** (patient)
9. Do you want to sort by a particular PATIENT? No// **N**
10. Within PATIENT, want to sort by another attribute? No// **N**
11. Store Report Result as Search Template? NO// **NO**
12. DEVICE: HOME// **<Enter>** to view on screen or **PRINTER NAME**, such as **SLAVE** or **S-O**, to print

Note: If you sort by a field that is blank for some patients (example: case manager), the patients with blanks will not show up on your master list.

```
                  ***************************************
                          IHS DIABETES REGISTER
                  ***************************************

                         REPORT SORTING UTILITY

The MASTER LIST report can be sorted by one or more
of the following attributes.  '<==' indicates a mandatory selection.

1) AGE                                5) PUBLIC HEALTH NURSE
2) CASE MANAGER                       6) SEX
3) CURRENT COMMUNITY                  7)
4) PATIENT                            8) WHERE FOLLOWED

Sorting by: STATUS

Your choice: 4
```

****
IHS DIABETES REGISTER REGISTER
****
MASTER LIST

SORTED BY: STATUS, then PATIENT
CONFIDENTIAL PATIENT DATA

REPORT DATE: JUN 22,2005 PAGE: 1

CHART	PATIENT	CASE MANAGER	PHN	NEXT REVIEW
	STATUS: ACTIVE			
7614	ADANFYALD,BARBARA A			09/09/2005
11271	ADAR,JOAN M			
7475	BALGERDA,JOHNELLE			06/03/2005
40198	BORGAR,LARRY T			01/30/2004
40782	BREI,BONNIE JOAN			01/08/2005
22097	BUGANUFF,TASHINA N L			
40247	BUORESSE,LARRY A SR			12/15/2004
26308	CUTTE,CONNIE A			06/03/2005
40535	D'AEGLA,MELANIE J			09/16/2005
28376	DEVYS,GREG O	ADAMS,G		10/16/2004
15120	EKARS,KATRINA H			12/15/2004
36126	FYNNYCOM,FAYE LAROSE			
12070	FYSHAR,RODNEY W			12/15/2004
23589	GAURGA,DANIELLE M			12/15/2004
9505	HYLBORN,AUDREY M			06/03/2005
2364	JECKSUN,MORRIS GRANT			
10710	JUHN,BRET D			
14017	LADASME,LINDSAY M			
23727	LYNA,SHARLENE R			12/15/2004
29320	MARRYTT,CYNTHIA			
19727	MUNTAS DA'UCE,DANA MARIE			
9647	MURELAS,CINDY			
26241	NAATHAR,PEGGY L			
20243	NARYE,ARLISSA			
8770	PAERSUN,WILLIAM PAUL			
19901	PARKYNS,TAMMIE L			
10818	RADHURN,MARY GAIL			
14024	RENTZ,ALBERT F			
4422	SMITH,MARYANNE			
35038	TYTCHEONARWA,EDNA O			
40837	UBYA,NICOLE L			
36021	VAZYNE,MARC W			
34757	VENN,JOEL W			
14229	WALDUN,GLENDA L			
19064	WYLLERD,CARISSA L			
32295	ZYNK,SHARLA M			

Follow-Up Reports

What: The follow-up report allows you to identify members of the register who are due for or have never had, exams, procedures, diabetes patient education, immunizations, vaccines, or lab tests as part of their diabetes care.

The follow-up report displays the patients, chart numbers, and date of last exam. Only those patients who have not had a specific exam in the last 11 months are displayed. The report is sorted alphabetically by patient name within each community. Each of the follow-up reports can be limited to patients within a specific community or followed by a specific primary provider.

Why: A quick way to identify patients who are due for care.

When: Quarterly, or as needed

How: From the Diabetes Management System Main Menu:

1. Select Diabetes Management System Option: **RP** Reports...
2. Select Reports Option: **FU** Follow-up Needed
3. Which Report: **ALL**
4. Which Group: Use Register Members// **<Enter>**
5. Which patients: Active// **<Enter>** for Active or type other status
6. Which Diagnosis: All Diagnoses// **<Enter>**
7. Include list of patient's upcoming appointments? NO// **<Enter>**
8. Which one: Community// **<Enter>**
9. Which Community: **<Enter>**
10. Which one: Follow-up Report// **<Enter>**
11. DEVICE: HOME// **<Enter>** to view on screen or **PRINTER NAME**, such as **SLAVE** or **S-O**, to print

This looks for the diagnosis entered under Patient Management #20

```
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 A1c
         47   Urine Protein Testing   48   Estimated GFR
         49   A/C Ratio

       Type 'ALL' to include ALL Follow-up Needed
       Which Report:
```

Use the one-digit codes to find whole categories and two-digit codes for specific items.

Example: '3' returns all immunizations but '31" finds people due for flu shots.

#1: Sorted by PROVIDER

```
     NPAIHB DIABETES Register - Active Patients
     Follow-up Report: EYE EXAM                                  Page: 1
     (For Patients due now or within the next 30 days)
     REPORT DATE: MAR 30,2010

PROVIDER        PATIENT                    HRN    STATUS
--------------- -------------------------- ------ --------------------
APPLEGATE-MD,RO BAGEI,LAVERNA CHAROLETTE   23840   last EYE EXAM MAY 21,2001
APPLEGATE-MD,RO BIARS-SCHRUADAR,MARTINA L  35448   last EYE EXAM OCT 21,2004
APPLEGATE-MD,RO BLECK,CONNIE L             29070   last EYE EXAM DEC 2,2008
APPLEGATE-MD,RO LUFSTRUM,IRVIN             43400   last EYE EXAM FEB 19,2008
APPLEGATE-MD,RO PEPPYN,TODD MYCHAL         35726   last EYE EXAM JAN 27,2009
APPLEGATE-MD,RO WHAALAR,ALVIE D            11083   last EYE EXAM FEB 22,1993
BISCHOFF,JASON  NYVELE,CHRYSTOPHER RAY     41963   *NO* EYE EXAM on record.
HANSON,AARON P  BALGERDA,WILLIAM C L       37859   last EYE EXAM SEP 29,2008
HANSON,AARON P  BERFYALD,RITA K            22895   last EYE EXAM NOV 25,2008
HANSON,AARON P  CUUNS,BILLY D              36358   last EYE EXAM JAN 27,2009
HANSON,AARON P  DEWKYNS,DUSTIN B           40950   last EYE EXAM AUG 29,2008
HANSON,AARON P  HUFMENN,TED                41915   last EYE EXAM DEC 12,2008
HANSON,AARON P  KULB,COLINDA R             45446   *NO* EYE EXAM on record.
HANSON,AARON P  LYTFYN,DEBRA               30775   last EYE EXAM NOV 17,2008
HANSON,AARON P  SOLLI,GEORGE L             26904   last EYE EXAM MAY 16,2005
HANSON,AARON P  THUMES,VIRGINIA RAE        29944   last EYE EXAM JAN 28,2009
NOT LISTED      BLECKBAER,LISA LENORE      28605   last EYE EXAM NOV 4,2008
NOT LISTED      HELSTAED,RACHAEL CASSANDR  8734    last EYE EXAM SEP 30,2008
NOT LISTED      SMUOSA,LENA MARIE          22521   *NO* EYE EXAM on record.
NOT LISTED      SMYTH,MARK CARROLL         42959   last EYE EXAM JAN 14,2008
```

#2: Sorted by COMMUNITY

```
     NPAIHB DIABETES Register - Active Patients
     Follow-up Report: ALL Patient Education                     Page: 1
     (For Patients due now or within the next 30 days)
     REPORT DATE: MAR 30,2010

COMMUNITY       PATIENT                    HRN    STATUS
--------------- -------------------------- ------ --------------------
BEAVERTON       BLECKBAER,LISA LENORE      28605   *NO* EXERCISE ED on record.
BEAVERTON       HOYSMEN,TAMARA F           40222   *NO* NUTRITION ED on record.
BEAVERTON       HOYSMEN,TAMARA F           40222   *NO* EXERCISE ED on record.
BEAVERTON       HUFMENN,TED                41915   *NO* NUTRITION ED on record.
BEAVERTON       HUFMENN,TED                41915   *NO* EXERCISE ED on record.
CANBY           FUOSA,TONYA L              44027   *NO* NUTRITION ED on record.
CANBY           FUOSA,TONYA L              44027   *NO* EXERCISE ED on record.
ESTACADA        CREYN,MARCUS L JR          22545   *NO* NUTRITION ED on record.
ESTACADA        CREYN,MARCUS L JR          22545   *NO* EXERCISE ED on record.
FOREST GROVE    SMYTH,KEVIN J              45328   *NO* NUTRITION ED on record.
FOREST GROVE    SMYTH,KEVIN J              45328   *NO* EXERCISE ED on record.
FOREST GROVE    SMYTH,KEVIN J              45328   *NO* EXERCISE ED on record.
GRESHAM         SKYNNAR,BONNIE             13165   *NO* NUTRITION ED on record.
GRESHAM         SKYNNAR,BONNIE             13165   *NO* EXERCISE ED on record.
```

Creating a Follow-Up Letter

What: You can create form letters that are stored on your system. Letter inserts for information such as name, address, and date are filled in when you print.

Form letters can be printed for individual patients through Patient Management, or for groups of patients with the same follow-up needs through Follow-Up Reports.

Why: This option simplifies case management by merging patient data in the RPMS system into a letter of your choice.

When: As needed. Letters can be created, saved, and modified as you wish.

How: From the Diabetes Management System Main Menu:

1. Select Diabetes Management System Option: **LM** LETTER MANAGEMENT
2. Select Letter Management Option: **LAE** ADD/EDIT DMS Letters
3. Select Action: Quit// **2** ADD Letter
4. NAME OF LETTER: **FOOT EXAM** (this is an example name)
5. Are you adding 'FOOT EXAM' as a new DMS LETTER (the 29TH)? No// **Y**
6. LETTER:

   No existing text

   Edit? NO// **Y**

6. Type your letter using the INSERTS listed below. To use the inserts, enter the number surrounded by the "|" character. ([SHIFT+\], below the backspace key). For example, |3| will insert the patient's address in each letter.

   You can also enter the name of the field, ex: |FIRST NAME|.

   Tip: It may be easier to write your letter in another program (such as Microsoft Word) and copy and paste it into this window.
7. To save and exit, hit the **F1** key let go, and type **E**. (If that doesn't work, try either **Num Lock and then E**, or the **End** key.)

Letter Inserts

NO.	INSERT
1	FIRST NAME
2	LAST NAME
3	ADDRESS
4	PROVIDER NAME
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

This list of inserts is updated periodically. To see all the inserts in RPMS, choose number 4 in step 2 above.

```
==[ WRAP ]==[ INSERT ]===============[ LETTER ]===========[ <PF1>H=HELP ]====

|8|

|1| |2|
|3|

DEAR |1| |2|,

OUR RECORDS SHOW THAT YOU ARE DUE FOR THE FOLLOWING DIABETES RELATED CARE:

     |6|

PLEASE CALL THE CLINIC AT (555) 555-5555,TO MAKE YOUR APPOINTMENT.

THANK YOU,

RACHEL SMITH
DIABETES COORDINATOR



<=======T=======T=======T=======T=======T=======T=======T=======T=======T===>
```

Generating Follow-Up Letters

What: You can print a batch of letters to patients who are due for follow-up using one of the form letters created by you or someone else on your diabetes team. You can also request a follow-up report at the same time, which creates a convenient record of who the letters were printed for.

To print a single form letter for a specific patient, use Patient Management option #21.

Why: The follow-up letter can be a convenient tool to contact patients for needed care. It ensures that the *IHS Standards of Care For Patients With Type 2 Diabetes* is being addressed by your clinic.

When: Monthly, as needed.

