



# Module 7

## Case Validation



# Case Validation Overview

- Case validation is used along with Data Diagnostics (Module 6) to ensure data accuracy
- Ensures that the data extracted into MPOG matches the original EHR documentation utilizing the MPOG Case Validation application
- Allows for detection of data issues at an individual case level that may not be visible using data diagnostics
- Series of standard questions are used to validate case information

# Case Validation Overview

- A variety of cases should be sampled
  - For example, if your institution has cardiac surgery, orthopedic surgery, obstetrics/gynecologic surgery, vascular surgery, and transplant surgery, then you should review a case for every service
- Emergent cases should be validated as the data for an emergent case may not always extract in the same way a scheduled case does.
- After a few months, you may see trends in issues with mapping.

# Case Validation Overview

- Based upon initial review and with help from an MPOG QI Coordinator, you will decide how to select future cases for review.
- For example, you may find that there is a trend in issues with mapping for cardiac procedures. In this case, you will want to place emphasis on reviewing cardiac cases for a few months until the data issue is resolved.

# Requirements

## BCBS Funded sites

- MPOG requires review of 5 cases per month for at least 6 months prior to initial MPOG Central upload
- All historical data should be validated with a minimum of 5 case validations completed per month.
- Required to validate 5 cases per month prior to uploading to MPOG central each month

## Non-funded sites

- MPOG requires review of 5 cases per month for 6 months before initial upload.
- All historical data should be validated with a minimum of 5 case validations completed per month but can be completed after initial upload if Data Diagnostics are accurate throughout.
- Required to validate 5 cases per month prior to each upload to MPOG Central

# Accessing Case Validation



# Case Validation App

- The left side of window displays 4 options for how you can select and open a case.
- The right side of the window displays the number of cases that have been reviewed historically for each month.
- Green indicates that the required number of cases per month have been reviewed.

Month	Cases Reviewed
2019-10	0 / 10
2019-09	20 / 10
2019-08	20 / 10
2019-07	20 / 10
2019-06	24 / 10
2019-05	4 / 10
2019-04	10 / 10
2019-03	5 / 10
2019-02	5 / 10
2019-01	5 / 10
2018-12	5 / 10
2018-11	5 / 10

# Pick a Case for Review

- 4 Options
  - Pick case by MRN and date
  - Pick case by MPOG case ID
  - Pick random unreviewed case
  - Pick already reviewed case

Year-Month	Count / Total
2019-10	0 / 10
2019-09	20 / 10
2019-08	20 / 10
2019-07	20 / 10
2019-06	24 / 10
2019-05	4 / 10
2019-04	10 / 10
2019-03	5 / 10
2019-02	5 / 10
2019-01	5 / 10
2018-12	5 / 10
2018-11	5 / 10



# Pick a Case for Review: Select by MRN and Date

- Click the dial next to “Pick case by MRN and date.” Both MRN and Date of Operation are required for this type of case selection method. Click “Validate Case”
- The Case Validation screen should display. You would typically verify that the patient MRN & Date of Operation are the same as the case you were initially trying to select and then begin case validation.

Month	Count
2019-10	0 / 10
2019-09	20 / 10
2019-08	20 / 10
2019-07	20 / 10
2019-06	24 / 10
2019-05	4 / 10
2019-04	10 / 10
2019-03	5 / 10
2019-02	5 / 10
2019-01	5 / 10
2018-12	5 / 10
2018-11	5 / 10

# Pick a Case for Review: Select by Case ID

- Click the dial next to “Pick case by case ID.” Enter MPOG Case ID. Click “Verify Case”
- The Case Validation screen should display. Typically, you would verify that the MPOG Case ID is the same as the case you were initially trying to select and then begin case validation.

