



# PRACTICAL USES OF THE RCHC VALIDATION REPORT SET

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# Agenda

1. Ideas about the general use of the report set
2. Using Value Set reports
3. Record-Level Validation Reports
  - a) Labs/Images: incomplete and unattached
  - b) Incomplete OB
  - c) Demographics
  - d) Denominator: problem list, persistent asthma, cancer exclusions
  - e) Mapping verification



# IDEAS ABOUT GENERAL USE OF THE REPORT SET

# UDS, QIP and OSHPD Reporting

- This webinar marks the point of the year when you should start thinking about annual reporting
- The main “early” issues are ensuring that the system set-up is correct, and that the Transformers are recognizing the correct diagnosis codes, medications, labs and vaccines for the Quality Measures
- You can also start looking at record-level data for the first part of the year (for example, incomplete labs)

# Slack Channel: Description of Changes

- As health centers validate the reports and give me feedback, I may decide to make changes to the code or give suggestions for customizing the reports
- Changes will be made in the RCHC instance. If the change is fairly minor, I will just make a new subversion (for example, version 1.1). This is noted in the report header (in the code itself) and will be explained on the Slack channel
- For larger changes, I may make a new version (hopefully infrequently). This will also be announced on Slack, but may also be mentioned in the Data Group webinars, or the programmers meeting before the Data Standards and Integrity Council meeting.

# Default Versions of the Reports

- Keep in mind that the default report was designed to work generally for the health centers. This is no small task considering health centers have many ways of manipulating the same data!
- You will need to look over the code and make adjustments depending on the “best” method already existing in your Transformers.
- However, note that some reports are potentially showing data that your Transformers are getting wrong.

# Version Control

- Health centers should feel free to customize the reports to their own needs (for example, adding or removing columns) and their own way of processing data
- It is good idea to maintain a list of versions and some notes about changes you made to the reports
- If a new version of a report comes out, you should review your own notes to be able to integrate the code from two sources

# Instruction Manual

- “Column Definitions” section can help you understand abbreviated column names and what the report is displaying
- “Custom Set-up at Health Center” gives you tips on configuring the default version of the report before first use



## 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.





# USING VALUE SET REPORTS

# Standardization Opportunity

- Now is a good time to look at how everything is set-up in your system and to also make sure the data is valid
- If you make changes now, you have time to test those changes and to monitor the data for a few months before you have to report on it

# Standardization Questions

- Instruction manuals, written data entry procedures, staff trainings, etc., should be reviewed and revised, if necessary
- Do the Transformers pull the data from the correct location (table + field) in Relevant that it is being entered?
- Do the Transformers for the same data type (labs, diagnoses, medications, etc.) pull the data in the same manner?
- Do QMs, reports, and Care Gaps use the same approach to process records from the Transformers and Importers?

# National Standards for Data Definition

- Consider adding Value Sets directly to your Transformers
- This will save time over the long run because you will not have to worry about changing technical definitions for codes in a Value Set
- Relevant automatically updates the code sets when they release the new QMs
- If you are not using the Value Sets, how do you know the codes or names you use are correct and updated?

# Value Set Codes

Each of these data types are defined by codes:

- Diagnoses (ICD)
- Procedures (CPT)
- Labs (LOINC)
- Medications (RxNorm)
- Vaccines (CVX)

# Use of Codes

Quality Measure

→ Value Sets

→ Codes

→ Codes used in your EHR

# Use of Codes

- A Quality Measure refers to one or more Value Sets.
- A Value Set is comprised of one or more codes (usually of one type).
- Of the codes in a Value Set, zero or more may have been used at your health center in any period of time

# QM Value Sets

Appendix C of the Instruction Manual displays a list of Value Sets

## 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 system<sup>21</sup>. The table below shows the Value Sets for the Quality Measures that are tracked for the 2020 UDS and QIP reports.

The report “QM Value Set Codes” will display all of the codes that compose each Value Set in this table.

2020 Quality Measure	Value Set Description	OID or Unique Name	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
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



# List of QM Value Set Codes

- Report name: RCHC List of QM Value Set Codes
- Shows all codes for all QM-related Value Sets in Appendix C
- Since these sets change on an annual basis, you can run this report once in a year, export the data to Excel, and use it as a reference.



