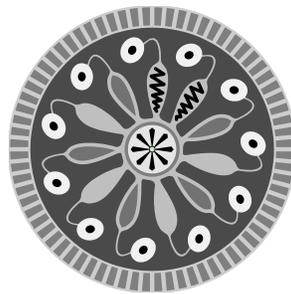


AUDIT 2012

IHS Diabetes Care and Outcomes Audit for Quality Assurance and Quality Improvement

IHS Division of Diabetes Treatment and Prevention



January 2012



Indian Health Service
Division of Diabetes Treatment and Prevention
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<http://www.ihs.gov/MedicalPrograms/Diabetes/>

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Preface

Welcome to AUDIT 2012!

If you have not previously participated in an Indian Health Service (IHS) Diabetes Chart Audit, **please take time to read these instructions carefully before beginning** your audit activities.

Even if you are already familiar with the annual Diabetes Audit process, you will find that there are small changes for 2012. Refer to the information below for a brief summary of this year's changes. Use the Quick Start Directions for a concise review of the steps involved in performing either a manual or an electronic audit.

The WebAudit, fully implemented during the 2008 Audit cycle, will continue to supplant the previously used Epi Info audit program, providing a more secure method of transmitting the audit data to the IHS Division of Diabetes and an easier way of producing reports.

What's New in AUDIT 2012?

→ New items:

- Completion of Hepatitis B (3 dose) series has been added to the Immunizations section. This is in keeping with Advisory Committee on Immunization Practices (ACIP) recently published recommendations. (p. 18.)

→ Deleted items:

- No deleted audit elements.

→ Modification of items/reports:

- The TREATMENT – DM Therapy section beginning on p. 16 contains a new choice: Colesevelam (Welchol®).
- The audit summary report contains the following changes:
 - Colesevelam (Welchol) was added as an option under “DM Therapy,” and
 - Hepatitis B series is now included under Immunizations.

→ Potential future audit changes:

- Strong consideration is being given to removing the "Refused" option from most (if not all) audit elements, beginning in AUDIT 2013.

Quick Start Directions

For Manual Audits

1. From a listing of all active diabetes patients, select in random fashion the appropriate number of charts to review. (See p. 12).
- 2. Review the 2012 audit form, definitions and criteria with all chart reviewers.** (Section begins on p. 14).
3. Perform the chart audit and complete an audit form for each chart reviewed. **Be sure to complete all relevant items.**
4. Access the WebAudit and enter the facility information. (See p. 21).
5. Enter the data from each audit form into the WebAudit. (See p. 21).
6. Clean and edit the data as necessary. (See p. 25).
7. Review the audit summary report and other reports, if desired. (See p. 25).
8. Once all data has been entered and cleaning/editing is complete, “lock the data” for the facility. (See p. 26).

For Electronic Audits

Using Resource and Patient Management System (RPMS):

1. Select **Diabetes Management System** (menu item “**DMS**”).
2. Select **Diabetes QA Audit Menu** (menu item “**DA**”).
3. Select **2012 Diabetes Program Audit** (menu item “**DM12**”).
4. The program will check on the taxonomies needed to support the 2012 audit.
5. Select **Run 2012 Diabetes Program Audit** (menu item “**DM12**”).
6. Complete the items regarding name of official diabetes register and whether your community receives Special Diabetes Program for Indians (SDPI) grant funds. If it does, provide your Grant Number, also known as an Award Number, which can be found in item 3 in the *Notice of Grant Award* (commonly referred to as the ‘*NoA*’ or ‘*NGA*’) for your SDPI funds.

7. Enter the audit date (this is the **ending date** of the audit period).
8. Select the type of sample (choices include individual patients, a search template of patients, or members of a CMS Register).
9. Decide whether you wish to limit the audit to a particular provider or a particular community (“No” would be the correct choice here for audit data submitted to Division of Diabetes via the WebAudit).
10. Decide whether to audit all patients selected, or a random sample of the selected patients (usually all patients would be the correct choice here).
11. Select an output: Choice 2 (Create Audit Data File) creates a file that is readable in MSExcel and can be uploaded to the WebAudit.
12. Obtain the newly created data file and upload it to the WebAudit. (See p. 24).
13. Clean and edit the data as necessary. (See p. 25).
14. Enter facility information into the WebAudit (Section *b. Uploading the Data File to the WebAudit*, steps 3-6).
15. Review the audit summary report and other reports, if desired (See p. 25).
16. Once all data has been entered and all cleaning/editing is complete, “lock the data” for the facility (See p. 26).

Using NextGen, i2iTracks or other similar non-RPMS medical records software:

1. Consult appropriate local personnel to create an electronic audit data file.
2. Follow steps 12-16 above. (Starting at p. 24).

Instructions for the 2012 IHS Diabetes Care and Outcomes Audit

1. Introduction

The Indian Health Service (IHS) Diabetes Care and Outcomes Audit (often shortened to “the Audit”) is a process for assessing diabetes care and health outcomes for American Indians and Alaska Natives (AI/ANs) with diagnosed diabetes. IHS, Tribal, and Urban (I/T/U) health care facilities nationwide participate in this process each year by performing a self-audit of medical records for their patients with diabetes.

Assessing the care and health of patients with diabetes on a regular basis allows health care facilities to see the strengths and weaknesses of the diabetes care they are providing. By carefully reviewing the results of their audits, facilities can identify areas for improvement and implement strategies to work towards the goal of providing all diabetes patients with the highest quality of care, as outlined in the *IHS Standards of Care and Clinical Practice Recommendations: Type 2 Diabetes*.

