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Section 1: DMS Shortcuts
Entering Patients into the Register

**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

---

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 Management: Register Data

**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 edited

<table>
<thead>
<tr>
<th>Select Action</th>
<th>Previous Screen</th>
<th>Q Quit</th>
<th>?? for More Actions</th>
</tr>
</thead>
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<td>1 Register Status</td>
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<td></td>
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<td>5 DX/Date of Onset</td>
<td>10 Audit Status</td>
<td></td>
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</tr>
<tr>
<td>Select Action: Quit//</td>
<td></td>
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</table>
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, FIST 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

![Image of a table showing diabetes-related problems on the problem list]

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.

<table>
<thead>
<tr>
<th>WOR3</th>
<th>E11.9</th>
<th>Diabetes mellitus type 2 wi</th>
<th>CHRONIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO. Diagnosis</td>
<td>ONSET DATE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------</td>
<td>-----------</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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.
Patient Management: Diabetes Patient Care Summary

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

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

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

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

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

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

1. Select Diabetes Management System Option: **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...the audit will look back one year from the date you specify.
Individual Audit (Option 2)

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

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

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

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

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

1. Select Diabetes Management System Option: **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: HYLBRON, 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):
  1  Not a Current user
  2  Current user (during Audit period):
     Not a Current User  PREVIOUS (FORMER) SMOKER 02/05/2014
     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):
  1 120/70 mm Hg 09/25/2019
  2 135/83 mm Hg 08/03/2019
  3 145/95 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
  3 Metformin [Glucophage, others]
  4 Sulfonylurea [glipizide, glyburide, others]
  5 DPP4 inhibitor [Alogliptin (Nesina), Linagliptin (Tradjenta), Saxagliptin (Oanalyl), 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]
Sample Individual Diabetes Audit

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, Prexartan)

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 **PR INTER NAME**, such as **S LA VE** or **S-O**, to print

<table>
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<th>DM20</th>
<th>2020 Diabetes Audit</th>
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<tbody>
<tr>
<td>DM19</td>
<td>2019 Diabetes Audit</td>
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<tr>
<td>DM18</td>
<td>2018 Diabetes Audit</td>
</tr>
<tr>
<td>DM17</td>
<td>2017 Diabetes Audit</td>
</tr>
<tr>
<td>DM16</td>
<td>2016 Diabetes Audit</td>
</tr>
</tbody>
</table>

**Select Audit Reporting Option:**

Tip: Choose **1** or **4** to print individual sheets for all active patients
## Sample Cumulative Diabetes Audit

**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

<table>
<thead>
<tr>
<th># of Patients Considered</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Numerator)</td>
<td>(Denominator)</td>
</tr>
</tbody>
</table>

### 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.

<table>
<thead>
<tr>
<th>Prescribed</th>
<th>Not Prescribed</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>4439</td>
<td>5822</td>
<td>76%</td>
</tr>
</tbody>
</table>

#### Tobacco and Nicotine Use

**Tobacco use screening during Audit period:**

<table>
<thead>
<tr>
<th>Screened</th>
<th>Not Screened</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>6407</td>
<td>1011</td>
<td>86%</td>
</tr>
</tbody>
</table>

**Tobacco use status:**

<table>
<thead>
<tr>
<th>Current tobacco user</th>
<th>In current users, cessation counseling/education received</th>
<th>Current users, cessation counseling/education received</th>
</tr>
</thead>
<tbody>
<tr>
<td>2431</td>
<td>Yes</td>
<td>1427</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>1003</td>
</tr>
<tr>
<td>Not a current tobacco user</td>
<td></td>
<td>4918</td>
</tr>
<tr>
<td>Tobacco use not documented</td>
<td></td>
<td>70</td>
</tr>
</tbody>
</table>

#### Tobacco use screening during Audit period

<table>
<thead>
<tr>
<th>Screened</th>
<th>Not Screened</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1953</td>
<td>5465</td>
<td>26%</td>
</tr>
</tbody>
</table>

**ENDS use status:**

<table>
<thead>
<tr>
<th>Current ENDS user</th>
<th>Not a current ENDS user</th>
<th>ENDs use not documented</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>2047</td>
<td>5321</td>
</tr>
</tbody>
</table>

#### Current user of both tobacco and ENDS

<table>
<thead>
<tr>
<th>Current user of both tobacco and ENDS</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>33</td>
<td>0%</td>
</tr>
</tbody>
</table>

#### Current user of tobacco and/or ENDS

<table>
<thead>
<tr>
<th>Current user of tobacco and/or ENDS</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>2448</td>
<td>33%</td>
</tr>
</tbody>
</table>

#### Diabetes Treatment

**Number of diabetes meds currently prescribed**

<table>
<thead>
<tr>
<th>Number of Meds</th>
<th>Current Prescribed</th>
<th>Not Current Prescribed</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>1377</td>
<td>7419</td>
<td>19%</td>
</tr>
<tr>
<td>One medication</td>
<td>2818</td>
<td>7419</td>
<td>38%</td>
</tr>
<tr>
<td>Two medications</td>
<td>2153</td>
<td>7419</td>
<td>29%</td>
</tr>
<tr>
<td>Three medications</td>
<td>883</td>
<td>7419</td>
<td>12%</td>
</tr>
<tr>
<td>Four or more medications</td>
<td>180</td>
<td>7419</td>
<td>2%</td>
</tr>
</tbody>
</table>

**Diabetes meds currently prescribed, alone or in combination**

<table>
<thead>
<tr>
<th>Meds</th>
<th>Current Prescribed</th>
<th>Not Current Prescribed</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insulin</td>
<td>2643</td>
<td>7419</td>
<td>36%</td>
</tr>
<tr>
<td>Metformin [Glucophage, others]</td>
<td>4573</td>
<td>7419</td>
<td>62%</td>
</tr>
<tr>
<td>Sulfonylurea [gliclizide, glyburide, others]</td>
<td>1722</td>
<td>7419</td>
<td>23%</td>
</tr>
<tr>
<td>DPP4 inhibitor [Alogliptin (Nesina), Linagliptin (Tradjenta), Saxagliptin (Onglyza), Sitagliptin (Januvia)]</td>
<td>468</td>
<td>7419</td>
<td>6%</td>
</tr>
<tr>
<td>GLP-1 agonist [Dulaglutide (Trulicity), Exenatide (Byetta, Bydureon), Liaglutide (Victoza), Semaglutide (Ozempic)]</td>
<td>354</td>
<td>7419</td>
<td>5%</td>
</tr>
<tr>
<td>SGLT-2 inhibitor [Canagliflozin, (Invokana), Dapagliflozin (Farxiga), Empagliflozin (Jardiance), Ertugliflozin (Steglatro)]</td>
<td>152</td>
<td>7419</td>
<td>2%</td>
</tr>
<tr>
<td>Pioglitazone [Actos] or rosiglitazone [Avandia]</td>
<td>506</td>
<td>7419</td>
<td>7%</td>
</tr>
<tr>
<td>Acarbose [Precose] or miglitol [Glyset]</td>
<td>13</td>
<td>7419</td>
<td>0%</td>
</tr>
</tbody>
</table>
### Sample Cumulative Diabetes Audit

<table>
<thead>
<tr>
<th>Medicine</th>
<th>Count</th>
<th>Total</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repaglinide [Prandin] or Nateglinide (Starlix)</td>
<td>55</td>
<td>7419</td>
<td>1%</td>
</tr>
<tr>
<td>Amylin analog [Symlin]</td>
<td>17</td>
<td>7419</td>
<td>0%</td>
</tr>
<tr>
<td>Bromocriptine [Cycloset]</td>
<td>2</td>
<td>7419</td>
<td>0%</td>
</tr>
<tr>
<td>Colesevelam [Welchol]</td>
<td>10</td>
<td>7419</td>
<td>0%</td>
</tr>
</tbody>
</table>

