DIABETES MANAGEMENT SYSTEM

# Shortcut & Reference Manual

## Western Tribal Diabetes Project

2020

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# Western Tribal Diabetes Project

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

```
  THIS SYSTEM CONTAINS CONFIDENTIAL PATIENT INFORMATION COVERED
   BY THE PRIVACY ACT. UNAUTHORIZED USE OF THIS DATA IS ILLEGAL
          ******************************************
          **       DIABETES MANAGEMENT SYSTEM         **
          ******************************************
                      VERSION 2.0 (PATCH 13)
                           CHEMAWA H CT
                     MAIN MENU - NPAIHB DIABETES

Select PATIENT NAME:
  BUTTER,PEANUT            M 02-01-1978 XXX-XX-5555   TRN 700055

     BUTTER,PEANUT is not on
     the NPAIHB 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: **RM**
2. Select Register Maintenance Option: **DEL**
3. Which Register: (1-3): **Select the number corresponding to your register**
4. NAME OR CHART: **LAST NAME, FIRST NAME** (any patient name or health record number/chart number)
5. Are you certain you want to do this? No// **Y** (Yes)
6. Press RETURN to continue or '^' to exit. **<Enter>**

```
                    ************************************
                           NPAIHB DIABETES REGISTER
                    ************************************

                                PATIENT LOOKUP UTILITY

                  Select CLIENT

NAME OR CHART: NPAIHB DIABETES BUTTER,PEANUT
                                  M 08-07-1976 XXX-XX-5555   TRN 700055

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

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

Deletion of PEANUT BUTTER
   from the NPAIHB 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 viewing contact information and comments.

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

## Edit register data

**How:** From the Diabetes Management System Main Menu:

1. Select Diabetes Management System Option: **RM**
2. Select Register Maintenance Option: **PM**
3. Which Register: (1-3): **Select the number corresponding to your register**
4. Select PATIENT NAME: **LAST NAME, FIRST NAME** (any patient name or health record number/chart number)

Register Data Descriptions:

**#1 Register Status** – Active, Inactive, Unreviewed, Transient, Deceased, Non-IHS, and Lost to follow-up

**#2 Where followed** – Health center where the patient is receiving care

**#3 Case manager** – This person must be in your clinic database; enter as LAST,FIRST name; can be used to generate several different reports

**#4 Client Contact** – Enter free text (1-30 characters) for reference by your diabetes team

**#6 Comments -** This option will open the word processor, and will display comments on the patient's PM Screen. To exit the word processor, type F1 (function key) and then E

**#7 Local Option Entry -** This option will allow you to enter a code (which you will need to designate beforehand) to differentiate groups of patients. This is a holdover from the EpiInfo 6 application, and is not used much, if at all

The following Register Data items are updated automatically:

**Entry date** – Provided when the individual is first entered into the diabetes register

**Last edited** – The last date information for the Register Data was was edited

```
          - Previous Screen   Q Quit   ?? for More Actions

1  Register Status          6  Comments              11 Health Summary
2  Where Followed           7  Local Option Entry    12 DM Care Summary (DPCS)
3  Case Manager             8  Last Visit            13 Print Letter
4  Client Contact           9  Review Appointments   Q  Quit
5  DX/Date of Onset         10 Audit Status
Select Action: Quit//
```

# Patient Management: 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.

## #5 - Diagnosis

**How:** From the Diabetes Management System Main Menu:

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

```
Register Diagnosis   Feb 25, 2020 09:15:14      Page:    1 of  1
Make sure that the date of onset is also documented on the
patient's problem list so other clinicians can see it.
Problem list entries can be modified using EHR.

DIABETES RELATED PROBLEMS ON THE PROBLEM LIST
PROB # DX          PROVIDER NARRATIVE       DATE OF ONSET STATUS
-------------------------------------------------------------------
WOR3   E11.9    Diabetes mellitus type 2 wi               CHRONIC

    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
```

If a patient has a diagnosis of diabetes on their problem list, it will show up here.

The Audit Program will determine duration of diabetes from the earliest date recorded in the Register Diagnosis, the Problem List onset date, or the first PCC Diagnosis.

**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.

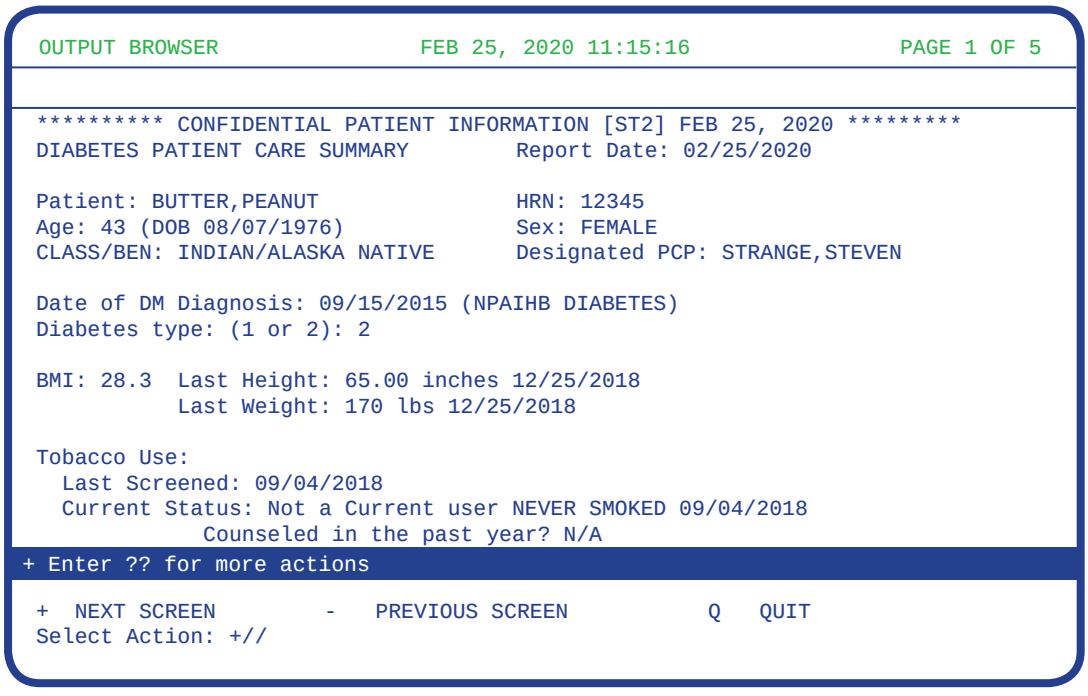
**Why:** The diabetes patient care summary is an alternative to the individual audit. It gives dates of service, even if those dates are outside the one-year range of the audit date.

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: **RM**
2. Select the Register Maintenance Option: **PM**
3. Which Register: (1-3): **Select the number corresponding to your register**
4. Select PATIENT NAME: **LAST NAME, FIRST NAME** (any patient name or health record number/chart number)
5. Select Action: QUIT// **12** (DM Care Summary (DPCS))
6. Select Action: +// **<Enter>** to scroll through, or **PL** and **<Enter>** to print DPCS to a printer



```
OUTPUT BROWSER                FEB 25, 2020 11:15:16                PAGE 1 OF 5


********** CONFIDENTIAL PATIENT INFORMATION [ST2] FEB 25, 2020 *********
DIABETES PATIENT CARE SUMMARY         Report Date: 02/25/2020

Patient: BUTTER,PEANUT                HRN: 12345
Age: 43 (DOB 08/07/1976)              Sex: FEMALE
CLASS/BEN: INDIAN/ALASKA NATIVE       Designated PCP: STRANGE,STEVEN

Date of DM Diagnosis: 09/15/2015 (NPAIHB DIABETES)
Diabetes type: (1 or 2): 2

BMI: 28.3  Last Height: 65.00 inches 12/25/2018
           Last Weight: 170 lbs 12/25/2018

Tobacco Use:
  Last Screened: 09/04/2018
  Current Status: Not a Current user NEVER SMOKED 09/04/2018
             Counseled in the past year? N/A
+ Enter ?? for more actions

+   NEXT SCREEN        -    PREVIOUS SCREEN          Q    QUIT
Select Action: +//
```

# Patient Management: 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

**How:** From the Diabetes Management System Main Menu:

1. Select Diabetes Management System Option: **RM**
2. Select the Register Maintenance Option: **PM**
3. Which Register: (1-3): **Select the number corresponding to your register**
4. Select PATIENT NAME: **LAST NAME,FIRST NAME** (any patient name or HRN)
5. Select Action: Quit// **10** (Audit Status)
6. Enter the Audit Date: **T** (today) or (any specified date)
7. Do you wish to print the patient's name on the audit sheet? N// **<Enter> or type Y for yes**
8. Do you wish to: P// **P** (to print) or **B** (to browse)
9. DEVICE: HOME// **<Enter>** to view on screen or **PRINTER NAME** to print

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

```
Register Data                Feb 25, 2020 11:13:15          Page:    1 of    1
       PATIENT: BUTTER, PEANUT                                AGE: 40
       ADDRESS: PO BOX 0,WARM SPRINGS,OR,97761                DOB: 02/01/1978
         PHONE: 5411234567                                    HRN: 700055
PRIM CARE PROV: STRANGE,STEVEN                                RES: WARM SPRINGS
        STATUS: ACTIVE
WHERE FOLLOWED: CHEMAWA H CT
      CASE MGR: COLE,ELVIS
       CONTACT: MBRADY@AOL.COM
    ENTRY DATE: DEC 4,2008                          LAST EDITED:
     DIAGNOSIS: TYPE 2                               ONSET DATE: SEP 15,2015
COMMENTS:
COMMENTS SHOW UP HERE
LOCAL OPTION:
           - Previous Screen   Q Quit   ?? for More Actions

1  Register Status          6  Comments               11 Health Summary
2  Where Followed           7  Local Option Entry     12 DM Care Summary (DPCS)
3  Case Manager             8  Last Visit             13 Print Letter
4  Client Contact           9  Review Appointments    Q  Quit
5  DX/Date of Onset         10 Audit Status
Select Action: Quit//
```

**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: **AR** Audit Reporting...
2. End of taxonomy check. HIT RETURN" **<Enter>**
3. Select Audit Reporting Option: **DM20**
4. Which Register: (1-3): **Select the number corresponding to your 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. Do you wish to: P// **<Enter>** to print or B and **<Enter>** to browse on screen
12. DEVICE: HOME// **<Enter>** to view on screen or **PRINTER NAME** to print

```
          THIS SYSTEM CONTAINS CONFIDENTIAL PATIENT INFORMATION COVERED
          BY THE PRIVACY ACT. UNAUTHORIZED USE OF THIS DATA IS ILLEGAL.
                     ************************************
                     **      DIABETES MANAGEMENT SYSTEM  **
                     ************************************
                             VERSION 2.0 (Patch 13)
                                  CHEMAWA H CT
                                AUDIT REPORTING


DM20   2020 Diabetes Audit
DM19   2019 Diabetes Audit
DM18   2018 Diabetes Audit
DM17   2017 Diabetes Audit
DM16   2016 Diabetes Audit



Select Audit Reporting Option:
```

# Sample Individual Diabetes Audit

```
IHS Diabetes Care and Outcomes Audit, 2020    DATE RUN: 02/25/2020   Page: 1

Audit Period Ending Date: 02/25/2020    Facility Name: CHEMAWA H CT
Reviewer initials: DH                   Community: SALEM
State of Residence: OR
Name: HYLBORN,MARVEL J    Chart #: 9505    DOB: 07/17/1942    Sex: FEMALE
Primary Care Provider:  SINGLETON,KORI

Date of Diabetes Diagnosis:
  DM Register: 01/01/2009  Problem List: 07/18/1997
  First PCC DX: 08/30/1996
DM Type: 2  Type 2
  DM Register: TYPE 2  Problem List: E11.01
    PCC POV's: Type 2

Tobacco/Nicotine Use
  Screened for tobacco use (during Audit period): 1  Yes
  Tobacco use status (most recent):
         2  Not a Current user PREVIOUS (FORMER) SMOKER  02/05/2014
    If 'Current user', tobacco cessation counseling/education received
    (during Audit period):

  Electronic Nicotine Delivery Systems (ENDS)
    Screened for ENDS use (during Audit period):
         1  Yes CURRENT E-CIGARETTE USER W/NICOTINE  09/25/2019
    ENDS use status (most recent): 1  Current user

Vital Statistics

  Height (last ever): 65.00 inches 09/25/2019
  Weight (last in Audit period): 130 lbs 09/25/2019     BMI:  21.6

  Hypertension (documented diagnosis ever): 1  Yes
  Blood pressure (last 3 during Audit period): 120/70 mm Hg 09/25/2019
                                               135/83 mm Hg 08/03/2019
                                               145/95 mm Hg 06/15/2019
Examinations (during Audit period)
  Foot (comprehensive or "complete", including evaluation of
  sensation and vascular status):     1  Yes  09/25/2019 Diabetic Foot Exam
  Eye (dilated or retinal imaging):   1  Yes  09/25/2019 Diabetic Eye Exam
  Dental:                             1  Yes  09/25/2019 Dental Exam

Mental Health
  Depression an active problem/diagnosis:  1  Yes  Problem List (296.30)
  If 'No', screened for depression (during Audit period):

Education (during Audit period)
  Nutrition:                        2  Yes (Non RD) NRD: DM-N 09/25/2019
  Physical activity:                2  No
  Other diabetes:                   2  No

Diabetes Therapy All prescribed (as of the end of the Audit period):
      1 None of the following
      2 Insulin
   X  3 Metformin [Glucophage, others]
      4 Sulfonylurea [glipizide, glyburide, others]
      5 DPP4 inhibitor [Alogliptin (Nesina), Linagliptin (Tradjenta),
        Saxagliptin (Onglyza), Sitagliptin (Januvia)]
      6 GLP-1 agonist [Dulaglutide (Trulicity), Exenatide (Byetta, Bydureon),
        Liraglutide (Victoza), Lixisenatide (Adlyxin), Semaglutide (Ozempic)]
      7 SGLT-2 inhibitor [Canagliflozin (Invokana),
        Dapagliflozin (Farxiga), Empagliflozin (Jardiance),
        Ertugliflozin (Steglatro)]
      8 Pioglitazone [Actos] or rosiglitazone [Avandia]
      9 Acarbose [Precose] or miglitol [Glyset]
      10 Repaglinide [Prandin] or Nateglinide [Starlix]
      11 Amylin analog [Symlin]
      12 Bromocriptine [Cycloset]
```

```
      13 Colesevelam [Welchol]

ACE Inhibitor or ARB
Prescribed (as of the end of the Audit period): 1  Yes

  Commonly prescribed medications include:
    ACE Inhibitors: Benazepril (Lotensin), Enalapril (Vasotec, Epaned),
      Fosinopril (Monopril), Lisinopril (Prinivil, Zestril), Ramipril (Altace)
    ARBs: Irbesartan (Avapro), Losartan (Cozaar), Telmisartan (Micardis),
      Olmesartan (Benicar), Valsartan (Diovan, Prexxartan)

Aspirin or Other Antiplatelet/Anticoagulant Therapy
Prescribed (as of the end of the Audit period):
          2  No

  Commonly prescribed medications include:
    Anticoagulants: Apixaban (Eliquis), Dabigatran (Pradaxa),
      Rivaroxaban (Xarelto), Warfarin (Coumadin)
    Antiplatelets: Cilostazol (Pletal), Clopidogrel (Plavix),
      Prasugrel (Effient), Ticagrelor (Brilinta)

Statin Therapy
  Prescribed (as of the end of the Audit period): 2  No

Cardiovascular Disease (CVD)
  Diagnosed (ever):   1  Yes - DX 06/14/2013 | 06/11/2013

Tuberculosis (TB)
  TB test done (ever): 1 Skin test (PPD)
  TB test result: 2  Negative 9/25/19 Reading: 0 Result:
    If TB result 'Positive', treatment complete (isoniazid, others):
    If TB result 'Negative', test date: 09/25/2019

Hepatitis C (HCV)
  HCV diagnosed (ever): 2  No
    If not diagnosed with HCV, screened for HCV at least once (ever): 2  No

Retinopathy
  Diagnosed (ever): 2  No

Amputation
  Lower extremity (ever), any type (e.g., toe, partial foot, above or
  below knee): 2  No

Immunizations
  Influenza vaccine (during Audit period):   1  Yes  09/25/2019
  Pneumococcal vaccine (ever):               1  Yes  09/25/2019
  Td, Tdap, DTaP, or DT (in past 10 years):  1  Yes  09/25/2019
  Tdap (ever):                               1  Yes  09/25/2019
  Hepatitis B complete series (ever):        2  No

Laboratory Data (most recent result during Audit period)
  A1C:                     8.9            09/25/2019       HEMOGLOBIN A1C
  Total Cholesterol:       157            09/25/2019       CHOLESTEROL
  HDL Cholesterol:          53            09/25/2019       HDL CHOLESTEROL
  LDL Cholesterol:         176            09/25/2019       LDL CHOLESTEROL
  Triglycerides:           256            09/25/2019       TRIGLYCERIDES
  Serum Creatinine:        1.1            09/25/2019       CREATININE
  eGFR:                    <60            09/25/2019       EST. GFR
  Quantitative Urine
    Albumin: Creatinine
    Ratio (UACR) value:     36            09/25/2019       MALB/CREAT

COMBINED: Meets ALL: A1C <8.0, statin prescribed, mean BP <140/<90
     2  No  A1C: 8.9; statin prescribed: No; Mean BP: 120/70
```