To perform an audit, data for patients with diabetes are collected at the local clinic or hospital by one of two different methods:

- Manual chart review, where one physically examines the medical record and uses its information to complete an audit form. Data from the audit forms are then entered into a central database via the WebAudit audit data entry tool. This method is referred to as a “**manual audit**”.
- Extracting data from an electronic health record system into a data file, usually via the Resource and Patient Management System (RPMS). The electronic data file is then uploaded into a central database via the WebAudit’s upload tool. This method is referred to as an “**electronic audit**” or simply an “**e-audit**”.

Once a year, facilities submit their data to the IHS Division of Diabetes of Treatment and Prevention for centralized processing and analysis, referred to as the annual diabetes audit. We strongly encourage you to use the calendar year (January 1 through December 31) as the audit period for your annual diabetes audit. The data are aggregated and used to generate reports to meet the need for nationwide information for Government Performance and Results Act (GPRA), Congress, and other IHS and Federal agencies. Using a uniform process and standardized definitions provides consistency and allows valid comparison of your facility with other (I/T/U) facilities. Diabetes care, as assessed by the audit, is compared to the *IHS Standards of Care and Clinical Practice Recommendations: Type 2 Diabetes*.

For those performing a manual audit, instructions for sample size calculations, selecting charts for the audit, and standard definitions for each item are outlined later in this document. For electronic audits, all active diabetes patients receiving the majority of their primary care at the facility should be included. Additional assistance, if necessary, can be obtained from your Area Diabetes Consultant (ADC).

2. Chart Audits For Quality Assessment And Improvement Activities

For any facility to provide quality diabetes care, ongoing self-assessment and improvement activities are necessary. A number of techniques or methods to pursue improvement may be employed. A central feature of each of these systems is some form of an improvement cycle:

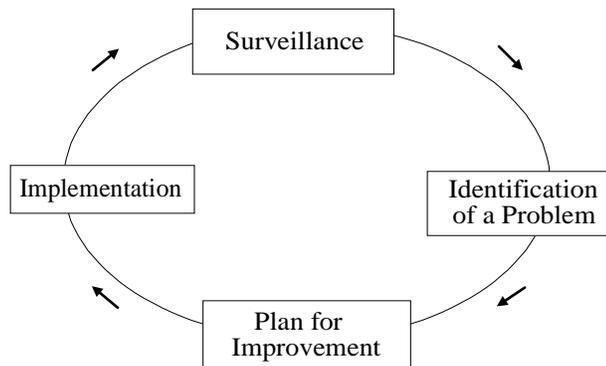


Image 1. Improvement Cycle Example: Surveillance, Identification of a Problem, Plan for Improvement, Implementation

With respect to diabetes, the basic questions to be answered are straightforward: “*Are we doing those things that we agreed were important for maximizing the health of our patients with diabetes?*” and “*Are there ways that we could do better?*” Getting accurate and reliable answers is more complex, of course, but the diabetes audit is designed to make it easier to do just that.

The IHS Division of Diabetes recommends annual or more frequent medical record review to monitor care patterns and changes over time at your facility. Those performing electronic audits are encouraged to include **all of their active diabetes patients** in the review. Manual auditors should select in a random manner a large enough sample of medical records to be reasonably certain that observed changes are significant and not just due to chance (see sections 4 and 5, starting at p. 8). Facilities are encouraged to review the audit reports in a team setting, establish priorities together, and develop an action plan with a timetable for re-evaluation.

3. Adapting The Chart Audit To Meet JCAHO/AAAHc Requirements

The health care environment continues to evolve, both within and outside of IHS. In keeping with recent changes, both Joint Commission on Accreditation of Healthcare Organizations (JCAHO) and Accreditation Association for Ambulatory Health Care (AAAHc) emphasize patient-centered, performance-based evaluations. Health centers are asked to demonstrate the efficacy and appropriateness of the care they provide. JCAHO and AAAHC both seek to determine whether a health facility is actually carrying out those functions that reasonably can be expected to improve the health of the patients they serve.

If JCAHO or AAAHC accreditation is important to your facility, you will be pleased to find that the diabetes audit process described here can serve as an excellent example of the type of performance oriented clinical self-assessment and improvement activity that both of these organizations require. The diabetes audit is based on consensus-derived standards of care. These standards are reviewed regularly and then widely disseminated.

The audit looks at your facility's actual performance on a number of key processes that are known to (or considered likely to) improve the health of people with diabetes. Outcome measures, such as blood pressure control and glycemic control, are also monitored. Because the diabetes audit is designed to be performed on a regular basis, it can be extremely useful in documenting performance trends that JCAHO or AAAHC find of interest. Additionally, when the diabetes audit results are routinely incorporated into multidisciplinary diabetes care planning activities, they provide a clear illustration of interdepartmental coordination to improve patient care.

4. Manual Chart Review vs. Electronic (RPMS) Auditing

As mentioned in the Introduction on p. 6, for any given patient, information on diabetes care elements and outcome measures may be gathered in one of two ways: either by sitting down and physically reviewing the medical record (a “manual audit”), or by performing a computerized review using RPMS’ Diabetes Management module (an “electronic audit” or “e-audit”). A few sites use non-RPMS software to conduct their e-audits.

There are pros and cons to both the manual and electronic audits. The manual chart review is more time consuming and is subject to both the benefits and liabilities of requiring human judgment during the audit process. The electronic audit is much quicker, although it requires time and attention to careful set up before the first audit can be run. E-audits are independent of human judgment since determinations are made by internally programmed computer logic and are therefore more consistent than manual audits. Their accuracy is more subject to proper PCC documentation, coding and data entry issues.

More and more facilities are opting to perform e-audits due to the time savings and ease of performing regular periodic audits once the initial setup has been completed. We encourage the use of electronic audits whenever feasible.