**Statin Prescribed**

- **Yes***: 4248 / 7206 (59%)

**In patients with diagnosed CVD**

- **Yes***: 1892 / 2602 (73%)

**In patients age 40-75 years**

- **Yes***: 3616 / 5802 (62%)

**In patients with diagnosed CVD and/or age 40-75 years**

- **Yes***: 3992 / 6346 (63%)

*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

<table>
<thead>
<tr>
<th>Vaccination Status</th>
<th>Numerator</th>
<th>Denominator</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refused - Influenza vaccine</td>
<td>615</td>
<td>7419</td>
<td>8%</td>
</tr>
<tr>
<td>Pneumococcal vaccine - ever</td>
<td>5731</td>
<td>7419</td>
<td>77%</td>
</tr>
<tr>
<td>Refused - Pneumococcal</td>
<td>303</td>
<td>7419</td>
<td>4%</td>
</tr>
<tr>
<td>Td/Tdap/DTap/DT - past 10 years</td>
<td>6567</td>
<td>7419</td>
<td>89%</td>
</tr>
<tr>
<td>Refused - Td/Tdap/DTap/DT</td>
<td>142</td>
<td>7419</td>
<td>2%</td>
</tr>
<tr>
<td>Tdap - ever</td>
<td>6753</td>
<td>7419</td>
<td>91%</td>
</tr>
<tr>
<td>Refused - Tdap</td>
<td>92</td>
<td>7419</td>
<td>1%</td>
</tr>
<tr>
<td>Hepatitis B complete series - ever</td>
<td>3371</td>
<td>7419</td>
<td>46%</td>
</tr>
<tr>
<td>Refused - Hepatitis B</td>
<td>186</td>
<td>7419</td>
<td>3%</td>
</tr>
<tr>
<td>Immune - Hepatitis B</td>
<td>99</td>
<td>7419</td>
<td>1%</td>
</tr>
</tbody>
</table>

Depression

<table>
<thead>
<tr>
<th>Active problem/diagnosis</th>
<th>Numerator</th>
<th>Denominator</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>2436</td>
<td>7419</td>
<td>33%</td>
</tr>
<tr>
<td>No</td>
<td>4983</td>
<td>7419</td>
<td>67%</td>
</tr>
</tbody>
</table>

In patients without active depression, screened for depression during Audit period:

<table>
<thead>
<tr>
<th>Screened</th>
<th>Not screened</th>
</tr>
</thead>
<tbody>
<tr>
<td>3588</td>
<td>4983</td>
</tr>
<tr>
<td>1395</td>
<td>4983</td>
</tr>
</tbody>
</table>

Lipid Evaluation - Note these results are presented as population level CVD risk markers and should not be considered treatment targets for individual patients.

<table>
<thead>
<tr>
<th>Lipid</th>
<th>Numerator</th>
<th>Denominator</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>LDL cholesterol</td>
<td>5654</td>
<td>7419</td>
<td>76%</td>
</tr>
<tr>
<td>LDL &lt;100 mg/dl</td>
<td>3698</td>
<td>7419</td>
<td>50%</td>
</tr>
<tr>
<td>LDL 100-189 mg/dl</td>
<td>1903</td>
<td>7419</td>
<td>26%</td>
</tr>
<tr>
<td>LDL &gt;=190</td>
<td>53</td>
<td>7419</td>
<td>1%</td>
</tr>
<tr>
<td>Not tested or no valid result</td>
<td>1765</td>
<td>7419</td>
<td>24%</td>
</tr>
</tbody>
</table>

HDL cholesterol

<table>
<thead>
<tr>
<th>Lipid</th>
<th>Numerator</th>
<th>Denominator</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>HDL &lt;50 mg/dl</td>
<td>1906</td>
<td>3997</td>
<td>48%</td>
</tr>
<tr>
<td>HDL &gt;=50 mg/dl</td>
<td>1172</td>
<td>3997</td>
<td>29%</td>
</tr>
<tr>
<td>Not tested or no valid result</td>
<td>919</td>
<td>3997</td>
<td>23%</td>
</tr>
</tbody>
</table>

Triglycerides [1]

<table>
<thead>
<tr>
<th>Lipid</th>
<th>Numerator</th>
<th>Denominator</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trig &lt;150 mg/dl</td>
<td>1954</td>
<td>7419</td>
<td>26%</td>
</tr>
<tr>
<td>Trig 150-499 mg/dl</td>
<td>2790</td>
<td>7419</td>
<td>38%</td>
</tr>
<tr>
<td>Trig 500-999 mg/dl</td>
<td>194</td>
<td>7419</td>
<td>3%</td>
</tr>
<tr>
<td>Trig &gt;=1000 mg/dl</td>
<td>40</td>
<td>7419</td>
<td>1%</td>
</tr>
<tr>
<td>Not tested or no valid result</td>
<td>2441</td>
<td>7419</td>
<td>33%</td>
</tr>
</tbody>
</table>

Kidney Evaluation

<table>
<thead>
<tr>
<th>Kidney Test</th>
<th>Numerator</th>
<th>Denominator</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>eGFR to assess kidney function</td>
<td>6377</td>
<td>7401</td>
<td>86%</td>
</tr>
<tr>
<td>eGFR &gt;=60 ml/min</td>
<td>5152</td>
<td>7401</td>
<td>70%</td>
</tr>
<tr>
<td>eGFR 30-59 ml/min</td>
<td>1072</td>
<td>7401</td>
<td>14%</td>
</tr>
<tr>
<td>eGFR 15-29 ml/min</td>
<td>108</td>
<td>7401</td>
<td>1%</td>
</tr>
<tr>
<td>eGFR &lt; 15 ml/min</td>
<td>45</td>
<td>7401</td>
<td>1%</td>
</tr>
<tr>
<td>eGFR Not tested or no valid result</td>
<td>1024</td>
<td>7401</td>
<td>14%</td>
</tr>
</tbody>
</table>

Urine Albumin:Creatinine Ratio (UACR) to assess kidney damage

<table>
<thead>
<tr>
<th>Urine albumin excretion</th>
<th>Numerator</th>
<th>Denominator</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal: &lt;30 mg/g</td>
<td>2619</td>
<td>3981</td>
<td>66%</td>
</tr>
<tr>
<td>Increased: 30-300 mg/g</td>
<td>1118</td>
<td>3981</td>
<td>28%</td>
</tr>
</tbody>
</table>

Note: All results are population level CVD risk markers and should not be considered treatment targets for individual patients.
## Sample Cumulative Diabetes Audit

### >300 mg/g

<table>
<thead>
<tr>
<th></th>
<th>Value 1</th>
<th>Value 2</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>244</td>
<td>3981</td>
<td>6%</td>
</tr>
</tbody>
</table>

Not tested or no valid result

<table>
<thead>
<tr>
<th></th>
<th>Value 1</th>
<th>Value 2</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>3438</td>
<td>7419</td>
<td>46%</td>
</tr>
</tbody>
</table>

In patients age >=18 years, eGFR and UACR

<table>
<thead>
<tr>
<th></th>
<th>Value 1</th>
<th>Value 2</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>3797</td>
<td>7401</td>
<td>51%</td>
</tr>
</tbody>
</table>

