
Instructions for Using the Relevant Validation Report Set (eCW Edition, Version 4)



Serving Sonoma, Napa, Marin & Yolo Counties

Author: Ben Fouts, Informatics

Redwood Community Health Coalition

1310 Redwood Way, Petaluma, California 94954

support@rchc.net

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Introduction

This set of 22 Relevant reports is useful for better understanding the Quality Measure (QM) Value Set codes, how those Value Sets overlap with the codes in eCW, and for identifying individual patient records that may need additional attention.

The reports are organized into three groups. They are:

- A. **Record-Level Validation Reports.** These reports recognize individual records that might have incomplete or erroneous information and should be investigated further. There are eight reports in this group.
- B. **Quality Measure (QM) Understanding Reports.** These reports display the codes that comprise the Value Sets for the QMs and how those codes intersect with what appears in the EHR. There are four reports in this group.
- C. **System Set-Up and Utilization Reports.** These reports reveal all of the codes in the system, regardless if they are Value Set codes or not. There are also reports that display lists of codes or mappings that are not related to Value Sets. There are ten reports in this group.

The table on the following page shows all of the report names, what version they have currently, and a brief comment on their history. This information also exists in the “Version” section of the description of each report. If your instance of Relevant already has 2020 versions of any of the reports, you can use this table to see which reports remained the same for 2021 and which have new versions in 2021 (these are marked in bold). Relevant should have already updated the 2021 Value Sets when the 2021 Quality Measures were released. From previous observations, Value Sets can change names, identification number (OID) and defined codes within the set.

The UDS clinical Quality Measures have been aligned with the Centers for Medicare and Medicaid Services (CMS) electronic-specified clinical quality measures (eCQMs) and associated Value Sets designated for the 2021 reporting period. The QIP Quality Measures rely on the 2021 HEDIS Value Sets. There are tables in Relevant that list the individual codes for both the eCQM and HEDIS Value Sets.

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Record-Level Validation Reports	Version	Comment
Problem List	1st	Report from 2019 report set
Persistent Asthma Diagnosis	1st	Report from 2019 report set
Incomplete Labs	2nd	Value Sets were updated from the 2019 version
Unattached Labs and Images	1st	New report in 2020
Incomplete Images	1st	Report from 2019 report set
Incomplete OB Records	1st	New report in 2020
Cancer Exclusions	3rd	Value Sets were updated in November 2021
Incomplete or Non-Standard Demographic Data	1st	New report in 2020
Quality Measure (QM) Understanding Reports	Version	Comment
QM Value Set Codes	4th	Value Sets were updated in November 2021
QM Lab Names and Attributes in EHR	2nd	Value Sets were updated from the 2019 version
QM Medications in EHR	4th	Value Sets were updated in November 2021
QM Vaccines in EHR	3rd	Value Sets were updated in November 2021
System Set-Up and Utilization Reports	Version	Comment
All Diagnosis Codes	4th	Value Sets were updated in November 2021
All Lab Names and Attributes	1st	New report in 2020
All Images	1st	New report in 2020
All Medications and Rx Groups	4th	Value Sets were updated in November 2021
All Medication Flags	1st	Report from 2019 report set
All Vaccines	2nd	Value Sets were updated in November 2021
All Structured Data Items	1st	Report from 2019 report set
All Providers, Resources and Staff	1st	New report in 2020
All Insurance Names	1st	New report in 2020
All OB Items	1st	New report in 2020

In the instructions below, each report has its own section that includes a description of the report and what it can be used for. There are also details on how the data is pulled and what is displayed in the columns. Appendix D of these instructions contains the recommended frequency for running the validation reports in the set.

In general, the reports were designed to process data in a standard fashion and therefore follow recommendations from the RCHC Data Standards and Integrity Committee. This is especially apparent in the use of eCQM or HEDIS Value Sets to define standard sets of codes. There are reports that list these codes and the corresponding descriptions from your electronic health records software.

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In general, there are small differences in some table and field names among the health center instances of Relevant. Therefore, it is recommended that someone with SQL experience and a familiarity with how data is managed within the Health Center instance of Relevant first copy and check the code before implementing its use. This activity can be done in a SQL editing software like Data Grip. Furthermore, health centers can customize their reports to add functionality or custom SQL that better matches their Transformers.

The report SQL code must be accessed and copied from the RCHC instance of Relevant. Instructions on how to do this appear in Appendix B of these instructions. The reports were originally designed and tested in the Santa Rosa instance of Relevant. Therefore, to some extent, they need to be configured to your system. The reports cannot be run in the RCHC Aggregate instance of Relevant. The normal process would be to copy the report from the RCHC instance to a new report in your instance of Relevant. Once saved, do not run, but rather copy the code to Data Grip and then run the routines and sub-routines individually in logical fashion and deal with any errors that come up.

Note that some reports have more defined and complex configuration issues. These are detailed under a heading called “Custom Set-up at Health Center” in the description of each report below. After understanding the intent of the report and the structure of certain Transformers in your instance of Relevant, follow the instructions to modify your report in a way that makes the most sense to you.

If you modify your report, it is a good idea to document what you did and why you did it. In the future, new versions of these validation reports might be released by RCHC. Therefore, you may need to make the same or similar changes to a new version. Furthermore, over time, your health center might have more than one programmer who does the coding, and so such documentation may be helpful to others as well.

The queries have been designed so that you can read and understand them quickly. Temporary Tables are used to break up the routines and notes have been added to describe the approach. Advanced programmers may perceive short-cuts or options for nesting queries or making them more efficient. The overriding goal of the code structure was to make it easier to read and use.

Lastly, be aware that because some of the reports are evaluating data from the raw data tables in Relevant (and not only Transformers). Therefore, some can take a minute or two to run. Also note that the first group of reports display patient personal health information. There is an option in Relevant to restrict those reports if that is the policy of your health center.

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Part A: Record-Level Validation Reports

This subset of reports provides lists of patient records that should be considered for updating because they may be missing data or have erroneous data. Unlike the other two groups of reports, these reports display patient-level records. Value Sets are used to identify items wherever possible.

Problem List

Report Name: RCHC Problem List Validation Report

Version: First version. Report from 2019 report set.

Background and Context

The stewards of the Quality Measures provide Value Sets that contain lists of diagnosis codes (commonly referred to as ICD codes) that officially define the chronic diseases. In electronic health records, diagnosis codes can appear in several places, like on encounter assessments, claims and the Problem List. The RCHC Data Standards and Integrity Committee approved an approach to defining a patient clinically diagnosed with a particular chronic disease. This validation report follows those recommendations.

For purposes of chronic disease diagnosis, we are only considering the Problem List as the location in the electronic health record (EHR) where an official clinical diagnosis of a chronic disease is placed. This was approved by the RCHC Data Standards and Integrity Committee. Authorized users of the EHR should be able to add diagnosis codes to the Problem List when the clinical diagnosis is made and also to remove the codes if the disease is somehow resolved or no longer appropriate. The EHR also allows users to associate additional information with the code that is helpful, such as the date of disease onset. Having a list of all clinically-diagnosed chronic diseases together in one place in the EHR also promotes proper workflow, clinical care, and meeting the objectives of Meaningful Use. Therefore, the Problem List should be used as the sole source of diagnosis “truth” and should be maintained as such for individual patients.

It is advantageous to use the Problem List for this intended purpose and to not rely on diagnosis codes in other locations, such as encounter assessments or claims. Often, codes may appear in these locations that may be provisional or used for payment purposes. Furthermore, once a code is placed in one of

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these other locations, it cannot be modified or removed from that location (and therefore the patient cannot be removed from the QM denominator) even in the case when further clinical evidence shows that the patient does not actually have the disease.

This approach will improve the accuracy of reporting and also promote the appropriate treatment of patients because many Quality Measures, Care Gaps and Reports in Relevant rely on patient chronic disease diagnosis. By encouraging a single source of ‘truth’ about diagnosis, staff will consult the Problem List and add (or, more rarely, remove) codes to the Problem List as clinically appropriate and following the Health Center procedures for doing so. Relying on other configurations will introduce false positives and/or false negatives to the patient population for that chronic disease¹. The main value of this validation report is to display patients who may be false positives or false negatives based on the existence or absence of diagnosis codes on the Problem List and other evidence in the medical record. It is recommended that Health Centers regularly examine their lists of patients with particular chronic diseases to eliminate as many false negatives and false positives as possible.

Nonetheless, there remains a relationship between the codes on the Problem List and the encounter assessments and claims. In the majority of cases, the same codes appear in all three locations. For example, a patient with hypertension typically has a code for hypertension on the Problem List and when they are seen, a code for hypertension typically goes on their encounter assessment and on the claim.

Because of this strong association, the Problem List Validation Report is helpful for identifying patients who potentially have an issue with a code on their Problem List. This issue can take two forms:

1. There is NOT a code for a particular chronic disease on the Problem List but a code for that disease appeared on an encounter assessment or claim recently. As mentioned above, this could have occurred because the diagnosis was provisional or for billing purposes. However, it could also be the case that somebody forgot to legitimately add the code to the Problem List.
2. A code for a particular chronic disease appears on the Problem List but a code for that disease has NEVER appeared on an encounter assessment or claim in the past. In this case, the code on the Problem List might be there in error.

¹ A false positive is a patient who electronically appears to have a particular chronic disease but actually does not have it (and is thus probably not being treated for it). A false negative is a patient who electronically appears to not have a particular chronic disease but actually does (and is hopefully being treated for it). Having an excessive number of either type of patients in your EHR will affect the accuracy of the denominators and numerators of your measures.

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Note that the validation report is merely suggesting patients for further review. To add a code to or remove a code from the Problem List is a clinical decision that should be made by an authorized provider. Follow your Health Center policy in this respect.

The Problem List Validation Report targets the major chronic diseases identified in the UDS and QIP Quality Measures. Value Sets are used to define the diagnosis codes that describe the chronic diseases. The exception is that the Value Set for persistent asthma is not included on this report because there is a special report for that diagnosis (see section “Persistent Asthma Validation Report” below). The Value Sets included in the RCHC Problem List Validation Report are:

Population category	Population criteria	Value Set
Diabetes	Diagnosis: Diabetes	Diabetes (2.16.840.1.113883.3.464.1003.103.12.1001)
Hypertension	Essential Hypertension Diagnosis	Essential Hypertension (2.16.840.1.113883.3.464.1003.104.12.1011)
Depression/ Bipolar	Diagnosis of Depression	Depression diagnosis (2.16.840.1.113883.3.600.145)
	Diagnosis of Bipolar	Bipolar Diagnosis (2.16.840.1.113883.3.600.450)
IVD	Ischemic Vascular Disease Diagnosis	Ischemic Vascular Disease (2.16.840.1.113883.3.464.1003.104.12.1003)
ASCVD	History of Clinical ASCVD Diagnoses	UNION OF
	["Diagnosis": "Myocardial Infarction"]	Myocardial Infarction (2.16.840.1.113883.3.526.3.403)
	["Diagnosis": "Cerebrovascular disease, Stroke, TIA"]	Cerebrovascular disease, Stroke, TIA (2.16.840.1.113762.1.4.1047.44)
	["Diagnosis": "Atherosclerosis and Peripheral Arterial Disease"]	Atherosclerosis and Peripheral Arterial Disease (2.16.840.1.113762.1.4.1047.21)
	["Diagnosis": "Ischemic heart disease or coronary occlusion, rupture, or thrombosis"]	Ischemic heart disease or coronary occlusion, rupture, or thrombosis (2.16.840.1.113762.1.4.1047.46)
	["Diagnosis": "Stable and Unstable Angina"]	Stable and Unstable Angina (2.16.840.1.113762.1.4.1047.47)

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Report Description

Denominator patients for the validation report must be active, not deceased, and had at least one UDS Medical Visit in the measurement period, which is defined as the time span between the Start Date in the parameters and the date that the report is run. There is no age range criterion for the report but the age (relative to when the report is run) is displayed in one of the columns in case the user wants to limit patient ages to those described by the respective QMs.

In addition to membership in the Value Set, diagnosis codes recognized by the report must have particular characteristics. These are built into the WHERE section of the SQL code. They are:

Problem List

- The diagnosis code must have the status “confirmed”
- Code must not be deleted or resolved
- Entry into the Problem List does not necessarily have to be tied to a visit
- The “Started on” column is the Onset Date (when entered properly as a date) or else the date it was first logged into the Problem List.

Assessments

- The assessment or encounter must not be deleted
- Tied to office visits with CHK status

Claims

- The claim or encounter must not be deleted
- Tied to office visits with CHK status

When looking at the results, it is a good idea to prioritize those patients who have been seen many times in the measurement period. This is done by sorting the list by the columns Diagnosis_Category and Count_UDS_Medical_Visits in descending order. For example, if you have a patient with a diabetes diagnosis code on the problem list and 20 visits in the measurement period, but no diagnosis code on any assessment or claim, then that patient would probably be a priority for investigation over a patient who only had one visit but was otherwise similar.

Relevant Database: Staging

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Parameters: The only required parameter in the SQL code is named “startdate.” This date is used to define the measurement period, which is between the start date and the date the report is run. The measurement period is applied to the visit range for patients.

Column Definitions

Column Name	Column Description
Account no	The account number that appears in EHR
Pat last name	Patient last name
Pat first name	Patient first name
Date of birth	Patient date of birth
Age now	Age as of the day the report is run
Last UDS medical visit	The date of the last UDS medical visit in the measurement period
Count UDS medical visits	The number of UDS medical visits in the measurement period
Diagnosis category	The Value Set diagnosis category referenced in the row
Problist exists	Displays “Yes” if a diagnosis code from the diagnosis category Value Set appears on the Problem List. Otherwise, will display “No”
Problist detail	Displays the first date that any diagnosis code from the diagnosis category Value Set appeared on the Problem List, along with the code itself
Assessm exists	Displays “Yes, in past one year” if a diagnosis code from the diagnosis category Value Set appeared on an Assessment in the year prior to when the report was run. Otherwise, it will display “Yes, but more than a year ago” if it was only on an assessment before a year ago or “Never” if it never appeared
Assessm detail	Displays the last date that any diagnosis code from the diagnosis category Value Set appeared on an Assessment, along with the code itself
Claim exists	Displays “Yes, in past one year” if a diagnosis code from the diagnosis category Value Set appeared on a Claim in the year prior to when the report was run. Otherwise, it will display “Yes, but more than a year ago” if it was only on a Claim before a year ago or “Never” if it never appeared
Claim detail	Displays the last date that any diagnosis code from the diagnosis category Value Set appeared on a Claim, along with the code itself
Record summary	Summarizes the combination of codes present or missing from the Problem List, Assessments in past year or Claim in past year
Check action	Suggests adding a diagnosis code to the Problem List or verifying the code already on there, based on the findings in the row

Custom Set-up at Health Center: no additional set-up necessary

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Persistent Asthma Diagnosis

Report Name: RCHC Persistent Asthma Diagnosis Validation Report

Version: First version. Report from 2019 report set.

Background and Context

This validation report takes a similar approach as the previous report to identifying patients who may be false positives or false negatives in the denominator of the asthma quality measures. Please refer to the “Background and Context” section of the Problem List report in the last section for additional detail.

As mentioned in the Problem List section above, it is good clinical practice (and for achieving Meaningful Use objectives) to clearly identify patients with a persistent asthma diagnosis so that providers and their team members can follow clinical guidelines to treat these patients comprehensively. Furthermore, this report uses additional information on medications and also on conflicting codes to ensure that the number of false negatives and false positives are kept to a minimum.

The patients displayed by the report are candidates for further review and action. It is important to have a “clean” asthma Quality Measure denominator in order to more accurately report the Quality Measure. In general, adding or removing patients from the denominator using the list generated by the report and following the instructions will improve the numerator percentage of the measure. The candidate universe is composed of the following sub-populations (which may overlap):

Sub-population	Action
Diagnosis for persistent asthma on the Problem List but never had a persistent asthma medication or a claim or assessment with a persistent asthma code	Verify that a clinical diagnosis of persistent asthma is appropriate. If it is not, remove the code from the Problem List
No diagnosis for persistent asthma on the Problem List and a claim or assessment with a persistent asthma code in the past year	Consider a clinical diagnosis of persistent asthma and place an appropriate code on the Problem List
No diagnosis for persistent asthma on the Problem List and use of appropriate asthma medication in the past year	Consider a clinical diagnosis of persistent asthma and place an appropriate code on the Problem List
Patients with both persistent and intermittent asthma diagnosis codes on the Problem List	Consider removing one of the codes from the Problem List depending on the appropriate clinical diagnosis

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As a side note, the official eCQM Value Set for this measure is named “Persistent Asthma” (OID = 2.16.840.1.113883.3.464.1003.102.12.1023). However, for this validation report only, the Value Set named “Asthma” (OID = '2.16.840.1.113883.3.117.1.7.1.271') is used to describe more broadly patients with asthma and then to separate out those with persistent asthma. This respect is unique among the chronic diseases tracked by QMs. The “Asthma” Value Set contains ICD-9 codes for general asthma and ICD-10 codes for intermittent and persistent asthma. The Relevant QM and associated Transformer should only use the ICD-10 codes in the Value Set “Persistent Asthma” to identify patients for the denominator. Therefore, you might find patients with old ICD-9 codes are being picked up by the validation report (these should always be updated to ICD-10 codes on the Problem List).

Report Description

Patients in the denominator must fall within the age range of the Quality Measure, which is between 6 and 64 years of age as of the date the report is run. Furthermore, denominator patients for the validation report must be active, not deceased, and have at least one UDS Medical Visit in the measurement period, which is defined as the time span between the Start Date in the parameters and the date that the report is run.

Diagnosis codes from the Problem List recognized by the report must have particular characteristics. These are built into the WHERE section of the SQL code. They are:

Problem List

- The diagnosis code must have the status “confirmed”
- Code must not be deleted or resolved
- Entry into the Problem List does not necessarily have to be tied to a visit
- The “Started on” column is the Onset Date (when entered properly as a date) or else the date it was first logged into the Problem List.

Assessments

- The assessment or encounter must not be deleted
- Tied to office visits with CHK status

Claims

- The claim or encounter must not be deleted
- Tied to office visits with CHK status

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When looking at the results, it is a good idea to prioritize those patients who have been seen many times in the measurement period. This is done by sorting the list by the columns `Diagnosis_Category` and `Count_UDS_Medical_Visits` in descending order. For example, if you have a patient with a persistent asthma diagnosis code on the problem list and 15 visits in the measurement period, but no diagnosis code on any assessment or claim and no long-term asthma medication, then that patient would probably be a priority for investigation over a patient who only had one visit. In other words, over 15 visits, it may be assumed that the patient’s persistent asthma diagnosis had been recognized and treated appropriately, yet missing codes on assessments or claims do not support that assumption.

Relevant Database: Staging

Parameters: The only required parameter in the SQL is named “startdate.” This date is used to define the measurement period, which is between the start date and the date the report is run. The measurement period is applied to the visit range for patients.

Column Definitions

Column Name	Column Description
Account no	The account number that appears in the EHR
Pat last name	Patient last name
Pat first name	Patient first name
Date of birth	Patient date of birth
Age now	Age as of the day the report is run
Last UDS medical visit	The date of the last UDS medical visit in the measurement period
Count UDS medical visits	The number of UDS medical visits in the measurement period
Persist problist exists	Displays “Yes” if a diagnosis code for persistent asthma appears on the Problem List. Otherwise, will display “No”
Persist problist detail	Displays the first date that any persistent asthma diagnosis code appeared on the Problem List, along with the code itself
Intermit problist exists	Displays “Yes” if a diagnosis code for intermittent asthma appears on the Problem List. Otherwise, will display “No”
Intermit problist detail	Displays the first date that any intermittent asthma diagnosis code appeared on the Problem List, along with the code itself
Both persist intermit	Displays “Both Codes” if a diagnosis code for both persistent asthma and intermittent asthma appear on the Problem List

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Column Name	Column Description
Assessm exists	Displays “Yes, in past one year” if there was a persistent asthma diagnosis appears on an Assessment in the past year. Otherwise, will display “Never” or “Yes, but more than a year ago.”
Assessm detail	Displays the last date and the last persistent asthma code that appeared on an Assessment within the past year
Claim exists	Displays “Yes, in past one year” if there was a persistent asthma diagnosis appears on a Claim in the past year. Otherwise, will display “Never” or “Yes, but more than a year ago.”
Claim detail	Displays the last date and the last persistent asthma code that appeared on a Claim within the past year
Med exists	Displays “Yes, in past one year” if there was any action on persistent asthma medication within the past year.
Med detail	Displays the last date and the last persistent asthma medication name that had any medication action within the past year
Check action	Suggests adding a diagnosis code to the Problem List or verifying the code already on there, based on the findings in the row

Custom Set-up at Health Center

In the normal configuration of Relevant, a Transformer contains the code to pull the raw medication data and the Importer standardizes the column names and output for use in the Quality Measure. For example, this can be seen at most health centers with the tobacco cessation medications where the transformer most commonly named “relevant_tobacco_cessation” pulls the original data and the Importer “tobacco_use_cessation_treatments” simply selects the columns needed for the Quality Measure.