For facilities wishing to transition from a manual to an electronic audit, it is imperative that they *initially* run simultaneous manual and e-audits to compare the results. In theory, results from the manual and e-audit should be quite similar. If the results of one or more of the audit elements are significantly different, an investigation into the reason(s) for the difference needs to be undertaken. Once the differences are resolved, electronic auditing then could be used as the primary source of audit data.

Section 5, which begins on the next page, contains instructions for performing a manual audit (p. 9). If instead you will be performing an electronic audit, you may skip Section 5 and go directly to Section 6 *Performing an Electronic Audit*, beginning on p. 22

5. Performing A Manual Chart Audit

a. Sample Size Calculations

For manual auditors, the time requirements of the chart review process generally make it impractical to review all active diabetes patients. Rather than reviewing all records, a random sample of records may be selected for review. The number of charts you need to select depends on the number of active patients in your diabetes register.

Table 1 *Sample Size Calculations* on the next pages outlines the minimum number of charts you will need to review to be reasonably sure (90% confident) that a 10% difference noted from a previous or subsequent audit is a real change and not just due to chance. If, for example, your facility has 1000 active patients with diabetes, you will need to audit at least 63 charts.

For Statisticians and Geeks Only (you know who you are):

The audit sample size calculations in Table 1 use the following method:

$$\text{Sample size} = n / (1 + (n / \text{population}))$$

$$\text{in which } n = Z * Z(P(1-P) / D * D)$$

Sample size = size of sample randomly selected from the population of active DM patients.

Population = total number of active patients in the diabetes register at your site.

P = true proportion of audit factor in the population (since this is not known exactly, it is taken as 50% (i.e., 0.5) as the most conservative value)

D = (Maximum) difference between sample mean and population mean (Table 1 lists *within ± 10%* and *within ± 5%*, which corresponds to a D value of 0.1 and .05, respectively).

Z = area under normal curve corresponding to the desired confidence level:

| Confidence | Z |
|------------|-------|
| .90 | 1.645 |
| .95 | 1.960 |
| .99 | 2.575 |

Reference: Kish (1965)

Table 1. Sample Size Calculations

Sample size needed to be 90% or 95% certain that the rate you find is within 10% or within 5% of the true rate, for populations up to 3000.

* The column in bold shows the minimum number of charts recommended.

| Population (# of DM Patients) | 90% Certainty *Within 10% | 90% Certainty Within 5% | 95% Certainty Within 10% | 95% Certainty Within 5% |
|--|-------------------------------------|----------------------------|-----------------------------|----------------------------|
| <30 | all | all | all | all |
| 30 | 21 | 27 | 23 | 28 |
| 40 | 25 | 35 | 28 | 36 |
| 50 | 29 | 42 | 33 | 44 |
| 60 | 32 | 49 | 37 | 52 |
| 70 | 34 | 56 | 40 | 59 |
| 80 | 37 | 62 | 44 | 66 |
| 90 | 39 | 68 | 46 | 73 |
| 100 | 40 | 73 | 49 | 79 |
| 110 | 42 | 78 | 51 | 86 |
| 120 | 43 | 83 | 53 | 91 |
| 130 | 44 | 88 | 55 | 97 |
| 140 | 46 | 92 | 57 | 103 |
| 150 | 47 | 96 | 59 | 108 |
| 160 | 48 | 101 | 60 | 113 |
| 170 | 48 | 104 | 61 | 118 |
| 180 | 49 | 108 | 63 | 123 |
| 190 | 50 | 112 | 64 | 127 |
| 200 | 51 | 115 | 65 | 132 |
| 220 | 52 | 121 | 67 | 140 |
| 240 | 53 | 127 | 69 | 148 |
| 260 | 54 | 133 | 70 | 155 |
| 280 | 54 | 138 | 72 | 162 |
| 300 | 55 | 142 | 73 | 168 |
| 320 | 56 | 147 | 74 | 175 |
| 340 | 56 | 151 | 75 | 180 |
| 360 | 57 | 154 | 76 | 186 |
| 380 | 57 | 158 | 77 | 191 |

| Population (# of DM Patients) | 90% Certainty *Within 10% | 90% Certainty Within 5% | 95% Certainty Within 10% | 95% Certainty Within 5% |
|--|--------------------------------------|------------------------------------|-------------------------------------|------------------------------------|
| 400 | 58 | 161 | 77 | 196 |
| 420 | 58 | 165 | 78 | 201 |
| 440 | 59 | 168 | 79 | 205 |
| 460 | 59 | 170 | 79 | 209 |
| 480 | 59 | 173 | 80 | 213 |
| 500 | 60 | 176 | 81 | 217 |
| 525 | 60 | 179 | 81 | 222 |
| 550 | 60 | 181 | 82 | 226 |
| 575 | 61 | 184 | 82 | 230 |
| 600 | 61 | 186 | 83 | 234 |
| 650 | 61 | 191 | 84 | 241 |
| 700 | 62 | 195 | 84 | 248 |
| 800 | 62 | 202 | 86 | 260 |
| 900 | 62 | 208 | 87 | 269 |
| 1000 | 63 | 213 | 88 | 278 |
| 2000 | 65 | 238 | 92 | 322 |
| 3000 | 66 | 248 | 93 | 341 |

* The column in bold shows the **minimum** number of charts recommended.

b. Inclusions and Exclusions

The diabetes register will often include people who are not considered active patients of the clinic and thus should not be audited. These charts should be identified early in the audit process and excluded.

Table 2. Patients to Include and Exclude in the Chart Audit outlines the patients which are to be included and excluded.