Case Validation

Pick case by MRN and date

Patient MRN

Date of Operation

Pick case by case ID

MPOG Case ID

Pick random unreviewed case

Time Period  0 / 10

Service Type

Pick already reviewed case

Reviewed Cases

Validate Case

Review Saved Validation

2019-10	0 / 10
2019-09	20 / 10
2019-08	20 / 10
2019-07	20 / 10
2019-06	24 / 10
2019-05	4 / 10
2019-04	10 / 10
2019-03	5 / 10
2019-02	5 / 10
2019-01	5 / 10
2018-12	5 / 10
2018-11	5 / 10

# Pick random unreviewed case

- Click the dial next to “Pick random unreviewed case.”

**Case Validation**

Pick case by MRN and date

Patient MRN:

Date of Operation: 10/15/2019

Pick case by case ID

MPOG Case ID: 00000000-0000-0000-0000-000000000000

Pick random unreviewed case

Time Period: 10/01/2019 0 / 10

Service Type: (Any)

Pick already reviewed case

Reviewed Cases:

Validate Case

Review Saved Validation

2019-10	0 / 10
2019-09	20 / 10
2019-08	20 / 10
2019-07	20 / 10
2019-06	24 / 10
2019-05	4 / 10
2019-04	10 / 10
2019-03	5 / 10
2019-02	5 / 10
2019-01	5 / 10
2018-12	5 / 10
2018-11	5 / 10

# Pick random unreviewed case

- Choose the date range

Case Validation

Pick case by MRN and date

Patient MRN

Date of Operation

Pick case by case ID

MPOG Case ID

Pick random unreviewed case

Time Period  0 / 10

Service Type  0 / 10

Pick already reviewed

Reviewed Cases

10/01/2019	0 / 10
09/01/2019	20 / 10
08/01/2019	20 / 10
07/01/2019	20 / 10
06/01/2019	24 / 10
05/01/2019	4 / 10
04/01/2019	10 / 10
03/01/2019	5 / 10
02/01/2019	5 / 10
01/01/2019	5 / 10
12/01/2018	5 / 10
11/01/2018	5 / 10
10/01/2018	7 / 10
09/01/2018	5 / 10
08/01/2018	5 / 10
07/01/2018	5 / 10
06/01/2018	5 / 10

Validate Case

2019-10	0 / 10
2019-09	20 / 10
2019-08	20 / 10
2019-07	20 / 10
2019-06	24 / 10
2019-05	4 / 10
2019-04	10 / 10
2019-03	5 / 10
2019-02	5 / 10
2019-01	5 / 10
2018-12	5 / 10
2018-11	5 / 10

Review Saved Validation

# Pick random un-reviewed case

- Select a surgical service from the dropdown menu
  - Choose cases from different service types. Validating a variety of different type cases will give you a bigger picture of how your data looks
- Select “Validate Case” at the bottom of the screen

Month	Reviewed	Total
2019-10	0	10
2019-09	20	10
2019-08	20	10
2019-07	20	10
2019-06	24	10
2019-05	4	10
2019-04	10	10
2019-03	5	10
2019-02	5	10

Service Type	Reviewed	Total
(Any)	0	3134
Cardiac	0	86
Dentistry	0	15
General	0	222
Medical - cardiology	0	127
Medical - gastroenterology	0	34
Medical - hematology/oncology	0	21
Medical - nephrology	0	6
Medical - other	0	9
Medical - pulmonology	0	9
Neurosurgery	0	90
Obstetrics / Gynecology	0	151
Ophthalmology	0	335
Oral / Maxillofacial	0	46
Orthopedics	0	233
Otolaryngology	0	288
Plastics	0	109
Podiatry	0	2
Psychiatry	0	68
Radiology - Unspecified	0	100

# Pick a Case for Review: Picking an Already Reviewed Case

- Click the dial next to “Pick an already reviewed case.”
- Select a case from the dropdown menu. The date of operation and procedure type will display.
- Select “Validate Case” at the bottom of the screen.
- The Case Validation screen should display. At this point, you would verify that the case selected matches the case type that displays in the validator and begin case validation.