# Finding QM Value Set Codes

Code value (ICD)



Code description



Version (year)



F	G	H	I
Code system name	Code value	Code description	Code system version
ICD10CM	E10.10	Type 1 diabetes mellitus with ketoacidosis without coma	2019
ICD10CM	E10.11	Type 1 diabetes mellitus with ketoacidosis with coma	2019
ICD10CM	E10.21	Type 1 diabetes mellitus with diabetic nephropathy	2019
ICD10CM	E10.22	Type 1 diabetes mellitus with diabetic chronic kidney disease	2019
ICD10CM	E10.29	Type 1 diabetes mellitus with other diabetic kidney complication	2019
ICD10CM	E10.311	Type 1 diabetes mellitus with unspecified diabetic retinopathy with macular edema	2019
ICD10CM	E10.319	Type 1 diabetes mellitus with unspecified diabetic retinopathy without macular edema	2019
ICD10CM	E10.321	Type 1 diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema	2019

# RCHC List of QM Value Set Codes

- Displays the individual codes, but not what is used by your system
- FYI in case you are generally wondering about the sets or need to look-up a specific code

# EHR Reference Reports

Two sets of reference reports:

1. List Value Set codes that correspond to items in the EHR
2. List all items in the EHR

# EHR Reference Reports

- Can be run for a measurement period (a past date until now)
- Does not display patient-specific information
- Shows summary information, like number of times the item was used in the measurement period and the last date it was used
- Can give you a sense of which items in a set are used frequently or used rarely

# Validation Reports That Display Information About Labs

## RCHC List of QM Value Set Codes

- Lists all of the LOINC codes for each lab-related Value Set

## RCHC List of QM Lab Names and Attributes

- Lists all lab names and attributes in the EHR that correspond to the Value Sets for labs

## RCHC List All Lab Names and Attributes

- Lists all lab names and attributes in the EHR

# Validation Reports That Display Information About Medications

## RCHC List of QM Value Set Codes

- Lists all of the RXNorm codes for each medication-related Value Set

## RCHC List of QM Medications

- Lists all medication in the EHR that correspond to the Value Sets for meds

## RCHC List All Medications

- Lists all medication names in the EHR



# Validation Reports That Display Information About Vaccines

## RCHC List of QM Value Set Codes

- Lists all of the CVX codes for each vaccine-related Value Set

## RCHC List of QM Vaccines

- Lists all vaccines in the EHR that correspond to the Value Sets for vaccines

## RCHC List All Vaccines

- Lists all vaccine names in the EHR

# Validation Reports That Display Information About Diagnosis Codes

## RCHC List of QM Value Set Codes

- Lists all of the ICD codes for each diagnosis-related Value Set

## RCHC List All Diagnosis Codes

- Lists all diagnosis codes that exist in the EHR

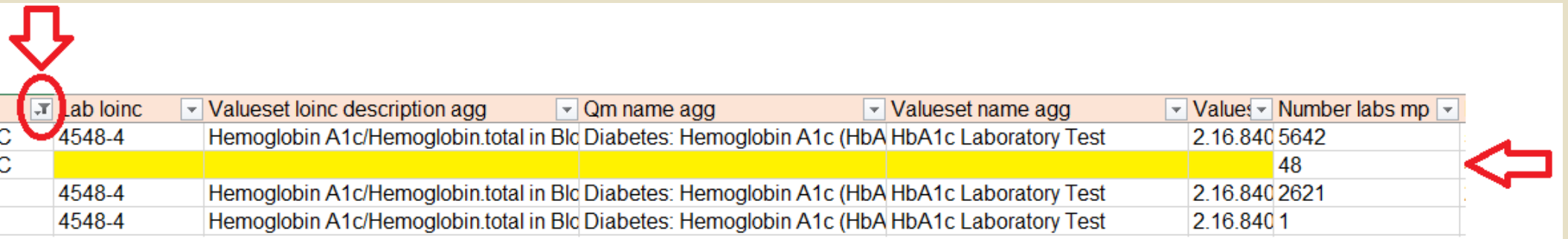
# Find Labs, Vaccines and Medications That Should NOT be in a Value Set

