



# EDSM API Integration Guide

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# Document Control

## Version History

| Version | Date       | Summary of Revisions  |
|---------|------------|---|
| 1.0     | 4/11/2022  | New document.   |
| 1.1     | 7/27/2022  | Section 5.2 updates and add EDSM credential notifications email to sample project plan. |
| 1.2     | 8/10/2022  | Updates for vaccinations  |
| 2.0     | 1/19/2023  | Updated to incorporate Self-Service Onboarding steps                                    |
| 2.1     | 2/27/2023  | Updated to incorporate additional information about file uploads                        |
| 2.2     | 12/06/2023 | Updated to document new endpoint to manage feedback API key.                            |

## 1.0 List of Abbreviations

| Abbreviation | Meaning   |
|--------------|---|
| ADO          | Application Development Organization                            |
| API          | Application Programming Interface                               |
| EDI          | Electronic Data Interchange                                     |
| EDSM         | EQRS Data Submission Modernization                              |
| EQRS         | End-Stage Renal Disease Quality Reporting System                |
| HTTP/ HTTPS  | Hypertext Transfer Protocol/ Hypertext Transfer Protocol Secure |
| JSON         | JavaScript Object Notation                                      |
| MFT          | Managed File Transfer   |
| PROD         | Production (environment)  |
| REST         | Representational State Transfer                                 |
| URL          | Universal Resource Locator                                      |
| XML          | Extensible Markup Language                                      |

## 2.0 Purpose of this document

This integration guide contains detailed descriptions and instructions that explain how to effectively use and integrate with the EQRS Data Submission Modernization (EDSM) client API. The EDSM application programming interface (API) has been provided by the Centers for Medicare and Medicaid Services (CMS) to allow entities of any size to electronically transmit patient and facility data directly to the End-Stage Renal Disease Quality Reporting System (EQRS). The aim of this document is to provide large dialysis organizations (described herein as Electronic Data Interchange (EDI) submitters) and their teams helpful information to support a successful onboarding, testing, go-live, and ongoing maintenance experience for EQRS submissions via EDSM. The intended audience includes technical experts and their associates, as well as other subject matter experts working on behalf of a dialysis organization aspiring to onboard or to continue their utilization of the EDSM API.

### 3.0 Getting Started

Upon making the decision to submit data to EDSM, dialysis organizations should submit an access request in EQRS for the Facility Batch Submitter role. Once this role is provisioned an additional tab labeled EDSM API will become available in the left navigation of the EQRS web application for the user. Click the EDSM API tab to access the self-service onboarding pathway provided in EQRS and then fill out and submit an onboarding request to start the process. CMS will review the request for approval. When the request is approved applicants will receive an email notification with next steps. Please refer to the [project plan](#) available in the appendices for an ordered list of key milestones, actors and estimated durations for the onboarding project. Use the chart below to gather information needed to submit an onboarding request.

For any questions during the onboarding and testing phases of the project please email [egrssupport@cms.hhs.gov](mailto:egrssupport@cms.hhs.gov).

### 3.1 Required Information

**Note: Note:** The table below represents information an organization will need to know and may be asked to provide during the self-service onboarding process.

| Required Information   | Notes:   |
|--|--|
| Legal Name of Organization   | Will be populated based on user information related to the EQRS user profile during self-service onboarding  |
| All of the following file types are able to be submitted via EDSM.<br><br>Click to view a definition for each. | <a href="#">Patient/Admission - Demographics and/or admissions data</a>  |
|  | <a href="#">Clinical - Clinical values for a specific admission</a>  |
|  | <a href="#">Attestation - To attest that 30 or fewer ICH CAHPS assessment-eligible patients were treated at a given facility during the performance year</a> |
|  | <a href="#">Form 2728 - Medical evidence report</a>  |
|  | <a href="#">Form 2746 - Death notification form</a>  |
|  | <a href="#">Patient Reporting - Assessment or screening for depression</a>   |
|  | <a href="#">Vaccination Reporting - Patient Vaccinations</a>   |
| File formats accepted by   | Extensible markup language (XML)   |