Table 2. Patients to Include and Exclude in the Chart Audit

| |
|---|
| <p>INCLUDE PATIENTS WHO:</p> <ul style="list-style-type: none">• Attend regular clinics or diabetes clinics.• Sometimes refuse care or have special motivational problems (e.g., alcoholism).• Are not currently attending clinic, but you do not know if they have moved or have found another source of care. <p>EXCLUDE PATIENTS WHO:</p> <ul style="list-style-type: none">• Have not had at least 1 primary care visit during the past 12 months.• Receive primarily referral or contract care, paid by IHS.• Have arranged other physician care, paid with non-IHS monies.• Receive their primary care at another IHS or Tribal health facility.• Live in a jail, and receive their care there.• Live in a nursing home, and receive their care there.• Attend an off-site dialysis unit and receive the majority of their care there.• Have gestational diabetes.• Have pre-diabetes (impaired fasting glucose [IFG] or impaired glucose tolerance [IGT] only).• Have moved – permanently or temporarily (should be documented).• You are unable to contact, defined as at least 3 tries in 12 months (should be documented in the medical record).• Have died. |
|---|

Keep in mind that unless your diabetes register is constantly updated, some portion of the people in the “Active” diabetes registry may not qualify to be included in the audit. To make sure you have an adequate sample at the end of the audit, **increase the chart sample by at least 10%**. In the example of 63 charts used above, this would mean an additional 6 charts, or a total of 69, would need to be pulled for the audit.

c. Chart Selection

A systematic random sampling technique will provide the best representative sample for a manual audit. This is done in the following fashion: Suppose you need to select 69 charts from a registry list of 1000 patients. First, divide 1000 by 69, which yields the number 14.4. You now know that you must select one chart out of 14.

However, don't automatically start with the first person. Use any method of random chance to determine which one of the first 14 people on the list should be selected. For example, you could number 14 pieces of paper with "1" through "14" and have someone draw one, or simply ask someone to randomly pick a number between 1 and 14. Use that number to select the first person for the chart audit.

Proceed through the entire list, selecting every 14th person on the list, and then pull the medical record for each of the selected persons. **Please note that it is important to track down the charts that are missing from Medical Records as these are likely to belong to patients who have been seen recently and may have high compliance with the IHS Standards of Care and Clinical Practice Recommendations: Type 2 Diabetes.**

d. Completing the Audit Form

Manual auditors may obtain a 2012 audit form from the IHS Division of Diabetes website:
<http://www.ihs.gov/MedicalPrograms/Diabetes/index.cfm?module=resourcesAudit>

Using the instructions that follow, review the medical record to see if each of the indicators are satisfied. If you cannot find a result in the chart, then for the purposes of the audit, apply the old dictum,

"If it is not documented, it did not happen."

Finally, please remember all medical records are confidential documents and need to be handled with discretion for personal health information. When not working with records, do not leave them unattended: it's better to store them until needed.

e. Assessment of Diabetes Care and Outcomes, 2012 ITEM DESCRIPTION

For the purposes of this audit, a **VISIT** is defined as any *primary care* visit, including walk-in clinics. Do not include dental, eye care, patient education, surgery clinics, etc.

DEMOGRAPHIC DATA –

Audit Period Ending Date: Ending date of the 1 year (365 day) audit period. Recommended ending date is 12/31/2011 for the annual audit submitted to IHS Division of Diabetes in 2012.

FACILITY NAME: Enter your facility's name or abbreviation. This is for confirmation purposes only, since the WebAudit will automatically supply the name for you.

REVIEWER: Enter the initials of the person doing the medical chart review (maximum of 3 letters).

TRIBAL Enrollment Code: Enter the patient's 3-digit Tribal code from IHS Standard Codebook, see: http://www.ihs.gov/scb/index.cfm?module=W_TRIBE&option=list&num=57&newquery=1

STATE of Residence: Enter the 2-character postal abbreviation for the State in which the person resides. If the person lives outside of the United States (e.g., in Canada), leave blank.

CHART NUMBER: Chart numbers must consist only of numbers (no letters or other non-numeric characters). The Chart Number is a *required* element and **MUST** be entered.

DATE of Birth: Self-explanatory (this is a *required* element and **MUST** be entered).

SEX: Self-explanatory (this is a *required* element and **MUST** be entered). 1=Male, 2=Female

DATE of Diabetes Diagnosis: Enter the date the patient was first diagnosed with diabetes. If only the year of diagnosis is stated, enter the middle of that year (i.e., "07/01/<year>"). If only the month and year are stated, enter the middle day of that month (i.e., the 15th). Leave blank if date is unknown.

DM TYPE: Specify if the patient has (1) Type 1 (also referred to as IDDM, juvenile-onset diabetes), or (2) Type 2 (also referred to as NIDDM, adult-onset diabetes). Keep in mind that not all insulin-using patients have Type 1 Diabetes – in fact, most of them have Type 2 Diabetes. If uncertain, mark as (2) Type 2.

TOBACCO USE: List most current documented status of tobacco use (cigarettes, chewing tobacco, snuff, etc. taken from the health summary, problem list or flow sheet. Mark (1) Current user of tobacco, (2) Not a current user of tobacco, or (3) Tobacco use not documented.

- **Cessation counseling received?** [to be completed *only* if patient currently uses tobacco].
 - (1) Yes, if provider documents cessation counseling or referral for cessation counseling during the audit period,
 - (2) No, if no cessation counseling during the audit period, or
 - (3) Refused, if documented that patient declines/refuses cessation counseling efforts.

VITAL STATISTICS –

HEIGHT: Enter height in inches, or in feet and inches. Fractional parts of an inch may be entered in decimal form (for example, 63 and 1/2 inches = 63.5, 71 and 3/4 inches = 71.75).

Last WEIGHT In Audit Period: Record in pounds. If pregnant, use last non-pregnant weight.

HTN documented (DX or RX): (1) Yes, hypertension diagnosis is on the problem list or visit assessment, or medication for hypertension is prescribed. (2) No documented hypertension diagnosis or meds.