1. How: From the Diabetes Management System Main Menu:
2. Select Diabetes Management System Option: **RP** Reports...
3. Select Reports Option: **FU** Follow-up Needed
4. Which Report: **ALL**
5. Which Group: Use Register Members// **<Enter>**
6. Which patients: Active// **<Enter>**
7. Which Diagnosis: All Diagnoses// **<Enter>**
8. Include list of patient's upcoming appointments? NO// **<Enter>**
9. Which one: Community// **<Enter>**
10. Which Community: **<Enter >**
11. Which one: Follow-up Report// **2** (Follow-up letter)
12. Select Letter No.: **Enter letter #** from list of created letters
13. DEVICE: HOME// **<Enter>** to view on screen or **PRINTER NAME**, as **SLAVE** or **S-O**, to print

March 2,2009

FLORENCE ADANFYALD
2084 MCCOY NE
WS CAMPUS, OR 97305

DEAR FLORENCE ADANFYALD,

OUR RECORDS SHOW THAT YOU ARE DUE FOR THE FOLLOWING DIABETES RELATED CARE:

FOOT EXAM	last FOOT EXAM JUN 7,2004
EYE EXAM	last EYE EXAM FEB 28,2004
PAP SMEAR	last PAP SMEAR JUN 7,2004
EXERCISE ED	last EXERCISE ED JUL 27,2004
TD	*NO* TD on record.
PPD	last PPD JUL 27,2004
CHOLESTEROL	last CHOLESTEROL JUL 5,2004
HGB A1C	last HGB A1C AUG 16,2004
UA/Urine Protein	*NO* UA/Urine Protein on record.

PLEASE CALL THE CLINIC AT (555) 555-5555,TO MAKE YOUR APPOINTMENT.

THANK YOU,

RACHEL SMITH
DIABETES COORDINATOR

Register Patient General Retrieval (GEN)

What: Use GEN to search for patients in your register and print custom reports. Reports can be either lists of patients or counts of patients.

First, GEN allows you to search (or select) patients in your diabetes register. *For example, to find all inactive patients, you would search by register status.*

Decide whether you want a listing with one line per patient, or just summary counts.

Next, you choose which information you want to print about the patients you found in step 1. *For example, you may want to print each inactive patient's name, chart number, and last visit date.*

Lastly, GEN allows you to sort (or group) the resulting list. *For example, you may want to sort your list of patients by name (alphabetical list).*

Why: This report can be a useful tool for case management, updating your register, and getting information about your diabetic population.

When: As needed.

How: From the Diabetes Management System Main Menu:

1. Select Diabetes Management System Option: **RP** Reports ...
2. Select Reports Option: **RR** Register Reports ...
3. Select Option: **GEN** Patient General Retrieval . . .
4. Do you want to use a previously defined report? N// **<Enter>**
5. Select Patients based on which of the above: (1-47): Choose from the listed criteria to search your register patients. Choose as many as you wish. You will then be asked for more specifics on your chosen criteria. For example, if you chose Register Status, you will need to enter the status you are looking for.
6. Would you like to select additional PATIENT criteria? NO// **<Enter>**
7. Choose Type of Report: D// **<Enter>**
8. Select print item(s): (1-56): Choose which of the listed criteria you would like printed for each patient found.
9. Enter Column width for Patient Name (suggested: 20): (2-80): 20// **<Enter>** (For each criteria you chose to print you will be asked to enter a column width. You are aiming for a total of 80 or less. Simply press enter to choose the default width.)
10. Would you like to select additional PRINT criteria? NO// **<Enter>**
11. Sort Patients by which of the above: (1-25): Choose which of the listed criteria you would like to have the patients sorted by.
12. Do you want a separate page for each Patient Name? N// **<Enter>**
13. Would you like a custom title for this report? N// **<Enter>** (You can choose Yes and type in your own title that will appear at the top of the report.)
14. Do you wish to save this SEARCH/PRINT/SORT logic for future use? N// **<Enter>**
15. DEVICE: HOME// **<Enter>** to view on screen or **PRINTER NAME**, such as **SLAVE** or **S-O**, to print)

```
The Patients displayed can be SEARCHED based on any of the following criteria:

1)  Patient Name            16)  Medicare Eligibility  31)  Register Provider
2)  Patient Sex             17)  Medicaid Eligibility  32)  Case History
3)  Patient DOB             18)  Priv Ins Elibibility  33)  Interventions
4)  Birth Month             19)  Primary Care Provide  34)  Intervention Due DT
5)  Patient Age             20)  Register Status       35)  Intervent Result DT
6)  Patient DOD             21)  Initial Entry Date    36)  Care-Plan Comment
7)  Mlg Address-State       22)  Inactivation Date     37)  Complications
8)  Mlg Address-Zip Code    23)  Case Priority         38)  Complication Onset D
9)  Living Patients         24)  Case Manager          39)  Complication Comment
10)  Chart Facility         25)  PHN                   40)  Diagnoses
11)  Patient Community      26)  Last Review Date      41)  Date of Onset
12)  Patient Tribe          27)  Next Review Date      42)  Recall Date
13)  Eligibility Status     28)  Where PT Followed
14)  Class/Beneficiary      29)  Date Last Edited
15)  Cause of Death         30)  Case Comments

        <Enter a list or a range.  E.g. 1-4,5,20 or 10,12,20,30>
        <<HIT RETURN to conclude selections or bypass screens>>

     Select Patients based on which of the above:  (1-47):
```

(The criteria shown in gray will not work for most sites.)

```
T    Total Count Only
S    Sub-counts and Total Count
D    Detailed Patient Listing
F    Delimited Export File

Choose Type of Report: D//
```

```
PRINT Data Items Menu

1)  Patient Name          18)  Class/Beneficiary     35)  Case Comments
2)  Patient Chart #       19)  Cause of Death        36)  Client Contact
3)  Patient Sex           20)  Medicare Eligibility  37)  Register Provider
4)  Patient SSN           21)  Medicaid Eligibility  38)  Case History
5)  Patient DOB           22)  Priv Ins Elibibility  39)  Interventions
6)  Birth Month           23)  Patient's Last Visit  40)  Intervention Due DT
7)  Patient Age           24)  Primary Care Provide  41)  Intervention Results
8)  Patient DOD           25)  Register Status       42)  Intervent Result DT
9)  Mlg Address-Street    26)  Initial Entry Date    43)  Intervent Plan Categ
10)  Mlg Address-State    27)  Inactivation Date     44)  Care-Plan Comment
11)  Mlg Address-City     28)  Case Priority         45)  Complications
12)  Mlg Address-Zip Code 29)  Case Manager          46)  Complication Onset D
13)  Home Phone           30)  PHN                   47)  Complication Comment
14)  Mother's Name        31)  Last Review Date      48)  Diagnoses
15)  Patient Community    32)  Next Review Date      49)  Date of Onset
16)  Patient Tribe        33)  Where PT Followed     50)  Recall Date
17)  Eligibility Status   34)  Date Last Edited

      <Enter a list or a range.  E.g. 1-4,5,18 or 10,12,18,30>
      <<HIT RETURN to conclude selections or '^' to exit>>

   Select print item(s):  (1-56):
```

```
The Patients displayed can be SORTED by any one of the following:

     1)  Patient Name                  15)  Next Review Date
     2)  Patient Age                   16)  Date Last Edited
     3)  Patient Community             17)  Case Priority
     4)  Patient Sex                   18)  Case Manager
     5)  Patient Tribe                 19)  PHN
     6)  Patient Chart #               20)  Where PT Followed
     7)  Primary Care Provider (PCC)   21)  Register Provider
     8)  Classification/Beneficiary    22)  Inactivation Date
     9)  Eligibility Status            23)  Initial Entry Date
     10)  Cause of Death               24)  Mlg Address-Zip Code
     11)  Patient DOB                  25)  Mlg Address-State
     12)  Patient DOD                  26)  Birth Month
     13)  Register Status
     14)  Last Review Date

<<If you don't select a sort criteria the report will be sorted by Patient Name.>>

Sort Patients by which of the above:  (1-25):
```

Sample GEN Reports

GEN Report for complications

The following report will print out a patient's name, health record number, case manager, and complications, if any. This report is used to determine which patients have complications, and which complications they have. Patients with multiple complications will have them listed on succeeding lines.

Using the directions on page 26, to print out a detailed patient summary, use the following items to:

SEARCH

9) LIVING PATIENTS

37) COMPLICATIONS to specify one or more complications (optional)

Choose Type of Report: D/ / <Enter>

PRINT

1) PATIENT NAME,

2) PATIENT CHART #

45) COMPLICATIONS

46) COMPLICATIONS DATE OF ONSET

SORT

1) PATIENT NAME

```
                    CASE MANAGEMENT PATIENT LISTING            Page 1
                       NPAIHB1 DIABETES REGISTER
PATIENT NAME           HRN            COMPLICATION      COMPL ONSET DT
-------------------------------------------------------------------------

ADLER,STEVEN           WOR-400000     END STAGE RENAL   02/06/99
AEGLA,JACQUELINE MAR   WOR-46027      --                --
BACK,STELLA J          WOR-16518      --                --
BAGEI,GLENN L          WOR-632        KLR DIABETIC SH   10/31/11
BAGEI,TYRONE A         WOR-24432      HYPERTENSION      06/15/10
                                      DEPRESSION        12/07/11
BEKAR,AMANDA C         WOR-45748      HIGH RISK FOOT    12/06/11
                                      DRH DEPRESSION    --
BEKAR,SHARLA M         WOR-39763      HIGH RISK FOOT    11/06/11
BERFYALD,CARSON W      WOR-22869      --                --

Total Patients 108
```

GEN Report for patient status update

The following report will print out a patient's name, health record number, status, and the last time that they had visited the clinic. This report is used to determine whether your Inactive or Active patients' status is correct.

Using the directions on page 26, to print out a detailed patient summary, use the following items to:

SEARCH

20) REGISTER STATUS, specify ACTIVE, INACTIVE, TRANSIENT

Choose Type of Report: D// <Enter>

PRINT

1) PATIENT NAME
2) PATIENT CHART #
25) REGISTER STATUS
23) PATIENT'S LAST VISIT

SORT

13) REGISTER STATUS

```
            CASE MANAGEMENT PATIENT LISTING   Page 1
                 IHS DIABETES REGISTER
PATIENT NAME          HRN           REGISTER STATUS LAST VISIT
-----------------------------------------------------------------

DONN,SHEILA J         TRN-40457     ACTIVE          APR 24,2011
BRADY,MARSHA          TRN-660204    ACTIVE          JUL 15,2011
HUFFMEN,DANIEL B      TRN-11949     ACTIVE          NOV 21,2011
MOUSE,MICKEY          TRN-700227    INACTIVE `      MAR 17,2010
AWESOMEPOWER,DUDE OF  TRN-199422    INACTIVE        JAN 31,2008
SMITH,HICKORY         TRN-400000    TRANSIENT       OCT 14,2010
SMYTH,LEONARD L       TRN-31511     TRANSIENT       SEP 13,2009

Total Patients 108
```

GEN Report to list patients with upcoming review dates and their case manager

This report will list patients with upcoming review dates, and the case manager, if any, that has been assigned to them. It will also list those patients without a case manager.

Using the directions on page 26, to print out a detailed patient summary, use the following items to:

SEARCH

9) NEXT REVIEW DATE: you will be prompted to enter a beginning date and an end date for the next review dates; enter a time frame that you want to search, like T-7 (last week) for beginning date, and T+7 (next week) for an end date.

Choose Type of Report: D// <Enter>

PRINT

1) PATIENT NAME
2) PATIENT CHART #
31) NEXT REVIEW
28) CASE MANAGER

SORT

18) CASE MANAGER

```
                CASE MANAGEMENT PATIENT LISTING              Page 1
                     NPAIHB1 DIABETES REGISTER
PATIENT NAME          HRN           NEXT REVIEW   CASE MANAGER
-----------------------------------------------------------------

TENNAR,DWIGHT D       WOR-21431     DEC 06, 2011  ABEL,J
HALM,TRACY            WOR-21473     JUN 07, 2011  ABEL,J
FRYCKA,ARVINE J       WOR-23053     MAR 06, 2012  ABEL,J
GUNZELAZ,GREGORY B    WOR-16057     JUN 07, 2011  ACKERMAN,D
HEMPTUN,JACKIE L      WOR-44141     --            ACKERMAN,ROGER
MUURA,PAMELA JANE     WOR-41575     DEC 06, 2011  ADAMS,BOB
RUDRYGOAZ,CHRISTINE   WOR-33204     MAR 06, 2012  ALBERT,L

Total Patients 108
```

Sample GEN Reports (continued)

GEN Report to list Active patients by primary care provider with last visit

This GEN report will list the living patients on your register, and their Primary Care Provider (if one is assigned), and their last visit to the clinic.