### Chronic Kidney Disease (CKD) (In age >=18 years)

<table>
<thead>
<tr>
<th>Condition</th>
<th>Value 1</th>
<th>Value 2</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>CKD [2]</td>
<td>2246</td>
<td>7401</td>
<td>30%</td>
</tr>
<tr>
<td>CKD [2] and mean BP &lt;140/&lt;90</td>
<td>1507</td>
<td>2246</td>
<td>67%</td>
</tr>
<tr>
<td>CKD [2] and ACE Inhibitor or ARB prescribed</td>
<td>1664</td>
<td>2246</td>
<td>74%</td>
</tr>
</tbody>
</table>

#### CKD Stage

- **Normal:** eGFR >=60 ml/min and UACR <30 mg/g
  - Value: 2103, 7401, 28%
- **Stages 1 and 2:** eGFR >=60 ml/min and UACR >=30 mg/g
  - Value: 986, 7401, 13%
- **Stage 3:** eGFR 30-59 ml/min
  - Value: 1072, 7401, 14%
- **Stage 4:** eGFR 15-29 ml/min
  - Value: 108, 7401, 1%
- **Stage 5:** eGFR <15 ml/min
  - Value: 45, 7401, 1%
- **Undetermined**
  - Value: 3087, 7401, 42%

### Tuberculosis (TB) Status

<table>
<thead>
<tr>
<th>Test Status</th>
<th>Value 1</th>
<th>Value 2</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>TB Test done ever (skin or blood)</td>
<td>3978</td>
<td>7419</td>
<td>54%</td>
</tr>
<tr>
<td>If test done, skin test</td>
<td>3279</td>
<td>3978</td>
<td>82%</td>
</tr>
<tr>
<td>If test done, blood test</td>
<td>699</td>
<td>3978</td>
<td>18%</td>
</tr>
<tr>
<td>If TB test done, positive result</td>
<td>485</td>
<td>3978</td>
<td>12%</td>
</tr>
<tr>
<td>If positive TB test, treatment</td>
<td>65</td>
<td>485</td>
<td>13%</td>
</tr>
</tbody>
</table>
  - completed
  - Value: 1698, 2968, 57%
| If negative TB test, test done after diabetes diagnosis | 3978, 7419, 54% |

### Hepatitis C (HCV)

<table>
<thead>
<tr>
<th>Condition</th>
<th>Value 1</th>
<th>Value 2</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagnosed HCV ever</td>
<td>316</td>
<td>7419</td>
<td>4%</td>
</tr>
</tbody>
</table>

In patients not diagnosed with HCV and age >= 18 years, screened ever

<table>
<thead>
<tr>
<th></th>
<th>Value 1</th>
<th>Value 2</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>3470</td>
<td>7096</td>
<td>49%</td>
</tr>
</tbody>
</table>

### Combined Outcome Measure

Patients age >= 40 years meeting ALL of the following criteria: A1C <8.0, Statin prescribed*, and mean BP <140/<90

*Denominator excludes patients with a statin allergy, intolerance, or contraindication

<table>
<thead>
<tr>
<th></th>
<th>Value 1</th>
<th>Value 2</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>1690</td>
<td>6492</td>
<td>26%</td>
</tr>
</tbody>
</table>

### Diabetes Related Conditions (In age >=18 years)

- **Severely obese (BMI >=40)**
  - Value: 1825, 7401, 25%
- **Hypertension diagnosed ever**
  - Value: 5818, 7401, 79%
- **Current tobacco user**
  - Value: 2428, 7401, 33%
- **CVD diagnosed ever**
  - Value: 2694, 7401, 36%
- **Retinopathy diagnosed ever**
  - Value: 1026, 7401, 14%
- **Lower extremity amputation ever (any type [e.g., toe, partial foot, above or below knee])**
  - Value: 151, 7401, 2%
- **Active Depression**
  - Value: 2431, 7401, 33%
- **CKD stage 3-5**
  - Value: 1225, 7401, 17%

### Number of diabetes related conditions

- **Diabetes only**
  - Value: 419, 7401, 6%
- **Diabetes plus:**
  - One
    - Value: 1413, 7401, 19%
  - Two
    - Value: 2253, 7401, 30%
  - Three
    - Value: 1977, 7401, 27%
  - Four
    - Value: 995, 7401, 13%
  - Five or more
    - Value: 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**
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.
### Sample Master List

**CONFIDENTIAL PATIENT INFORMATION**

---

**CHEMWA H CT**

**DIABETES REGISTER MASTER LIST**

Total number of patient selected for this report: 40

<table>
<thead>
<tr>
<th>HRN</th>
<th>LAST NAME</th>
<th>FIRST NAME</th>
<th>CASE MANAGER</th>
<th>VISIT</th>
<th>LAST REVIEW</th>
<th>NEXT REVIEW</th>
</tr>
</thead>
<tbody>
<tr>
<td>25634</td>
<td>ABUNE, LOUISE</td>
<td>LAVERNE</td>
<td></td>
<td>12/17/18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18623</td>
<td>ADGMUN, KAREN M</td>
<td></td>
<td></td>
<td>06/17/11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>32951</td>
<td>AEGIA STEFF, ANGELA T</td>
<td></td>
<td></td>
<td>01/16/96</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8876</td>
<td>BAGEI, DARELINE</td>
<td>L</td>
<td></td>
<td>05/07/14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23840</td>
<td>BAGEI, YOLANDA</td>
<td></td>
<td></td>
<td>11/05/13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>400030</td>
<td>BLACKSLEEVE, EPATIENT</td>
<td></td>
<td></td>
<td>03/15/16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>43167</td>
<td>BUOCHERD, CARMIN</td>
<td>J</td>
<td></td>
<td>05/18/06</td>
<td></td>
<td></td>
</tr>
<tr>
<td>46515</td>
<td>BYRD, ANDREA L</td>
<td></td>
<td></td>
<td>01/06/14</td>
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<td></td>
</tr>
<tr>
<td>10434</td>
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<td></td>
<td>05/01/14</td>
<td>03/22/17</td>
<td>12/22/16</td>
</tr>
<tr>
<td>44579</td>
<td>CHOKWO, KELLIE</td>
<td>E</td>
<td></td>
<td>11/07/13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6566</td>
<td>CLERK, JAMES S</td>
<td></td>
<td></td>
<td>04/21/14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23801</td>
<td>CLUSSUN, LINDA J</td>
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<td>HEAD, DON</td>
<td>10/15/13</td>
<td>12/08/16</td>
<td>06/08/17</td>
</tr>
<tr>
<td>14769</td>
<td>FARGOSUN, GINA</td>
<td>LOUANN</td>
<td></td>
<td>01/24/14</td>
<td>05/25/17</td>
<td>06/09/17</td>
</tr>
<tr>
<td>28220</td>
<td>HOGGYNS, HERBERT</td>
<td>J</td>
<td></td>
<td>07/27/06</td>
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<td></td>
</tr>
<tr>
<td>22447</td>
<td>HUOSAR, LANA E</td>
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<td></td>
<td>05/05/14</td>
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<td></td>
</tr>
<tr>
<td>9505</td>
<td>HYLORN, MARVEL J</td>
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</tr>
<tr>
<td>19818</td>
<td>JECKSON, ROBIN</td>
<td>L</td>
<td></td>
<td>05/07/14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8410</td>
<td>JOGOTEN, CHRISTOPHER</td>
<td></td>
<td></td>
<td>05/07/14</td>
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<td></td>
</tr>
<tr>
<td>9734</td>
<td>JUHN, PARK H III</td>
<td></td>
<td>ASHRAT, M</td>
<td>01/03/14</td>
<td>06/06/18</td>
<td>06/06/19</td>
</tr>
<tr>
<td>43400</td>
<td>LUFSTRUM, ERIC S</td>
<td></td>
<td></td>
<td>02/28/12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13363</td>
<td>MECKEREVYTZ, EVERETT</td>
<td></td>
<td>HEAD, DON</td>
<td>06/14/12</td>
<td>03/14/17</td>
<td>05/16/17</td>
</tr>
<tr>
<td>36514</td>
<td>PPATHAL, GUILLERMO JR</td>
<td></td>
<td></td>
<td>06/23/06</td>
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<td></td>
</tr>
<tr>
<td>39404</td>
<td>PUWALL, KATHY J</td>
<td></td>
<td></td>
<td>06/27/03</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5644</td>
<td>PYNNACUUSA, RUBENA G</td>
<td></td>
<td>CHANG, KUO</td>
<td>02/28/13</td>
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<td></td>
</tr>
<tr>
<td>8108</td>
<td>REMUS, LYLE</td>
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<td></td>
<td>04/18/14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7522</td>
<td>ROSSALL, MELANIE J</td>
<td></td>
<td></td>
<td>04/17/14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>45705</td>
<td>SLAAPYNGBAER, ALISA D</td>
<td></td>
<td></td>
<td>06/12/08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>47000</td>
<td>SMITHA, WENDY A</td>
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<td></td>
<td>02/02/15</td>
<td>09/15/17</td>
<td>09/15/17</td>
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<tr>
<td>14870</td>
<td>SMYTH, SHAWNA LOUISE</td>
<td></td>
<td></td>
<td>04/21/14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>31778</td>
<td>U’NAYLL, LAURA NOREEN</td>
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<td>02/15/13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>400032</td>
<td>WHITESLEEVE, GPATIENT</td>
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<td></td>
<td>08/23/16</td>
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<td></td>
</tr>
<tr>
<td>400027</td>
<td>WHITESLEEVE, BPATIENT</td>
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<td></td>
<td>08/01/18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>43942</td>
<td>WULFBECK, CAROLYN J</td>
<td></td>
<td></td>
<td>07/12/11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>50517</td>
<td>WYLSUN, LEROY MICHAEL</td>
<td></td>
<td></td>
<td>04/10/14</td>
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<td></td>
</tr>
<tr>
<td>400029</td>
<td>YELLOWSLLEEVE, DPATIEN</td>
<td></td>
<td></td>
<td>08/16/16</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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

