

NRDR LCSR Data Exchange

Version 1.18

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NRDR LCSR Exam Data Exchange

# Revision History

| **Date** | **Version** | **Description** |
| --- | --- | --- |
| 3/19/2015 | 1.0 | Draft |
| 5/6/2015 | 1.1 | Error codes added |
| 6/22/2015 | 1.2 | Added ACR SSO diagram |
| 8/18/2015 | 1.3 | Removed Examination\_ID.Described accepting exam data from more than one system in the JSON Schema section.Stated the minimum required data element in the JSON Schema section. |
| 9/9/2015 | 1.4 | Removed Number\_Of\_Follow\_Up under Follow\_upDisclosed the AppID (10007) for LCSR in test environment. |
| 9/23/2015 | 1.5 | Keeping the required property as true for the set of minimum required attributes and leaves the rest as false. This allows a transaction to be successfully created in the LCSR database when other attributes are not available at the time of submission. Please note that although Patient\_SSN, Medicare\_Beneficiary\_ID, and Other\_ID are now “not required” you have to provide at least one of them to submit the transaction successfully. |
| 10/12/2015 | 1.5.1 | Updated the JSON schema section. Clarified how the API determines a new exam versus an update. Added the ACR-LCSR-JSON-Mapping.xlsx session to clarify the minimum set of data element for a transaction, the data element required by a complete exam and the optional data elements. |
| 10/12/2015 | 1.5.2 | Updated the JSON transaction creation example: Removed examination\_id values, updated names texts.In the GET example “transaction\_id” parameter was changed to “id”. |
| 11/3/2015 | 1.5.3 | Removed Refused\_To\_Answer\_SSN and Refused\_Medicare\_ID from the set of minimum required data element for submitting a transaction |
| 11/11/2015 | 1.5.4 | Added Ordering\_Practitioner\_First\_Name and Ordering\_Practitioner\_Last\_Name fields under Exam |
| 10/10/2017 | 1.5.4 | Added description of ‘Transaction Status’ page |
| 02/19/2018 | 1.5.5 | Added description of optional attributes ‘‘New Medicare Beneficiary ID’, ‘Refused to Provide New Beneficiary ID’ (available for version 1.1). |
| 03/05/2018 | 1.5.5 | Added errors L3131 and L3132, L3163 and L3164, L3165. |
| 04/26/2018 | 1.5.5 | Added missing error codes and updated description of some error codes. Updated Data Model diagram. |
| 06/12/2018 | 1.5.5 | Added description for Follow-up record key in section *5. JSON Schema.* |
| 06/19/2018 | 1.5.5 | Added error code L1012. |
| 07/12/2018 | 1.5.5 | Updated error L3300: ‘Warning’ is replaced by ‘Invalid’. |
| 10/12/2018 | 1.5.5 | Added error code L2057. |
| 11/28/2018 | 1.6 | Added description of new format version 1.2.Added error codes L3031 and L3032. |
| 01/31/2019 | 1.6 | Added error codes L3232, L3243, L3244, L3282, L3293, L3362, L3368, L3372. Updated description of error codes L3301, L3320, L3351. |
| 02/19/2019 | 1.6 | Added error codes L3242, L3266, L3567, L3367, L3411, L3412.Updated L3045. |
| 9/10/2019 | 1.6 | Error message updated for error code L3045 |
| 9/25/2019 | 1.6 | Error message updated for error code L3131, L3132, L3421, L3431 |
| 10/16/2019 | 1.6 | Added error code: L3270 |
| 12/05/2019 | 1.6 | Added error code: L3422 |
| 12/06/2019 | 1.6 | Removed specification for version 1.1, since this version not supported any more. |
| 12/24/2019 | 1.6 | Added error code: L3276 |
| 01/09/2020 | 1.6 | Updated L3331: if ‘Tissue diagnosis’ is ‘Malignant – carcinoid’ then validated field is required. ‘Malignant – carcinoid’ is a new value of the field ‘Tissue diagnosis’. |
| 04/15/2020 | 1.7 | Description of LCSR 1.3 JSON schema added.Error messages L3235, L3236, L3395 added. |
| 07/13/2020 | 1.8 | Description of LCSR 1.4 JSON schema added.Error messages L3205, L3278, L3423 added. |
| 08/19/2020 | 1.8 | Error message added: L3440, L3369, L3373 |
| 08/19/2020 | 1.8 | Error messages L3241, L3242, L3243, L3244 marked as obsolete. |
| 10/06/2020 | 1.8 | Error message was updated L3275 |
| 02/24/2021 | 1.9 | Description of LCSR 1.5 JSON schema added.Error messages added: L3206, L3207, L3450, L3451, L3452, L3453, L3454, L3455, L3456Error messages updated: L3201, L3205 |
| 04/08/2021 | 1.10 | Error message L3381 updated |
| 05/07/2021 | 1.11 | Error messages L3373, L3421, L3422 updated.Error message added L3425 |
| 05/14/2021 | 1.11 | Error message L3331 updated |
| 08/04/2021 | 1.12 | Removed description of retired format version 1.2.Added description of new format version 1.6.Error messages L3343, L3344, L3345, L3353, L3354 added |
| 10/19/2021 | 1.13 | Error messages L3331, L3440 updated |
| 03/09/2022 | 1.13 | Description of LCSR 1.3, 1.4 JSON schema retired |
| 03/28/2022 | 1.14 | The following fields obsolete for JSON 1.6 schema: Refused to provide Social Security NumberRefused to provide Old Medicare Beneficiary IDRefused to provide New Medicare Beneficiary IDLung-RADS version used to report resultsNote: If these fields are sent with JSON 1.6 transaction, they will be ignored during data upload |
| 10/03/2022 | 1.15 | Error messages updated: L3330, L3331, L3332, L3333, L3421, L3422, L3423, L3425, L3431 |
| 10/24/2022 | 1.16 | Removed description of retired format version 1.5 |
| 11/9/2022 | 1.16 | Optional field "Lung\_RADS\_Version” added to exam data elements in JSON 1.6 schema |
| 11/20/2022 | 1.16 | Error messages updated: L3332, L3333 |
| 1/9/2023 | 1.16 | Errormessage L3008 marked as obsolete |
| 3/23/2023 | 1.17 | Field “Lung-RADS version used to report results” made required to provide to submit exam |
| 06/01/2023 | 1.17 | Added API response statuses definitions and examples |
| 08/01/2023 | 1.18 | Added description of new format version 1.7New error codes added: L3325, L3326 |
| 08/18/2023 | 1.18 | New error codes added: L3336, L3346 |

# LCSR Data Elements

This document describes the LCSR Exam data elements, JSON schema, NRDR LCSR APIs and error messages. It also demonstrates how to use the authorization token when consuming the NRDR LCSR APIs.

## LCSR Exam Data Submission



The diagram below depicts the events that take place in the ACR SSO during the authentication and authorization processes. Please refer to the [*ACR SSO Authentication*](https://nrdrsupport.acr.org/support/solutions/articles/11000090513) *article* for a detailed description of ACR SSO service.



The NRDR LCSR APIs are a set of REST web services. They return an acknowledgement to the caller when submission is received. It is the responsibility of the caller to capture this acknowledgement to ensure the submission has reached the ACR SSO successfully.

The frequency of the data submission is defined by the partner, however, the ACR prefers the submission to happen more frequent so that the facility/physician will have a faster turnaround time for review and be able to resubmit data before the CMS submission deadline if needed.

Partners shall be able to query the status of the submitted transactions by using NRDR LCSR API.

## Data Model

The LCSR data to be submitted to the ACR NRDR shall be “wrapped” in a transaction. Each transaction has one or more Exams. Each exam can have several follow-ups.

This approach provides the flexibility of submitting multiple exams for a facility within a single transaction. Note: each transaction shall contain exams for one facility.

As the data required by LCSR for an exam may be coming from different systems within a facility, the LCSR web service will accept transactions with incomplete data and merge them into a single exam record when the rest of the required data elements arrive in subsequent transactions.

LCSR exam record composite key identifiers are:

* Facility ID
* Exam Date
* Patient Identifier(s)

The key identifiers of the follow-up record are:

* Date of Follow-up
* Follow-up Diagnostic

To define if the patient from the uploaded exam exists in the patient dictionary of the facility in the NRDR, the system searches for existing patient by any of the following patient identifiers:

* SSN,
* Old Medicare Beneficiary ID,
* New Medicare Beneficiary ID,
* Other ID (patient’s MRN can be used as the Other ID).