Using the directions on page 26, to print out a detailed patient summary, use the following items to:

SEARCH

9) LIVING PATIENTS
20) REGISTER STATUS (ACTIVE)

Choose Type of Report: D// <Enter>

PRINT

1) PATIENT NAME
2) PATIENT CHART #
23) PRIMARY CARE PROVIDER
22) PATIENT'S LAST VISIT

SORT

7) PRIMARY CARE PROVIDER

```
                    CASE MANAGEMENT PATIENT LISTING      Page 1
                       NPAIHB1 DIABETES REGISTER
PATIENT NAME          HRN           PRIMARY PROVIDE  LAST VISIT
-------------------------------------------------------------------
KAERNS,PHYLLIS A G    WOR-30778     --               JAN 14, 2010
MURYN,MARTIE D        WOR-31065     --               DEC 08, 2011
NAWBRUOGH,CARMEN YVO  WOR-33071     HANSON,AARON P   APR 05, 2011
COLLAN,RANDI MICHELL  WOR-33832     HANSON,AARON P   JAN 13, 2010
FYNNYCOM,RONDA R      WOR-36126     HANSON,AARON P   JAN 11, 2010
CUUNS,BILLY D         WOR-36358     HANSON,AARON P   DEC 08, 2010
SHERAK,TONI L         WOR-40181     HANSON,AARON P   JAN 08, 2010

Total Patients 100
```

GEN Report to count active patients assigned to primary care provider

This report will list all the primary care providers, and the number of patients that are assigned to each. Instead of the Detailed Patient Summary, at the GEN Output Options screen choose Total Counts and Sub-counts.

SEARCH

9) LIVING PATIENTS
20) REGISTER STATUS (ACTIVE)

Choose Type of Report: D// S (Sub-counts)

SORT

7) PRIMARY CARE PROVIDER

```
              CASE MANAGEMENT PATIENT LISTING      Page 1
                 NPAIHB1 DIABETES REGISTER
       PATIENT SUB-TOTALS BY:  Primary Care Provider (PCC)
-------------------------------------------------------------

Primary Care Provider (PCC):
          --                                      13
          ADAMS,KAREN                              1
          APPLEGATE-MD,ROGER H                    34
          BAILEY,WILLIAM                           1
          BISCHOFF,JASON M FNP                    10
          HANSON,AARON P DO                       39
          LEE,DONNIE MD                            1
          LEMMERS,MICHAEL J                        1


Total Patients 100
```

Section 2: Supporting Information

Diabetes Capacity Pyramid

What: A self-assessment tool to measure the ability and needs of tribal diabetes data tracking systems.

Why: To determine diabetes data system needs of each program and to assess progress at improving diabetes data systems.

How: The tribes will use the tool to self-assess their capacity level.

When: This tool will either be mailed to sites and followed up with a phone call or will be discussed during site visits.

The Western Tribal Diabetes Project (WTDP) Diabetes Data Capacity Pyramid is a tool to measure the ability and needs of tribal programs to track the care and health statistics of patients with diabetes. A complete, accurate, and comprehensive data system is key to ensuring the standards of care are met for each patient with diabetes. The data system is necessary to determine the true impact diabetes has on American Indians and Alaska Natives, can be used to strengthen the care of those with diabetes and ultimately move the community towards prevention.

The structure of the Pyramid was chosen to illustrate the need for a solid foundation and the step-by-step approach necessary for a stable, sustainable diabetes data system. Progress upward on the Pyramid is dependent on the strength of the levels below. It is likely that programs will gain and lose capacity over time. By using this tool to assess diabetes data capacity WTDP can best target technical assistance and resources to create successful public health systems. This is a tool developed for tracking diabetes data systems, but can be a model for other disease management and prevention activities.

Components of the Diabetes Data Capacity Pyramid

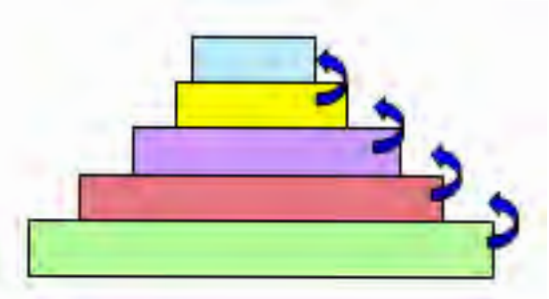
Data-Informed Prevention – ability to focus prevention efforts based on objective data

Data Utilization – ability to use data for case management, standards of care, etc.

Data Retrieval – ability to retrieve information from database

Data Entry – ability to enter comprehensive and quality data

Data Systems Capacity – foundation for a data system



Diabetes Data Capacity Pyramid

Western Tribal Diabetes Project

Site Name:_____
Date of completion:_____
Completed by:
__Diabetes Team
__Diabetes Coordinator
__Executive Director
__Other_____

Location of Program

DATA-DRIVEN PREVENTION

- ❑ Monitor risk factors in populations to target screening and interventions
- ❑ Monitor HgbA1c to prevent complications
- ❑ Monitor patients with Impaired Glucose Tolerance
- ❑ Tribe uses data to shape own research
- ❑ Other_____

DATA UTILIZATION

- ❑ Use diabetes (DM) register to manage patient care
- ❑ Determine rates of diabetes and associated complications
- ❑ Use audit results for quality improvement
- ❑ Present data to clinic
- ❑ Present data to tribe
- ❑ Use DM data for grant writing and reporting
- ❑ Other_____

DATA RETRIEVAL

- ❑ Can generate Q-MAN searches
- ❑ Can generate letters for patients follow up
- ❑ Use Diabetes Register in Q-MAN searches
- ❑ Can generate reports using the Diabetes Management System (DMS)
- ❑ Can generate the cumulative audit in DMS
- ❑ Other_____

DATA ENTRY

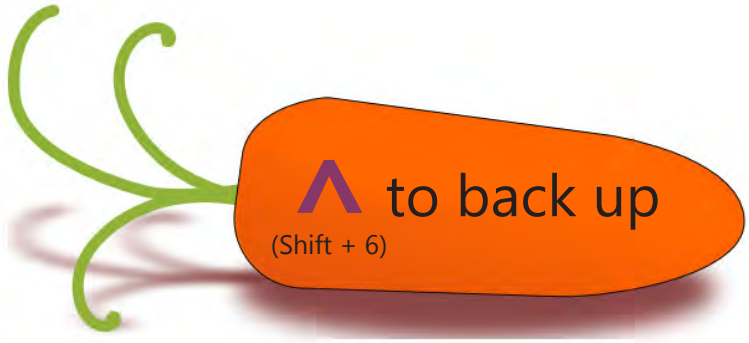
- ❑ Perform timely Patient Care Component (PCC) data entry
- ❑ Maintain and update PCC Active Problem List
- ❑ Register is updated at least every six months
- ❑ Diabetes related care (immunizations, tobacco status, patient education, comprehensive foot exam, eye exam…) is documented in PCC
- ❑ Diabetes diagnosis, complications, and onset dates are documented in register
- ❑ Medications are documented in PCC
- ❑ Lab results are documented in PCC
- ❑ Diabetes Team has access to DMS
- ❑ Other_____

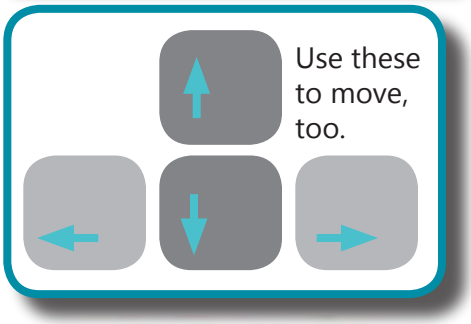
DATA SYSTEMS CAPACITY

- ❑ Have Tribal Health Board support
- ❑ Have administrative support
- ❑ Have clinical support
- ❑ Have RPMS Site Manager support
- ❑ Have computerized medical records (other than RPMS)
- ❑ Have RPMS with current packages
- ❑ Have a Diabetes Coordinator
- ❑ Have multidisciplinary diabetes team
- ❑ Diabetes team trained in DMS
- ❑ Staff trained in PCC data entry and ICD-9 Coding
- ❑ Tribal member trained in DMS
- ❑ Providers trained to document all diabetes-related care on PCC forms
- ❑ Tribal members know health data is being gathered on diabetes
- ❑ Have system to notify key staff of new diabetes patients
- ❑ Other_____

RPMS Hints

For information, type **??**
For less info, type **?**
For more, type **???**





Dates

7/15/03
071503
7-15-03
7 15 03
JUL 15 2003

Date Shortcuts

T = Today
T+10 = 10 days from now
T-365 = 1 year ago
T+40W = 40 weeks from today
T-3M = 3 months ago

deletes the contents of a field

Hi! My name is ...
MOUSE,MINNIE
87612 (chart number/HRN)
5/15/1928
[SPACE] [ENTER] for the last person you entered

```
==[ WRAP ]==[ INSERT ]=====[ <PF1>H=Help ]===

I'm typing in this screen, and now I'm done,
and I want to get out. Q for quit? No, not
that. ^ ^ ^ to escape? Hmm, that doesn't work.
Now what? Oh, yeah --

                          F1  then  E

<=======T=======T=======T=======T=======T==>
```

Register Patient Status: Each patient in the register must have a register status. This allows you to group patients for reports (example: running the audit on only active patients). There is no standard definition for the different register statuses, but it is helpful if everyone in a clinic has clear guidelines to follow. Here are some examples.

Status	Example 1*	Example 2
Active	Patients who obtain primary care at your facility and have been seen for a diabetes medical visit within the past year. The Active list will be used for the annual IHS Diabetes Audit	Patients with at least 1 primary care visit in the past 12 months or patients who are not attending clinic, but you do not know if they have recently moved or found another source of care
Inactive	Patients not seen within the past 2 years or patients no longer utilizing any services of your facility, or who have moved away.	Patients who have moved away permanently or who you know to be receiving care elsewhere or who have not had a primary care visit in more than 2 years
Transient	Patients who are seen for primary diabetes care elsewhere, but visit your clinic periodically for some level of care, e.g., education, medications, dental, etc.	Not a local resident/resides outside of CHSDA
Deceased	self-explanatory	Patients you know to be deceased (does not require a death certificate on file)
Non-IHS	Non-Indian patients	Non-Indian patients
Unreviewed	Patients in your register who have not gone through medical record review. Add new patients to the Diabetes Register as "un-reviewed" until diagnosis of diabetes is substantiated.	Patients on dialysis Note: The word "unreviewed" has no relationship to dialysis — it is just a category that was not being used. By designating a status for dialysis patients, you can streamline reporting for that group.
Lost to follow-up	Temporary category where patients can be moved until appropriate status category is determined. These are patients seen at your facility that have not had a visit within the last year, but had a visit within the past two years. EX: "Active" register patient who has not had a visit at your facility in 13 months.	Unable to contact, defined as at least 3 tries in 12 months (should be documented in the patient's chart)
Noncompliant	*seldom used; not searchable in QMAN*	

*Example 1 definitions are taken from recommendations for California diabetes programs in 2005.

Saving the Register as a Template

How: From the Diabetes Management System Main Menu:

1. Select Diabetes Management System Option: **QMAN**
2. Enter RETURN to continue or '^' to exit: **<Enter>**
3. Your choice: SEARCH// **1** Search PCC Database
4. What is the subject of your search? LIVING PATIENTS // **REGISTER**
5. Which CMS REGISTER: **IHS DIABETES** (or the name of your register)
6. Which Status(es): (1-8): 1// **8** (all statuses)
7. Which Diagnosis: All Diagnoses// **6** (all diagnoses)
8. Attribute of IHS DIABETES REGISTER: **<Enter>**
9. Your choice: DISPLAY// **4** STORE results of a search in a FM search template
10. Enter the name of the SEARCH TEMPLATE: **DRH DM REG 040509**
11. Are you adding 'DRH DM REG 040509' as a new SORT TEMPLATE? No// **Y** (Yes)
12. Edit? NO// **<Enter>**
13. Want to run this task in background? No// **<Enter>**

Start with your initials and use the current date to name your template.