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.

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

<table>
<thead>
<tr>
<th>Number</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ALL Exams/Procedures</td>
</tr>
<tr>
<td>11</td>
<td>Foot Exam</td>
</tr>
<tr>
<td>14</td>
<td>Depression Screening</td>
</tr>
<tr>
<td>2</td>
<td>ALL Patient Education</td>
</tr>
<tr>
<td>21</td>
<td>Nutrition</td>
</tr>
<tr>
<td>22</td>
<td>Exercise</td>
</tr>
<tr>
<td>3</td>
<td>ALL Immunizations/Vaccines</td>
</tr>
<tr>
<td>31</td>
<td>Seasonal Flu Shot</td>
</tr>
<tr>
<td>32</td>
<td>Pneumovax</td>
</tr>
<tr>
<td>33</td>
<td>Td/Tdap</td>
</tr>
<tr>
<td>34</td>
<td>TB Test</td>
</tr>
<tr>
<td>35</td>
<td>Hepatitis B</td>
</tr>
<tr>
<td>4</td>
<td>ALL Lab Tests</td>
</tr>
<tr>
<td>41</td>
<td>LDL Cholesterol</td>
</tr>
<tr>
<td>42</td>
<td>HDL Cholesterol</td>
</tr>
<tr>
<td>43</td>
<td>Cholesterol</td>
</tr>
<tr>
<td>44</td>
<td>Triglyceride</td>
</tr>
<tr>
<td>45</td>
<td>Creatinine</td>
</tr>
<tr>
<td>46</td>
<td>Hemoglobin A1c</td>
</tr>
<tr>
<td>47</td>
<td>Estimated GFR</td>
</tr>
<tr>
<td>48</td>
<td>A/C Ratio</td>
</tr>
<tr>
<td>49</td>
<td>Hepatitis C Screening</td>
</tr>
</tbody>
</table>

Type ‘ALL’ to include ALL Follow-up Needed
Which Report:
## #1: Sorted by PROVIDER

NPAIHB DIABETES Register - Active Patients
Follow-up Report: EYE EXAM
(For Patients due now or within the next 30 days)
REPORT DATE: FEB 25, 2020

<table>
<thead>
<tr>
<th>PROVIDER</th>
<th>PATIENT</th>
<th>HRN</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>APPLegate-MD, RO BAGEI, LAVERNA CHAROLETTE</td>
<td>23840</td>
<td>last EYE EXAM MAY 21, 2001</td>
<td></td>
</tr>
<tr>
<td>APPLegate-MD, RO BIARS-SCHROUARDAR, MARTINA L</td>
<td>35448</td>
<td>last EYE EXAM OCT 21, 2008</td>
<td></td>
</tr>
<tr>
<td>APPLegate-MD, RO BLECK, CONNIE L</td>
<td>29070</td>
<td>last EYE EXAM DEC 2, 2010</td>
<td></td>
</tr>
<tr>
<td>APPLegate-MD, RO LUFSTRUM, IRVIN</td>
<td>43400</td>
<td>last EYE EXAM FEB 19, 2010</td>
<td></td>
</tr>
<tr>
<td>APPLegate-MD, RO PEPPYN, TODD MYCHAL</td>
<td>35726</td>
<td>last EYE EXAM JAN 27, 2011</td>
<td></td>
</tr>
<tr>
<td>APPLegate-MD, RO WHAALAR, ALVIE D</td>
<td>11083</td>
<td>last EYE EXAM FEB 22, 1993</td>
<td></td>
</tr>
<tr>
<td>BISCHOFF, JASON NYVELE, CHRISTOPHER RAY</td>
<td>41963</td>
<td><em>NO</em> EYE EXAM on record.</td>
<td></td>
</tr>
<tr>
<td>HANSON, Aaron P BALGERDA, WILLIAM C L</td>
<td>37859</td>
<td>last EYE EXAM SEP 29, 2010</td>
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</tr>
<tr>
<td>HANSON, Aaron P BERYFALD, RITA K</td>
<td>22895</td>
<td>last EYE EXAM NOV 25, 2010</td>
<td></td>
</tr>
<tr>
<td>HANSON, Aaron P CUUNS, BILLY D</td>
<td>36358</td>
<td>last EYE EXAM JAN 27, 2011</td>
<td></td>
</tr>
<tr>
<td>HANSON, Aaron P DEWKYNS, DUSTIN B</td>
<td>40950</td>
<td>last EYE EXAM AUG 29, 2010</td>
<td></td>
</tr>
<tr>
<td>HANSON, Aaron P HUFMENN, TED</td>
<td>41915</td>
<td>last EYE EXAM DEC 12, 2010</td>
<td></td>
</tr>
<tr>
<td>HANSON, Aaron P KULB, COLINDA R</td>
<td>45446</td>
<td><em>NO</em> EYE EXAM on record.</td>
<td></td>
</tr>
<tr>
<td>HANSON, Aaron P LYTFYN, DEBRA</td>
<td>30775</td>
<td>last EYE EXAM NOV 17, 2010</td>
<td></td>
</tr>
<tr>
<td>HANSON, Aaron P SOLLI, GEORGE L</td>
<td>26904</td>
<td>last EYE EXAM MAY 16, 2005</td>
<td></td>
</tr>
<tr>
<td>HANSON, Aaron P THUMES, VIRGINIA RAE</td>
<td>29944</td>
<td>last EYE EXAM JAN 28, 2011</td>
<td></td>
</tr>
<tr>
<td>NOT LISTED</td>
<td>BLECKBAER, LISA LENORE</td>
<td>28605</td>
<td>last EYE EXAM NOV 4, 2010</td>
</tr>
<tr>
<td>NOT LISTED</td>
<td>HELSTAED, RACHAEL CASSANDR</td>
<td>8734</td>
<td>last EYE EXAM SEP 30, 2010</td>
</tr>
<tr>
<td>NOT LISTED</td>
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<td>22521</td>
<td><em>NO</em> EYE EXAM on record.</td>
</tr>
<tr>
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<td>SMYTH, MARK CARROLL</td>
<td>42959</td>
<td>last EYE EXAM JAN 14, 2010</td>
</tr>
</tbody>
</table>