|   |  |
|---|--|
| EDSM are XML or JSON.   | Javascript object notation (JSON)  |
| Please be prepared to indicate which <a href="#">feedback mechanism</a> will be utilized.   | Pull Feedback Mechanism  |
|   | Push Feedback Mechanism  |
| If the push feedback mechanism is selected, an API key will be required.  | API Key (push feedback only)   |
| Please be prepared to provide a name email address and other contact info for the person(s) responsible for responding to notifications and inquiries for items on the right. | Primary contact  |
|   | Technical (software engineer) contact  |
|   | API Notifications Email (shared email for expiring credentials)                        |
|   | Other information or contacts the organization may wish to include in the notes field. |

### 3.2 Technical Requirements needed for the integration

- A client-side API capable of uploading patient data files in XML or JSON format that is built or modified to meet the specifications provided in this integration guide.



## 4.0 EDSM Client API Overview

The EDSM file upload API is a set of representational state transfer (REST) endpoints that allows EDI submitters to submit batch records to EQRS. The file upload API consists of four components: upload, status check, feedback, and authorization. The domains for these endpoints will be communicated to onboarding EDI submitters via MFT once the onboarding organization has built out their integration and is ready to test against a live environment. The paths for these endpoints can be viewed in the table below. A [diagram](#) of the information flow for the EDSM file upload API can be viewed in section [4.1](#).

| Component name | Description   | Endpoint path   |
|----------------|---|---|
| Authorization  | Generates an access token that must be included as a header on requests to the other endpoints. | <code>/edsmauth/v1/authorize</code>                                 |
| Upload         | Uploads a file to EDSM for processing.  | <code>/edsm/v1/upload</code>  |
| Status Check   | Queries the processing status of an uploaded file.  | Returned in the upload response as <code>callback_status_url</code> |
| Feedback       | Returns the feedback information for a fully processed file.                                    | Returned in the upload response as <code>callback_url</code>        |

The file upload component allows files to be submitted to EDSM for processing. This component accepts files in either XML or JSON format. The actual file is sent via the request body in a request to the upload endpoint. The uploaded file will be validated against the schema for the particular file type and will be rejected if it does not match. Note that this validation is separate from the record content-level validation performed during processing.

The status check component allows for the processing status of a file to be queried. This is useful as processing may take some time, particularly if a file contains many records or if many files are submitted in a small time frame.

The feedback component returns the result of processing the records in the file, and in particular returns any warnings or errors generated for each record. The feedback will be in the same format (XML or JSON) as the submitted file. The feedback component can operate in "pull" or "push" mode. In "pull" mode a callback URL to download the feedback file will be provided in the file upload response. In "push" mode the feedback will be pushed to an EDI submitter-provided endpoint. The choice of receiving feedback via the "pull" or "push" mechanism will be made by the EDI submitter during the onboarding process.

Finally the authorization component generates the authorization needed to interact with the endpoints for the previous three components. This component will return an authorization token that must be included as a header in requests to the other file upload API endpoints.