# 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: **AR** Audit Reporting...
2. Select Audit Reporting Option: **DM20**
3. Checking for Taxonomies to support the 2019 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.)
4. Which REGISTER: (1-3): **Select the number corresponding to your register**
5. Enter the Audit Date: **T** for today or exact date, e.g. 123119 for calendar year 2019
6. Run the audit for: P// **C** Members of a CMS Register
7. Do you want to select register patients with a particular status? Y// **YES**
8. Which status: A// **<Enter>** for Active, or type other status
9. Limit the audit to a particular primary care provider? N// **<Enter>** for no
10. Limit the patients who live in a particular community? N// **<Enter>** for no
11. Select Beneficiary Population to include in the audit: 1// **<Enter>**
12. Select whether to include or exclude pregnant patients in the audit: E// **<Enter>**
13. Do you want to select: A// **<Enter>** for ALL Patients selected so far
14. Enter Print option: 1// **3** Audit Report
15. Demo Patient Inclusion/Exclusion: E// **<Enter>**
16. Do you wish to: P// **<Enter>** to print, or **B** and **<Enter>** to browse
17. 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

```
DM20  2020 Diabetes Audit
DM19  2019 Diabetes Audit
DM18  2018 Diabetes Audit
DM17  2017 Diabetes Audit
DM16  2016 Diabetes Audit


Select Audit Reporting Option:
```

IHS Diabetes Care and Outcomes Audit - RPMS Audit
Audit Report for 2020 (Audit Period 01/01/2018 to 12/31/2018)
Facility: PORTLAND AREA SDPI GRANTEES
Annual Audit
7419 patients were audited

| | # of Patients (Numerator) | # Considered (Denominator) | Percent |
|---|---|---|---|
| **Gender** | | | |
| Male | 3422 | 7419 | 28% |
| Female | 3997 | 7419 | 72% |
| **Age** | | | |
| <20 years | 26 | 7419 | 0% |
| 20-44 years | 1193 | 7419 | 16% |
| 45-64 years | 3708 | 7419 | 50% |
| >=65 years | 2492 | 7419 | 34% |
| **Diabetes Type** | | | |
| Type 1 | 121 | 7419 | 2% |
| Type 2 | 7294 | 7419 | 98% |
| **Duration of Diabetes** | | | |
| <1 year | 284 | 7419 | 4% |
| <10 years | 3558 | 7419 | 48% |
| >=10 years | 3131 | 7419 | 42% |
| Diagnosis date not recorded | 730 | 7419 | 10% |
| **Body Mass Index (BMI) Category** | | | |
| Normal (BMI<25.0) | 475 | 7419 | 6% |
| Overweight (BMI 25.0-29.9) | 1339 | 7419 | 18% |
| Obese (BMI >=30.0) | 5440 | 7419 | 73% |
| Height or weight missing | 165 | 7419 | 2% |
| --- | | | |
| Severely obese (BMI >=40.0) | 1830 | 7419 | 25% |
| **Blood Sugar Control** | | | |
| A1C <7.0 | 2643 | 7419 | 36% |
| A1C 7.0-7.9 | 1412 | 7419 | 19% |
| A1C 8.0-8.9 | 943 | 7419 | 13% |
| A1C 9.0-9.9 | 682 | 7419 | 9% |
| A1C 10.0-10.9 | 517 | 7419 | 7% |
| A1C >=11.0 | 750 | 7419 | 10% |
| Not tested or no valid result | 428 | 57 | 6% |
| --- | | | |
| A1C <8.0 | 4073 | 57 | 55% |
| A1C >9.0 | 1906 | 57 | 26% |
| **Blood Pressure (BP) - Based on one value or mean of two or three values** | | | |
| <140/<90 | 5301 | 7419 | 71% |
| 140/90 - <160/<100 | 1698 | 7419 | 23% |
| 160/100 or higher | 365 | 7419 | 5% |
| BP category undetermined | 55 | 7419 | 1% |
| --- | | | |
| If age >=60 years, <150/<90 | 3052 | 3617 | 84% |
| **Hypertension** | | | |
| Diagnosed ever | 5822 | 7419 | 78% |
| Diagnosed hypertension and mean BP <140/<90 | 3917 | 5822 | 67% |

# Sample Cumulative Diabetes Audit

| | | | |
|---|---|---|---|
| Diagnosed hypertension and ACE inhibitor or ARB prescribed. | 4439 | 5822 | 76% |
| **Tobacco and Nicotine Use** | | | |
| Tobacco use screening during Audit period: | | | |
| Screened | 6407 | 7419 | 86% |
| Not screened | 1011 | 7419 | 14% |
| Tobacco use status | | | |
| Current tobacco user | 2431 | 7419 | 33% |
| In current users, cessation counseling/education received | | | |
| Yes | 1427 | 2431 | 59% |
| No | 1003 | 2431 | 41% |
| Not a current tobacco user | 4918 | 7419 | 66% |
| Tobacco use not documented | 70 | 7419 | 1% |
| **Electronic nicotine delivery system (ENDS) use screening during Audit period** | | | |
| Screened | 1953 | 7419 | 26% |
| Not screened | 5465 | 7419 | 74% |
| **ENDS use status** | | | |
| Current ENDS user | 50 | 7419 | 1% |
| Not a current ENDS user | 2047 | 7419 | 28% |
| ENDS use not documented | 5321 | 7419 | 72% |
| Current user of both tobacco and ENDS | 33 | 7419 | 0% |
| Current user of tobacco and/or ENDS | 2448 | 7419 | 33% |
| **Diabetes Treatment** | | | |
| Number of diabetes meds currently prescribed | | | |
| None | 1377 | 7419 | 19% |
| One medication | 2818 | 7419 | 38% |
| Two medications | 2153 | 7419 | 29% |
| Three medications | 883 | 7419 | 12% |
| Four or more medications | 180 | 7419 | 2% |
| Diabetes meds currently prescribed, alone or in combination | | | |
| Insulin | 2643 | 7419 | 36% |
| Metformin [Glucophage, others] | 4573 | 7419 | 62% |
| Sulfonylurea [glipizide, glyburide, others] | 1722 | 7419 | 23% |
| DPP4 inhibitor [Alogliptin (Nesina), Linagliptin (Tradjenta), Saxagliptin (Onglyza), Sitagliptin (Januvia)] | 468 | 7419 | 6% |
| GLP-1 agonist [Dulaglutide (Trulicity), Exenatide (Byetta, Bydureon), Liraglutide (Victoza), Semaglutide (Ozempic)] | 354 | 7419 | 5% |
| SGLT-2 inhibitor [Canagliflozin, (Invokana), Dapagliflozin (Farxiga), Empagliflozin (Jardiance), Ertugliflozin (Steglatro)] | 152 | 7419 | 2% |
| Pioglitazone [Actos] or rosiglitazone [Avandia] | 506 | 7419 | 7% |
| Acarbose [Precose] or miglitol [Glyset] | 13 | 7419 | 0% |

| | | | |
|---|---|---|---|
| Repaglinide [Prandin] or Nateglinide [Starlix] | 55 | 7419 | 1% |
| Amylin analog [Symlin] | 17 | 7419 | 0% |
| Bromocriptine [Cycloset] | 2 | 7419 | 0% |
| Colesevelam [Welchol] | 10 | 7419 | 0% |
| **Statin Prescribed** | | | |
| Yes* | 4248 | 7206 | 59% |
| Allergy, intolerance, or contraindication | 200 | 7419 | 3% |
| In patients with diagnosed CVD | | | |
| Yes* | 1892 | 2602 | 73% |
| Allergy, intolerance, or contraindication | 90 | 2694 | 3% |
| In patients age 40-75 years | | | |
| Yes* | 3616 | 5802 | 62% |
| Allergy, intolerance, or contraindication | 163 | 5975 | 3% |
| In patients with diagnosed CVD and/or age 40-75 years | | | |
| Yes* | 3992 | 6346 | 63% |
| Allergy, intolerance, or contraindication | 185 | 6541 | 3% |

*Denominator excludes patients with an allergy, intolerance, or contraindication.

| | | | |
|---|---|---|---|
| **Cardiovascular Disease (CVD)** | | | |
| CVD diagnosed ever | 2694 | 7419 | 36% |
| CVD and mean BP <140/<90 | 1879 | 2694 | 70% |
| CVD and not current tobacco user | 1831 | 2694 | 68% |
| CVD and aspirin or other antiplatelet/anticoagulant therapy prescribed | 1906 | 2694 | 71% |
| CVD and statin prescribed* | 1892 | 2602 | 73% |

*Denominator excludes patients with an allergy, intolerance, or contraindication.

| | | | |
|---|---|---|---|
| **Retinopathy** | | | |
| Diagnosed ever | 1026 | 7419 | 14% |
| **Lower Extremity Amputation** | | | |
| Any type ever (e.g., toe, partial foot, above or below knee) | 151 | 7419 | 2% |
| **Exams** | | | |
| Foot exam - comprehensive | 3833 | 7419 | 52% |
| Eye exam - dilated or retinal imaging | 3713 | 7419 | 50% |
| Dental exam | 3238 | 7419 | 44% |
| **Diabetes-Related Education** | | | |
| Nutrition - by any provider (RD and/or other) | 3558 | 7419 | 48% |
| Nutrition - by RD | 1090 | 7419 | 15% |
| Physical activity | 4324 | 7419 | 58% |
| Other diabetes education | 4658 | 7419 | 63% |
| Any of above | 5867 | 7419 | 79% |
| **Immunizations** | | | |
| Influenza vaccine during Audit period | 4293 | 7419 | 58% |

# Sample Cumulative Diabetes Audit

| | | | |
|---|---|---|---|
| Refused - Influenza vaccine | 615 | 7419 | 8% |
| Pneumococcal vaccine - ever | 5731 | 7419 | 77% |
| Refused - Pneumococcal | 303 | 7419 | 4% |
| Td/Tdap/DTap/DT - past 10 years | 6567 | 7419 | 89% |
| Refused - Td/Tdap/DTap/DT | 142 | 7419 | 2% |
| Tdap - ever | 6753 | 7419 | 91% |
| Refused - Tdap | 92 | 7419 | 1% |
| Hepatitis B complete series - ever | 3371 | 7419 | 46% |
| Refused - Hepatitis B | 186 | 7419 | 3% |
| Immune - Hepatitis B | 99 | 7419 | 1% |
| **Depression** | | | |
| Active problem/diagnosis | | | |
| Yes | 2436 | 7419 | 33% |
| No | 4983 | 7419 | 67% |
| In patients without active depression, screened for depression during Audit period: | | | |
| Screened | 3588 | 4983 | 72% |
| Not screened | 1395 | 4983 | 28% |
| **Lipid Evaluation - Note these results are presented as population level CVD risk markers and should not be considered treatment targets for individual patients.** | | | |
| LDL cholesterol | 5654 | 7419 | 76% |
| LDL <100 mg/dl | 3698 | 7419 | 50% |
| LDL 100-189 mg/dl | 1903 | 7419 | 26% |
| LDL >=190 | 53 | 7419 | 1% |
| Not tested or no valid result | 1765 | 7419 | 24% |
| HDL cholesterol | 5744 | 7419 | 77% |
| In females | | | |
| HDL <50 mg/dl | 1906 | 3997 | 48% |
| HDL >=50 mg/dl | 1172 | 3997 | 29% |
| Not tested or no valid result | 919 | 3997 | 23% |
| In males | | | |
| HDL <40 mg/dl | 1357 | 3422 | 40% |
| HDL >=40 mg/dl | 1309 | 3422 | 38% |
| Not tested or no valid result | 756 | 3422 | 22% |
| Triglycerides [1] | 4978 | 7419 | 67% |
| Trig <150 mg/dl | 1954 | 7419 | 26% |
| Trig 150-499 mg/dl | 2790 | 7419 | 38% |
| Trig 500-999 mg/dl | 194 | 7419 | 3% |
| Trig >=1000 mg/dl | 40 | 7419 | 1% |
| Not tested or no valid result | 2441 | 7419 | 33% |
| **Kidney Evaluation** | | | |
| eGFR to assess kidney function | 6377 | 7401 | 86% |
| (In age >=18 years) | | | |
| eGFR >=60 ml/min | 5152 | 7401 | 70% |
| eGFR 30-59 ml/min | 1072 | 7401 | 14% |
| eGFR 15-29 ml/min | 108 | 7401 | 1% |
| eGFR < 15 ml/min | 45 | 7401 | 1% |
| eGFR Not tested or no valid result | 1024 | 7401 | 14% |
| Urine Albumin:Creatinine Ratio (UACR) | | | |
| to assess kidney damage | 3981 | 7419 | 54% |
| Urine albumin excretion - normal: <30 mg/g | 2619 | 3981 | 66% |
| Urine albumin excretion increased: | | | |
| 30-300 mg/g | 1118 | 3981 | 28% |