- Run the RCHC “...List of QM...” report
- Then filter for a specific Value Set and review all items (or have an “expert” at your health center review them)
- Look for items that are obviously wrong, like a lab that should not be in a Value Set. Investigate why it is being picked up (maybe it has the wrong LOINC code)

# Find Labs, Vaccines and Medications Not Currently in a Value Set but SHOULD be

- Run the RCHC “...List All...” report
- Then choose to
  - Filter the list for specific items you know in advance
  - Sort the list and scan down for items with similar names
- Look for items that may be missing a code in your EHR system

# Example With Filtering: A1c Labs



Lab attribute name	Lab loinc	Valueset loinc description agg	Qm name agg	Valueset name agg	Values	Number labs mp
HEMOGLOBIN A1C	4548-4	Hemoglobin A1c/Hemoglobin.total in Bld	Diabetes: Hemoglobin A1c (HbA	HbA1c Laboratory Test	2.16.840	5642
HEMOGLOBIN A1C						48
A1C Result	4548-4	Hemoglobin A1c/Hemoglobin.total in Bld	Diabetes: Hemoglobin A1c (HbA	HbA1c Laboratory Test	2.16.840	2621
A1C	4548-4	Hemoglobin A1c/Hemoglobin.total in Bld	Diabetes: Hemoglobin A1c (HbA	HbA1c Laboratory Test	2.16.840	1

# Example With Sorting and Scanning: HPV Labs



Sort by this column, and then scroll down  
looking for value sets and then similar names

Labattribute name	lab loinc	Valueset loinc description agg	Qm name agg	Valueset name agg	Valueset oid agg	Number labs mp
HPV (HIGH RISK)	30167-1	Human papilloma virus 16+18+31+33+3	Cervical Cancer Screening	HPV Test	2.16.840.1.113883.3.464.1003.110.12.1059	1
HPV mRNA E6/E7	69002-4	Human papilloma virus E6+E7 mRNA [P	Cervical Cancer Screening	HPV Test	2.16.840.1.113883.3.464.1003.110.12.1059	2
HPV mRNA E6/E7	69002-4	Human papilloma virus E6+E7 mRNA [P	Cervical Cancer Screening	HPV Test	2.16.840.1.113883.3.464.1003.110.12.1059	2
HPV mRNA E6/E7	69002-4	Human papilloma virus E6+E7 mRNA [P	Cervical Cancer Screening	HPV Test	2.16.840.1.113883.3.464.1003.110.12.1059	621
HPV mRNA E6/E7	69002-4	Human papilloma virus E6+E7 mRNA [P	Cervical Cancer Screening	HPV Test	2.16.840.1.113883.3.464.1003.110.12.1059	257
HPV mRNA E6/E7	69002-4	Human papilloma virus E6+E7 mRNA [P	Cervical Cancer Screening	HPV Test	2.16.840.1.113883.3.464.1003.110.12.1059	1
HPV mRNA E6/E7	69002-4	Human papilloma virus E6+E7 mRNA [P	Cervical Cancer Screening	HPV Test	2.16.840.1.113883.3.464.1003.110.12.1059	6
HPV16 RNA	77399-4	Human papilloma virus 16 DNA [Presenc	Cervical Cancer Screening	HPV Test	2.16.840.1.113883.3.464.1003.110.12.1059	621
HPV18/45 RNA	75694-0	Human papilloma virus 18+45 E6+E7 m	Cervical Cancer Screening	HPV Test	2.16.840.1.113883.3.464.1003.110.12.1059	621
HS CRP	30522-7					3
HSV 1 DNA	16130-7					16
HSV 1 DNA, QN PCR	49986-3					2
HSV 1 IgG	5206-8					1



# RECORD-LEVEL VALIDATION REPORTS

# Record-Level Validation Reports

- Display patient-level results
- Four groups
  1. Labs
  2. OB records
  3. Demographics
  4. Denominators