## 4.1 File Upload API Information Flow Diagram

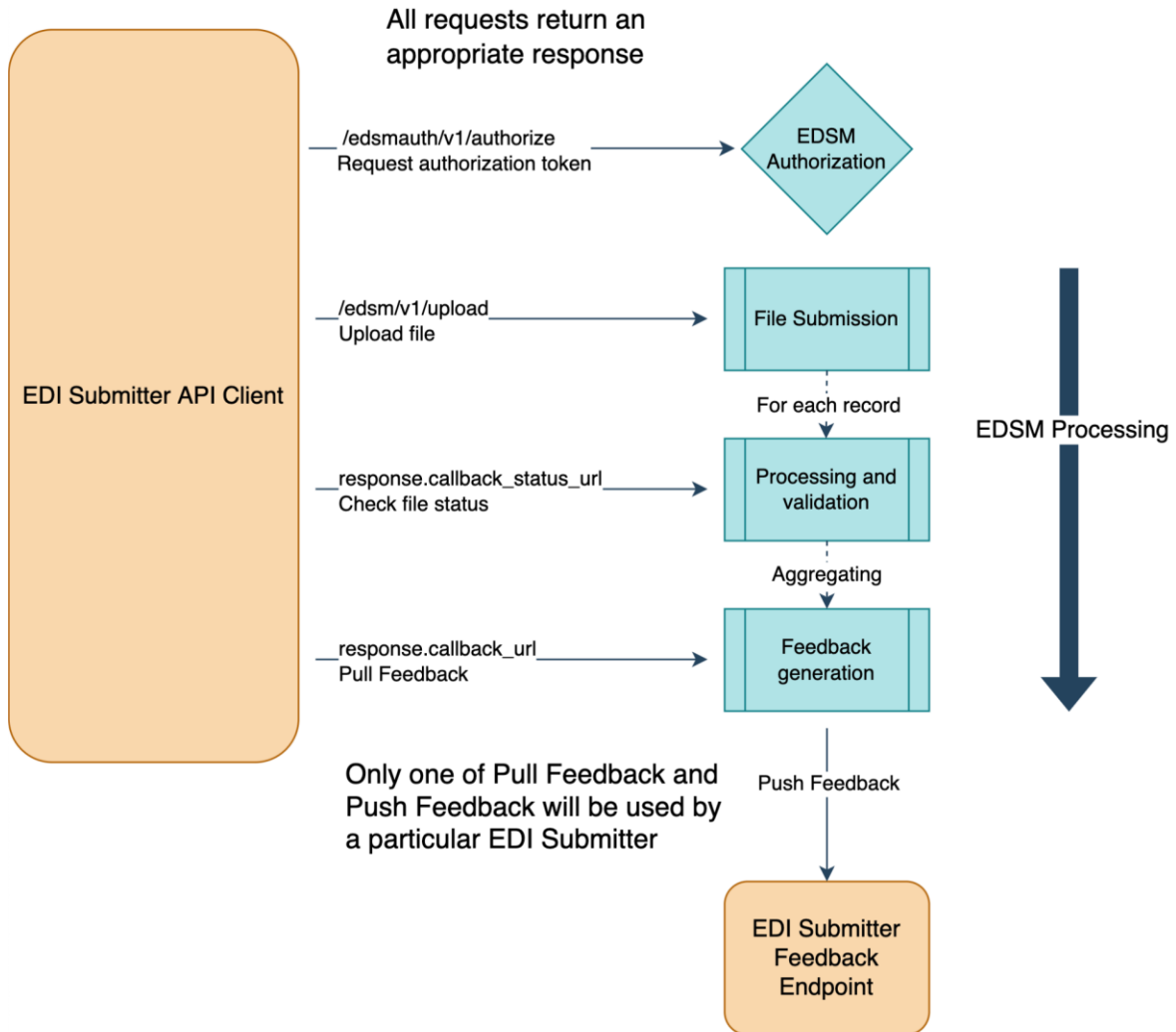


Figure 1: EDSM File Upload API Information Flow

## 5.0 Working With Files and Functions

The File Upload API consists of 4 components:

- The Authorization component
- The file upload component
- The status check component
- The feedback component.

The following constraints apply to this interface:

- Files may be uploaded with sizes up to 3 megabytes (MB)
- Files must be provided as a .xml file or .json file
- The API does not allow .zip files
- Only one file may be uploaded at a time. If multiple files need to be uploaded, then multiple invocations of the API are allowed.
- Feedback files are available to download for up to 30 days.

Compatibility:

- Requests are compatible irrespective of the order in which the query parameters appear.
- Responses are compatible irrespective of the order in which the properties appear.

### 5.1 Authorization – /edsmauth/v1/authorize

This component generates the relevant authorization token needed for the other REST endpoints. Note that the accessToken in the response body will be used as the authorization header in every other endpoint.

- Required fields - these fields are passed in through the request body
  - clientId
  - clientSecret
- Hypertext transfer protocol (HTTP) method: Post
- Sample request
  - Headers
    - None
  - Body:

```
{
  "clientId" : "test12345",
  "clientSecret" : "12345"
}
```
- Sample response
  - Body

```
{
  "accessToken" : "sampleAccessToken",
  "expires_in": 3600,
  "token_type": "Bearer"
}
```

The client secret does expire every 90 days, but users have a way to renew the authorization before the credentials completely expire. An email will be sent to the account associated with the submitting organization's profile before the credentials expire. If the credentials completely expire, a ticket will need to be opened with the help desk.