However, at some health centers, this typical configuration is not followed for asthma medications. Some health centers have no Transformer and the code to pull the asthma medications is in the Importer. This poses a problem for the validation report because it is built in the Relevant Staging Database and thus does not have access to the output from Data Elements. Note that this is the code for obtaining medications for the 2019 UDS Measure “Use of Appropriate Medications for Asthma” not code for obtaining medications for the 2021 QIP measure “Asthma Medication Ratio.”

Therefore, depending on where the medication code exists (in the Transformer or the Importer) you will need to customize the code of this validation report. First, go to the sub-routine in the code that begins with a note: “-- Persistent asthma medications Importer- HEALTH CENTERS: COPY HERE.”

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- If your health center does NOT have an asthma medication Transformer, replace the code in this sub-routine with the code in your Importer “asthma_treatments” (on the Importer webpage, this may be titled “Asthma Treatments”). NOTE that the sub-routine that is there by default is from Santa Rosa and your health center might pull the data differently than in your own instance.
- If your health center uses an asthma medication Transformer, delete the code in this sub-routine and go to the next sub-routine that begins with the note: “--Persistent asthma medications during the past year.” In this sub-routine, replace the statement “FROM asthma_treatments_temp” with “FROM {name of your asthma meds Transformer}” Then make sure that all the column names are appropriately aliased for later sub-routines.

In either case, note that in the Main Statement sub-routine², the column “Med_Detail” displays the name of the last asthma medication. If you are adding code from your Importer, you can choose to also add the medication name (with alias “description”) so that it displays in the final output. If you are adding your Transformer directly (if it exists), you can choose to add the medication name to your Transformer if it is not already there.

Note that in the case of adding code from your Importer, running the validation report will take a long time because it has to process all the medication data. On the other hand, if you had an asthma medication Transformer, the data would be processed at night just like the other Transformers. Your health center might consider adding the asthma medication code to a new Transformer (for example, named “relevant_asthma_treatments”) and simply displaying the appropriate columns in the Importer instead. This would standardize the configuration in your system and make running the validation report more efficient.

² Typically preceded by a note like “-- Main Statement”

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Incomplete Labs

Report Name: RCHC Incomplete Lab Validation Report

Version: Second version. Value Sets were updated in the 2020 version.

Background and Context

This validation report displays individual records of labs that appear to have been done but are incomplete in some way. Missing data might result in the lab not being recognized by the Relevant Transformer and therefore not included in the Quality Measure.

Some health centers may have particular data entry standards for labs that are defined in a policy and taught to staff involved with lab data entry. Even among the different lab Transformers, there may be differences in how lab records are distinguished as “completed”³.

The 17 labs in the table below are required by the UDS and QIP Quality Measures and displayed on the lab validation report. All labs on this report are defined by the associated Value Sets.

2021 Quality Measure	Value Set Description	Value Set OID
Cervical Cancer Screening	Pap Test	2.16.840.1.113883.3.464.1003.108.12.1017
Cervical Cancer Screening	HPV Test	2.16.840.1.113883.3.464.1003.110.12.1059
Colorectal Cancer Screening	Fecal Occult Blood Test (FOBT)	2.16.840.1.113883.3.464.1003.198.12.1011
Colorectal Cancer Screening	FIT DNA	2.16.840.1.113883.3.464.1003.108.12.1039
Diabetes: Hemoglobin A1c (HbA1c) Poor Control (> 9%)	HbA1c Laboratory Test	2.16.840.1.113883.3.464.1003.198.12.1013
Statin Therapy for the Prevention and Treatment of Cardiovascular Disease	LDL-c	2.16.840.1.113883.3.117.1.7.1.215
HIV Screening	Human Immunodeficiency Virus (HIV) Laboratory Test Codes (Ab and Ag)	2.16.840.1.113762.1.4.1056.50

³ It is a good idea to examine and document the way that particular labs are recognized by the Relevant Transformers and how they are evaluated as being “complete.” The standard approved by the RCHC Data Standards and Integrity Committee and used in this validation report uses Value Sets to define labs. As mentioned in this section, there are also five criteria for completeness.

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2021 Quality Measure	Value Set Description	Value Set OID
Childhood Immunization Status	Anti Hepatitis A IgG Antigen Test	2.16.840.1.113883.3.464.1003.198.12.1033
Childhood Immunization Status	Anti Hepatitis B Virus Surface Ab	2.16.840.1.113883.3.464.1003.198.12.1073
Childhood Immunization Status	Measles Antibody Test (IgG Antibody Titer)	2.16.840.1.113883.3.464.1003.198.12.1059
Childhood Immunization Status	Measles Antibody Test (IgG Antibody presence)	2.16.840.1.113883.3.464.1003.198.12.1060
Childhood Immunization Status	Mumps Antibody Test (IgG Antibody Titer)	2.16.840.1.113883.3.464.1003.198.12.1061
Childhood Immunization Status	Mumps Antibody Test (IgG Antibody presence)	2.16.840.1.113883.3.464.1003.198.12.1062
Childhood Immunization Status	Rubella Antibody Test (IgG Antibody Titer)	2.16.840.1.113883.3.464.1003.198.12.1063
Childhood Immunization Status	Rubella Antibody Test (IgG Antibody presence)	2.16.840.1.113883.3.464.1003.198.12.1064
Childhood Immunization Status	Varicella Zoster Antibody Test (IgG Antibody Titer)	2.16.840.1.113883.3.464.1003.198.12.1066
Childhood Immunization Status	Varicella Zoster Antibody Test (IgG Antibody Presence)	2.16.840.1.113883.3.464.1003.198.12.1067

Report Description

This report defines a completed lab as having the following components:

1. A lab date is present, which is a Collected Date OR a Result Date
2. AND a lab outcome is present, which is a Lab Value OR a Lab Result (the exception is for A1c and LDL labs, where a Lab Value is required⁴)
3. AND the Received Checkbox is marked
4. AND Lab Status is equal to Reviewed
5. AND no associated flags are present, which are the Lab Delete Flag OR the Lab Cancelled Flag OR the Encounter Delete Flag

Note that criteria for lab completeness might differ among health centers. If your health center has a different standard and different data entry procedures, you might consider modifying the SQL code in

⁴ The A1c and LDL labs must have a numerical Lab Value because that value is evaluated by the Quality Measure

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the validation report. However, the usefulness of the report is in its ability to define a standard for lab data entry and then display labs that do not meet that standard so that they can be completed and appropriate feedback given to those staff members responsible for meeting that standard. If the completeness criteria are too “loose” in the Relevant Transformers and the validation report is modified accordingly, you risk accepting labs for the Quality Measure that were not actually done or are missing vital information necessary for the meaningful use of the electronic health record.

The objective of this report is to list lab records that are not “complete” (by the definition above) and therefore not likely to be recognized by the Transformer and included in the associated Quality Measure. At a minimum, the report will reveal records that may need to be “fixed” in order to meet the completeness standard. This report can also be used for data-entry quality initiatives where feedback is given to data entry staff. This is usually more of an issue for in-house labs.

Typically, there may be many records in your EHR for labs that were ordered but never completed. Ideally, these labs should be cancelled or deleted in the system (according to your health center policy). The report does not display labs with any cancelled flag or delete flag (where either the lab or the encounter was deleted). However, it has been observed that at some health centers, numerous labs that were not done were not cancelled or deleted, but rather had text entered into the Result field indicating that the lab was not actually done⁵. Since this is entered as free text, there could be potentially dozens of words, phrases, abbreviations, etc. in the field. The validation report was designed to ignore the most common ones, but a health center may decide to modify the list if there are additional words frequently used for the same purpose.

Hence, the validation report will not display any records with the following words or phrases (used as wild cards) in the Result field: bad sample, bad specimen, cancel, cancelled, cx, deceased, decline, declined, did not bring, did not come, did not do, did not present, duplicate order, duplicate, error, expired, improper, inadequate, incomplete, inconclusive, insuf, invalid, never done, never got done, no cell, no data, no endo, no fit, no pap, no result, no sample, no show, no specimen, no suitable, no test, non adhere, non-satisfactory, not able, not adequate, not adhere, not collected, not complete, not done, not needed, not performed, not recorded, not run, not submitted, not suf, not suitable, obscure, redundant, refuse, TNP, too old, TPN, unable, unsat, and unsuitable.

In terms of lab records that appear on the validation report, there are two tests that a lab record must meet. The first test evaluates if anything was entered into a set of key fields. This would indicate, at a

⁵ This is not the recommended practice, but the validation report recognizes its existence

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minimum, some data entry took place. The second test determines that there is also some missing data in any of the key fields. In combination, these two tests provide lab records where some data entry was done, but not all of the important fields were completed.

More specifically, to be initially considered for the report (test #1), there must be data entry in at least one of the following key fields:

- Collected Date
- Result Date
- Lab Value
- Lab Result
- Received Checkbox was marked
- Lab Status equal to Reviewed
- A document was attached to the lab order

Then, to appear on final list, at least one of the following must be present (test #2):

- Missing both the Collected and Result Dates
- Missing both the Lab Value and Lab Result (OR in the case of A1c or LDL labs, missing the Lab Value)
- Received Checkbox is not marked
- Lab Status not equal to Reviewed

In addition to columns identifying the patient and specific lab under review, the validation report displays the data from all of these key fields. Also, there is an informative column named “main_issue” that pronounces the problem with the record. Only one problem is expressed for one record and the problems are evaluated in the same order as mentioned above (test #2). Therefore, when working on the list and completing data entry in the EHR, the main issue suggests the first problem found, but keep in-mind that data in other fields might also be missing.

Relevant Database: Staging

Parameters: The only required parameter in the SQL code is named “startdate.” This date is used to define the measurement period, which is between the start date and the date the report is run. All labs displayed by the report were ordered in the measurement period.

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Column Definitions

Column Name	Column Description
Account no	The account number that appears in the EHR
Pat first name	Patient last name
Pat last name	Patient first name
Date of birth	Patient date of birth
Visit type code	Visit type for the encounter when the lab was ordered
Enc status	Status of the encounter when the lab was ordered
Lab value set name	The CMS or QIP name of the Value Set containing the lab LOINC code
Order date	The date the lab was ordered
Collected date	The Collected Date on the lab record
Result date	The Result Date on the lab record
Received checkbox	Will display 'Checked' if the Received checkbox was marked on the lab record
Lab status	Will display 'Reviewed' if the Lab Status is marked Reviewed, otherwise it will display 'Open'
Test name	The Lab Test name
Attribute name	The lab Attribute name
Lab result	The Result on the lab record
Lab value	The Value on the lab record
Attached document	If a document is attached to the lab, the document name is displayed
Main issue	Will display one of five potential problems with the lab record, evaluated in order

Custom Set-up at Health Center

The validation report defines a standard set of fields that must have proper data entry in order for a lab record to be considered “complete.” The specifications are described in the Report Description section above. If your health center has a different standard published in a policy or training materials, you may consider modifying the code in the WHERE statement of the TEMPORARY TABLE initial_lab_list. You may also have to modify the CASE WHEN statement of the field main_issue in the Main Statement in order to accommodate your custom specification.

If staff at your health center are not cancelling labs that were never performed, but rather entering text explaining the situation into the Result field of the lab record, you may consider adding more key words to the list of words in the last WHEN statement of the TEMPORARY TABLE initial_lab_list.

Instructions for Using the Relevant Validation Report Set (eCW Edition, Version 4)

Incomplete Images

Report Name: RCHC Incomplete Image Validation Report

Version: First version. Report from 2019 report set.

Background and Context

This report was designed with the same general approach as the incomplete lab validation report (see last section). However, there are a couple of differences between them. First, images only have a Result and no Value (most labs have a Result and a Value). Therefore, the image outcome is based only on the Result field. Second, images are identified by their name, not by a Value Set. Thus, double-check the code used to identify the images on this report against what exists in your image Transformers.

The diagnostic images targeted by this report are necessary for certain Quality Measures. These are:

Image Name	Quality Measure	Key Words in Name of Image Record or Document
Mammogram	Breast Cancer Screening	ILIKE '%mammo%'
Colonoscopy	Colorectal Cancer Screening	ILIKE '%colono%'
Sigmoidoscopy	Colorectal Cancer Screening	ILIKE '%sigmoid%'

Report Description

Images are identified using the key words in the table above (the ones after the ILIKE statements). These words can be found in the Image Name field or the Custom Name field of the attached document (if one exists).

The validation report defines a completed image as having the following components:

1. An image date is present, which is a Collected Date OR a Result Date
2. AND an image outcome is present, which is the Image Result
3. AND the Received Checkbox is marked
4. AND Image Status is equal to Reviewed
5. AND no associated flags are present, which are the Image Delete Flag OR the Image Cancelled Flag OR the Encounter Delete Flag

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Note that criteria for image completeness might differ among health centers. If your health center has a different standard and different data entry procedures, you might consider modifying the SQL code in the validation report. However, the usefulness of the report is in its ability to define a standard for image data entry and then display images that do not meet that standard so that they can be completed and appropriate feedback given to those staff members responsible for meeting that standard. If the completeness criteria are too “loose” in the Relevant Transformers and the validation report is modified accordingly, you risk accepting images for the Quality Measure that were not actually done or are missing vital information.

The objective of this report is to list image records that are not “complete” (by the definition above) and therefore not likely to be recognized by the Transformer and included in the associated Quality Measure. At a minimum, the report will reveal records that may need to be “fixed” in order to meet the completeness standard. This report can also be used for data-entry quality initiatives where feedback is given to data entry staff.

Typically, there may be many records in your EHR for images that were ordered but the patient did not complete the referral or the image was never sent to the health center. Ideally, follow-up should be done according to normal health center procedure in these cases. Some of these images may eventually be cancelled or deleted in the system. The report does not display images with a cancelled flag or a deleted flag (where either the image or the encounter was deleted). However, it has been noted at some health centers numerous image records like these were not cancelled or deleted, but rather had text entered into the Result field indicating that the image was not actually done⁶. Since this is entered as free text, there could be potentially dozens of words, phrases, abbreviations, etc. in the field. The report was designed to ignore the most common ones, but the health center may decide to modify the list if there are additional words frequently used for the same purpose.

Hence, the validation report will not display any records with the following words or phrases (used as wild cards) in the Result field: bad sample, bad specimen, cancel, cancelled, cx, deceased, decline, declined, did not bring, did not come, did not do, did not present, duplicate order, duplicate, error, expired, improper, inadequate, incomplete, inconclusive, insuf, invalid, never done, never got done, no cell, no data, no endo, no fit, no pap, no result, no sample, no show, no specimen, no suitable, no test, non adhere, non-satisfactory, not able, not adequate, not adhere, not collected, not complete, not done, not needed, not performed, not recorded, not run, not submitted, not suf, not suitable, obscur, redundant, refuse, TNP, too old, TPN, unable, unsat, and unsuitable.

⁶ This is not the recommended practice, but the validation report recognizes its existence

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In terms of image records that appear on the validation report, there are two tests that an image record must meet. The first test evaluates if anything was entered into a set of key fields. This would indicate, at a minimum, some data entry took place. The second test determines that there is also some missing data in any of the key fields. In combination, these two tests provide image records where some data entry was done, but not all of the important fields were completed.

More specifically, to be initially considered for the report (test #1), there must be data entry in at least one of the following key fields:

- Collected Date
- Result Date
- Image Result
- Received Checkbox was marked
- Image Status equal to Reviewed
- A document was attached to the image order

Then, to appear on final list, at least one of the following must be present (test #2):

- Missing both the Collected and Result Dates
- Missing the Image Result
- Received Checkbox is not marked
- Image Status not equal to Reviewed

In addition to columns identifying the patient and specific image under review, the validation report displays data from all of these key fields. Also, there is an informative column named “main_issue” that pronounces the problem with the record. Only one problem is expressed for one record and the problems are evaluated in the same order as mentioned above (test #2). Therefore, when working on the list and completing data entry in the EHR, the main issue suggests the first problem found, but be aware that data in other fields might also be missing.

Relevant Database: Staging

Parameters: The only required parameter in the SQL code is named “startdate.” This date is used to define the measurement period, which is between the start date and the date the report is run. All images displayed by the report were ordered in the measurement period.

Instructions for Using the Relevant Validation Report Set (eCW Edition, Version 4)

Column Definitions

Column Name	Column Description
Account no	The account number that appears in the EHR
Pat first name	Patient last name
Pat last name	Patient first name
Date of birth	Patient date of birth
Visit type code	Visit type for the encounter when the image was ordered
Enc status	Status of the encounter when the image was ordered
Image category	The image category (Mammogram, Colonoscopy, or Sigmoidoscopy)
Order date	The date the image was ordered
Collected date	The Collected Date on the image record
Result date	The Result Date on the image record
Received checkbox	Will display 'Checked' if the Received checkbox was marked on the image record
Image status	Will display 'Reviewed' if the Image Status is marked Reviewed, otherwise it will display 'Open'
Test name	The image name
Image result	The image result
Attached document	If a document is attached to the image record, the document name is displayed
Document date	If a document is attached to the image record, the document date is displayed
Main issue	Will display one of four potential problems with the image record, evaluated in order

Custom Set-up at Health Center: The validation report defines a standard set of fields that must have proper data entry in order for an image record to be considered “complete.” The specifications are described in the Report Description section above. If your health center has a different standard published in a policy or training materials, you may consider modifying the code⁷. For example, have a look at the WHERE statement of the TEMPORARY TABLE initial_image_list. You may also have to modify the CASE WHEN statement of the field main_issue in the Main Statement in order to accommodate your custom specification.

If staff at your health center are not cancelling images that were not actually performed, but rather entering text explaining the situation into the Result field of the image, you may consider adding more key words to the list of words in the last WHEN statement of the TEMPORARY TABLE initial_image_list.

⁷ If your health center has a different standard for image completion and lab completion, note that both images and labs come from the same table in the Relevant Staging Database (“labdata”). Therefore, you can use similar coding ideas to modify both reports.

Instructions for Using the Relevant Validation Report Set (eCW Edition, Version 4)

Unattached Labs and Images

Report Name: RCHC Unattached Lab and Image Validation Report

Version: First version. New report in 2020.

Background and Context: This report focuses on labs and images that commonly come from outside sources, have results that are manually scanned into the Documents section of eCW, and then attached to the order. The labs and images displayed by the report are associated with the cancer screening Quality Measures: mammograms, colonoscopies, sigmoidoscopies and pap tests. Occasionally, these documents are not moved into the correct folders in eCW and are not attached to the order. In (hopefully) rare instances, the document may not have been reviewed at all, or the document was reviewed but the required fields (results, collected date, etc.) were not entered into the order and the record closed.

Report Description

The results of this report should be reviewed and investigated by someone with authorization to make changes to the health record, when appropriate (and following health center policy for updating records). There could be many potential reasons why documents that appear to be cancer screening results are not attached to orders. However, the end goal should always be that the results in the document are reviewed (see column “Reviewed doc record”), the document attached to an order (see column “Attached order record”) and all structured data fields entered into the order to complete it⁸.

Just from key words in the name of the document, most of the records displayed by the report look like they should be attached to an order. Therefore, some of the records simply need to be moved to the appropriate folder and attached (along with data entry). However, in some cases, the patient may already have an order and document (perhaps a duplicate scan or an additional document) in the system that satisfies the numerator of the measure. The user will then need to decide the most appropriate action to take with the unattached document (depending on standard data entry practices and policies at the health center).

⁸ Although this report shows some selected date and result fields to help you, the validation reports “Incomplete Labs” and “Incomplete Images” display records that do not meet the standards for record completeness.

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For example, assume a patient has a mammogram that was reviewed and attached to an order with all the correct fields completed. This patient would already be in the numerator of the breast cancer screening measure. However, in this example, for some reason, a second document is later scanned for the same patient with the key word “mammogram” in its name, but this document is not attached to the original order or any other order. This document would show up on the report, but because it is unattached, the report does not know which order it came from. The report can only show the last order and indicate if that order was fairly recent or not. Further complicating matters, there could be more than one open order for a mammogram at the same time. But in any case, the order and the document cannot be “connected” in Relevant because the document is unattached and so no ID numbers are present in the Relevant tables to connect them.

One row on this report is one document that has a recommended action. There are two important columns that describe what the person reviewing the data should do. These are:

1. A column called “folder_status.” Commonly, among health centers, a document with the lab or image results should be attached to the original order. The document may already be in the Lab or Xray folder and therefore just needs to be attached. Otherwise, it needs to be moved to the appropriate folder and then attached. This column describes the most appropriate option for the user to take depending on where it is currently located.
2. A column called “action_needed.” This column displays three possible options for the labs or images picked up by the report.
 - a. It will display “Needs mammogram” (or “Needs colonoscopy” etc.) if there is no record that satisfies the numerator in the required amount of time in the past (depending on the Quality Measure definition). Therefore, the document in question could contain actual results and therefore should be properly attached to a new order and entered into structured data so that the patient is appropriately counted in the numerator of the measure.
 - b. Alternately, there may already be a lab or image record that satisfies the numerator of the measure. It furthermore may be the case that there is a duplicate or additional document already attached to the order. If the unattached document was scanned on a date within 90 days of the date of an order, it is likely that the document is also related to that order since these kinds of screenings are done fairly infrequently. In this case, the report displays “Last mammogram within 3 months...” (or the name of another screen) along with the date of the last completed order. This gives the user a starting

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point for the investigation. Keep in-mind that sometimes repeat tests are ordered within a short period of time, so the date displayed might not be the order corresponding to the document in question.