However, the different systems which will provide exam data to LCSR must all agree on all common patient identifiers (SSN, Old Medicare Beneficiary ID, New Medicare Beneficiary ID, Other ID) that will be used in the transactions, otherwise we will not be able to merge them into a single exam record automatically.

For each exam in a transaction the API will base on its composite key to determine if it should create a new exam record or update an existing exam record in the database. If the composite key is found in the database, the API will update the existing record; otherwise, it will create a new exam record.

# JSON Schema

To successfully submit transaction, you must provide the following minimum required data elements:

Transaction\_ID,

Transaction\_DateTime,

Num\_of\_Exam\_Included,

Facility\_ID,

PartnerID,

AppID,

Exam\_Date,

Either Patient\_SSN, Old Medicare\_Beneficiary\_ID, New\_Medicare\_Beneficiary\_ID or Other\_ID

## LCSR Exam 1.6 JSON Schema

This schema describes the data elements in a transaction for LCSR file version 1.6.

{

 "name": "LCSR\_Exam\_Transaction",

 "Properties": {

 "Transaction\_ID": {

 "type": "string",

 "required": true

 },

 "Transaction\_DateTime": {

 "type": "string",

 "required": true

 },

 "Num\_of\_Exam\_Included": {

 "type": "number",

 "required": true

 },

 "Facility\_ID": {

 "type": "string",

 "required": true

 },

 "PartnerID": {

 "type": "string",

 "required": true

 },

 "AppID": {

 "type": "string",

 "required": true

 },

 "Previous\_Transaction\_ID": {

 "type": "string",

 "required": false

 },

 "LCSR\_File\_Version\_Num": {

 "type": "string",

 "required": true

 },

 "Exam": {

 "type": "array",

 "required": true,

 "properties": {

 "Exam\_Unique\_ID": {

 "type": "string",

 "required": false

 },

"Patient\_First\_Name": {

 "type": "string",

 "required": false

 },

 "Patient\_Middle\_Name": {

 "type": "string",

 "required": false

 },

 "Patient\_Last\_Name": {

 "type": "string",

 "required": false

 },

 "Other\_ID": {

 "type": "string",

 "required": false

 },

 "Patient\_SSN": {

 "type": "string",

 "required": false

 },

 "Medicare\_Beneficiary\_ID": {

 "type": "string",

 "required": false

 },

"New\_Medicare\_Beneficiary\_ID": {

"type": "string",

"required": false

},

 "Date\_Of\_Birth": {

 "type": "string",

 "required": false

 },

 "Date\_Of\_Death": {

 "type": "string",

 "required": false

 },

 "How\_Cause\_Was\_Determined": {

 "type": "string",

 "required": false

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 "Other\_Method\_Of\_Determining": {

 "type": "string",

 "required": false

 },

 "Cause\_Of\_Death": {

 "type": "string",

 "required": false

 },

 "Non\_Lung\_Cancer\_Cause": {

 "type": "string",

 "required": false

 },

 "Death\_Within\_30\_Days": {

 "type": "string",

 "required": false

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 "Patient\_Sex": {

 "type": "string",

 "required": false

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 "Patient\_Race": {

 "type": "array",

 "required": false

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 "Patient\_Ethnicity": {

 "type": "string",

 "required": false

 },

 "Health\_Insurance": {

 "type": "array",

 "required": false,

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 "Health\_Insurance\_Other\_Spec": {

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 "required": false,

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 "Smoking\_Status": {

 "type": "string",

 "required": false

 },

 "Number\_Of\_Packs\_Year\_Smoking": {

 "type": "number",

 "required": false

 },

 "Number\_Of\_Years\_Since\_Quit": {

 "type": "number",

 "required": false

 },

 "Did\_Physician\_Provide\_Guidance": {

 "type": "string",

 "required": false

 },

 "Doc\_Of\_Shared\_Dec\_Making": {

 "type": "string",

 "required": false

 },

 "Patient\_Height": {

 "type": "string",

 "required": false

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 "Patient\_Weight": {

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 "required": false

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 "Patient\_Other\_Comorbidities": {

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 "required": false,

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 "Patient\_Other\_Comorbidities\_Spec": {

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 "required": false

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 "COVID\_Diagnosis {

 "type": "string",

 "required": false

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 "COVID\_Diagnosis\_Date": {

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 "required": false

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 "COVID\_Testing\_Status {

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 "COVID\_Vaccine {

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 "COVID\_Vaccine\_Date {

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 "required": false

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 "COVID\_Vaccine\_Manufacturer {

 "type": "string",

 "required": false

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 "COVID\_Vaccine\_Manufacturer\_Other {

 "type": "string",

 "required": false

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 "COVID\_Vaccination\_Site {

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 "Radiologist\_Reading\_NPI": {

 "type": "string",

 "required": false

 },

 "Ordering\_Practitioner\_First\_Name": {

 "type": "string",

 "required": false

 },

 "Ordering\_Practitioner\_Last\_Name": {

 "type": "string",

 "required": false

 },

 "Ordering\_Practitioner\_NPI": {

 "type": "string",

 "required": false

 },

 "Exam\_Date": {

 "type": "string",

 "required": false

 },

 "Rescheduled\_Exam": {

 "type": "string",

 "required": false

 },

 "Originally\_Scheduled\_Exam\_Date": {

 "type": "string",

 "required": false

 },

 "Reschedule\_Reason": {

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 "required": false

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 "Signs\_Or\_Symptoms\_Of\_Lung\_Cancer": {

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 "Indication\_Of\_Exam": {

 "type": "string",

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 },

 "Modality": {

 "type": "string",

 "required": false

 },

 "CT\_Scanner\_Manufacturer": {

 "type": "string",

 "required": false

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 "CT\_Scanner\_Model": {

 "type": "string",

 "required": false

 },

 "CTDIvol": {

 "type": "string",

 "required": false

 },

 "DLP": {

 "type": "string",

 "required": false

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 "Tube\_Current\_Time": {

 "type": "string",

 "required": false

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 "Tube\_Voltage": {

 "type": "string",

 "required": false

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 "Scanning\_Time": {

 "type": "string",

 "required": false

 },

 "Scanning\_Volume": {

 "type": "string",

 "required": false

 },

 "Pitch": {

 "type": "string",

 "required": false

 },

 "Reconstructed\_Image\_Width": {

 "type": "string",

 "required": false

 },

 "CT\_Exam\_Result\_Lung\_RADS": {

 "type": "string",

 "required": false

 },

 "Reason\_For\_Recall": {

 "type": "string",

 "required": false

 },

 "Reason\_For\_Recall\_Spec": {

 "type": "string",

 "required": false

 },

 "Lung\_RADS\_Version": {

 "type": "string",

 "required": true

 },

 "CT\_Exam\_Result\_Modifier\_S": {

 "type": "string",

 "required": false

 },

 "What\_Were\_The\_Other\_Findings": {

 "type": "array",

 "required": false

 },

 "Other\_Abnormalities\_Spec": {

 "type": "string",

 "required": false

 },

 "Mass\_Spec": {

 "type": "string",

 "required": false

 },

 "Other\_Int\_Lung\_Disease": {

 "type": "string",

 "required": false

 },

 "Other\_Int\_Lung\_Disease\_Spec": {

 "type": "string",

 "required": false

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 "CT\_Exam\_Result\_Modifier\_C": {

 "type": "string",

 "required": false

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 "Years\_Since\_Prior\_Diagnosis": {

 "type": "number",

 "required": false

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 "Education\_Level": {

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 "Education\_Level\_Other\_Spec": {

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 "Radon\_Exposure": {

 "type": "string",

 "required": false

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 "Occupational\_Exposures": {

 "type": "array",

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 "Occupational\_Exposures\_Spec": {

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 "History\_Of\_Cancers": {

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 "Other\_Smoking\_Cancers\_Spec": {

 "type": "string",

 "required": false

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 "Lung\_Cancer\_In\_First\_Deg\_Rel": {

 "type": "string",

 "required": false

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 "Lung\_Cancer\_Other\_First\_Deg\_Rel": {

