



IHS Diabetes Care and Outcomes Audit

Audit 2024

Orientation for Non-RPMS Electronic Audits

IHS Division of Diabetes Treatment and Prevention

9/12/2023

A note for those watching the recording

If you would like copies of any of the materials referenced during this webinar, contact the IHS Diabetes Audit team at diabetesaudit@ihs.gov.

Abbreviations

- **ADC** = [Area Diabetes Consultant](#)
- **AI/AN** = American Indian/Alaska Native
- **Audit** = [IHS Diabetes Care and Outcomes Audit](#)
- **BP = Best Practice** = [SDPI Diabetes Best Practice](#)
- **DDTP** = [IHS Division of Diabetes Treatment and Prevention](#)
- **DMS** = [RPMS Diabetes Management System](#)
- **GPRA** = [Government Performance and Results Act](#)
- **EMR** = Electronic Medical Record (RPMS or other)
- **I/T/U** = IHS, Tribal, and Urban
- **RKM** = Required Key Measure
- **RPMS** = [IHS Resource and Patient Management System](#)
- **SDPI** = [Special Diabetes Program for Indians](#)
- **SOS** = [SDPI Outcomes System](#)

Today's topics

1. Audit Overview
2. Audit Process
3. Changes for 2024
4. Alaska Area Experience
5. Resources: Checklist and Code Lists
6. Introduction to Audit Website and WebAudit
7. Questions

Audit Overview

What is the Audit and why do it?

What: A process for assessing diabetes care and health outcomes for American Indian and Alaska Native people with diagnosed diabetes

Why:

1. To work towards the goal of providing all diabetes patients with the highest quality of care, as outlined in the [IHS Diabetes Standards of Care](#)
2. To assess the diabetes care provided at a facility, including strengths and areas for improvement
3. To fulfill requirements of Special Diabetes Program for Indians (SDPI) grants (participation in Annual Audit)
4. To contribute to Area and IHS outcome measures and reports

When are Audits done?

1. **Annual Audit:** Once per year, data submitted to and processed by DDTP. For 2024:
 - a. **Audit Period: Jan 1-Dec 31, 2023**
 - b. **Due date: 3/15/2024**
2. **Interim Audits*** : Can be many times per year, for SDPI, Area, or local use.
 - a. **Period of care:** Locally or Area determined
 - b. **Due date:** Locally or Area determined

*Use of Audit tools for any purpose other than the *Annual Audit*.

Who conducts Audits?

I/T/U health care facilities associated with an SDPI grant

- Different types of facilities: clinics, health stations, hospitals
- Vary in size: <25 to >5000 diabetes patients
- Use a variety of EMR systems: RPMS and others

What does the Audit measure?

Audit Form (2 pages)

- Blood pressure
- Height and weight
- Tobacco use
- Exams
- Education
- Medications
- Immunizations
- Lab results
- Comorbidities: depression, CVD, TB
- More ...

There are changes (almost) every year!

IHS Diabetes Care and Outcomes Audit, 2024

NOTE: It is highly recommended that you review the [Audit 2024 instructions](#) prior to conducting an Audit.

Audit Period Ending Date: / /

Facility Name: _____

Reviewer initials: _____

State of residence: _____

Month/Year of Birth: /

Birth Sex: Male
 Female
 Unknown

Date of Diabetes Diagnosis: / /

DM Type: Type 1
 Type 2

Examinations (during Audit period)

Foot (comprehensive or "complete", including evaluation of sensation and vascular status):
 Yes
 No

Eye (dilated exam or retinal imaging):
 Yes
 No

Dental:
 Yes
 No

PAGE 2

ACE Inhibitor or ARB

Prescribed (as of the end of the Audit period):
 Yes
 No

Commonly prescribed medications include:
ACE inhibitors: benazepril, captopril, enalapril, fosinopril, lisinopril, ramipril
ARBs: candesartan, irbesartan, losartan, olmesartan, telmisartan, valsartan

Aspirin or Other Antiplatelet/Anticoagulant Therapy

Prescribed (as of the end of the Audit period):
 Yes
 No

Commonly prescribed medications include:
Antiplatelets: aspirin (Bayer), aspirin/dipyridole (Aggrenox), clopidogrel (Plavix), clopidogrel/prasugrel (Effient), ticagrelor (Brilinta)

Statin Therapy

Prescribed (as of the end of the Audit period):
 Yes
 No
 Allergy/intolerance/contraindication

Commonly prescribed medications include: atorvastatin, fluvastatin, lovastatin, pitavastatin, pravastatin, rosuvastatin, simvastatin

Cardiovascular Disease (CVD)

Diagnosed (ever):
 Yes
 No

Tuberculosis (TB)