To renew the secret key, use this endpoint: `/batch-auth/v1/renew-client`

- HTTP Method: Post
- Required header
  - Authorization

## 5.2 File Upload – `/edsm/v1/upload`

This component handles the uploading of the relevant file type through the EDSM interface. This call only accepts upload requests in multipart/form data. A 200 HTTP Status will be returned as long as no schema validation error is returned. Schema level validations only cover checks for data that is quantifiably invalid (such as entering dates like March 41, or entering a value of 15 on a value that only accepts 1-10). Business logic validations will be returned to the user when called from the feedback service.

This endpoint accepts files submitted either in XML or JSON formats. The file will be included as part of the request body.

- HTTP Method: Post
- HTTP headers
  - X-file-name
  - Authorization
- Requires the actual file to be sent via the request body (see below for examples).
  - Body name: file
    - **\*IMPORTANT: Do not send file contents as a stream, attach the file itself as part of the request body.**
- Request parameters
  - Authorization – access token – required
  - x-file-name – file name to be uploaded – required
  - x-correlationid – request correlation id - optional
  - x-feedback-url – response URL to send feedback file – optional
  - File – file to upload - required
- Sample response body
 

```
{
  "errors" : [],
  "success" : true,
  "file_name" : "fileName.xml",
  "last_modified" : "2022-02-04 19:25:32",
  "callback_status_url" : "/v1/upload_status/fileName.xml",
  "callback_url" : "~~~~~/fileName.xml"
}
```

## 5.3 File Process Status Check – /edsm/v1/upload\_status

The File Process Status Check is an intermediary step that allows the user to query whether a specific file has completed processing.

- Requires the following HTTP headers
  - Authorization
- HTTP method: GET
- Response:

```
{  
  "errors": [ ],  
  "file_name": "fileName.xml",  
  "status": "COMPLETE"  
}
```

## 5.4 Feedback File – /edsm/v1/download

The feedback file endpoint returns the results of the business process validation of the file submitted via the file upload API, and whether the result was an error or warning.

A feedback file will generally return a 200 HTTP status code, even if numerous validation errors are returned. A few exceptions do exist and will be noted with the respective file upload types.

There are two ways to have the feedback information returned. Either through a server side push, or through a more traditional pull. In the “pull” version, the caller will make a call to the feedback endpoint using the `callback_url` parameter (including the filename portion) as the path.

In the push mechanism, an API key will need to be provided to the EQRS ADO so this API key can be registered and then the feedback file can automatically be sent after the file processing has completed.

- Requires the following HTTP headers
  - Authorization
- HTTP Method : Get
- Responses for this endpoint for completed files will generally mirror the structure of the input file. See section 7.0 for examples of each file type.
- File not available error response – seen when the file processing has not completed.
- Request parameters
  - Authorization = access token – required
  - x-file-name – name of the feedback file – required
  - x-correlationid – custom attribute for EDIs to uniquely identify the batch
  - file – optional

```
{
  "errors": [
    {
      "message": "Feedback file is not available yet.",
      "code": "EQRS-99007"
    }
  ],
  "success": "false",
  "file_name": "fileName.xml"
}
```

## 5.5 Feedback Credentials -- edsm/v1/feedback\_api\_key

Users who have EDSM push their feedback files will need to maintain an API key with the EQRS ADO. This endpoint is used to perform that maintenance. The endpoint is defined as follows:

- Request headers
  - Authorization = access token
    - Do not prefix the word “Bearer” or any other value before the access token.
- HTTP Method: POST
- Request payload
  - api\_key = new value for the api key

Sample request:

```
{
  "api_key": "some-secure-value"
}
```

Sample response:

```
{
  "success": true,
}
```

After a call to this API succeeds, all subsequent feedback pushes will use the new API key. Users who retrieve their feedback files using the pull mechanism described in 5.4 can ignore this section.