| | | | |
|---|---|---|---|
| >300 mg/g | 244 | 3981 | 6% |
| Not tested or no valid result | 3438 | 7419 | 46% |
| In patients age >=18 years, eGFR and UACR | 3797 | 7401 | 51% |
| **Chronic Kidney Disease (CKD) (In age >=18 years)** | | | |
| CKD [2] | 2246 | 7401 | 30% |
| CKD [2] and mean BP <140/<90 | 1507 | 2246 | 67% |
| CKD [2] and ACE Inhibitor or ARB prescribed | 1664 | 2246 | 74% |
| CKD Stage | | | |
| Normal: eGFR >=60 ml/min and UACR <30 mg/g | 2103 | 7401 | 28% |
| Stages 1 and 2: eGFR >=60 ml/min and UACR >=30 mg/g | 986 | 7401 | 13% |
| Stage 3: eGFR 30-59 ml/min | 1072 | 7401 | 14% |
| Stage 4: eGFR 15-29 ml/min | 108 | 7401 | 1% |
| Stage 5: eGFR <15 ml/min | 45 | 7401 | 1% |
| Undetermined | 3087 | 7401 | 42% |
| **Tuberculosis (TB) Status** | | | |
| TB Test done ever (skin or blood) | 3978 | 7419 | 54% |
| If test done, skin test | 3279 | 3978 | 82% |
| If test done, blood test | 699 | 3978 | 18% |
| If TB test done, positive result | 485 | 3978 | 12% |
| If positive TB test, treatment completed | 65 | 485 | 13% |
| If negative TB test, test done after diabetes diagnosis | 1698 | 2968 | 57% |
| **Hepatitis C (HCV)** | | | |
| Diagnosed HCV ever | 316 | 7419 | 4% |
| In patients not diagnosed with HCV and age >= 18 years, screened ever | 3470 | 7096 | 49% |
| **Combined Outcome Measure** | | | |
| Patients age >= 40 years meeting ALL of the following criteria: A1C <8.0, Statin prescribed*, and mean BP <140/<90 | 1690 | 6492 | 26% |
| *Denominator excludes patients with a statin allergy, intolerance, or contraindication | | | |
| **Diabetes Related Conditions (In age >=18 years)** | | | |
| Severely obese (BMI >=40) | 1825 | 7401 | 25% |
| Hypertension diagnosed ever | 5818 | 7401 | 79% |
| Current tobacco user | 2428 | 7401 | 33% |
| CVD diagnosed ever | 2694 | 7401 | 36% |
| Retinopathy diagnosed ever | 1026 | 7401 | 14% |
| Lower extremity amputation ever (any type (e.g., toe, partial foot, above or below knee) | 151 | 7401 | 2% |
| Active Depression | 2431 | 7401 | 33% |
| CKD stage 3-5 | 1225 | 7401 | 17% |
| Number of diabetes related conditions | | | |
| Diabetes only | 419 | 7401 | 6% |
| Diabetes plus: | | | |
| One | 1413 | 7401 | 19% |
| Two | 2253 | 7401 | 30% |
| Three | 1977 | 7401 | 27% |
| Four | 995 | 7401 | 13% |
| Five or more | 344 | 7401 | 5% |

# Master List

**What:** This report will list all patients on the Diabetes Register. You will be able to select which patients will be included on the list based on any of the following:

- Register Status
- Age
- Community of Residence
- Gender
- Case Manager
- Where Followed

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: **RM** Register Maintenance...
2. Select Register Management Option: **RR** Register Reports ...
3. Select Register Reports Option: **ML**
4. Enter the Name of the Register: **IHS DIABETES**
5. Do you want to select register patients with a particular status? Y// **YES**
6. Select status: A// **ACTIVE**
7. Select another status: **<ENTER>**
8. Would you like to restrict the master list by Patient age range? NO// **<ENTER>**
9. Include Patients: A// **All Communities**
10. Include which Gender(s): A// **ALL Genders**
11. Do you want to select register patients with a particular CASE MANAGER? N// **NO**
12. Do you want to select patients with a particular facility WHERE FOLLOWED? N// **NO**
13. Select Primary Sort Value: **Patient Name**
14. Select Secondary Sort Value: **<ENTER>**
15. Output Type: P// **Print the List**
16. Demo Patient Inclusion/Exclusion: E// **Exclude DEMO Patients**

Note: These directions will give you Active patients on your register. You can tailor this report further by restricting age ranges, communities, gender, case manager, or where followed. The order of these criteria are above.

********** CONFIDENTIAL PATIENT INFORMATION **********

ST2 Page 1

CHEMAWA H CT
DIABETES REGISTER MASTER LIST
Total number of patient selected for this report: 40

| HRN | PATIENT | CASE MANAGER | LAST VISIT | LAST REVIEW | NEXT REVIEW |
|---|---|---|---|---|---|
| 25634 | ABUNE,LOUISE LAVERNE | | 12/17/18 | | |
| 18623 | ADGMUN,KAREN M | | 06/17/11 | | |
| 32951 | AEGLA STEFF,ANGELA T | | 01/16/96 | | |
| 8876 | BAGEI,DARELYNE L | | 05/07/14 | | |
| 23840 | BAGEI,YOLANDA | | 11/05/13 | | |
| 400030 | BLACKSLEEVE,EPATIENT | | 03/15/16 | | |
| 43167 | BUOCHERD,CARMINE J | | 05/18/06 | | |
| 46515 | BYRD,ANDREA L | | 01/06/14 | | |
| 10434 | CHEVAZ,NANCY | | 05/01/14 | 03/22/17 | 12/22/16 |
| 44579 | CHOKWO,KELLIE E | | 11/07/13 | | |
| 6566 | CLERK,JAMES S | | 04/21/14 | | |
| 23801 | CLUSSUN,LINDA J | HEAD,DON | 10/15/13 | 12/08/16 | 06/08/17 |
| 14769 | FARGOSUN,GINA LOUANN | | 01/24/14 | 05/25/17 | 06/09/17 |
| 25991 | FYNNSUN,LORAINE Y | | 05/05/14 | | |
| 49077 | GELEKTYENUFF,LODYNNE | | 02/27/18 | | |
| 400026 | GREENSLEEVE,APATIENT | | 02/01/16 | | |
| 19443 | HACUCTE,CHARLES D | CYNKUTIS-SIMON, | 04/21/14 | | |
| 12706 | HANSUN,HENRY A | | 06/25/13 | | |
| 28220 | HOGGYNS,HERBERT J | | 07/27/06 | | |
| 22447 | HUOSAR,LANA E | | 05/05/14 | | |
| 9505 | HYLBORN,MARVEL J | | 04/25/14 | | |
| 19818 | JECKSUN,ROBIN L | | 05/07/14 | | |
| 8410 | JOCOTEN,CHRISTOPHER | | 05/07/14 | | |
| 9734 | JUHN,PARK H III | ASHRAT,M | 01/03/14 | 06/06/18 | 06/06/19 |
| 43400 | LUFSTRUM,ERIC S | | 02/28/12 | | |
| 13363 | MECKEREVYTZ,EVERETT | HEAD,DON | 06/14/12 | 03/14/17 | 05/16/17 |
| 36514 | PATHTAL,GUILLERMO JR | | 06/23/06 | | |
| 39404 | PUWALL,KATHY J | | 06/27/03 | | |
| 5372 | PYNNACUUSA,RUBENA G | CHANG,KUO | 02/28/13 | | |
| 8108 | REMUS,LYLE | | 04/18/14 | | |
| 7522 | ROSSALL,MELANIE J | | 04/17/14 | | |
| 45705 | SLAAPYNGBAER,ALISA D | | 06/12/08 | | |
| 47000 | SMITHA,WENDY A | | 02/02/15 | 09/15/17 | 09/15/17 |
| 14870 | SMYTH,SHAWNA LOUISE | | 04/21/14 | | |
| 31778 | U'NAYLL,LAURA NOREEN | | 02/15/13 | | |
| 400032 | WHITEHORSE,GPATIENT | | 08/23/16 | | |
| 400027 | WHITESLEEVE,BPATIENT | | 08/01/18 | | |
| 43942 | WULFBLECK,CAROLYN J | | 07/12/11 | | |
| 50517 | WYLSUN,LEROY MICHAEL | | 04/10/14 | | |
| 400029 | YELLOWSLEEVE,DPATIEN | | 08/16/16 | | |

# 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: **RM** Register Maintenance...
2. Select Register Maintenance Option: **RR** Register Reports...
3. Select Register Reports Option: **FU** Follow-up Needed
4. Which Register: (1-3): **Select the number corresponding to your register**
5. Which Report: **ALL**
6. Which Group: Use Register Members// **<Enter>**
7. Which patients: Active// **<Enter>** for Active or type other status
8. Which Diagnosis: All Diagnoses// **<Enter>**
9. Include list of patient's upcoming appointments? NO// **<Enter>**
10. Which one: Community// **<Enter>**
11. Which Community: **<Enter>**
12. Which one: Follow-up Report// **<Enter>**
13. Demo Patient Inclusion/Exclusion: E// **<Enter>**
14. DEVICE: HOME// **<Enter>** to view on screen or **PRINTER NAME** to print

This looks for the diagnosis entered under Patient Management #5

```
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
       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
          35  Hepatitis B
       4      ALL Lab Tests------------------------------------
         41   LDL Cholesterol          42   HDL Cholesterol
         43   Cholesterol              44   Triglyceride
         45   Creatinine               46   Hemoglobin A1c
         47   Estimated GFR             48   A/C Ratio
         49   Hepatitis C Screening

       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: FEB 25, 2020

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 21,2008
APPLEGATE-MD,RO BLECK,CONNIE L             29070   last EYE EXAM DEC 2,2010
APPLEGATE-MD,RO LUFSTRUM,IRVIN             43400   last EYE EXAM FEB 19,2010
APPLEGATE-MD,RO PEPPYN,TODD MYCHAL         35726   last EYE EXAM JAN 27,2011
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 29,2010
HANSON,AARON P  BERFYALD,RITA K            22895   last EYE EXAM NOV 25,2010
HANSON,AARON P  CUUNS,BILLY D              36358   last EYE EXAM JAN 27,2011
HANSON,AARON P  DEWKYNS,DUSTIN B           40950   last EYE EXAM AUG 29,2010
HANSON,AARON P  HUFMENN,TED                41915   last EYE EXAM DEC 12,2010
HANSON,AARON P  KULB,COLINDA R             45446   *NO* EYE EXAM on record.
HANSON,AARON P  LYTFYN,DEBRA               30775   last EYE EXAM NOV 17,2010
HANSON,AARON P  SOLLI,GEORGE L             26904   last EYE EXAM MAY 16,2005
HANSON,AARON P  THUMES,VIRGINIA RAE        29944   last EYE EXAM JAN 28,2011
NOT LISTED      BLECKBAER,LISA LENORE      28605   last EYE EXAM NOV 4,2010
NOT LISTED      HELSTAED,RACHAEL CASSANDR  8734    last EYE EXAM SEP 30,2010
NOT LISTED      SMUOSA,LENA MARIE          22521   *NO* EYE EXAM on record.
NOT LISTED      SMYTH,MARK CARROLL         42959   last EYE EXAM JAN 14,2010
```

### #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: FEB 25, 2020

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: **RM** Register Maintenance...
2. Select Register Maintenance Option: **LM** Letter Management...
3. Select Letter Management Option: **LAE** ADD/EDIT DMS Letters
4. Which Register: (1-3): **Select the number corresponding to your register**
5. Select Action: Quit// **2** ADD Letter
6. NAME OF LETTER: **FOOT EXAM** (this is an example name)
7. Are you adding 'FOOT EXAM' as a new DMS LETTER (the 29TH)? No// **Y**
8. 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**, **CTRL than E**, or the **End** key.)

TIP: You can use this function to create a quick list of the care a patient is due for. Create a letter that contains the following:

|LAST NAME|, |FIRST NAME|
|CHART|
|PROVIDER NAME|
|FOLLOW UP|

Before an appointment, check this in Patient Management, "Print Letter." Example:

```
BUTTER, PEANUT
12345
APPLEGATE,ROGER
FOOT EXAM                last FOOT EXAM JUN 7,2014
EYE EXAM                 last EYE EXAM FEB 28,2014
PAP SMEAR                last PAP SMEAR JUN 7,2014
```

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

|8|

|1| |2|
|3|

DEAR |1| |2|,

Our records show that you are due for a dental exam.

|12|

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===>
```

**Letter Inserts**

| NO. | INSERT |
|---|---|
| 1 | FIRST NAME |
| 2 | LAST NAME |
| 3 | ADDRESS |
| 4 | PRIMARY CARE PROVIDER |
| 5 | REGISTER PROVIDER |
| 6 | FOLLOW UP |
| 7 | CHART |
| 8 | DATE |
| 9 | EDUCATE |
| 10 | FOOT EXAM EDUCATION |
| 11 | EYE EXAM EDUCATION |
| 12 | DENTAL EXAM EDUCATION |
| 13 | FLU SHOT EDUCATION |
| 14 | PNEUMO EDUCATION |
| 15 | TETANUS EDUCATION |
| 16 | TB TEST EDUCATION |
| 17 | A1C HEMOGLOBIN EDUCATION |
| 18 | CREATININE EDUCATION |
| 19 | URINE PROTEIN TEST EDUCATION |
| 20 | LIPID PANEL EDUCATION |
| 21 | FOLLOW UP WITH EDUCATION |
| 22 | NUTRITION EDUCATION |
| 23 | PHYSICAL ACTIVITY EDUCATION |
| 24 | A/C RATIO EDUCATION |
| 25 | CENTER |
| 26 | HEP B EDUCATION |
| 27 | FOLLOW UP W/EDUC (W/O DEP, EDUC) |
| 28 | EGFR |
| 29 | EKG |
| 30 | eGFR |

The list of inserts is updated periodically. To see all the inserts in RPMS, choose number 4 in step 5 above.

# 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 one letter for a specific patient, use Patient Management option #13.**

**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.

**How:** From the Diabetes Management System Main Menu:

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

```
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
       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
          35  Hepatitis B
       4      ALL Lab Tests------------------------------------
         41   LDL Cholesterol         42   HDL Cholesterol
         43   Cholesterol             44   Triglyceride
         45   Creatinine              46   Hemoglobin A1c
         47   Estimated GFR            48   A/C Ratio
         49   Hepatitis C Screening

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

The menu is the same for Follow-up Letters and Follow-up Reports. The differentiating step is step 12, choosing either letter, report, or both.