Sample Results

```
PATIENTS          SELLS
                  NUMBER
-------------------------------------------------------------------------------

WATERMAN,RAE*     100003
WHEELWRIGHT,MAND  100006
MILLER,SALLY*     100010
ROBERTS,DIANE*    100018
WHEELWRIGHT,WALL  100026
VON BRAUN,RAY     100031
SMITH,MAUDE       100047
WASHINGTON,JOAN*  100050
WINKERBEAN,JESS*  100053
SMITH,FAY*        100065
WHEELWRIGHT,MALC  100069

Search template completed...
This query generates 11 "hits"
Time required to create search template: 1 SECOND
```

Using the template to exclude register patients from your search

How: From the Diabetes Management System Main Menu:

1. Select Diabetes Management System Option: **QMAN**
2. Enter RETURN to continue or '^' to exit: **<Enter>**
3. Your choice: SEARCH// **1** Search PCC Database
4. What is the subject of your search? LIVING PATIENTS // **<Enter>**
5. Attribute of PATIENT: **[DRH DM REG 040509**
6. Your choice (1-4): 1// **2** (Living pts must not be a member of the DRH DM REG 040509 cohort)
7. Attribute of PATIENT: **DX**
8. Enter DX: **250.00-250.93**
9. Press return to continue: **<Enter>**
10. Enter ANOTHER DX: **<Enter>**
11. Want to save this DX group for future use? No// **<Enter>** (No)
12. First condition of "DIAGNOSIS": **SINCE**
13. Exact date: **T-3M** (JAN 05, 2009)
14. Next condition of "DIAGNOSIS": **<Enter>**
15. Attribute of LIVING PATIENTS: **<Enter>**
16. Your choice: DISPLAY// **<Enter>** to view on screen or **PRINTER NAME, such as SLAVE or S-O**, to print
17. Your choice (1-3): 1// **2** or **3** (see examples below)

Type the name of your search template here.

Type in an appropriate date. You can use an exact date or date a set amount of time in the past (such as T-12M).

Sample Results

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

PATIENTS          SELLS   DX/ICD9  DATE OF POV  PROVIDER NARRATIVE
(Alive)           NUMBER  #
-------------------------------------------------------------------------------
SMITH, CAROL      122695  250.00   FEB 28,1999  TYPE 2 DM
SMITH, CAROL      122695  250.00   MAY 25,1999  TYPE 2 DM
BRADY, MIKE       102695  250.00   MAR 15,1999  DIABETES
WILLIAMS,JASON    102052  250.0O   APR 10,2000  DM SCREENING


PATIENTS          G ROND DX/ICD9    BENEFICIARY
                  NUMBER #          CLASS
-------------------------------------------------------------------------------
WILLIAMS,MARCIA   988     +         INDIAN/ALASKA NA
DAVIDSON,MARK     888     +         INDIAN/ALASKA NA
BRADY,MIKE        34567   +         INDIAN/ALASKA NA
FUDD,ELMER        88879   +         INDIAN/ALASKA NA
Total: 4
```

2) List of each patient visit where POV was for DM, with provider narratives

3) Unduplicated list of patients

Patients with No Diabetes on the Problem List

PLDX: Patients with no diagnosis of diabetes on problem list

The following steps can be used to find patients on your register that do not have a diagnosis of diabetes on their problem list. Patients that do not have a diagnosis of diabetes on their problem list may have been miscoded into the diabetes register. For patients that were not miscoded, it is important for the provider to be aware of the patient's diagnosis of diabetes.

Option 1: Report for patients on the DMS Register

1. Open RPMS
2. Go to **DMS** Diabetes Management System
3. Go to **RP** Reports Menu ...
4. Enter **PLDX** Patients w/no Diagnosis of DM on Problem List
5. Select **R** Those who are members of a registry
6. Enter the Name of the Register: **IHS DIABETES** [or the name of your register]
7. Do you want to select register patients with a particular status? Y// **<enter>**
8. Which status: A// **<enter>** ACTIVE
9. Enter your **Printer Name**, or use the default "HOME" to display the results on your screen.

Option 2: Report for patients with at least *N* visits with diabetes as purpose of visit (POV)

1. Open RPMS
2. Go to **DMS** Diabetes QA Audit Menu
3. Go to **RP** Reports Menu ...
4. Enter **PLDX** Patients w/no Diagnosis of DM on Problem List
5. Select **D** Those with at least N Diabetes Diagnoses
6. How many diagnoses must the patient have had: (1-999): 3// [**enter any number**]
7. The report will allow you to restrict the results to patients whose last visit was "recent." Otherwise, the report will give you patients with at least N number of diabetes visits since the start of your RPMS database. [Enter a date, e.g., **T-24M**, or **<enter>**]
8. Enter your **Printer Name**, or use the default "HOME" to display the results on your screen.

```
********** CONFIDENTIAL PATIENT INFORMATION **********
S1                                                                    Page 1
                              TRAINING HC
            PATIENTS WITH NO DIAGNOSIS OF DIABETES ON PROBLEM LIST
                    Patients on the IHS DIABETES Register

PATIENT NAME          HRN    DOB               LAST DM DX      # OF DM DXS
-------------------------------------------------------------------------
AEGLAMEN,LONNIE W     40785  Dec 27, 1959  M   Oct 30, 2005    3
BACK,TOBI WYNN        21511  Nov 17, 1947  F   Apr 28, 1995    1
BALYLLA,GERALD A JR   30487  Jan 16, 1939  M                   0
BOANU,SHERMAN W       37067  Aug 29, 1967  M   Oct 11, 2007    2
JONES,MARSHA          99975  Jan 01, 1967  F   Mar 15, 2006    2
```

NDOO: Patients with no date of onset

This report will list patients who are on the diabetes register who do not have an onset date for diabetes recorded in either the problem list or the register data (accessed through the Patient Management screen under #20 - Diagnosis). The Annual IHS Audit tracks how long patients have lived with diabetes.

1. Open RPMS
2. Go to **DMS** Diabetes Management System
3. Go to **RP** Reports Menu …
4. Enter **NDOO** DM Register Pts w/no recorded DM Date of Onset
5. Enter the name of the Register: **IHS DIABETES** [or the name of your register]
6. Do you want to select register patients with a particular status? Y// **<enter>**
7. Which status: A// **<enter>**
8. Demo Patient Inclusion/Exclusion: E// **<Enter>**
9. Enter your **Printer Name**, or use the default "HOME" to display the results on your screen.

```
********** CONFIDENTIAL PATIENT INFORMATION **********
S1                                                                    Page 1
                                TRAINING HC
     DIABETES REGISTER PATIENTS WITH NO RECORDED DATE OF ONSET OF DIABETES
                    Patients on the IHS DIABETES Register

PATIENT NAME          HRN    DOB               LAST DM DX      #DM DXS DM ON PL
-------------------------------------------------------------------------------
AEGLA STEFF,AMY M     32951  Jul 17, 1960  F   Apr 19, 2007    2          YES
ALLYSUN,JULIE ANN     477    Nov 11, 1927  F   Jun 23, 2003    56         YES
BALYLLA,GERALD A JR   30487  Jan 16, 1939  M                   0          NO
BOANU,SHERMAN W       37067  Aug 29, 1967  M   Oct 11, 2007    2          NO
BUORESSE,LARRY A SR   40247  Nov 10, 1938  M   Aug 21, 2003    10         YES
CEODLA,CHAD B         29189  Jan 18, 1952  M   Jul 10, 1995    5          YES
CREM,JOLYNE M         20989  Sep 23, 1948  F   Mar 24, 1999    6          YES
DALGERYTU,HEATHER A   38423  Nov 01, 1972  F   Feb 28, 2002    5          YES
DONN,SHEILA J         40457  Feb 18, 1937  F   Aug 04, 2003    2          YES
```

Last DM DX refers to the last time a patient received a diagnosis of diabetes. Typically, a patient will receive a diagnosis of diabetes every time that they see a provider

#DM DXS DM refers to the number of times a patient has received a diagnosis of diabetes. The number usually refers to how many purpose of visit for diabetes the patient has.

DM ON PL: Does the patient have a diagnosis of diabetes on their problem list?

Submitting the Electronic IHS Audit

Getting ready

Update your active diabetes register patients. These are the people you provide diabetes care to, and who you want to run your reports on throughout the year. If your definition of "active" patients is not the same as the audit definition, you can always use a QMAN search to fix that. (Instructions below.)

Save a template of active patients for your audit. You are aiming to include patients who:

- Have type 1 or type 2 diabetes
- Had at least 1 primary care visit in the calendar year
- Are American Indian or Alaska Native

Exclude patients who:

- Are receiving most of their diabetes care elsewhere (through Contract Health, a dialysis center, jail, nursing home, etc.)
- Did not live in the area during the year, or
- You were unable to contact (3 failed attempts in 12 months)

A QMAN Template for your audit population

SUBJECT: REGISTER
WHICH REGISTER: <name of your register, ex: IHS DIABETES>
WHICH Status(es): 1 (active)
WHICH Register Diagnosis: 6 (all diagnoses)
ATTRIBUTE: BENEFICIARY
Enter CLASSIFICATION: 01 (INDIAN/ALASKA NATIVE)
Enter ANOTHER CLASSIFICATION: <enter>
ATTRIBUTE: VISIT
First condition: BETWEEN
Exact starting date: 1/1/2011
Exact ending date: 12/31/2011
Next condition: DX
Enter DX: 250.00-250.93 <enter until next condition>
Next condition: CLINIC
Enter CLINIC: [BGP PRIMARY (this uses the GPRA taxonomy for primary care visits)
<enter> until you get to the output screen
Your choice: 4 (store results in a search template)
Enter the name of the SEARCH TEMPLATE: DM AUDIT 2011
DESCRIPTION: Edit? Y
Cohort for 2012 DIabetes Audit. Uses Active IHS DIABETES register patients, beneficiary status 01, at least one visit in 2011 for diabetes (DX 250.00-250.93) coded for a clinic in the BGP PRIMARY CARE taxonomy.
<F1, E> to save and exit
Run this task in background? No// <enter>

Check and update taxonomies. Instructions on pages 55-58.

Review your audit report. Follow the steps below. If you have paper charts (not EHR), you may wish to print an individual audit sheet for all patients and review their charts for missing items (print option 4).

1. From the main menu, go to **DMS** Diabetes Management System (*may also be listed as BDM*)
2. Select Diabetes Management System Option: **DA** (*Diabetes QA Audit Menu...*)
3. Select Diabetes QA Audit Menu Option: **DM11** (*2011 Diabetes Program Audit...*)
4. Select 2011 Diabetes Program Audit Option: **DM11** (*Run 2011 Diabetes Program Audit*)
5. End of taxonomy check. HIT RETURN **<enter>**
6. Enter the Official Diabetes Register: **IHS DIABETES** (*or the name of your register*)
7. Enter the Audit Date: 12/31/2011 (*The last day of the calendar year*)
8. Run the Audit for: P// **S** (*Search template of patients, if you made one - C if otherwise*)
9. Enter Search Template Name: <the name you saved>
10. Limit the audit to a particular primary care provider? N// **<enter>**
11. Limit the patients who live in a particular community? N// **<enter>**
12. Do you want to select: A// **<enter>** (*ALL patients selected so far*)
13. Enter Print option: 1// **3** (*Cumulative Audit Only*)
14. Demo Patient Inclusion/Exclusion: E// **<enter>**
15. Do you wish to: P// **P** to print, or **B** to Browse followed by PL to print
16. DEVICE: HOME// (*enter the name of your printer here*)

Create the audit data file

Follow steps 1-12 on the previous page, then:

13. Enter the Print Option: 1// **2** (*Create AUDIT EXPORT file*)
14. Enter the name of the FILE to be Created (3-20 characters): (*Enter a short name, example: DMCLINIC12A. Your file may be saved to a server that is shared with other clinics, so it is useful to include the name or initials of your clinic in the name of the file, plus the year and an "A" in case you have to repeat.*)
15. Write down the name of the file, example: DMCLINIC12A.txt
16. Is everything ok? Do you want to continue? Y// **<enter>**
17. Demo Patient Inclusion/Exclusion: E// **<enter>**
18. Won't you queue this? Y// **<enter>**

Wait a few minutes, then ask your site manager to retrieve the data file for you. It is usually saved in the spub directory (they will know what this is). To get it to you, they should save the file to a secure network drive — please do not send this identified patient information in unencrypted email.

Upload to WebAudit and check for errors

- For audit links, including WebAudit, go to www.diabetes.ihs.gov and click on "Audit" under "Resources" in the navigation list on the left.
- If you don't have one already, request a WebAudit account.

19. Log in, then click on **Diabetes WebAudit**, then click on **Upload Data** and follow the instructions there.
20. Run the Data Quality Check. This will identify any values in your audit data that are unusually or impossibly high or low.
21. Review errors from the Data Quality Check. Some may be actual values (for example, high triglycerides). These can be left as they are.
22. Correct any actual errors (for example, a height of 12 inches) **in RPMS/EHR, not in WebAudit.** That way, your patient records will be more complete.

- If you see multiple errors with the same lab test, this is usually because (1) the lab is in the wrong taxonomy, or (2) the lab put a phrase such as "see comments" in the result field. If (1), fix the taxonomy before you create a new data file. If (2), note the chart numbers and correct values and save them for correction by hand in WebAudit (see below).

Repeat, if needed

If you had errors and corrected them in RPMS/EHR, you will need to create and upload a new data file (repeat previous steps).

Make final corrections and lock the data

- If you found errors that you were unable to correct in RPMS/EHR, you can go to "Data Entry" and correct them on the individual records, which are identified by chart number.
- Use the Facility Administration section of WebAudit to enter
  - the total number of patients (same as your number of records unless you used a sample)
  - your SDPI grant number
- When your audit is complete, remember to "lock" the records so that IHS will know to retrieve the final file. You should receive a confirmation email within minutes.

Existing Registers on Your System

Note: You will need access to the Case Management System (CASE, CMS, or ACM) to do this, or work with your site manager.

How: From the RPMS main menu:

1. Select IHS Core Option: **CASE** or **CMS** (depends on how your system is set up)
2. Select Case Management System Option: **CR** (Create/Modify Register Structure)

You should see a list of all the registers on your system.

To exit, hit enter.

If the name has the word DIABETES in it, the register can be used with the Diabetes Management System.

Before you can use a register, you must be added as an authorized user. Only the register creator can add users.

Finding & Changing the Register Creator

How: From the RPMS Main Menu:

1. Select Menu Option: **CMS**
2. Select CASE MANAGEMENT SYSTEM Option: **ECR**
3. Select Register: <Enter the name of your register here>
4. REGISTER CREATOR: LASTNAME,FIRSTNAME// **<Enter>** to keep the same creator or **NEWLASTNAME,NEWFIRSTNAME** to change the creator