Last 3 BLOOD PRESSURES: Record the last blood pressures **obtained in a non-ER setting and within the audit period**, up to a maximum of 3. A mean BP will be automatically calculated based on the last 3 BP readings if 3 readings or available, otherwise on the last 2 BPs.

EXAMINATIONS (during audit period) –

FOOT EXAM: Examination must include evaluation of sensation and vascular status.

EYE EXAM: Examination must include a dilated eye exam or stereo fundus photographs by a retinal camera.

DENTAL EXAM: Must include examination of the gingiva and mucosal surfaces. It is possible that dental records may be kept separate from the medical records at your facility, and will need to be located for review.

EDUCATION (during audit period) – From flow sheets, progress notes, PHN referral or consults.

DIET INSTRUCTION: Note any mention of diet instruction during the audit period and code by provider type: (1) Registered dietitian RD, (2) Non-RD, (3) Both RD and non-RD, or (4) None. If it is documented that the person refused diet counseling, select (5) Refused.

EXERCISE INSTRUCTION: Note any documentation of exercise instruction during the audit period.

Any Other DM EDUCATION: Note any recorded patient education during the audit period on any topic(s) related to diabetes, **other than diet or exercise**.

MENTAL HEALTH –

DEPRESSION as an active problem: (1) Yes, if depression is listed on active problem list or listed as a Purpose of Visit during the audit period, or patient is taking anti-depressant medication; otherwise
(2) No.

DEPRESSION SCREENING during the audit period: (1) Yes, if provider used a Zung, Beck or similar depression screening scale, or otherwise documented that patient assessed for possible depression;
(2) No, if no evidence of depression screening found, or (3) Refused, if there is documentation that the patient refused depression screening.

TREATMENT (at the time of the chart review) –

DM THERAPY: Mark each choice as 1 (Yes, currently taking or prescribed) or 2 (No), as applicable:

- (1) Diet & Exercise Alone. If this is selected, then during data entry, all other DM Therapy choices will be automatically marked “2” (No).
- (2) Insulin (all forms, including insulin aspart (*NovoLog*), lispro (*Humalog*), glargine (*Lantus*), etc.)
- (3) Sulfonylureas, including the following:
 - Glyburide (*DiaBeta, Micronase, Glynase*)
 - Glipizide (*Glucotrol, Glucotrol XL*)
 - Glimepiride (*Amaryl*)
- (4) Glinides (sulfonylurea-like meds), including the following:
 - Repaglinide (*Prandin*)
 - Nateglinide (*Starlix*)
- (5) Metformin (*Glucophage, generic*)
For combination meds such as *Avandamet* (rosiglitazone + metformin), *Glucovance* (glyburide + metformin), and *Actoplus Met* (pioglitazone + metformin), be sure to mark 1 (Yes) for both components.
- (6) Acarbose (*Precose*) or miglitol (*Glyset*)
- (7) Glitazones, including pioglitazone (*Actos*) or rosiglitazone (*Avandia*)
- (8) Incretin mimetics (*Byetta*)
- (9) DPP4 inhibitors (*Januvia, Onglyza*)
- (10) Amylin analogs (pramlintide, *Symlin*)
- (11) GLP-1 analogs (liraglutide, *Victoza*)
- (12) Bromocriptine (*Cycloset*)
- (13) Colesevelam (*Welchol*)
- (14) Refuses therapy, or unknown (if all other DM Therapy choices are marked as “2”, this will automatically be marked as “1”).

ACE INHIBITOR/ARB Use:**

- (1) Yes, if currently uses (is prescribed) an ACE inhibitor/ARB
- (2) No, does not currently use an ACE inhibitor/ARB, or
- (3) Refused ACE inhibitor/ARB therapy or had an adverse reaction.

** Both ACE inhibitors and angiotensin II receptor blockers (ARBs) are included here.

Examples of ACE inhibitor drugs include:

| | | | | | |
|------------|---------------------|------------|------------------------------|-------------|---------------------|
| Benazepril | (<i>Lotensin</i>) | Fosinopril | (<i>Monopril</i>) | Ramipril | (<i>Altace</i>) |
| Captopril | (<i>Captoten</i>) | Lisinopril | (<i>Prinivil, Zestril</i>) | Perindopril | (<i>Aceon</i>) |
| Enalapril | (<i>Vasotec</i>) | Moexipril | (<i>Univasc</i>) | Quinapril | (<i>Accupril</i>) |

Examples of angiotensin II receptor blockers (ARBs) include:

| | | | |
|-------------|--------------------|-------------|---------------------|
| Candesartan | (<i>Atacand</i>) | Losartin | (<i>Cozaar</i>) |
| Eprosartan | (<i>Teveten</i>) | Valsartan | (<i>Diovan</i>) |
| Irbesartan | (<i>Avapro</i>) | Telmisartan | (<i>Micardis</i>) |

If unsure, check with your pharmacist regarding the ACE inhibitors and angiotensin II receptor blockers used at your facility.

ANTIPLATELET Therapy:

(1) Currently uses (is prescribed) chronic aspirin or other antiplatelet/anticoagulant meds, such as:

| | | | | | |
|-------------|-------------------|-------------|-------------------|----------|---------------------|
| Clopidogrel | (<i>Plavix</i>) | Ticlopidine | (<i>Ticlid</i>) | Warfarin | (<i>Coumadin</i>) |
|-------------|-------------------|-------------|-------------------|----------|---------------------|

(2) None, is not on chronic aspirin or other antiplatelet/anticoagulant therapy, or

(3) Refused antiplatelet therapy or had an adverse reaction.

Note: it is not necessary to complete this item if the person is Male and <50 years of age, or Female and <60 years of age.