February 25,2020

FLORENCE ADANFYALD
2084 MCCOY NE
WS CAMPUS, OR  97305

DEAR FLORENCE ADANFYALD,

Our records show that you are due for a dental exam.

A yearly DENTAL EXAM is recommended to look for evidence of gum disease and other conditions that can both make diabetes harder to control and can lead to premature tooth loss.

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: **RM** Register Maintenance ...
2. Select Register Maintenance Option: **RR** Register Reports ...
3. Select Register Reports Option: **GEN** Patient General Retrieval (Lister)
4. Which Register: (1-3): **Select the number corresponding to your register**
5. Do you want to use a previously defined report? N// **<Enter>**
6. 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.
7. Would you like to select additional PATIENT criteria? NO// **<Enter>**
8. Choose Type of Report: D// **<Enter>**
9. Select print item(s): (1-56): Choose which of the listed criteria you would like printed for each patient found.
10. 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.)
11. Would you like to select additional PRINT criteria? NO// **<Enter>**
12. Sort Patients by which of the above: (1-25): Choose which of the listed criteria you would like to have the patients sorted by.
13. Do you want a separate page for each Patient Name? N// **<Enter>**
14. 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.)
15. Do you wish to save this SEARCH/PRINT/SORT logic for future use? N// **<Enter>**
16. DEVICE: HOME// **<Enter>** to view on screen or **PRINTER NAME** to print

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

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

        <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:  (1-48):
```

(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                21)  Medicaid Eligibility       41)  Intervention Results
2)  Patient Chart #             22)  Priv Ins Elibibility       42)  Intervent Result DT
3)  Patient Sex                 23)  Patient's Last Visit       43)  Intervent Plan Categ
4)  Patient SSN                 24)  Primary Care Provide       44)  Care Plan
5)  Patient DOB                 25)  Register Status            45)  Care-Plan Comment
6)  Birth Month                 26)  Initial Entry Date         46)  Complications
7)  Patient Age                 27)  Inactivation Date          47)  Complication Onset D
8)  Patient DOD                 28)  Case Priority              48)  Complication Comment
9)  Mlg Address-Street          29)  Case Manager               49)  Diagnoses
10)  Mlg Address-State          30)  PHN                        50)  Date of Onset
11)  Mlg Address-City           31)  Last Review Date           51)  Recall Date
12)  Mlg Address-Zip Code       32)  Next Review Date           52)  Etiology
13)  Home Phone                 33)  Where PT Followed          53)  Family Members
14)  Mother's Name              34)  Date Last Edited           54)  Risk Factors
15)  Patient Community          35)  Case Comments              55)  Medications
16)  Patient Tribe              36)  Client Contact             56)  Services
17)  Eligibility Status         37)  Register Provider          57)  Diagnostic Criteria
18)  Class/Beneficiary          38)  Case History
19)  Cause of Death             39)  Interventions
20)  Medicare Eligibility       40)  Intervention Due DT

      <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):  (1-57):
```

```
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:  (1-26):
```

# 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

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

**Choose Type of Report: D/ /  <Enter>**

**PRINT**

1) PATIENT NAME,
2) PATIENT CHART #
46) COMPLICATIONS
47) 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**

27) 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 #
32) NEXT REVIEW
29) 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 #
24) PRIMARY CARE PROVIDER
23) 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, 2011
MURYN,MARTIE D        WOR-31065     --               DEC 08, 2012
NAWBRUOGH,CARMEN YVO  WOR-33071     HANSON,AARON P   APR 05, 2012
COLLAN,RANDI MICHELL  WOR-33832     HANSON,AARON P   JAN 13, 2011
FYNNYCOM,RONDA R      WOR-36126     HANSON,AARON P   JAN 11, 2011
CUUNS,BILLY D         WOR-36358     HANSON,AARON P   DEC 08, 2011
SHERAK,TONI L         WOR-40181     HANSON,AARON P   JAN 08, 2011

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**

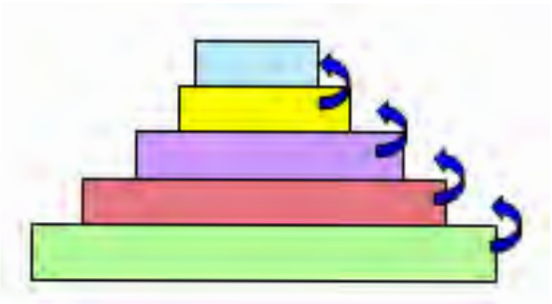
**Data-Informed Prevention** – ability to focus prevention efforts based on objective data

**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_____

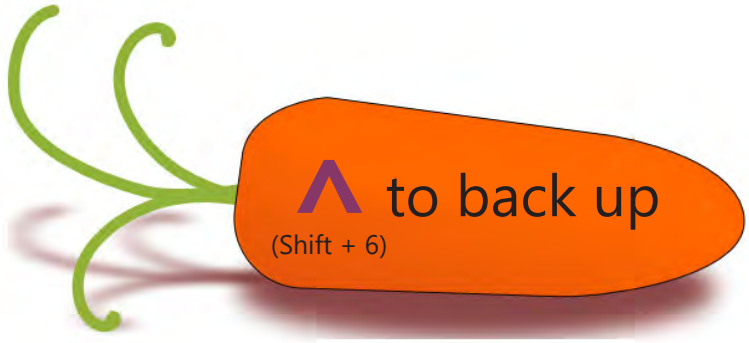
## DATA SYSTEMS CAPACITY

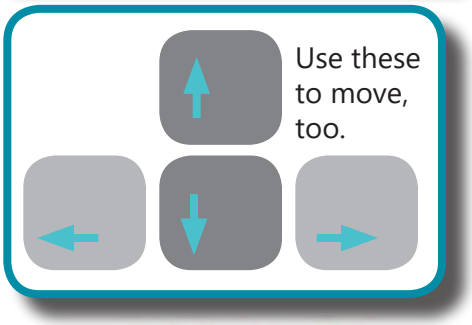
- ❑ Have Tribal Health Board support
- ❑ Have administrative support
- ❑ Have clinical support
- ❑ Have RPMS Site Manager support
- ❑ Have computerized medical records (other than RPMS)
- ❑ Have RPMS with current packages
- ❑ Have a Diabetes Coordinator
- ❑ Have multidisciplinary diabetes team
- ❑ Diabetes 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<br>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<br>or patients no longer utilizing any services of your facility,<br>or who have moved away. | Patients who have moved away permanently<br>or who you know to be receiving care elsewhere<br>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<br>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 IHS CORE 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 013119**
11. Are you adding 'DRH DM REG 013119' 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 IHS CORE 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 013119**
6. Your choice (1-4): 1// **2** (Living pts must not be a member of the DRH DM REG 040512 cohort)
7. Attribute of PATIENT: **DX**
8. Enter DX: **[SURVEILLANCE DIABETES**
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** (OCT 31, 2018)
14. Next condition of "DIAGNOSIS": **<Enter>**
15. Attribute of LIVING PATIENTS: **<Enter>**
16. Your choice: DISPLAY// **<Enter>** to view on screen or **PRINTER NAME** to print
17. Your choice (1-3): 1// **2** or **3** (see examples below)

Type the name of your search template here.

This is a taxonomy that includes all the ICD-9 and 10 codes for diabetes

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 **AS** Audit Setup
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 **AS** Audit Setup...
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 #5 - Diagnosis). The Annual IHS Audit tracks the duration of time that patients have lived with diabetes.

1. Open RPMS
2. Go to **DMS** Diabetes Management System
3. Go to **RM** Register Maintenance...
4. Go to **RR** Register Reports...
5. Enter **NDOO** DM Register Pts w/no recorded DM Date of Onset
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>**
9. Demo Patient Inclusion/Exclusion: E// **<Enter>**

```
********** 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: DX
Enter DX: [SURVEILLANCE DIABETES <enter until next condition>
ATTRIBUTE: VISIT
First condition: BETWEEN
Exact starting date: 1/1/2019
Exact ending date: 12/31/2019
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 2020
DESCRIPTION: Edit? Y
Cohort for 2020 DIabetes Audit. Uses Active IHS DIABETES register patients, beneficiary status 01, at least one visit in 2019 for diabetes (SURVEILLANCE DIABETES) 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 48-51.

**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: **AR** (*Audit Reporting...*)
3. Select Diabetes QA Audit Menu Option: **DM20** (*2020 Diabetes Audit*)
4. End of taxonomy check. HIT RETURN **<enter>**
5. Enter the Official Diabetes Register: **IHS DIABETES** (*or the name of your register*)
6. Enter the Audit Date: 12/31/2018 (*The last day of the calendar year*)
7. Run the Audit for: P// **S** (*Search template of patients, if you made one - C if otherwise*)
8. Enter Search Template Name: <the name you saved>
9. Limit the audit to a particular primary care provider? N// **<enter>**
10. Limit the patients who live in a particular community? N// **<enter>**
11. Select Beneficiary Population to include in the audit: 1//**<enter>** **Indian/Alaska Native (Class. 01)**
12. Select whether to include or exclude pregnant patients in the audit: E// **<enter>** **Exclude Preg. Patients**
13. Do you want to select: A// **<enter>** (*ALL patients selected so far*)
14. Enter Print option: 1// **3** (*Audit Report*)
15. Demo Patient Inclusion/Exclusion: E// **<enter>**
16. Do you wish to: P// **P** to print, or **B** to Browse followed by PL to print

17. DEVICE: HOME// (*enter the name of your printer here*)

## Create the audit data file

**Follow steps 1-13 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: DMCLINIC20A. 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: DMCLINIC20A.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: HEAD,DON
AUTHORIZED USER: KAKUSKA,ERIK
AUTHORIZED USER: HEAD,DON
AUTHORIZED USER: LOPEZ,KERRI

REGISTER CREATOR: HEAD,DON//
```

**How: From the Diabetes Management System main menu:**

1. Select Diabetes Management System Option: **RM** Register Maintenance
2. Select Register Maintenance Option: **RM** Register Management
3. Select Register Management Option: **US** User Setup
4. Which one: **1** Add/Remove DMS Authorized User
5. Select NEW DMS User: LAST NAME, FIRST NAME
6. Do you wish to REMOVE LAST NAME, FIRST NAME as an Authorized User of the Diabetes Management System? **NO**
7. Remove LAST NAME, FIRST NAME's REGISTER MANAGER AUTHORITY? Enter YES or NO depending on whether this user is allowed manager authority.
8. 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**<br>Gestational DM<br>Imp Glucose Tolerance (IGT)<br>Type 1<br>Type 2<br><br>**Complications**<br>CVA (Stroke)<br>End Stage Renal Disease<br>Fixed Proteinuria<br>High Risk Foot<br>Hypertension<br>Laser Tx for Retinopathy<br>Major Amputation(s)<br>Minor Amputation(s)<br>Retinopathy<br>**+ [Any you add]** | **Register data (modified in Patient Management, #1)**<br><br>Register Status<br>Where followed (clinic name)<br>Register provider<br>Case manager<br>Contact<br>Entry date (i.e. when added to register)<br>Last review [date]<br>Next review [date] | **Diagnosis**<br>Gestational DM<br>Imp Fasting Glucose (IFG)<br>Imp Glucose Tolerance (IGT)<br>Metabolic Syndrome<br>Other Abnormal Glucose<br>Type 1<br>Type 2<br><br>**Complications**<br>Acquired Acanthosis Nigricans<br>CVA (Stroke)<br>End Stage Renal Disease<br>Fixed Proteinuria<br>High Risk Foot<br>Hypertension<br>Laser Tx for Retinopathy<br>Major Amputation(s)<br>Minor Amputation(s)<br>Morbid Obesity<br>Obesity - NOS<br>Polycystic Ovaries<br>Proteinuria<br>Retinopathy<br>**+ [Any you add]** |

| Stored in the main database (PCC), but viewable through register reports | | |
|---|---|---|
| Registration information<br>Problem list<br>Measurements: Height, weight, BMI, blood pressure<br>Tobacco use & counseling<br>Hypertension<br>Exams: Foot, eye, dental | Patient education<br>Depression as active diagnosis<br>Depression screening<br>Diabetes medications<br>ACE/ARB use<br>Antiplatelet therapy<br>Lipid lower agents<br>TB testing | ECG<br>Immunizations: Flu, pneumovax, Td or Tdap<br>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<br>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 taxonomies are for

Some items in RPMS are entered the same way in every clinic that uses RPMS. ICD-10 codes, for example, are standardized internationally, so that R73.09 (ICD-10) 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 AS Audit Setup menu using TC20.)

```
In order for the 2020 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
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: **AS** Audit Setup...
2. Select Audit Setup Option: **LMR**
3. Do you wish to list: **L** (for LAB TESTS) or **M** (for MEDICATIONS)
4. Enter beginning Date for Search: **01/01/19** (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.

```
Jan 16, 2018                                                          Page 1
                          LAB TESTS Used at TRAINING
                     Date Range:  Jan 01, 2019 - Dec 31, 2019
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
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
D-DIMER                         1665407         1               <250
...