 "type": "string",

 "required": false

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 "COPD": {

 "type": "string",

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 "Pulmonary\_Fibrosis": {

 "type": "string",

 "required": false

 },

 "Second\_Hand\_Smoke\_Exposure": {

 "type": "string",

 "required": false

 },

 "Follow\_up": {

 "type": "array",

 "required": false,

 "properties": {

 "Follow\_Up\_Unique\_ID": {

 "type": "string",

 "required": false

 },

 "Date\_Of\_Follow\_Up": {

 "type": "string",

 "required": true

 },

 "Follow\_Up\_Diagnostic": {

 "type": "string",

 "required": true

 },

 "Follow\_Up\_Diagnostic\_Other\_Spec": {

 "type": "string",

 "required": false

 },

 "Tissue\_Diagnosis": {

 "type": "string",

 "required": false

 },

 "Tissue\_Diagnosis\_Other\_Spec": {

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 },

 "Tissue\_Diagnosis\_Method": {

 "type": "string",

 "required": false

 },

 "Location\_From\_Sample\_Obtained": {

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 "required": false,

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 "Location\_Other\_Spec": {

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 "required": false,

 },

 "Histology": {

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 "required": false

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 "Histology\_Non\_Small\_Cell\_LC": {

 "type": "string",

 "required": false

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 "Other\_Non\_Small\_Cell\_LC\_Histology\_Spec": {

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 "Histology\_Secondary": {

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 "Overall\_Stage": {

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 "required": false

 },

 "N\_Status": {

 "type": "string",

 "required": false

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 "M\_Status": {

 "type": "string",

 "required": false

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 "AJCC\_Cancer\_Staging\_Edition": {

 "type": "number",

 "required": false

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 }

 }

 }

 }

 }

}

## LCSR Exam 1.7 JSON Schema

This schema describes the data elements in a transaction for LCSR file version 1.7.

{

 "name": "LCSR\_Exam\_Transaction",

 "Properties": {

 "Transaction\_ID": {

 "type": "string",

 "required": true

 },

 "Transaction\_DateTime": {

 "type": "string",

 "required": true

 },

 "Num\_of\_Exam\_Included": {

 "type": "number",

 "required": true

 },

 "Facility\_ID": {

 "type": "string",

 "required": true

 },

 "PartnerID": {

 "type": "string",

 "required": true

 },

 "AppID": {

 "type": "string",

 "required": true

 },

 "Previous\_Transaction\_ID": {

 "type": "string",

 "required": false

 },

 "LCSR\_File\_Version\_Num": {

 "type": "string",

 "required": true

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 "Exam": {

 "type": "array",

 "required": true,

 "properties": {

 "Exam\_Unique\_ID": {

 "type": "string",

 "required": false

 },

"Patient\_First\_Name": {

 "type": "string",

 "required": false

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 "Patient\_Middle\_Name": {

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 "required": false

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 "Patient\_Last\_Name": {

 "type": "string",

 "required": false

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 "Other\_ID": {

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 "required": false

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 "Patient\_SSN": {

 "type": "string",

 "required": false

 },

 "Medicare\_Beneficiary\_ID": {

 "type": "string",

 "required": false

 },

"New\_Medicare\_Beneficiary\_ID": {

"type": "string",

"required": false

},

 "Date\_Of\_Birth": {

 "type": "string",

 "required": false

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 "Date\_Of\_Death": {

 "type": "string",

 "required": false

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 "How\_Cause\_Was\_Determined": {

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 "required": false

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 "Other\_Method\_Of\_Determining": {

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 "Cause\_Of\_Death": {

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 "required": false

 },

 "Non\_Lung\_Cancer\_Cause": {

 "type": "string",

 "required": false

 },

 "Death\_Within\_30\_Days": {

 "type": "string",

 "required": false

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 "Patient\_Sex": {

 "type": "string",

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 "Patient\_Race": {

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 "Patient\_Ethnicity": {

 "type": "string",

 "required": false

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 "Health\_Insurance": {

 "type": "array",

 "required": false,

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 "Health\_Insurance\_Other\_Spec": {

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 "Smoking\_Status": {

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 "required": false

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 "Number\_Of\_Packs\_Year\_Smoking": {

 "type": "number",

 "required": false

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 "Number\_Of\_Years\_Since\_Quit": {

 "type": "number",

 "required": false

 },

 "Did\_Physician\_Provide\_Guidance": {

 "type": "string",

 "required": false

 },

 "Doc\_Of\_Shared\_Dec\_Making": {

 "type": "string",

 "required": false

 },

 "Patient\_Height": {

 "type": "string",

 "required": false

 },

 "Patient\_Weight": {

 "type": "string",

 "required": false

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 "Patient\_Other\_Comorbidities": {

 "type": "array",

 "required": false,

 },

 "Patient\_Other\_Comorbidities\_Spec": {

 "type": "string",

 "required": false

 },

 "COVID\_Diagnosis {

 "type": "string",

 "required": false

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 "COVID\_Diagnosis\_Date": {

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 "COVID\_Testing\_Status {

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 "COVID\_Vaccine {

 "type": "string",

 "required": false

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 "COVID\_Vaccine\_Date {

 "type": "string",

 "required": false

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 "COVID\_Vaccine\_Manufacturer {

 "type": "string",

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 "COVID\_Vaccine\_Manufacturer\_Other {

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 "required": false

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 "COVID\_Vaccination\_Site {

 "type": "string",

 "required": false

 },

 "Radiologist\_Reading\_NPI": {

 "type": "string",

 "required": false

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 "Ordering\_Practitioner\_First\_Name": {

 "type": "string",

 "required": false

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 "Ordering\_Practitioner\_Last\_Name": {

 "type": "string",

 "required": false

 },

 "Ordering\_Practitioner\_NPI": {

 "type": "string",

 "required": false

 },

 "Exam\_Date": {

 "type": "string",

 "required": false

 },

 "Rescheduled\_Exam": {

 "type": "string",

 "required": false

 },

 "Originally\_Scheduled\_Exam\_Date": {

 "type": "string",

 "required": false

 },

 "Reschedule\_Reason": {

 "type": "string",

 "required": false

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 "Signs\_Or\_Symptoms\_Of\_Lung\_Cancer": {