```
Select Register: IHS PRE-DIABETES
REGISTER TYPE: IHS PRE-DIABETES       ABBREVIATION: DM
  DATE ESTABLISHED: DEC 07, 2010      REGISTER DEVELOPER: POSTMASTER
  VIEW ALL LIST ENTRIES: NO           PCC PROBLEM LIST: YES
  ALLOW LAYGO FOR LIST ENTRIES: NO    RESTRICT CATEGORY USE: YES
ELEMENTS: COMPLICATIONS
ELEMENTS: DIAGNOSES
ELEMENTS: RISK FACTORS
ELEMENTS: REGISTER DATA
ELEMENTS: DIAGNOSTIC CRITERIA
ELEMENTS: CASE REVIEW DATES
  REGISTER CREATOR: RAMSEY,KATRINA
AUTHORIZED USER: RAMSEY,KATRINA
AUTHORIZED USER: HEAD,DON
AUTHORIZED USER: LOPEZ,KERRI

REGISTER CREATOR: RAMSEY,KATRINA//
```

How: From the Diabetes Management System main menu:

1. Select Diabetes Management System Option: RM Register Maintenance
2. Select Register Maintenance Option: US User setup
3. Which one: 1 Add/Remove DMS Authorized User
4. Select NEW DMS User: LAST NAME, FIRST NAME
5. Do you wish to REMOVE LAST NAME, FIRST NAME as an Authorized User of the Diabetes Management System? NO
6. Remove LAST NAME, FIRST NAME's REGISTER MANAGER AUTHORITY? Enter YES or NO depending on whether this user is allowed manager authority.
7. Which one: "^" to return to the main menu.

OR

How: From the Case Management System main menu:

1. Select Case Management System Option: AU Add authorized users
2. REGISTER: IHS DIABETES (or the name of your diabetes register)
3. Select AUTHORIZED USER: LAST NAME, FIRST NAME
4. Are you adding LAST NAME, FIRST NAME as a new AUTHORIZED USER (the 3RD for this CMS REGISTER TYPE)? Y
5. Select AUTHORIZED USER: <ENTER> to exit or LAST NAME, FIRST NAME to enter another user

Creating a New Register

DIABETES
- ☐ **Type 1**
- ☐ **Type 2**

STATUS
- ☐ **Active**
- ☐ **Inactive**
- ☐ **Transient**
- ☐ **Deceased**

An analogy

Creating a register is like making a bunch of stickers that you can put on patient charts.

Adding patients to the register is like putting those stickers on charts.

Running reports is like reviewing charts that have certain stickers on them.

Creating a New Register (cont.)

You have three options for creating a register. For all options, from the main RPMS MENU:

1. Select IHS Core Option: **CASE** or **CMS** (depending on your menus -- both are for the CASE MANAGEMENT SYSTEM

Option 1: Install Pre-Diabetes Register (PDM)

Select to create a register called IHS PRE-DIABETES with the fields listed in column 3 on the next page. You can create the register and rename it (if you wish) using CR - Option 3.

Option 2: Install IHS Diabetes Register (IDR)

Select to create a register called IHS DIABETES with the fields listed in column 1 on the next page. You can create the register and rename it (if you wish) using CR - Option 3.

Option 3: Create/Modify Register Structure (CR)

Use this option to create a diabetes register, or to rename either type of register created with PDM or IDR.

1. Select Case Management System Option: **CR**
2. Register: <SOMETHING> **DIABETES** (Typically IHS DIABETES)
   IMPORTANT: The name must include the word DIABETES or PRE-DIABETES so that you can use it with DMS.
3. Are you adding 'IHS DIABETES' as a new CMS REGISTER TYPE? No // **Y**
4. REGISTER NAME: IHS DIABETES // <enter> to confirm or different name to change
5. DATE ESTABLSD: <today's date>
6. REGISTER CREATOR: LASTNAME,FIRSTNAME of person responsible for register
7. HEALTH SUMMARY DISPLAY: **Y** (regular Health Summary will show Diabetes Care Summary at the end for patients on the register)
8. BRIEF DESCRIPTION: (optional--a sentence to describe the purpose of the register)
9. 'A' to ADD, 'D' to DELETE ... ==> **<enter>**
   (note: DMS will take care of these options for you, so you can skip this step)

ALL OPTIONS: Next steps (required)

1. Add YOURSELF and anyone else who needs to use the register as an authorized user (see "Adding Users to Your Register" section of this manual).
2. Users must also have security keys for DMS (see "Allocating Security Keys for DMS").
3. To use the register, go to DMS — DIABETES MANAGEMENT SYSTEM. If more than one register exists on your system, you will be prompted to specify which register.
4. There are no patients on a new register. To add them, use PM — PATIENT MANAGEMENT.

Stored in the register		
Diabetes Register (IDR)	**Both types of register**	**Pre-Diabetes Register (PDM)**
Diagnosis Gestational DM Imp Glucose Tolerance (IGT) Type 1 Type 2 **Complications** CVA (Stroke) End Stage Renal Disease Fixed Proteinuria High Risk Foot Hypertension Laser Tx for Retinopathy Major Amputation(s) Minor Amputation(s) Retinopathy **+ [Any you add]**	**Register data (modified in Patient Management, #1)** Register Status Where followed (clinic name) Register provider Case manager Contact Entry date (i.e. when added to register) Last review [date] Next review [date]	**Diagnosis** Gestational DM Imp Fasting Glucose (IFG) Imp Glucose Tolerance (IGT) Metabolic Syndrome Other Abnormal Glucose Type 1 Type 2 **Complications** Acquired Acanthosis Nigricans CVA (Stroke) End Stage Renal Disease Fixed Proteinuria High Risk Foot Hypertension Laser Tx for Retinopathy Major Amputation(s) Minor Amputation(s) Morbid Obesity Obesity - NOS Polycystic Ovaries Proteinuria Retinopathy **+ [Any you add]**

Stored in the main database (PCC), but viewable through register reports		
Registration information Problem list Measurements: Height, weight, BMI, blood pressure Tobacco use & counseling Hypertension Exams: Foot, eye, dental	Patient education Depression as active diagnosis Depression screening Diabetes medications ACE/ARB use Antiplatelet therapy Lipid lower agents TB testing	ECG Immunizations: Flu, pneumovax, Td or Tdap Labs: HbA1c, serum creatinine, estimated GFR, cholesterol, HDL, LDL, triglycerides, urine protein testing
What people see in the regular record of a patient who is on a diabetes register		
On the health summary: Diabetes patient care supplement (DPCS) shows up at the end In iCare: Register name displays in the individual patient's record		

Allocating Security Keys for DMS

From your Site Manager's menu:

Choose **MENU MANAGEMENT**

Choose **KEY MANAGEMENT**

Choose **ALLOCATION OF SECURITY KEYS**

Allocate key: **AMQQZMENU**

Another key: **AMQQZCLIN**

Another key: **AMQQZEMAN**

Another key: **AMQQZMGR**

Another key: **AMQQZPROG**

Another key: **AMQQZRPT**

Another key: **BDMZMENU**

Another key: **BDMZ REGISTER MAINTENANCE**

Another key: **BDMZ SWITCH OLD DX ENTRIES**

Another key: **BDMZEDIT**

Another key: [Enter]

Holder of key: [LAST NAME, FIRST NAME]

Another holder: [Enter] or [Enter Another User]

<You've selected to following holders:

(User Name)

You are allocating keys. Do you wish to proceed? YES// [Enter]

<Key is being assigned to:

(User Name)

You will also need to go into Edit User and give user an "M" in the File Manager Access Code.

For the DMS GUI (Visual DMS) there are two SECONDARY MENU OPTIONS under Edit User:

SECONDARY MENU OPTIONS: BDMGRPC

SYNONYM: BDMG

SECONDARY MENU OPTIONS: BMXRPC

SYNONYM: BMX

What: You can change your diabetes register's list of complications by adding, editing, or deleting complications from the overall list. Common complications are added automatically when the DMS is installed. (This changes your register; to edit an individual's list of complications, see page 9.)

Why: To identify, track, and address specific complications for your patient population with diabetes.

When: When setting up a register, or when your tracking needs change.

How: From the Diabetes Management System Main Menu:

1. Select Diabetes Management System Option: **RM** Register Maintenance ...
2. Select Reports Option: **CL** Complications List ...
3. Select Action: **2** Add Complication
4. Name of New Complication: Type specific complication here...Example: **Hypertension, Obesity, CVA, etc.**
5. OK?: **Yes**
6. Select Action: Quit// **<Enter>**

If you add ICD-9 codes to the Complications List, whenever a patient from your register has a visit with one of those codes, the complication will automatically be added to that patient's record.

7. At the prompt, type **1** Edit Complication.
8. Choose from the complication you want to add an ICD-9 code to from the numbered list, and **<enter>**
9. If you want to edit the name of the complication, type in the new name. If you do not want to edit the name, **<enter>**
10. To see a list of all ICD codes currently assigned to a complication, enter one question mark [**?**] at the 'Select ICD Diagnoses' prompt.
11. Enter the ICD-9 code you want to assign to the complication. For example, for Retinopathy, type in the code 250.50. (Each code will have to be input individually. You will not be able to put in a range of codes.)
12. Once finished, **<enter>** at the prompt, to return to the Complications List.

To delete an ICD code from a complication, enter the ICD code at the 'Select ICD DIAGNOSES' prompt, press <ENTER> to accept that code, and then type @ to delete the ICD code.

```
COMPLICATION: DEPRESSION//
Select ICD DIAGNOSES: 296.00// 301.13
CYCLOTHYMIC DISORDER
          ...OK? Yes//   (Yes)

  ICD DIAGNOSES: 301.13// @
   SURE YOU WANT TO DELETE THE ENTIRE ICD
DIAGNOSES? Y  (Yes)
```

Check Taxonomies

What taxonomies are for

Some items in RPMS are entered the same way in every clinic that uses RPMS. ICD-9 codes, for example, are standardized internationally, so that 790.21 always means impaired fasting glucose, no matter where you are.

Other RPMS items differ from one facility to the next. Lab tests and drugs are two examples. One site might call its fasting glucose test "Fasting glucose" and another would call it "Glucose, fasting." A person would recognize these two descriptions as the same test, but a computer would not. RPMS needs to be programmed to categorize these items correctly. This is done using taxonomies.

Taxonomies are the lists that tell RPMS what belongs in each category. For example, many patients with prediabetes may receive prescriptions for metformin. These prescriptions are not entered as "metformin," but rather as a specific name and type of metformin, along with a dose level. RPMS needs to reference a list to recognize all of those types and dose levels as "metformin."

When you run a report, such as the audit report, RPMS searches its patient records for any of those items. If a patient has received any of the metformin prescriptions on the list, the audit report will reflect that.