Month	Count
2019-10	0 / 10
2019-09	20 / 10
2019-08	20 / 10
2019-07	20 / 10
2019-06	24 / 10
2019-05	4 / 10
2019-04	10 / 10
2019-03	5 / 10
2019-02	5 / 10
2019-01	5 / 10
2018-12	5 / 10
2018-11	5 / 10

12/05/2017 MIDLINE CARDIAC PUMP AGE 0-3M  
MIDLINE ATRIAL SEPTAL DEFECT REPAI  
MIDLINE VENTRICULAR SEPTAL DEFECT REPAI  
MIDLINE PERFUSION CARDIAC

01/04/2018 BILATERAL BLEPHAROPLASTY

01/09/2018 UMBILICAL HERNIA REPAIR

# Case Validation

- Select a case using one of the previously described options
- The Case Validation questionnaire will display. For the purpose of this training exercise, PHI was removed.

**Case Lookup Information**

Patient MRN: [REDACTED]  
Date of Operation: [REDACTED]  
MPOG Case ID: [REDACTED]

**Open Case in MPOG Case Viewer**

**Questions for Validation**

**Case Information** *No Time Restriction* Add comments here

Was the patient's name  Correct  Incorrect

Was the patient's age at the time of operation  Correct  Incorrect

Is the admission type correctly mapped as 'Outpatient'?  Correct  Incorrect

Was the ASA physical status of the patient 'ASA 1E'?  Correct  Incorrect

Is the following procedure description correct?  
LEFT LID LACERATION REPAIR, LEFT RUPTURED GLOBE REPAIR  Correct  Incorrect

Was this procedure performed in procedure room  Correct  Incorrect

Are the following tags correct for procedure room  
Facility type - Acute care hospital  Correct  Incorrect  
Other - Mixed use operating room  Correct  Incorrect

Is the primary procedure service correctly mapped as 'Oral / Maxillofacial'?  Correct  Incorrect

**Preop** *From 4 Hours Before Anesthesia Start to Anesthesia Start* Add comments here

Was AACD Patient Available Date/Time (Preop Start) at 10:21?  Correct  Incorrect

**Perioperative Times** *From 4 Hours Before Anesthesia Start to Anesthesia End + 6 Hours* Add comments here

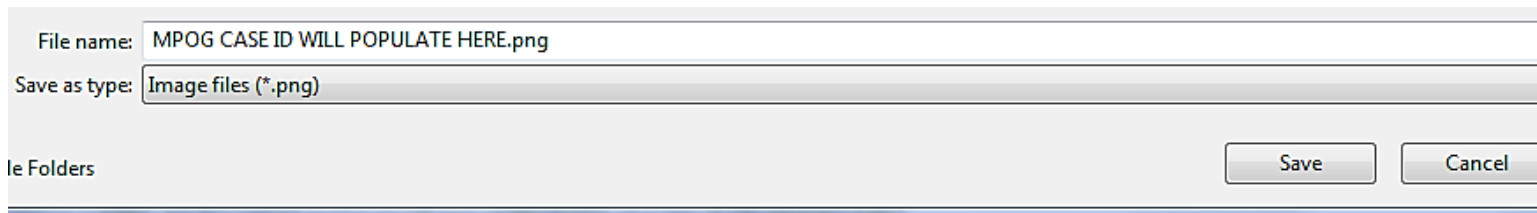
Was anesthesia start at '2021-11-20 11:53'?  Correct  Incorrect

Was surgical incision at '2021-11-20 12:27'?  Correct  Incorrect

Save As Image Save Answers Cancel

# Case Validation

- You must answer every question with ‘Correct’ or ‘Incorrect’ unless there is no data in which case the row for the question is highlighted in red.
- Compare questions against EHR. Please add comments as needed to explain any discrepancies.
- For issues that need follow-up from the site technical team or coordinating center, the “Save As Image” button is available to save a screenshot of the case. **PHI will automatically be eliminated from the screenshot.**
- A window will display asking you to save the image. The MPOG Case ID will automatically populate the File Name. Choose a file location where you will be able to access again. Click ‘Save