- c. If the last completed order for the image or lab type was more than 90 days ago, the column will display “Last mammogram more than 3 months...” (or the name of another screen) along with the date of the last completed order. This could be the order corresponding to the new document (depending how old it is) or not. In some situations, a new order should be made (if one does not exist), the document put in the right folder and attached to it, and the proper dates and results entered into structured data.

The column “action_needed” can be used to prioritize patients when the list is very long. The highest priority should be given to patients not currently in the numerator of the measure (for example, “Needs mammogram”). Second priority should be given to patients in the numerator but the scan was done more than 90 days after the performed on date (for example, “Last mammogram more than 3 months...”). The last priority should be given to those patients with a scan done within 90 days of the date of the last record that satisfied the numerator (for example, “Last mammogram within 3 months...”). Depending on your health center workflow and data guidelines, not every document must be attached to an order, but the list helps identify documents that should be considered.

Relevant Database: Staging

Parameters: The measurement period start and end dates define the date range from which scanned documents are taken. The date associated with the scanned document is the scanned date.

Column Definitions

Column Name	Column Description
Account no	The account number that appears in the EHR
Pat last name	Patient last name
Pat first name	Patient first name
Date of birth	Patient date of birth
Age end mp	Age at the end of the measurement period
Assoc visit date scan	If the document scan was associated with an encounter, this is the encounter date
Category	Cancer screening category associated with the scan
Custom name	The name of the document, as entered by the staff member who scanned it

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Column Name	Column Description
Scanned date	The scan date
Scanned by	The staff member who scanned the document
Description	The detailed description of the document, as entered by the staff member who scanned it
Reviewed doc record	Will display TRUE if the document was marked as reviewed
Reviewer name doc record	The name of the reviewer on the document record
Attached order record	Will display TRUE if the document was attached to an order
Received order record	Will display TRUE if the attached order had the Received Checkbox marked
Reviewed date order record	The Reviewed Date of the attached order
Result order record	The Result of the attached order
Folder status	The suggested change to the folder housing the document
Action needed	Information to help prioritize the action needed based on the date of the last lab or image record that satisfies the numerator of the screening measure (if present)

Custom Set-up at Health Center

In the temporary table, `final_docs`, there is a WHERE statement clause that defines the names of the labs and images pulled by the report. There are two parts of this clause: the key words to identify the labs and images from the custom name given to the document, and the key words that further exclude records using other key words. For example, a document named “Mammogram” would be picked up, but a document named “Mammogram referral” would not. Go through and test the default key words based on the standard key words normally used in your health center (check the workflow). For example, in Data Grip using the default code, look for documents that should be picked up by the report but are not, and also documents that should not be picked up but are.

Keep in-mind that the key text “pap” can be used in many ways not related to cervical cancer screening. Change the exclusion text to remove most common terms used for document names with some form of the key text “pap” but are not actually cervical cancer screening documents.

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Incomplete OB Records

Report Name: RCHC Incomplete OB Record Validation Report

Version: First version. New report in 2020.

Background and Context

The report is intended to help the health center identify records for further exploration, but the initial list displayed is actually all OB patients because such a list might be useful for other case management purposes. This report displays patients who had a visit entered into the OB Flowsheet, a delivery date or an EDD in the measurement period. There is a column (named “action_needed”) that can be filtered to find records with incomplete data once the data table has been transferred to Excel. Using the report, health centers have an opportunity to complete the crucial structured data fields before the OB record is closed.

It is good practice to regularly go through the OB records (such as those displayed by this report) and enter or correct fields before the OB record is closed. The timing of this depends on the data entry workflow at your health center. The report should be run frequently enough so that the records of patients with a visit or a delivery can be evaluated for completeness before it is closed. For example, some health centers close their records 84 days after the birth of the baby, or after what they consider the postpartum period. Running the report for periods of time longer than 84 days could potentially miss records that needed attention but were closed at the 84-day mark.

The report focuses on the main fields that must be accurately reported on the UDS and allows the user to compare outcomes considered by the Relevant Quality Measures to data in the raw fields of eCW. Some of the OB data is transformed from its original state, and some of the data can come from multiple fields depending on the flowsheet configuration and which fields were completed. Furthermore, different health centers have customized the fields on their OB Flowsheet, so a “standard” report like this one will need to be customized by the health center to fit its unique needs.

Report Description:

This report displays patients with the following combination of characteristics:

1. Patients with a visit entered into the OB Flowsheet during the measurement period.
2. Patients who have a delivery date during the measurement period.

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3. Patients who do not have a recorded delivery date, but who have a Final EDD during the measurement period.
4. Patients who do not have a recorded delivery date and do not have a Final EDD, but who have an Initial EDD during the measurement period.

Strictly speaking, some follow-up should be done for the patients on the list who do not have a delivery date but *are likely* to have delivered during the measurement period (see #3 and #4 on the list above). Some of these patients can be filtered out of the denominator because a valid explanation appears in the column “Possible transf loss” (for example, the patient might have had a documented miscarriage or moved to another state). Some patients may be truly lost to follow-up, but you should strive to have a delivery date, or an explanation of why there is no delivery date, for all patients.

One row in the report is equal to one pregnancy in eCW (as defined by a unique pregnancy ID). Depending on the length of the measurement period and the existence of duplicate pregnancies in eCW, one patient may have one or more pregnancies (rows) on the report. The report output is ordered by patient and pregnancy ID, so you might see multiple pregnancies for one patient grouped together. The column `overlap_preg` will alert you to multiple pregnancies by displaying the text “More than one pregid in MP.” If the measurement period is long enough, this may be normal and expected. However, for shorter measurement periods, this may indicate duplicate records. Care must be taken to ensure that duplicate records are not counted as two separate pregnancies in the final results reported to the UDS. Pregnancy records that have been “deleted” (i.e, in Relevant, `obf_pregnancy.deleteflag = 0`)⁹ will not appear in the QM results and will not appear on this validation report.

Many fields contained on the eCW OB Flowsheet are customized by the health center, including some necessary for outcome evaluation. Therefore, most of the item ID numbers (field `itemid`) in the Relevant tables are different between health centers. To use this report, the health center will need to replace the default Item ID numbers with the actual item ID numbers used by the health center. To help with this, a companion report called “RCHC List All OB Items” exists as part of the RCHC Validation Report Set. This report lists all of the items on the OB flowsheet, including those customized by the health center. Check the section that follows called “Custom Set-up at Health Center” for more detail. Other set-up options and column descriptions are discussed next.

The health center can enter data necessary for the evaluation of the Quality Measures in a number of ways. Many health centers affiliated with RCHC already have a history of data entry using one of the

⁹ More research is needed, but this flag may be placed on one of the records when two records are merged.

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options. Since there is a degree of flexibility in this respect, a new health center can choose the approach that suits them best and then program the Transformers to obtain the data accordingly. Below is a list of the most important OB data fields and the options for set up.

UDS Table 6B, Section A (Age of Prenatal Care Patients) and Section B (Early Entry into Prenatal Care)

Fields for: Trimester of entry into care
 Began prenatal care with another provider

Option #1: Have a field for the trimester of entry into care (as calculated by the provider) and a separate field to indicate the patient began prenatal care with another provider. In this case, all patients should have both fields completed. For example, you could name them “Trimester of entry into care” (text field) and “Began prenatal care with another provider” (Boolean, or Yes/No field). These would normally go on the Initial Physical tab, but they can also be on the Form A tab.

Option #2: Have a field for the trimester of entry into care *when the patient is first seen at the health center* and a separate field for the trimester of entry into care *when the patient is first seen by another provider*. In this case, one patient should have one or the other field completed. For example, you could name them “Trimester of entry into care at [health center name]” (text field) and “Trimester of entry into care if NOT with [health center name]” These would normally go on the Initial Physical tab, but they can also be on the Form A tab.

The most accurate way to get the Trimester of Entry into Care is for the provider to make a calculation. This is why a field for entry is recommended in the two options above. However, if the provider does not make the calculation and enter the data, the Transformer (and report) can make a calculation based on the first visit date and the EDD, or the weeks gestation entered by the provider during the first visit. However, these calculations are less reliable and should be minimized.

UDS Table 7, Section A (Deliveries and Birth Weight)

Field for Delivery Date. The standard field name is “Delivery Date” on the Discharge tab

Field for Birth Weight. The standard is to enter the weight in grams (field name “Birth Weight by grams”) because it is reported in grams on the UDS. eCW provides default fields for birth weight in pounds (field name “Birth Weight (lbs)”) and ounces (field name “Birth Weight (oz.)”). These can be used as well, but

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some health centers prefer to just use the weight in grams for all deliveries. Birth weight is entered into the Discharge Tab.

Field for Live Birth has two options:

Option #1: Use the standard field “Outcome Baby 1” on the Discharge Tab to enter the text “Live birth”

Option #2: Assume births are live unless otherwise indicated. Key text about another outcome (one besides a live birth) can be entered into the “Outcome Baby 1” field on the Discharge Tab. A list of acceptable terms to use should be maintained by the providers and coded into the Transformer and report.

Fields for birth weight and live birth for multiple births, like twins, triplets, etc. There should be at least a second field for weight and outcome for twins. The health center can choose to add more fields for more babies. The additional field names should be “Birth Weight by grams baby 2” and “Outcome baby 2” (and additional fields with the same name but with “3” and “4” etc. if the health center chooses).

Field for delivery by health center provider. The standard field name is “Delivery by health center provider” on the Discharge tab. Some health centers use a field to enter the delivery provider’s actual name (the standard field name is “Delivered by”) but this is not required for reporting to the UDS.

There are two options for the field for transfer of care to another provider or pregnancy ended before term.

Option #1: Have a single field where this kind of outcome is described using key words. It is recommended that the health center create a list of standard terms that providers can use and that would be recognized by the report. Some terms may already be encoded in Relevant (for example, see the Transformer relevant_fetuses). The report uses a set of terms that may or may not be the same as those used in your instance of Relevant. This list uses wildcards (wildcard = %, which means any number of alphanumeric characters, or no alphanumeric characters). The terms are: %trans% care%, %lost to follow%, %miscarriage%, %still%, %non%viable%, %demise%, %iufd% , %death%, %sab%, tab%, %termination%, and %abortion%. The standard field to enter this information is “Outcome Baby 1” on the Discharge tab.

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Option #2: Have a number of more specific fields for entering any or all of these types of outcomes. These could be formatted as Boolean (Yes/No) or date fields. For example, separate fields for “Transferred Care,” “Miscarriage,” “Stillbirth.”

After running the report, it is recommended that the results be exported to Excel so that all columns can be easily seen, sorted and filtered. As mentioned previously, all prenatal and postpartum patients are displayed by the report, but the results can be filtered using the column “Action needed” to narrow the number of records to only those that may need a change. Someone who has authorization to view and correct OB records (according to health center policy) should then consider the suggestions given in this column.

On the report, some of the column names have a suffix “_transf” which means the column is displaying data that comes directly from the Transformer. It is usually the field from the Transformer that is used for the Quality Measures and the UDS tables in Relevant (via the Importer). Other columns have the suffix “_raw” which means that it is simply displaying text directly from eCW. On the report, the Transformer and raw fields are displayed next to each other so you can ensure that the data is being handled correctly from the raw data to the transformed data.

Below are some methods to use the report to evaluate data quality:

- The column `trimester_transf` displays the trimester of entry into care the Relevant Transformer is picking up. This data can be compared to cases where the provider has entered the trimester as text into a field on the Initial Physical (column `trimester_initialphys_raw`) or Form A (column `trimester_forma_raw`). Is the free text entered by the provider being interpreted correctly by the Transformer?
- If the column `trimester_entry_text_recognized` displays “Unknown trimester entry” it means that the text in the field `trimester_initialphys` or `trimester_forma` does not contain any key words that can be recognized by the Transformer as being a description of the trimester.
- The column `trimester_component` displays where Relevant is obtaining the data for the trimester the patient entered care. This can be from a text field entered by the provider, a calculation based on the EDD and the first visit date, or from the first weeks gestation entered by the provider during the pregnancy. In terms of accuracy, the provider-entered trimester is best and the weeks gestation entry is the worst. Therefore, it is a good idea to check the accuracy of any records that read “Used weeks gestation from first visit” in this field.
- When the column `edd_final_missing` displays “Initial EDD but no final EDD” for a prenatal patient, it means that the final EDD has not been entered. The EDD may need to be used for a

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trimester calculation (using the EDD and the first visit date), so a final EDD is preferred if one was made.

- The column `deliverydate_transf` displays the delivery date from the Relevant Transformer. This normally comes from the Delivery Date field in eCW, but if that field is not completed, the Transformer may take the Discharge Date field in eCW. The Discharge Date is less accurate, so when the birth occurred (for example, there is a birth weight or other information indicating a birth actually happened) and the column `discharge_date_status` displays “Discharge date but no delivery date” then it is a good idea to actually obtain and enter the true delivery date. Note that sometimes when a birth has not occurred, there is a date in the Discharge Date field (just ignore these cases). Furthermore, there might be records where there is a non-rational date or additional text in the Delivery Date field that confounds the Transformer. Therefore, compare the delivery date from the Transformer to the raw delivery date directly from eCW in the field `deliverydate_raw`.
- Look for patients with no delivery date (columns “Delivery date transf” and “Delivery date raw” are blank), the estimated delivery date (column “Edd best”) has passed, and the report does not recognize a transfer or loss (column “Possible transfer loss” is FALSE). What happened to these patients?
- When the field `possible_transf_loss` is TRUE (i.e., a check in the box), the report found some key text indicating the patient might have transferred to another provider or the pregnancy ended before term. In these cases, it might not be necessary to complete the rest of the delivery fields in the record¹⁰. See the column `other_outcomes_raw` for the key text and make sure the Transformer is interpreting the free text properly.
- The column `delivery_hcprov_transf` displays TRUE (i.e., a check in the checkbox) when the Transformer determined that the delivery was attended by a provider from your health center. Ensure that this calculation is correct by looking at the raw data in the columns `grantee_prov_raw` and `delivery_by_raw`.
- The column `bw_baby1_grams_tranf` displays the baby weight in grams that is from the Relevant Transformer and used to determine the baby weight category of the UDS clinical measure. Check to see if the number in this column makes sense by comparing it to the raw data directly from the eCW fields for weight in grams (column `bw_baby1_grams_raw`) or weight in pounds and ounces (columns `bw_lbs_raw` and `bw_oz_raw`). Note that non-standard numbers or additional text in the eCW fields may confuse the Transformer.

¹⁰ Page 117 of the 2021 UDS Instruction Manual reads in reference to Table 7, Column 1a, “Do not include deliveries when you have no documentation that the delivery occurred (patients lost to inadequate follow-up).”

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- The column `live_birth_tranf` displays a checkbox that shows if the Relevant Transformer considers the delivery a live birth. This should be compared to data in the columns `outcome_baby1_raw` and `other_outcomes_raw`. Is the free text entered by the provider being interpreted correctly by the Transformer?

Relevant Database: Staging

Parameters: The measurement period, which consists of a start data and an end date. Patients displayed on the report have had at least one visit entered into the OB Flowsheet, a delivery date or an EDD in the measurement period.

Column Definitions

Column Name	Column Description
Account no	The account number that appears in the EHR
Pat last name	Patient last name
Pat first name	Patient first name
Date of birth	Patient date of birth
Age end mp	Age as of the end of the measurement period
Race text	Patient race
Ethnicity text	Patient ethnicity
Overlap preg	Will display "More than one pregid in MP" if the patient had more than one pregnancy (pregnancy ID) in the measurement period
Pregid	The pregnancy ID
Ob flowsheet status	The OB Flowsheet status (open or closed)
Date initialphys	Date of the initial physical
Ob visits flowsheet	Number of visits entered into the OB Flowsheet
Last obvisit flowsheet	The last visit date entered into the OB Flowsheet
Trimester transf	The trimester the patient entered prenatal care, as it appears on the Relevant Transformer "relevant_pregnancy"
Trimester initialphys raw	The trimester the patient entered prenatal care, as entered into the Initial Physical (if such a field exists in this location)
Trimester forma raw	The trimester the patient entered prenatal care, as entered into Form A (if such a field exists in this location)
Trimester entry text recognized	Will display "Unknown trimester entry" if the trimester text entered into the Initial Physical or Form A cannot be interpreted by the Relevant Transformer

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Column Name	Column Description
Date began care forma	The date that the patient entered prenatal care, as entered into Form A (if present)
Trimester component	The location that the Relevant Transformer is using to calculate the trimester outcome
Transfer from other provider forma	Text from the field on Form A indicating the patient transferred from another provider (if present)
Edd best	The final EDD, but if that does not exist, the initial EDD
Edd final missing	Will display "Initial EDD but no final EDD" when only the Initial EDD was entered.
Prenatal treatment initiated hc	Will display TRUE (i.e., a check in the box) when the Relevant Transformer determined that the patient initiated treatment at your health center
Possible transfer loss	Will display TRUE (i.e., a check in the box) when there is text indicating that the patient might have transferred to another provider or the pregnancy ended before term
Delivery date transf	The best delivery date from the Relevant Transformer "relevant_deliveries"
Delivery date raw	The raw delivery date text directly from eCW
Discharge date status	Will display "Discharge date but no delivery date" when no delivery date was entered but there was a discharge date
Delivery hcprov transf	Will display TRUE (i.e., a check in the box) when the Relevant Transformer "relevant_deliveries" determined that the delivery was attended by a provider from your health center
Grantee prov raw	Text from the field "Delivered by Grantee Provider" (or similar name) on the Discharge tab
Delivery by raw	Text from the field "Delivered by" (or similar name, if present) on the Discharge tab
Bw baby1 grams tranf	The baby weight in grams from the Relevant Transformer "relevant_fetuses" (or code copied from the Importer Fetuses) that is used for the Quality Measure
Bw baby1 grams raw	The raw baby weight in grams for baby 1 (or the default field) directly from eCW
Bw lbs raw	The raw baby weight in pounds directly from eCW, if present
Bw oz raw	The raw baby weight in ounces directly from eCW, if present
Live birth tranf	Will display TRUE (i.e., a check in the box) when the Relevant Transformer "relevant_fetuses" (or code copied from the Importer Fetuses) determined that the delivery was a live birth

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Column Name	Column Description
Outcome baby1 raw	The raw text from the Outcome field for baby 1 (or the default field for the outcome)
Delivery type raw	The raw text from the Delivery Type field (if present)
Bw baby2 grams raw	The raw baby weight in grams for baby 2 directly from eCW
Outcome baby2 raw	The raw text from the Outcome field for baby 2
Other1 raw	The raw text from the first of two fields named Other on the Discharge tab
Other2 raw	The raw text from the second of two fields named Other on the Discharge tab
Other outcomes raw	The raw text from the field(s) that display other miscellaneous outcomes besides a known live birth, such as transfer of care or a pregnancy not brought to term
Action needed	The recommended action(s) that should be made to complete the OB record.

Custom Set-up at Health Center

Because of the customization present on the OB Flowsheet, most (but not all) of the fields and their corresponding identification numbers (itemid) in Relevant are not the same in every instance of Relevant. Therefore, the health center will need to run the RCHC Validation Report “RCHC List All OB Items” to get a list of items and itemid and then modify the code of the Incomplete OB Records report, where necessary, with the correct itemid. NOTE that the names of the fields may be different in your instance of eCW compared to the names referenced below. Nonetheless, in most cases, the fields have similar names. Furthermore, there may be optional fields referenced below that your health center is not currently using. These fields are marked with the text “...if present...” in the column “Column Description” of the large table above in the section Column Definitions. In the code, simply replace the itemid of fields your instance does not have with the number 1. Doing this will preserve the components of the code so the report still runs, but it will not pull any data for that field.

Below is a list of locations in the code where you should confirm an itemid exists in your instance of Relevant using the report “RCHC List All OB Items.” Furthermore, there are additional comments to help you interpret the code or possible changes you should consider. They are organized by the name of the temporary table in the SQL code.

Temporary table subquery: init_ob_universe

- The itemid for Visit date and Delivery Date should be standard

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- For the LEFT JOIN using the delivery date, sometimes data that looks like dates are not actual dates. For example, “09/31/2018” looks like a date but is actually not a date. You may have to add/replace the first messy date line (AND choice <> '09/31/2018') with bad date(s) that exist in your own system. Since the delivery date field is text, you will have to find irrational dates manually because these will error out the report when the report attempts to convert them to dates in a date field.

Temporary table subquery: temp_init_phys

- The itemid for Date of Initial Physical should be standard
- The itemid for the trimester entered by the provider is not standard. Find the itemid from the OB items report and enter it here.

Temporary table subquery: temp_forma

- This Temporary Table is only necessary if your health center enters any of the following into Form A of the prenatal flowsheet: trimester of entry into care, the date prenatal care began, or if the patient transferred from another provider.
- If your health center does not enter any of these items into Form A, replace the default itemid numbers with the number 1 so it does not pick up anything. If you delete any of the columns or if you delete the entire Temporary Table, you will need to remove the references in the Main Statement, which takes more time.
- If your health center uses some or all of these items, obtain the correct itemid from your instance of Relevant using the report “RCHC List All OB Items” and replace the default ID in the code with the one that works.