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 "required": false

 },

 "Indication\_Of\_Exam": {

 "type": "string",

 "required": false

 },

 "Modality": {

 "type": "string",

 "required": false

 },

 "CT\_Scanner\_Manufacturer": {

 "type": "string",

 "required": false

 },

 "CT\_Scanner\_Model": {

 "type": "string",

 "required": false

 },

 "CTDIvol": {

 "type": "string",

 "required": false

 },

 "DLP": {

 "type": "string",

 "required": false

 },

 "Tube\_Current\_Time": {

 "type": "string",

 "required": false

 },

 "Tube\_Voltage": {

 "type": "string",

 "required": false

 },

 "Scanning\_Time": {

 "type": "string",

 "required": false

 },

 "Scanning\_Volume": {

 "type": "string",

 "required": false

 },

 "Pitch": {

 "type": "string",

 "required": false

 },

 "Reconstructed\_Image\_Width": {

 "type": "string",

 "required": false

 },

 "CT\_Exam\_Result\_Lung\_RADS": {

 "type": "string",

 "required": false

 },

 "Reason\_For\_Recall": {

 "type": "string",

 "required": false

 },

 "Reason\_For\_Recall\_Spec": {

 "type": "string",

 "required": false

 },

 "Lung\_RADS\_Version": {

 "type": "string",

 "required": true

 },

 "CT\_Exam\_Result\_Modifier\_S": {

 "type": "string",

 "required": false

 },

 "What\_Were\_The\_Other\_Findings": {

 "type": "array",

 "required": false

 },

 "Other\_Abnormalities\_Spec": {

 "type": "string",

 "required": false

 },

 "Mass\_Spec": {

 "type": "string",

 "required": false

 },

 "Other\_Int\_Lung\_Disease": {

 "type": "string",

 "required": false

 },

 "Other\_Int\_Lung\_Disease\_Spec": {

 "type": "string",

 "required": false

 },

 "CT\_Exam\_Result\_Modifier\_C": {

 "type": "string",

 "required": false

 },

 "Years\_Since\_Prior\_Diagnosis": {

 "type": "number",

 "required": false

 },

 "Education\_Level": {

 "type": "string",

 "required": false

 },

 "Education\_Level\_Other\_Spec": {

 "type": "string",

 "required": false

 },

 "Radon\_Exposure": {

 "type": "string",

 "required": false

 },

 "Occupational\_Exposures": {

 "type": "array",

 "required": false

 },

 "Occupational\_Exposures\_Spec": {

 "type": "string",

 "required": false

 },

 "History\_Of\_Cancers": {

 "type": "array",

 "required": false

 },

 "Other\_Smoking\_Cancers\_Spec": {

 "type": "string",

 "required": false

 },

 "Lung\_Cancer\_In\_First\_Deg\_Rel": {

 "type": "string",

 "required": false

 },

 "Lung\_Cancer\_Other\_First\_Deg\_Rel": {

 "type": "string",

 "required": false

 },

 "COPD": {

 "type": "string",

 "required": false

 },

 "Pulmonary\_Fibrosis": {

 "type": "string",

 "required": false

 },

 "Second\_Hand\_Smoke\_Exposure": {

 "type": "string",

 "required": false

 },

 "Follow\_up": {

 "type": "array",

 "required": false,

 "properties": {

 "Follow\_Up\_Unique\_ID": {

 "type": "string",

 "required": false

 },

 "Date\_Of\_Follow\_Up": {

 "type": "string",

 "required": true

 },

 "Follow\_Up\_Diagnostic": {

 "type": "string",

 "required": true

 },

 "Follow\_Up\_Diagnostic\_Other\_Spec": {

 "type": "string",

 "required": false

 },

 "CT\_Diagnostic\_Exam\_Result\_Lung\_RADS": {

 "type": "number",

 "required": false

 },

 "CT\_Diagnostic\_Exam\_Reason\_For\_Recall": {

 "type": "number",

 "required": false

 },

 "CT\_Diagnostic\_Exam\_Reason\_For\_Recall\_Spec": {

 "type": "number",

 "required": false

 },

 "Tissue\_Diagnosis": {

 "type": "string",

 "required": false

 },

 "Tissue\_Diagnosis\_Other\_Spec": {

 "type": "string",

 "required": false

 },

 "Tissue\_Diagnosis\_Method": {

 "type": "string",

 "required": false

 },

 "Location\_From\_Sample\_Obtained": {

 "type": "array",

 "required": false,

 },

 "Location\_Other\_Spec": {

 "type": "string",

 "required": false,

 },

 "Histology": {

 "type": "string",

 "required": false

 },

 "Histology\_Non\_Small\_Cell\_LC": {

 "type": "string",

 "required": false

 },

 "Other\_Non\_Small\_Cell\_LC\_Histology\_Spec": {

 "type": "string",

 "required": false

 },

 "Histology\_Other\_Spec": {

 "type": "string",

 "required": false

 },

 "Histology\_Secondary": {

 "type": "string",

 "required": false

 },

 "Histology\_Secondary\_Non\_Small\_Cell\_LC": {

 "type": "string",

 "required": false

 },

 "Other\_Non\_Small\_Cell\_LC\_Histology\_Secondary\_Spec": {

 "type": "string",

 "required": false

 },

 "Histology\_Secondary\_Other\_Spec": {

 "type": "string",

 "required": false

 },

 "Stage\_Clinical\_Or\_Pathologic": {

 "type": "string",

 "required": false

 },

 "Overall\_Stage": {

 "type": "string",

 "required": false

 },

 "T\_Status": {

 "type": "string",

 "required": false

 },

 "N\_Status": {

 "type": "string",

 "required": false

 },

 "M\_Status": {

 "type": "string",

 "required": false

 },

 "AJCC\_Cancer\_Staging\_Edition": {

 "type": "number",

 "required": false

 },

 }

 }

 }

 }

 }

}

## LCSR JSON Mapping Specification

The *LCSR\_JSON\_Mapping\_<version>.xlsx* document describes the validation rules and format of the JSON data elements. Most of the values of the data elements are mapped to either numeric or alpha-numeric codes. The data elements that have a ‘Y’ under the “Required to submit a transaction” column are the minimum set of the data elements that you need to provide in order to create a “skeleton” exam record in the database.

Please note that although Patient\_SSN, Old Medicare\_Beneficiary\_ID, New\_Medicare\_Beneficiary\_ID and Other\_ID are “not required” you must provide at least one of them to submit the transaction successfully. To have a “completed” status on an exam record, you must submit the data elements marked as “Required” or “Conditional Required” under the “Business Rules” column.

The data elements that are marked as “Optional” under the “Business Rules” column are not required for submission, that is, a record will not be rejected if an optional field is missing. However, if you do know them, we expect you to provide them. This expectation of complete data is specified in the participation agreement signed by all participating facilities.

## NRDR Web Service Status Schema

NRDR web service transaction status schema describes the data elements and the validation statuses of a transaction, and the exams associated with it.

Parameters: transaction\_id, partner\_id and app\_id initiated by the partner.

You will use the GET request to query the error encountered during the submission process.

Note: the value of the **Error\_Msg** attribute consists of multiple error messages that occurred while validating a transaction. Each message contains the error code-message pair. Messages are separated by the ‘|’ delimiter.

For example:

L1000:Missing Transaction\_ID|L2011:Missing Transaction\_DateTime

LCSR Exam Transaction Status Schema:

{

 "name": "LCSR\_Exam\_Transaction\_Status",

 "Properties": {

 "Transaction\_ID": {

 "type": "string",

 "required": true

 },

 "Transaction\_DateTime": {

 "type": "string",

 "required": true

 },

 "Num\_of\_Exam\_Included": {

 "type": "number",

 "required": true

 },

 "Num\_of\_Exam\_In\_Error": {

 "type": "number",

 "required": true

 },

 "PartnerID": {

 "type": "string",

 "required": true

 },

 "AppID": {

 "type": "string",

 "required": true

 },

 "Facility\_ID": {

 "type": "string",

 "required": true

 },

 "Status": {

 "type": "string",

 "required": true

 },

 "Error\_Msg": {

 "type": "string",

 "required": false

 },

 "Exam\_Errors": {

 "type": "array",

 "required": true,

 "properties": {

 "Exam\_Unique\_ID”: {

 “type”: “string”,

 “required”: false

 },

 "Error\_Msg": {

 "type": "string",

 "required": true

 }

 }

 }

 }

}

### Transaction Statuses

The following transaction status is possible:

* **Enqueued** – Transaction has been placed in queue and awaiting to be loaded
* **Received** – Transaction has been received and is pending for validation
* **ValidationFail** – Nothing got loaded. Failed at exam processing
* **ValidationSuccessful** – Validation has complete, pending for loading into database
* **Loading** – Data is loading, transaction is being created
* **Posted** – The entire transaction is loaded successfully
* **PartiallySuccessful** – Some elements are loaded and some are rejected
* **Failed** – Transaction failed to be created due to an error

## NRDR Web Service Error Response Schema

NRDR transaction web service error responseschema describes detailed error information which is returned by all API responses with a status code other than 200:

{

 "name": "LCSR\_WebService\_Error",

 "Properties": {

 "error\_code": {

 "type": "string",

 "required": true

 },

 "error\_description": {

 "type": "string",

 "required": true

 }

}

# NRDR Transaction API

## Test Environment

Base URL: <https://nrdr9x.acr.org/NonPQRSapi/lcsr/transactions>

Application ID: 10007

Partner ID: to be provided

Facility ID: to be provided

## Authentication

To be able to call API you must add JWT token received from ACR SSO to the “Authorization” request header using the following format:

Bearer <jwt-token>

Responses with a status code 401 indicate errors related to the authentication. Following error codes are used to provide more detailed error:

* ‘invalid\_token’, token is invalid or expired
* ‘missing\_token’, token is not provided in the request header

## Create or Update Transaction

**POST**

POST request is used to upload a new set or update existing LSCR exams data.

To update the existing exam, the same composite key must be provided (including patient identifiers). When the existing exam record is updated, not-null existing values will not be replaced with null values from newly submitted transaction.

Please note, submissions take up to 72 hours to process and load to NRDR database.