Jan 16, 2018                                                          Page 1
                       MEDICATIONS (DRUGS) Used at TRAINING
                     Date Range:  Jan 01, 2019 - Dec 16, 2019
MEDICATION/DRUG NAME              IEN      # DONE
     TAXONOMIES
-------------------------------------------------------------------------
...
IBUPROFEN 400MG TABLET          305           531
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
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, 2017     CHOLESTEROL
HDL Cholesterol:     43. mg/dl     Oct 20, 2017     HDL (CHOLESTEROL)
LDL Cholesterol:     179. mg/dl    Oct 20, 2017     CHOLESTEROL
Triglycerides:       408. mg/dl    Mar 15, 2017     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      FEB 25, 2020 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: **AS** (Audit Setup...)
2. Select Audit Setup Option: **TU** (Update/Review Taxonomies for 2020 DM Audit)
3. Select Action:+// **S** (Select Taxonomy)
4. Which Taxonomy: (1-44): **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      Feb 25, 2020 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)

# Missing Taxonomy Item(s)

**Individual audit report after correction**

```
LABORATORY DATA during audit period
Total Cholesterol:   179. mg/dl    Oct 20, 2017    CHOLESTEROL
HDL Cholesterol:      43. mg/dl    Oct 20, 2017    HDL (CHOLESTEROL)
LDL Cholesterol:      85. mg/dl    Mar 15, 2017    LDL
Triglycerides:       408. mg/dl    Mar 15, 2017    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, 2019 - Feb 25, 2020
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: **AS** (Audit Setup...)
3. Select Audit Setup Option: **TU** (Update/Review Taxonomies for 2020 DM Audit)
4. Select Action:+// **S** (Select Taxonomy)
5. Which Taxonomy: (1-44): **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

## DM THERAPY

### Insulin

Any Insulin product in Drug File – Insulin, REG, NPH, Lente, Ultralente, Insulin Lispro (Humalog), Insulin Glargine (Lantus), Insulin Detemir (Levimir)
Insulin Aspart (Novolog), Insulin Glulisine (Apidra), Inhalable Insulin (Affreza, Exubera – discontinued 2007), Pre-Mixed Insulins (70/30, 75/25)

### Sulfonylureas

Acetohexamide (Dymelor)
Chlorpropamide (Diabinese)
Glimepiride (Amaryl)
Glimepiride and pioglitazone (Duetact)
Glimepiride and rosiglitazone (Avandaryl)
Glipizide (Glucotrol)
Glipizide and metformin (Metaglip)
Glyburide (Diabeta, Micronase,Glynase, Glycron)
Glyburide and metformin (GlucoVance)
Tolazamide (Tolinase)
Tolbutamide (Orinase)

### Sulfonylurea-like

Nateglinide (Starlix)
Repaglinide (Prandin)
Repaglinide + Metformin (PrandiMet)

### Metformin

Metformin (Glucophage, Fortamet, Glumetza, Riomet)
Metformin extended release (Glucophage XR, Glumetza)
Metformin and Alogliptin (Kazano)
Metformin and Canagliflozin (Invokamet)
Metformin and Dapagliflozin (Xigduo)
Metformin and Glipizide (Metaglip)
Metformin and Glyburide (Glucovance)
Metformin and Linagliptin (Jentadueto)
Metformin and Rosiglitazone(Avandamet)
Metformin and Pioglitazone (Actoplus met)
Metformin and Sitagliptin (Janumet)
Metformin and Repaglinide (PrandiMet)
Metformin and Saxagliptin (Kombiglyze XR)

### Acarbose (Precose) or miglitol (Glyset)

### Glitazones (Thiazolidinediones)

Pioglitazone (Actos)
Pioglitazone and Alogliptin (Oseni)
Pioglitazone and Metformin (Actoplus met)
Pioglitazone and Glimeperide (Duetact)
Rosiglitazone and Glimeperide (Avandaryl)
Rosiglitazone (Avandia)
Rosiglitazone and Metformin (Avandamet)
Troglitazone (Rezulin) – RECALLED in 2000

### Incretin mimetics

Exenatide (Byetta, Bydureon)

### DPP4 inhibitors

Alogliptin (Nesina)
Alogliptin and Metformin (Kazano)
Alogliptin and Pioglitazone (Oseni)
Linagliptin (Trajenta)
Linagliptin and Metformin (Jentadueto)
Sitagliptin (Januvia,)
Sitagliptin and metformin (Janumet)
Sitagliptin and Simvastatin (Juvisync)
Saxagliptin (Onglyza)
Saxagliptin and Metformin (Kombiglyze XR)

### Amylin analogs

Pramlintide (Symlin)

### GLP-1 analogs

Albiglutide (Tanzeum)
Dulaglutide (Trulicity)
Liraglutide (Victoza)

### Bromocriptine (Parlodel, Cycloset)

### Colesevelam (Welchol)

### ACE INHIBITORS/ARBs

Benazepril (Lotensin)
Benazepril and hydrochlorothiazide (Lotensin HCT)
Benazepril and amlodipine (Lotrel)
Captopril (Capoten)
Captopril and hydrochlorothiazide (Capozide)
Enalapril (Vasotec)
Enalapril and hydrochlorothiazide (Vaseretic)
Enalapril and diltiazem (Teczem)
Enalapril and felodipine (Lexxel)
Fosinopril (Monopril)
Lisinopril (Prinivil, Zestril)
Lisinopril and hydrochlorothiazide (Prinzide, Zestoretic)
Moexipril (Univasc)
Perindopril (Aceon)
Quinapril (Accupril)
Ramipril (Altace)
Trandolapril (Mavik)

Trandolapril and verapamil (Tarka)
**Also, include Angiotensin II Receptor Blockers (ARB) in this Taxonomy**
Azilsartan (Edarbi)
Candesartan (Atacand)
Eprosartan (Teveten)
Irbsesartan (Avapro)
Irbesartan and hydrochlorothizide (Avalide)
Losartan (Cozaar)
Losartan and hydrochlorothiazide (Cozaar)
Olmesartan (Benicar)
Telmisartan (Micardis)
Valsartan (Diovan)
Valsartan and hydrochlorothizide (Diovan/HCT)

**ANTIPLATELET Therapy**

Any non-aspirin anti-platelet product including Heparin and Warfarin (Coumadin)

Apixaban (Eliquis)

Aspirin and Dipyridamole (Aggrenox)

Cilistazol (Pletal)

Clopidogrel (Plavix)

Dabigatran Etexilate (Pradaxa)

Dipyridamole (Persantine)

Edoxaban (Sarvaysa)

Ticagrelor (Brilinta)

Ticlopidine (Ticlid)

Prasugrel (Effient)

Rivaroxaban (Xarelto)

Vorapaxar (Zontivity)

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

**Statin drugs**

Atorvastatin (Lipitor)
Atorvastatin and Amlodipine (Caduet)
Atorvastatin and Ezetimibe (Liptruzet)
Fluvastatin (Lescol)
Lovastatin (Mevacor, Altocor, Altoprev)
Lovastatin and Niacin (Advicor)
Pravastatin (Pravachol)
Pitivistatin (Livalo)
Rosuvastatin (Crestor)
Simvastatin (Zocor)
Simvastatin and Ezetimibe (Vytorin)
Simvastatin and Niacin (Simcor)
Simvastatin and Sitagliptin (Juvisync)

**SGLT-2**
Canagliflozin (Invokana)
Dapagliflozin (Farxiga)
Empagliflozen (Jardiance)

## 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.

**BGP GPRA ESTIMATED GFR TAX**
Estimated GFR, Calculated GFR, _GFR, Estimated, _GFR Non-African American, EST GFR, eGFR

**BGP CREATINE KINASE TAX**
CK, CPK, Creatine Kinase, Total CK

**DM AUDIT ALT TAX**
ALT, SGPT

**DM AUDIT AST TAX**
AST, SGOT

**DM AUDIT CHOLESTEROL TAX**
Cholesterol, Total Cholesterol, _Cholesterol, POC Cholesterol

**DM AUDIT CREATININE TAX**
(Note: Does NOT include urine creatinine)
Creatinine, POC Creatinine, Serum Creatinine, _Creatinine

**DM AUDIT HDL TAX**
HDL, HDL Cholesterol, POC HDL Cholesterol, _HDL Cholesterol

**DM AUDIT HGB A1C TAX**
Hemoglobin A1C, A1C, HGB A1C, HBA1C, HA1C, POC HEMOGLOBIN A1C, _A1C

**DM AUDIT LDL CHOLESTEROL TAX**
LDL, Direct LDL, LDL Cholesterol, LDL Cholesterol (calc), POC LDL Cholesterol, _LDL Cholesterol

**DM AUDIT MICROALBUMINURIA TAX**
Microalbumin, _Microalbumin, Albumin, Urine, POC Microalbumin

**DM AUDIT QUANT UACR**
Microalbumin/Creatinine Ratio measured in actual numeric values (mg/g Creatinine). Look for tests A/C, A:C, Albumin/Creatinine, _A/C, -A/C, asterisk (*)A/C, Microalbumin/Creatinine, M-Alb/Creatinine.

**DM AUDIT TB TESTS**
Note: You do NOT need to add PPDs to this taxonomy; they will be picked up by the audit.

QFT-G, T SPOT-TB, Quantiferon GOLD

**DM AUDIT TRIGLYCERIDE TAX**
Triglyceride, POC Triglyceride, _Triglyceride

## Pre-2015 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 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

**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

**DM AUDIT P/C RATIO TAX**
(measured in g/g)
Protein/Creatinine Ratio, P/C Ratio, Micro

**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.

**NON HDL-TESTS**

**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

# Common RPMS Data Entry Codes for Diabetes

## Patient education (PED) codes

### Nutrition/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, EVERY DAY
CURRENT SMOKER, SOME DAY
CURRENT SMOKER, STATUS UNKNOWN
CURRENT SMOKELESS [chewing/dip]
SMOKELESS TOBACCO, STATUS UNKNOWN
PREVIOUS (FORMER) SMOKER
PREVIOUS (FORMER) SMOKELESS
NEVER SMOKED
NEVER USED SMOKELESS TOBACCO
EXPOSURE TO ENVIRONMENTAL TOBACCO SMOKE
CEREMONIAL USE ONLY
SMOKER IN HOME
SMOKE FREE HOME
SMOKING STATUS UNKNOWN

### 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 IN PROGRESS
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

| 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.* |

# ICD-10 Codes for DMS and QMAN Searches

| DIABETES and PRE-DIABETES DIAGNOSES | |
|---|---|
| **Type 1 and Type 2 diabetes** | |
| **Type 1 diabetes** | E10.10-E10.9 |
| With complications... E10.10-E10.8 | ketoacidosis, nephropathy, CKD, retinopathy, diabetic cataract, neuropathy, amytrophy, peripheral angiopathy, arthopathy, dermatitis, foot/skin ulcer, periodontal disease, hypoglycemia, hypersmolarity, unspecified |
| Without complications | E10.9 |
| **Type 2 diabetes** | E11.01-E11.9 |
| With complications... E11.01-E11.8 | ketoacidosis, nephropathy, CKD, retinopathy, diabetic cataract, neuropathy, amytrophy, peripheral angiopathy, arthopathy, dermatitis, foot/skin ulcer, periodontal disease, hypoglycemia, hypersmolarity, unspecified |
| Without complications | E11.9 |
| Diabetes Screening | Z13.1 |
| **Metabolic syndrome, pre-diabetes** | E88.81 |
| **Abnormal glucose** | R73.09 |
| Impaired fasting glucose (IFG) | R73.01 |
| Impaired glucose tolerance (IGT) test (oral) | R73.02 |
| Other abnormal glucose | R73.09 |
| **Gestational Diabetes (GDM)** | O24.410-O24.439 |
| **DIABETES COMPLICATIONS** | |
| End Stage Renal Disease (ESRD) | I12.0, I13.11, I13.2, N18.6 |
| Lower Extremity Amputation (LEA) | T87.33-T87.54 |
| Hypertension (HTN) | I10, I15.0-I15.9, I27.0-I27.2, I87.301-I87.399, I97.3, K76.6 |
| Retinopathy | E08.311-E08.359, E09.311-E09.359, E10.311-E10.359, E11.311-E11.359, E13.311-E13.359 |
| Neuropathy | E08.40, E08.43, E09.40, E09.43, E10.40, E10.43, E11.40, E11.43, E13.40, E13.43 |
| Proteinuria (includes microalbuminuria) | N06.0-N06.9, R80.0-R80.9 |
| Hyperlipidemia (cholesterol or triglycerides) | E78.2-E78.5 |
| Stroke (CVA) | G46.3, G46.4 |
| Transient Ischemic Attack (TIA) | G45.8, G45.9 |
| Heart Attack (MI) | I21.01-I25.2 |
| Tuberculosis | A15.0-A15.9, A17.89, A17.9, A18.01-A18.89, A19.0-A19.9, B90.0-B90.9, J65, O98.011-O98.03, P47.0 |
| Non-compliance with... | Z91.11 (dietary regimen), Z91.14 (medication regimen), Z91.15 (renal dialysis), Z91.19 (medical treatment) |
| **RISK FACTORS FOR DIABETES and RISK BEHAVIORS** | |
| Obesity | E66.01-E66.9 |
| Acanthosis nigricans | L83 |
| Family history of diabetes | Z83.3 |
| Polycystic ovarian syndrome (PCOS) | E28.2 |
| Lack of physical exercise | Z72.3 |
| Inappropriate eating habits | Z72.4 |

# 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 (2012, 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<br>Review care plan: assess goals/strengths/barriers<br>Assess nutrition, physical activity, BMI, and growth in youth | Every 3-6 months<br>Each diabetes visit, revise as needed<br>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.<br>Review goals, medications, side effects<br>If prescribed, review SMBG data | Every 3-6 months<br>Every diabetes visit<br>Every diabetes visit |
| CVD Risk Reduction | Prescribe statin with lifestyle therapy regardless of LDL level<br>Check lipid profile<br>LDL < 100 mg/dL (optimal goal), LDL < 70 mg/dL (for very high risk)<br>Non-HDL cholesterol < 130 mg/dL, < 100 mg/dL (for very high risk)<br>Assess smoking/oral tobacco use<br>Aspirin therapy 75-162 mg/day (unless contraindicated) | Adults with CVD; age > 40 y. with ≥ 1 CVD risk factor<br>Annually. If abnormal, follow current NCEP guidelines.<br>Each visit: Ask, Advise, Assess, Assist, Arrange<br>Known CVD/PAD; 10-year CVD Risk > 10% |
| Blood Pressure | Check blood pressure<br>Individualize goal: e.g., < 130/80 mmHg, < 140/90 mmHg<br>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)<br>Check serum creatinine and estimate GFR<br>If HTN, prescribe ACE Inhibitor or ARB unless contraindicated | At diagnosis, then annually<br>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<br>Perform comprehensive lower extremity/foot exam<br>Screen for PAD (consider ABI) | Each diabetes visit; stress daily self-exam<br>At diagnosis, then annually<br>At diagnosis, then annually |
| Oral Care | Inspection of gums/teeth<br>Dental exam by dental professional | At diagnosis, then at diabetes visits<br>At diagnosis, then every 6 -12 months |
| Autonomic Neuropathy | Assess CV symptoms; resting tachycardia, exercise intolerance, orthostatic hypotension<br>Assess GI symptoms; gastroparesis, constipation, diarrhea<br>Assess sexual health/function for men and women | At diagnosis, then annually<br>At diagnosis, then annually<br>At diagnosis, then annually |
| Emotional Health | Assess emotional health; screen for depression, substance abuse | At diagnosis, then annually |
| Immunizations | Influenza vaccine<br>Pneumococcal vaccine<br>Hepatitis B immunization | Annually<br>Once < 65 y. Re-immunize if ≥65 y. and 1st dose given before age 65 and if vaccine was administered > 5 y. prior.<br>Unvaccinated adults < 60 y. |
| Preconception, Pregnancy, and Postpartum Care | Ask about reproductive intentions/assess contraception<br>Provide preconception counseling<br>Screen for undiagnosed type 2 diabetes<br>Screen for GDM in all women not known to have diabetes<br>Screen for type 2 diabetes in women who had GDM | At diagnosis, and then every visit<br>3-4 months prior to conception<br>At first prenatal visit<br>At 24-28 weeks gestation<br>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
- A1C may be used as a screening test. If the result is 5.7-6.4%, perform either a FPG or an OGTT to confirm a diagnosis of prediabetes.

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 American Diabetes Association (ADA) criteria include use of the A1C alone to identify prediabetes. However, all other major standard-setting diabetes organizations do not recommend using the A1C test alone to identify patients with prediabetes.**

# IHS Standards of Care for Type 2 Diabetes (2012, 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

Note: Audit Logic uses several taxonomies for diagnosis codes, CPT codes, LOINC codes, SNOMED codes, and medications that are used by other national RPMS programs. The contents of those taxonomies may be reviewed by using the **VTAX** (View/Print Any DM Audit Taxonomy) report option, found in the Diabetes Management System **Reports menu**. View or print the contents of site-populated taxonomies by using the **TU20** (Update/Review Taxonomies for 2019 DM Audit) menu option under the **AS** Audit Setup menu. View contents of SNOMED lists by using the **VSML** (View a SNOMED List Used by the DM AUDIT) menu option.