# Case Validation

- Tooltips are available by hovering over the “(i)”. Tooltips provide more information regarding which concepts the question uses
  - The Preop Labs section looks for COVID-19 test results only
  - The Labs section looks for Hematocrit and Glucose results only

The screenshot displays a user interface for case validation, organized into sections with expandable/collapsible headers. Each header includes a minus sign icon, a section name, a time restriction, and an 'Add comments here' link.

- Intraop Staff** (No Time Restriction):
  - Question: "Was there 2 anesthesiology attending(s) that signed into this case?" with a tooltip icon (i) and checkboxes for Correct and Incorrect.
  - Question: "Was there 0 anesthesiology CRNA(s) that signed into this case?" with a tooltip icon (i) and checkboxes for Correct and Incorrect.
  - Question: "Was there 2 anesthesiology residents that signed into this case?" with a tooltip icon (i) and checkboxes for Correct and Incorrect.
  - Tooltip: "Scans provider sign-ins for: 6000:Staff Level - Anesthesia Attending"
- Preop Physiologic** (From 4 Hours Before Anesthesia Start to Anesthesia Start):
  - Header: "Add comments here"
- Preop Labs** (From 7 Days Before to Anesthesia Start):
  - Header: "Add comments here"
  - Question: "Was the patient's latest COVID-19 test during this period taken on 2021-10-14 16:56 and was the result 'Negative'?" with a tooltip icon (i) and checkboxes for Correct and Incorrect.
  - Tooltip: "Most recent COVID-19 test before the case. Uses the following concepts: 3404 Immunology - Antibody - COVID19 - IgG, 5179 Virology - Coronavirus (SARS-CoV-2)"
- Labs** (From Day Before to Day After):
  - Question: "Was the hematocrit 27.400 at 2021-10-18 19:21?" with a tooltip icon (i) and checkboxes for Correct and Incorrect.
  - Question: "Was the glucose 106 at 2021-10-18 16:27?" with a tooltip icon (i) and checkboxes for Correct and Incorrect.

# Case Validation

- May need 3-4 programs open at a time to verify the data in the MPOG case validator “matches” the information present in the hospital Anesthesia Information Management System (AIMS)
- It is recommended reviewers have 2 monitors/screens available for use
- Most likely will need intra-op record open on one screen and the MPOG case validator on the other
- The source of truth varies per institution depending on the electronic documenting system

# Case Validation

- For example: At the University of Michigan Health System, multiple systems are used for case validation:
  - Centricity contains the Intra-op record, Anesthesia H&P, Case details.
  - Epic: Inpatient record, used for validation preop medications and admission status
  - Carelink: Previous EHR used for validating cases pre-dating Epic implementation.

# Case Validation

- It may be useful to open the Case Viewer within the MPOG Suite to assist in the case review.
- To access from the Case Validation Utility screen, click on the 'Open Case in MPOG Case Viewer' tab at the top right hand of the screen. For further details on the Case Viewer, refer to Module 5