Acceptable request representations:

* application/json

Possible responses:

* 200, returned when transaction data is uploaded and transaction is created successfully,
* 400, content-type: application/json
	+ error\_code = ‘data\_error’

Transaction data is missing or doesn’t have valid JSON representation

* 403, content-type: application/json
	+ error\_code = ‘no\_permission’

Authenticated user doesn’t have permissions to upload transaction data for a given facility

### Examples POST

Creating transaction:

Sample parameters:

Facility\_ID: "100000"

PartnerID: "10000"

AppID: "10007"

Authorization: “Bearer eyJ0eXAiOiJKV1QiLCJhbGciOiJodHRwOi8vd3d3LnczLm9yZy8yMDAwLzA5L3htbGRzaWcjcnNhLXNoYTEiLCJ4NXQiOiIzWndDNC15STBQQmNHeDAyWlNsQjdaa1NRLUUifQ.eyJpc3MiOiJodHRwczovL1NlY3VyZUF1dGgwMVZNLmFjci5vcmciLCJhdWQiOiJodHRwczovL1NlY3VyZUF1dGgwMVZNLmFjci5vcmciLCJuYmYiOjE0MjIyNzY3ODIsImV4cCI6MTQyMjM2MzE4MiwiY2xpZW50X2lkIjoiMWY1ZjM5NTI0ZjIyNGRmMDg0NTIwYTJmYWE5YTkyNzUiLCJzY29wZSI6WyJvcGVuaWQiLCJwcXJzIl0sInN1YiI6IjEwMDAwMF9udWFuY2UiLCJhbXIiOiJwYXNzd29yZCIsImF1dGhfdGltZSI6IjE0MjIyNzY3NTciLCJpZHAiOiJTZWN1cmVBdXRoNSJ9.AFsoPNtIT8N0N6w1y0OZLokdplfRM2Y8OAvquMXpkoI\_6b9ANEhXY72ubuylt6-4vdJ165aVUXPRDTF37UT9cqv21hRTpOfYYM0tV5gksUbvLzKaPFt6EWbB8ctQnHs1pxyDGSbKDM-dR6upj6x0eZ7O46Zwi8o8Zhkeu0bFZPNmLS7y96\_A9uyGBkbt69Ih0aCBNRvtabqkD3vJsWB4EIfiqJJ2RO8XPCGfSoYAnuosgH5Cm6kMNN7WiX4rgFps20MryBLtutKztcNhaj-l65gzxyrJpgmq8r9dBWiFI6nFc-rKkNr6Gdj2TH9EABloC6aO\_CQQFtgrXFLEchnSPw”

**Note**: the authentication/authorization mechanism in the LCSR Exam API adopts the ACR SSO security model which requires an authorization token after authenticated successfully. The token in the sample parameters above is an example.

function createTransaction(transactionData, token) {

    $.ajax({

        type: 'POST',

        url: "https://nrdr9x.acr.org/NonPQRSapi/lcsr/transactions",

        data: JSON.stringify(transactionData),

        dataType: "json",

        contentType:"application/json; charset=utf-8",

        headers: { "Authorization": "Bearer " + token },

        success: function (data) {

            // handle data load success

        }

    });

}

This function can be used the following way:

{

Transaction\_ID: "l-1404-5",

Transaction\_DateTime: "01/25/2021",

Num\_of\_Exam\_Included: 1,

Facility\_ID: "100000",

PartnerID: "10000",

AppID: "10007",

Previous\_Transaction\_ID: null,

LCSR\_File\_Version\_Num: "1.6",

"Exam": [{

 "Exam\_Unique\_ID": "12345",

 "Patient\_First\_Name": "FirstName",

 "Patient\_Middle\_Name": "MiddleName",

 "Patient\_Last\_Name": "LastName",

 "Other\_ID": null,

 "Patient\_SSN": "111-11-1111",

 "Medicare\_Beneficiary\_ID": null,

 "New\_Medicare\_Beneficiary\_ID": null,

 "Date\_Of\_Birth":"01/01/1900" ,

 "Date\_Of\_Death":"01/01/2010",

 "How\_Cause\_Was\_Determined": "1",

 "Other\_Method\_Of\_Determining": null,

 "Cause\_Of\_Death": "1",

 "Non\_Lung\_Cancer\_Cause": null,

 "Death\_Within\_30\_Days": "Y",

 "Patient\_Sex": "M",

 "Patient\_Race": [8],

 "Patient\_Ethnicity": "0",

 "Health\_Insurance": [1,2,3,4,6],

 "Health\_Insurance\_Other\_Spec": null,

 "Smoking\_Status": "1",

 "Number\_Of\_Packs\_Year\_Smoking": "0.1",

 "Number\_Of\_Years\_Since\_Quit": null,

 "Did\_Physician\_Provide\_Guidance": null,

 "Doc\_Of\_Shared\_Dec\_Making": null,

 "Patient\_Height": "20",

 "Patient\_Weight": "155.11",

 "Patient\_Other\_Comorbidities": "0",

 "Patient\_Other\_Comorbidities\_Spec": null,

 "COVID\_Diagnosis": "Y",

 "COVID\_Diagnosis\_Date": "01/10/2020",

 "COVID\_Testing\_Status": "1",

 "COVID\_Vaccine": "1",

 "COVID\_Vaccine\_Date": null,

 "COVID\_Vaccine\_Manufacturer": "88",

 "COVID\_Vaccine\_Manufacturer\_Other": "Other",

 "COVID\_Vaccination\_Site": null,

 "Radiologist\_Reading\_NPI": "8888888888",

 "Ordering\_Practitioner\_NPI": null,

 "Ordering\_Practitioner\_First\_Name": null,

 "Ordering\_Practitioner\_Last\_Name": null,

 "Exam\_Date": "09/27/2021",

 "Rescheduled\_Exam": "N",

 "Originally\_Scheduled\_Exam\_Date": "01/01/2020",

 "Reschedule\_Reason": "1",

 "Signs\_Or\_Symptoms\_Of\_Lung\_Cancer": "Y",

 "Indication\_Of\_Exam": null,

 "Modality": "1",

 "CT\_Scanner\_Manufacturer": "qwerty12",

 "CT\_Scanner\_Model": "eqwert30",

 "CTDIvol": "0.01",

 "DLP": "0.01",

 "Tube\_Current\_Time": "0",

 "Tube\_Voltage": "0",

 "Scanning\_Time": "0.01",

 "Scanning\_Volume": "0.01",

 "Pitch": "0",

 "Reconstructed\_Image\_Width": "0.01",

 "CT\_Exam\_Result\_Lung\_RADS": "0",

 "Reason\_For\_Recall": "I",

 "Reason\_For\_Recall\_Spec": null,

 "Lung\_RADS\_Version": 1.1,

 "CT\_Exam\_Result\_Modifier\_S": "Y",

 "What\_Were\_The\_Other\_Findings": null,

 "Other\_Abnormalities\_Spec": null,

 "Mass\_Spec": null,

 "Other\_Int\_Lung\_Disease": null,

 "Other\_Int\_Lung\_Disease\_Spec": null,

 "CT\_Exam\_Result\_Modifier\_C": null,

 "Years\_Since\_Prior\_Diagnosis": "1",

 "Education\_Level": "1",

 "Education\_Level\_Other\_Spec": null,

 "Radon\_Exposure": "Y",

 "Occupational\_Exposures": "0",

 "Occupational\_Exposures\_Spec": null,

 "History\_Of\_Cancers": "1",

 "Other\_Smoking\_Cancers\_Spec":null,

 "Lung\_Cancer\_In\_First\_Deg\_Rel": "Y",

 "Lung\_Cancer\_Other\_First\_Deg\_Rel": "Y",

 "COPD": "Y",

 "Pulmonary\_Fibrosis": "Y",

 "Second\_Hand\_Smoke\_Exposure": "Y",

 "Follow\_up": [

 {

 "Follow\_Up\_Unique\_ID": "test1",

 "Date\_Of\_Follow\_Up": "09/27/2021",

 "Follow\_Up\_Diagnostic": "4",

 "Follow\_Up\_Diagnostic\_Other\_Spec": null,

 "Tissue\_Diagnosis": 4,

 "Tissue\_Diagnosis\_Other\_Spec": null,

 "Tissue\_Diagnosis\_Method": 1,

 "Location\_From\_Sample\_Obtained": 0,

 "Location\_Other\_Spec": null,

 "Histology": 1,

 "Histology\_Non\_Small\_Cell\_LC": 1,

 "Other\_Non\_Small\_Cell\_LC\_Histology\_Spec": null,

 "Histology\_Secondary": 1,

 "Histology\_Secondary\_Non\_Small\_Cell\_LC": 1,

 "Other\_Non\_Small\_Cell\_LC\_Histology\_Secondary\_Spec": null,

 "Stage\_Clinical\_Or\_Pathologic": 1,

 "Overall\_Stage": 'IVB',

 "T\_Status": null,

 "N\_Status": null,

 "M\_Status": null,

 "AJCC\_Cancer\_Staging\_Edition": null,

 },

 {

 "Follow\_Up\_Unique\_ID": "test2",

 "Date\_Of\_Follow\_Up": "09/28/2021",

 "Follow\_Up\_Diagnostic": "4",

 "Follow\_Up\_Diagnostic\_Other\_Spec": null,

 "Tissue\_Diagnosis": 4,

 "Tissue\_Diagnosis\_Other\_Spec": null,

 "Tissue\_Diagnosis\_Method": 1,

 "Location\_From\_Sample\_Obtained": 0,

 "Location\_Other\_Spec": null,

 "Histology": 1,

 "Histology\_Non\_Small\_Cell\_LC": 1,

 "Other\_Non\_Small\_Cell\_LC\_Histology\_Spec": null,

 "Histology\_Secondary": 1,

 "Histology\_Secondary\_Non\_Small\_Cell\_LC": 1,

 "Other\_Non\_Small\_Cell\_LC\_Histology\_Secondary\_Spec": null,

 "Stage\_Clinical\_Or\_Pathologic": 1,

 "Overall\_Stage": 'Unknown',

 "T\_Status": null,

 "N\_Status": null,

 "M\_Status": null,

 "AJCC\_Cancer\_Staging\_Edition": null,

 },

 ]

 },

]

}

//Get ACR SSO Token

var token = GetAuthorizationToken();

createTransaction(transactionData, token);

## Get Transaction Status

**GET**

GET request is used to get a transaction JSON object for a single transaction.

