IHS Diabetes Care and Outcomes Audit

Audit 2021 Orientation

IHS Division of Diabetes Treatment and Prevention
2/3/2021

Today's Topics

1. Overview of the IHS Diabetes Audit

2. Audit methods – electronic and manual

3. Audit 2021 changes

4. Data Quality Check and more

5. Audit 2021 resources

6. Introduction to the WebAudit

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Abbreviations

- **ADC** = Area Diabetes Consultant
- **Audit** = IHS Diabetes Care and Outcomes Audit
- **Best Practice** = SDPI Diabetes Best Practice
- **DDTP** = IHS Division of Diabetes Treatment and Prevention
- **DMS** = RPMS Diabetes Management System
- **EHR** = Electronic Health Record System (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

Audit Overview

Today's Topics

1. Overview of the IHS Diabetes Audit

2. Audit methods – electronic and manual

3. Audit 2021 changes

4. Data Quality Check and more

5. Audit 2021 resources

6. Introduction to the WebAudit

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

Web-based Diabetes Standards of Care and Clinical Practice Resources

https://www.ihs.gov/diabetes/clinician-resources/soc/
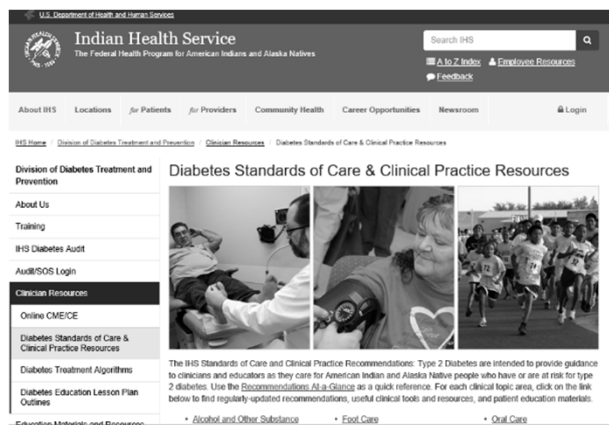
When are Audits done?

1. **Annual Audit**: Once per year, data submitted to and processed by the IHS Division of Diabetes
   a. **Audit Period for 2021**: **Jan 1-Dec 31, 2020**
   b. **Due date for Audit 2021: 3/15/2021**
2. **Interim Audits**[*]: Can be many times per year, for SDPI, Area, or local use – check with your Area Diabetes Consultant (ADC)
   a. **Period of care:** Locally or Area determined
   b. **Due date**: Locally or Area determined

[*]Use of the IHS Diabetes Care and Outcomes 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
- EHRs: 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!

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		647	43%		
≥ 65 years	257	647	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!

Different Time Periods for Different Items

- **Most** Audit items are reviewed for the past 12 months, including:

-Tobacco/ENDS <u>screening</u>	-Weight
-Blood pressure	-Education
-Exams	-Labs

- **Exceptions** include:

-Tobacco/ENDS <u>use</u> (last known)	-Height (last ever)
-TB test/results/tx (ever)	-Immunizations (except flu)
-Health conditions (e.g., HTN, CVD)	-Medications

- **Look for key words:** "Audit period", "ever"

Special Cases

- For <u>most</u> items, one response is selected or provided for each patient.

- Exceptions:

  1. Skip patterns: Some items will be skipped, based on the response to the previous item.
     a. Tobacco cessation counseling
     b. Depression screening
     c. TB items
     d. HCV screening

  2. Diabetes therapy: Select **all** that apply.

Mental Health

Depression an active problem/diagnosis:
- ☐1 Yes
- ☐2 No
  → Screened for depression (during Audit period):
  - ☐1 Yes
  - ☐2 No

Diabetes Therapy

Select **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, glimepiride]
- ☐5 DPP4 inhibitor [alogliptin (Nesina), linagliptin (Tradjenta), saxagliptin (Onglyza), sitagliptin (Januvia)]
- ☐6 GLP-1 receptor agonist [dulaglutide (Trulicity), exenatide (Byetta, Bydureon), liraglutide (Victoza), lixisenatide (Adlyxin), semaglutide (Ozempic, Rybelsus)]
- ☐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 Pramlintide [Symlin]
- ☐12 Bromocriptine [Cycloset]
- ☐13 Colesevelam [Welchol]

Big picture: encounters to data submission

Throughout the year:

1. Patient encounters take place – Visits with providers, medication pick up or refills, lab tests done, immunizations given, education provided, others.
2. Information about all encounters is documented in EHR (or paper chart).
3. Other (historical) information can also be documented (e.g., TB diagnosed >10 years ago).