## 5.6 Notification of expiring Client Credentials

As mentioned above, the credentials provided will be valid for up to 90 days and need to be reset before they expire. Multiple notifications will be sent out 7, 5, and 3 days in advance of expiration. A valid email address needs to be provided and confirmed before anyone can receive the email.

## 5.7 Renewing Credentials

You can use the API below to renew your client credentials before the 90 day expiration. Once the client credentials expire, it cannot be renewed anymore and a new one would have to be requested by opening an EQRS helpdesk ticket.

### Paths

| POST /edsmauth/v1/renew-client |              |        |                |          |
|--------------------------------|--------------|--------|----------------|----------|
| <b>REQUEST PARAMETERS</b>      |              |        |                |          |
| Name                           | Description  | Type   | Data Type      | Required |
| Authorization                  | Access Token | Header | JSON Web Token | Yes      |

**cURL Syntax:**

```
curl -i -X POST -H "Authorization: {Access Token}" -H "Content-Type: application/json" https://<BATCH-AUTH-HOST>/edsmauth/v1/renew-client
```

**EXAMPLE**

**Request:**

```
curl -i -X POST -H "Authorization: eyJraWQiOiJPNForWW8wOXh6R2tnakQ3bk1cL0NXVmFKZVB3b3c2UUV5M3BBZ3dzeHorND0iLCJhbGciOiJSUzI1NiJ9.eyJzdWIiOiI3N2E1a3JqcGlrZG1zOG1lazdsZjhpY2wiLCJ0b2t1b191c2UiOiJhY2Nlc3MiLCJzY29wZSI6ImVkc21cL3YxIGVkc20tYXV0aFwvdjEiLCJhdXRoX3RpbWUiOiJlOTE2NDYMDQsImIzcyI6Imh0dHBzOlwvXC9jb2duaXRvLWlkcc51cy1lYXN0LEUyYW1hem9uYXZzLmNvbVwvdXN0ZWFzdC0xX3B6UU9rSkVXUiIsImV4cCI6MTU5MTY0MzgwNCwiaWF0IjoxNTkxNjQwMjA0LCJ2ZXJzaW9uIjoyLCJqdGkiOiI3N2ZjNTBiMC0yOWhLTQyMzgtOTk4Yi0yOTUzYzhmNmM1NDkiLCJjaG11bnRfaWQiOiI3N2E1a3JqcGlrZG1zOG1lazdsZjhpY2wifQ.SBaagcRiiVZN-Y9hApy-QovcSW2DjyA3JWYJmaMsSd23VBscCho_-1ZAhmIWf7B5b0yGws1JYg9LZkQGe1igITIofigl1t1XXQYq8CS-NiGL50-QPPTsg2iis4lSYc8JPSAxCo5z9nKKiCcFRX_Yh5J5hWpVVFQ0hN_DTbx4j4CR-1VN-TE0It1X6A5jqWB_eCQE05UJ8_U-91M3lHYVCgcuQmP4iRtPIttcdG89VzSUZGgBBuN1Lwn2oTUKYtfsDjp37ouqVGgpP6WnXgnCgXPNZVVebr5fch8PQdGxBqRwbQu1epvj_v1lb4nS6DBQBXRQdYYt_0csfwtrZ4oxJEQ" -H "Content-Type: application/json" https://prodpreview-api-eqrs.qualitynet.org/edsmauth/v1/renew-client
```

**Response:**

```
application/json
HTTP/1.1 200
{"success": "true", "ClientId": "e1rv9erbmc685198b5jdk71sh", "ClientSecret": "188jq4od07p1c1lcpue8f8pmpq4inos1e46bnhrfmo1tg7rkiaf8"}
```



## 6.0 Uploading Files

### General Notes

A successful message from the initial file upload service just means that no schema level validations (such as invalid dates) occurred. Validation messages specific to each file type can be found online in the EQRS Error Codes spreadsheet posted in the [CMS Document Repository](#).

