

# Quality Measure Validation in Relevant

By Ben Fouts MPH  
Data Workgroup Webinar  
September 12, 2023



# Agenda

1. Overview of Validation
2. The Process of Validation in Relevant
3. The Organization of Validation Efforts



# Other Announcements

- New version of 2023 QIP High Blood Pressure Control Measure available now on the Aliados Aggregate
- New version of PHMI reports coming soon. There will be instructions and perhaps a webinar to go over everything later this month
- Final MCAS Quality Measures are being validated. There will be a new version of the instruction manual coming soon
- Two Partnership ECDS Measures are coming soon



# Overview of Validation



# First, a few simple notes...

- This presentation will focus on “Quality Measures” but of course, a similar approach to validation can also be done with reports, care gaps, etc.
- QM = “Quality Measure”
- Transformers and Data Elements pull the data from the base tables in Relevant. To make things simple, this presentation will refer only to “Data Elements” in this context (but in your system, either can do it)



# Other Validation Webinars

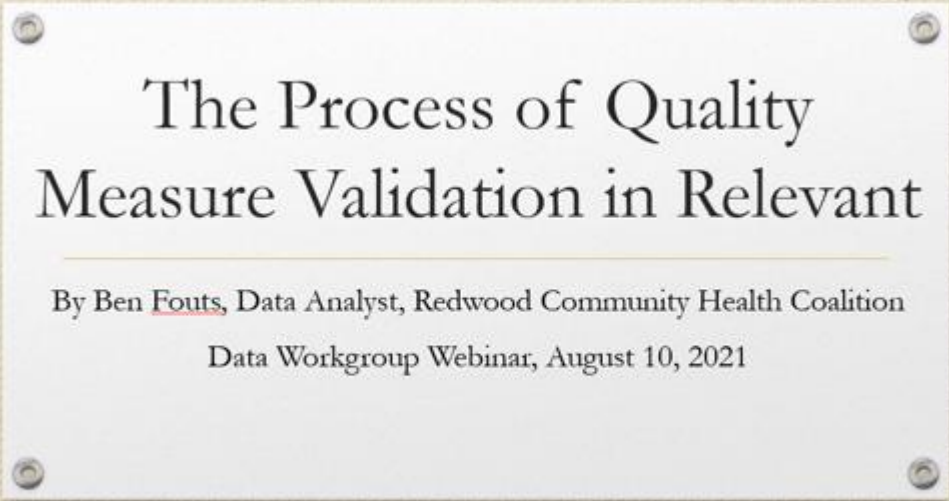
Available here: <https://aliadoshealth.org/population-health/data-analytics-and-governance/#toggle-id-2>

Link on webpage:

Relevant\_Report-Validation\_8-10-21 (slides, 8/2021)

Link on webpage:

UDS\_Record\_Level\_Validation (slides 12/14)



## The Process of Quality Measure Validation in Relevant

By Ben Fouts, Data Analyst, Redwood Community Health Coalition  
Data Workgroup Webinar, August 10, 2021



## USING RELEVANT FOR RECORD-LEVEL UDS VALIDATION

RCHC Data Workgroup Webinar  
December 14, 2021  
By Ben Fouts, RCHC Data Analyst

**Recommended reading!**

**Good for general ideas. Some specific reports and other references outdated for 2023**



# Validation in Context

- We have seen funding organizations place more and more emphasis on validation of submitted data
- Examples: PHMI and the Partnership ECDS ROADMAP
- Data audits can be conducted by HRSA and Partnership HealthPlan
- Therefore, it is good idea to develop a solid, written validation plan and to conduct validation activities on standard QMs in a systematic manner



# What is “Validation”

*Source: PHM Initiative: Data Quality and Reporting Workgroup (March 2023)*

- Verifying the accuracy and reliability of the data for the measure rate(s)
- Ensuring rate(s) reflect the care delivered/patient outcome
- Validating or verifying that each rate is an accurate, reliable reflection of the care that has been delivered or the outcomes a patient has experienced