Big picture: encounters to data submission (cont.)

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 an EHR.
   b. **Manual Audit:** Review charts and complete paper forms.
3. **Review** data quality.
4. **Submit** data via the WebAudit.

See the Audit 2021 Instructions for additional information.

WebAudit

- The WebAudit is a set of internet-based tools for Audit data submission, processing, and reporting.

- All Annual Audit data are submitted to the IHS Division of Diabetes via the WebAudit.

- Data and reports from previous Annual Audits are retained.

- Can also be used for Interim (non-Annual) Audits.

Audit Methods

Audit Process

To conduct an Audit:

1. **Identify** eligible patients with diabetes at facility
2. **Gather** data for these patients by one of two methods:
   a. **Electronic Audit:** Use EHR software to extract data into a file with the specified format for the Audit year.
   b. **Manual Audit:** Review paper charts for relevant data and write onto current paper Audit form for each patient.

See the Audit 2021 Instructions for additional information.

Electronic Audit Process (Part 1)

1. **Update** diabetes registry/patient list in your EHR, as needed.

2. **Prepare** electronic medical record system for current Audit software (2021). For RPMS/DMS:
   a. **Verify** that **Patch 14** has been installed or request installation.
   b. **Review and update** local taxonomies as needed.

3. **Run and review Data Quality Check Report in RPMS/DMS.** Correct as many data errors as possible.

4. **Create** Audit data file for 12-month time period of interest ("Audit period") in the specified format.

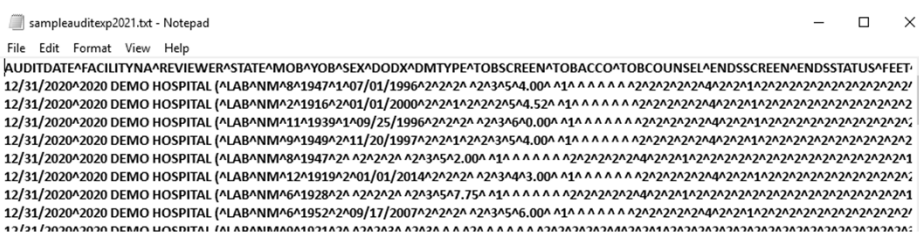5. **Retrieve** Audit data file – may require assistance from OIT.

Audit Data File

Details (aka specifications): Available in the <u>Audit 2021 Instructions</u>

List of Fields

Order	Field Name	Description	Timeframe	Format/Values/Units	Comments
1	AUDITDATE	Ending date of the Audit period - 12/31/2020 for Annual Audit 2021	N/A	mm/dd/yyyy	
2	FACILITYNA	Name or abbreviation for the facility	N/A	Character (max length=20)	
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 the 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		