**AUDIT DATE (AKA AUDIT PERIOD END DATE)**
This date, supplied by the user, determines the time period for which data are reviewed for the Audit. For most Audit elements, data are reviewed for the 12 months prior to the Audit date, known as the Audit period.

For example, if the Audit date is December 31, 2018, data are reviewed for the year prior to this date (January 1-December 31, 2018).

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

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

**STATE OF RESIDENCE**
This is the state in which the patient resides at the time the Audit is conducted. This is captured from the mailing address.

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

Note: This item is not included in the Audit Export (Data) File and cannot be uploaded to the WebAudit.

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

Only the month and year of birth are included in the Audit Export (Data) File and can be uploaded to the WebAudit, along with the age of the patient as of the Audit date.

**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 Primary Care Provider (#.14) of the patient file.

Note: This item is not included in the Audit Export (Data) File and cannot be uploaded into the WebAudit.

**DATE OF DIABETES DIAGNOSIS**
The diabetes onset date. This date is used in the calculation of the duration of diabetes. Users can choOse from three different dates:

- The date of onset from the Diabetes Register.
- The earliest date of onset from all diabetes related problems on the problem list. The problem list is scanned for all problems in the ICD diagnosis code ranges defined in the SURVEILLANCE DIABETES taxonomy or SNOMED code defined in PXRM DIABETES SNOMED subset.
- The first recorded diagnosis (POV) of diabetes in PCC. ICD codes: SURVEILLANCE DIABETES taxonomy.

Audit Report: 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 Audit date. 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 (Data) File: The earliest date found from the Diabetes register or the problem list is exported. Format: MM/DD/YYYY

**DM TYPE**
The following logic is used to determine diabetes type. Once a 'hit' is made, no further processing is 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 is "Type I" the type is assumed to be Type 1.
6. If the diagnosis documented in the Diabetes Register contains a '1' the type is assumed to be Type 1.
7. 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 [SURVEILLANCE DIABETES taxonomy] is also in the DM AUDIT TYPE II DXS taxonomy then the type is assumed to be Type 2.
8. If any diabetes diagnosis on the problem list is also in the DM AUDIT TYPE I DXS taxonomy then the type is assumed to be Type 1.
9. 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 the diagnosis is contained in the DM AUDIT TYPE II DXS taxonomy the type is assumed to be Type II, if it is contained in the DM AUDIT TYPE I DXS taxonomy it is assumed to be Type I.
10. If type is not determined by any of the above, type is assumed to be Type 2 for the Audit (Data) Export File and Audit Report. For the Individual Audit and Diabetes Health Summary, "Not Documented" is displayed.

**TOBACCO - SCREENED DURING AUDIT PERIOD**
If any of the following items is documented during the Audit period, then a value of 1 - Yes is assigned. Otherwise, a value of 2 - No is assigned.

- Health Factor in the TOBACCO (SMOKING) Category.
- Health Factor in the TOBACCO (SMOKELESS - CHEWING/DIP) Category.
- The PCC Problem list and purpose of visits are scanned for any diagnosis contained in the BGP TOBACCO DXS taxonomy or the SNOMED subsets PXRM BGP TOBACCO SCREENED and PXRM BGP CURRENT TOBACCO.
- Any visit with Dental ADA code 1320 documented.
- Any visit with the following CPT codes documented: BGP TOBACCO SCREEN CPTS taxonomy.

**TOBACCO USE STATUS**
The last documented of the following items is found:

1. Health Factors in the categories TOBACCO (SMOKING) and TOBACCO (SMOKELESS - CHEWING/DIP) that relate to the patient's tobacco use status. As of the DM Audit 2020 these are the health factors available: (the ones with one asterisk (*) indicate a current user, those with two asterisks (**) are non-tobacco users, the others are put in the "Not Documented" category).

*CURRENT SMOKELESS TOBACCO (SMOKELESS - CHEWING/D
**PREVIOUS (FORMER) SMOKELESS TOBACCO (SMOKELESS - CHEWING/D
**CESSATION-SMOKELESS TOBACCO (SMOKELESS - CHEWING/D
SMOKELESS TOBACCO, STATUS UNKNOWN TOBACCO (SMOKELESS - CHEWING/D
**NEVER USED SMOKELESS TOBACCO TOBACCO (SMOKELESS - CHEWING/D
**NON-TOBACCO USER TOBACCO (SMOKING)
*CURRENT SMOKER, STATUS UNKNOWN TOBACCO (SMOKING)
**PREVIOUS (FORMER) SMOKER TOBACCO (SMOKING)
**CESSATION-SMOKER TOBACCO (SMOKING)
*CURRENT SMOKER, EVERY DAY TOBACCO (SMOKING)
*CURRENT SMOKER, SOME DAY TOBACCO (SMOKING)
**NEVER SMOKED TOBACCO (SMOKING)
SMOKING STATUS UNKNOWN TOBACCO (SMOKING)
*HEAVY TOBACCO SMOKER TOBACCO (SMOKING)
*LIGHT TOBACCO SMOKER TOBACCO (SMOKING)

If a factor is found in each of these categories, the one that indicates active use is used. If one is found in just one category, it is used. For example, patient has LIGHT TOBACCO SMOKER and NEVER USED SMOKELESS TOBACCO documented - the LIGHT TOBACCO USER is used. If the patient has NEVER SMOKED and CURRENT SMOKELESS documented, CURRENT SMOKELESS is used.

2. Diagnoses contained in the BGP TOBACCO DXS taxonomy or SNOMED subsets PXRM BGP TOBACCO SCREENED and PXRM BGP CURRENT TOBACCO. Both the V POVs and Problem List are checked. The latest documented diagnosis that is contained in the taxonomy is used. Diagnoses that indicate a tobacco user: diagnoses codes in the BGP TOBACCO USER DXS taxonomy, all others are considered non-tobacco user. If a SNOMED is found and it is contained in the PXRM BGP CURRENT TOBACCO subset it is used.
3. Dental ADA code 1320 - TOBACCO USE INTERVENTION TO PREVENT DISEASE. If this code is documented the patient is considered a tobacco user.
4. A CPT code documented that is in the BGP TOBACCO SCREEN CPTS taxonomy. If the code found is in the BGP TOBACCO USER CPTS taxonomy the patient is considered a tobacco user, all others are considered a non-tobacco user.

If the patient is a user, then "1 - Current user" is assigned.
If the patient is not a tobacco user, then "2 - Not a current user" is assigned.
Otherwise "3 - Not documented" is assigned.

**TOBACCO CESSATION COUNSELING**
If the tobacco use status is "1 - Current user" then counseling documented in the past year is searched for.
Counseling is defined as any of the following:
1. A visit to clinic 94 - TOBACCO CESSATION CLINIC
2. A patient education topic that meets any of the following criteria:
   a. Begins with TO- (e.g. TO-Q)
   b. Ends in -TO (e.g. CAD-TO)
   c. Begins with any Tobacco User diagnosis (taxonomy is BGP TOBACCO USER DXS) (e.g. 305.1-L)
   d. Begins with any Tobacco User CPT code (e.g. 99407-L)
   e. Begins with a SNOMED code from any of the following SNOMED subsets:
      - PXRM BGP TOBACCO TOPICS
      - PXRM BGP TOBACCO SMOKER
      - PXRM BGP TOBACCO SMOKELESS
      - PXRM BGP QUIT TOBACCO
      - PXRM BGP TOBACCO SCREENED
      - PXRM BGP CURRENT TOBACCO

   To see a list of these codes use option VSML View a SNOMED List Used by the DM AUDIT which can be found on the Audit Setup menu.
3. Any of the following CPT codes documented. These indicate tobacco use counseling: CPT code D1320, 99406, 99407, G0375 (old code), G0376 (old code), 4000F, 4001F, G8402 or G8453.
4. Dental ADA code 1320.

The latest documented of the above 5 data elements is displayed along with the date.

If no counseling is found, then the system will look for a smoking aid prescribed:

Any prescription for a medication in the site-populated BGP CMS SMOKING CESSATION MEDS taxonomy that does not have a comment of RETURNED TO STOCK. A prescription for any medication with name containing "NICOTINE PATCH", "NICOTINE POLACRILEX", "NICOTINE INHALER", or "NICOTINE NASAL SPRAY" that does not have a comment of RETURNED TO STOCK.

If any the above is found, then a value of 1 - Yes is assigned.
Otherwise, a value of 2 - No is assigned.

**ELECTRONIC NICOTINE (ENDS)-SCREENED DURING AUDIT PERIOD**
The last documented health factor in the category ELECTRONIC NICOTINE DELIV SYSTEM (ENDS) during the Audit period is found.

Screened for electronic nicotine delivery system (ENDS) use during Audit period:
If a health factor is found a value of 1 - Yes is assigned.
If no health factors have been recorded during the Audit period a value of 2 - No is assigned.

**ENDS USE STATUS**
The last documented health factor in the category ELECTRONIC NICOTINE DELIV SYSTEM (ENDS) is found.
Use status is assigned as follows:

CURRENT ENDS USER: 1 - Current User
CESSATION ENDS USER: 1 - Current User
PREVIOUS ENDS USER: 2 - Not a current user
NEVER USED ENDS USER: 2 - Not a current user
No health factor recorded: 3 - Not documented

**HEIGHT**
The last recorded height value taken on or before the Audit date.

Total height in inches is displayed for the Individual Audit and Diabetes Health Summary.

AUDIT Export (Data) File: The last recorded height prior to the Audit date is exported - either in feet and inches or just inches. The inches are rounded to 2 decimal digits. For example, 1.25 inches.

**WEIGHT**
The last recorded Weight value documented during the Audit period.

AUDIT Export (Data) File: The last recorded weight during the Audit period is exported, truncated to the nearest whole pound.

**BMI**
BMI is calculated as:

BMI = (weight/height*height) x 703.
weight=the last weight (in lbs) documented during the Audit period.

height=the last height (in inches) recorded any time before the Audit date.

Audit Report: The number and percent of patients in each BMI category are calculated. If the patient did not have a height or weight recorded as described above, they are put into the "Height or weight missing" category.

Note: This item is not included in the Audit Export (Data) File.

**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 and a value of 1 - Yes is assigned. Otherwise, a value of 2 - No is assigned.

Taxonomy used: SURVEILLANCE HYPERTENSION.
SNOMED List: PXRM ESSENTIAL HYPERTENSION. To see a list of these codes use option "VSML- View a SNOMED List Used by the DM AUDIT" which can be found on the Audit Setup menu.

**BLOOD PRESSURES (LAST 1, 2 or 3)**
The most recently recorded systolic and diastolic blood pressure values (up to three on different days) on non-ER clinic visits during the Audit period are obtained. If more than one blood pressure is recorded on any one day, the latest one is used.

Audit Report: If two or three blood pressures are available, then the mean is calculated and used to determine the blood pressure category. If only one blood pressure is available, it used to determine the category.

AUDIT Export (Data) File: The blood pressure values obtained above are exported, but mean blood pressure is not.

**FOOT EXAM - COMPLETE**
The logic used in determining if a comprehensive or 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. CPT codes 2028F and G9226 in V CPT [Taxonomy: BGP CPT FOOT EXAM]
3. 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.
4. 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.

If any of the above is found, a value of 1 - Yes is assigned. If none of the above are found the value is 2 - No.

**EYE EXAM (dilated or retinal imaging)**
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 year prior to the Audit date. Diabetic Eye Exam is defined as:
   a. EXAM 03 - Diabetic Eye Exam
   b. CPT in either the BGP DM RETINAL EXAM CPTS or the BGP DM EYE EXAM CPTS taxonomy.

2. If one of the above is found, the value 1 - Yes is assigned and no further processing is done.

3. If none of the above is found, then all PCC Visits in the year prior to the Audit date 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, or A2). If found, then the value 1 - Yes is assigned and an indication of what was found is displayed. Refraction is defined as a POV on the visit of: [DM AUDIT REFRACTION DXS]. 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.

4. If none of the above are found, the value 2 - No is assigned.

**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, the value 1 - Yes is assigned and 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, and there is any ADA code other than 9991, then it is assumed the exam was done, the value 1 - Yes is assigned and 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, the value 1 - Yes is assigned and no further processing is done.
4. A Visit on which a CPT code from the BGP DENTAL VISIT CPT CODES taxonomy was recorded. If found, then it is assumed the exam was done, and the value 1 - Yes is assigned.

If none of the above are found, the value 2 - No is assigned.

**DEPRESSION AN ACTIVE PROBLEM**
The patient's problem lists in both PCC and the Behavioral Health module are reviewed for any problem with a code that is contained in the BGP MOOD DISORDERS taxonomy; or for the following Behavioral Health problem codes: 14, 15.

If no problem is found on the problem list, then the PCC and BH systems are reviewed for at least 2 diagnoses (POV's) of the codes listed above in the year prior to the Audit date.

If either a problem is found on the problem list or 2 POV's are found then the value assigned is 1 - Yes. If not, then a value of 2 - No is assigned.

**DEPRESSION SCREENING**
This item is only reviewed if depression was not found on the problem list and the patient is not currently being seen for depression. (See item DEPRESSION AS AN ACTIVE PROBLEM)

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

Exam 36 or Behavioral Health Module Depression Screening.

Diagnosis - V POV V79.0, Z13.3*.

Measurements PHQ2, PHQ9, PHQT.

Behavioral Health Module Diagnosis (POV) of 14.1.

Diagnosis in the BGP MOOD DISORDERS taxonomy used as a Purpose of Visit.

Diagnosis in the BGP MOOD DISORDERS taxonomy used as a Purpose of visit in the Behavioral Health system.

Problem Code of 14 or 15 used as a Purpose of Visit in the Behavioral Health system.

CPT codes 1220F, 3725F or G0444 in PCC or Behavioral Health.

If any of the above is found, then a value of 1 - Yes is assigned. If not, then a value of 2 - No is assigned.

**NUTRITION INSTRUCTION**
The values for the Audit are:
1 RD (Registered Dietitian)
2 Other
3 Both RD & Other
4 None

All visits in the year prior to the Audit date are examined. Chart review visits are skipped (service category of C or clinic code of 52).