## #2: Sorted by COMMUNITY

NPAIHB DIABETES Register - Active Patients
Follow-up Report: ALL Patient Education
(For Patients due now or within the next 30 days)
REPORT DATE: FEB 25, 2020

<table>
<thead>
<tr>
<th>COMMUNITY</th>
<th>PATIENT</th>
<th>HRN</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>BEAVERTON</td>
<td>BLECKBAER, LISA LENORE</td>
<td>28605</td>
<td><em>NO</em> EXERCISE ED on record.</td>
</tr>
<tr>
<td>BEAVERTON</td>
<td>HOYSMEN, TAMARA F</td>
<td>40222</td>
<td><em>NO</em> NUTRITION ED on record.</td>
</tr>
<tr>
<td>BEAVERTON</td>
<td>HOYSMEN, TAMARA F</td>
<td>40222</td>
<td><em>NO</em> EXERCISE ED on record.</td>
</tr>
<tr>
<td>BEAVERTON</td>
<td>HUFMENN, TED</td>
<td>41915</td>
<td><em>NO</em> NUTRITION ED on record.</td>
</tr>
<tr>
<td>BEAVERTON</td>
<td>HUFMENN, TED</td>
<td>41915</td>
<td><em>NO</em> EXERCISE ED on record.</td>
</tr>
<tr>
<td>CANBY</td>
<td>FUOSA, TONYA L</td>
<td>44027</td>
<td><em>NO</em> NUTRITION ED on record.</td>
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<tr>
<td>CANBY</td>
<td>FUOSA, TONYA L</td>
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<td><em>NO</em> EXERCISE ED on record.</td>
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<tr>
<td>ESTACADA</td>
<td>CREYN, MARCUS L JR</td>
<td>22545</td>
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<tr>
<td>ESTACADA</td>
<td>CREYN, MARCUS L JR</td>
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<td><em>NO</em> EXERCISE ED on record.</td>
</tr>
<tr>
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<td>SMYTH, KEVIN J</td>
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<td><em>NO</em> NUTRITION ED on record.</td>
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<tr>
<td>FOREST GROVE</td>
<td>SMYTH, KEVIN J</td>
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<td><em>NO</em> EXERCISE ED on record.</td>
</tr>
<tr>
<td>FOREST GROVE</td>
<td>SMYTH, KEVIN J</td>
<td>45328</td>
<td><em>NO</em> EXERCISE ED on record.</td>
</tr>
<tr>
<td>GRESHAM</td>
<td>SKYNNAR, BONNIE</td>
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</tr>
<tr>
<td>GRESHAM</td>
<td>SKYNNAR, BONNIE</td>
<td>13165</td>
<td><em>NO</em> EXERCISE ED on record.</td>
</tr>
</tbody>
</table>
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
9. 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.
10. 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:

<table>
<thead>
<tr>
<th>BUTTER, PEANUT</th>
</tr>
</thead>
<tbody>
<tr>
<td>12345</td>
</tr>
<tr>
<td>FOOT EXAM</td>
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<tr>
<td>last FOOT EXAM JUN 7,2014</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>APPLEGATE, ROGER</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOOT EXAM</td>
</tr>
<tr>
<td>last FOOT EXAM JUN 7,2014</td>
</tr>
<tr>
<td>EYE EXAM</td>
</tr>
<tr>
<td>last EYE EXAM FEB 28,2014</td>
</tr>
<tr>
<td>PAP SMEAR</td>
</tr>
<tr>
<td>last PAP SMEAR JUN 7,2014</td>
</tr>
</tbody>
</table>
Writing a Follow-Up Letter

---[ 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======T====>

### Letter Inserts

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

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

Type ‘ALL’ to include ALL Follow-up Needed

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
2) Patient Sex
3) Patient DOB
4) Birth Month
5) Patient Age
6) Patient DOD
7) Mlg Address-State
8) Mlg Address-Zip Code
9) Living Patients
10) Chart Facility
11) Patient Community
12) Patient Tribe
13) Eligibility Status
14) Class/Beneficiary
15) Cause of Death
16) Medicare Eligibility
17) Medicaid Eligibility
18) Priv Ins Eligibility
19) Primary Care Provider
20) Register Status
21) Patient’s Last Visit
22) Primary Care Provider
23) Register Status
24) Case Comments
25) Patient’s Last Review
26) Case History
27) Case Comments
28) Date Last Edit
29) Case History
30) Case Comments
31) Register Provider
32) Case History
33) Case Comments
34) Register Provider
35) Intervent Result
36) Case Plan
37) Care-Plan Comment
38) Complications
39) Complication Onset D
40) Complication Comment
41) Diagnoses
42) Date of Onset
43) Recall Date
44) Etiology
45) Risk Factors
46) Medications
47) Services
48) Diagnostic Criteria
49) Intervent Plan Categ
50) Intervent Result
51) Intervent Result
52) Intervent Result
53) Intervent Result
54) Intervent Result
55) Intervent Result
56) Intervent Result
57) Diagnoses

<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.)

PRINT Data Items Menu

1) Patient Name
2) Patient Chart #
3) Patient Sex
4) Patient SSN
5) Patient DOB
6) Birth Month
7) Patient Age
8) Patient DOD
9) Mlg Address-State
10) Mlg Address-City
11) Mlg Address-Zip Code
12) Home Phone
13) Mother’s Name
14) Patient Community
15) Patient Tribe
16) Eligibility Status
17) Class/Beneficiary
18) Cause of Death
19) Medicare Eligibility
20) Medicaid Eligibility
21) Medicaid Eligibility
22) Priv Ins Eligibility
23) Patient’s Last Visit
24) Primary Care Provider
25) Register Status
26) Initial Entry Date
27) Inactivation Date
28) Case Priority
29) Case Manager
30) PHN
31) Last Review Date
32) Next Review Date
33) Where PT Followed
34) Date Last Edited
35) Case Comments
36) Register Provider
37) Case History
38) Case History
39) Interventions
40) Interventions
41) Interventions
42) Interventions
43) Interventions
44) Interventions
45) Interventions
46) Interventions
47) Interventions
48) Interventions
49) Interventions
50) Interventions
51) Interventions
52) Interventions
53) Interventions
54) Interventions
55) Interventions
56) Interventions
57) Interventions

<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):
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
Sample GEN Reports (continued)

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

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
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