# Patient-Level Lab Reports

- One lab test can have many attributes. Each attribute has its own value
- The LOINC code is associated with the lab attribute name, not the lab test name
- For example, the “Basic Metabolic Panel” can have attributes like Glucose, Serum Chloride, and Carbon Dioxide. But Carbon Dioxide (LOINC code = 2028-9) can appear in other labs too, like the Comprehensive Metabolic Panel and the Renal Function Panel

# RCHC Incomplete Lab Validation Report

- For QM-related labs
- Displays labs that are partially complete (some part of it looks complete, but not all fields are completed)
- Column “Main issue” lists what is wrong with the record
- In most cases, just add the correct information
- See instructions for the definition of a “completed” lab (is this the same as the standard at your health center?)

# Incomplete Labs

- It might seem like nit-picking because they forgot to close the lab or check the check box. But if you 'loosen' the criteria, you may get false positives entering into your data set
- Better to train your staff to enter the data properly and then monitor the data quality than take the short cut of changing the code to accept mistakes and then Partnership finds a false positive during an audit
- The report adheres to a high standard. However, health centers can realistically choose their own standard and details

# eCW Health Centers Have Two Additional Reports

1. RCHC Incomplete Image Validation Report
  2. RCHC Unattached Lab and Image Validation Report
- Data tables in NextGen did not lend themselves to the same approach
  - The concept of “Unattached” not the same on the NextGen tables

# Incomplete Image Validation Report (eCW)



- Images and Labs are similar in many respects in eCW Relevant
- Therefore, the approach of listing particular fields that must be completed is analogous
- Also has a “Main issue” column that helps the user understand the problem with the record

# Unattached Lab and Image Validation Report (eCW)

- For this report, many of the “unattached” labs and images are for patients NOT already in the numerator of the applicable QM
- Searching the document names for key words, it looks like they have a lab or image that came in as a document
- The document was not attached to a lab/image order (if one even exists) and was not placed in the correct folder in eCW

# Unattached Lab and Image Validation Report (eCW)

- Report set-up: you may have to tweak the code so that it only shows certain lab and image documents. For example, a wildcard like %pap% on the Custom Name field brings up a lot of non-cervical cancer screening records
- Each record is like a unique story. You have to piece it together.
- Key fields:
  - *Document*: Custom Name, Scanned Date
  - *Order*: Received, Reviewed Date, Result
  - *Suggestions*: Folder Status, Action Needed



# RECORD-LEVEL OBSTETRIC VALIDATION REPORTS





# Incomplete OB Records (eCW)

- Data tables in NextGen did not lend themselves to the same approach
- Shows all OB patients in a measurement period
- Filter the column “Action needed” to see potential problems to investigate. This column is aggregated to so it only shows one record for one row. However, it makes it a little hard to filter

# Incomplete OB Records

- Patients missing any delivery date (EDD) matters if they do NOT have a trimester entered by the provider. Other calculations are less reliable. Look for patients with 2<sup>nd</sup> or 3<sup>rd</sup> trimester.
- Note that some patients may still be so new the provider has not made any estimated delivery date. These can be ignored.
- Passed the EDD but is missing the actual delivery date and baby weight. So, enter those or enter a reason for no delivery



# RECORD-LEVEL DEMOGRAPHICS VALIDATION REPORTS

# Demographics Validation Report

- Two purposes:
  1. To give you records to investigate and correct
  2. To give you information about how your Transformers are handling your data
- You might decide to make a second version of the report that only shows specific groups of records to review

# Demographics Validation Report

- The report features pairs of columns:
  1. One column showing the raw data
  2. One column showing the data from the Transformer
- Compare the two to see if the data manipulation by the Transformer makes sense
- The report gives you information so you can initiate an investigation. You may find reasons to tweak your Transformers

# Demographics Validation Report

- The default version of the report may flag certain data. You can decide if this is okay or not.
- If there is a group of records that you think is ‘okay’ (i.e., the Transformer is processing the data correctly), you can change the code to ignore them
- You can also modify the code depending on your unique data needs. For example, different health centers may handle gender assignment, multiple race, etc. differently

# Demographics Validation Report

- Generally, you should correct “bad” data
- Missing data: correct it or be okay with it reported as “Unknown”
- Look for data in the raw column that the Transformer column says is “Unknown.” Is it actually data that should be categorized into one of the known categories?