LIPID LOWERING AGENT use: Answer (1) Yes or (2) No to whether the patient currently uses (is prescribed) each of the following:

(1) "Statin" lipid lowering agent, including any of the following:

| | | | |
|--------------|--------------------|--------------|----------------------|
| Atorvastatin | (<i>Lipitor</i>) | Pravastatin | (<i>Pravachol</i>) |
| Fluvastatin | (<i>Leschol</i>) | Rosuvastatin | (<i>Crestor</i>) |
| Lovastatin | (<i>Mevacor</i>) | Simvastatin | (<i>Zocor</i>) |

(2) Fibrate, including any of the following:

| | | | |
|-------------|-------------------|-------------|------------------|
| Fenofibrate | (<i>Tricor</i>) | Gemfibrozil | (<i>Lopid</i>) |
|-------------|-------------------|-------------|------------------|

(3) Niacin (nicotinic acid)

Niaspan, OTC Niacin

(4) Bile Acid Sequestrants

| | | | |
|------------|---------------------|----------------|--------------------------------|
| Colestipol | (<i>Colestid</i>) | Cholestyramine | (<i>LoCholest, Questran</i>) |
|------------|---------------------|----------------|--------------------------------|

(5) Ezetimide (*Zetia*)

(6) Fish Oil (Rx or OTC)

(7) Omega-3-Acid Ethyl Esters (*Lovaza*)

(8) None or refused

TUBERCULOSIS (TB) STATUS –

Most recent TB Test done (that has a valid result):

- (1) Skin test (PPD)
- (2) Blood test (QFT-G, T SPOT-TB)
- (3) Refused TB testing
- (4) Unknown/not offered

TB Test result (answer only if response was (1) or (2) to previous question:

- (1) Positive, if last skin or blood test result was positive for TB, or patient has known history of TB
- (2) Negative, if last skin or blood test result was negative
- (3) Refused
- (4) Unknown

If TB test Positive, is INH Tx Complete:

- (1) Yes, if the patient has documentation of at least 6 months of prophylactic isoniazid (INH) or at least 12 months of multiple drug therapy documented for active TB
- (2) No, if patient has not completed therapy. Include individuals for whom INH therapy was contraindicated
- (3) Refused, if the patient declined therapy
- (4) Unknown treatment status.

If TB test Negative, Date of last negative TB test: Self-explanatory.

ECG –

DATE OF LAST ECG: Self-explanatory. Leave the date field blank if no electrocardiogram has ever been recorded. Note: the field may also be left blank if the person is <40 years of age.

IMMUNIZATIONS –

FLU VACCINE during audit period: (1) Yes, if flu vaccine was administered during the audit period, (2) No, or (3) Refused, if flu vaccine offered but documented refusal noted on medical record.

PNEUMOVAX ever: Self-explanatory.

Td, Tdap or DT in past 10 years: Self-explanatory.

HEPATITIS B series (3 doses): (1) Yes, if all 3 doses have been given, (2) No, if 0-2 doses have been given, or (3) Refused if Hepatitis B vaccine was offered but documented refusal noted on medical record.

LABORATORY DATA –

HEMOGLOBIN A1C: Record the most recent HbA1C value done within the audit period and the date it was drawn. When entering the result, omit any “>” or “<” signs (for example, >14 is entered as 14)

Serum CREATININE: Enter most recent serum creatinine value (leave blank if no serum creatinine done during the audit period).

Estimated GFR documented during audit period: (1) Yes, an eGFR was documented on lab slip or elsewhere in the medical record, or (2) No, eGFR was not documented during audit period.

Note: For patients <18 years of age, this element may be left blank.

eGFR value: If the answer to the question above is Yes, enter the eGFR value (in mL/min/1.73 m² [meters squared])

Total Cholesterol, HDL Cholesterol, LDL Cholesterol, Triglycerides: For each test, enter most recent value obtained during audit period. Leave blank if no test performed during the audit period.

Was URINE TESTED FOR PROTEIN during the audit period: Mark the appropriate choice:

(1) Yes, if any of the following urine tests was performed during the audit period:

- Urine albumin:creatinine ratio (UACR), a quantitative test
- Urine protein:creatinine ratio (UPCR), a quantitative test
- 24-hour urine collection for protein
- Microalbumin:creatinine strips (e.g., Clinitek), a semi-quantitative test
- Microalbumin only (e.g., Micral)
- Standard urinalysis dipstick test for protein

(2) No, if none of the 6 tests listed below was performed during the audit period

(3) Refused, if refusal of urine testing is documented in the medical record.

If Yes, provide SPECIFIC URINE PROTEIN TESTING done: When selecting from the choices below, look for them *in the listed order* (i.e., first look to see if a UACR was done at any time during the audit period. If not, then look to see if a UPCR was done, and so on). Within any given choice, enter or select the value for the most recent test with a valid result.

A. Urine albumin:creatinine ratio (UACR) – for this choice, provide the actual value in mg/g.

B. Urine protein:creatinine ratio (UPCR)– for this choice, provide the actual value in g/g.

C. 24-hr urine collection for protein – for this choice, provide the actual value in mg/24 hrs.

D. Microalbumin:creatinine strips (e.g., Clinitek) – for this choice, select the appropriate range:

(1) < 30 mg/g

(2) 30-300 mg/g

(3) > 300 mg/g

E. Microalbumin only (e.g., Micral) – for this choice, select the appropriate range:

(1) < 20 mg/L

(2) > 20 mg/L

F. UA dipstick – for this choice, select from the following results:

(1) Normal or trace

(2) Abnormal ($\geq 1+$)

LOCAL OPTION QUESTIONS –

LOCAL OPTION QUESTIONS, if present, will be found at the end of the audit. They may be printed on the reverse side of the audit form, or may appear separately. Read the question(s) carefully and then select the appropriate response(s).