TB diagnosis (latent or active) documented (ever):
 Yes
 No

TB test done (most recent):
 Skin test (PPD)
 Blood test (QFT-GIT, T-SPOT)
 No test documented

TB test result:
 Positive
 Negative
 No result documented

If TB diagnosed and/or test result positive, treatment initiated (e.g., isoniazid, rifampin, rifapentine, others):
 Yes
 No
 Unknown

If TB result negative, test date:
Date: / /

Hepatitis C (HCV)

HCV diagnosed (ever):
 Yes
 No

If not diagnosed with HCV, screened at least once (ever):
 Yes
 No

Retinopathy

Diagnosed (ever):
 Yes
 No

Amputation

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

Immunizations

Influenza vaccine (during Audit period):
 Yes
 No

Pneumococcal (PCV15, PCV20, or PPSV23) (ever):
 Yes
 No

Td, Tdap, DTaP, or DT (in past 10 years):
 Yes
 No

Tdap (ever):
 Yes
 No

Hepatitis B complete series (ever):
 Yes
 No
 Immune

Shingrix/recombinant zoster vaccine (RZV) complete series (ever):
 Yes
 No

Laboratory Data (most recent result during Audit period)

A1C: _____ %
A1C Date obtained: / /

Total Cholesterol: _____ mg/dL
HDL Cholesterol: _____ mg/dL
LDL Cholesterol: _____ mg/dL
Triglycerides: _____ mg/dL
Serum Creatinine: _____ mg/dL
eGFR: _____ mL/min/1.73 m²
UA CR: _____ mg/g (Quantitative urine albumin-to-creatinine ratio)

Local Questions (Optional)

Select one:
 1 2 3 4 5 6 7 8 9
Text: _____

Version: 7/24/2023 Page 2 of 2

Different time periods for different items



12 month (Audit) period for most including:

- Tobacco screening and use
- Weight
- Blood pressure
- Education
- Exams
- Labs



Exceptions

- Height (last ever)
- TB test/results/treatment (ever)
- Immunizations (except flu)
- Health conditions (e.g., HTN, CVD)
- Medications (as of Audit period end)

Look for key words, such as : “Audit period”, “ever”

How are these outcomes reported?

Sample section from WebAudit Audit Report

	# of Patients (Numerator)	# Considered (Denominator)	Percent	Area Percent	IHS Percent
Gender					
Male	305	647	47%		
Female	342	647	53%		
Age					
< 20 years	2	647	0%		
20-44 years	110	647	17%		
45-64 years			43%		
≥ 65 years			40%		
Diabetes Type					
Type 1	8	647	1%		
Type 2	639	647	99%		
Duration of Diabetes					
< 1 year	20	647	3%		
< 10 years	255	647	39%		
≥ 10 years	375	647	58%		
Diagnosis date not recorded	17	647	3%		

There are changes every year!

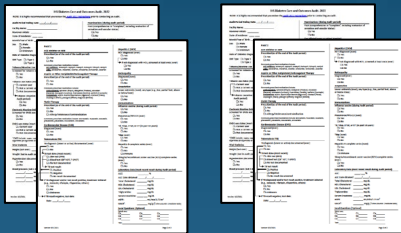
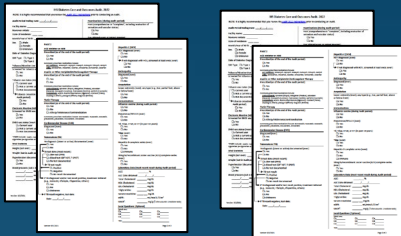
How are results provided via the WebAudit?

Output=reports and graphs

Input=data file or paper forms

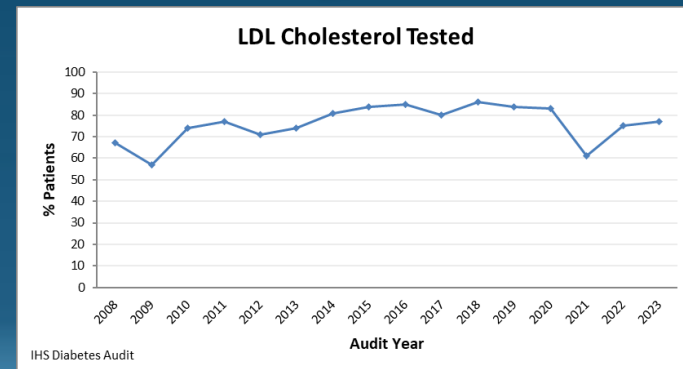


```
Audit2024DemoData_NS.txt - Notepad
File Edit Format View Help
AUDITDATE^FACILITYNA^REVIEWER^STATE^MOB^YOB^SEX^DODX^DMTYPE^TOBSCREEN^TOBACCOUSE^TOBCOUNSEL^ENDSSCREEN^ENDSUSE^FE
12/31/2022^DEMODATA^KLS^NM^3^1963^2^11/19/2012^2^1^2^  ^1^2^5^3,78^171^1^127^80^126^81^105^62^1^1^1^2^1^2^1^1^2^2^1^1
12/31/2022^DEMODATA^KLS^NM^3^1953^1^11/3/1995^2^1^2^  ^1^2^5^0,91^133^1^153^88^134^64^151^77^1^1^1^2^1^2^1^1^2^1^1^1
12/31/2022^DEMODATA^KLS^NM^5^1964^2^3/1/1985^2^1^2^  ^1^2^5^4^180^1^123^73^136^97^128^84^1^1^2^2^1^4^1^1^2^1^1^2^1^1^1
12/31/2022^DEMODATA^KLS^NM^3^1957^1^6/10/2011^2^1^2^  ^1^2^5^0,63^160^1^147^74^138^81^157^71^1^1^1^2^1^2^1^1^2^2^1^1
```