NPAIHB1 DIABETES REGISTER

<table>
<thead>
<tr>
<th>PATIENT NAME</th>
<th>Hrn</th>
<th>PRIMARY PROVIDER</th>
<th>LAST VISIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>KAERNS, PHYLLIS A G</td>
<td>WOR-30778</td>
<td>--</td>
<td>JAN 14, 2011</td>
</tr>
<tr>
<td>MURYN, MARTIE D</td>
<td>WOR-31065</td>
<td>--</td>
<td>DEC 08, 2012</td>
</tr>
<tr>
<td>NAWBRUGH, CARMEN YVO</td>
<td>WOR-33071</td>
<td>HANSON, AARON P</td>
<td>APR 05, 2012</td>
</tr>
<tr>
<td>COLLAN, RANDI MI CHELL</td>
<td>WOR-33832</td>
<td>HANSON, AARON P</td>
<td>JAN 13, 2011</td>
</tr>
<tr>
<td>FYNNYCOM, RONDA R</td>
<td>WOR-36126</td>
<td>HANSON, AARON P</td>
<td>JAN 11, 2011</td>
</tr>
<tr>
<td>CUUNS, BILLY D</td>
<td>WOR-36358</td>
<td>HANSON, AARON P</td>
<td>DEC 08, 2011</td>
</tr>
<tr>
<td>SHERAK, TONI L</td>
<td>WOR-40181</td>
<td>HANSON, AARON P</td>
<td>JAN 08, 2011</td>
</tr>
</tbody>
</table>

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

NPAIHB1 DIABETES REGISTER

PATIENT SUB-TOTALS BY: Primary Care Provider (PCC)

<table>
<thead>
<tr>
<th>Primary Care Provider (PCC)</th>
<th>Sub-Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADAMS, KAREN</td>
<td>13</td>
</tr>
<tr>
<td>APPLEGATE, ROGER H</td>
<td>34</td>
</tr>
<tr>
<td>BAILLEY, WILLIAM</td>
<td>10</td>
</tr>
<tr>
<td>BISCHOFF, JASON M FNP</td>
<td>39</td>
</tr>
<tr>
<td>HANSON, AARON P DO</td>
<td>1</td>
</tr>
<tr>
<td>LEE, DONNIE MD</td>
<td>1</td>
</tr>
<tr>
<td>LEMMERS, MICHAEL</td>
<td>1</td>
</tr>
</tbody>
</table>

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

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

Enter key, alias RETURN, <CR>, or just <->

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

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

type HALT

Use the Tab key to move from field to field

Use these to move, too.

==[ 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=====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.

<table>
<thead>
<tr>
<th>Status</th>
<th>Example 1*</th>
<th>Example 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Active</strong></td>
<td>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</td>
<td>Patients with at least 1 primary care visit in the past 12 months or patients who are not attending clinic, but you do not know if they have recently moved or found another source of care</td>
</tr>
<tr>
<td><strong>Inactive</strong></td>
<td>Patients not seen within the past 2 years or patients no longer utilizing any services of your facility, or who have moved away.</td>
<td>Patients who have moved away permanently or who you know to be receiving care elsewhere or who have not had a primary care visit in more than 2 years</td>
</tr>
<tr>
<td><strong>Transient</strong></td>
<td>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.</td>
<td>Not a local resident/resides outside of CHSDA</td>
</tr>
<tr>
<td><strong>Deceased</strong></td>
<td>self-explanatory</td>
<td>Patients you know to be deceased (does not require a death certificate on file)</td>
</tr>
<tr>
<td><strong>Non-IHS</strong></td>
<td>Non-Indian patients</td>
<td>Non-Indian patients</td>
</tr>
<tr>
<td><strong>Unreviewed</strong></td>
<td>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.</td>
<td>Patients on dialysis. Note: The word “unreviewed” has no relationship to dialysis — it is just a category that was not being used. By designating a status for dialysis patients, you can streamline reporting for that group.</td>
</tr>
<tr>
<td><strong>Lost to follow-up</strong></td>
<td>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.</td>
<td>Unable to contact, defined as at least 3 tries in 12 months (should be documented in the patient’s chart)</td>
</tr>
<tr>
<td><strong>Noncompliant</strong></td>
<td></td>
<td><em>seldom used; not searchable in QMAN</em></td>
</tr>
</tbody>
</table>

*Example 1 definitions are taken from recommendations for California diabetes programs in 2005.*
Finding New Patients with Diabetes

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// 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>**

Sample Results

<table>
<thead>
<tr>
<th>PATIENTS</th>
<th>SELLS</th>
<th>NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>WATERMAN, RAE*</td>
<td>100003</td>
<td></td>
</tr>
<tr>
<td>WHEELWRIGHT, MAND</td>
<td>100006</td>
<td></td>
</tr>
<tr>
<td>MILLER, SALLY*</td>
<td>100010</td>
<td></td>
</tr>
<tr>
<td>ROBERTS, DIANE*</td>
<td>100018</td>
<td></td>
</tr>
<tr>
<td>WHEELWRIGHT, WALL</td>
<td>100026</td>
<td></td>
</tr>
<tr>
<td>VON BRAUN, RAY</td>
<td>100031</td>
<td></td>
</tr>
<tr>
<td>SMITH, MAUDE</td>
<td>100047</td>
<td></td>
</tr>
<tr>
<td>WASHINGTON, JOAN*</td>
<td>100050</td>
<td></td>
</tr>
<tr>
<td>WINKERBEAN, JESS*</td>
<td>100053</td>
<td></td>
</tr>
<tr>
<td>SMITH, FAY*</td>
<td>100065</td>
<td></td>
</tr>
<tr>
<td>WHEELWRIGHT, MALC</td>
<td>100069</td>
<td></td>
</tr>
</tbody>
</table>

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

Start with your initials and use the current date to name your template.
Finding New Patients with Diabetes: Step 2

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)

**Sample Results**

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

<table>
<thead>
<tr>
<th>PATIENTS</th>
<th>SELLS</th>
<th>DX/ICD9</th>
<th>DATE OF POV</th>
<th>PROVIDER NARRATIVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>SELLING</td>
<td>NUMBER</td>
<td>#</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SMITH, CAROL</td>
<td>122695</td>
<td>250.00</td>
<td>FEB 28,1999</td>
<td>TYPE 2 DM</td>
</tr>
<tr>
<td>SMITH, CAROL</td>
<td>122695</td>
<td>250.00</td>
<td>MAY 25,1999</td>
<td>TYPE 2 DM</td>
</tr>
<tr>
<td>BRADY, MIKE</td>
<td>102695</td>
<td>250.00</td>
<td>MAR 15,1999</td>
<td>DIABETES</td>
</tr>
<tr>
<td>WILLIAMS, JASON</td>
<td>102052</td>
<td>250.00</td>
<td>APR 10,2000</td>
<td>DM SCREENING</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PATIENTS</th>
<th>G ROND</th>
<th>DX/ICD9</th>
<th>BENEFICIARY</th>
<th>CLASS</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUMBER</td>
<td>#</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WILLIAMS, MARCIA</td>
<td>988</td>
<td>+</td>
<td>INDIAN/ALASKA</td>
<td>NA</td>
</tr>
<tr>
<td>DAVIDSON, MARK</td>
<td>888</td>
<td>+</td>
<td>INDIAN/ALASKA</td>
<td>NA</td>
</tr>
<tr>
<td>BRADY, MIKE</td>
<td>34567</td>
<td>+</td>
<td>INDIAN/ALASKA</td>
<td>NA</td>
</tr>
<tr>
<td>FUDD, ELMER</td>
<td>88879</td>
<td>+</td>
<td>INDIAN/ALASKA</td>
<td>NA</td>
</tr>
<tr>
<td>Total: 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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.
Patients with No Date of Onset

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

** TRAINING HC **

DIABETES REGISTER PATIENTS WITH NO RECORDED DATE OF ONSET OF DIABETES
Patients on the IHS DIABETES Register

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

** 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)

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...)
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
Submitting the Electronic IHS Audit