Temporary table subquery: temp_relevant_fetuses

- Some health centers have a Transformer named “relevant_fetuses” and some health centers only have an Importer named “Fetuses.” Because this report runs on the Staging Database, it cannot access data from Data Elements.
- If your health center has a Transformer named “relevant_fetuses” then leave the code in the report as it is.
- If your health center does not have a Transformer named “relevant_fetuses” then copy the code from your Importer named “Fetuses” but without the CREATE INDEX statement (if present) and only for baby 1 (if your Importer pulls data for more than one fetus). Then, on the line after the FROM clause, add: INNER JOIN init_ob_universe ON init_ob_universe.pregid = relevant_deliveries.pregid

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Temporary table subquery: temp_preg_end

- This temporary table evaluates all the fields that could have information about why a delivery did not occur. For example, the patient may have transferred to another provider or the pregnancy did not go full-term. Sometimes this information exists in the Outcome (or Outcome Baby 1) field of the discharge tab, but some health centers have additional custom fields for this information
- In this temporary table, LEFT JOIN all of the fields that are used by your health center (in addition to the Outcome Baby 1 field). These should also be added to the CASE WHEN statement for the column possible_transf_loss. Note that to preserve the structure of the final output (one pregid for one row of the report), only one Outcome result should be displayed in the SELECT statement despite potentially multiple fields with data. Also note that these same fields should be added to the temporary table temp_preg_data to create the column other_outcomes_raw.

Temporary table subquery: temp_preg_data

- This is the main subquery that obtains a number of items from the discharge tab
- The items that appear to have standard item ID numbers among health centers are: Delivery Date, Discharge date, Birth weight in pounds, Birth weight in ounces, Name of provider who delivered the baby, Other (first instance of field), and Other (second instance of field). Nonetheless, still double-check the item ID numbers using the report “RCHC List All OB Items” and if they are different, replace the itemid in the subquery with the one that your eCW uses.
- The item ID numbers that appear **not** to be standard among health centers are: Birth weight by grams for the first baby or the default baby, Birth weight by grams for the second baby, Delivered by a provider from your health center, the delivery type, outcome of baby 1, outcome of baby 2, and other miscellaneous outcomes. Again, use the report “RCHC List All OB Items” to find the items and item ID numbers from health center and replace the default itemid in the code
- Other miscellaneous outcomes: some health centers have custom fields that are used when the pregnancy ended pre-term, when the patient transferred to another provider, or was lost to follow-up. For this section of the Temporary Table, the health center will have to add code to capture all of the fields used. Look at the report “RCHC List All OB Items” to find fields on the Discharge tab that indicate other outcome, miscarriage, transfer of care, etc. All of these should be added as separate columns in this Temporary Table. By default, there is only one field pulled (the last LEFT JOIN with the note “Other miscellaneous outcomes”). If there are two or more fields for miscellaneous outcomes, you will have to add additional LEFT JOIN statements (with the particular itemid) and then use a COALESCE statement in the SELECT section to display the

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existing entry for the column `other_outcomes_raw`. To preserve the structure of the final output (one pregid for one row of the report), only one miscellaneous outcome should be displayed in the SELECT statement despite potentially multiple fields with data.

Cancer Exclusions

Report Name: RCHC Cancer Exclusion Validation Report

Version: Third version (updated November 2021). Value Set added for Cervical Cancer Screening.

Background and Context

There are three Quality Measures that focus on cancer screening and detection. These measures are for cervical, breast and colorectal cancers. Each of these measures have exclusion criteria for patients who have had surgeries to completely remove the organ that was the site or potential site of the cancer. These patients should therefore not be included in the denominator of the measure.

The RCHC Data Standards and Integrity Committee agreed on recommendations for the standard manner that patients with cancer exclusions should be documented in the health record. These standards as well as diagnosis codes and key text words appear in Appendix A at the end of these instructions. Relevant Transformers and Data Elements at the health center should follow these recommendations. If data entry at the health center does not follow these guidelines, then patients may potentially be included in the denominator who should actually be excluded. Since these patients are less likely to have the required screening, they frequently count against the health center in the measure numerator.

The approach adopted by the RCHC Data Standards and Integrity Committee assumes that a patient who meets the normal denominator criteria of a measure should be screened for cancer unless there is enough evidence in the medical record to exclude them. When a provider sees a patient who meets the criteria for cancer screening (i.e., generally the Quality Measure denominator criteria for that cancer), Care Gaps in Relevant Visit Planning should prompt the provider to initiate the cancer screening process. If the provider determines that, based on patient history, the patient should be excluded from this screening, the correct diagnosis code should be placed on the Problem List, or the correct key text placed into Surgical History, so that the Care Gap will no longer be active. This action will also cause the Quality Measure to exclude the patient. Therefore, it is important that data entry practices are matched

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to the code that exists in the Transformers, Quality Measures and Care Gaps for the identification of patients who should be excluded from screening.

Report Description

Three data items are needed in order for the Quality Measure report to evaluate the screening exclusion:

1. Identification of the relevant organ associated with the Quality Measure
2. Indication that the entire organ was removed, not just a part of it (residual organs still need to be screened for cancer)
3. Date that the organ was removed

There are three locations in the medical record where cancer exclusions can be added: Problem List, Surgical History and Medical History. Generally, the Problem List is the best location for this information because a standard diagnosis code is used and there is a field for the surgery date (i.e., the Onset Date). Surgical History and Medical History rely on key words entered into a text field, which is less reliable. Nonetheless, the RCHC standard allows this and the report recognizes combinations of key text words. However, only Surgical History has a date field associated with the surgery (Medical History does not have a separate field for the surgery date).

Given that Medical and Surgical History locations in the health record are not structured, they are the major source of records that will appear on the validation report. These records only partially meet the standard and are therefore not currently used to exclude the patient from the cancer report denominator. In other words, there is some text in the record that indicates the patient perhaps might have an exclusion, but the evidence does not meet the required three criteria of the standard.

For example, in some cases, there may be a description of the surgery, but not whether the entire organ was removed. In other cases, a surgery date is missing or not in a format that can be recognized as a date.

The other way that patients can appear on the validation report is when they have any diagnosis code on an Assessment that suggests an exclusion for the cancer type, but no equivalent diagnosis code on the Problem list for that cancer. Diagnosis codes for cancer screening exclusions are only accepted from the Problem List and not from Assessments.

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The records displayed by the report should be considered candidates for exclusions if additional evidence can be found in the medical record indicating the patient meets the normal exclusion requirements described by national cancer screening guidelines and the Quality Measure. The report displays the text containing the potential exclusion (column “text_entry”) and the location in the record (column “source”). The report user can read the description and decide if additional investigation in the medical record itself is warranted. Sometimes, typed descriptions contain additional information not recognized by the report. Patients on the list obviously not meeting the exclusion criteria can be ignored (they will remain in the denominator if they otherwise qualify for the Quality Measure). Patients who appear to qualify for the exclusion or who do not have other useful information in the “text_entry” column, should be investigated further in eCW. If they qualify for the exclusion, it is recommended that the appropriate diagnosis code be placed on the Problem List along with the surgery date in the Onset Date field, although the health center may follow their own guidelines based on the recommendations of the RCHC Data Standards and Integrity Committee.

The results displayed on the report are automatically narrowed for patient age ranges that correspond to the Quality Measure definitions. This means that patients outside of the age range are not displayed. To be sure, the ranges are: breast cancer (between 50 and 74 years), cervical cancer (between 23 and 64 years) and colorectal cancer (between 50 and 75 years). Furthermore, patients will not appear on the validation report if they already meet any exclusion criteria for the Quality Measure (including non-cancer related criteria).

On the report, each row corresponds to one patient with one potential exclusion for one cancer type and from one source. Therefore, some patients may appear duplicated if they have potential exclusions for more than one cancer, or if they have potential exclusions for one cancer from two or three sources¹¹. The last text entry or assessment ICD code is displayed on the report in the column “Text entry.” The results are ordered by cancer type and source in the medical record.

Changes made to this report version: A new Value Set “Congenital or Acquired Absence of Cervix” (OID = 2.16.840.1.113883.3.464.1003.111.12.1016) was added to the report for Cervical Cancer screening.

Relevant Database: Staging

Parameters: The only required parameter in the SQL code is named “startdate.” This date is used to define the measurement period, which is between the start date and the date the report is run. Patients

¹¹ For example, you may see a patient with a row with text from Medical History and another row with text from Surgical History.

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displayed on the report must have had at least one UDS medical visit in the measurement period. If the patient had hospice care, the patient will not be displayed on the validation report if the hospice care dates overlap the measurement period.

Column Definitions

Column Name	Column Description
Account no	The account number that appears in the EHR
Pat last name	Patient last name
Pat first name	Patient first name
Date of birth	Patient date of birth
Age now	Age as of the day the report is run
Last UDS medical visit	The date of the last UDS medical visit in the measurement period
Count UDS medical visits	The number of UDS medical visits in the measurement period
Cancer type	Text entry refers to cervical, breast or colorectal cancer
Source	Text entry taken from Surgical History, Medical History or Assessments
Text entry	The last raw text entry containing the partial exclusion criteria, or the diagnosis code from the Assessment
Text entry date	The date of the last (most recent) text entry, or the last Assessment date
Raw performed on	For Source = Surgical History, the raw date text that was entered into the surgery date field This is not applicable for Source = Medical History because there is no separate date field for when the surgery was performed. Therefore, the Text entry date is displayed. This is also not applicable for Source = Assessments because there is no separate date field for when the surgery was performed. Therefore, the Text entry date is displayed.
Calc performed on	For Source = Surgical History, the calculated Performed On date is the date that the report interprets the surgery occurred, based on the Raw performed on date ¹² .

¹² Note that this is calculated on the report using code that appears in the Transformer for the performed_on date. The code in the Transformer may periodically be updated by Relevant Support or otherwise by the Health Center, so the code in the report should always match the code in the Transformer. The code for the performed_on field should be the same for all three cancer exclusion Transformers.

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Column Name	Column Description
	This is not applicable for Source = Medical History or Assessments because there is no separate date field. Therefore, the Text entry date is displayed by default.

Custom Set-up at Health Center

This report is built in the Relevant Staging Database. Most instances of Relevant have Transformers that define the cancer exclusions, and these Transformers are used in the report. However, some health centers have the code for exclusions built only in their Data Elements, which are not available in the Staging Database.

The first step to customizing this report is to determine if your instance of Relevant features Transformers for all of the necessary 2021 exclusions. Possible names for these Transformers are:

- relevant_hysterectomies
- relevant_mastectomies
- relevant_colon_cancer
- relevant_colectomies
- relevant_hospice_care
- relevant_long_term_care_stays
- relevant_frailty_cases
- relevant_advanced_illness_cases
- relevant_dementia_medications

If these Transformers exist, they should be used in the validation report directly. If they do not exist, then a sub-routine for a Temporary Table must be made and the Importer Code copied to it.

The SQL code is broken down into seven parts, which are labelled in the notation heading of each TEMPORARY TABLE (read the text after the two dashes, or "--"). The SQL code for the cancer exclusions are combined in "Part 4" which creates a Temporary Table "cncr_exclusions." The SQL code for the end-of-life exclusions are combined in "Part 5" which creates a Temporary Table "endoflife_cases." If your instance of Relevant has Transformers for these exclusions, they should be added directly to the Temporary Table in the appropriate Temporary Table. In the default copy of the report, Transformer names are used for all of them except for colectomies and Hospice Care Interventions (see further detail on these below).

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If any of the cancer exclusions exist only in an Importer, the Importer code must be copied to the report and run as a Temporary Table. An example of this is in “Part 3” of the code for this report because at Santa Rosa¹³, the code for Colectomies exists only in an Importer, not a Transformer. Therefore, a Temporary Table “colectomies_copy” was created in Part 3 of the code and then joined to the cancer exclusions Temporary Table in Part 4 of the code.

If your instance of Relevant has a Transformer for colectomies, you should delete Part 3 of the code and join your Transformer directly to Part 4 of the code. If your instance of Relevant also has the code for colectomies in an Importer, replace the existing code in Part 3 with the code from your Importer. If your instance of Relevant is missing any other cancer exclusion Transformers, create as many Temporary Tables as necessary and copy the code in the Importer to them. It is suggested that you name the Temporary Tables in obvious fashion and notate what you did (you can even continue the notation using the existing scheme, like Part 3A, Part 3B, etc.).

There are additional exclusions in this report for end-of-life circumstances, which are defined in the Temporary Table in Part 5. In the Santa Rosa instance of Relevant, the code for hospice care resides in an Importer, therefore the SQL code from that Importer was copied directly to Part 5. If your instance of Relevant also has the code for hospice care in an Importer, replace the existing code in Part 5 with the code from your Importer. If your instance of Relevant has a Transformer for hospice care, you should delete the hospice care SQL in Part 5 and join your Transformer directly to it. This is also true for the other end-of-life Transformer or Importer pairs. The default validation report assumes the SQL code exists in the Transformers.

Therefore, all of the cancer exclusion or end-of-life Temporary Tables in Part 4 and Part 5 are built from Transformers or copies of the Data Elements. You can use the default code of the report as guidelines for your customization. Note that particular field names must be used in the UNION (you can alias field names as appropriate). The cncr_exclusions Temporary Table in Part 4 is eventually joined to the Main Statement of the report in Part 7 of the code. Likewise, the endoflife_cases Temporary Table in Part 5 is eventually joined to the Main Statement of the report in Part 7 of the code. Therefore, the column names and intention of the Temporary Tables in Part 4 and 5 should be preserved.

¹³ The code you are copying and modifying was optimized in the Santa Rosa instance of Relevant

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Incomplete or Non-Standard Demographic Data

Report Name: RCHC Demographics Validation Report

Version: First version. New report in 2020.

Background and Context

The UDS and OSHPD reports feature tables that summarize various patient demographic characteristics. Identifying patients with missing or incomplete demographic fields and correcting them is an important step in ensuring the accuracy of reporting this data. It is sometimes necessary for the Relevant Transformers to place non-standard data into the standard categories. Because non-standard data can come in many forms, they might end up in a category like “unknown” or “unreported.” The health center should have an opportunity to identify these patients and make a correction so the patient can be counted appropriately.

The goal is to make reporting more accurate, which often means reducing the number of unknowns but can also mean ensuring that patients are reported in the correct summary category. To achieve this, patient records displayed by the report can be updated, but results can also lead to tweaking the Transformers, when appropriate. The report should be modified when changes are made to the Transformers, or when coding differences are detected between the report and the Transformers. In other words, the report should display data missed or not recognized by the Transformers, and so it might need to incorporate little extra custom coding.

One row of the report is one patient who has something in their record that needs attention. However, not only does the report show patient records that may need to be changed, but it also shows how some kinds of data are being summarized. Therefore, if you run the report and get a couple thousand patients, do not automatically think you have to make a couple of thousand changes! You may look at how the report is pulling patients and decide that those records do not need to be manually changed. For example, you may have many patients without a language entered in eCW. The report will display these patients (the point is to reduce the number of unknowns so that the data can be reported more accurately). But if you are fine with all of those patients not having a language entered in eCW, you can just ignore them or modify the report code to not display them anymore. In other words, the report can also help you understand your data and could lead you to make adjustments to the report or to the Transformers, if needed. The report intentionally displays many ID fields in Relevant to help you investigate unexpected data using Data Grip.

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Report Description

This report is intended to be exported to Excel and then sorted or filtered accordingly. Because of the potential backlog of missing or non-standard data, the first running of the report could reveal dozens, hundreds or thousands of records. The health center can prioritize these records based on the type of missing information. Some types may have more records than others and may be more vital to complete.

The report only displays patients who need to be reviewed and the type of review is displayed in the column "action_needed." One patient may have more than one action needed. The following is a list of attributes that the report focuses on:

1. Zip code: missing or non-standard. A zip code should be 5 digits or 5 digits plus a dash and another 4 digits
2. Age: actions will display for age options under the following circumstances:
 - a. Missing date of birth,
 - b. Date of birth in the future
 - c. Age over 111 years
3. Gender: This category covers both the options for sex/gender assigned at birth sections (UDS table 3A and OSHPD report page 3) and the gender identity section (UDS table 3B). The point is not to force any particular patient into any particular category (there is always an "Other" option for gender identity) but rather to highlight areas where there may be a conflict in the options chosen or to simply display how certain data combinations are being summarized. Gender identity can come from several potential places in eCW. A comparison between the Hub and these various places cannot be made because health centers enter it in different ways. Therefore, a comparison is made between the final product of the Transformer "relevant_genders" and what exists in the Hub. The cases identified are:
 - a. The Transformer does not pick up any gender identification
 - b. The report flags a patient if a binary gender option (male or female) is picked up by the Relevant Transformer which is opposite to the binary gender option chosen in the Hub.
 - c. The Transformer displays "Choose not to disclose" for gender identification but the patient has a binary gender option in the Hub
 - d. The patient has the Transgender option marked in the Hub but both the Transformer and the Hub show the same binary option
4. Race: actions will display for race options under the following circumstances:
 - a. The Transformer does not pick up any race for the patient
 - b. The race ID displayed by the Transformer is not mapped

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- c. The Transformer is saying that the race is unknown because the race entered into eCW is non-standard
 - d. The Transformer is saying that the patient has been assigned to more than one race because more than one race option has been entered historically into eCW. This situation varies among health centers. The report shows a single race from the eCW Hub in the column `race_raw` and the multiple races in the column `raceothers_agg`. In some cases, there have been multiple different races entered over time (for example, you might see the column `raceothers_agg` = "African American, White"). In this case, you might agree that the patient is multi-racial (this depends on what you see in the Hub and how the data was entered over time, which might differ from health center to health center or patient to patient). However, in other cases, you might see that the patient has multiple entries for the same race, either because it was just entered that way or because the race categories changed over time (for example, column `raceothers_agg` = "African American, African American/Black"). In this case, a human can see that the patient has always had the same race, but the report sees different races because of the different text options.
5. Ethnicity: actions will display for ethnicity options under the following circumstances:
 - a. The Transformer does not pick up any ethnicity for the patient
 - b. The ethnicity ID displayed by the Transformer is not mapped
 - c. The Transformer is saying that the ethnicity is unknown because the ethnicity entered into eCW is non-standard. You may need to investigate these patients to see a pattern in the data. The raw eCW table ("patients" in the Staging/ETL Database) displays codes only, and these are present in the report column `ethnicity_raw`. It is unknown exactly what these codes mean, although from the Transformer "Create relevant_ethnicities and add to patients table," you can see that code 2135-2 alone in the field represents "Hispanic" and code 2186-5 alone in the field represents "Non Hispanic." Combinations of codes, and other kinds of codes, are assigned to the Unknown category¹⁴. Confirm this makes sense at your health center by investigating the data.
 6. Language: missing language entry
 7. Sexual orientation: The sexual orientation ID displayed by the Transformer is not mapped
 8. Poverty: A fee schedule and poverty status has not been determined for an uninsured patient in the past two years

¹⁴ The ethnicity code "ASKU" by itself is interpreted as "Choose not to disclose" by the report. Therefore, if present by itself, will not be displayed by the report as potentially erroneous data.

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- Insurance: The insurance ID displayed by the Transformer is not mapped to a Relevant insurance group¹⁵, or to a UDS or OSHPD category.

The areas in the patient’s record that need attention are aggregated in the report column “Action needed agg.” Lists of patients can be given to staff members who have authorization to make changes to the patient record in eCW. Clear policies around standard and proper data entry should be developed and followed by the health center. Remove the columns intended for code developers (the ID columns) from the lists given to others for record modification.

Relevant Database: Staging

Parameters: The measurement period start and end dates define the range of UDS visits from which unduplicated patients displayed by the report are drawn. The end date also defines the last date that a sliding scale or insurance enrollment can be examined for the columns that look at those items.