# Demographics Validation Report: Gender

- Gender is a special case. You want to report as many transgender patients as is realistic
- Add a column for gender identity wherever that is coming from your EHR
- “Transformer and Hub have opposite sex/gender descriptions” -- male in one, female in the other, sometimes no transgender option anywhere
- “Transgender checkbox marked but Transformer and Hub agree on a binary sex/gender” – if the patient is transgender, then a more detailed description should be entered into HPI or Social History
- “Hub shows a sex/gender but Transformer says Choose not to disclose” -- check HPI or Social History (add column if you like)





# RECORD-LEVEL DENOMINATOR VALIDATION REPORTS

# Denominator Reports

- Of course, we want all of our denominators to be as precise as possible!
- But sometimes that comes as a trade-off to the amount of work necessary to achieve it. We do not have unlimited resources, especially concerning provider time
- The results of these reports take provider time to fix. Therefore, it is a good idea to work with your medical director or QI lead to figure out what priority to give them

# Denominator Reports

- For example, if you have a special effort, focus, performance improvement project, or grant on persistent asthma, use the Persistent Asthma Diagnosis Validation Report to make sure all patients with it have an appropriate code on the problem list.
- Many “denominator” groups of patients are used for different purposes, like in Care Gaps, case management activities, etc. which feed into general quality of care for the patient.
- Making sure these lists are “clean” helps save time in the long run

# Defining Groups of Patients Using Diagnosis Codes

Validation reports:

- RCHC Problem List Validation Report
- RCHC Persistent Asthma Diagnosis Validation Report

These reports rely on how diagnosis codes are treated by the Transformers and Importers

# RCHC Cancer Exclusion Validation Report

- You want to exclude patients who had the targeted organ completely removed. They are most likely not getting screened and so will count against you!
- The recommendation is to use a diagnosis code on the Problem List because it is the most structured way to identify these patients
- However, many of these surgeries are entered as text into Surgical History. This is less reliable because of spelling mistakes, incomplete descriptions, abbreviations, etc.

# RCHC Cancer Exclusion Validation Report

- The cancer report shows patients not already excluded from the denominators of the cancer screening reports and who are within the age range of the quality measure
- Therefore, by appropriately correcting the records, you are directly impacting the measure
- These patients are candidates for further investigation based on some imperfect text entered into the EHR, or if they are missing a surgery date



# REPORTS THAT HELP YOU CHECK UDS AND OSHPD MAPPING

# Mapping Reports

- Allow you to see how individual staff names and insurance names are mapped to the UDS and OSHPD reports
- Most likely, the report will give you information to help you tweak the Transformers that map these categories. So, you may need to really get into the code and do some investigation!



# All Providers and Staff Report

- Work with an HR specialist at your health center who knows what jobs people do
- Become familiar with the UDS and OSHPD staffing categories
- Run the report and export to Excel so you can sort and filter it

# eCW Health Centers

- A bit more complicated because there are Providers, Resources and Staff.
- Plus, each visit has a “doctor ID” and a “resource ID” which may be different
- Become familiar with how the visit is assigned to a person for counting purposes. This normally happens in the Transformer relevant\_visits

# All Providers and Staff Report

- Filter for missing credentials and specialty (and then enter it into the EHR)
- Compare blocks of records: they should all have the same mapping for the same credentials and specialty combination
- Compare UDS and OSHPD mapping
- Other information may be useful, like counts of patients by rendering provider (look for non-providers) and visit counts (investigate odd things like a doctor having lots of non-UDS visits).

# All Insurance Report

- Takes the same approach as the Providers and Staff Report
- Work with a billing specialist at your health center who knows the insurance types
- Become familiar with the UDS and OSHPD insurance categories
- Run the report and export to Excel so you can sort and filter it

# All Insurance Report

- Filter for missing insurance group (and then enter it into the EHR)
- Compare blocks of records: they should all have the same mapping for the same insurance group (depending on your custom groupings)
- Compare UDS and OSHPD mapping

Questions?