Diabetes WebAudit

- Facility Administration**
Enter facility information and lock data.
- Data Processing**
Submit (entry or upload), view, download, and check data.
- Reports**
Generate reports and graphs.



Audit Process

Big picture: encounters to data submission (1)

Throughout the year:

1. Patient encounters take place – Including in-person and telehealth visits with providers, medication refills, lab tests, immunizations, education provided, others.
2. Information about all encounters is documented in EMR (or paper chart).
3. Other (historical) information may also be documented (e.g., TB diagnosed >10 years ago).

Big picture: encounters to data submission (2)

At Audit time:

1. **Identify** eligible patients with diabetes at facility.
2. **Gather** data for these patients by one of two methods.
 - a. **Electronic Audit:** Extract data from EMR.
 - b. **Manual Audit:** Review charts (paper or EMR) and complete paper forms.
3. **Review** data quality (round 1) – electronic only, if possible.
4. **Submit** data via the WebAudit.
5. **Review** data quality (round 2).

See [Audit 2023 Instructions](#) for additional information. Instructions for Audit 2024 will be available soon.

WebAudit

- The WebAudit is a set of internet-based tools for Audit data submission, processing, and reporting.
- All Annual Audit data are submitted to DDTP via the WebAudit.
 - Upload a data file (Electronic Audit)
 - Manually enter data from paper forms (Manual Audit)
- Once data are submitted, all data processing and report tools are the same.
- Can also be used for Interim (non-Annual) Audits.
- Data and reports from previous Audits are retained.
- At least one person each from facility has access.

Before you begin

- Notify your [Area Diabetes Consultant](#) that you are planning to start Audit programming.
- Assemble your team. May include: programmers, diabetes program staff, analysts, administrators, others.
- Gather and review resources and materials.
 - From DDTP: See next slide
 - Local: Site specific documentation, others
- Develop a strategic plan, that includes but is not limited to:
 - Team member assignments
 - Consistent and ongoing communication among team members
 - Testing plan
 - Timelines

Audit 2024 materials

Many are final and others still in progress. As of 9/12/2023:

- Available now:
 - Audit form
 - Audit data file specifications
 - Audit Report specifications
 - “Non-RPMS” Audit checklist
- In progress:
 - Excel file with code lists
 - Audit Instructions
 - RPMS/DMS Audit logic for 2024

Electronic Audits - programming

1. Required:

- a. Identify eligible diabetes patients
- b. Extract data for all items according to detailed logic
- c. Create data file in specified format for current year

2. Optional, but recommended:

- a. Store patient lists (e.g., for Audit or SDPI Target Group)
- b. Audit Report (summary of results for all patients)
- c. Individual Audit report (data for one patient)

Eligible patients (1)

First, identify patients who meet **all** of the following criteria:

1. Have a diagnosis of diabetes mellitus.
2. Are American Indian or Alaska Native.
3. Have at least one visit (in person or telehealth) during the one year Audit period:
 - a. With a diabetes related purpose of visit
 - b. To one of these clinics (numbers in parentheses are IHS specific clinic codes): General (01); Diabetic (06); Internal Medicine (13); Pediatric (20); Well Child (24); Family Practice (28); Chronic Disease (50); Endocrinology (69).

Eligible patients (2)

Then, **exclude** patients who:

1. Received the majority of their primary care during the Audit period outside of your facility.
2. Are currently on dialysis AND received the majority of their primary care during the Audit period at the dialysis unit.
3. Died before the end of the Audit period.
4. Were pregnant during any part of the Audit period.
5. Have prediabetes (as determined by documented diagnosis or impaired fasting glucose [IFG], impaired glucose tolerance [IGT], or elevated A1C level).
6. Moved permanently or temporarily before the end of the Audit period.