Column Definitions

Column Name	Column Description
Patient id	Internal patient ID code
Mrn	The account number that appears in the EHR
Last name	Patient last name
First name	Patient first name
Date of birth transf	Date of birth as displayed on the table relevant_patients created by a Transformer
Date of birth raw	Date of birth as displayed on the raw eCW table users
Age end mp	Age of the patient at the end of the measurement period
Zip code transf	Zip code as displayed on the table relevant_patients created by a Transformer
Zip code raw	Zip code as displayed on the raw eCW table users
Language transf	Language as displayed on the table relevant_patients created by a Transformer
Language raw	Language as displayed on the raw eCW table patients
Race id	Race ID code as displayed on the table relevant_patients created by a Transformer

¹⁵ Note that at some health centers, when an insurance name does not display any corresponding payer groups on the relevant_payers table, this is interpreted as “Other public insurance” for the UDS report by default. This kind of insurance should be thoroughly investigated (it most likely belongs in another category). In this situation, the text 'UDS insurance id not mapped to a Relevant category' will appear in the column “Action needed agg”

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Column Name	Column Description
Race text transf	Race text that corresponds to the race ID code in Relevant
Race raw	Race text as displayed on the raw eCW table patients
Raceothers agg	Aggregated list of additional races for the patient displayed on the raw eCW table raceothers. This is displayed only when the column race_text_transf displays "More than one race"
Ethnicity id	Relevant ethnicity ID code as displayed on the table relevant_patients created by a Transformer
Ethnicity text transf	Ethnicity text that corresponds to the Relevant ethnicity ID code in Relevant
Ethnicity raw	eCW ethnicity ID code(s) as displayed on the raw eCW table patients
Gender id	Gender ID code as displayed on the table relevant_patients created by a Transformer
Gender text transf	Gender text that corresponds to the gender ID code in Relevant
Assigned female at birth	Field for assigned female at birth as displayed on the table relevant_patients created by a Transformer
Sex raw hub	Sex as displayed on the raw eCW table users
Transgender raw	Transgender checkbox as displayed on the raw eCW table users
Sexual orientation id	Sexual orientation ID code as displayed on the table relevant_patients created by a Transformer
Sexual orientation name	Sexual orientation text that corresponds to the sexual orientation ID code in Relevant
Poverty level percent	Poverty level percentage that appeared on the last sliding scale assigned before the end of the measurement period
Feeschedule	The fee schedule name that appeared on the last sliding scale assigned before the end of the measurement period
Sfs doc proof	Documented proof of income that appeared on the last sliding scale assigned before the end of the measurement period
Sfs assigned year	The year that the last sliding scale was assigned before the end of the measurement period
Ins id lastvisit	Insurance ID code (otherwise known as the payer ID code) that appeared on the last claim before the end of the measurement period, as displayed on the table relevant_insurance_enrollments created by a Transformer
Ins name lastvisit	The insurance name text that corresponds to the insurance/payer ID code in Relevant
Ins group lastvisit uds	The insurance group name used for UDS reporting that corresponds to the insurance/payer ID code in Relevant
Ins group lastvisit oshpd	The insurance group name used for OSHPD reporting that corresponds to the insurance/payer ID code in Relevant

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Column Name	Column Description
Action needed agg	An aggregated list of recommended actions to investigate and possibly respond to in order to more accurately display data in this record

Custom Set-up at Health Center: Generally, no set-up is necessary for the report to work. However, as mentioned above, over time you may need to tweak the report so that it pulls and interprets the data similar to how your Transformers work. Alternately, you may want to eliminate groups of patients with certain characteristics because you have determined that those records do not need to be changed. The report identifies areas that need attention with code in the Temporary Table for “action_items_temp.”

B. Quality Measure (QM) Understanding Reports

The main purpose of this sub-set of reports is to describe the overlap between the Value Sets and the data that is in your EHR. The RCHC Data Standards and Integrity Committee recommended in 2019 that all health centers define labs, medications, vaccines, and diagnoses (especially for chronic diseases) using the Value Sets. This can be done with coding directly in the Relevant Transformer because these Value Sets are updated by Relevant every year when the new set of Quality Measures becomes available. Conversely, if health centers choose to “hard-code” the definitions, the codes utilized must be synonymous with current Value Set, and then must be manually checked and updated every year because the Value Sets can change over time.

This sub-set of reports begins with “QM Value Set Codes” which simply displays all of the codes for all of the Value Sets used by the Quality Measures regardless of use or presence in the EHR. Appendix C lists the Value Sets themselves in a large table. Then there are reports for labs, medications and vaccines that show which of these items in your EHR intersect with the codes of the Value Sets. For example, there is a Value Set that defines cervical cancer screening labs, so one report displays all of the lab names and attributes that were used in the EHR in a defined period of time. All of the reports display internal EHR ID codes for individual items so that developers can investigate things that do not look right.

Instructions for Using the Relevant Validation Report Set (eCW Edition, Version 4)

QM Value Set Codes

Report Name: RCHC List of QM Value Set Codes

Version: Fourth version (updated November 2021). Added or modified new eCQM and HEDIS Value Sets OIDs.

Background and Context

The Quality Measure definitions from major reporting agencies depend on Value Sets to define essential components in a standard manner. In this way, all health centers reporting the measures distinguish these components in the same way. The Value Sets are normally updated annually on a national level by an expert authority.

The RCHC Data Standards and Integrity Committee decided to directly incorporate Value Sets into the Relevant Transformers so that the correct and most recent codes are consistently applied¹⁶. When a new set of reports is released by Relevant (for example, the 2021 UDS Reports), the Value Set will also be updated to the same version as described by the Quality Measures.

Each Value Set contains a number (sometimes dozens) of codes, normally of one type. Depending on the needs of the measure, there may be different Value Sets defining code types such as diagnosis codes, labs, medications, procedures, and vaccines. Depending on the type, codes in a Value Set are matched to the same codes in a particular location in your EHR. For example, a patient with a diagnosis code on the Problem List that matches a diagnosis code belonging to the Value Set for diabetes can then be further considered for the diabetes Quality Measure.

Appendix C lists all of the Value Sets that should be associated with Transformers or Data Elements for each Quality Measure. The report QM Value Set Codes displays the individual codes that are contained within the Value Sets.

¹⁶ If a health center “hard-codes” the Value Set codes into Transformers, etc., it is very time-consuming and difficult to verify them each year when new sets are released. The Quality Measures that RCHC-affiliated health centers are monitoring in 2021 feature more than 100 Value Sets and thousands of codes.

Instructions for Using the Relevant Validation Report Set (eCW Edition, Version 4)

Report Description

This report is a reference report that is useful for understanding other validation reports or Quality Measures that rely on Value Set codes. The objective of the report is to display all Value Set codes associated with the UDS and QIP Quality Measures. Note that all codes are listed, whether or not they are associated with codes recently used in the EHR. The other reports in the Quality Measure Understanding group of reports (for labs, medications, and vaccines) display which codes are being used in a particular measurement period in your EHR, as well as some additional characteristics.

The QM Value Set Code report displays codes for diagnosis (ICD-9 and ICD-10), labs (LOINC), medications (RXNORM)¹⁷, procedures (CPT), and vaccines (CVX). Only codes from the most recent (i.e., current) Value Sets are displayed, not all historical codes. One row of the report represents one code from one Value Set. It is recommended that you export the results to Excel so you can filter and sort the list as needed. The results of this report should not change during the year unless the underlying Value Set file is changed.

Columns of the report describe the Quality Measure to which the Value Set applies (and if the Value Set applies to more than one Quality Measure), as well as certain details about the Value Set and the codes it contains. There is a column named "ehr_target" that displays where the codes are applied in the Electronic Health Record, for example, to labs or vaccines. Note that there are a number of potential places in the EHR that diagnosis codes can be applied, depending on the intention of the Quality Measure. Diagnosis codes used to define populations of patients with chronic diseases are applied to the Problem List. Some diagnosis codes are not for chronic diseases but are still applied to the Problem List. Yet other diagnosis codes describe conditions that are normally added to Assessments because they are time-limited conditions.

Changes made to this report version: Note that this report displays both eCQM and HEDIS Value Sets. A new column value_set_source was added to distinguish between them. New 2021 eCQM OID codes added (see rows with bolded text in the column "eCQM OID" in the first table of Appendix C). Also, codes from HEDIS Value Sets added for unique QIP Quality Measures.

Relevant Database: Staging

¹⁷ The exception is that QIP asthma medications are defined by NDC codes.

Instructions for Using the Relevant Validation Report Set (eCW Edition, Version 4)

Parameters: This report does not have any parameters. It does not display any data that comes from eCW and therefore is not dependent on time periods present in the medical record. The Value Sets displayed are always the latest ones present in Relevant.

Column Definitions

Column Name	Column Description
Measure qm	The name of the Quality Measure to which the Value Set applies. Note that some Value Sets are used in more than one Quality Measure (see the column "More than one qm" below)
Value set source	Distinguishes the source of the Value Set name and OID (can be eCQM or HEDIS)
Value set name	The eCQM or HEDIS name of the Value Set
Value set oid	The eCQM or HEDIS identification code of the Value Set
Ehr target	The location in the EHR to which the Value Set applies
Code system name	The type of code
Code value	The code itself
Code description	The eCQM or HEDIS description of the code (if available)
Code system version	The eCQM or HEDIS version of the code (the latest one that exists in Relevant)
More than one qm	Column will display "Yes" if the Value Set is used in more than one Quality Measure

Custom Set-up at Health Center: no additional set-up necessary

Instructions for Using the Relevant Validation Report Set (eCW Edition, Version 4)

QM Lab Names and Attributes in EHR

Report Name: RCHC List of QM Lab Names and Attributes

Version: Second version. Value Sets were updated in the 2020 version.

Background and Context

In eCW, labs are defined from Value Sets according to their association with standard LOINC codes. One lab can have several components, called lab attributes. In eCW, these are displayed in the Lab Results window in the section called Results and each attribute normally has some kind of lab value in the yellow row of that section. It is the lab attribute that is actually linked to the LOINC code in the system, not the general lab name. In most cases, the correct LOINC code is already present in the lab compendium because the commercial laboratories contracted with your health center use the standard LOINC codes to identify labs for their own purposes. However, the correct LOINC codes should always be confirmed, and this is especially important for in-house or other custom labs added to your system. Refer to the report “RCHC List of QM Value Set Codes” to get a list of all LOINC codes that define a Value Set for a lab that is part of the Quality Measure you are interested in regardless of what is being used in your system. An authorized EHR administrator may need to make changes to the lab attribute / LOINC code associations in your system¹⁸.

The report “RCHC List of QM Lab Names and Attributes” lists all of the lab names and attributes in the health center EHR that match the Value Set LOINC codes for labs among the various Quality Measures that incorporate labs. This list can be used to ensure that lab attributes have the correct LOINC codes assigned to them. First, check the list for a specific Value Set to see if any lab attributes do not belong. They probably have the wrong LOINC code. Then, using your knowledge of what labs are commonly used in the system, look to see if any labs on the list are missing. As mentioned previously, this is especially important for in-house labs, but can also apply to other labs and new labs. The RCHC validation report “All Lab Names and Attributes” can also be sorted alphabetically by lab attribute to at least group some together that might have common names. Association with Value Sets can also be seen on that report, but the denominator is all labs (not just Value Set labs).

¹⁸ Be sure to follow your health center policy in this respect and thoroughly research any potential consequence of the change.

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Report Description

In order for a lab to be counted and displayed, it must have been ordered in the measurement period defined in the report parameters. Labs must also have a Collected Date or a Result Date, a Lab Result or Lab Value, be associated with an encounter that was not deleted, and not have been itself deleted or cancelled. Note that the criteria for inclusion in this report may be different than for inclusion in the Quality Measures. Therefore, the number of labs displayed on the report is not necessarily the same as those identified by any lab-related Transformer in Relevant.

This report does not contain any specific patient information. Instead, each row features one lab attribute associated with a Value Set belonging to a Quality Measure. For reference purposes, the internal eCW ID numbers are displayed for the lab category, lab test and lab attribute. The user can also see if the lab was used frequently (the column number_labs_mp displays the number of labs in the measurement period) and used very recently (the column last_date_mp displays the last lab date in the measurement period). Note that the frequency and recent activity of labs are provided for comparison purposes only (for example, seeing that one lab was ordered relatively more or less frequently than another, or seeing which lab was ordered the most within one category). This information is not the number of labs or unduplicated patients that may be displayed in a Quality Measure, or billed in the measurement period, etc.

Relevant Database: Staging

Parameters: The only required parameter is the measurement period start date. Labs displayed by the report were ordered between the start date and the date the report was run.

Column Definitions

Column Name	Column Description
Qm name	The name of the Quality Measure to which the Value Set containing the code applies.
Valueset name	The eCQM name of the Value Set
Valueset oid	The eCQM identification code of the Value Set
Lab category id	The internal lab category ID number is displayed if the lab name (column Labtest name) was associated with a lab category
Lab category name	The lab category name is displayed if the lab name (column Labtest name) was associated with a lab category
Labtest id	The internal lab name ID number in eCW

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Column Name	Column Description
Labtest name	The lab name in eCW
Labattribute id	The internal lab attribute name ID number in eCW
Labattribute name	The lab attribute name in eCW
Valueset loinc	The LOINC code itself in eCW
Valueset loinc description	The eCQM description of the LOINC code
Number labs mp	The number of times the attribute was associated with a “completed” lab in the measurement period
Last date mp	The last date the attribute was associated with a “completed” lab in the measurement period

Custom Set-up at Health Center: no additional set-up necessary

QM Medications in EHR

Report Name: RCHC List of QM Medications

Version: Fourth version (updated November 2021). Updated the OID for two Value Sets.

Background and Context

The eCQM Value Sets define medications according to a standard called RxNorm¹⁹. However, in eCW, medications are identified with NDC Codes. This is important to note because you will not directly see any of the RxNorm codes from the report “QM Value Set Codes” in your EHR.

A Transformer (named relevant_medications) has been developed to bridge the RxNorm and NDC code sets. This Transformer is used in the validation report “QM Medications in EHR” and should also be used as the standard method for identifying medications in the QM Transformers. In order for this report to work, the Transformer relevant_medications must be present (in the latest version available) and turned on so it is updated daily.

¹⁹ In contrast, the QIP asthma medications are defined by NDC codes.

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Report Description

The main idea behind this report is to display all of the medications that belong to the UDS QM Value Sets. These medications had an action in the measurement period, which is defined as having any of the Medication Flags listed on the report “RCHC List All Medication Flags” such as, start, stop, taking/brought forward, etc. Therefore, this report is purposefully more inclusive than the Transformers for the Quality Measures in order to identify as many medications as possible. To appear on the report, the medication action had to occur during a completed visit (in this case, the visit is defined on the relevant_visits table, which at most health centers include visits with the status ‘CHK’ in any location with any provider).

In the report output, each row consists of one medication (defined by a unique med item ID) for one Quality Measure and one Value Set. Note that one medication can belong to more than one Quality Measure and more than one Value Set. Therefore, individual medications can be duplicated if they belong to more than one Quality Measure and Value Set. The purpose of this is to allow the user to obtain a list of medications for a Quality Measure and Value Set by exporting the list to Excel and filtering the results. On the other hand, medication groups are combined into a single field in the columns Rx group ids and Rx group names. Therefore, if a single medication belongs to more than one group, the groups (ID numbers and names) will be listed in the respective columns without duplication.

Users of the report should filter and/or sort the results in order to identify any medications that should not be in a particular Value Set. There is another RCHC validation report called “All Medications and Rx Groups” that displays all medications and their associated medication groups. This report can also be used to identify medications that do not belong to the Value Set but should. In eCW, an appropriate NDC code would need to be added (or removed, as appropriate) to the medication record.

Medications on the report must have had an action in the measurement period. There are columns for group id and name, and Value Set id and name. Similar to other validation reports in this section, there are also columns for the number of encounters with a medication action and the last date when an action occurred. Note that these are helpful to understand the relative use of medications, but do not imply the number of medications or patients picked up by the Quality Measure Transformer.

Note that the Transformer relevant_medications must be current and active in order for this report to show medications in the Measurement Period you select.

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Changes made to this report version: Two medication-related Value Sets for the Quality Measure “Screening for Depression and Follow-Up Plan” were replaced.

Relevant Database: Staging

Parameters: The only required parameter is the measurement period start date. Medications displayed by the report had a medication action between the start date and the date the report was run.

Column Definitions

Column Name	Column Description
Qm name	The name of the Quality Measure to which the Value Set containing the code applies.
Valueset name	The eCQM or HEDIS name of the Value Set
Valueset oid	The eCQM identification code of the Value Set
Rx group ids	The internal medication group ID number(s) in eCW
Rx group names	The medication group name(s) in eCW
Med itemid	The internal medication ID number in eCW
Med name	The medication name in eCW
Number meddates mp	The number of dates (encounters) with at least one action on the medication in the measurement period
Last date mp	The date of the last visit with at least one action on the medication in the measurement period

Custom Set-up at Health Center: The Transformer relevant_medications may have different fields at different health centers. This report assumes that the Transformer is displaying the associated eCQM Value Set OIDs in the field relevant_medications.value_set_oids and the name of the associated QIP measure names in the field relevant_medications.qip_measures (i.e., Asthma Medication Ratio). However, not all health centers are tracking the QIP Asthma Medications Ratio Quality Measure and so have not added the HEDIS/QIP Value Sets to relevant_medications. If that is the case at your health center, the UNION statement in the first subquery referring to the qip_measures field in the WHERE statement can be removed. Other customized approaches to identifying medications associated with Value Sets from the relevant_medications Transformer may be needed in the first TEMPORARY TABLE (rx_uds_raw) of the SQL in this report.

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QM Vaccines in EHR

Report Name: RCHC List of QM Vaccines

Version: Third version (updated November 2021). Added Value Sets for HEDIS measure

Background and Context: This report lists all vaccines in the health center EHR that match the Value Set CVX codes²⁰ for vaccines featured by the UDS and QIP immunization measures. This list can be used to ensure that vaccines in your system have the correct CVX codes assigned to them. First, check the list for a specific Value Set to see if any vaccines displayed do not belong. They probably have the wrong CVX code. Then, use your knowledge of what vaccines are commonly used in the system to see if any vaccines on the list are missing. This step is important because, typically, the health center enters a number of customized vaccines into the system and might not have also associated a CVX code to those records. The RCHC validation report “All Vaccines” can also be sorted alphabetically by vaccine name to at least group some together that might have common names. Association with Value Sets can also be seen on that report, but the denominator is all vaccines (not just Value Set vaccines).

Report Description

In order for a vaccine to be counted and displayed, it must have been given in the measurement period, and not have been deleted. Note that the criteria for inclusion in this report may be different than for inclusion in the Quality Measures. Therefore, the number of vaccines displayed on the report is not necessarily the same as those identified by any vaccine-related Transformer in Relevant.

This report does not contain any specific patient information. Instead, each row features one vaccine associated with a Value Set belonging to a Quality Measure. For reference purposes, the internal eCW ID number is displayed for the vaccine name. The user can also see if the vaccine was used frequently (column `number_vacc_mp` displays the number of vaccines in the measurement period) and used very recently (column `last_date_mp` displays the last vaccine date in the measurement period). Note that the frequency and recent activity of vaccines are provided for comparison purposes only (for example, seeing that one vaccine was ordered relatively more or less frequently than another, or seeing which

²⁰ To define vaccines, the Value Sets contain both CVX codes and CPT codes. Vaccine data is normally taken from the Immunization Detail Window in eCW and not from claims. Therefore, CVX codes are typically used by the Relevant Transformers. You should confirm that if CPT codes appear on the “Immunizations” table in Relevant, they only correspond to very old records (most likely old historical records). Nonetheless, Value Sets with CPT codes for vaccines are displayed in the table in Appendix C.

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vaccine was ordered the most within one category). This information is not the number of vaccines or unduplicated patients that may be displayed in a Quality Measure, billed in the measurement period, etc.

Changes made to this report version: Note that this report displays both eCQM and HEDIS Value Sets. A new column valueset_source was added to distinguish between them. A reference to the new HEDIS Value Set table added for the QIP adolescent immunization measure.

Relevant Database: Staging

Parameters: The only required parameter is the measurement period start date. Vaccines displayed by the report were given between the start date and the date the report was run.

Column Definitions

Column Name	Column Description
Qm name	The name of the Quality Measure to which the Value Set containing the code applies.
Valueset source	Distinguishes the source of the Value Set name and OID (can be eCQM or HEDIS)
Valueset name	The eCQM or HEDIS name of the Value Set
Valueset oid	The eCQM or HEDIS identification code of the Value Set
Vaccine id	The internal vaccine name ID number in eCW
Vaccine name	The vaccine name in eCW
Valueset cvx	The CVX code itself
Valueset cvx description	The eCQM or HEDIS description of the CVX code (if available)
Number vacc mp	The number of times the vaccine was given in the measurement period
Last date mp	The last date the vaccine was given in the measurement period

Custom Set-up at Health Center: no additional set-up necessary

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C. System Set-Up and Utilization Reports

These reports basically display big list of items with associated details. They cover all of the major item groups. When displaying data from the EHR, the internal ID code is displayed by the report. This can help a developer to more easily investigate unexpected data.

Whereas the reports in the previous section display only the items in your EHR that correspond to the Value Set, the reports in this section display all of the items. Therefore, they are more useful for purposes other than simply defining the Value Set, although they can also be used to identify items that are currently not connected to the Value Set but should be. For example, there might be a vaccine that you recognize by name as something that “should” belong to a particular Value Set but is not currently connected to it because it does not have the appropriate CVX code. Therefore, it is recommended that you export the large list to Excel and then sort or filter the list by name to see groups of similar items. If one item appropriately belongs to a Value Set, it is likely that other items with the same or similar names also should belong to the same Value Set.

All Diagnosis Codes

Report Name: RCHC List All Diagnosis Codes

Version: Fourth version (updated November 2021). Added new eCQM and HEDIS 2021 Value Sets.

Background and Context

Relevant Transformers and other reports in this validation report set obtain diagnosis codes from the Problem List or from Assessments, depending on the code and its intended purpose within the logic of the Quality Measure. There is a report (RCHC Problem List Validation Report) that compares diagnosis codes on the Problem List to codes that appear on Assessments or Claims. There is also a report (RCHC List of QM Value Set Codes) that displays all of the diagnosis codes that appear in the Value Sets. The report RCHC List All Diagnosis Codes presents all diagnosis codes that appear on the Problem List or Assessments for patients seen in a measurement period.

This report is useful to get an idea of which diagnosis codes are associated with the UDS and QIP Value Sets and which are most commonly being used. For example, the report will show which cancer

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exclusion codes are being entered into the Problem List, or which diabetes diagnosis code is the most common among all codes in the Value Set for the diabetes Quality Measure.