```
 DM AUDIT METFORMIN DRUGS

Items currently defined to this taxonomy:
     METFORMIN HCL  500 MG TABLETS
     METFORMIN 500MG XR
     METFORMIN 1000MG

Press enter to continue:
```

Example of a drug taxonomy on the RPMS training server.

Look at the taxonomy check in your audit report

How: Each time you run an audit report, the system checks for empty taxonomies or panel tests that should not be included.
(You can also run the taxonomy check alone in the DM11 audit menu using TC11.)

```
 In order for the 2011 DM AUDIT Report to find all necessary data, several
taxonomies must be established.  The following taxonomies are missing or have
no entries:
DRUG taxonomy  [DM AUDIT ACARBOSE DRUGS] has no entries
DRUG taxonomy  [DM AUDIT AMYLIN ANALOGUES] has no entries
LABORATORY TEST taxonomy  [DM AUDIT CHOLESTEROL TAX] contains a panel test: LIPID PANEL and
should not.
ADA CODE taxonomy  [DM AUDIT DENTAL EXAM ADA CODES] has no entries
DRUG taxonomy  [DM AUDIT GLP-1 ANALOG DRUGS] has no entries
DRUG taxonomy  [DM AUDIT LOVAZA DRUGS] has no entries
LABORATORY TEST taxonomy  [DM AUDIT P/C RATIO TAX] has no entries
LABORATORY TEST taxonomy  [DM AUDIT TB LAB TESTS] has no entries
```

Some common error messages. Only the panel test error message needs to be dealt with. The rest are for medications or labs not used at this facility.

TB LAB TESTS refers to blood tests for tuberculosis, not PPD skin tests.

Run the LMR report to list lab/medications and their taxonomies

How: From the Diabetes Management System Main Menu:

1. Select Diabetes Management System Option: **RP** (Reports ...)
2. Select Reports Option: **LMR**
3. Do you wish to list: **L** (for LAB TESTS) or **M** (for MEDICATIONS)
4. Enter beginning Date for Search: **1/1/11** (go back at least to the beginning of the year)
5. Enter ending date for Search: **T** (shortcut for today's date)
6. Do you wish to: P// <enter> to print or B to browse

Hint: If you choose BROWSE, you can use the PL ("Print List") command to print the entire report.

```
Dec 16, 2011                                                          Page 1
                        LAB TESTS Used at TRAINING
                    Date Range:  Jan 01, 2010 - Dec 16, 2011
LAB TEST NAME                    IEN      # DONE    UNITS        RESULT
     TAXONOMIES
-------------------------------------------------------------------------
1 HOUR GLUCOSE (PRENATAL GLUCO  1255           12  mg/dL        74
17-HYDROXYPROGESTERONE          616             1  ng/dL        54
1HR GTT                         471             2  mg/dL        215
COMPUTED URINE PROTEIN          1665302         1  mg/24Hr      2115
CORTISOL                        114             1  mcg/dL       9.4
CREATININE                      173         2,128  mg/dL        .9
     DM AUDIT CREATININE TAX
CREATININE CLEARANCE            1242            1
CREATININE,URINE                9999171         7  mls          2.0
CYSTINE                         432             1               NORMAL
CYSTINE,URINE                   1665330         1
CYTOLOGY                        296            19               lipoma
D-DIMER                         1665407         1               <250
...


Dec 16, 2011                                                          Page 1
                      MEDICATIONS (DRUGS) Used at TRAINING
                    Date Range:  Jan 01, 2011 - Dec 16, 2011
MEDICATION/DRUG NAME             IEN      # DONE
     TAXONOMIES
-------------------------------------------------------------------------
...
IBUPROFEN 400MG TABLET          305            531
IBUPROFEN 800MG TABLET          84015        1,538
IBUPROFEN SUSPENSION 100MG/5ML  84584           40
INDOMETHACIN 25MG CAPSULE       306            119
INSULIN NPH U-100               5177           216
     DM AUDIT INSULIN DRUGS
INSULIN REG.U-100               5176           216
     DM AUDIT INSULIN DRUGS
IPRATROPIUM BROMIDE HFA INHALE  84071          197
IRBESARTAN 300MG TABLET         84557          329
ISOMETHEPTENE/DICHLORO/APAP 65  84267          100
LISINOPRIL 10MG TABLET          84332          773
     DM AUDIT ACE INHIBITORS
LISINOPRIL 20MG TABLET          84333          541
     DM AUDIT ACE INHIBITORS
```

IEN: Internal Entry Number, a unique identifier used by the lab/pharmacy for that kind of test/medication.

Example: Wrong item in the taxonomy

If the wrong items are in the wrong taxonomies, you may see values that look weird on reports.

Excerpt of an individual audit report

```
LABORATORY DATA during audit period
Total Cholesterol:   179. mg/dl    Oct 20, 2011     CHOLESTEROL
HDL Cholesterol:      43. mg/dl    Oct 20, 2011     HDL (CHOLESTEROL)
LDL Cholesterol:     179. mg/dl    Oct 20, 2011     CHOLESTEROL
Triglycerides:       408. mg/dl    Mar 15, 2011     TRIGLYCERIDE
```

The name of the test is printed on the right. Here, you can see that CHOLESTEROL is in the LDL taxonomy because it is showing up on the LDL line.

Why this happened

```
DIABETES TAXONOMY UPDATE      Nov 7, 2011 17:17:43
Updating the DM AUDIT LDL CHOLESTEROL TAX taxonomy

1)  LDL
2)  CHOLESTEROL

          Enter ?? for more actions
A    Add Taxonomy Item    R    Remove an Item
Select Action:+//
```

This shows the LDL CHOLESTEROL taxonomy. You can get here by following steps 1-5 below.

Solution: Delete the extra items from the taxonomy.

How: From the Diabetes Management System Main Menu:

1. Select Diabetes Management System Option: **DA** (Diabetes QA Audit Menu ...)
2. Select Diabetes QA Audit Menu Option: **DM11** (2011 Diabetes Program Audit ...)
3. Select 2011 Diabetes Program Audit Option: **TU11** (Update/Review Taxonomies for 2011)
4. Select Action:+// **S** (Select Taxonomy)
5. Which Taxonomy: (1-42): **26** (DM AUDIT LDL CHOLESTEROL)
7. Select Action:+//R (Remove an Item)
8. Remove Which Item (1-5): 2
9. Are you sure you want to remove the LDL CHOLESTEROL lab test? N// Y
10. Select Action:+//Q (Quit)

The corrected taxonomy

```
DIABETES TAXONOMY UPDATE      Nov 7, 2009 17:19:25
Updating the DM AUDIT LDL CHOLESTEROL TAX taxonomy

1)  LDL

          Enter ?? for more actions
A    Add Taxonomy Item    R    Remove an Item
Select Action:+//
```

(Continued on next page)

Individual audit report after correction

```
LABORATORY DATA during audit period
Total Cholesterol:   179. mg/dl    Oct 20, 2011    CHOLESTEROL
HDL Cholesterol:     43. mg/dl     Oct 20, 2011    HDL (CHOLESTEROL)
LDL Cholesterol:     85. mg/dl     Mar 15, 2011    LDL
Triglycerides:       408. mg/dl    Mar 15, 2011    TRIGLYCERIDE
```

Example: Missing taxonomy item

When you know that patients are receiving care that is not showing up on reports, the taxonomy may need to be updated.

Excerpt from a cumulative audit report

```
DIABETES TREATMENT
       Diet and Exercise Alone                    31        42%
       Insulin                                     8        11%
       ...
       Metformin                                  25        34%
```

Diet & Exercise is high, and metformin is low.

If you need a reference point, use the sample cumulative audit in this manual.

Solution: Add the missing item(s)

1. Run the LMR report for medications, as described in the previous section, to get the name(s) of the missing tests.