When referring to data field requirements within the EQRS EDI Data Dictionary, please note that Boolean fields must be either "true" or "false". Variations in case will be rejected. In addition, for data fields that have a field type of "List" please note the following:

- A "\*" indicates that the value should be one of the values indicated in the Listed Values column. These values are case-sensitive.
- A "†" indicates that the value is submitted as an integer that corresponds to listed data. This mapping is indicated in the Listed Values column.
- A "‡" indicates that the value is submitted as a numeric string that corresponds to listed data. This mapping is indicated in the Listed Values column.

### 6.1 Patient - Demographics and Admissions

Patient Files are submitted to provide the information that is required to be entered once per patient. Information can include PII/PHI and non-PII/PHI information. These fields will need to be entered either in conjunction with an admission or as a separate file.

Admission files describe the admission of a patient to a dialysis or transplant facility. While initial admissions will generally include the demographic information along with it, subsequent admissions may not include demographic information at all, or only update previously provided information.

A successful response from EDSM will simply return a copy of the original file.

| Complete Instructions & Examples | Resource Link                                |
|----------------------------------|--|
| EQRS EDI Data Dictionary         | <a href="#">CMS Documentation Repository</a> |
| Example Request - XML            | <a href="#">A1.1.1</a>                       |
| Example Request - JSON           | <a href="#">A1.1.2</a>                       |
| Example Response - XML           | <a href="#">A1.1.3</a>                       |
| Example Response - JSON          | <a href="#">A1.1.4</a>                       |
| Validation Codes                 | <a href="#">EQRS Error Codes</a>             |

|           |                            |
|-----------|----------------------------|
| XSD Files | <a href="#">.XSD Files</a> |
|-----------|----------------------------|

## 6.2 Clinical Data

A clinical data submission file contains all the data related to a specific patient’s admission. It has all the questions and related answers (known as clinical values within EQRS). Questions and answers are treated as separate, but connected, entities and there may be multiple clinical data submissions per patient.

Submission types may be one or more of the following: Adequacy, Anemia Management, ESA, Fluid Weight Management, Hospitalization, Infection, Iron, Medication Reconciliation, Mineral Metabolism, Telemedicine, Ultrafiltration, Vaccination, and Vascular Access. For each type, there is the concept of a clinical submission, and a patient submission, which are sent separately.

Please note that submitting vaccination information through clinical files is deprecated and will be removed in the future. See the vaccination report section for more information on vaccination information submission.

A clinical submission contains clinical data such as org affiliation, clinical period, as well as the clinical records. A patient submission contains data directly related to the patient with which a clinical submission may be associated. The two are associated by an orgPatientId. The orgPatientId field *must* match in both documents in order for the clinical and patient submissions to be associated with one another.

Within the Clinical tab of the data dictionary, please note that Property Path elements that are marked with “[ ]” are array types (in JSON) or may occur multiple times (in XML). If there is a number present, for example “[5]”, then that is the maximum number of elements that may be present. “[5]” means a maximum of 5 elements.

Clinical data submission files do not tend to be excessively long. However, for consistency, please see the links in the table below to view sample files for Telemedicine and Vascular Access. The EQRS ADO team can provide further samples of other types upon request.

| Complete Instructions & Examples     | Resource Link                                |
|--------------------------------------|--|
| EQRS EDI Data Dictionary             | <a href="#">CMS Documentation Repository</a> |
| Example Request - Telemedicine XML   | <a href="#">A2.1.1</a>                       |
| Example Response - Telemedicine XML  | <a href="#">A2.1.2</a>                       |
| Example Request - Telemedicine JSON  | <a href="#">A2.1.4</a>                       |
| Example Response - Telemedicine JSON | <a href="#">A2.1.5</a>                       |

|   |                                  |
|---|----------------------------------|
| Example Request - Vascular Access XML   | <a href="#">A2.1.7</a>           |
| Example Response - Vascular Access XML  | <a href="#">A2.1.8</a>           |
| Example Request - Vascular Access JSON  | <a href="#">A2.1.10</a>          |
| Example Response - Vascular Access JSON | <a href="#">A2.1.11</a>          |
| Validation Codes                        | <a href="#">EQRS Error Codes</a> |
| XSD Files                               | <a href="#">.XSD Files</a>       |