Possible responses:

* 200, content-type: application/json

Response will contain JSON data according to NRDR web service status schema

* 400, content-type: application/json
	+ error\_code = ‘missing\_param’

Indicates a missing transaction ID parameter

* 404, content-type: application/json
	+ error\_code = ‘invalid\_param’

Indicates that transaction with a given ID doesn’t exist

### Examples GET

Getting transaction status:

For test use the following values:

https://nrdr9x.acr.org/NonPQRSapi/lcsr/transactions?id=<transaction id>

&facilityid=<facility id>&partnerid=<partner id>&appid=<app id>

Sample parameters:

 id: “26”     (transaction id)

       FacilityID: "100000"

       PartnerID: "10000"

       AppID: "10007"

**Note**: the authentication/authorization mechanism in the LCSR Exam API adopts the ACR SSO security model which requires an authorization token after authenticated successfully.

function getTransaction(transactionId, token, partnerId, appId, facilityId) {

    $.ajax({

        type: 'GET',

        url: "https://nrdr9x.acr.org/NonPQRSapi/lcsr/transactions",

        data: { "id": transactionId, "appid": appId, "partnerid":

partnerId,"facilityid": facilityId },

        headers: { "Authorization": "Bearer " + token },

        success: function (data) {

            // handle JSON with transaction data

        }

    });

}

JSON response example:
{

 "Transaction\_ID": "26",

 "Transaction\_DateTime": "2023-02-02T00:00:00",

 "Num\_of\_Exam\_Included": 1,

 "Num\_of\_Exam\_In\_Error": 0,

 "PartnerID": 10000,

 "AppID": 10007,

 "Facility\_ID": "100000",

 "Error\_Msg": "",

 "Exam\_Errors": [

 {

 "Exam\_Unique\_ID": "uniq0001",

 "Error\_Msg": "L3045:Warning. Physician NPI 0000000000 does not exist for this facility ID/registry"

 }

 ],

 "Status": "Posted"

}

# Validation & Error Messages

The Validator will validate the following:

1. JSON syntax
2. Required fields
3. Response value of the data elements based on the business rules stated in the *LCSR JSON Mapping\_<version>.xlsx*.

The table below lists the possible messages generated by the validator during the validation process for a transaction:

| **Error Code** | **Status** | **Error Message**  |
| --- | --- | --- |
| ***Transaction level*** |
| L0000 |  | Transaction is loaded successfully |
| L0001 |  | Transaction has been received and is pending for validation |
| L0002 |  | Validation has been completed, pending for loading to database |
| L0003 |  | Transaction was partially loaded. Some elements did not pass validation and were rejected. |
| L0004 |  | The entire transaction was rejected due to failure in validation |
| L0005 |  | This transaction has been replaced with another transaction |
| L1003 |  | Unable to import data submitted. Data does not match schema |
| L1004 |  | Unable to import data submitted. Data is empty or null |
| L1005 |  | Error importing data <exception message> |
| L1010 |  | User account is not authorized to submit data to LCSR |
| L1012 |  | Partner <Partner ID> is not authorized to submit data for facility <facility ID> and/or application <application> |
| L2001 |  | Missing Transaction\_ID |
| L2002 |  | Invalid Transaction\_ID. Maximum length is 50 characters |
| L2011 |  | Missing Transaction\_DateTime |
| L2012 |  | Transaction\_DateTime is not a valid date time format |
| L2013 |  | Transaction\_DateTime is a future date |
| L2014 |  | Transaction\_ID must be unique. <transaction\_id> has been submitted in a previous transaction |
| L2021 |  | Missing Num\_of\_Exam\_Included |
| L2022 |  | Num\_of\_Exam\_Included is not an integer |
| L2031 |  | Missing PartnerID |
| L2032 |  | Invalid PartnerID |
| L2041 |  | Missing AppID |
| L2042  |  | Invalid AppID |
| L2051 |  | Missing Facility\_ID |
| L2052 |  | Invalid Facility\_ID |
| L2053 |  | Facility has not registered for LCSR. Submission aborted |
| L2054 |  | Facility has not been accepted to LCSR. Submission aborted |
| L2057 |  | Invalid Facility\_ID. User has no access to the registry of the facility. |
| L2062 |  | Invalid Prev\_Transaction\_ID. No transactions with Transaction ID <prev\_transaction\_id> was received till now |
| L2071 |  | Missing exam object information |
| L2072 |  | Data in tag Num\_of\_Exams\_Included <num\_of\_exams\_included> does not match with exam received <total # exam received> |
| L2081 |  | Some of the exams did not pass validation and were rejected |
| L2091 |  | Transaction has unknown element(s): <unknown\_elements\_list> |
| L2092 |  | Forbidden symbol ‘|’ in field(s): <fields\_names> |
| ***Exam level*** |  |
| L3001 |  | Invalid. Missing <field\_name> |
| L3002 |  | Invalid. <field\_name> is not applicable |
| L3003 |  | Invalid. Record - <number of fields> entries expected. <actual number of fields> read. |
| L3007 |  | Invalid <field\_name> format. |
| L3009 |  | Invalid <field\_name>. Possible values between <min> and <max> |
| L3010 |  | Invalid <field\_name>. Values should be unique within array |
| L3011 |  | Invalid <field\_name>. Maximum array length is <array\_max\_length> elements |
| L3012 |  | Warning. <field\_name> is required for completing an exam record |
| L3031 |  | Invalid Version Number |
| L3032 |  | Version Number is not supported |
| L3042 |  | Invalid Radiologist\_Reading\_NPI |
| L3043 |  | Invalid Ordering\_Practitioner\_NPI |
| L3045 |  | Warning. Physician NPI does not exist for this facility ID/registry |
| L3062 |  | Invalid <field\_name> format. Valid format is mm/dd/yyyy |
| L3110 |  | Invalid <field\_name>. Maximum character length is <field\_max\_length> character(s) |
| L3111 |  | Invalid <field\_name>. Field must contain only the characters 0-9 |
| L3112 |  | Invalid <field\_name>. Field must contain only the characters 0-9. Field may contain a decimal point. |
| L3113 |  | Invalid <field\_name>. Field must be number with up to <possible\_number > digits after the decimal point |
| L3116 |  | Invalid <field\_name>. Values <possible\_values> expected |
| L3117 |  | Invalid <field\_name>. Month must be in a 2 digit mm format |
| L3118 |  | Invalid <field\_name>. Month must be between 1 and 12 |
| L3119 |  | Invalid <field\_name>. Month must be a numeric value |
| L3120 |  | Invalid <field\_name>. Day must be in a 2 digit dd format |
| L3121 |  | Invalid <field\_name>. Day must be between 1 and 31 |
| L3122 |  | Invalid <field\_name>. Day must be a numeric value |
| L3123 |  | Invalid <field\_name>. Year must be in a 4 digit yyyy format |
| L3124 |  | Invalid <field\_name>. Year must be between <date of corresponding validation> and <current\_year> |
| L3125 |  | Invalid <field\_name>. Year must be a numeric value |
| L3126 |  | Invalid <field\_name>. Date must be before or on present date |
| L3128 |  | Invalid <field\_name>. Dates in a leap year in the month of February must have day values between 1 and 29 |
| L3129 |  | Invalid <field\_name>. Dates in the month of February must have day values between 1 and 28 |
| L3130 |  | Invalid <field\_name>. Dates in the months of April, June, September, and November must have day values between 1 and 30 |
| L3131 |  | Invalid. More than one patient found with the same set of provided identifiers (SSN/Old MBID/New MBID/Other ID). Existing NRDR patient ID – conflicting patient identifier: <NRDR Patient ID1> - <ID1>, <ID2>; <NRDR Patient ID2> - <ID1>, <ID2>…<NRDR Patient IDn>-<ID1>, <ID2>…<IDn> |
| L3132 |  | Invalid. Cannot create/update patient. Patient identifier already in use for a different existing patient. Existing NRDR patient ID – conflicting patient identifier: <NRDR Patient ID1> - <ID1>, <ID2>; <NRDR Patient ID2> - <ID1>, <ID2>…<NRDR Patient IDn>-<ID1>, <ID2>…<IDn> |
| L3141 |  | Invalid. At least one patient identifier must be provided: SSN, Other ID, Old Medicare Beneficiary ID |
| L3142 |  | Invalid. At least one patient identifier must be provided: SSN, Other ID, Old Medicare Beneficiary ID or New Medicare Beneficiary ID |
| L3151 |  | Warning. Patient\_SSN is required when Refused\_To\_Answer\_SSN = N |
| L3152 |  | Invalid. Patient\_SSN is not applicable when Refused\_To\_Answer\_SSN <> N |
| L3153 |  | Invalid Patient\_SSN format. Valid format is nnn-nn-nnnn |
| L3154 |  | Invalid Patient\_SSN. SSN cannot be numeric sequence of one digit |
| L3161 |  | Warning. Medicare\_Beneficiary\_ID is required when Refused\_Medicare\_ID = N |
| L3162 |  | Invalid. Medicare\_Beneficiary\_ID is not applicable when Refused\_Medicare\_ID <> N |
| L3163 |  | Warning. New\_Medicare\_Beneficiary\_ID is required when Refused\_New\_Medicare\_ID = N |
| L3164 |  | Invalid. New\_Medicare\_Beneficiary\_ID is not applicable when Refused\_New\_Medicare\_ID <> N |
| L3165 |  | Invalid New\_Medicare\_Beneficiary\_ID format. Valid format is xxxx-xxx-xxxx or xxxxxxxxxxx. Must be alphanumeric in the predefined format. |
| L3166 |  | Invalid. Different New Medicare Beneficiary ID values provided in Old\_Medicare\_Beneficiary\_ID and New\_Medicare\_Beneficiary\_ID fields. |
| L3171 |  | Invalid Date\_Of\_Death. Date\_Of\_Death must be after or on Date\_Of\_Birth |
| L3172 |  | Invalid. <field\_name>only applicable if Date of Death is provided |
| L3173 |  | Warning. <field\_name> is required when Date of Death is provided |
| L3181 |  | Invalid. Other\_Method\_Of\_Determining only applicable if Other is selected for How\_Cause\_Was\_Determined |
| L3191 |  | Invalid. Non\_Lung\_Cancer\_Cause only applicable if Non-lung cancer cause is selected for Cause\_Of\_Death |
| L3201 |  | Invalid Patient\_Race. If 'Not Reported' or 'Unknown' is selected then any other options cannot be selected |
| L3205 |  | Warning. Health\_Insurance\_Other\_Spec is required, if Health\_Insurance is ‘Other, specify’ |
| L3206 |  | Invalid. Health\_Insurance\_Other\_Spec is only applicable, if Health Insurance is ‘Other, specify’. Otherwise, should be blank |
| L3207 |  | Invalid. Health\_Insurance invalid options selected. If 'Unknown' option selected, no other options can be selected |
| L3211 |  | Warning. Number\_Of\_Packs\_Year\_Smoking is required when Smoking status is ‘Current smoker’, ‘Former smoker’ or ’Smoker, current status unknown’ |
| L3212 |  | Invalid. Number\_Of\_Packs\_Year\_Smoking only applicable if Smoking status” is ‘Current smoker’, ‘Former smoker’ or ‘Smoker, current status unknown’ |
| L3221 |  | Warning. Number\_Of\_Years\_Since\_Quit is required when Smoking status is ‘Former smoker’ |
| L3222 |  | Invalid. Number\_Of\_Years\_Since\_Quit only applicable if Smoking status is ‘Former smoker’ |
| L3231 |  | Invalid. Patient\_Other\_Comorbidities\_Spec only applicable if Patient\_Other\_Comorbidities has ‘Other’ |
| L3232 |  | Warning. Patient\_Other\_Comorbidities\_Spec is required for completing an exam record (Exam stage) when Patient\_Other\_Comorbidities is ‘Other’ |
| L3235 |  | Warning: COVID\_Diagnosis\_Date is required if COVID\_Diagnosis is ‘Yes’ |
| L3236 |  | Warning: COVID\_Testing\_Status is required if COVID\_Diagnosis is ‘Yes’ |
| L3241 | Obsolete | Invalid. Cancer\_Related\_History\_Other\_Cancer\_Spec only applicable if Cancer\_Related\_History has ‘Other cancer’ |
| L3242 | Obsolete | Warning. Cancer\_Related\_History\_Other\_Cancer\_Spec is required for completing an exam record (Exam stage) when Cancer\_Related\_History is ‘Other cancer’ |
| L3243 | Obsolete | Invalid. Cancer\_Related\_History\_Other\_Spec only applicable if Cancer\_Related\_History has ‘Other’ |
| L3244 | Obsolete | Warning. Cancer\_Related\_History\_Other\_Spec is required for completing an exam record (Exam stage) when Cancer\_Related\_History is ‘Other’ |
| L3251 |  | Warning. Indication\_Of\_Exam is required when Signs or symptoms of lung cancer is ‘No’ |