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  
**DATE ESTABLISHED:** DEC 07, 2010  
**VIEW ALL LIST ENTRIES:** NO  
**ALLOW LAYGO FOR LIST ENTRIES:** NO  
**ELEMENTS:** COMPLICATIONS, DIAGNOSES, RISK FACTORS, REGISTER DATA, DIAGNOSTIC CRITERIA, CASE REVIEW DATES  
**REGISTER CREATOR:** HEAD, DON  
**AUTHORIZED USER:** KAKUSKA, ERIK  
**AUTHORIZED USER:** HEAD, DON  
**AUTHORIZED USER:** LOPEZ, KERRI  
**REGISTER CREATOR:** HEAD, DON/

---

**ABBREVIATION:** DM  
**REGISTER DEVELOPER:** POSTMASTER  
**PCC PROBLEM LIST:** YES  
**RESTRICT CATEGORY USE:** YES
Adding Users to Your Diabetes Register

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 ... ==&gt; <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.
# Diabetes and Pre-Diabetes Register Fields

## Stored in the register

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

## Stored in the main database (PCC), but viewable through register reports

<table>
<thead>
<tr>
<th>Registration information</th>
<th>Patient education</th>
<th>ECG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problem list</td>
<td>Depression as active diagnosis</td>
<td>Immunizations: Flu, pneumovax, Td or Tdap</td>
</tr>
<tr>
<td>Measurements: Height, weight, BMI, blood pressure</td>
<td>Depression screening</td>
<td>Labs: HbA1c, serum creatinine, estimated GFR, cholesterol, HDL, LDL, triglycerides, urine protein testing</td>
</tr>
<tr>
<td>Tobacco use &amp; counseling</td>
<td>Diabetes medications</td>
<td></td>
</tr>
<tr>
<td>Hypertension</td>
<td>ACE/ARB use</td>
<td></td>
</tr>
<tr>
<td>Exams: Foot, eye, dental</td>
<td>Antiplatelet therapy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lipid lower agents</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TB testing</td>
<td></td>
</tr>
</tbody>
</table>

## What people see in the regular record of a patient who is on a diabetes register

| On the health summary: Diabetes patient care supplement (DPCS) shows up at the end |
| In iCare: Register name displays in the individual patient’s record |
Allocating Security Keys for DMS

From your Site Manager’s menu:

Choose **MENU MANAGEMENT**
Choose **KEY MANAGEMENT**
Choose **ALLOCATION OF SECURITY KEYS**
Allocate key: **AMQQZMENU**
Another key: **AMQQZCLI N**
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.

**Example of a drug taxonomy on the RPMS training server.**

<table>
<thead>
<tr>
<th>DM AUDIT METFORMIN DRUGS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Items currently defined to this taxonomy:</strong></td>
</tr>
<tr>
<td>METFORMIN HCL 500 MG TABLETS</td>
</tr>
<tr>
<td>METFORMIN 500MG XR</td>
</tr>
<tr>
<td>METFORMIN 1000MG</td>
</tr>
<tr>
<td>Press enter to continue:</td>
</tr>
</tbody>
</table>

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.)

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.

---

**LAB TESTS Used at TRAINING**  
Date Range: Jan 01, 2019 - Dec 31, 2019

<table>
<thead>
<tr>
<th>LAB TEST NAME</th>
<th>IEN</th>
<th># DONE</th>
<th>UNITS</th>
<th>RESULT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 HOUR GLUCOSE (PRENATAL GLUCO</td>
<td>1255</td>
<td>12</td>
<td>mg/dL</td>
<td>74</td>
</tr>
<tr>
<td>17-HYDROXYPROGESTERONE</td>
<td>616</td>
<td>1</td>
<td>ng/dL</td>
<td>54</td>
</tr>
<tr>
<td>CORTISOL</td>
<td>114</td>
<td>1</td>
<td>mcg/dL</td>
<td>9.4</td>
</tr>
<tr>
<td>CREATININE</td>
<td>173</td>
<td>2,128</td>
<td>mg/dL</td>
<td>.9</td>
</tr>
<tr>
<td>DM AUDIT CREATININE TAX</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CREATININE CLEARANCE</td>
<td>1242</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CREATININE, URINE</td>
<td>9999171</td>
<td>7</td>
<td>mls</td>
<td>2.0</td>
</tr>
<tr>
<td>CYSTINE</td>
<td>432</td>
<td>1</td>
<td></td>
<td>NORMAL</td>
</tr>
<tr>
<td>D-DIMER</td>
<td>1665407</td>
<td>1</td>
<td></td>
<td>&lt;250</td>
</tr>
</tbody>
</table>

---

**MEDICATIONS (DRUGS) Used at TRAINING**  
Date Range: Jan 01, 2019 - Dec 16, 2019

<table>
<thead>
<tr>
<th>MEDICATION/DRUG NAME</th>
<th>IEN</th>
<th># DONE</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBUPROFEN 400MG TABLET</td>
<td>305</td>
<td>531</td>
</tr>
<tr>
<td>INDOMETHACIN 25MG CAPSULE</td>
<td>306</td>
<td>119</td>
</tr>
<tr>
<td>INSULIN NPH U-100</td>
<td>5177</td>
<td>216</td>
</tr>
<tr>
<td>DM AUDIT INSULIN DRUGS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>INSULIN REG.U-100</td>
<td>5176</td>
<td>216</td>
</tr>
<tr>
<td>DM AUDIT INSULIN DRUGS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IPRATROPİUM BROMİDE HFA INHALE</td>
<td>84071</td>
<td>197</td>
</tr>
<tr>
<td>IRBESARTAN 300MG TABLET</td>
<td>84557</td>
<td>329</td>
</tr>
<tr>
<td>LISINOPRİL 10MG TABLET</td>
<td>84332</td>
<td>773</td>
</tr>
<tr>
<td>DM AUDIT ACE INHIBITORS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LISINOPRİL 20MG TABLET</td>
<td>84333</td>
<td>541</td>
</tr>
<tr>
<td>DM AUDIT ACE INHIBITORS</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Sample Bad Taxonomies & How to Fix Them

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

<table>
<thead>
<tr>
<th>LABORATORY DATA during audit period</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Cholesterol:</strong> 179. mg/dl</td>
</tr>
<tr>
<td><strong>HDL Cholesterol:</strong> 43. mg/dl</td>
</tr>
<tr>
<td><strong>LDL Cholesterol:</strong> 179. mg/dl</td>
</tr>
<tr>
<td><strong>Triglycerides:</strong> 408. mg/dl</td>
</tr>
</tbody>
</table>