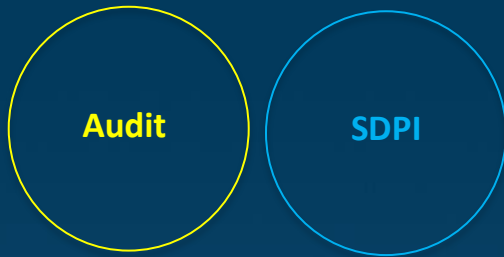
Identify eligible diabetes patients

Two common options:

1. Diabetes registry or patient list, if available.
 - a. Existing: be sure to review and update, as needed
 - b. Newly created
2. Search:
 - a. Use diagnosis codes to identify patients with diabetes.
 - b. Determine which diabetes patients:
 - i. Had at least one qualifying visit during the Audit period.
 - ii. **Are identified as being American Indian or Alaska Native.**
 - iii. Do NOT meet any of the exclusion criteria.
 - c. If possible, save list of patients in case Audit needs to be rerun or for other activities.

Different patient groups for Audit & SDPI Target Group: examples

1. No overlap: education, tobacco use screening, or diabetes prevention only
(SDPI can include only at risk for diabetes)



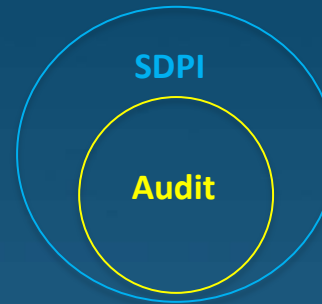
2. Some overlap: education or tobacco use screening
(SDPI can include people with and without diabetes)



3. SOS subset of Audit
(SDPI includes only some diabetes patients)



4. Audit subset of SOS
(SDPI includes all community members)



5. Total overlap



SDPI Target Group should be fixed for the year, people with diabetes are added throughout

Extract data from EMR

1. **Review** Audit materials for the current year. If updating software (vs. new programming), pay particular attention to changes from the previous year.
2. **Program** or update software per 2024 Audit requirements.
3. **Test** and verify electronic Audit locally.
4. **Test** data file upload via WebAudit.
5. **Check** data quality using the WebAudit.
6. **Optional: Confirm** accuracy by comparing local and WebAudit reports.
7. **Make** any necessary corrections or changes.
8. **Repeat** steps 2-7 as needed.

Audit Data File: general info

1. **Format:** Delimited text
2. **Delimiter must be the ^ symbol.** It cannot be a tab, space, or any other character.
3. **Line 1** contains the Audit field names in the required order.
4. **Lines 2 and beyond** contain the data, with each line representing a single record/patient.
5. All records must contain a value or a place holder for all items. If there is no value for an item (because data are missing or due to skip pattern), the place holder must be one blank space between the delimiters (i.e., ^ ^). **Do not use 0 to represent missing information.**

Blank space here

Audit Data File specifications: page 1

List of Audit Data Fields

Order	Field Name	Description	Timeframe	Format/Values/Units	Comments
1	AUDITDATE	Ending date of the one-year Audit period: 12/31/2023 for Annual Audit 2024	N/A	mm/dd/yyyy	
2	FACILITYNA	Name or abbreviation for the facility	N/A	Character (max length=20)	For confirmation purposes only, since the WebAudit will automatically supply and display the name.
3	REVIEWER	Reviewer's initials	N/A	Character (max length=3)	
4	STATE	Postal abbreviation for last known state of residence	N/A	Character (max length=2)	Do not populate if patient's address is outside of the US (e.g., in Canada).
5	MOB	Month of birth	N/A	# with value 1-12	
6	YOB	Year of birth	N/A	yyyy	
7	SEX	Birth sex		3=Unknown	
8	DODX	Date of diabetes diagnosis	N/A	mm/dd/yyyy	If only year is known, use value 07/01/yyyy. If only month and year are known, use 15 for the day. Leave blank if year or entire date is unknown.
9	DMTYPE	Diabetes type	N/A	# field with: 1=Type 1 2=Type 2 (or uncertain)	
10	TOBSCREEN	Screened for tobacco use	Audit period	# field with: 1=Yes 2=No	
11	TOBACCOUSE	Tobacco use	Audit period	# field with: 1=Yes	Populate only if TOBSCREEN value is 1=Yes.

There are changes every year!