- If the primary provider on any visit is a DIETITIAN 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 [BGP DIETARY SURVEILLANCE DXS] 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 or any
  Topic ending in -N
  Topic ending in -DT
  Topic ending in -MNT
  Topic beginning with MNT-
  Topic beginning with DNCN-

The V PAT ED entry is examined and if the provider documented in that entry is a Dietitian or Nutritionist the RD is assigned if the provider is blank or not a dietitian/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 - Both RD & Other.
- if Other is assigned and RD is not then the value assigned is 2 - Other.

Processing stops if a value is assigned.

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

**PHYSICAL ACTIVITY 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 value is assigned. No further processing is done.

All visits in the year prior to the Audit date are examined for a POV of V65.41 (there are no ICD10 codes) and if one is found a 1 - Yes is assigned.

If none of the above is documented, the value is 2 - No

**DM EDUCATION (OTHER)**
All education topics documented in the year prior to the Audit date are examined. If any 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 a member of the DM AUDIT EDUC TOPICS taxonomy OR the topic begins with one of the following:
  - DM- (e.g. DM-L)
  - DMC- (e.g. DMC-L)
  - an ICD Diagnosis code that is a member of the SURVEILLANCE DIABETES taxonomy (e.g. 250.00-L, E10.51-L)
  - a Diabetes SNOMED code (e.g. 46635009-L)

If none of the above is documented, the value is 2 - No

**DIABETES THERAPY**
The following logic is used to determine if the patient is currently taking any medication in each of the categories below:

1. Looks for any PCC V Medication entry for any drug in the taxonomy of drugs being searched for where the visit date of the V Medication is in the 6 months prior to the Audit date. (Looking to see if the patient had at least 1 fill in the past 6 months.)

2. If no V Medication is found, the Prescription file (file 52) is searched for any drug in the taxonomy of drugs being searched for. The prescription number must begin with an X (an X indicates that the prescription was e-prescribed). If the prescription begins with an X the following calculation is done:
   - days supply times (# of refills +1) (this is the total number of days the prescription covers)
   - # of days calculated above + issue date (this is the last date the prescription covers)
   - If the date calculated above is greater than the Audit date minus 180 days it is assumed the patient was taking that medication in the 6 months prior to the end of the Audit date

3. If no medications are found in searches 1 and 2 above the system will look for any EHR Outside Medication that fits into one of medication categories. EHR Outside Medications are found in the V Medication file and have a value in the EHR Outside Medication field and no discontinued date. The system will go back 10 years to find one of these medications. It is assumed that a medication entered as an EHR Outside Medication is active until it is discontinued.

If any medication in the taxonomy specified is found, then an 'X' is placed by the therapy name and a value of 1 - Yes is entered in the Audit Export file. If no medications are found, then the None of the following item is marked with an 'X' and a value of 1 - Yes is entered in the Audit Export file for this item while a value of 2 - No is entered for all other DM therapy items.

| Therapy | Taxonomy Name |
|---|---|
| Insulin | DM AUDIT INSULIN DRUGS |
| Metformin | DM AUDIT METFORMIN DRUGS |
| Sulfonylurea | DM AUDIT SULFONYLUREA DRUGS |
| DPP4 inhibitor | DM AUDIT DPP4 INHIBITOR DRUGS |
| GLP-1 agonist | DM AUDIT INCRETIN MIMETIC |
| | DM AUDIT GLP-1 ANALOG DRUGS |
| SGLT-2 inhibitor | DM AUDIT SGLT-2 INHIBITOR DRUG |
| Pioglitazone, rosiglitazone | DM AUDIT GLITAZONE DRUGS |
| Acarbose, miglitol | DM AUDIT ACARBOSE DRUGS |
| Rapaglinide, Nateglinide | DM AUDIT SULFONYLUREA-LIKE |
| Amylin analog | DM AUDIT AMYLIN ANALOGUES |
| Bromocriptine | DM AUDIT BROMOCRIPTINE DRUGS |
| Colesevelam | DM AUDIT COLESEVELAM DRUGS |

**ACE INHIBITOR OR ARB**
The taxonomy used to find ACE Inhibitors is DM AUDIT ACE INHIBITORS.

If any drug in the above listed taxonomy is found using the logic detailed below a value of 1 - Yes is assigned, no further processing is done.

1. Searches for any PCC V Medication entry for any drug in the taxonomy of drugs being searched for where the visit date of the V Medication is in the 6 months prior to the Audit date. (DM Audit is looking to see if the patient had at least 1 fill in the past 6 months.)

2. If no V Medication is found the Prescription file (file 52) is searched for any drug in the taxonomy of drugs being searched for. The prescription number must begin with an X (an X indicates that the prescription was e-prescribed). If the prescription begins with an X the

following calculation is done:
- days supply times (# of refills +1) (this is the total number of days the prescription covers)
- # of days calculated above + issue date (this is the last date the prescription covers)
- If the date calculated above is greater than the Audit date minus 180 days it is assumed the patient was taking that medication in the 6 months prior to the end of the Audit date

3. If no medications are found in searches 1 and 2 above the system will look for any EHR Outside Medication that fits into one of medication groups. EHR Outside Medications are found in the V Medication file and have a value in the EHR Outside Medication field and no discontinued date. The system will go back 10 years to find one of these medications. It is assumed that a medication entered as an EHR Outside Medication is active until it is discontinued.

If no relevant drugs are found, then a 2 - No is assigned.

**ASPIRIN/ OTHER ANTIPLATELET/ANTICOAGULANT THERAPY**
Two taxonomies are used to find Aspirin and Other Antiplatelet/Anticoagulant therapy: DM AUDIT ASPIRIN DRUGS; DM AUDIT ANTIPLT/ ANTICOAG RX

If any drug in the above listed taxonomies is found using the logic detailed below a value of 1 - Yes is assigned, no further processing is done.

1. Searches for any PCC V Medication entry for any drug in the taxonomy of drugs being searched for where the visit date of the V Medication is in the 6 months prior to the Audit date. (DM Audit is looking to see if the patient had at least 1 fill in the past 6 months.)

2. If no V Medication is found the Prescription file (file 52) is searched for any drug in the taxonomy of drugs being searched for. The prescription number must begin with an X (an X indicates that the prescription was e-prescribed). If the prescription begins with an X the following calculation is done:
- days supply times (# of refills +1) (this is the total number of days the prescription covers)
- # of days calculated above + issue date (this is the last date the prescription covers)
- If the date calculated above is greater than the Audit date minus 180 days it is assumed the patient was taking that medication in the 6 months prior to the end of the Audit date

3. If no medications are found in searches 1 and 2 above the system will look for any EHR Outside Medication that fits into one of medication groups. EHR Outside Medications are found in the V Medication file and have a value in the EHR Outside Medication field and no discontinued date. The system will go back 10 years to find one of these medications. It is assumed that a medication entered as an EHR Outside Medication is active until it is discontinued.

4. The Non-VA meds component in the pharmacy patient file is reviewed for any drug in the above mentioned taxonomies or an orderable item whose first 7 characters is “ASPIRIN” and whose 8th character is not a “/”.

If no relevant drugs are found, then a 2 - No is assigned.

**STATIN THERAPY**
One taxonomy is used to find Statin therapy: BGP PQA STATIN MEDS

If any drug in the above listed taxonomy is found using the logic detailed below a value of 1 - Yes is assigned, no further processing is done.

1. Searches for any PCC V Medication entry for any drug in the taxonomy of drugs being searched for where the visit date of the V Medication is in the 6 months prior to the Audit date. (DM Audit is looking to see if the patient had at least 1 fill in the past 6 months.)

2. If no V Medication is found the Prescription file (file 52) is searched for any drug in the taxonomy of drugs being searched for. The prescription number must begin with an X (an X indicates that the prescription was e-prescribed). If the prescription begins with an X the following calculation is done:
- days supply times (# of refills +1) (this is the total number of days the prescription covers)
- # of days calculated above + issue date (this is the last date the prescription covers)
- If the date calculated above is greater than the Audit date minus 180 days it is assumed the patient was taking that medication in the 6 months prior to the end of the Audit date

3. If no medications are found in searches 1 and 2 above the system will look for any EHR Outside Medication that fits into one of medication groups. EHR Outside Medications are found in the V Medication file and have a value in the EHR Outside Medication field and no discontinued date. The system will go back 10 years to find one of these medications. It is assumed that a medication entered as an EHR Outside Medication is active until it is discontinued.

Statin Allergy defined as:
Adverse drug reaction/documented statin allergy defined as any of the following: 1) ALT and/or AST > 3x the Upper Limit of Normal (ULN) (i.e. Reference High) on 2 or more consecutive visits during the Audit Period; 2) Creatine Kinase (CK) levels > 10x ULN or CK > 10,000 IU/L during the Report Period; 3) Myopathy/Myalgia, defined as any of the following during the Report Period: POV ICD-9: 359.0-359.9, 729.1, 710.5, 074.1; ICD-10: G71.14, G71.19, G72.0, G72.2, G72.89, G72.9, M35.8, M60.80-M60.9, M79.1; 4) any of the following

occurring anytime through the end of the Report Period: A) POV ICD-9: 995.0-995.3 AND E942.9; B) "Statin" or "Statins" entry in ART (Patient Allergies File); or C) "Statin" or "Statins" contained within Problem List or in Provider Narrative field for any POV ICD-9: 995.0-995.3, V14.8; ICD-10: Z88.8.

Test Definitions:

ALT: Site-populated taxonomy DM AUDIT ALT TAX or the BGP ALT LOINC taxonomy.

AST: Site-populated taxonomy DM AUDIT AST TAX or the BGP AST LOINC taxonomy.

Creatine Kinase: Site-populated taxonomy BGP CREATINE KINASE TAX or the BGP CREATINE KINASE LOINC taxonomy.

Statin Intolerance/Contraindication defined as:
Contraindications to Statins defined as any of the following: 1) Pregnancy (see definition below); 2) Breastfeeding, defined as POV ICD-9: V24.1; ICD-10: Z39.1 or breastfeeding patient education codes BF-BC, BF-BP, BF-CS, BF-EQ, BF-FU, BF-HC, BF-ON, BF-M, BF-MK, or BF-N during the Report Period; 3) Acute Alcoholic Hepatitis, defined as POV ICD-9: 571.1; ICD-10: K70.10, K70.11 during the Report Period; or 4) NMI (not medically indicated) refusal for any statin at least once during the Report Period.

Pregnancy definition: At least two visits during the Audit Period with POV or Problem diagnosis ICD-9: 640.*3, 641.*3, 642.*3, 643.*3, 644.*3, 645.*3, 646.*3, 647.*3, 648.*3, 649.*3, 651.*3, 652.*3, 653.*3, 654.*3, 655.*3, 656.*3, 657.*3, 658.*3, 659.*3, 660.*3, 661.*3, 662.*3, 663.*3, 665.*3, 668.*3, 669.*3, 671.*3, 673.*3, 674.*3, 675.*3, 676.*3, 678.*3, 679.*3, V22.0-V23.9, V28.81, V28.82, V28.89, V72.42, V89.01-V89.09; ICD-10: (see logic manual for codes), where the primary provider is not a CHR (Provider code 53). Pharmacy-only visits (clinic code 39) will not count toward these two visits. If the patient has more than two pregnancy-related visits during the Report Period, the Audit will use the first two visits in the Report Period. The patient must not have a documented miscarriage or abortion occurring after the second pregnancy-related visit. Miscarriage definition: 1) POV ICD-9: 630, 631, 632, 633*, 634*; ICD-10: O03.9; 2) CPT 59812, 59820, 59821, 59830. Abortion definition: 1) POV ICD-9: 635*, 636* 637*; ICD-10: O00.*-O03.89, O04.*, Z33.2; 2) CPT 59100, 59120, 59130, 59136, 59150, 59151, 59840, 59841, 59850, 59851, 59852, 59855, 59856, 59857, S2260-S2267; 3) Procedure ICD-9: 69.01, 69.51, 74.91, 96.49; ICD-10: 0WHR73Z, 0WHR7YZ, 10A0***, 3E1K78Z, 3E1K88Z.

**CVD**
CVD diagnosis (using DM AUDIT CVD DIAGNOSES taxonomy) is searched for on the patient's problem list. If a diagnosis is found, a 1 - Yes is assigned.

If no problem is found on the problem list, then the V POV file is searched for the following, if found, a 1 - Yes is assigned along with the visit date on which the item was found:

- One diagnosis ever of any code in the BGP CABG DXS taxonomy. The codes are: Z95.1 (ICD-10) Presence of aortocoronary bypass graft V45.81 (ICD-9) AORTOCORONARY BYPASS

- One diagnosis ever of any code in the BGP PCI DXS taxonomy. Codes are: V45.82 (ICD-9) STATUS-POST PTCA Z95.5 (ICD-10) Presence of coronary angioplasty implant and graft Z98.61 (ICD-10) Coronary angioplasty status

- Two diagnoses ever of any code in the DM AUDIT CVD DIAGNOSES taxonomy.

- One procedure ever documented of any code in the BGP PCI CM PROCS taxonomy.

- One procedure ever documented of any code in the BGP CABG PROCS taxonomy.

- One CPT procedure ever documented of any code in the BGP PCI CM CPTS taxonomy.

- One CPT procedure ever documented of any code in the BGP CABG CPTS taxonomy.

If none of the above are found, a value of 2 - No is assigned.

**TB TEST DONE**
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 diagnosis of TB documented in the PCC then the test type is assigned as 1 - Skin Test (PPD), no further processing is done.
2. All recorded PPD entries and TB lab tests using the DM AUDIT TB LAB 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 assigned, if it is a lab test then 2 - Blood Test is assigned.
3. If no TB test is found then the value is 3 - UNKNOWN/NOT OFFERED.

**TB TEST RESULT**
If a TB test was done, the 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 assigned as 1 - Positive, no further processing is done. Taxonomy Used is DM AUDIT TUBERCULOSIS DXS.
2. All recorded PPD entries and TB lab tests using the DM AUDIT TB LAB 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 assigned 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 assigned. If the results are null the value 3 - Unknown/Not offered is assigned.

3. If no result is found then the value assigned is 3 - Unknown/not offered.