# Case Validation

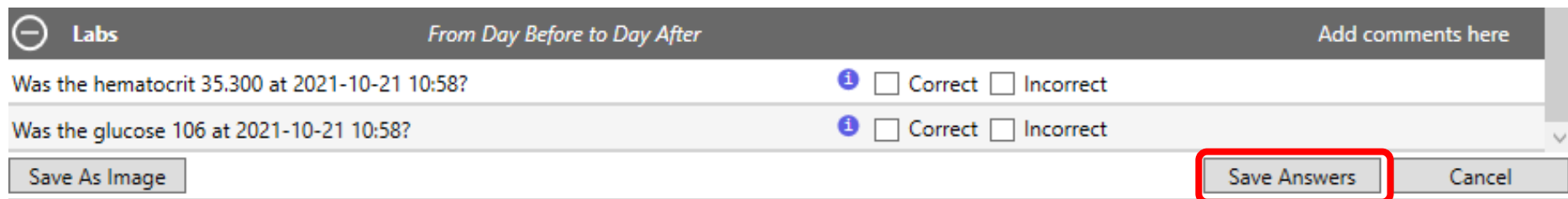
- If a case is missing information in the MPOG database for any reason, the case validator will highlight the row for that question in red and will not gray out the correct/incorrect checkboxes.
- If multiple cases seem to be missing the same type of data, note the MPOG case IDs. This can indicate an extract issue or a documentation issue- discuss with the MPOG QI Coordinator to identify next steps. See example below.

Is the admission type correctly mapped as 'Inpatient'?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Was the ASA physical status of the patient 'NOT FOUND'?	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Is the following procedure description correct? ESOPHAGOGASTRODUODENOSCOPY WITH FOREIGN BODY REMOVAL	<input type="checkbox"/> Yes <input type="checkbox"/> No
Was this procedure performed in procedure room 'M-PR 01'?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the following tags correct for procedure room 'M-PR 01'?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Facility type - Acute care hospital	
Other - Mixed use operating room	
Other - Pediatric	
Service specific room - Endoscopy	
Is the primary procedure service correctly mapped as 'Medical - gastroenterology'?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>Preop</b> No Time Restriction Add comments here	
Nothing found	
<b>Perioperative Times</b> No Time Restriction Add comments here	
Was anesthesia start at 'NOT FOUND'?	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Was surgical incision at 'NOT FOUND'?	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Was the patient transferred somewhere other than the recovery room?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Was anesthesia end at 'NOT FOUND'?	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Intraop Staff</b> No Time Restriction Add comments here	



# Case Validation

- After all questions are answered for the selected case, click the “Save Answers” button in the bottom right corner of the screen.
- Once the case has been submitted, there is no way to go back and make change to the form.
- Once the case is open, you must complete it as the information will not be saved if the case is closed before submitting.



The screenshot shows a user interface for case validation. At the top, there is a header bar with a back arrow, the text "Labs", a subtitle "From Day Before to Day After", and a link "Add comments here". Below the header, there are two questions, each with an information icon, a "Correct" checkbox, and an "Incorrect" checkbox. The first question is "Was the hematocrit 35.300 at 2021-10-21 10:58?". The second question is "Was the glucose 106 at 2021-10-21 10:58?". At the bottom left, there is a "Save As Image" button. At the bottom right, there are two buttons: "Save Answers" (highlighted with a red box) and "Cancel".

# Case Validation

This will automatically save and update the monthly count for cases reviewed in the 'Overall Progress' section as seen below.

Pick a case for review

Use the following options to pick a case to review:

Pick case by MRN and date

Patient MRN

Date of Operation

Pick case by case ID

MPOG Case ID

Pick random unreviewed case

Overall Progress

2016-03	0 / 20
2016-02	20 / 20
2016-01	21 / 20
2015-12	20 / 20
2015-11	20 / 20
2015-10	20 / 20
2015-09	20 / 20
2015-08	20 / 20

# Case Validation

- To review a summary of past case validations, use the “Review Saved Validation” button. First, click the month that you want to see. Then, click “Review Saved Validation

Month	Count
2019-10	0 / 10
2019-09	20 / 10
2019-08	20 / 10
2019-07	20 / 10
2019-06	24 / 10
2019-05	4 / 10
2019-04	10 / 10
2019-03	5 / 10
2019-02	5 / 10
2019-01	5 / 10
2018-12	5 / 10
2018-11	5 / 10



- This screen will appear with a summary of the case validation questions and counts of the number of cases that month that had the question answered “No” and the number of cases with comments. A column is available to show who reviewed the case as well.