Audit Data File: sample

```
Audit2024DemoData_N5.txt - Notepad
File Edit Format View Help
AUDITDATE^FACILITYNA^REVIEWER^STATE^MOB^YOB^SEX^DODX^DMTYPE^TOBSCREEN^TOBACCOUSE^TOBCOUNSEL^ENDSSCREEN^ENDSUSE^FE
12/31/2023^DEMODATA^KLS^NM^6^1963^2^1/19/2012^2^1^1^1^1^2^5^3.78^171^1^127^80^126^81^105^62^1^1^1^2^1^2^1^1^2^2^1
12/31/2023^DEMODATA^KLS^NM^3^1953^1^11/3/1995^2^1^2^ ^1^2^5^0.91^133^1^153^88^134^64^151^77^1^1^1^2^1^2^1^1^2^1^1
12/31/2023^DEMODATA^KLS^NM^5^1964^2^3/1/1985^2^1^2^ ^1^2^5^4^180^1^123^73^136^97^128^84^1^1^2^2^1^4^1^1^2^1^1^2^1
12/31/2023^DEMODATA^KLS^NM^3^1957^1^6/10/2011^2^1^2^ ^1^2^5^0.63^160^1^147^74^138^81^157^71^1^1^1^2^1^2^1^1^2^2^1
12/31/2023^DEMODATA^KLS^NM^12^1959^2^1/1/1982^2^1^2^ ^1^2^5^3^169^1^128^79^124^78^119^73^1^1^1^1^ ^2^1^1^2^1^1^2^
```



Blank space here


- Can be viewed using Notepad, Word, Excel or other software that allows viewing of text files.
- **Original text file is the only one that can be uploaded into the WebAudit.**

Testing (1)

1. Review data file to be sure it is in the proper format.

- a. Delimited text format with ^ as delimiter
- b. All data fields MUST be present in the file in the proper order for each data line
- c. Missing values MUST appear as a space between two delimiters: ^ ^
instead of ^^
- d. First line lists field names, data are in lines 2-n

Blank space
here



2. Upload electronic data file to the WebAudit.

- a. If successful, proceed to next step.
- b. If unsuccessful, review information about issues, make necessary corrections, and repeat previous step.

Testing (2)

3. Review uploaded data (View/Download Data tool)

- a. Is the number of records correct?
- b. Compare data for sample of individual patients vs. EMR.
- c. Download data in Excel format to see data for all patients.

4. Review WebAudit Data Quality Check.

- a. Lists potential issues with data that were successfully uploaded.
- b. Large numbers of errors for a field indicate systemic problems.

Testing (3)

5. Review Audit Report from the WebAudit.

- a. Review results to ensure that they are consistent with what is expected based on knowledge of the facility.
- b. Compare with report programmed in your system (if available).
- c. Review for results close to 0% or 100%.
- d. Compare to report for previous year (Audit 2023).
- e. When available, review Trends Graphs from WebAudit.

Testing (4)

6. **Manually audit a small sample of records and compare vs. electronic Audit of the same records.**
 - a. Data for both formats can be submitted to the WebAudit (as separate Interim Audits).
 - b. Compare WebAudit Audit Reports for manual and electronic.

If any issues are found during testing, review and troubleshoot with your technical team.

Notes about timing

- As of September 2023, programming of WebAudit tools for 2024 is still in progress.
- These tools may not be available to general users until January 2024.
- If you have data files for testing before then, the Audit team should be able to upload them for you (beginning ~November).
 - DO NOT send files via email.
 - DO contact the team (diabetesaudit@ihs.gov) to let them know you have a file for testing. They will send you a message via the IHS Secure Data Transfer Service that you can reply to with your file attached.

Audits for RPMS vs. other EMRs

Below are some specific examples. There are many other differences!

Activity	RPMS	Other EMR
Software programming: done by ...	IHS	Software company or vendor
Preparation	-Install patch -Update site populated taxonomies -Review and update registry or create list of diabetes patients	Software dependent
Education documentation	RPMS specific coding	System dependent

Lessons learned

1. **Eligible Patients:** Identifying them can be challenging.
2. **Eligible Visits:** Reviewing only billable visits may not capture all Audit items.
3. **Medications:**
 - a. Be sure to review dates and include only those that are current as defined by the Audit instructions.
 - b. Check Audit Report for high percent of patients with no current medications, which indicates a potential problem with the data and/or logic.
4. **Education, exams, historical data:** Extracting data can be challenging due to lack of standardized coding. Be sure to note how these are documented at your facility.
5. **Labs - general:** Check Audit Report for high percent of patients with no result, which indicates potential problem with data and/or logic.
6. **Missing data:** Do not use value of 0 to represent missing information.

Takeaways and tips

1. **Start early!** Mapping data and programming requires time, planning, effort, and teamwork.
2. **Coding:** Use the codes provided to identify comorbid conditions and complications (e.g., diagnosed depression, CVD, retinopathy).
3. **Timing is important.** Be sure to use current year's materials (2024) and timeframe (Jan 1-Dec 31, 2023).
4. **Find friends!** Networking with other sites using the same software may be helpful. However, mapping of data is usually unique to each site.
5. **Plan B:** Manual Audits are always an option.