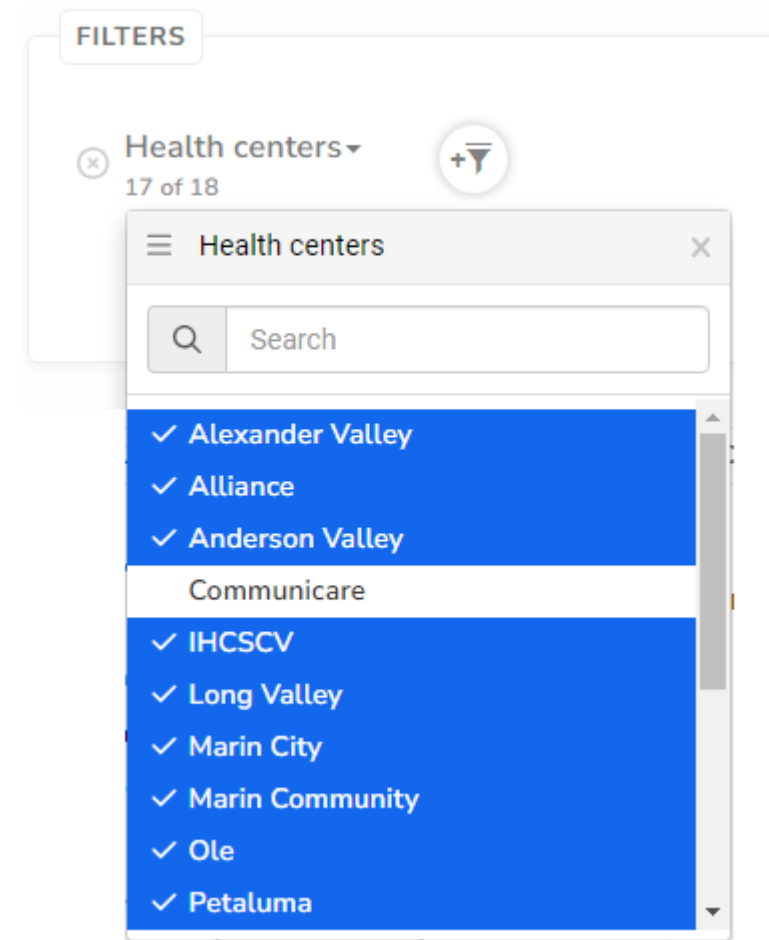




# Two Levels of Validation

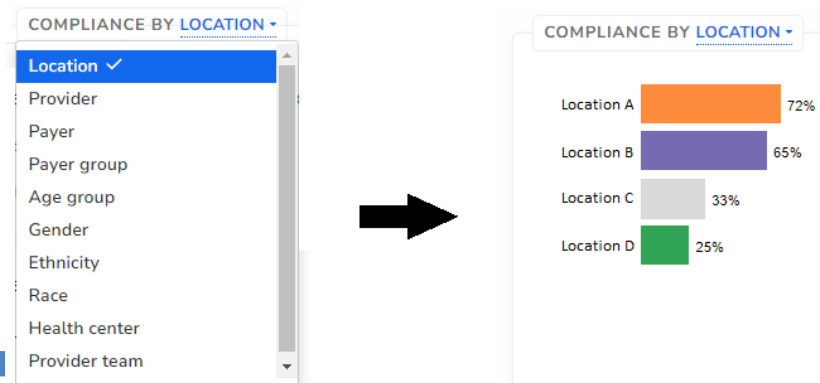
## 1. Summary Level

- Check the denominator (#), exclusions (% of denominator), numerator (% of denominator)
- Reality check with what you know
- Compare with local, state or national benchmarks
- Use the Aliados Aggregate Instance to compare your QMs to other area health centers (e.g., all Aliados HC, all Aliados HC except yours, or individual HCs that are similar to yours)



# Summary Level Validation (Continued)

- Compare different time periods for same measure (for example, 2022 to 2023)
- Compare to other similar measures for same time period (for example, UDS and QIP measures with similar names, keeping in mind the definition differences)
- Compare by location, age group, race/ethnicity, etc. (keeping in mind denominators might be vastly different)



# Summary Level Validation (Continued)

- If large differences are observed, investigate the source. When these differences are true, be able to explain them
- Set a comfort level for data that should be nearly equivalent. For example, 5% or 10% difference.
- One idea: keep a file of notes that lists differences in measure definitions year-to-year, when quality improvement activities impacted the data, when changes were made to the EHR, etc.
- Health centers transitioning to Epic should note differences between new Epic data and old EHR data for aspects of the QMs (this can drive QA efforts)



# Two Levels of Validation

## 2. Line Level Validation

- This is the level of individual rows on a table. For example, individual patients, individual visits, individual lab results, etc.
- Directly compare the data displayed in the QM with data displayed in the EHR. Also called Primary Source verification
- Can be done with a random sample, or when you are investigating a finding from the Summary Level validation
- You need to know where to look in the EHR: what is the standard field and what is the workflow (i.e., what is entered, who enters it, and when is it entered?)