### 6.3 Attestation

Attestation files are submitted to attest that a facility or facilities had fewer than 30 In-Center Hemodialysis Consumer Assessment of Healthcare Providers and Systems (ICH CAHPS) assessment-eligible patients for the eligibility period, which is defined as the year prior to the performance period. Files may only be submitted for the current performance year. Additional information about performance periods may be found at [www.cms.gov](http://www.cms.gov).

| Complete Instructions & Examples | Resource Link                                |
|----------------------------------|--|
| EQRS EDI Data Dictionary         | <a href="#">CMS Documentation Repository</a> |
| Example Request - XML            | <a href="#">A3.1.1</a>                       |
| Example Response - XML           | <a href="#">A3.1.2</a>                       |
| Example Request - JSON           | <a href="#">A3.1.4</a>                       |
| Example Response - JSON          | <a href="#">A3.1.5</a>                       |
| Validation Codes                 | <a href="#">EQRS Error Codes</a>             |
| XSD Files                        | <a href="#">.XSD Files</a>                   |

## 6.4 Form 2728 Medical Evidence Report

Form 2728 is a medical evidence report file submitted as evidence for End Stage Renal Disease (ESRD). Typically, it is concerned with one or more of the following: patient dialysis, patient kidney transplant, and dialysis after transplant failure. It corresponds to CMS’s 2728 form. A Form 2728 file can be uploaded in either “Save” or “Submit” status. A Form 2728 file uploaded in “Save” status can be edited in the EQRS web application by facility staff members prior to final submission. A Form 2728 file uploaded in “Submit” status is final and cannot be edited.

| Complete Instructions & Examples | Resource Link                                |
|----------------------------------|--|
| EQRS EDI Data Dictionary         | <a href="#">CMS Documentation Repository</a> |
| Example Request - XML            | <a href="#">A4.1.1</a>                       |
| Example Response - XML           | <a href="#">A4.1.2</a>                       |
| Example Request - JSON           | <a href="#">A4.1.4</a>                       |
| Example Response - JSON          | <a href="#">A4.1.5</a>                       |
| Validation Codes                 | <a href="#">EQRS Error Codes</a>             |
| XSD Files                        | <a href="#">.XSD Files</a>                   |

## 6.5 Form 2746 Death Notification Form

A Form 2746 file is submitted as a notification of a patient’s death. It corresponds to CMS’s 2746 form. A Form 2746 file can be uploaded in either “Save” or “Submit” status. A form 2746 file uploaded in “Save” status can be edited in the EQRS web application by facility staff members prior to final submission. A form 2746 file uploaded in “Submit” status is final and cannot be edited.

| Complete Instructions & Examples | Resource Link                                |
|----------------------------------|--|
| EQRS EDI Data Dictionary         | <a href="#">CMS Documentation Repository</a> |
| Example Request - XML            | <a href="#">A5.1.1</a>                       |
| Example Response - XML           | <a href="#">A5.1.2</a>                       |
| Example Request - JSON           | <a href="#">A5.1.4</a>                       |
| Example Response - JSON          | <a href="#">A5.1.5</a>                       |

|                  |                                  |
|------------------|----------------------------------|
| Validation Codes | <a href="#">EQRS Error Codes</a> |
| XSD Files        | <a href="#">.XSD Files</a>       |

## 6.6 Patient Reporting

Submit a patient report for information related to the assessment or screening for depression. This file type should *not* be confused with Identifying Depressed Patients (IDP). It is *not* used for pain assessment in EQRS.

| Complete Instructions & Examples | Resource Link                                |
|----------------------------------|--|
| EQRS EDI Data Dictionary         | <a href="#">CMS Documentation Repository</a> |
| Example Request - XML            | <a href="#">A6.1.1</a>                       |
| Example Response - XML           | <a href="#">A6.1.2</a>                       |
| Example Request - JSON           | <a href="#">A6.1.4</a>                       |
| Example Response - JSON          | <a href="#">A6.1.5</a>                       |
| Validation Codes                 | <a href="#">EQRS Error Codes</a>             |
| XSD Files                        | <a href="#">.XSD Files</a>                   |