This report belongs to the System Set-Up and Utilization sub-set of validation reports, so the data displayed is for research and understanding purposes. There is not a specific validation routine suggested for this data. However, insight into the Value Set codes can be gained with this report. For example, you can see that the Value Set for the QIP measure Asthma Medication Ratio contains diagnosis codes for persistent and intermittent asthma. This seems unusual since the measure description in the 2021 QIP manual states the denominator is for patients “...who were identified as having persistent asthma...” (page 16 of the manual, 2021 Primary Care Provider Quality Improvement Program Website Specifications).

Report Description

The report lists all diagnosis codes that appear on the Problem List of patients seen in the measurement period, or that appear on Assessments in the measurement period. An unduplicated patient count for each group is displayed. It is not implied that the number of patients who have a code on the Problem List and on an Assessment should be equal, but at least the user can get an idea of how the codes are being used²¹. There are additional columns that describe the diagnosis code in terms of membership in a UDS or QIP Value Set, and from where the code is pulled for the Quality Measure (i.e., from the Problem List or from an Assessment).

For a code to be counted on the Problem List, it must meet the following criteria:

- The diagnosis code must be present on the Problem List on the day the report is run with a “Confirmed” status and not be resolved or deleted.
- The patient must have had at least one office visit with CHK status in the Measurement Period.

For a code to be counted on an Assessment, it must meet the following criterion:

- The diagnosis code was added to an Assessment during an office visit with CHK status in the Measurement Period.

This report shows one unique diagnosis code per row. If the code belongs to more than one Value Set, multiple sets will appear in the column for aggregated Value Sets (column name “Value set name agg”).

²¹ On UDS Table 6A, there is a section called “Visits and Patients by Selected Diagnoses, Lines 1–20d.” Patients in this section are identified by a diagnosis code on an Assessment in the measurement period. It is commonly agreed that defining patients with chronic diseases by diagnosis codes on Problem lists is more precise than defining patients by diagnosis codes on Assessments, but you can examine your own data.

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Likewise, the Quality Measure name, Value Set description, Value Set OID and EHR target are also aggregated when more than one is associated with the code.

Diagnosis codes from UDS and QIP Value Sets are displayed, but in cases where a Quality Measure is the same between them, the UDS Value Set is displayed.

Lastly, note that when exporting the results to Excel, default formatting may eliminate some initial and trailing zeros in the Dxcode column.

Changes made to this report version: Note that this report displays both eCQM and HEDIS Value Sets. A new column value_set_source was added to distinguish between them. One 2021 eCQM OID Value Set added (“Congenital or Acquired Absence of Cervix”) as well as Value Sets from the new HEDIS table for unique QIP Quality Measures.

Relevant Database: Staging

Parameters: The only required parameter in the SQL code is named “startdate.” This date is used to define the measurement period, which is between the start date and the date the report is run. Counts of patients displayed on the report must have had at least one encounter with CHK status in the measurement period. Note that this encounter criterion is intentionally broad so that visits other than UDS medical visits are captured (along with the diagnosis codes).

Column Definitions

Column Name	Column Description
Dxcode	The diagnosis code itself
Dxname mostcommon	The most common name assigned to the diagnosis code by users entering codes on the Problem List or Assessments
Problast pts	The number of unduplicated patients seen in the measurement period with the diagnosis code on their Problem List
Assessm pts	The number of unduplicated patients with the diagnosis code entered into an Assessment in the measurement period
Value set source	Distinguishes the source of the Value Set name and OID (can be eCQM or HEDIS)
Measure qm agg	The Quality Measure name associated with the diagnosis code (if applicable). Names aggregated if more than one is associated.

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Column Name	Column Description
Value set name agg	The Value Set name associated with the diagnosis code (if applicable). Names aggregated if more than one is associated.
Value set oid agg	The identification code (OID) of the Value Set associated with the diagnosis code (if applicable). Names aggregated if more than one is associated.
Value set code description agg	The description of the Value Set diagnosis code (if applicable). Descriptions aggregated if more than one is associated.
Ehr target agg	The location in the EHR to which the Value Set applies (if applicable). Locations aggregated if more than one is associated.

Custom Set-up at Health Center: no further set-up is necessary for this report

All Lab Names and Attributes

Report Name: RCHC List All Lab Names and Attributes

Version: First version. New report in 2020.

Background and Context

This report lists all of the lab names and attributes ordered during the measurement period. This is useful for checking groups of similar labs to make sure they are associated with a Value Set, where appropriate (i.e., through the LOINC code), and also to identify any labs associated with a Value Set but actually should not be associated with it. The LOINC code is connected to the lab attribute.

Note that a unique lab test name (defined by a unique lab test ID number) can have one or more lab attributes (each having a unique lab attribute ID) and that not all attributes must accompany the lab test name every time it is ordered. Furthermore, a unique lab attribute (having a unique lab attribute ID) can be associated with one or more lab test names (each having a unique lab test ID number). Because of these characteristics, the report features output tabs that unduplicate the lab test names and the lab attribute names.

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Report Description

In order for a lab to be counted and displayed, it must have been ordered in the measurement period defined in the report parameters. Labs must also have a Collected Date or a Result Date, a Lab Result or Lab Value, be associated with an encounter that was not deleted, and not have been itself deleted or cancelled. Note that the criteria for inclusion in this report may be different than for inclusion in the Quality Measures. Therefore, the number of labs displayed on the report is not necessarily the same as those identified by any lab-related Transformer in Relevant.

This report shows one unique lab test / lab attribute combination per row. If the LOINC code belongs to more than one Value Set, multiple sets will appear in the column for aggregated Value Sets (column name "Valueset name agg"). Likewise, the Quality Measure name, Value Set description, and Value Set OID are also aggregated when more than one is associated with the code.

Relevant Database: Staging Database

Parameters: The only required parameter in the SQL code is named "startdate." This date is used to define the measurement period, which is between the start date and the date the report is run. Labs displayed on the report must have been ordered in the measurement period.

Column Definitions

Column Name	Column Description
Lab category	Lab category ID assigned to the lab (if present)
Lab category name	The lab category name text that corresponds to the lab category ID code
Labtest id	The lab test ID code
Labtest name	The lab test name that corresponds to the lab test ID code
Labattribute id	The lab attribute ID code
Labattribute name	The lab attribute name that corresponds to the lab attribute ID code
Lab loinc	The LOINC code associated with the lab attribute
Valueset loinc description agg	The Value Set LOINC description, if the code is part of one or more of the Value Sets (aggregated, if in more than one Value Set)
Qm name agg	The Quality Measure name, if the associated LOINC code is part of one or more of Quality Measures (aggregated, if in more than one measure)
Valueset name agg	The Value Set name, if the associated LOINC code is part of one or more of the Value Sets (aggregated, if in more than one Value Set)

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Column Name	Column Description
Valueset oid agg	The Value Set OID, if the associated LOINC code is part of one or more of the Value Sets (aggregated, if in more than one Value Set)
Number labs mp	The unduplicated number of labs (defined by the labtest id) in the Measurement Period
Number attributes mp	The unduplicated number of lab attributes (defined by the labattribute id) in the Measurement Period
Last order date mp	The last date in the Measurement Period the lab was ordered

Custom Set-up at Health Center: no further set-up is necessary for this report

All Images

Report Name: RCHC List All Images

Version: First version. New report in 2020.

Background and Context

This report lists all of the diagnostic images that were ordered during a measurement period. The images recognized by the Quality Measures (see column “Qm recognized name”) have key text in their names. Note that this approach is different than other reports in this report set that use Value Set codes (no such codes exists for images).

This report can be used to ensure that the key text is not missing any images appropriate for the Quality Measures or is including any that are not appropriate.

Report Description

One row of the report displays one unique image (defined by an Image ID), along with details like the image category (if the image was assigned to one in your system), the number of images, and the last ordered date in the measurement period.

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It is recommended that the user copy the output to Excel and then sort the list by image name. Look for images for each of the Quality Measures that use images (Breast Cancer Screening and Colorectal Cancer Screening) and ensure that the images being picked up have appropriate names. Also make sure that no inappropriate images are being picked up by the Quality Measures.

Relevant Database: Stating

Parameters: The only required parameter in the SQL code is named “startdate.” This date is used to define the measurement period, which is between the start date and the date the report is run. Images displayed on the report must have been ordered in the measurement period.

Column Definitions

Column Name	Column Description
Image category id	Image category ID assigned to the image (if present)
Image category name	The image category name text that corresponds to the image category ID code
Image id	The image ID code
Image name	The image name that corresponds to the image ID code
Qm recognized name	The Quality Measure name associated with the name of the image
Number images mp	The number of images in the Measurement Period
Last order date mp	The last date in the Measurement Period the image was ordered

Custom Set-up at Health Center: The report identifies the three images using key text plus wild card characters in the image name field. Check the transformers that define these images and compare the key text used at your health center with the default key text used by this report. They should be the same.

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All Medications and Rx Groups

Report Name: RCHC List All Medications and Rx Groups

Version: Fourth version (updated November 2021). Added new eCQM Value Sets

Background and Context

There may be situations where a Quality Manager would like to see a list of medications that have been used within a period of time. In other cases, a developer may want to gather a list of medications or medication group ID numbers for adding into the SQL code. This report lists all of the medications with an action in the measurement period as well as frequency of use.

Similar to other reports in the System Set-Up and Utilization sub-set of validation reports, this information is displayed for research and understanding purposes. If a health center has updated the membership of medications in eCW medication groups, the grouping can be verified with this report by comparing the groups (column Rx group names) to the Value Sets (column Uds value set names).

Report Description

The report lists all medications in a measurement period, along with the number of unique patients and unique visits related to the medication. To be included on the report, a medication must have at least one medication action in the measurement period. An action is any of the Medication Flags listed on the report “RCHC List All Medication Flags” for example, start, stop, taking/brought forward, etc.

Note that all Medication Flags are considered, so this report is much more inclusive than other validation reports or Quality Measures. Therefore, columns that show the number of visits or unique patients with the medication are really referring to medications with any action taken on them. This is not the number of prescriptions or the number of patients verified to be using the medication in the measurement period. Basically, it is saying that the medication was verified in some way (as using, not using, brought forward, etc.) during a number of visits for a number of unique patients within the measurement period. In other words, these medications existed on the medication list of these patients in some capacity during the measurement period.

This report displays unduplicated medications in rows where one medication has a unique medication ID number (column Med itemid). Note that one medication can belong to more than one Quality Measure,

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more than one Value Set and more than one medication group. In those cases, all of the measure names, Value Sets, and groups are aggregated into a single field as a list separated by semi-colons. This report displays medications from both UDS and QIP Quality Measures.

Changes made to this report version: Two medication-related Value Sets for the Quality Measure “Screening for Depression and Follow-Up Plan” were replaced.

Relevant Database: Staging

Parameters: The only required parameter in the SQL code is named “startdate.” This date is used to define the measurement period, which is between the start date and the date the report is run. Medications displayed on the report must have had at least one action in the measurement period. An action is defined as any Medication Flag²² entered during the visit, and visits must have CHK status²³. Note that visit criteria are intentionally broad so that visits other than UDS medical visits are captured and the greatest number of patients and medications appear on the report.

Column Definitions

Column Name	Column Description
Med itemid	The internal medication ID number
Med name	The medication name associated with the medication ID
Rx group ids	The internal medication group ID number(s), if applicable
Rx group names	The medication group name(s), if applicable
Value set oids	The identification code(s) of the eCQM and HEDIS Value Set(s) that the medication is associated with, if applicable
Value set names	The name(s) of the eCQM and HEDIS Value Set(s) that the medication is associated with, if applicable
Measure qms	The UDS and QIP Quality Measure name(s) the medication is associated with, if applicable
Unique pts with med action	The number of unique patients with at least one action on the medication in the measurement period
Unique visits with med action	The number of unique visits with at least one action on the medication in the measurement period

²² To see a list of all medication flags in your system, refer to the validation report “RCHC List All Medication Flags”

²³ Medications included in the report are tied to the table relevant_visits, so refer to that Transformer to understand the criteria for visits that appear there. At most health centers, at least CHK status is necessary.

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Column Name	Column Description
Last visit with med action	The date of the last visit with at least one action on the medication in the measurement period

Custom Set-up at Health Center: This report assumes that the Transformer relevant_medications is associated with the appropriate eCQM and/or HEDIS Value Sets and that the Value Set OID or name is displayed. There is currently no standardized approach for this among health centers, therefore a degree of customization is needed in the TEMPORARY TABLE rx_value_sets. The SQL code was developed and tested at one health center that has both eCQM and HEDIS Value Sets displayed by the relevant_medications Transformer.

All Medication Flags

Report Name: RCHC List All Medication Flags

Version: First version. Report from 2019 report set.

Background and Context: The use of Medication Flags (otherwise known as Doctor's Flags) is important to understand because they are normally entered by a provider to document the status of medications being used or not used during the visit. Each visit can have one or more flags for each medication.

Report Description: This report simply displays the names and ID numbers of the Medication Flags used during the measurement period. It is good to keep track of which flags are active and being used in the system. At some health centers, EHR users have created their own custom flags that may confuse the understanding of medication use and data analysis. The health center's EHR management team may choose to inactivate these kinds of flags and only utilize the standard flags so that Relevant Transformers and Care Gaps work as expected. The validation report displays a column indicating if the flag is active or not.

Relevant Database: Staging

Parameters: The only required parameter in the SQL code is named "startdate." This date is used to define the measurement period, which is between the start date and the date the report is run. The

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measurement period is applied to visit dates where actions occur on medications. An action is defined as any Medication Flag entered during the visit, and visits must have CHK status²⁴.

Column Definitions

Column Name	Column Description
Medication flag id	The internal medication flag ID number
Medication flag name	The medication flag name associated with the flag ID
Flag status	Active or inactive status
Number med records	The number of medication records where the flag was entered during a visit

Custom Set-up at Health Center: no further set-up is necessary for this report. However, note that medication flags are commonly used in Relevant Transformers. Since these Transformers identify patients who are “using” the medication, the medication flag ID numbers in the Transformer should match the flags that have a description indicating the medication is being used (and *visa versa*, if a NOT statement is used in the Transformer instead).

All Vaccines

Report Name: RCHC List All Vaccines

Version: Second version (updated November 2021). Added a Value Set for the HEDIS measure

Background and Context: This report lists all vaccines and injections given during the measurement period. This is useful for checking groups of similar vaccines to make sure they are associated with a Value Set, where appropriate (i.e., through the CVX code), and also to identify any vaccines associated with a Value Set but actually should not be.

Report Description

The report shows a unique vaccine or injection (defined by the vaccine or injection internal ID number) on each row. If more than one Value Set is associated with the unique vaccine, the names are

²⁴ Medication flags included in the report are tied to the table relevant_visits, so refer to that Transformer to understand the criteria for visits that appear there. At most health centers, at least CHK status is necessary.

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aggregated in the column “Valueset name agg” and the OID numbers are aggregated in the column “Valueset oid agg.”

In eCW, one vaccine or injection is identified with a unique ID number (on the report, this is shown in the column “Vacc inj id”²⁵) and one name (column “Vacc inj name”) associated with that ID number. However, the eCW front-end user can possibly enter a number of different vaccine or injection names, which are all associated with the same unique ID number. These names, along with their associated codes, are also aggregated in columns. There are two columns used when the code is a CVX code (“Cvx name agg” and “Cvx code agg”) and two columns when the code is a CPT code (“Cpt name agg” and “Cpt code agg”). Normally vaccines are defined by CVX codes and injections by CPT codes.

There are also columns that show the total number of times the vaccine or injection was given in the measurement period, and then of those, how many were marked as “historical.” There is also a column for the last date in the measurement period the vaccine was given (including historical dates).

Vaccines for Quality Measures can be identified using CVX or CPT codes. Normally, Transformers or Data Elements use Value Set CVX codes from immunization structured data and not CPT codes from claims. Nonetheless, the immunization CPT Value Set codes are displayed on the report “RCHC List of QM Value Set Codes” for reference. Even though the report “RCHC List All Vaccines” has a column that displays the CPT code associated with the vaccine on the immunizations table, all immunizations are actually being identified by the CVX code Value Set.

Changes made to this report version: Note that this report displays both eCQM and HEDIS Value Sets. A new column value_set_source was added to distinguish between them. A reference to the new HEDIS Value Set table added for the QIP adolescent immunization measure.

Relevant Database: Staging

Parameters: The only required parameter in the SQL code is named “startdate.” This date is used to define the measurement period, which is between the start date and the date the report is run. The measurement period is applied to the given dates for the vaccines or injections.

Column Definitions

²⁵ This is actually the Item ID

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Column Name	Column Description
Vacc inj id	Vaccine and injection internal ID number
Vacc inj name	The vaccine or injection name associated with the ID number
Value set source	Distinguishes the source of the Value Set name and OID (can be eCQM or HEDIS)
Qm name	The Quality Measure associated with the vaccine
Valueset name agg	The Value Set name, if the associated CVX code is part of one or more of the Value Sets (aggregated, if in more than one Value Set)
Valueset oid agg	The Value Set OID, if the associated CVX code is part of one or more of the Value Sets (aggregated, if in more than one Value Set)
Cvx name agg	The chosen names of the vaccine(s) (or injections) in eCW during the measurement period
Cvx code agg	The CVX code(s) that appeared in eCW during the measurement period
Cpt name agg	The chosen names of the injection(s) (or vaccines) in eCW during the measurement period
Cpt code agg	The CPT code(s) that appeared in eCW during the measurement period
All vacc count	The total number of vaccines or injections documented during the Measurement Period
Histor vacc count	The number of vaccines or injections marked as historical during the Measurement Period (this is a subset of the total)
Last date given	The last date in the measurement period when the vaccine or injection was given

Custom Set-up at Health Center: no further set-up is necessary for this report

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All Structured Data Items

Report Name: RCHC List All Structured Data Items

Version: First version. Report from 2019 report set.

Background and Context

The term “data items” in the title of this report refers to the individual questions or fields that appear in the Social History, HPI, Preventive Medicine, and Examination structured data windows of eCW. Each question or field is identified by a sequence consisting of a Category, Symptom and Detail. This sequence organizes the items in groups, similar to how it is displayed in eCW. There may be different labels for these groups in the different sections of eCW, but on the underlying data table in Relevant, the organization is the same.

It may be useful for Quality Managers or SQL report writers to see all of the structured data items (and ID numbers) used in a measurement period. For example, you may want to pull specific items for a report or a Care Gap. Or, you may want to see if data entry is occurring as expected for a new question.

Report Description

The report simply lists all items (defined by the Category, Symptom and Detail sequence) from structured data (defined as data from the Social History, HPI, Preventive Medicine, and Examination sections of eCW). To appear on the report, the value for the item (in other words, the answer chosen by the person entering the data) must not be null (missing) or a single space character (“ ”). Data must also have been entered during an office visit with CHK status during the measurement period. Neither deleted encounters nor deleted items are counted on the report.

Note that this report is focused on structured data items. In eCW, these are labeled on the “Structured” tab, not the “Free-form” tab of the respective section.

The report contains columns that show the number of records entered for the item, as well as the last entry date. There is also a column for the number of unique values entered for the item. The Values for items sometimes have a structure to them (e.g., Yes or No answers). However, many of them allow free text or dates. The report counts the unique values entered but does not display them individually. So, an item with a choice of only a “Yes” or “No” answer would have a count of two unique values on the

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report in the column “Number unique values.” Alternately, an item with a date field might have a count of dozens or hundreds of unique values.

Commonly, questions that appear on Smart Forms are mapped to their structured counterpart. Check community mapping in eCW to confirm mapping between forms and structured data elements. There may be items with similar names that exist in the system, but only particular ones are mapped to a Smart Form.

On the default version of the report, there is no name displayed for the Symptom (but Symptom ID is displayed). See the information in Custom Set-up at Health Center (below) to correct this in your instance.

Relevant Database: Staging

Parameters: The only required parameter in the SQL code is named “startdate.” This date is used to define the measurement period, which is between the start date and the date the report is run. The measurement period is applied to visit dates where structured data elements are utilized.

Column Definitions

Column Name	Column Description
Structured data type	Displays the source of the structured data item: Social History, HPI, Preventive Medicine, or Examination sections of eCW
Category id	The internal category ID number
Category name	The category name
Symptom id	The internal symptom ID number
Symptom name	The symptom name (currently not identified)
Detail id	The internal detail ID number
Detail name	The detail name
Number unique values	The number of unique values entered by the user in the measurement period
Total records	The number of times a value was entered into the item in the measurement period
Last record date	The last date in the measurement period a value was entered into the item

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Custom Set-up at Health Center

By default, the column Symptom name displays the text 'Symptom name not available.' Health centers can display the symptom name with one additional step. Symptom names are present on a table called “properties” in the Relevant Staging Database. However, not all health centers have this table available in their current configuration. If you want to display the symptom name you will need to have this table added to your Staging Database.

In the SQL code for the report, there are Temporary Tables for each type of structured data (Examination, HPI, etc.). For each Temporary Table, there is a note (preceded by two dashes so it is not read by the processor) in the JOIN statement and a note containing the field for the column Symptom name in the SELECT DISTINCT sub-routine. If the “properties” table has been added to Relevant, you can remove the two dashes (“--”) on each of these rows. Then delete the original symptom name row ('Symptom name not available' AS symptom_name) or place two dashes in front of it. Lastly, the new field (properties.name) must be added to the GROUP BY statement of the sub-routine because that sub-routine is aggregating COUNT and MAX statements.