Changes for 2024

Gender

2023

Input

Sex: 1 Male
 2 Female
 3 Unknown

Report

Gender			
Male	40	89	45%
Female	49	89	55%

2024

Input

Birth Sex 1 Male
 2 Female
 3 Unknown

NOTE: Values and logic remain the same. Changes are to labels and addition of new report item.

Report

Birth Sex			
Male	43	89	48%
Female	45	89	51%
Unknown	1	89	1%

Tobacco/Nicotine Use input (1)

2023

Tobacco/Nicotine Use

Screened for tobacco use (during Audit period):

- 1 Yes
- 2 No

Tobacco use status (most recent):

- 1 Current user
- 2 Not a current user
- 3 Not documented

Tobacco cessation counseling/education received (during Audit period):

- 1 Yes
- 2 No

Electronic Nicotine Delivery Systems (ENDS)*

Screened for ENDS use (during Audit period):

- 1 Yes
- 2 No

ENDS use status (most recent):

- 1 Current user
- 2 Not a current user
- 3 Not documented

*ENDS include: vapes, vaporizers, vape pens, hookah pens, electronic cigarettes (e-cigarettes or e-cigs), and e-pipes.

2024

Tobacco/Nicotine Use (during Audit period)

Tobacco

Screened for tobacco use:

- 1 Yes
- 2 No

Tobacco user:

- 1 Yes
- 2 No

Tobacco cessation counseling/education received:

- 1 Yes
- 2 No

Electronic Nicotine Delivery Systems (ENDS)*

Screened for ENDS use:

- 1 Yes
- 2 No

ENDS user:

- 1 Yes
- 2 No

*ENDS include: vapes, vaporizers, vape pens, hookah pens, electronic cigarettes (e-cigarettes or e-cigs), and e-pipes which contain nicotine.

1. **Timeframe:** Now during Audit period for all (previously use could be prior)
2. **Skip pattern:** Added for tobacco and ENDS screening

Tobacco/Nicotine Use input (2)

TOBSCREEN	TOBACCOUSE	TOBCOUNSEL
1:Yes	1:Yes	1:Yes or 2:No
1:Yes	2:No	
1:No		

- All data rows **should** look like one of the above.
- If they **do not**:
 - Data should still upload into the WebAudit, but there will be errors in the Data Quality Check.
 - Reports will only count data per these patterns (e.g., if tobacco use is no but counseling is yes, the yes for counseling will not be counted).

Tobacco/Nicotine Use: report

2023

Tobacco and Nicotine use			
Tobacco use screening during Audit period			
Screened	64	89	72%
Not screened	25	89	28%
Tobacco use status (most recent)			
Current tobacco user	22	89	25%
In current users, counseled?			
Yes	11	22	50%
No	11	22	50%
Not a current tobacco user	67	89	75%
Tobacco use not documented	0	89	0%
Electronic nicotine delivery system (ENDS) use screening during Audit period			
Screened	49	89	55%
Not screened	40	89	45%
ENDS use status most recent			
Current ENDS user	0	89	0%
Not a current ENDS user	63	89	71%
ENDS use not documented	26	89	29%
Current user of both tobacco and ENDS	0	89	0%
Current user of tobacco and/or ENDS	22	89	25%

2024

Tobacco and Nicotine Use			
Tobacco use			
Screened	87	89	98%
If screened, user	14	87	16%
If user, counseled	10	14	83%
Electronic nicotine delivery system (ENDS) use			
Screened	40	89	45%
If screened, user	6	40	15%
User of both tobacco and ENDS*	1	40	3%
User of tobacco and/or ENDS*	19	40	48%

*Excludes patients not screened for both tobacco and ENDS use

Blood pressure categories: report only

Blood pressure (last 3 during Audit period):

____/____ mmHg

____/____ mmHg

____/____ mmHg

Input remains the same: up to three values per patient. See Instructions and Data File Specifications for details.

Report Changes

Blood Pressure (BP) - Based on one value or mean of two or three values

2023

<140/<90

140/90 - <160/<100

160/100 or higher

BP category undetermined

2024

<130/<80

130/80 - <140/<90

140/90 - <160/<100

160/100 or higher

BP category undetermined

140/<90

Blood pressure changes: other report sections

Hypertension

Diagnosed ever

Diagnosed hypertension and mean BP <140/<90

Add new item:
Diagnosed hypertension and mean BP <130/<80

Diagnosed hypertension and ACE inhibitor or ARB currently prescribed 52 68

Chronic Kidney Disease (CKD) (In age ≥ 18 years)