For more information on development of any Local Option Question(s), see the following section for details.

f. Local Option Question(s)

Auditing facilities have the ability to formulate their own supplemental audit question(s), if desired. This permits each participating site to analyze an additional aspect of diabetes care that may be of special interest, or to "test run" a question that might be a useful future addition to the national diabetes audit. Further, the local option question can be used to group patients by their primary provider or clinic. The procedure for developing and incorporating local option questions is explained below.

The first step is to develop a question that can be answered through a review of individual medical charts. The question can relate to demographics (Indian blood quantum, location of residence, etc.), a particular aspect of care (examinations, lab studies, other medications, and so forth), comorbid condition (history of stroke or myocardial infarction [MI], for example), a clinic-related parameter (such as the number of visits in the preceding month or year), or other auditable element of interest.

The local option question may be posed in either a multiple choice or fill-in-the-blank (text) format. Only a single question of each type is allowed. For multiple choice questions, the choices may be as simple as 'Yes' or 'No', or may have many possible answers. There can be up to 10 choices, although for ease of answering and reporting it is usually best to limit choices to no more than 4 or 5. Each choice needs to have an assigned number, just like other parts of the audit. For fill-in-the-blank options, a maximum of 30 characters and/or numbers may be typed in.

After the question and response choices are formulated, print or type them onto the lower right hand side of the audit form. If there is insufficient room, a separate sheet can be stapled to the audit form. Be sure to precede each choice with its associated single digit number.

Data entry for a local option question is easy. A special "Local Option" field is provided at the end of the audit, and is clearly identified on the data entry screen. Responses from the audit form can be entered there in the same manner as all other data.

g. Instructions for WebAudit Data Entry

Data entry will be done via the Internet-based WebAudit. The following instructions assume that you are using a computer that is able to connect to the Internet and has a web browser, such as Internet Explorer.

For further information and WebAudit frequently-asked questions (FAQs), please visit the IHS Division of Diabetes website at:

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

1. Request and activate a WebAudit account if you do not already have one.
2. Log in to the WebAudit.
3. Select “Diabetes WebAudit Facility Administration” from the Applications list. If you don’t see this item in the list, contact the WebAudit team at DDTPWebAuditAdmins@IHS.gov to request access.
4. Select “Enter Facility Info”.
5. Enter the number of active patients in your diabetes registry that meet the inclusion and exclusion criteria on page 11 and whether your community receives SDPI funds. If it does, provide your Grant Number, also known as an Award Number, which can be found in item 3 in the Notice of Award for your SDPI funds.
6. Click the “Save” button.
7. Return to the Main Menu and select “Diabetes WebAudit” from the Applications List.
8. Click on the “Data Entry” button. A blank data entry screen will appear. [Individuals with access to multiple facilities will need to select the Facility before the data entry screen appears].
9. Following the on-screen instructions, enter the data from the audit form, taking care to complete every item. Use the <Tab> key to move to the next field, or <Shift>-<Tab> to move to the previous field (this is different from Epi Info).
10. When all fields have been completed, press the “**Save**” button at the bottom of the data entry form. A new data entry screen will appear.

Note: If your data entry session gets interrupted for more than 10 minutes and you do not click on the “Save” button, the WebAudit will log you off and you will lose that record’s unsaved data.

11. Once all of the audit forms have been entered, you can perform a quality check on the data (see Section 7 on p. 25) and run audit reports (see Section 8, p. 25). When all editing and corrections have been completed and no further additions or changes need to be made, the data may be “locked” (see Section 9 on p. 26).

6. Performing An Electronic Audit

RPMS and certain other electronic health record systems are capable of extracting audit data from their clinical database into an audit data file. This eliminates the need to manually review each record and type the data into the WebAudit.

The sections that follow give a brief step-by-step synopsis of the audit process using RPMS' Diabetes Management System (DMS). More detailed information is available in the DMS User's Manual, available at: <http://www.ihs.gov/Cio/RPMS/index.cfm?module=home&option=documents>

From the drop-down list of Applications, select Clinical Applications > Diabetes Management System (DMS).

In order to use the DMS module, you need to have the proper access keys. Otherwise, the necessary menu items will not show up on your screen. Contact your local site manager if you need assistance in acquiring the necessary menu and security keys.

a. Creating a Data File

Before beginning to create an audit data file, be sure that the following conditions are met:

- Taxonomies of Medications, Lab Tests, Health Factors, and Education Topics are present, accurate, and complete (pay particular attention to the new lipid agent and revised urine protein taxonomies).
- The diabetes register is up-to-date, or you have created a search template of the active diabetes patients at your facility.

When the above conditions have been met, you can proceed with creating an audit data file. Once created, the data file can be uploaded to the WebAudit (refer to Section 6. *b. Uploading the Data File to the WebAudit*).

1. Go to the Diabetes Management System (DMS) menu and select: “**Diabetes QA Audit Menu (DA)**”.
2. Select the most recent audit format, which is the 2012 Diabetes Program Audit (**DM12**). Select “**DM12**” again to proceed. [Note: if “DM12” is not present on your menu, then the necessary DMS patch has not yet been installed. Ask your IT site manager to install this patch: BDM v2.0 patch 5].
3. DMS will then ask you to identify the diabetes register that you are using, and will ask whether your community receives SDPI grant funds. If you answer yes, it asks for a grant number, also known as an Award Number, which can be found in item 3 in the Notice of Award for your SDPI funds.
4. The program next asks for the date of the audit. This date will be the ENDING date of the audit period. For the annual audit submitted to IHS Division of Diabetes via the WebAudit, **use the prior calendar year as the audit period (January 1 – December 31, 2011)**, so the audit date would be 12/31/2011.