```
                    MEDICATIONS (DRUGS) Used at TRAINING
                  Date Range:  Jan 01, 2010 - Dec 16, 2011
MEDICATION/DRUG NAME            IEN      # DONE
     TAXONOMIES
-------------------------------------------------------------------
METAMUCIL WAFERS                84636         3
METFORMIN 1000 MG TABLET        84567       431
METFORMIN HCL 500MG TABLET      84486       714
     DM AUDIT METFORMIN DRUGS
METHADONE 10MG TAB              319         348
```

This metformin 1000 mg tablet should be in the METFORMIN taxonomy, but there is no taxonomy listed under it.

2. Select Diabetes Management System Option: **DA** (Diabetes QA Audit Menu ...)
3. Select Diabetes QA Audit Menu Option: **DM11** (2011 Diabetes Program Audit ...)
4. Select 2011 Diabetes Program Audit Option: **TU11** (Update/Review Taxonomies for 2011)
5. Select Action:+// **S** (Select Taxonomy)
6. Which Taxonomy: (1-42): **28** (DM AUDIT METFORMIN)
7. Select Action:+// **A** (Add Taxonomy Item)
8. Select DRUG GENERIC NAME: **METFORMIN 1000 MG TABLET**
9. Select Action:+// **Q** (Quit)

Update taxonomies at least once a year, or when —

— Elements of care are not showing up on patient summaries, even though you know that the patient received them.

— Results look weird (too high, too low, or exactly the same as another test)

— Percentages on the cumulative audit are unexpectedly high or low

— A new patch has been installed

IHS Diabetes Audit Medications

DM THERAPY

Insulin
Insulin, REG Insulin, NPH Insulin, Lente Insulin, Ultralente Insulin
Insulin aspart (NovoLog), Novolin, Novopen
Lispro (Humalog)
Glargine (Lantus)

Sulfonylureas
Acetohexamide (Dymelor)
Chlorpropamide (Diabinese)
Glyburide (DiaBeta, Micronase, Glynase)
Glyburide + Metformin (Glucovance)
Glipizide (Glucotrol, Glucotrol XL)
Glipizide + Metformin (Metaglip)
Glimepiride (Amaryl)
Glimepiride + rosiglitazone (Avandament)
Glimepiride + pioglitazone (Duetact)
Tolazamide (Tolinase)
Tolbutamide (Orinase)

Sulfonylurea-like
Nateglinide (Starlix)
Repaglinide (Prandin)
Repaglinide + Metformin (PrandiMet)

Metformin
Metformin (Glucophage, Fortamet)
Metformin extended release (Glucophage XR, Glumetza)
Metformin + Glyburide (Glucovance)
Metformin + Glipizide (Metaglip)
Metformin + Rosiglitazone (Avandamet)
Metformin + Pioglitazone (Actoplus met)
Metformin + Sitagliptin (Janumet)
Metformin + Repaglinide (Prandimet)

Acarbose (Precose) or miglitol (Glyset)

Glitazones (Thiazolidinediones)
Pioglitazone (Actos)
Pioglitazone + Metformin (Actoplus met)
Pioglitazone + Glimeperide (Duetact)
Troglitazone (Rezulin)
Rosiglitazone (Avandia)
Rosiglitazone + Glimeperide (Avandaryl)
Rosiglitazone + Metformin (Avandamet)

Incretin mimetics
Exenatide (Byetta)
Liraglutide (Victoza)

DPP4 inhibitors
Sitagliptin (Januvia, Galvus)
Sitagliptin + metformin (Janumet)
Saxagliptin (Onglyza)

Amylin analogues
Pramlintide (Symlin)

ACE INHIBITORS/ARBs
Benazepril (Lotensin)
Benazepril + hydrochlorothiazide (Lotensin HCT)
Benazepril + amlodipine (Lotrel)
Moexipril (Univasc)
Captopril (Capoten)
Captopril + hydrochlorothiazide (Capozide)
Perindopril (Aceon)
Enalapril (Vasotec)
Enalapril + diltiazem (Teczem)
Enalapril + felodipine (Lexxel)
Quinapril (Accupril)
Fosinopril (Monopril)
Ramipril (Altace)
Lisinopril (Prinivil, Zestril)
Lisinopril + hydrochlorothiazide (Prinzide, Zestoretic)
Trandolapril (Mavik)
Trandolapril + verapamil (Tarka)

Also include Angiotensin II receptor blockers (ARBs) in this taxonomy:
Candesartan (Atacand)
Losartan (Cozaar)
Losartan + hydrochlorothiazide (Hyzaar)
Eprosartan (Teveten)
Valsartan (Diovan)
Valsartan + hydrochlorothiazide (Diovan HCT)
Irbesartan (Avapro)
Irbesartan + hydrochlorothiazide (Avalide)
Telmisartan (Micardis)
Olmesartan (Benicar)

ANTIPLATELET Therapy
Clopidogrel (Plavix)
Ticlopidine (Ticlid)
Heparin (Heparin)
Warfarin (Coumadin)
Cilostazol (Pletal)
Dipyridamole (Persantine)
Aspirin + Dipryridamole (Aggrenox)

Aspirin
Aspirin (abbreviated ASA)
Aspirin-containing products (Verasa, Rubrasa)

LIPID LOWERING AGENTS

Statin drugs

Atorvastatin (Lipitor)
Atorvastatin + Amlodipine (Caduet)
Lovastatin (Mevacor, Altocor, Advicor)
Cerivastatin (Baychol)
Pravastatin (Pravachol)
Fluvastatin (Lescol)
Simvastatin (Zocor)
Simvastatin + Ezetimibe (Vytorin)
Rosuvastatin calcium (Crestor)

Fibrate drugs

Fenofibrate (Tricor, Lipofen, Antara, Lofibra, Triglide)
Gemfibrozil (Lopid)
Clofibrate (Atromid-S)

Niacin (Niacor, Niaspan, Advicor)

Bile acid sequestrants

Colestipol (Colestid)
Colesevelam (Welchol)
Cholestyramine (LoCholest, Questran)

Ezetimibe (Zetia)

Fish oil - Rx or OTC, excluding Lovaza

May be listed as Omega-3 supplement

Lovaza

SELF MONITORING Prescriptions

Glucose test strips and monitors of all types (Advantage, One-Touch, Precision, Chemstrip, Accuchek)
Lancet

Lab Taxonomies

Labs vary from clinic to clinic. You want to make sure that:

1. Your lab taxonomies contain the names of labs as they are used at your facility
2. You include the name of the measurement or result, and not the panel that the test belongs to

The list below gives some suggestions of how the given lab tests might appear in different facilities.

1) BGP GPRA ESTIMATED GFR TAX

Estimated GFR
eGFR
Est. GFR
Calculated GFR
_GFR Africn Am
_GFR Non Afr Am
_GFR, Estimated

2) DM AUDIT 24HR URINE PROTEIN

24 Hr Urine Protein
Urine Protein/24 Hr

11) DM AUDIT CHOLESTEROL TAX

Cholesterol
Screen,Cholesterol
Total Cholesterol

12) DM AUDIT CREATININE TAX

(Note: Does NOT include urine creatinine)
Creatinine
Serum Creatinine

22) DM AUDIT HDL TAX

HDL
HDL Cholesterol

23) DM AUDIT HGB A1C TAX

A1C
Hgb A1C
Hemoglobin A1C
Glycosylated Hgb
A1cNow

26) DM AUDIT LDL CHOLESTEROL TAX

LDL
Direct LDL
LDL Cholesterol
LDL (Calc)

29) DM AUDIT MICROALBUMINURIA TAX

(measured in mg/L; on the audit, the result is coded as either <20 mg/L or >=20 mg/L)
Microalbumin
Albumin
Urine Albumin
Microalbumin, Urine
Microalbumin Random
Micral
Micro

Lab Taxonomies

32) DM AUDIT P/C RATIO TAX
(measured in g/g)
Protein/Creatinine Ratio
P/C Ratio

33) DM AUDIT QUANT UACR
Microalbumin/Creatinine Ratio measured in actual numeric values (mg/g Creat)
Microalbumin/Creatinine Ratio
A/C Ratio
Albumin/Creatinine Ratio
A:C
M-Alb/Creatinine
A/C (may be entered as _A/C, -A/C, *A/C)

34) DM AUDIT SEMI QUANT UACR
Microalbumin/Creatinine Ratio reported as a semi-quantitative test, e.g. Clinitek test strips. The most commonly reported results are <30, 30-300, or >300 mg/d creat.

39) DM AUDIT TB TESTS
Note: You do NOT need to add PPDs to this taxonomy; they will be picked up by the audit.
QFT-G
SPOT-TB
QUANTIFERON-TB GOLD

40) DM AUDIT TRIGLYCERIDE TAX
Triglyceride

41) DM AUDIT URINALYSIS TAX
Urinalysis
Urinalysis HLD
Urine Dipstick
Urine (Dipstick)
UA or U/A
UA Dipstick or U/A Dipstick
UA Complete or U/A Complete

42) DM AUDIT URINE PROTEIN TAX
Urine Protein as reported on Urine Dipsticks. This is a semi-quantitative test and is usually reported as:
Urine Protein
Ur Protein
Protein
Urine
Urine Protein Screen
Urine Protein (Spot)
Protein Level, Urine
_Urine Protein

Pre-2010 Audit Lab Taxonomies

You may wish to run reports that depend on these taxonomies for historical purposes, or because they contain indicators you are interested in. In previous years, for example, the audit reports included self-monitoring of blood glucose and Pap tests.

DM AUDIT ALT TAX
ALT
SGPT

DM AUDIT AST TAX
AST
SGOT

DM AUDIT GLUCOSE TESTS TAX
Glucose
Fasting Glucose
Finger Stick Glucose
Whole Blood Glucose
Blood Sugar
Capillary Glucose
Accuchek
Lifescan

DM AUDIT FASTING GLUCOSE TESTS TAX
Fasting Glucose
Glucose, Fasting
FBS
DM AUDIT 75G 2 HR GLUCOSE
Glucose, 2 Hr P 75GM
2 HR GTT
75G 2Hr Glucose

Patient education (PED) codes

Diet education
(DM AUDIT DIET EDUC TOPICS taxonomy)

DM-N Nutrition
DM-DIET (no longer used, but include in taxonomy for historical purposes)
DMC-N (*Balancing Your Life* curriculum)
Balancing Your Food Choices curriculum:
DMC-N-FL (Session 1: Intro to Food Labels)
DMC-N-CC (Session 2: Carbohydrage Counting)
DMC-N-EL (Session 3: Exchange Lists)
DMC-N-FS (Session 4: Food Shopping)
DMC-N-HC (Session 5: Healthy Cooking)
DMC-N-EA (Session 6: Eating Away from Home)
DMC-N-AL (Session 7: Use of Alcohol)
DMC-N-D (Session 8: Evaluating Diets)

Exercise education
(DM AUDIT EXERCISE EDUC TOPICS)

DM-EX Exercise
DMC-EX (*Balancing Your Life* curriculum)

Other diabetes education
(DM AUDIT OTHER EDUC TOPICS)

Any DM- or DMC- codes not in the previous lists

Tobacco cessation education topics
(DM AUDIT SMOKING CESS EDUC taxonomy)

Cessation can also be entered as a health factor

TO-Q or **TO-QT** Tobacco - Quit
TO-LA Tobacco - Lifestyle Adaptations

Depression screening education codes
Dep. screening can also be entered as POV V79.0 or exam code 36 - Depression Screening

DEP-SCR SCREENING
SB-SCR SCREENING

or other education codes starting with:

DEP- (depression)
SB- (suicidal behavior)
GAD- (generalized anxiety disorder)
BH- (behavioral and social health)
PDEP- (postpartum depression)

Health factor (HF) codes

Tobacco use health factors
(DM AUDIT TOBACCO HLTH FACTORS taxonomy)

NON-TOBACCO USER
CURRENT SMOKER
CURRENT SMOKELESS
CURRENT SMOKER & SMOKELESS
PREVIOUS SMOKER
PREVIOUS SMOKELESS
EXPOSURE TO ENVIRONMENTAL TOBACCO SMOKE
CEREMONIAL USE ONLY
SMOKER IN HOME
SMOKE FREE HOME

Tobacco cessation counseling health factors
(DM AUDIT CESSATION HLTH FACTOR taxonomy)

Cessation can also be entered as education

CESSATION-SMOKELESS
CESSATION-SMOKER

Tuberculosis (TB) health factors – use ONLY if a patient has diagnosis of TB
(DM AUDIT TB HEALTH FACTORS)

TB - TX UNTREATED
TB - TX INCOMPLETE
TB - TX COMPLETE
TB - TX UNKNOWN

Exams (EX) and Historical exams (HEX)

28 DIABETIC FOOT EXAM,COMPLETE
03 DIABETIC EYE EXAM
30 DENTAL EXAM
36 DEPRESSION SCREENING

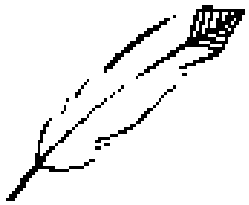
Results

N NORMAL/NEGATIVE
A ABNORMAL

ICD-9 Codes for DMS and QMAN Searches

DIABETES and PRE-DIABETES DIAGNOSES	
Type 1 and Type 2 diabetes	**250.00-250.93**
Type 1 diabetes	All 250 codes with a 5th digit of 1 or 3
Not stated as uncontrolled	250.01, 250.11, 250.21, 250.31, 250.41, 250.51, 250.61, 250.71, 250.81, 250.91
Uncontrolled	250.03, 250.13, 250.23, 250.33, 250.43, 250.53, 250.63, 250.73, 250.83, 250.93
Type 2 diabetes	All 250 codes with a 5th digit of 0 or 2
Not stated as uncontrolled	250.00, 250.10, 250.20, 250.30, 250.40, 250.50, 250.60, 250.70, 250.80, 250.90
Uncontrolled	250.02, 250.12, 250.22, 250.32, 250.42, 250.52, 250.62, 250.72, 250.82, 250.92
Diabetes Screening	V77.1
Metabolic syndrome, pre-diabetes	277.7
Abnormal glucose	790.21-790.29
Impaired fasting glucose (IFG)	790.21
Impaired glucose tolerance (IGT) test (oral)	790.22
Other abnormal glucose	790.29
Gestational Diabetes (GDM)	648.80-648.84
DIABETES COMPLICATIONS	
End Stage Renal Disease (ESRD)	585, V56.0 (hemodialysis encounter), V45.1 (s/p hemodialysis)
Lower Extremity Amputation (LEA)	895.0-897.7, V49.70-V49.77 (s/p LEA)
Hypertension (HTN)	401.0-405.99
Retinopathy	250.50-250.53, 362.01-362.02
Laser treatment for retinopathy	CPT 67228
Neuropathy	250.60-250.63, 337.1, 355.9, 357.2
Proteinuria (includes microalbuminuria)	791.0
Hyperlipidemia (cholesterol or triglycerides)	272.0-272.4
Stroke (CVA)	436
Transient Ischemic Attack (TIA)	435.9
Heart Attack (MI)	410.00-410.92 (acute MI)
Tuberculosis	010.00-018.96, 137.0-137.4, 795.5, V12.01
Non-compliance with medical treatment	V15.81
RISK FACTORS FOR DIABETES and RISK BEHAVIORS	
Obesity	278.00
Morbid obesity for surgical treatment	278.01
Acanthosis nigricans	701.2
Family history of diabetes	V18.0
Polycystic ovarian syndrome (PCOS)	256.4
Lack of exercise	V69.0
Inappropriate eating habits	V69.1
Smoking	305.1-305.13, V15.82 (history of smoking)
Depression	296.*, 300.*, 301.13, 308.3, 309.*, 311.*

Section 3: Reference Materials



Indian Health Service

Standards of Care and Clinical Practice Recommendations:

Type 2 Diabetes

Diabetes Audit Logic Descriptions

IHS Standards of Care for Type 2 Diabetes (2011, excerpt)

(Excerpt) Table 1. IHS Standards of Care for Type 2 Diabetes Summary

Component	Care/Test/Screening	Frequency ("At diagnosis"=when diabetes is diagnosed)
General Recommendations for Care	Perform diabetes-focused visit Review care plan: assess goals/strengths/barriers Assess nutrition, physical activity, BMI, and growth in youth	Every 3-6 months Each diabetes visit, revise as needed Each diabetes visit
Self-Management Education (DSME)	Refer to diabetes educator	At diagnosis, then every 6-12 mo., or more as needed
Medical Nutrition Therapy (MNT)	Refer for MNT provided by a registered dietitian	At diagnosis and at least yearly, or more as needed
Glycemic Control	Check A1C, individualize goal: e.g., < 7%, 7-8%, 8-9%, etc. Review goals, medications, side effects If prescribed, review SMBG data	Every 3-6 months Every diabetes visit Every diabetes visit