CKD²

CKD² and mean BP <140/<90

Add new item:
CKD[2] and mean BP <130/<80

CKD² and ACE inhibitor or ARB currently prescribed 14

CKD² and GLP-1 receptor agonist currently prescribed 4

CKD² and SGLT-2 inhibitor currently prescribed 3

Combined Outcomes Measure

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

18 77 23%

Replace with:
Patients age ≥40 years meeting ALL of the following criteria: A1C <8.0, Statin currently prescribed*, and mean BP <130/<80

*Excludes patients with an allergy, intolerance, or contraindication

Blood pressure/tobacco changes: other report sections

Cardiovascular Disease (CVD)

CVD diagnosed ever	40	89	45%
CVD and mean BP <140/<90	←	Replace with: CVD and mean BP <130/<80	55%
CVD and not current tobacco user	←	Replace with: CVD and not tobacco user* *Excludes patients not screened for tobacco use	
CVD and aspirin or other antiplatelet/anticoagulant therapy currently prescribed	26	40	65%
CVD and GLP-1 receptor agonist currently prescribed	7	40	18%
CVD and SGLT-2 inhibitor currently prescribed	4	40	10%
CVD and statin currently prescribed* *Excludes patients with an allergy, intolerance, or contraindication	24	38	63%

Tobacco changes: other report sections

Diabetes-Related Conditions (In age \geq 18 years)

Severely obese (BMI \geq 40.0)	14	89	16%
Hypertension diagnosed ever	68	89	76%
Current tobacco user	22	89	25%
CVD diagnosed ever	40	89	45%
Retinopathy diagnosed ever	14	89	16%
Lower extremity amputation ever, any type (e.g., toe, partial foot, above or below knee)	7	89	8%
Active depression diagnosis during Audit period	3	89	3%
CKD stage 3-5	10	89	11%
Number of diabetes-related conditions			
Diabetes only	7	89	8%
Diabetes plus:			
One	28	89	31%

Delete this item

Remove TOBACCO (current tobacco user) from calculation for all six items in this section

Added: two new medications

□ 7 SGLT-2 inhibitor [bexagliflozin (*Brenzavvy*), canagliflozin (*Invokana*), dapagliflozin (*Farxiga*), empagliflozin (*Jardiance*), ertugliflozin (*Steglatro*), sotagliflozin (*Inpefa*)]

Added: SDPI RKM items (1)

Immunizations		
Influenza vaccine during Audit period	41	89
Pneumococcal vaccine (PCV15, PCV20, or PPSV23) - ever	69	89
Td/Tdap/DTaP/DT - past 10 years	59	89
Tdap - ever	76	89
If not immune, hepatitis B complete series - ever	47	88
Immune - Hepatitis B	1	89
← Add new item: Hepatitis B complete series ever or immune to hepatitis B		
In patients age \geq 50 years Shingrix/recombinant zoster vaccine (RZV) complete series - ever	25	70

Added: SDPI RKM items (2)

Tuberculosis (TB) Status	
TB diagnosis documented ever and/or positive test result ever	7
If not diagnosed, TB test done ever (skin test or blood test)	48
If TB diagnosis documented and/or positive test result, treatment initiated ever	4

Add new item:
TB test done ever or TB diagnosed ever

Hepatitis C (HCV)			
Diagnosed HCV ever	7	89	8
In patients not diagnosed with HCV and age \geq 18 years, screened ever			0

Add new item:
HCV test done ever or HCV diagnosed ever

SDPI RKM Report: Blood Pressure Control RKM

Blood Pressure (BP) Control

BP <140/<90 mmHg (one value or mean of 2 or 3 values)

Replace with:

BP <130/<80 mmHg (one value or mean of 2 or 3 values)

Other minor changes

Examples:

- **Form**

- Label change: “Urine Albumin: Creatinine Ratio” to “**Quantitative** urine albumin-to-creatinine ratio”

- **Report**

- Italicize brand names for medications: SGLT-2 inhibitor [bexagliflozin (*Brenzavvy*), canagliflozin (*Invokana*), dapagliflozin (*Farxiga*), empagliflozin (*Jardiance*), ertugliflozin (*Steglatro*), sotagliflozin (*Inpefa*)]

Impact on Data File specifications

Columns: 77 total (same as 2023)

- **1-10:** No change
- **11:** Change from TOBACCO to TOBACCOUSE
- **12-13:** No change
- **14:** Change from ENDSSTATUS to ENDSUSE
- **15-77:** No change

Carefully review Audit Data File Specifications before programming!