Sample:

```
sampleauditexp2021.txt - Notepad                                          —   □   ×
File  Edit  Format  View  Help
AUDITDATE^FACILITYNA^REVIEWER^STATE^MOB^YOB^SEX^DODX^DMTYPE^TOBSCREEN^TOBACCO^TOBCOUNSEL^ENDSSCREEN^ENDSSTATUS^FEET
12/31/2020^2020 DEMO HOSPITAL (^LAB^NM^8^1947^1^07/01/1996^2^2^2^ ^2^3^5^4.00^ ^1^ ^ ^ ^ ^ ^2^2^2^2^2^4^2^2^1^2^2^2^2^2^2^2^2/
12/31/2020^2020 DEMO HOSPITAL (^LAB^NM^2^1916^2^01/01/2000^2^2^1^2^2^2^5^4.52^ ^1^ ^ ^ ^ ^ ^2^2^2^2^2^4^2^2^1^2^2^2^2^2^2^2^2/
12/31/2020^2020 DEMO HOSPITAL (^LAB^NM^11^1939^1^09/25/1996^2^2^2^ ^2^3^6^0.00^ ^1^ ^ ^ ^ ^ ^2^2^2^2^2^4^2^2^1^2^2^2^2^2^2^2^2^2^2/
12/31/2020^2020 DEMO HOSPITAL (^LAB^NM^9^1949^2^11/20/1997^2^2^1^2^2^3^5^4.00^ ^1^ ^ ^ ^ ^ ^2^2^2^2^2^4^2^2^1^2^2^2^2^2^2^2^2^2^2/
12/31/2020^2020 DEMO HOSPITAL (^LAB^NM^8^1947^2^ ^2^2^2^ ^2^3^5^2.00^ ^1^ ^ ^ ^ ^ ^2^2^2^2^2^4^2^2^1^2^2^2^2^2^2^2^2^2^2^2^1
12/31/2020^2020 DEMO HOSPITAL (^LAB^NM^12^1919^2^01/01/2014^2^2^2^ ^2^3^4^3.00^ ^1^ ^ ^ ^ ^ ^2^2^2^2^2^4^2^2^1^2^2^2^2^2^2^2^2/
12/31/2020^2020 DEMO HOSPITAL (^LAB^NM^6^1928^2^ ^2^2^2^ ^2^3^5^7.75^ ^1^ ^ ^ ^ ^ ^2^2^2^2^2^4^2^2^1^2^2^2^2^2^2^2^2^2^2^2^1
12/31/2020^2020 DEMO HOSPITAL (^LAB^NM^6^1952^2^09/17/2007^2^2^2^ ^2^3^5^6.00^ ^1^ ^ ^ ^ ^ ^2^2^2^2^2^4^2^2^1^2^2^2^2^2^2^2^2/
12/31/2020^2020 DEMO HOSPITAL (^LAB^NM^0^1921^2^ ^2^2^2^ ^2^ ^ ^ ^2^ ^ ^ ^ ^2^2^2^2^2^4^2^2^1^2^2^2^2^2^2^2^2^2^2^2^2^2^2
```

Manual Audit Process (Part 1)

1. **Select** charts to review according to <u>Audit 2021 Instructions</u> (all or a sample).

2. **Review** each selected medical chart.

3. **Complete** one Audit 2021 form for each chart.

Paper Audit Form

IHS Diabetes Care and Outcomes Audit

Audit Period Ending Date: 12 / 31 /

Facility Name: My Facility
Reviewer initials: KL

State of residence: N M
Month/Year of Birth: 10 / 1963
Sex : ☐₁ Male
  ☒₂ Female
  ☐₃ Unknown
Date of Diabetes Diagnosis: 3 / 21 / 2008
DM Type: ☐₁ Type 1
  ☒₂ Type 2

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 received (during Audit period):
    ☐₁ Yes
    ☐₂ No
Electronic Nicotine Delivery Systems (ENDS)

Examinations (during Audit period)
Foot (comprehensive or "complete"):
  ☒₁ Yes
  ☐₂ No
Eye (dilated or retinal imaging):
  ☐₁ Yes
  ☒₂ No
Dental:
  ☒₁ Yes
  ☐₂ No

Mental Health
Depression an active problem:
  ☐₁ Yes
  ☒₂ No
  → Screened for depression (during Audit period):
    ☒₁ Yes
    ☐₂ No

Education (during Audit period)
Nutrition:
  ☒₁ RD   ☐₃ Both RD and Other
  ☐₂ Other
  ☐₄ None
Physical activity:
  ☐₁ Yes
  ☒₂ No
Other diabetes:

Electronic & Manual Audit Process (Part 2)

After gathering Audit data, in the WebAudit:

	Step	WebAudit Tool(s)
1	Enter facility information	**Enter Facility Info**
2	Submit data (choose one) Electronic Audit → Manual Audit →	 **Upload Data** **Data Entry**
3	Check data for potential errors → edit data as needed	**Data Quality Check** **View/Edit Data**
4	Review reports and graphs of results → edit data as needed	**Audit Reports & Trends Graphs** **View/Edit Data**
5	"Lock" data	**Lock Facility Data**
6	Complete Audit evaluation (optional)	Link on screen and in email

Electronic Audits – Common Issue #1

Issue: Audit data file created with "old" version of software in DMS or other EHR.

What you'll see in the WebAudit:

Solution: Update software, if needed. Create new Audit data file with current version then upload.

Electronic Audits – Common Issue #2

Issue: Very low percentage of patients with education provided.

What you'll see in Audit Report:

Diabetes-Related Education			
Nutrition – by any provider (RD and/or other)	3	468	1%
Nutrition – by RD	3	468	1%
Physical Activity	21	468	4%
Other diabetes education	2	468	0%
Any of above	25	468	5%

Solution: Requires troubleshooting in your EHR. Could be an issue with data entry, coding, or where EHR is "looking" for this information.