If you do not want the symptom name, just run the default code.

All Providers, Resources and Staff

Report Name: RCHC List All Providers, Resources and Staff

Version: First version. New report in 2020.

Background and Context: The UDS and OSHPD reports summarize visits by providers and some kinds of Resources and Staff, organized by unique categories. These individuals must be mapped to the appropriate categories using the instructions provided by Relevant. This report provides a large list of all personnel by type and displays how they are currently mapped.

Report Description

This report displays all health center personnel who were attached to visits in the measurement period through the Resource ID (resourceid) or the Doctor ID (doctorid) on the raw eCW table named “enc.”

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The Transformer relevant_visits has SQL code that decides which ID to assign to the visit, and therefore which Provider, Resource or Staff member gets “credit” for the visit. The report displays a summary of visits from different perspectives so you can see how credit for visits is being distributed and to address any mapping issues.

One row of the report displays one Provider, Staff or Resource (identified by a unique ID in the column Provider id). The report intentionally displays a wide variety of health center personnel but does not imply that all of them should have visits reported on the UDS and OSHPD reports. There are specific instructions on which types of personal are appropriate for which categories and those should be consulted when mapping is concerned. Furthermore, the report does not suggest that visit counts in all columns are counts that should be reported on the UDS or OSHPD reports. Again, the official instructions for those reports define the kinds of visits that are reportable.

There is variation among health centers with how a provider (or other staff member) is assigned to a visit. This is normally done in the Transformer “relevant_visits,” specifically in the column for “provider_id.” Read and understand how the provider_id is assigned at your health center²⁶.

Note that the way that the provider ID is assigned may have an effect on the way the results of the report are interpreted. For example, if your health center only uses the Resource ID field (enc.resourceid) to populate the “provider_id” column on the table relevant_visits, then the number of visits based on the Doctor ID field (enc.doctorid) is irrelevant and should be ignored.

Because of the potentially large number of rows on the report, it is recommended that the user export the results to Excel where the data can be filtered or sorted easily. It might be a good idea to involve somebody at your health center who is an expert on the job descriptions of staff members and familiar with the different definitions of staffing categories on the UDS and OSHPD reports.

Provider names, credentials and specialty are displayed by the report. Generally, providers with similar combinations of credentials and specialty belong to the same UDS or OSHPD categories. Therefore, sort the list by those fields and look to see if groups of providers or other staff are mapped in the same way.

²⁶ For example, some health centers assign the Resource ID field (enc.resourceid) to the provider_id field. Other health centers assign the resource ID field in some situations and the doctor ID field (enc.doctorid) in other situations (depending on provider type, visit type, etc.). These instructions do not make a recommendation for the “best” method to do this.

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Also, look to see that there is consistency in the mapping between the UDS and OSHPD categories²⁷. Lastly, ensure that the credentials and specialty fields are completed and consistent (at least) for all providers who make independent clinical decisions in the medical, dental and mental health departments. If you see providers or other staff members who are incorrectly mapped, investigate the logic and change the code in the following standard Transformers:

- UDS mapping is done in the Transformer “relevant_uds_staff_mappings”
- OSHPD mapping is done in the Transformer “relevant_oshpd_provider_mapping”

Relevant Database: Staging

Parameters: The measurement period start date and end date define the visit range considered by the report.

Column Definitions

Column Name	Column Description
Prov type	Type (Provider, Staff or Resource)
Provider id	The internal Provider ID number
Last name	Last name
First name	First name
Credentials	Credentials
Specialty	Specialty
Is resident	Is a resident (TRUE/FALSE)
Primary facility	The primary facility on the provider record (if the row is a provider)
FTE	Full Time Equivalents
UDS line number	Line number for UDS Table 5
Uds staff member type	Name of the UDS Table 5 staff member type for that line number
Uds major serv categ	Name of the UDS major service category for that line number
Oshpd line number	Line number for OSHPD report page 2
Oshpd staff member type	Name of the OSHPD report page 2 staff member type for that line number
Oshpd major serv categ	Name of the OSHPD major service category for that line number
UDS visits	Number of UDS visits
Non UDS visits	Number of non-UDS visits
UDS med visits	Number of UDS medical visits

²⁷ Even though there are differences in the staff categories between the two reports, there are areas of overlap where consistency can be observed. For example, one person should not be mapped as a nurse on one report and a doctor on the other.

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Column Name	Column Description
Last visit date	Last visit date of any kind
Rendering pt count	Number of unduplicated patients seen in the measurement period who are assigned to the Provider ID as the Rendering Provider
Raw visits resourceid	Raw visit count when the resource ID on the encounter record (the table enc) is used
Raw visits doctorid	Raw visit count when the doctor ID on the encounter record (the table enc) is used

Custom Set-up at Health Center: no further set-up is necessary for this report

All Insurance Names

Report Name: RCHC List All Insurance

Version: First version. New report in 2020.

Background and Context: The UDS and OSHPD reports summarize patients by insurance categories. Therefore, individual insurance names must be mapped to the appropriate categories using the instructions provided by Relevant. This report provides a large list of all insurance names and displays how they are currently mapped.

Report Description

The most important function of this report is to show how all the insurance names are mapped. One row of the report displays one insurance name (identified by a unique ID in the column Insid). There are columns for the current UDS and OSHPD mapping as well as the number of patients who currently have the insurance listed as their primary insurance, the number of claims in the measurement period with the insurance as the primary, secondary and tertiary insurance, and the last time the insurance was used. The report does not imply that the patient counts displayed are reportable to the UDS or OSHPD. The appropriate Relevant reports should be used for those summaries.

It is recommended that the output be exported to Excel so that it can be sorted and filtered more easily. It might be a good idea to involve somebody at your health center who is an expert on the different

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kinds of insurance and familiar with the different definitions of insurance categories on the UDS and OSHPD reports.

Insurance name and the insurance group assigned by the health center are displayed by the report. Generally, insurance names with a similar health center insurance group belong to the same UDS or OSHPD categories. Therefore, sort the list by insurance group (column “Healthcenter ins group name”) to see if the insurance names in the same insurance groups are mapped in the same way. Also, look to see that there is consistency in the mapping between the UDS and OSHPD categories²⁸. Lastly, ensure that each insurance is assigned to an insurance group in eCW and that the assignment is consistent. If you see providers or other staff members who are incorrectly mapped, investigate the logic and change the code in the following standard Transformers:

- UDS mapping is done in the Transformer “relevant_payers”
- OSHPD mapping is done directly in eCW using a ‘dummy’ field. See the Relevant OSHPD instructions.

Relevant Database: Staging

Parameters: The measurement period start date and end date define the service date range on claims considered by the report.

Column Definitions

Column Name	Column Description
Insid	The internal insurance ID number
Insurance name	The insurance name corresponding to the insurance ID number
Healthcenter ins group name	The insurance group name assigned by the health center to the insurance name
Relevant payer groups name	The Payer Group Name assigned by Relevant
UDS insurance category	The UDS insurance category
Oshpd insurance category	The OSHPD insurance category
Undup pts primaryins	The number of unduplicated patients who had the insurance as their primary insurance (currently, regardless of measurement period)

²⁸ Even though there are differences in the insurance categories between the two reports, there are areas of overlap where consistency can be observed, For example, one insurance should not be mapped as private on one report and Medi-Cal on the other.

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Column Name	Column Description
Primary on claim	The number of unduplicated claims that had the insurance in the primary position (in the measurement period)
Secondary on claim	The number of unduplicated claims that had the insurance in the secondary position (in the measurement period)
Tertiary on claim	The number of unduplicated claims that had the insurance in the tertiary position (in the measurement period)
Last service date	The last service date (in the measurement period) for the insurance (in any position) from the claim

Custom Set-up at Health Center: no further set-up is necessary for this report

All OB Items

Report Name: RCHC List All OB Items

Version: First version. New report in 2020.

Background and Context: The validation report “Incomplete OB Records” requires some degree of code customization to function properly. For this process to work, the item id for specific custom fields on the OB flowsheet must be identified.

Report Description: One row on the report is equal to one item (defined by a unique Item ID). An “Item” refers to a field name on the Initial Physical, OB visit, Discharge, Form A, Genetics, Medical History, Plans or Post Partum sections of the OB Flowsheet. The report lists the OB flowsheet tab name, the Relevant table name, and the Item ID for all OB items. The report also shows how frequently an item has been used in history and also the last time it was used. This is useful for identifying particular items needed by the “Incomplete OB Records” report, but also might be useful in the design of other custom reports and Care Gaps in Relevant.

Relevant Database: Staging

Parameters: This report does not have parameters. All items ever used in history are displayed.

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Column Definitions

Column Name	Column Description
Obform location	The name of the tab on the OB Flowsheet where the item exists
Relevant location	The name of the table in the Relevant Staging Database where the item comes from
Itemid	The Item ID
Itemname	The Item name
Itemdesc	The Item description
Last date used	The last date the OB item was used
Number items	The number of times the OB item has ever been used

Custom Set-up at Health Center: no further set-up is necessary for this report

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Appendix A: Standards for Cancer Exclusions

The Standards for Cancer Exclusions displayed below were copied from the RCHC Data Standards and Integrity Committee Recommendations, approved May 7, 2018.

Exclusions for the Cervical Cancer Screening and Colorectal Cancer Screening reports are defined as follows:

Measure	Exclusion Description	Text in Surgical or Medical History	Diagnosis Code on Problem List
Cervical Cancer Screening	Women who had a hysterectomy with no residual cervix	<ul style="list-style-type: none"> Hysterectomy PLUS Total, complete or radical (but not 'subtotal') <p>Absence of cervix</p>	Q51.5, Z90.710, or Z90.712
Colorectal Cancer Screening	Total colectomy or colorectal cancer	<ul style="list-style-type: none"> Colorectal cancer Malignant neoplasm of the <ul style="list-style-type: none"> ➤ colon ➤ cecum ➤ appendix ➤ hepatic flexure ➤ rectosigmoid junction ➤ rectum ➤ anus ➤ anal canal ➤ cloacogenic zone ➤ large intestine Colectomy, PLUS Total, complete or radical (but not partial, hemi, or sub) 	C18.0, C18.1, C18.2, C18.3, C18.4, C18.5, C18.6, C18.7, C18.8, C18.9, C19, C20, C21.2, C21.8, C78.5, C7A.021, C7A.022, C7A.023, C7A.024, C7A.025, C7A.026, Z85.038, or Z85.048

The exclusion for the Breast Cancer Screening Quality Measure is a little more complicated because patients must have a complete bilateral mastectomy to be excluded. It is not unusual that a patient has a partial mastectomy or only a unilateral mastectomy. By themselves, these do not qualify for the exclusion. Therefore, the Quality Measure report defines the exclusion as follows on the table beginning on the next page.

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Mastectomy	Text in Surgical or Medical History	Diagnosis Code on Problem List
Bilateral	<ul style="list-style-type: none"> • Mastectomy, PLUS • Bilateral, double, or (left and right) PLUS • Total, complete or radical 	<ul style="list-style-type: none"> • Z90.13: Acquired absence of bilateral breasts and nipples
Two Unilaterals (Specific)	Two records of: <ul style="list-style-type: none"> • Mastectomy, PLUS • Unilateral and left, or unilateral and right (but not both left and right in same record), PLUS • Total, complete or radical 	Both codes of: <ul style="list-style-type: none"> • Z90.11: Acquired absence of right breast and nipple • Z90.12: Acquired absence of left breast and nipple
Two Unilaterals (General or Mix of General/Specific)	Two records in Surgical History with different surgery dates: <ul style="list-style-type: none"> • Mastectomy, PLUS • Unilateral PLUS • Total, complete or radical 	Two of the following codes with different Onset dates: <ul style="list-style-type: none"> • Z90.11: Acquired absence of right breast and nipple • Z90.12: Acquired absence of left breast and nipple • Z90.13: Acquired absence of bilateral breasts and nipples

The cancer screening exclusion validation report therefore looks for patient records with only partial or non-specific text in Surgical or Medical History. The criteria built into the report therefore looks for the following text combinations:

Measure	Text in Surgical or Medical History
Cervical Cancer Screening	<ul style="list-style-type: none"> • Hysterectomy, by itself, OR • Missing total, complete and radical
Colorectal Cancer Screening	<ul style="list-style-type: none"> • Colectomy, by itself, OR • Missing total, complete and radical
Breast Cancer Screening	<ul style="list-style-type: none"> • Mastectomy, by itself, OR • Missing total, complete and radical OR • Missing bilateral, double, unilateral, left and right

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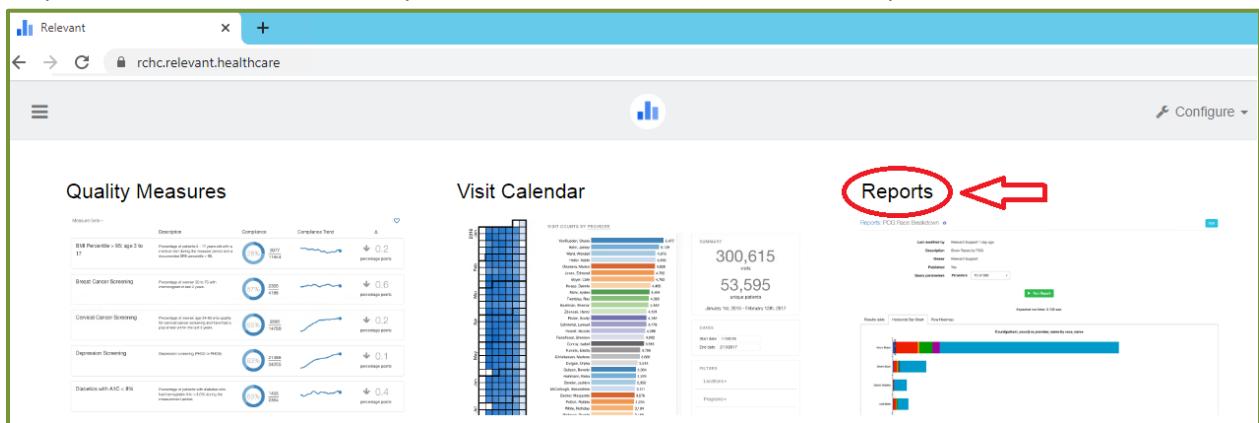
Appendix B: Obtaining and Configuring the Validation Report Set

You can access the SQL code for the report set from the RCHC Aggregate instance of Relevant. Before actually running the report in your instance, it is recommended that you first copy the code to Data Grip so you can test it. Note that you cannot run the validation reports in the RCHC instance. They exist there only for you to COPY.

To obtain a report, get into the RCHC Aggregate, find the report(s) you are interested in, and copy the code to a new report in your health center instance. It is recommended that you document any changes to your report so that if a new version becomes available, you can recreate the changes.

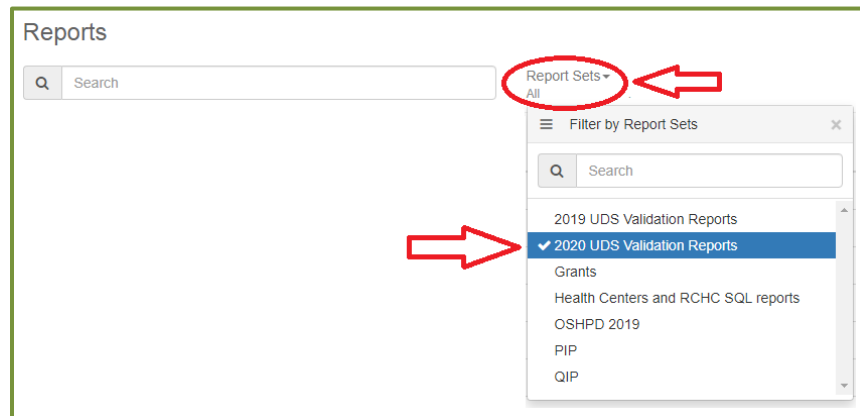
To get to the reports, first click on the Reports section on the splash page of RCHC Aggregate instance. If you do not already have a user name and password, may have to find out who in your organization is authorized to access this instance.

Step 1: Go to the RCHC Instance (you need a user account) and click on Reports



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Step 2: Filter the report list on the Reports page by clicking Report Sets and checking the option “2020 UDS Validation Reports”

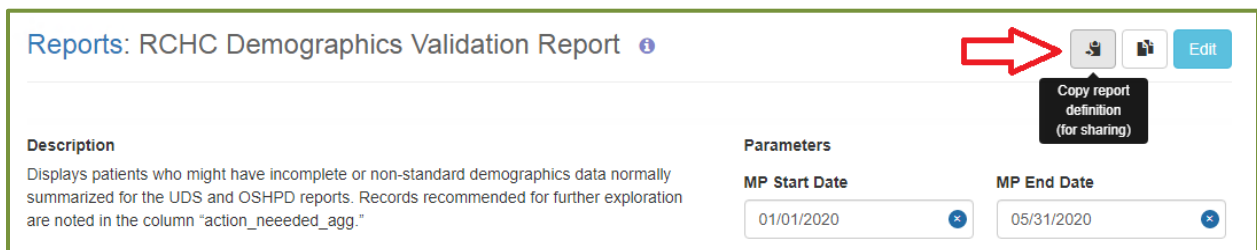


Step 3: Click on the name of a report you want to copy

Name	Owner	Last Edited	Published	Execution Count
RCHC Demographics Validation Report	Ben Fouts	a day ago	yes	0

A red arrow points to the 'RCHC Demographics Validation Report' row in the table.

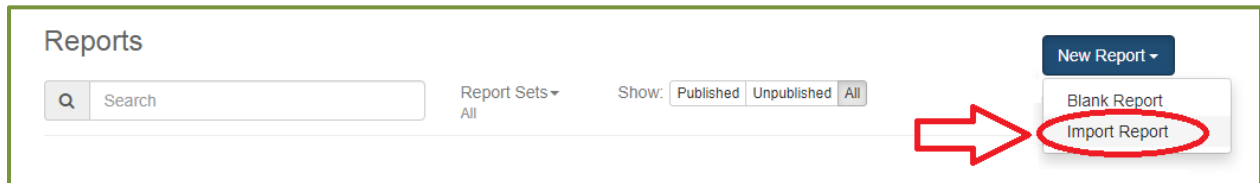
Step 4: Click on the button for “Copy report definition”



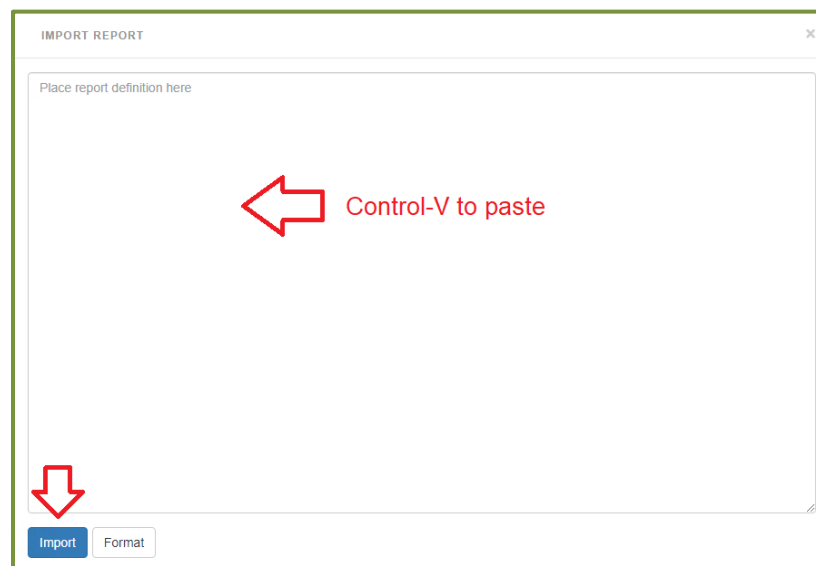
The screenshot shows the details page for the 'RCHC Demographics Validation Report'. The page title is 'Reports: RCHC Demographics Validation Report'. There are three buttons: 'Copy report definition (for sharing)', 'Edit', and a third button. A red arrow points to the 'Copy report definition (for sharing)' button. Below the buttons, there is a 'Description' section and a 'Parameters' section with two date fields: 'MP Start Date' (01/01/2020) and 'MP End Date' (05/31/2020).

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Step 5: Go to your own instance of Relevant and click on New Report, then Import Report



Step 6: Click in the blank area and press Control-V to paste the report definition code. Click the Import button. Save the report on the next screen



Step 7: Save the report. Then open it again for editing. Copy the code to Data Grip and look for tables or fields that are highlighted in yellow. This indicates that the table or field name does not exist (and therefore needs to be modified slightly). Then run each temporary table in sequence to see if it works. Make adjustments to the code as necessary. If you get stuck, contact Ben Fouts at RCHC.