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: +/-
```

**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)
5. Select Action: +/- **R** (Remove an Item)
6. Remove Which Item (1-5): 2
7. Are you sure you want to remove the LDL CHOLESTEROL lab test? N// Y
8. 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)

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

<table>
<thead>
<tr>
<th>DIABETES TREATMENT</th>
<th>31</th>
<th>42%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diet and Exercise Alone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insulin</td>
<td>8</td>
<td>11%</td>
</tr>
<tr>
<td>Metformin</td>
<td>25</td>
<td>34%</td>
</tr>
</tbody>
</table>

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.

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)
6. Select Action: **+// A** (Add Taxonomy Item)
7. Select DRUG GENERIC NAME: **METFORMIN 1000 MG TABLET**
8. Select Action: **+// Q** (Quit)

Update taxonomies at least once a year, or when —

— Elements of care are not showing up on patient summaries, even though you know that the patient received them.
— Results look weird (too high, too low, or exactly the same as another test)
— Percentages on the cumulative audit are unexpectedly high or low
— A new patch has been installed
**IHS Diabetes Audit Medications**

**DM THERAPY**

**Insulin**
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 (Glucontrol)
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 (Juviasync)
Saxagliptin (Onglyza)
Saxagliptin and Metformin (Kombiglyze XR)

**Amylin analogs**
Pramlintide (Symlin)

**GLP-1 analogs**
Albiglutide (Tanzeum)
Dulaglutide (Trulicity)
Liraglutide (Victoza)

**Bromocriptine (Parlodel, Cycloset)**

**Colestevlam (Welcho)**

**ACE INHIBITORS/ ARBs**
Benazepril (Lotensin)
Benazepril and hydrochlorothiazide (Lotensin HCT)
Benazepril and amlodipine (Lotrel)
Captopril (Capoten)
Captopril and hydrochlorothiazide (Captopride)
Enalapril (Vasotec)
Enalapril and hydrochlorothiazide (Vaseretic)
Enalapril and diltiazem (Teczem)
Enalapril and felodipine (Lexcel)
Fosinopril (Monopril)
Lisinopril (Prinivil, Zestril)
Lisinopril and hydrochlorothiazide (Prinzide, Zestoretic)
Moexipril (Univasc)
Perindopril (Aceon)
Quinapril (Accupril)
Ramipril (Altace)
Trandolapril (Mavik)
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 CREATININE 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**

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**ANTI PLATELET Therapy**
Any non-aspirin anti-platelet product including Heparin and Warfarin (Coumadin)

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**Statin drugs**
Atorvastatin (Lipitor)
Atorvastatin and Amlodipine (Caduet)
Atorvastatin and Ezetimibe (Liptuzet)
Fluvastatin (Lescol)
Lovastatin (Mevacor, Altocor, Altoprev)
Lovastatin and Niacin (Advicor)
Pravastatin (Pravachol)
Pitivistan (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

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

**DM AUDIT MICROALBUMIN NURI A TAX**
Microalbumin, _Microalbumin, Albumin, Urine, POC Microalbumin

**DM AUDIT QUANT UACR**

**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
### 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 education*

- **CESSATION-SMOKELESS**
- **CESSATION-SMOKER**

#### 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
### ICD-9 Codes for DMS and QMAN Searches

#### DIABETES and PRE-DIABETES DIAGNOSES

<table>
<thead>
<tr>
<th>Type 1 and Type 2 diabetes</th>
<th>250.00-250.93</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type 1 diabetes</strong></td>
<td></td>
</tr>
<tr>
<td>Not stated as uncontrolled</td>
<td>250.01, 250.11, 250.21, 250.31, 250.41, 250.51, 250.61, 250.71, 250.81, 250.91</td>
</tr>
<tr>
<td>Uncontrolled</td>
<td>250.03, 250.13, 250.23, 250.33, 250.43, 250.53, 250.63, 250.73, 250.83, 250.93</td>
</tr>
<tr>
<td><strong>Type 2 diabetes</strong></td>
<td></td>
</tr>
<tr>
<td>Not stated as uncontrolled</td>
<td>250.00, 250.10, 250.20, 250.30, 250.40, 250.50, 250.60, 250.70, 250.80, 250.90</td>
</tr>
<tr>
<td>Uncontrolled</td>
<td>250.02, 250.12, 250.22, 250.32, 250.42, 250.52, 250.62, 250.72, 250.82, 250.92</td>
</tr>
<tr>
<td>Diabetes Screening</td>
<td>V77.1</td>
</tr>
<tr>
<td><strong>Metabolic syndrome, pre-diabetes</strong></td>
<td></td>
</tr>
<tr>
<td>Abnormal glucose</td>
<td>277.7</td>
</tr>
<tr>
<td>Impaired fasting glucose (IFG)</td>
<td>790.21</td>
</tr>
<tr>
<td>Impaired glucose tolerance (IGT) test (oral)</td>
<td>790.22</td>
</tr>
<tr>
<td>Other abnormal glucose</td>
<td>790.29</td>
</tr>
<tr>
<td><strong>Gestational Diabetes (GDM)</strong></td>
<td>648.80-648.84</td>
</tr>
</tbody>
</table>

#### 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, amyotrophy, peripheral angiopathy, arthropathy, 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, amyotrophy, peripheral angiopathy, arthropathy, 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
### Table 1. IHS Standards of Care for Type 2 Diabetes Summary

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

**IHS Standards of Care for Type 2 Diabetes (2012, excerpt)**

**Excerpt**
IHS Standards of Care for Type 2 Diabetes (2012, excerpt)

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.
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*, polycystic 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
2020 Diabetes Audit Logic Descriptions

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.
2020 Diabetes Audit Logic Descriptions

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

\[ \text{BMI} = \left( \frac{\text{weight}}{\text{height} \times \text{height}} \right) \times 703. \]

\[
\text{weight}=\text{the last weight (in lbs) documented during the Audit period.} \]

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**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 is 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, 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 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.
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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.

<table>
<thead>
<tr>
<th>Therapy</th>
<th>Taxonomy Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insulin</td>
<td>DM AUDIT INSULIN DRUGS</td>
</tr>
<tr>
<td>Metformin</td>
<td>DM AUDIT METFORMIN DRUGS</td>
</tr>
<tr>
<td>Sulfonylurea</td>
<td>DM AUDIT SULFONYLUREA DRUGS</td>
</tr>
<tr>
<td>DPP4 inhibitor</td>
<td>DM AUDIT DPP4 INHIBITOR DRUGS</td>
</tr>
<tr>
<td>GLP-1 agonist</td>
<td>DM AUDIT GLP-1 ANALOG DRUGS</td>
</tr>
<tr>
<td>SGLT-2 inhibitor</td>
<td>DM AUDIT SGLT-2 INHIBITOR DRUG</td>
</tr>
<tr>
<td>Pioglitazone, rosiglitazone</td>
<td>DM AUDIT GLITAZONE DRUGS</td>
</tr>
<tr>
<td>Acarbose, miglitol</td>
<td>DM AUDIT ACARBOSE DRUGS</td>
</tr>
<tr>
<td>Rapaglinide, Nateglinide</td>
<td>DM AUDIT SULFONYLUREA-LIKE</td>
</tr>
<tr>
<td>Amylin analog</td>
<td>DM AUDIT AMYLIN ANALOGUES</td>
</tr>
<tr>
<td>Bromocriptine</td>
<td>DM AUDIT BROMOCRIPTINE DRUGS</td>
</tr>
<tr>
<td>Colesevelam</td>
<td>DM AUDIT COLESEVELAM DRUGS</td>
</tr>
</tbody>
</table>

**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/ ANTI COAGULANT THERAPY**

Two taxonomies are used to find Aspirin and Other Antiplatelet/Anticoagulant therapy: DM AUDIT ASPIRIN DRUGS; DM AUDIT ANTIPLT/
ANTI COAG 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: 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
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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.


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: 003.9; 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 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:

<table>
<thead>
<tr>
<th>Health Factor</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>TX COMPLETE</td>
<td>1 - Yes</td>
</tr>
<tr>
<td>TX INCOMPLETE</td>
<td>2 - No</td>
</tr>
<tr>
<td>TX UNTREATED</td>
<td>2 - No</td>
</tr>
<tr>
<td>TX IN PROGRESS</td>
<td>2 - No</td>
</tr>
<tr>
<td>TX UNKNOWN</td>
<td>3 - Unknown</td>
</tr>
</tbody>
</table>

**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, IN
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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, quadr
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 are 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  DTaPlPvHb
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 VPOV 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.
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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 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” category. 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 stripped from the value.
2020 Diabetes Audit Logic Descriptions

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 of the Northwest Portland Area Indian Health Board’s (NPAIHB) Tribal Epidemiology Center.

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