CVD Risk Reduction	Prescribe statin with lifestyle therapy regardless of LDL level Check lipid profile Total cholesterol < 200 mg/dL Triglycerides < 150 mg/dL Non-HDL cholesterol < 130 mg/dL, < 100 mg/dL (for very high risk) LDL < 100 mg/dL (optimal goal), LDL < 70 mg/dL (for very high risk) Assess smoking/oral tobacco use Aspirin therapy 75-162 mg/day (unless contraindicated)	Adults with CVD; age > 40 y. with ≥ 1 CVD risk factor Annually. If abnormal, follow current NCEP guidelines. Each visit: Ask, Advise, Assess, Assist, Arrange Known CVD/PAD; 10-year CVD Risk > 10%
Blood Pressure	Check blood pressure Individualize goal: e.g., < 130/80 mmHg, < 140/90 mmHg Youth goal: Varies with age	Every visit
Kidney Care	Check urine albumin/creatinine ratio (UACR) for albuminuria using a random urine sample (normal < 30 mg/g; micro 30-300 mg/g; macro > 300 mg/g) Check serum creatinine and estimate GFR If HTN, prescribe ACE Inhibitor or ARB unless contraindicated	At diagnosis, then annually At diagnosis, then annually
Eye Care	Retinal camera photo or dilated eye exam by an ophthalmologist or optometrist	At diagnosis, then annually; or as directed by eye specialist
Foot Care	Visual inspection of feet with shoes and socks off Perform comprehensive lower extremity/foot exam Screen for PAD (consider ABI)	Each diabetes visit; stress daily self-exam At diagnosis, then annually At diagnosis, then annually
Oral Care	Inspection of gums/teeth Dental exam by dental professional	At diagnosis, then at diabetes visits At diagnosis, then every 6 -12 months
Autonomic Neuropathy	Assess CV symptoms; resting tachycardia, exercise intolerance, orthostatic hypotension Assess GI symptoms; gastroparesis, constipation, diarrhea Assess sexual health/function for men and women	At diagnosis, then annually At diagnosis, then annually At diagnosis, then annually
Emotional Health	Assess emotional health; screen for depression, substance abuse	At diagnosis, then annually
Immunizations	Influenza vaccine Pneumococcal vaccine Hepatitis B immunization	Annually Once < 65 y. Re-immunize if ≥65 y. and 1st dose given before age 65 and if vaccine was administered > 5 y. prior. Unvaccinated adults < 60 y.
Preconception, Pregnancy, and Postpartum Care	Ask about reproductive intentions/assess contraception Provide preconception counseling Screen for undiagnosed type 2 diabetes Screen for GDM in all women not known to have diabetes Screen for type 2 diabetes in women who had GDM	At diagnosis, and then every visit 3-4 months prior to conception At first prenatal visit At 24-28 weeks gestation At 6-12 weeks postpartum, then every 1-3 y. lifelong

Diagnostic Criteria for Type 2 Diabetes

Recommendations for Diagnosing Type 2 Diabetes

- Use the criteria below to diagnose type 2 diabetes in non-pregnant patients:
  - Hemoglobin A1C (A1C) ≥ 6.5%; or
  - Fasting plasma glucose (FPG) ≥ 126 mg/dL, where FPG is defined as no caloric intake for at least 8 hours; or
  - 2-hour oral glucose tolerance test (OGTT) ≥ 200 mg/dL; or
  - Casual plasma glucose ≥ 200 mg/dL with symptoms of hyperglycemia, where "casual" is defined as any time of day without regard to time of last meal.
- In the absence of unequivocal hyperglycemia, confirm a positive result by repeat testing on a different day.

→ **Note:** While it is acceptable to **screen** for diabetes using a point-of-care (POC) capillary A1C and/or glucose, diabetes should only be **diagnosed** using laboratory-run tests. In addition, the A1C test alone may be less accurate when used to diagnose diabetes in youth.

Categories of Increased Risk for Diabetes (Prediabetes)

Recommendation for Identifying Patients at Increased Risk

- Use the following criteria to identify patients at increased risk for diabetes:
  - Impaired fasting glucose (IFG) defined as FPG 100-125 mg/dL, **or**
  - Impaired glucose tolerance (IGT) defined as 2-hour OGTT 140-199 mg/dL, **or**
  - A1C 5.7-6.4%.

Patients whose blood glucose levels are higher than normal but not high enough to be considered diabetes may be at increased risk for developing diabetes. Patients with impaired fasting glucose or impaired glucose tolerance have been referred to as having "prediabetes." Providers are encouraged to identify patients at increased risk for diabetes so they can start or intensify efforts to prevent progression to diabetes. Diabetes prevention programs for these patients are available throughout AI/AN communities.

→ **Note:** The A1C criterion of 5.7-6.4% is used by the American Diabetes Association (ADA). However, other standard-setting diabetes organizations do not recommend using the A1C test alone to identify increased risk for diabetes.

IHS Standards of Care for Type 2 Diabetes (2011, excerpt)

Testing for Diabetes/Prediabetes in Non-pregnant Asymptomatic AI/AN People

Recommendations for Testing for Diabetes/Prediabetes in AI/AN Adults

- Test AI/AN adults at least every 3 years.
- Consider testing more frequently in patients with additional risk factors, including:
  - Overweight/obese (Body Mass Index [BMI] ≥ 25 kg/m2)
  - Family history of type 2 diabetes in first degree relative
  - History of gestational diabetes (GDM) or delivery of a baby weighing > 9 pounds
  - Polycystic ovarian syndrome (PCOS)
  - Cardiovascular disease (CVD)
  - Hypertension
  - HDL cholesterol < 35 mg/dL and/or triglycerides > 250 mg/dL
  - *Acanthosis nigricans.*

Recommendations for Testing for Diabetes/Prediabetes in AI/AN Youth

- Test overweight AI/AN youth (BMI > 85th percentile) with **any** of the following risk factors:
  - Family history of diabetes
  - Signs of insulin resistance or conditions associated with it [e.g., *acanthosis nigricans,* polycycstic ovarian syndrome (PCOS), hypertension, dyslipidemia, small-for-gestational-age (SGA), or large-for-gestational-age (LGA) birth weight]
  - Maternal history of diabetes or gestational diabetes during child's gestation.
- Start testing at-risk children at age 10 years (or younger if puberty occurs earlier).
- Test at-risk children ≤ every 3 years.

→ **Note:** In patients who present with hyperglycemic symptoms, testing for diabetes is warranted regardless of risk factors listed above.

For a copy of the complete version of the IHS Standards of Care visit: www.diabetes.ihs.gov

To display audit logic, including previous years' Audit Logic Descriptions, log onto DMS, then:

Select Diabetes Management System Option: **DA** (Diabetes QA Audit Menu ...)
Select Diabetes QA Audit Menu Option: **DAL** (Display Audit Logic)
Select PCC MAN REPORTS DM AUDIT TEXT AUDIT YEAR: [enter the 4-digit year, e.g. 2011]

Type S and then enter the number of the item that you wish to view.

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, 2010 then data is examined during the year prior to this audit date (January 1, 2010 through December 31, 2010).

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.

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 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.

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 Education Topic recorded during that meets the following criteria:
  - Topic subject is "TO" e.g. TO-DISEASE PROCESS (TO-DP)
  - Topic category is "TO" e.g. ASM-TOBACCO (ASM-TO)
  - Topic subject is any of the following diagnosis codes: 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. 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.

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

WEIGHT

The last recorded Weight value taken on or before the ending date of the audit. AUDIT Export: The last recorded weight prior to the audit date is passed to the web audit. The weight is rounded to the nearest whole pound.

BMI

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

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

HYPERTENSION DOCUMENTED

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

BLOOD PRESSURES (LAST 2/3)

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

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

FOOT EXAM (COMPLETE)

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

1. A documented DIABETIC FOOT EXAM, COMPLETE (CODE 28) is searched for in the year prior to the audit date. This is recorded in V Exam. If found, no other processing is done, an exam is assumed to have been done.
2. A visit on which a podiatrist (provider class codes 33 - PODIATRIST, 84 - (PEDORTHIST) or 25 - CONTRACT PODIATRIST) that is not a DNKA visit is searched for in the year prior to the audit date. If found, it is assumed the exam was done and no further processing is done.
3. A visit to clinic 65 - PODIATRY or B7 -Diabetic Foot clinic that is not a DNKA is searched for in the year prior to the audit date. If found, no other processing is done.
4. If none of the above are found, 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 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 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-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 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

If any of the self management topics as described above is documented, a YES is recorded on the cumulative audit and passed to the Audit Export file.

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
GLP-1 analog	DM AUDIT GLP-1 ANALOG DRUGS
Bromocriptine	DM AUDIT BROMOCRIPTINE DRUGS

ACE INHIBITOR/ARB

1. If any drug in the DM AUDIT ACE INHIBITORS taxonomy or any drug with a VA Drug Class of CV800 or CV805 has been prescribed in the 6 months prior to the audit date a Yes is displayed.
2. If 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 for males over 50 and females over 60. If any of them are in the DM AUDIT ASPIRIN DRUGS or DM AUDIT ANTI-PLATELET DRUGS taxonomies then a value of 1 - Yes is assigned, no further processing is done.

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 values is 2 - Negative, if the test type is a blood test then the value of the test is examined, if it is Positive then 1 - Positive is recorded, if it is negative then 2 - Negative is documented. If the results are null the a value of 4 - Unknown is documented.
3. If there are none found then the 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 on patients over the age of 30 before the audit date 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, 135, 140, 141
- 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 is 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.

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.

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.

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 if 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

For all urine protein tests, the last test with a result during the audit year is used for the audit beginning with Quantitative UACR. If a Quantitative UACR test is not found, the last UPCR test with a result during the audit year is searched for. If no UPCR is found during the audit year, the last 24 HR URINE PROTEIN test with a result during the audit year is searched for. The logic continues through each type of protein test if no test is found in the preceding category. If no Urine protein test with a result is found during the audit year, a No is recorded for Urine Protein testing.

1. A test contained in the DM AUDIT QUANT UACR lab taxonomy or DM AUDIT A/C RATIO LOINC taxonomy, if found then the patient is assigned a value of 1 - Yes and an X is placed by the 1 - Quantitative Albumin:Creatinine Ratio (UACR). If the test found does not have a valid numeric result then the system will look for a microalbumin test on the same visit date. If found then the patient is assigned a value of 1 - Yes and an X is placed by the 1 - Quantitative Albumin:Creatinine Ratio (UACR). If this scenario occurs, a value of 5 is passed to the Audit Export.
2. A test contained in the DM AUDIT P/C RATIO taxonomy or the DM AUDIT P/C RATIO LOINC, if found, the patient is assigned a value of 1 - Yes and an X is placed by the 2 - Urine Protein:Creatinine Ratio.
3. A test contained in the DM AUDIT 24HR URINE PROTEIN taxonomy, if found, the patient is assigned a value of 1 - Yes and an X is placed by the 3 - 24 hr urine collection for protein.
4. A test contained in the DM AUDIT SEMI QUANT UACR taxonomy, if found, the patient is assigned a value of 1 - Yes and an X is placed by the 4 - Microalbumin:creatinine strips. The value is examined and coded as one of the following: 1 <30 mg/g 2 30-300 mg/g 3 >300 mg/g
5. A test contained in the DM AUDIT MICROALBUMINURIA TAX taxonomy, if found, the patient is assigned a value of 1 - Yes and an X is placed by 5 -Microalbumin only. The result is examined and coded as follows: 1 <20 mg/L 2 >=20 mg/L
6. A test contained in the DM AUDIT URINE PROTEIN TAX taxonomy, if found, the patient is assigned a value of 1 - Yes and an X is place by 6 - UA Dipstick. The value is examined and coded as follows: 1 Normal or trace 2 Abnormal (>= 1+)
7. 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.

Contact Information

This manual was created by the Western Tribal Diabetes Project
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We are always excited to hear from DMS users!