# Investigating the Source of the Error

- When you find something “wrong” with the data, the next step is to investigate its source.
- There can be many kinds of reasons why the data is not correct. The remedy to the error lies in where it comes from
- Target the remedy to the source



# The Data System As Different Worlds

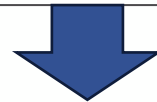
## The real world (in the clinic)

- Different clinical workflows for different groups of personnel
- Providers following clinical guidelines
- Actions being done with patients



## The electronic world (in the EHR)

- Data entry by different groups of personnel following data workflow guidelines
- Documentation of actions being done with patients
- Documentation of observations and results about patients



## The analysis world (in Relevant)

- Data in tables and fields
- Transformers/Data Elements in Relevant pull the data in a standardized manner based on the clinical workflow and data workflow guidelines
- Quality Measures summarize the data based on measure specifications



# Example of Source Identification

Quality Measure **Body Mass Index (BMI) Screening and Follow-Up Plan**: observation is that a low percentage of patients with BMI outside of normal range have follow-up. The clinical resource at your health center says that counseling (weight, nutrition or exercise counseling) is the normal follow-up

Data not present based on expectation from the clinical guideline or clinical workflow. For example, counseling is simply not being done with patients



Involve clinical teams looking at quality of care

Actions being performed, but data not entered into standard location. For example, providers do not know where to enter counseling or are entering it into a non-standard location



Involve clinical teams looking at data entry workflow

Data is present in standard fields but is not being pulled by the Data Elements. For example, data is seen in the raw EHR tables but not the Data Elements



Involve Relevant or health center programmers

Correct data is present in the Data Elements, but the QM is not making the proper calculation or not summarizing the data properly



Involve Relevant or Aliados Health QM Designers



# The Process of Validation in Relevant





# Primary Source Verification in Relevant

- During validation efforts (or in an audit), a person compares data in the quality measure with data displayed in the expected/standard fields of the EHR
- This person notes differences (missing or erroneous data) between the two.
- Some knowledge of the clinical workflows and data workflows is needed



# Relevant Help Articles



[Relevant Healthcare](#) > [Implementation](#) > [Validation](#)

Articles in this section

[Validation Overview](#)

[Validating Patients](#)

[Validating Visits](#)

[Validating Quality Measures](#)

[Validating Care Gaps](#)

## Validation Overview

2 years ago · Updated

Validation is necessary to ensure that data in Relevant is accurate. Data must be accurate in order to inform decision making and build trust amongst users. Also, Relevant's default logic is aligned with UDS requirements; so, validating your data in Relevant's data model works toward validating your UDS submission.

In addition to initial validation during implementation, it is a best practice to periodically repeat validation efforts as the way data is collected can change over time (for example, a new lab or medication requires updates to data mapping).

Relevant provides tools to validate the following concepts using random samples. Please click the links below for more details:

- [Patients](#)
- [Visits](#)
- [Care Gaps](#)
- [Quality Measures](#)

Relevant recommends validating Patients and Visits before moving on to Care Gaps and Quality Measures, because the latter rely on the former.



# QM Groups of Patients to Check

- Meets denominator criteria (and no exclusion criteria)
- Meets exclusion criteria
- Meets numerator criteria
- Does not meet numerator criteria



# Example of Primary Source Verification

Break-down the measure into its components. Example:  
Controlling High Blood Pressure

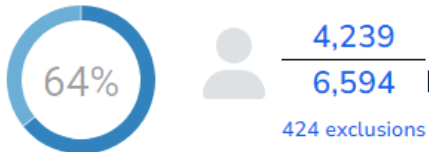
- Denominator: Patients with hypertension (diagnosed before June 30 of measurement year)
- Numerator: based on last blood pressure in the measurement period
- Exclusions: list of diagnosis



# List All Patients (or Search for Them)

## Controlling High Blood Pressure UDS 2023 Table 7

COMPLIANCE



64%

4,239  
6,594  
424 exclusions

Click on denominator

Available actions dependent on permissions

Export to Excel Open in Data Explorer

Other actions

Measure Results

Search

All Patients Compliant Patients Non-Compliant Patients Excluded Patients

Search for MRN

Patients in Denominator Patients in Numerator Patients NOT in Numerator Excluded



# Random Lists of Patients

Quality Reports Operations Finance Data Pipeline Library

Available actions  
dependent on  
permissions

- Monitor Pipeline
- Source Databases
- Acquisition Plans
- Transformers
- Data Elements
- Populations
- Risk Models
- Care Gaps
- Measures

Click to see measure list. Go to Controlling High Blood Pressure (for example)



# Random Lists of 20 Patients

## Controlling High Blood Pressure UDS 2023 Table 7

Run ▾ ... Edit

- View measure results
- Duplicate as custom measure
- Data Validation
- View sample of patients in denominator
- View sample of patients excluded from denominator

Click for numerator compliant/non-compliant

Click for exclusions



# Patient List

## Measure Results

[Export to Excel](#)[Open in Data Explorer](#)[All Patients](#)[Compliant Patients](#)[Non-Compliant Patients](#)[Excluded Patients](#)