Validation for the month of 04-2019 Hide passing questions

Question	No / Missing	Comment
Patient Name		
Procedure Name	1	1
Random Fluid Dose	1	
Room Tags	6	
Staff Present: Attending		
Staff Present: CRNA	1	1
Staff Present: Resident		
Surgical Service Mapping		
Time: Anes End	1	
Time: Anes Start	1	
Time: Medication Given (First)	1	1
Time: Medication Given (Last)	1	
Time: Surgical Incision	1	

Date Reviewed	Question	Response	Comment	Reviewer	MPOG Case ID
05-16-2019 12:17	Was there 1 anesthesiology CRNA(s) that signed into this case?	Yes			
05-16-2019 12:28	Was there 1 anesthesiology CRNA(s) that signed into this case?	Yes			
05-16-2019 12:32	Was there 1 anesthesiology CRNA(s) that signed into this case?	Yes			
05-16-2019 12:54	Was there 1 anesthesiology CRNA(s) that signed into this case?	No	2		
05-16-2019 01:14	Was there 0 anesthesiology CRNA(s) that signed into this case?	Yes			
05-16-2019 01:17	Was there 2 anesthesiology CRNA(s) that signed into this case?	Yes			
05-16-2019 01:20	Was there 1 anesthesiology CRNA(s) that signed into this case?	Yes			
06-10-2019 03:18	Was there 0 anesthesiology CRNA(s) that signed into this case?	Yes			
06-10-2019 03:30	Was there 1 anesthesiology CRNA(s) that signed into this case?	Yes			
06-10-2019 03:41	Was there 1 anesthesiology CRNA(s) that signed into this case?	Yes			

Validation for the month of 04-2019

Hide passing questions

Question	No / Missing	Comment	Date Reviewed	Question	Response	Comment	Reviewer	MPOG Case ID
Patient Name			05-16-2019 12:17	Was there 1 anesthesiology CRNA(s) that signed into this case?	Yes			c3ed06f2-1761-ef
			05-16-2019 12:28	Was there 1 anesthesiology CRNA(s) that signed into this case?	Yes			f5ec06f2-1761-e9
			05-16-2019 12:32	Was there 1 anesthesiology CRNA(s) that signed into this case?	Yes			4f4c774e-ef55-e9
Procedure Name	1	1	05-16-2019 12:54	Was there 1 anesthesiology CRNA(s) that signed into this case?	No	2		95db38bb-015d-r
Random Fluid Dose	1		05-16-2019 01:14	Was there 0 anesthesiology CRNA(s) that signed into this case?	Yes			f72d86fa-b861-ef
			05-16-2019 01:17	Was there 2 anesthesiology CRNA(s) that signed into this case?	Yes			a14c774e-ef55-ef
Room Tags	6		05-16-2019 01:20	Was there 1 anesthesiology CRNA(s) that signed into this case?	Yes			c072d09a-a665-e
Staff Present: Attending			06-10-2019 03:18	Was there 0 anesthesiology CRNA(s) that signed into this case?	Yes			b664923e-cb68-e
Staff Present: CRNA	1	1	06-10-2019 03:30	Was there 1 anesthesiology CRNA(s) that signed into this case?	Yes			dec79878-b856-e
Staff Present: Resident			06-10-2019 03:41	Was there 1 anesthesiology CRNA(s) that signed into this case?	Yes			a24b774e-ef55-ef
Surgical Service Mapping								
Time: Anes End	1							
Time: Anes Start	1							
Time: Medication Given (First)	1	1						
Time: Medication Given (Last)	1							
Time: Surgical Incision	1							

Hide passing questions

- Clicking on a question will bring up more information on the case validation answers for each case.
- You can use this screen to find cases with “No” answers for further review. To hide the “Yes” answers, click “Hide passing questions.”
- Double-click on any MPOG Case ID to open the case in Case Viewer.
- Look for trends in issues, such as date of the case. This can be helpful when identifying issues with the data.