Instructions for Using the Relevant Validation Report Set (eCW Edition, Version 4)

Appendix C: List of Value Sets Used in Quality Measures

Value Sets define the diagnosis codes, lab codes, vaccine codes, medication codes, and procedures codes used by the Quality Measures. The sets are updated by the measure authority every year. The RCHC Data Standards and Integrity Committee recommends that health centers use the Value Sets directly to define these items in their system²⁹. The table below shows the Value Sets for the Quality Measures that are tracked for the 2021 UDS and QIP reports. Rows with bolded text indicate a change in the table from the last version of these instructions (i.e., a new description and/or a new OID). The report “QM Value Set Codes” will display all of the codes that compose each Value Set in this table.

2021 Quality Measure	eQCM Value Set Description	eQCM OID	Value Set Type
Breast Cancer Screening	History of bilateral mastectomy	2.16.840.1.113883.3.464.1003.198.12.1068	Diagnosis
	Status Post Left Mastectomy	2.16.840.1.113883.3.464.1003.198.12.1069	Diagnosis
	Status Post Right Mastectomy	2.16.840.1.113883.3.464.1003.198.12.1070	Diagnosis
	Unilateral Mastectomy, Unspecified Laterality	2.16.840.1.113883.3.464.1003.198.12.1071	Diagnosis
Cervical Cancer Screening	HPV Test	2.16.840.1.113883.3.464.1003.110.12.1059	Labs
	Pap Test	2.16.840.1.113883.3.464.1003.108.12.1017	Labs
	Hysterectomy with No Residual Cervix	2.16.840.1.113883.3.464.1003.198.12.1014	Diagnosis
	Congenital or Acquired Absence of Cervix	2.16.840.1.113883.3.464.1003.111.12.1016	Diagnosis
Colorectal Cancer Screening	Malignant Neoplasm of Colon	2.16.840.1.113883.3.464.1003.108.12.1001	Diagnosis
	Fecal Occult Blood Test (FOBT)	2.16.840.1.113883.3.464.1003.198.12.1011	Labs
	FIT DNA	2.16.840.1.113883.3.464.1003.108.12.1039	Labs
Childhood Immunization Status	Disorders of the Immune System	2.16.840.1.113883.3.464.1003.120.12.1001	Diagnosis
	Encephalopathy due to Childhood Vaccination	2.16.840.1.113883.3.464.1003.114.12.1007	Diagnosis
	Hepatitis A	2.16.840.1.113883.3.464.1003.110.12.1024	Diagnosis
	Hepatitis B	2.16.840.1.113883.3.464.1003.110.12.1025	Diagnosis
	HIV	2.16.840.1.113883.3.464.1003.120.12.1003	Diagnosis
	Intussusception	2.16.840.1.113883.3.464.1003.199.12.1056	Diagnosis
	Malignant Neoplasm of Lymphatic and Hematopoietic Tissue (see Note #1)	2.16.840.1.113883.3.464.1003.108.12.1009	Diagnosis
	Measles	2.16.840.1.113883.3.464.1003.110.12.1053	Diagnosis
	Mumps	2.16.840.1.113883.3.464.1003.110.12.1032	Diagnosis
Rubella	2.16.840.1.113883.3.464.1003.110.12.1037	Diagnosis	

²⁹ The table “cqm_value_set_codes” in the Staging Database is updated with the latest codes every year

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2021 Quality Measure	eCQM Value Set Description	eCQM OID	Value Set Type
Childhood Immunization Status (continued)	Severe Combined Immunodeficiency	2.16.840.1.113883.3.464.1003.120.12.1007	Diagnosis
	Varicella Zoster	2.16.840.1.113883.3.464.1003.110.12.1039	Diagnosis
	Anti Hepatitis A IgG Antigen Test	2.16.840.1.113883.3.464.1003.198.12.1033	Labs
	Anti Hepatitis B Virus Surface Ab	2.16.840.1.113883.3.464.1003.198.12.1073	Labs
	Measles Antibody Test (IgG Antibody presence)	2.16.840.1.113883.3.464.1003.198.12.1060	Labs
	Measles Antibody Test (IgG Antibody Titer)	2.16.840.1.113883.3.464.1003.198.12.1059	Labs
	Mumps Antibody Test (IgG Antibody presence)	2.16.840.1.113883.3.464.1003.198.12.1062	Labs
	Mumps Antibody Test (IgG Antibody Titer)	2.16.840.1.113883.3.464.1003.198.12.1061	Labs
	Rubella Antibody Test (IgG Antibody presence)	2.16.840.1.113883.3.464.1003.198.12.1064	Labs
	Rubella Antibody Test (IgG Antibody Titer)	2.16.840.1.113883.3.464.1003.198.12.1063	Labs
	Varicella Zoster Antibody Test (IgG Antibody Presence)	2.16.840.1.113883.3.464.1003.198.12.1067	Labs
	Varicella Zoster Antibody Test (IgG Antibody Titer)	2.16.840.1.113883.3.464.1003.198.12.1066	Labs
	DTaP Vaccine	2.16.840.1.113883.3.464.1003.196.12.1214	Vaccines
	Hepatitis A Vaccine	2.16.840.1.113883.3.464.1003.196.12.1215	Vaccines
	Hepatitis B Vaccine	2.16.840.1.113883.3.464.1003.196.12.1216	Vaccines
	HiB Vaccine (3 dose schedule)	2.16.840.1.113883.3.464.1003.110.12.1083	Vaccines
	HiB Vaccine (4 dose schedule)	2.16.840.1.113883.3.464.1003.110.12.1085	Vaccines
	Inactivated Polio Vaccine (IPV)	2.16.840.1.113883.3.464.1003.196.12.1219	Vaccines
	Influenza Vaccine	2.16.840.1.113883.3.464.1003.196.12.1218	Vaccines
	Measles, Mumps and Rubella (MMR) Vaccine	2.16.840.1.113883.3.464.1003.196.12.1224	Vaccines
	Pneumococcal Conjugate Vaccine	2.16.840.1.113883.3.464.1003.196.12.1221	Vaccines
	Rotavirus Vaccine (2 dose schedule)	2.16.840.1.113883.3.464.1003.196.12.1222	Vaccines
	Rotavirus Vaccine (3 dose schedule)	2.16.840.1.113883.3.464.1003.196.12.1223	Vaccines
	Varicella Zoster Vaccine (VZV)	2.16.840.1.113883.3.464.1003.196.12.1170	Vaccines
	DTaP Vaccine Administered (see Note #2)	2.16.840.1.113883.3.464.1003.110.12.1022	Procedures
	Hepatitis A Vaccine Administered	2.16.840.1.113883.3.464.1003.110.12.1041	Procedures
	Hepatitis B Vaccine Administered	2.16.840.1.113883.3.464.1003.110.12.1042	Procedures
Hib Vaccine (3 dose schedule) Administered	2.16.840.1.113883.3.464.1003.110.12.1084	Procedures	

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2021 Quality Measure	eQIM Value Set Description	eQIM OID	Value Set Type
Childhood Immunization Status (continued)	Hib Vaccine (4 dose schedule) Administered	2.16.840.1.113883.3.464.1003.110.12.1086	Procedures
	Inactivated Polio Vaccine (IPV) Administered	2.16.840.1.113883.3.464.1003.110.12.1045	Procedures
	Influenza Vaccine Administered	2.16.840.1.113883.3.464.1003.110.12.1044	Procedures
	Measles, Mumps and Rubella (MMR) Vaccine Administered	2.16.840.1.113883.3.464.1003.110.12.1031	Procedures
	Pneumococcal Conjugate Vaccine Administered	2.16.840.1.113883.3.464.1003.110.12.1046	Procedures
	Rotavirus Vaccine (2 dose schedule) Administered	2.16.840.1.113883.3.464.1003.110.12.1048	Procedures
	Rotavirus Vaccine (3 dose schedule) Administered	2.16.840.1.113883.3.464.1003.110.12.1047	Procedures
	Varicella Zoster Vaccine (VZV) Administered	2.16.840.1.113883.3.464.1003.110.12.1040	Procedures
Controlling High Blood Pressure	Essential Hypertension	2.16.840.1.113883.3.464.1003.104.12.1011	Diagnosis (main chronic diseases)
	Chronic Kidney Disease, Stage 5	2.16.840.1.113883.3.526.3.1002	Diagnosis
	End Stage Renal Disease	2.16.840.1.113883.3.526.3.353	Diagnosis
	Kidney Transplant Recipient	2.16.840.1.113883.3.464.1003.109.12.1029	Diagnosis
Depression Remission at Twelve Months	Major Depression Including Remission	2.16.840.113883.3.67.1.101.3.2444	Diagnosis (main chronic diseases)
	Bipolar Disorder	2.16.840.1.113883.3.67.1.101.1.128	Diagnosis
	Dysthymia	2.16.840.1.113883.3.67.1.101.1.254	Diagnosis
	Personality Disorder	2.16.840.1.113883.3.67.1.101.1.246	Diagnosis
	Pervasive Developmental Disorder	2.16.840.1.113883.3.464.1003.105.12.1152	Diagnosis
	Schizophrenia or Psychotic Disorder	2.16.840.1.113883.3.464.1003.105.12.1104	Diagnosis
Hemoglobin A1c (HbA1c) Poor Control (> 9%)	Diabetes	2.16.840.1.113883.3.464.1003.103.12.1001	Diagnosis (main chronic diseases)
	HbA1c Laboratory Test	2.16.840.1.113883.3.464.1003.198.12.1013	Labs
HIV Linkage to Care	HIV	2.16.840.1.113883.3.464.1003.120.12.1003	Diagnosis (main chronic diseases)
HIV Screening	Indicators of Human Immunodeficiency Virus (HIV)	2.16.840.1.113762.1.4.1056.54	Diagnosis (main chronic diseases)
	Human Immunodeficiency Virus (HIV) Laboratory Test Codes (Ab and Ag)	2.16.840.1.113762.1.4.1056.50	Labs
Ischemic Vascular Disease (IVD): Use of Aspirin or Another Antiplatelet	Acute Myocardial Infarction	2.16.840.1.113883.3.464.1003.104.12.1001	Diagnosis (main chronic diseases)
	Ischemic Vascular Disease	2.16.840.1.113883.3.464.1003.104.12.1003	Diagnosis (main chronic diseases)
	Anticoagulant Medications	2.16.840.1.113883.3.464.1003.196.12.1283	Medications
	Aspirin and Other Antiplatelets	2.16.840.1.113883.3.464.1003.196.12.1211	Medications
Body Mass Index (BMI) Screening and Follow-Up Plan	Follow Up for Above Normal BMI	2.16.840.1.113883.3.600.1.1525	Diagnosis
	Follow Up for Below Normal BMI	2.16.840.1.113883.3.600.1.1528	Diagnosis
Screening for Depression and Follow-Up Plan	Depression diagnosis	2.16.840.1.113883.3.600.145	Diagnosis (main chronic diseases)

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2021 Quality Measure	eCQM Value Set Description	eCQM OID	Value Set Type
	Bipolar Diagnosis	2.16.840.1.113883.3.600.450	Diagnosis
	Adolescent Depression Medications	2.16.840.1.113883.3.526.3.1567	Medications
	Adult Depression Medications	2.16.840.1.113883.3.526.3.1566	Medications
Tobacco Use: Screening and Cessation Intervention	Tobacco Use Cessation Pharmacotherapy	2.16.840.1.113883.3.526.3.1190	Medications
	Tobacco Use Cessation Counseling	2.16.840.1.113883.3.526.3.509	Procedures
Statin Therapy for the Prevention and Treatment of Cardiovascular Disease	Atherosclerosis and Peripheral Arterial Disease	2.16.840.1.113762.1.4.1047.21	Diagnosis (main chronic diseases)
	Cerebrovascular disease, Stroke, TIA	2.16.840.1.113762.1.4.1047.44	Diagnosis (main chronic diseases)
	Diabetes	2.16.840.1.113883.3.464.1003.103.12.1001	Diagnosis (main chronic diseases)
	Ischemic Heart Disease or Other Related Diagnoses	2.16.840.1.113762.1.4.1047.46	Diagnosis (main chronic diseases)
	Myocardial Infarction	2.16.840.1.113883.3.526.3.403	Diagnosis (main chronic diseases)
	Stable and Unstable Angina	2.16.840.1.113762.1.4.1047.47	Diagnosis (main chronic diseases)
	Breastfeeding	2.16.840.1.113762.1.4.1047.73	Diagnosis
	End Stage Renal Disease	2.16.840.1.113883.3.526.3.353	Diagnosis
	Hepatitis A	2.16.840.1.113883.3.464.1003.110.12.1024	Diagnosis
	Hepatitis B	2.16.840.1.113883.3.67.1.101.1.269	Diagnosis
	Hypercholesterolemia	2.16.840.1.113762.1.4.1047.100	Diagnosis
	Liver Disease	2.16.840.1.113762.1.4.1047.42	Diagnosis
	Rhabdomyolysis	2.16.840.1.113762.1.4.1047.102	Diagnosis
	LDL-c	2.16.840.1.113883.3.117.1.7.1.215	Labs
	High intensity statin therapy	2.16.840.1.113762.1.4.1047.97	Medications
	Moderate intensity statin therapy	2.16.840.1.113762.1.4.1047.98	Medications
	Low intensity statin therapy	2.16.840.1.113762.1.4.1047.107	Medications
Weight Assessment and Counseling for Nutrition and Physical Activity for Children and Adolescents	Counseling for Nutrition (see Note #3)	2.16.840.1.113883.3.464.1003.195.12.1003	Procedures
	Counseling for Physical Activity (see Note #4)	2.16.840.1.113883.3.464.1003.118.12.1035	Procedures
Multiple Quality Measures	Frailty (Diagnosis, Symptoms and Encounters)	2.16.840.1.113883.3.464.1003.113.12.1074 2.16.840.1.113883.3.464.1003.113.12.1075 2.16.840.1.113883.3.464.1003.101.12.1088	Diagnosis
	Palliative care encounter	2.16.840.1.113883.3.600.1.1575	Diagnosis
	Advanced Illness	2.16.840.1.113883.3.464.1003.110.12.1082	Diagnosis
	Care Services in Long-Term Residential Facility	2.16.840.1.113883.3.464.1003.101.12.1014	Diagnosis
	Dementia Medications	2.16.840.1.113883.3.464.1003.196.12.1510	Medications
	Pregnancy or Other Related Diagnoses	2.16.840.1.113883.3.600.1.1623	Diagnosis

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Current QIP Measures Attached to HEDIS Value Sets³⁰

2021 Quality Measure	HEDIS Value Set Name	HEDIS OID	Value Set Type
Well-Child Visits in the First 15 Months of Life (QIP 2021)	Well-Care	2.16.840.1.113883.3.464.1004.1262	Procedures and Diagnosis
Child and Adolescent Well-Care Visits (QIP 2021)	Well-Care	2.16.840.1.113883.3.464.1004.1262	Procedures and Diagnosis
Immunizations for Adolescents (QIP 2021)	Meningococcal Immunization	2.16.840.1.113883.3.464.1004.1777	Vaccines
	Meningococcal Vaccine Procedure	2.16.840.1.113883.3.464.1004.1778	Procedures
	Tdap Immunization	2.16.840.1.113883.3.464.1004.1791	Vaccines
	Tdap Vaccine Procedure	2.16.840.1.113883.3.464.1004.1792	Procedures
	HPV Immunization	2.16.840.1.113883.3.464.1004.1763	Vaccines
	HPV Vaccine Procedure	2.16.840.1.113883.3.464.1004.1764	Procedures
	eCQM: Encephalopathy due to Childhood Vaccination	eCQM: 2.16.840.1.113883.3.464.1003.114.12.1007	Diagnosis
Counseling for Nutrition for Children/Adolescents (QIP 2021)	Nutrition Counseling (see Note #3)	2.16.840.1.113883.3.464.1004.1190	Procedures and Diagnosis
Counseling for Physical Activity for Children/Adolescents (QIP 2021)	Physical Activity Counseling (see Note #4)	2.16.840.1.113883.3.464.1004.1213	Diagnosis
Asthma Medication Ratio (QIP 2021)	Asthma	2.16.840.1.113883.3.464.1004.1025	Diagnosis
	COPD	2.16.840.1.113883.3.464.1004.1053	Diagnosis
	Obstructive Chronic Bronchitis	2.16.840.1.113883.3.464.1004.1193	Diagnosis
	Emphysema	2.16.840.1.113883.3.464.1004.1091	Diagnosis
	Other Emphysema	2.16.840.1.113883.3.464.1004.1200	Diagnosis
	Cystic Fibrosis	2.16.840.1.113883.3.464.1004.1068	Diagnosis
	Acute Respiratory Failure	2.16.840.1.113883.3.464.1004.1019	Diagnosis
	Chronic Respiratory Conditions Due To Fumes or Vapors	2.16.840.1.113883.3.464.1004.1063	Diagnosis

Notes

Note #1: The Value Set "Malignant Neoplasm of Lymphatic and Hematopoietic Tissue" contains all of the codes for the four related Data Elements (aka, Importers). Note that these Data Elements are always referenced together in the Childhood Immunization Quality Measure.

Note #2: For each vaccine, there is a Value Set for CVX (vaccine) codes and one for CPT (procedure) codes. Health centers can choose to use either Value Set or both. Investigation of the use of codes should be conducted before a

³⁰ The table "hedis_value_set_codes" in the Staging Database is updated with the latest codes every year

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choice is made. It is recommended that the CVX code Value Sets be used to capture vaccines entered into the Immunizations section of the EHR but not directly billed.

Note #3: Note that the eCQM Value Set for "Counseling for Nutrition" (OID = 2.16.840.1.113883.3.464.1003.195.12.1003) does not contain any diagnosis codes. Therefore, the QIP Value Set (HEDIS OID = 2.16.840.1.113883.3.464.1004.1190) may be used instead along with any other standard codes or structured data that the health center uses for this purpose.

Note #4: Note that the eCQM Value Set for "Counseling for Physical Activity" (OID = 2.16.840.1.113883.3.464.1003.118.12.1035) does not contain any procedure or diagnosis codes. Therefore, the QIP Value Set (HEDIS OID = 2.16.840.1.113883.3.464.1004.1213) may be used instead along with any other standard codes or structured data that the health center uses for this purpose.

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Appendix D: Recommended Frequency for Running the Validation Reports

Suggested Frequency	Report General Name	Report Relevant Name
Monthly (run mid-month for the Measurement Period of the previous month)	Incomplete Labs	RCHC Incomplete Labs Validation Report
	Unattached Labs and Images	RCHC Unattached Lab and Image Validation Report
	Incomplete Images	RCHC Incomplete Images Validation Report
	Incomplete or Non-Standard Demographic Data	RCHC Demographics Validation Report
Quarterly (run mid-month for the Measurement Period of the previous quarter)	Incomplete OB Records	RCHC Incomplete OB Record Validation Report
	Persistent Asthma Diagnosis	RCHC Persistent Asthma Diagnosis Validation Report
Semi-annually (run mid-month for the Measurement Period of the previous six months)	Problem List	RCHC Problem List Validation Report
	Cancer Exclusions	RCHC Cancer Exclusion Validation Report
	All Providers, Resources and Staff	RCHC List All Providers, Resources and Staff
	All Insurance Names	RCHC List All Insurance
Annually (run in December for the Measurement Period of year-to-date)	QM Lab Names and Attributes in EHR	RCHC List of QM Lab Names and Attributes
	All Lab Names and Attributes	RCHC List All Lab Names and Attributes
	All Images	RCHC List All Images
	QM Medications in EHR	RCHC List of QM Medications
	All Medications and Rx Groups	RCHC List All Medications and Rx Groups
	QM Vaccines in EHR	RCHC List of QM Vaccines
	All Vaccines	RCHC List All Vaccines
As needed (reference only)	QM Value Set Codes	RCHC List of QM Value Set Codes
	All Diagnosis Codes	RCHC List All Diagnosis Codes
	All Medication Flags	RCHC List All Medication Flags
	All Structured Data Items	RCHC List All Structured Data Items
	All OB Items	RCHC List All OB Items

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Notes on the Suggested Frequency

All reports should be run with a little lag-time (for example, two-weeks) to give an opportunity for results to be entered and the record closed.

Monthly (run mid-month for the Measurement Period of the previous month). These reports feature record-level data. When you first run them, there may be a back-log of records. In some cases, it might be dozens (or more) of records. Decide how far back in history you want to go. Normally, you will want to “clean” the records depending on the schedule for reporting. For example, clean records from the current year by the end of the year for UDS reporting. Once the back-log is dealt with, you can resume a monthly review, depending on how many records the report uncovers. Some reports might show fewer records than others and so could be run less frequently. Note that if you give feedback to people doing the data entry, you are less likely to see the same mistakes repeated and so, over time, a report run with the same measurement period length with display fewer records.

Quarterly (run mid-month for the Measurement Period of the previous quarter). These can also be run more frequently if they tend to display many records.

Semi-annually (run mid-month for the Measurement Period of the previous six months). The Problem List and Cancer Exclusion reports can be run more frequently if you want to ensure your monthly Quality Measure denominators are very precise. The other reports for provider names and insurance names should be checked mid-year, usually for new providers or insurance not categorized. The name reports also should be reviewed and documented before the end of the year (November or December) and then again just before pulling the UDS and OSHPD data to ensure that everything is in the right and expected summary categories.

Annually (run in December for the Measurement Period of year-to-date). Ensure that everything is in the right and expected summary categories

As needed (reference only). Run these when you need to (for example, to obtain information useful for coding)