Displaying 20 of 20 results

Measure ↓	Start Date	End Date	Patient Name	MRN	Risk Score	DOB	Provider Name	Location	Msrmt Value	Numerator	
Controlling High Blood Pressure UDS 2023 Table 7	10/01/2022	09/30/2023							Most recent blood pressure reading: 147/72 on 03/13/23	N	<a href="#">Report discrepancy</a>
Controlling High Blood Pressure UDS 2023 Table 7	10/01/2022	09/30/2023							Most recent blood pressure reading: 124/74 on 07/07/23	Y	<a href="#">Report discrepancy</a>





# Finding Errors

- Good to document the patient lists. Save a file and make notes in it
- When you find an error, note the nature of the error (missing data, different data, etc.) and describe the EHR data that should be there, including dates and values specific to the patient
- Use the Report Discrepancy button or forward results to an analytics team member to look more into it
- Summarize findings in the end (e.g., 19 of 20 patients correct)



# The Organization of Validation Efforts



# The Master Plan

- An organized and systematic effort saves a lot of time!
- Have a written plan that is approved according to health center policies
- Follow the same procedure for each QM
- Define the sequence of validation events, who is responsible for what actions, and how the results are communicated to other team members for further investigation or action



# Step 1: List Measures to Review

- Make a list of measures to validate
- Mark those with known definition changes. Note the expected difference compared to previous versions (i.e., will these effect the denominator, numerator or exclusions)
- Definition changes are noted in Data Workgroup webinars (for example, see UDS\_Clinical\_Relevant\_Changes\_8-8-23) or the DSIC (Aliados Data Standards and Integrity Council)
- Emphasize measures with definition changes in the validation (target the effort to the changes)



# Examples of Upcoming Validations

QM sets:

- UDS and QIP (2023 versions, if not done already)
- PHMI
- MCAS
- ECDS



# Step 2: Assign the Validation Work

- Who will validate? (Issues: analytics staff capacity, staff training in how to use Relevant to validate)
- How much time will they be given?
- How do they document?
  - Do they use a standard internal file format?
  - Which patients have been reviewed?
  - What data is entered into the file?
  - Who do they give their findings to?



# Step #3: Working With the Initial Findings

- At this stage, the source of the error is identified
- What actions are done on the initial findings?
  - Report discrepancy button (in Relevant)
  - Sent to internal programmers
- How long do they have to investigate?
- Who gets the results of the investigation?
- How is a corrective course of action decided based on investigation results?



# Step #4: Make the Change

- Depending on the source of the error, corrective action should be taken. Document what needs to be done
- Examples:
  - Change data entry workflow
  - Trainings on data entry standards
  - Change SQL code in Data Elements
  - Implement standard data entry practices, including modifications to EHR if necessary (following clinic procedures)





# Give Feedback to the Right Team

Depending on the nature of the corrective action, feedback can be given or an intervention performed with different teams:

- Those who manage the EHR
- Those who enter the data
- Programmers who deal with Data Elements
- Programmers who deal with Quality Measure SQL



# Step #5: Validate the Change

- Re-examine the data to make sure the change fixed the initial observations
- Document the QM data (denominator, numerator, exclusion, and specific components if applicable) before and after the change



# Documentation of Validation Efforts

- Document which QMs were validated
- Document who validated them and when
- Document what corrective actions were taken
- Document the “trusted” denominator, numerator, and exclusions for the measurement period ending last month



# Encourage Users of Relevant to Push the Discrepancy Button

- The Measure Results screen has a button that users can use to report a discrepancy

Report discrepancy

- Allows you to possibly get the “rare” cases
- Have users add as much detail as possible about what the data “should” be showing
- In the validation policy, add a section on how and when these particular discrepancies are reviewed, who reviews them, and how corrective actions are taken



# Standardized Quality Measures

- Standard QMs are those produced by Relevant (for example, UDS) or Aliados Health (for example, QIP) that contains “standard” code to make the measure calculations the same among all health centers and in the Aliados Health aggregate.
- These QMs should NOT be changed by the health center
- For example: Your standard transformer identifies A1c lab tests by value by LOINC. Let’s say you found that your in-house A1c test does not have an associated standard LOINC. The best course of action is to add those A1c tests to the A1c Data Element (by adding a LOINC in the EHR, or identifying the test by name, etc.). Do NOT change the SQL in the QM to make up for “bad” or “custom” data in your system.



# Do Not Over-Correct

- Relevant is very flexible and SQL is very powerful. But just because something CAN be done does not always mean it SHOULD be done
- There are standards for data entry produced by the EHR developer, other organizations, or your health center. These should be the primary source of the data
- Relevant should follow these standards and not become too involved with making up for “bad data.” Non-standard data locations often do not have enough detail or evidence to include in a QM and will not stand up to an audit.



# Questions