Electronic Audits – Common Issue #3

Issue: Very low percentage of patients with results for a lab test.

What you'll see in the Audit Report: (example)

LDL cholesterol	0	291	**0%**	
LDL <100 mg/dl	0	291	**0%**	
LDL 100-189 mg/dl	0	291	**0%**	
LDL ≥190 mg/dl	0	291	**0%**	
Not tested or no valid result	291	291	**100%**	

Solution: Requires troubleshooting in your EHR. In RPMS, most likely due to taxonomy updates needed.

Electronic Audits – Common Issue #4

Issue: Large number of patients missing all key data fields

What you'll see in WebAudit Data Quality Check Summary: (example)

Field Name ∧ ∨	Number of Potential Errors
Year of Birth	3
Weight	388

Solution: Most likely due to registry not being updated or patient list being generated incorrectly. Make all necessary updates, then create and upload a new data file.

Audit 2021 Changes

What's New for Audit 2021

1. **New data items**:
    a. Tuberculosis: diagnosis documented ever (latent or active)
    b. Shingrix (shingles vaccine) complete series ever
2. **Changed data items**:
    a. Tuberculosis (TB)
        i. TB test done = (1) Skin test (PPD) – Now only includes patients with a documented test, not those with a TB diagnosis and no test documented.
        ii. TB treatment – Now reviewed for patients with TB diagnosed in addition to those with a positive TB test result. Also, reworded to be clear that only documentation of treatment being initiated is required, not treatment being completed.
    b. Immunizations:
        i. "Refused" response option removed for all items.
        ii. Pneumococcal vaccine ever: changed to count only pneumovax/PPSV23 (aka Pneumovax 23, RZV). PCV13 no longer counts.
3. **Deleted data items**: None

What's New for Audit 2021

4. **Audit Report changes**:
   a. Tuberculosis (TB): 4 new items to replace the previous 6
      i. TB diagnosis documented ever and/or positive test result ever
      ii. If not diagnosed, TB test done ever (skin test or blood test)
      iii. If TB diagnosis documented and/or positive test result, treatment initiated ever
      iv. If most recent TB test result was negative, was test done after diabetes diagnosis
   b. Immunizations:
      i. Refused lines removed for all
      ii. Shingrix line added
   c. Other minor changes to labels and formatting
5. **SDPI Key Measures Report**: TB item changed to "If not diagnosed with TB, TB test done ever (skin test or blood test)"

What's New for Audit 2021
RPMS/DMS

1. **Changes** on Audit Form and Reports integrated throughout.

2. **New option**: Select multiple registries for Audit tools.

3. **For additional information,** see DMS manuals for Version 2.0, Patch 14:
   – DMS User Manual
   – DMS 2021 Diabetes Audit User Addendum

What's New for Audit 2021
WebAudit

1. Changes on Audit Form and Report integrated throughout.

2. Not much else!

Data Quality Check and more

Data Quality Check

Reviews each data item and looks for things that might be and/or are definitely incorrect.

- Two types of errors:
  - **Potential**: Value might be incorrect. Generally values that are higher or lower than expected (e.g., A1c>20).
  - **Definite**: Value is definitely incorrect according to Audit logic. Generally dates and skip patterns (e.g., date of diagnosis is before date of birth; received cessation counseling but not a current tobacco user).
- WebAudit and DMS versions of report have the same checks, for the most part.
- If data are corrected:
  - in RPMS before uploading, errors will not appear in WebAudit version.
  - in WebAudit but not RPMS, errors will still appear in DMS version.
- **Be sure to verify data before making any changes in RPMS.**

Data Quality Check Report - DMS

```
   LAB                            Jan 28,                        Page 1

                  DIABETES AUDIT EXPORT DATA QUALITY CHECK REPORT
                  Audit Date 12/31/      (01/01/      to 12/31/
                       Facility: DEMO HOSPITAL

PATIENT NAME            HRN        DOB        SEX AGE      VALUE       ERR TYPE
-----------------------------------------------------------------------------
DEMOPAT,JOE             104017     02/05/1953  M   65                 POTENTIAL
     ERROR: ALL KEY DATA MISSING-Data is missing for all key fields: weight,
     blood pressure, A1c, LDL, uACR.
DEMOPAT,MARY ANN        103886     08/29/2001  F   17      05/15/1983 DEFINITE
     ERROR: DATE OF DX BEFORE YOB-Date of Diabetes Diagnosis is before year
     of birth.
DEMOPAT,MARY ANN        103886     08/29/2001  F   17      35         DEFINITE
     ERROR: DURATION OF DM-Duration of Diabetes is less than 0 or greater
     than the patient's age.  |
DEMO,BENJAMIN SR        893856     08/06/2012  M   6       07/12/2011 DEFINITE
     ERROR: TB TEST DATE < YOB-Date of TB Test is earlier than year of birth.
```