| L3252 |  | Invalid. Indication\_Of\_Exam only applicable if Signs or symptoms of lung cancer is ‘No’ |
| L3261 |  | Warning. Reason\_For\_Recall is required when Lung-RADS category = 0 |
| L3262 |  | Invalid. Reason\_For\_Recall only applicable if Lung-RADS category = 0 |
| L3266 |  | Warning. Reason\_For\_Recall\_Spec is required for completing an exam record (Exam stage) when Reason\_For\_Recall is 'UC' |
| L3267 |  | Invalid. Reason\_For\_Recall\_Spec only applicable if Reason\_For\_Recall is 'UC' |
| L3270 |  | Warning. CT\_Exam\_Result\_Modifier\_C is required for completing an exam record (Exam stage) when Lung\_RADS\_Version is '1.0' |
| L3271 |  | Invalid. What\_Were\_The\_Other\_Findings only applicable if Other clinically significant is “Yes” |
| L3275 |  | Invalid. What\_Were\_The\_Other\_Findings. If option '7 - No clinically significant or potentially significant abnormalities' or '9 - 'Unknown'' is selected, then no other options can be selected |
| L3276 |  | Invalid. Years\_Since\_Prior\_Diagnosis only applicable if CT\_Exam\_Result\_Modifier\_C is “Yes” or undefined |
| L3278 |  | Invalid. Other\_Abnormalities\_Spec is required, if What\_Were\_The\_Other\_Findings is 'Other clinically significant abnormalities, specify' |
| L3281 |  | Invalid. Mass\_Spec only applicable if Other findings is “Mass” |
| L3282 |  | Warning. Mass\_Spec is required for completing an exam record (Exam stage) when Other findings is ‘Mass’ |
| L3291 |  | Invalid. Other\_Int\_Lung\_Disease only applicable if Other findings is ‘Other interstitial lung disease’ |
| L3292 |  | Invalid. Other\_Int\_Lung\_Disease\_Spec only applicable if Other interstitial lung disease is ‘Other’ |
| L3293 |  | Warning. Other\_Int\_Lung\_Disease\_Spec is required for completing an exam record (Exam stage) when Other interstitial lung disease is ‘Other’ |
| L3300 |  | Invalid. <field\_name> is required when Date\_Of\_Follow\_Up is provided |
| L3301 |  | Warning. Follow\_Up\_Diagnostic\_Other\_Spec is required for completing an exam record (Exam stage) when Follow\_Up\_Diagnostic is ‘Other’ |
| L3302 |  | Invalid. Follow\_Up\_Diagnostic\_Other\_Spec only applicable if Follow\_Up\_Diagnostic is ‘Other’ |
| L3311 |  | Warning. <field\_name> is required when Follow\_Up\_Diagnostic is ‘Bronchoscopy’ or ‘Non-surgical biopsy’ or ‘Resection’ |
| L3312 |  | Invalid. <field\_name> only applicable if Follow\_Up\_Diagnostic is ‘Bronchoscopy’ or ‘Non-surgical biopsy’ or ‘Resection’ or ‘Other, specify’ |
| L3320 |  | Warning. Location\_Other\_Spec is required for completing an exam record (Exam stage) when Location from which sample was obtained is 'Other' |
| L3321 |  | Invalid. Location\_Other\_Spec only applicable if Location from which sample was obtained is “Other” |
| L3325 |  | Warning. <field\_name> is required when Follow\_Up\_Diagnostic is 'Low dose chest CT', 'Routine chest CT' or 'PET/CT' |
| L3326 |  | Invalid. <field\_name> only applicable if Follow\_Up\_Diagnostic is 'Low dose chest CT', 'Routine chest CT', 'PET/CT' or 'Other, specify ' |
| L3330 |  | Warning. {0} is required when Tissue/cytology diagnosis is provided |
| L3331 |  | Warning. <field\_name> is required when Tissue/cytology diagnosis is ‘Malignant - invasive lung cancer’, ‘Malignant - Minimally invasive lung cancer’, ‘Malignant - adenocarcinoma in situ’ or ‘Malignant – carcinoid’, 'Malignant - not adenocarcinoma, lung cancer, non invasive' or Malignant - not adenocarcinoma, lung cancer, invasive status unknown'. |
| L3332 |  | Invalid. <field\_name> should be blank if Tissue/cytology diagnosis is ‘Benign’, 'Premalignancy - atypical adenomatous hyperplasia’, 'Non-diagnostic', 'Clinical - without histology', 'Other, specify' or 'Unknown'. |
| L3333 |  | Invalid. <field\_name> only applicable if Tissue/cytology diagnosis is provided |
| L3336 |  | Invalid. If “Tissue Diagnosis = “Malignant – Non-lung cancer”, then "Histology of primary or dominant cell type" must be 'Unknown' or null. |
| L3341 |  | Warning. Histology\_Non\_Small\_Cell\_LC is required when Histology is ‘Non-small cell lung cancer’ |
| L3342 |  | Invalid. Histology\_Non\_Small\_Cell\_LC only applicable if Histology is ‘Non-small cell lung cancer’ |
| L3346 |  | Invalid. If “Tissue Diagnosis = “Malignant - not adenocarcinoma, lung cancer, non invasive' or ‘Malignant - not adenocarcinoma, lung cancer, invasive status unknown', then ‘Histology of primary or dominant cell type - Non-small cell lung cancer’ cannot be ‘Invasive adenocarcinoma’. |
| L3351 |  | Warning. Other\_Non\_Small\_Cell\_LC\_Histology\_Spec is required when Histology – Non-small cell lung cancer is ‘Other’ |
| L3352 |  | Invalid. Other\_Non\_Small\_Cell\_LC\_Histology\_Spec only applicable if ‘Histology- Non-small cell lung cancer‘ is ‘Other’ |
| L3345 |  | Invalid. Histology\_Secondary is only applicable if Histology of primary or dominant cell type is ‘Non-small cell lung cancer’, ‘High grade neuroendocrine tumor (small cell lung cancer)’, ‘Low grade neuroendocrine tumor (carcinoid)’, ‘Intermediate grade neuroendocrine tumor (Atypical carcinoid)’ or ‘Other, specify’ |
| L3343 |  | Warning. Histology\_Secondary\_Non\_Small\_Cell\_LC is required when Histology\_Secondary is ‘Non-small cell lung cancer’ |
| L3344 |  | Invalid. Histology\_Secondary\_Non\_Small\_Cell\_LC only applicable if Histology\_Secondary is ‘Non-small cell lung cancer’ |
| L3353 |  | Warning. Other\_Non\_Small\_Cell\_LC\_Histology\_Secondary\_Spec is required when Histology of secondary cell type – Non-small cell lung cancer is ‘Other’ |
| L3354 |  | Invalid. Other\_Non\_Small\_Cell\_LC\_Histology\_Spec only applicable if ‘Histology of secondary cell type – Non-small cell lung cancer’ is ‘Other’ |
| L3361 |  | Invalid. Education\_Level\_Other\_Spec only applicable if Education level is ‘Other’ |
| L3362 |  | Warning. Education\_Level\_Other\_Spec is required for completing an exam record (Exam stage) when Education level is ‘Other’ |
| L3367 |  | Invalid. Occupational\_Exposures\_Other\_Spec only applicable if Occupational\_Exposures is ‘Other’ |
| L3368 |  | Warning. Occupational\_Exposures\_Other\_Spec is required for completing an exam record (Exam stage) when Occupational\_Exposures is ‘Other’ |
| L3369 |  | Invalid. If ‘None’ or ‘Unknown’ selected for Occupational\_Exposures, other options cannot be selected. |
| L3371 |  | Invalid. Other\_Smoking\_Cancers\_Spec only applicable if history of cancers is “Other” |
| L3372 |  | Warning. Other\_Smoking\_Cancers\_Spec is required for completing an exam record (Exam stage) when History of cancers is ‘Other’ |
| L3373 |  | Invalid. If ’99 – No history of cancers associated with an increased risk of lung cancer’ or ’88 – Unknown whether the patient has a history of cancers associated with an increased risk of lung cancer’ is selected for History\_Of\_Cancers, then other options cannot be selected. |
| L3381 |  | Invalid. Patient date of birth must be less than current date |
| L3391 |  | Invalid. Date of exam must be later than birth date |
| L3395 |  | Warning. Originally Scheduled Exam Date must be before current Date of Exam |
| L3401 |  | Invalid. Date of Follow-up must be equal to or greater than the Exam Date |
| L3411 |  | Warning. AJCC\_Cancer\_Staging\_Manual\_Edition is required for completing an exam record (Exam stage) when at least one of the following fields is populated: Overall\_Stage, T\_Status, M\_Status, N\_Status |
| L3412 |  | Invalid. AJCC\_Cancer\_Staging\_Manual\_Edition only applicable if at least one of the following fields is populated: Overall\_Stage, T\_Status, M\_Status, N\_Status |
| L3421 |  | Invalid. Overall stage is only applicable if Tissue/cytology diagnosis is “Malignant”, “Non-diagnostic” or “Clinical – without histology”, or Follow-up diagnostic is “PET/CT” |
| L3422 |  | Invalid. Stage – Clinical or pathological? is only applicable if Tissue/cytology diagnosis is “Malignant” or “Non-diagnostic” or “Clinical – without histology”, or Follow-up diagnostic is “PET/CT” |
| L3423 |  | Warning. Tissue/cytology diagnosis, other specify is required, if Tissue/cytology diagnosis is 'Other, specify' |
| L3425 |  | Invalid. If Tissue/cytology diagnosis is “Clinical – without histology”, then “Stage – Clinical or pathological?” must = 1 or be blank |
| L3431 |  | Invalid. {0} only applicable if Tissue/cytology diagnosis is populated or Follow-up diagnostic is “PET/CT” |
| L3440 |  | Warning. {0} required if Exam\_Date – Date\_Of\_Birth >80 or <50; or Smoking\_Status is “Never Smoker” or “Unknown if ever smoked”; or Number\_Of\_Packs\_Year\_Smoking is null or <20 or >=999; or Number\_Of\_Years\_Since\_Quit >15 |
| L3450 |  | Invalid. Covid Vaccine Date is applicable when Covid Vaccine is ‘Yes’. Otherwise should be blank |
| L3451 |  | Invalid. COVID Vaccine Manufacturer is only applicable when COVID Vaccine is ‘Yes’. Otherwise should be blank |
| L3452 |  | Warning. COVID Vaccine Manufacturer is required, if COVID Vaccine is ‘Yes’ |
| L3453 |  | Invalid. COVID Vaccine Manufacturer Other is only applicable when COVID Vaccine Manufacturer is ‘Other’. Otherwise should be blank |
| L3454 |  | Warning. COVID Vaccine Manufacturer Other is required, if COVID Vaccine Manufacturer is ‘Other’ |
| L3455 |  | Invalid. COVID Vaccination Site is only applicable when COVID Vaccine is ‘Yes. Otherwise, should be blank |
| L3456 |  | Warning. COVID Vaccination Site is required, if COVID Vaccine is ‘Yes’ |