Audit Tips for non-RPMS EMRs

Alaska Area

If You Have a new non-RPMS EMR

- If you have at least 6 months of data in RPMS
 - Run the Audit file from RPMS
 - Export to WebAudit
 - Manually update new data from the new EMR
- If moved to new EMR with less than six months of data:
 - Consider a manual random chart review for the first year or two

Back to Basics

- Review
 - Audit form
 - Audit instructions
 - Audit data file format
 - Numbered Audit elements
 - Review code lists

Code Lists

- Vitals: Height, weight, BP
- Screenings: Tobacco, depression, TB
- Diagnoses codes – DM, HTN, depression, hepatitis B & C
- Diagnoses codes +procedure codes and/or CPT codes : CVD, Retinopathy, LEAs
- Education: Ad hoc forms, patient handout/instructions, quality measures (local lists/taxonomies)
- Exams: CPT codes/quality measures
- Prescribed/dispensed medications (local lists/taxonomies)
- Immunizations (local lists/taxonomies) - product codes vs CVX codes
- Labs (local lists/taxonomies)
- CPT codes (CGM, education)

Programming for the report

- Audit data file
- Cohort (groups) report
 - Might include all DM patients, a subset of DM patients or people at risk

Programming for the report

- In-house vs external (use of population health software)
- Analysts code the Audit elements using the code lists
- Include relevant people!
- Upload file is validated by program staff
 - Iterative process
 - Takes time & patience

Partners

- Local SDPI programs + CMAs +pharmacy staff + lab staff +coders
- ADC
- DDTP WebAudit resources

Priorities/Expectations

- Ongoing documentation, review and validation
- Repetition is key!
- Start EARLY!
- Start SMALL!
- Work on one Audit element/question at a time if necessary
- Plan B: manual Audit

Yukon-Kuskokwim Health Corporation-Cerner

Elizabeth K. Tressler, PharmD,
BCACP, BC-ADM

Preparing for the Audit

- Identify patients
 - Begin early
 - Review diagnostic criteria
 - Review patients from previous year's audits
 - Identify new patients
 - Identify a champion provider

Preparing for the Audit

- Review Audit Elements
- Review changes with IT team
- Check column headings before uploading

Preparing for Upload

- Have a designated folder
- Use consistent naming conventions
- Save original file with patient identifiers

Data Quality Checks

- Use the Data Quality Check Process
 - Helps to identify bulk errors
 - Helps to identify individual errors

Tanana Chiefs Conference

Kiel Couch, RN

Health Informatics Specialist

Strategies for building the audit

- Review all data expectations and make a plan for collection
- Discover all data sources needed
 - EMR
 - LIS
 - PACS
 - Other Sources
- Categorize data into similar groups (i.e. Demographics, Labs, Medications, etc.)

Decide how to put it all together

- Determine which application will be doing all of the work of interpreting and formatting the data.
 - Microsoft Excel?
 - Google Sheets?
 - Microsoft Access?
 - Other BI Software?
- Familiarize yourself with joining data sets together
 - =VLOOKUP
 - Power Query
 - Primary and Foreign Keys

Leverage your references

- Free online tutorials
 - Youtube
 - Online Forums
 - OpenAI
- Translation Tools
 - National Library of Medicine
- Take it at your own pace and take it one category at a time

Create the final data set

- Create a copy with PHI for internal use only for QC
- For the external version, remember the formatting requirements and consult online tutorials for achieving those expectations
- Use the Audit upload tool to QC your data
- Document your process for future you

Audit resources

- 1. Website:** <https://www.ihs.gov/diabetes> -> Select “IHS Diabetes Audit” from menu
 - Materials: Form, Instructions, Checklists, RPMS/DMS documentation
 - Training: Live, recorded, DMS
 - Other information and resources
- 2. Support from Audit team (WebAudit and general questions):** email diabetesaudit@ihs.gov
- 3. [Area Diabetes Consultants](#)/Area Audit Support**
- 4. OIT Service Desk (RPMS questions and support):** <https://www.ihs.gov/Helpdesk/>

Diabetes Audit Team

Carmen Hardin, MSN
Director, DDTP

Lori Butcher
RPMS Developer

Renee Chase, RN
Nurse Informatics
Consultant

Lani Desaulniers, MD
Clinical Consultant

James Doughty
WebAudit Developer

Jermaine Gonzales
WebAudit Developer

Mylyn Goya
DMS Project Manager

Nancy Haugen, MSN
ADC Representative
(Great Plains Area)

Tracy Nelson, MSN
ADC Representative
(Portland Area)

Theresa Oakley
Tier 3C User Support
Manager

Kelly Samuelson
IT Quality Analyst, Senior

Karen Sheff, MS
Biostatistician

Skip Squires
DMS Technical Lead

Dorinda Wiley-Bradley, RN
Diabetes Audit Consultant

Mark Williams
Visual DMS Developer

**Area Diabetes Consultants
and Support Staff**

Resources: Checklist and Code Lists

Tips for using code lists

1. **Content:** May contain codes not used at your facility – focus on those that are.
2. **Navigation:** Right click in lower left to see list of tabs and open selected tab.
3. **Sort/filter:** Using header row in each tab.

Introduction to Audit Website & WebAudit