Data Quality Check Report - WebAudit

List of Audit Potential Data Errors for 2021
Facility: Test04 KLS
2021 Annual Audit

There are 171 records for this facility.
41 Potential Data Errors were found.
Table sorted by Field Name ascending.

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Edit	WebAudit ID	Yr/Mo of Birth	Sex	Date of Diagnosis	Field Name	Value	Error Type	Error Message	Comments
✎	1001	1944 / 4	M	09/24/2003	ACE Inhibitor/ARB Use	None	Potential	Missing value. Enter a value if possible.	Add comment
✎	1010	1942 / 3	F	10/09/1987	Creatinine	47.0	Potential	Value is unusually high (greater than 15). Check this value and change if necessary.	Add comment
✎	1037	1955 / 1	F	10/16/2014	Creatinine	124.0	Potential	Value is unusually high (greater than 15). Check this value and change if necessary.	Add comment
✎	1033	1951 / 5	M	05/13/1995	Creatinine	28.0	Potential	Value is unusually high (greater than 15). Check this value and change if necessary.	Add comment
✎	1033	1951 / 5	M	05/13/1995	Estimated GFR Value	79.3	Potential	There is a large discrepancy between the system-calculated eGFR (1.6) and the eGFR value entered. Check the eGFR value and serum creatinine value and change if necessary.	Add comment

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Audit Data Security

Manual Audits: Paper forms contain patient data and should be handled according to facility policies.

Electronic Audits

– RPMS/DMS Audit data files and some reports contain patient data and should be handled according to facility policies.

– Save DMS Audit files in a secure location, as instructed by your facility.

WebAudit

– Do not give your username/password to anyone.

– Lock your workstation or log out if you need to do something else.

– Handle files and documents with patient data (from View/Download Data or Data Quality Check tool) according to facility policies.

WebAudit Tips

1. **Logging in -** In your browser, bookmark the Audit website or WebAudit login page.

2. **Data Entry –** Use the tab and number keys.

Audits: Annual vs. SDPI RKM Data vs. Interim

	Annual Audit	SDPI RKM Data	Other Interim Audit
Frequency	Once per year	As many as needed	As many as needed
WebAudit Audit Type	Annual	Interim	Interim
WebAudit Versions Available	Current year only	Current + previous year	Current + previous year
Conducted When	Feb through mid-March	One or more times a year	Any time of year
Period Covered	2021: Jan 1-Dec 31, 2020	Jan1-Dec 31	Locally determined
Due Date	2021: 3/15/2021	2020 Final: 1/29/21 2021 Baseline: 2/26/21	Determined by Area or program
Who is included	**Electronic**: All eligible DM patients **Manual**: All or sample of eligible DM patients	SDPI Target Group	Determined by Area or program
Data reviewed by DDTP	Yes	In SOS only	No
Data used for national reports	Yes	Yes (baseline & final only)	No

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. **RPMS**
   1. **Questions and support (OIT Service Desk):** https://www.ihs.gov/Helpdesk/
   2. **Diabetes Management System recorded training**: email RPMSTraining@ihs.gov

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Upcoming Audit 2021 Webinars

- **RPMS Diabetes Management System (DMS) Overview for Audit 2021**
  – Thursday, February 18
  – 3pm ET / 2pm CT / 1pm MT / 12pm PT / 11am AKT (1 hour)
  – Introduction to DMS with a focus on conducting the Diabetes Audit.

- **Audit 2021 Reports**
  – Date TBD
  – 3pm ET / 2pm CT / 1pm MT / 12pm PT / 11am AKT (1 hour)
  – Overview of changes to the Audit Report for 2021 and guidance for reading and reviewing Audit reports.

Both will be provide the opportunity to ask questions and will be recorded.

Introduction to
Audit Website & WebAudit