**TB RESULT POSITIVE, ISONIAZID 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 - IN PROGRESS.

The value assigned is based on the last recorded health factor:

| | |
|---|---|
| TX COMPLETE | 1 - Yes |
| TX INCOMPLETE | 2 - No |
| TX UNTREATED | 2 - No |
| TX IN PROGRESS | 2 - No |
| TX UNKNOWN | 3 - Unknown |

**TB RESULT NEGATIVE, TEST DATE**
If the value of TB test result is NEGATIVE then the date of the last TB test is displayed.

**HEPATITIS C - HCV Diagnosis Ever**
The Purpose of Visits are scanned for any diagnosis ever contained in the BGP HEPATITIS C DXS taxonomy. If one is found the value of 1 - Yes is assigned, if no diagnosis is found the Problem List is scanned for a diagnosis contained in the BGP HEPATITIS C DXS taxonomy or a SNOMED contained in the PXRM HEPATITIS C snomed list. If that is found on the problem list a value of 1 - Yes is assigned, if not found a value of 2 - No is assigned.

**HEPATITIS C - SCREENED EVER**
If the patient has a diagnosis of Hepatitis C this item is skipped.

Hepatitis C Screening (Ab Test) is determined by the following: CPT 86803; BGP HEP C TEST LOINC CODES taxonomy; site-populated lab test taxonomy BGP HEP C TEST TAX.

The V LAB file is scanned for any test contained in the lab test and LOINC taxonomies. The V CPT file is scanned for CPT 86803.

If a lab test or CPT code is found a value of 1 - Yes is assigned.
If a lab test or CPT code is not found a value of 2 - No is assigned.

**RETINOPATHY (DIAGNOSED EVER)**
If retinopathy is on the problem list or the patient has had at least 1 visits with a diagnosis of retinopathy ever, then it is assumed that they have been diagnosed with retinopathy and a value of 1 - Yes is assigned. Otherwise, a value of 2 - No is assigned.

Taxonomy used: DM AUDIT RETINOPATHY DIAGNOSES SNOMED List: PXRM BGP DM RETINOPATHY

**LOWER LEG AMPUTATION (EVER)**
The patient's electronic record is scanned for documentation of any of the following items:

1. The purpose of visits are scanned for any diagnosis in the BGP DM BTK AMP DXS or the BGP DM ATK AMP DXS taxonomies. If a diagnosis is found a value of 1 - Yes is assigned.

2. The problem list is scanned for a diagnosis in the BGP DM BTK AMP DXS or BGP DM ATK AMP DXS taxonomies or a SNOMED in the PXRM BGP DM BTK AMP or PXRM BGP DM ATK AMP SNOMED subsets.

3. The procedures are scanned for a procedure in the BGP DM BTK AMP PROCS or BGP DM ATK AMP PROCS taxonomies.

4. The CPT codes are scanned for a CPT in the BGP DM BTK AMP CPTS or BGP DM ATK AMP CPTS taxonomies.

If any of the above are found, a value of 1 - Yes is assigned, otherwise a value of 2 - No is assigned.

**INFLUENZA VACCINE DURING AUDIT PERIOD**
The patient's data is scanned for an influenza vaccine in the 12 months prior to the Audit date. Influenza vaccine is determined by:
- Immunization CVX codes: See BGP FLU IZ CVX CODES taxonomy

| | |
|---|---|
| 15 | INFLUENZA, SPLIT [TIVhx] (INCL |
| 16 | INFLUENZA, WHOLE |
| 88 | INFLUENZA, NOS |
| 111 | INFLUENZA, Intranasal, Trivale |
| 135 | INFLUENZA, HIGH DOSE SEASONAL |
| 140 | INFLUENZA, seasonal, injectabl |
| 141 | INFLUENZA [TIV], SEASONAL, INJ |

144 INFLUENZA, INTRADERMAL
149 INFLUENZA, Live, Intranasal, Q
150 INFLUENZA, INJECTABLE, QUAD, P
151 INFLUENZA NASAL, UNSPECIFIED
153 INFLUENZA, INJECTABLE, MDCK, P
155 INFLUENZA, INJECTABLE, RECOMB,
158 INFLUENZA, Injectable, Quadrav
161 INFLUENZA, injectable,quadriva
166 INFLUENZA, intradermal, quadri
168 INFLUENZA, Trivalent, adjuvant
171 Influenza, injectable, MDCK, p
185 influenza, recombinant, quadri
186 Influenza, injectable, MDCK, q

- CPT codes: BGP CPT FLU
- Diagnosis codes: BGP FLU IZ DXS (there are no ICD10 codes)

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

If no documented immunization is found, a search is done for a documented refusal in the Audit period. If one is found, then a value of 3 - Refused is assigned.

If neither of the above are found, a value of 2 - No is assigned.

**PNEUMOCOCCAL VACCINE EVER**
Data is scanned for pneumococcal vaccine any time prior to the Audit date. A pneumococcal vaccine is determined by:
- Immunization CVX codes:
33 PNEUMOCOCCAL
100 Pneumococcal, PCV-7
109 PNEUMOCOCCAL, NOS
133 Pneumococcal, PCV-13
152 Pneumococcal, Unspecified

- Diagnoses: V03.82 (there are no ICD10 codes)
- CPT codes: BGP PNEUMO IZ CPTS taxonomy (90669, 90670, 90732, G0009, G8115, G9279)

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

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 one is found, then a value of 3 - Refused is assigned.

If neither of the above is found, a value of 2 - No is assigned.

**Td, Tdap, DTap, or DT IN PAST 10 YEARS**
Immunizations are scanned for any tetanus vaccine in the 10 years prior to the Audit date. Logic used to find a TD vaccine:
Immunization CVX codes:
115 Tdap
9 TD (ADULT)
113 TD (ADULT) PRESERVATIVE FREE
115 Tdap
138 Td-NA
139 Td,NOS
1 DTP
20 DTAP
28 DT (PEDIATRIC)
35 TETANUS TOXOID
106 DTAP, 5 PERTUSSIS ANTIGENS
107 DTAP, NOS
112 TETANUS TOXOID, NOS
22 DTP-HIB
50 DTAP-HIB
110 PEDIARIX
120 PENTACEL
130 KINRIX
132 DTaPIPVHHb
CPT Codes: APCH TD CPT
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

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

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 one is found, then a value of 3 - Refused is assigned.

If neither of the above is found, a value of 2 - No is assigned

**Tdap EVER**
Immunizations are scanned for a Tdap vaccine ever. A Tdap vaccine is determined by:

CVX code 115 Tdap
CPT code 90715

If either of the above is found, a value of 1 - Yes is assigned.

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 one is found, then a value of 3 - Refused is assigned.

If neither of the above is found, a value of 2 - No is assigned.

**HEPATITIS B COMPLETE SERIES EVER**
Data is scanned for hepatitis B vaccine any time prior to the Audit date.

HEP B (3 DOSE SERIES) is determined by:
CVX codes:
8 HEP B, ADOLESCENT OR PEDIATRIC
42 HEP B, ADOLESCENT/HIGH RISK IN
43 HEP B,ADULT
44 HEP B, DIALYSIS
45 HEP B, NOS
51 HIB-HEP B
102 DTP-HIB-HEP B
104 HEP A-HEP B
110 DTaP-Hep B-IPV
132 DTaP-IPV-HIB-HEP B, historical
146 DTaP,IPV,Hib,HepB
193 Hep A-Hep B, pediatric/adolescent

CPT codes contained in the BGP HEPATITIS CPTS taxonomy: 90636, 90723, 90731, 90740, 90743, G0010, Q3021, Q3023

HEP B (2 DOSE SERIES) is determined by: CVX code 189 Hep B, adjuvanted

Vaccinations must be given at least 20 days apart. If the appropriate number are found (2 for the 2 dose series or 3 for the 3 dose series) a value of 1 - Yes is assigned.

If less than the required number of vaccines are found, the system will look for an Immune Contraindication in the Immunization contraindications file. If it is found, a value of 4 - Immune is assigned. The system then looks for evidence of disease: Problem List or V POV of [BGP HEP EVIDENCE] Taxonomy. If it is found, a value of 4 - Immune is assigned.

If the required number of vaccinations are not found and immunity or evidence of disease is not found, the system searches for a refusal documented in the past year. If one is found, then a value of 3 - Refused is assigned. Refusal definitions: Immunization Package refusal or PCC refusal of the above listed CVX or CPT codes.

If none of the above are found, a value of 2 - No is assigned.

**A1C**
All lab tests in the V LAB file in the year prior to the Audit date are found using the DM AUDIT HGB A1C TAX taxonomy and the BGP HGBA1C LOINC CODES taxonomies. Only tests that have a result are used, if the result of the V LAB is blank, contains “CANC” or contains “COMMENT” the V Lab is skipped.

Individual Audit: The date and result of test are displayed.

Audit Report:

If the result contains a ">" it goes into the >=11.0 category.
If the result contains a "<" it goes into the <7.0 category.
At this point everything is stripped from the result value except for numbers and ".". If after stripping, what is left is something other than a number then it is put in the "Not tested or no valid result" category. If what is left is a numerical value, it is put in the appropriate category(ies) below:
A1C <7.0
A1C 7.0-7.9
A1C 8.0-8.9
A1C 9.0-9.9
A1C 10.0-10.9
A1C >= 11.0
Not tested or no valid result
A1C <8.0
A1C >9.0

Audit Export (Data) File: When exported, all characters that are not a number or a "." are stripped from the result value, so if the value is <7.0 what is exported is 7.0.

**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 CHOLESTEROL TAX taxonomy or the BGP TOTAL CHOLESTEROL LOINC taxonomy is found in V LAB.

Audit Report: This result is not used.

Audit Export (Data) File: All characters other than numbers and "." are stripped from the result value and that value is then rounded to the closest whole number and truncated to a total of 3 characters with 0 decimal digits.

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

Audit Report:
The result of the test is examined and is put into the following categories by gender. If the result is blank OR the first digit of the result is not a number, then it is put in the "Not tested or no valid result" category. For example, if the value is "cancelled", it will fall into "Not tested or no valid result".

In females
HDL <50 mg/dl
HDL >=50 mg/dl
Not tested or no valid result
In males
HDL <40 mg/dl
HDL >=40 mg/dl
Not tested or no valid result

Audit Export (Data) File:
All characters that are not numbers or "." are stripped from the result value and that value is then rounded to the closest whole number and truncated to a total of 3 characters with 0 decimal digits.

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

Audit Report:
The result of the test is examined and is put into the following categories. If the first digit of the result is not a number, then it is put in the "Not tested or no valid result" catgory. For example, if the value is "UNK", it will fall into "Not tested or no valid result".
LDL <100 mg/dl
LDL 100-189 mg/dl
LDL >=190
Not tested or no valid result

Audit Export (Data) File: All characters that are not numbers or "." are stripped from the result value and that value is then rounded to the closest whole number and truncated to a total of 3 characters with 0 decimal digits.

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

Audit Report:
The result of the test is examined and is put into the following categories. If the result is blank OR the first digit of the result is not a number then it is put in the "Not tested or no valid result" category. For example, if the value is "cancelled", it will fall into "Not tested or no valid result".

TG <150 mg/dl
TG 150-499 mg/dl
TG 500-999 mg/dl
TG >=1000 mg/dl
Not tested or no valid result

Audit Export (Data) File: All characters other than numbers and "." are stripped from the result value and that value is then rounded to the closest whole number and truncated to a total of 3 characters with 0 decimal digits

**SERUM CREATININE**
The last lab test with a result in the year prior to the Audit date that is a member of the DM AUDIT CREATININE TAX taxonomy or the BGP CREATININE LOINC CODES taxonomy is found in V LAB. All tests with a result containing "CANC" are skipped. Specimen types are not examined so if the same creatinine test is used for serum creatinine as for urine creatinine, the Audit is unable to distinguish between these values.

Result reporting:
For the individual Audit, the actual value that is in V LAB is displayed.
For the Audit Report: This item is not reported.
For the Audit Export (Data) File: All characters other than numbers and "." s are stripped from the result value and that value is truncated to a total of 4 characters with two decimal digits.

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

For the individual Audit, the actual value that is in V LAB is displayed. If there is no estimated GFR found in V LAB but there is a creatinine value found, the Estimated GFR is calculated using the Modified Diet in Renal Disease (MDRD) formula for eGFR

For the Audit Report:
If the first character of the value is ">" it goes into >=60 ml/min. Otherwise, all characters other than numbers and "." are stripped from the result value. The resulting value is placed in the following categories:
eGFR >=60
eGFR 30-59
eGFR 15-29
eGFR <15
Not tested or no valid result

Audit Export (Data) File: All characters other than numbers or "." are stripped from the result value and that value is truncated to a total of 4 characters with 1 decimal digit.

**QUANTITATIVE URINE ALBUMIN CREATININE RATIO (UACR)**
The system looks for a test contained in the DM AUDIT QUANT UACR lab taxonomy or DM AUDIT A/C RATIO LOINC taxonomy, if found and the test has a valid numeric result then the result of the test is assigned to UACR value.

If the test found does not have a valid numeric result, then the system will look for a urine microalbumin test on the same visit date. If found, the result of that test is evaluated. If the result contains a < symbol or the words "less than," a value of 5 is assigned to UACR value. If the result contains a '>' symbol or contains the words "greater than" a value of 999 is assigned to UACR value.

Result reporting:
For the individual Audit, the resulting value is displayed.

For the Audit Report: The resulting value is placed in the following categories:
Urine albumin excretion - normal: <30 mg/g
Urine albumin excretion increased: 30-300 mg/g
Urine albumin excretion increased: >300 mg/g
Not tested or no valid result

For the Audit Export (Data) File: The UACR value is found as described above, all non-numeric characters are stipped from the value.

**COMBINED OUTCOMES MEASURE**
Assessed only for patients 40 years of age and older. The combined outcome measure displays a 1 - Yes on the Audit if the patient had all of the following during the Audit period: A1c < 8.0, statin prescribed, and mean BP <140/<90. Otherwise a value of 2 - No is assigned.

Note: This item is not included in the Audit Export (Data) File.

**e-GFR and UACR**
Assessed only for patients 18 years of age and older. For those who had both an e-GFR and a UACR test during the Audit period, a value of 1 - Yes is assigned. Otherwise a value of 2 - No is assigned.

Note: This item is not included in the Audit Export (Data) File.

**COMORBIDITY**
Comorbidity count is determined by how many of the following problems or conditions each of the patients has:

- Severely obese (BMI 40 or higher)
- Diagnosed hypertension
- Current tobacco use
- Diagnosed CVD
- Retinopathy
- Lower extremity amputation
- Active depression
- CKD: eGFR<60 or UACR=>30 mg/g

This manual was created by the Western Tribal Diabetes Project
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