5. You next select the type of audit sample. Choices include individual patients, a template of patients created elsewhere (from Q-Man, for instance), or members of a register, such as the IHS DIABETES register.
6. You are offered the option to audit only patients of a particular provider, or only from a particular community, if desired. Almost always the answer would be “No” to both questions for the audit submitted to the IHS Division of Diabetes.
7. Next, you are given the option of auditing ALL the patients you have selected, or a random sample of the patients. Most commonly you would select ALL patients.
8. Choose an output option. To create a data file, choose option 2 “Create audit data file”. Other available outputs include individual patient audit reports, a cumulative audit report, or both individual and cumulative audit reports.
9. If you have DEMO patients in your Register, you will be given an opportunity to INCLUDE the DEMO patients in your output, EXCLUDE the DEMO patients in your output, or include ONLY DEMO patients in your output. For the annual audit, you would EXCLUDE the DEMO patients.
10. You will be asked to provide a name (3-20 characters) for the data file. For example, you might type: SAMPLE2012. The program will ask if everything is OK to proceed, and then will create a data file named SAMPLE2012.txt.

The newly created file will be placed in the same directory that the data export globals are placed. You will probably need the site manager or other IT professional to help retrieve the file and forward it to you. Keep track of where you put it! If you have a tendency to be absent minded, you might want to make a new folder called “Audit Files” on your desktop or in My Documents. Then you will have a specific place to put the new data file. It is this file that you will upload to the WebAudit. It is also readable in Excel, if that is of interest to you. The next section discusses how to get the file into the WebAudit.

b. Uploading the Data File to the WebAudit

Now that you have a data file (refer to preceding Section 6. *a. Creating a Data File* for creating the file), you need to bring it into the WebAudit for data cleaning and report generation. How is that done? Easy. Follow the steps below. For further information and WebAudit FAQs, please visit the IHS Division of Diabetes website at:

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

1. Request and activate a WebAudit account if you do not already have one.
2. Log in to the WebAudit, using your user name and password.
3. Select “Diabetes WebAudit Facility Administration” from the Applications list. If you don’t see this item in the list, contact the WebAudit team at DDTPWebAuditAdmins@IHS.gov to request access.
4. Select “Enter Facility Info”.
5. Enter the number of active patients in your diabetes registry that meet the inclusion and exclusion criteria on page 11, and whether your community receives SDPI funds. If it does, provide your Grant Number, also known as an Award Number, which can be found in item 3 in the Notice of Award for your SDPI funds.
6. Click the “Save” button.
7. Return to the Main Menu and select “Diabetes WebAudit” from the Applications List.
8. Select “Diabetes WebAudit” from the Applications List.
9. Click on the “Upload Data” button.
10. Click on the “Browse..” button and navigate to the data file, then click on “Open”.
11. When the data file has been selected, click on “Upload”.
12. If the upload of the data file is successful, you will receive a message on the screen telling you that the file was successfully uploaded.

If the upload is unsuccessful, you will receive an on-screen message telling you that the file upload attempt was unsuccessful, with a brief description of the problem.
13. Once the file has been successfully uploaded, you may proceed with checking the data quality (see Section 7, p. 25) and/or producing reports (see Section 8 on p. 25).

7. Cleaning Your Data

It is possible that errors may be present in your audit data, whether you entered the data manually or uploaded a data file created in RPMS or other electronic health record system. The WebAudit has a tool for checking your data for many different errors. To use the data checking tool, go to the WebAudit, click the “Data Quality Check” button and follow the on-screen directions. Potential errors will be listed in a table, with a brief explanation of the error. To correct an error, you can click on the Edit icon in the leftmost column of the table.

8. Generating Reports

The WebAudit is capable of producing several audit reports, including a Standard Audit Summary Report, a Renal Preservation Report, a Cardiovascular Disease Risk Report, and a Means Report. Any of the reports may be generated from data that was either manually entered or uploaded from an audit data file.

To produce a report, select “Audit Reports” from the WebAudit’s diabetes audit tools. Select the desired report and click on “View Report”. The requested report will appear on the screen (you may need to scroll down the page to view all of it).

To print the report or to save the report to your computer, click on the “Download Audit Report” button. The report will appear in a separate window.

To print the report, click on “File” (upper left-hand corner of the window) and then “Print”.

To save the report to your computer, click on “File” and then “Save As...” . In the Save As window, navigate to the location where you wish to save the file, rename the file (optional), and then click on the “Save” button.

Carefully reviewing the results of the standard audit summary report is another good way to check for potential errors in your audit data. In particular, very low (close to 0) or very high (close to 100) percentages may indicate problems with the data.

9. Finalizing (“Locking”) Your Data

When the data have been cleaned and corrected, and you are sure that the records are as complete and accurate as possible, the data can be “locked”. When the data are locked, no further additions or changes are allowed, so **the data should not be locked until you are confident that no further modifications to your audit data are necessary**. The locking process also submits the data to the IHS Division of Diabetes. To lock the data, follow the steps below.

1. Log in to the WebAudit, using your user name and password.
2. Select “Diabetes WebAudit Facility Administration” from the Applications list. If you don’t see this item in the list, contact the WebAudit team at DDTPWebAuditAdmins@IHS.gov to request access.
3. Assure that all records are as complete and accurate as possible.
4. Select “Lock Facility Data”. Your data will be submitted to IHS Division of Diabetes and no further changes may be made to any of the records.

10. Sources/Links

2012 Audit Form and Audit Instructions:

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

- Go to the Web page named Audit 2012 Resources.

IHS Division of Diabetes Website – 2012 Audit Information and FAQ:

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

IHS Standards of Care and Clinical Practice Recommendations: Type 2 Diabetes:

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

- Available with tools and bibliographic information at the Clinical Guidelines page. (Also at Provider Resources).