## 6.7 Vaccination Reporting

Vaccination report files are submitted to report on patient vaccinations. Vaccination information was formerly submitted in clinical files, this functionality is deprecated and will be removed in the future. New integrators should submit vaccination through vaccination report files only.

| Complete Instructions & Examples | Resource Link                                |
|----------------------------------|--|
| EQRS EDI Data Dictionary         | <a href="#">CMS Documentation Repository</a> |
| Example Request - XML            | <a href="#">A7.1.1</a>                       |
| Example Response - XML           | <a href="#">A7.1.2</a>                       |
| Example Request - JSON           | <a href="#">A7.1.4</a>                       |
| Example Response - JSON          | <a href="#">A7.1.5</a>                       |

|                  |                                  |
|------------------|----------------------------------|
| Validation Codes | <a href="#">EQRS Error Codes</a> |
| XSD Files        | <a href="#">.XSD Files</a>       |

## 7.0 File Validations

Any file submitted via the file upload interface can return a number of validation messages. Those error and warning codes can be found in the EQRS Error Codes Spreadsheet posted in the [CMS Documentation Repository](#) online by referencing the tab for the relevant file type.

Notes –

1. Validations marked as “Warnings” will not stop files from being processed.
2. If using the web interface, org\* fields will not be required, as these are only used through the file upload interface.
3. New validations may be added or removed in the future, but these changes will be communicated to the users before implemented.

In addition there are a number of generic validation messages that may be returned by the API. See the table below for those response codes.

| API Response Code | Message   |
|-------------------|---|
| EQRS-99000        | File name is not available.   |
| EQRS-99001        | API key is not available.   |
| EQRS-99002        | File content is not available.  |
| EQRS-99003        | API key is not available. Please contact help desk.   |
| EQRS-99004        | Internal server error.  |
| EQRS-99005        | Invalid API key.  |
| EQRS-99006        | Invalid XML file.   |
| EQRS-99007        | Feedback file is not available yet.   |
| EQRS-99008        | File name cannot be more than 200 characters.   |
| EQRS-99009        | File name consists of one or more of the following characters: '+', '&', '#', ';', '/' (or) File name should contain at least one alphanumeric character. |
| EQRS-999          | <field name> must be a valid date.  |
| EQRS-99901        | Too many results, please refine your search with more specific keywords.  |

|            |   |
|------------|---|
| EQRS-99946 | The batch system token has expired - please resubmit this record. |
| EQRS-99999 | Unexpected system error.  |

## 8.0 Security Protocols

The EQRS ADO takes data and application security seriously. All security policies are compliant with CMS standards. Furthermore, the EQRS ADO has other measures in place to ensure that sensitive information is well-protected.

Data is encrypted in transit using HTTPS until it reaches a safe point in the EQRS ADO’s network of services. At rest, data is stored securely in AWS using SSE-KMS encryption. Uploaded files are isolated in an encrypted S3 bucket until they receive a virus scan, at which point the files can be used where necessary.

Communication across the network between all services requires valid JWT tokens for authentication and authorization. Services (for example, to add personnel), require security policies that must be associated with the organization and the JWT token. If the organization information does not validate correctly against the security policy, then the call to the service will fail.

Organizations will be associated with particular security policies when the organization and its associated facilities are first set up.

## 9.0 Prod Preview testing

Before an EDI submitter’s organization can gain access to production EDSM, they must first test in prod preview. Prod preview is, as its name suggests, a “preview” of production. It uses real data, although this data is not part of production itself. The process of testing ensures that not only does the organization’s process work correctly in the context of EDSM, but also that the organization itself will be integrated correctly.

The EDI submitter’s request to onboard must be submitted via EQRS and approved before prod preview environment credentials will be issued and testing can begin. In addition, the onboarding organization must provide a list of facilities that they plan to test with in advance using the regular weekly facility updates process. This will allow the ADO time to ensure that prod preview is properly configured for the EDI submitter before testing starts.

Upon approval of the onboarding request the EDI submitter will receive a notification with instructions for secure retrieval of their EDSM credentials for prod preview authentication.



The EQRS ADO will use the submitter's EQRS account to provide the credentials and endpoints to test in EDSM prod preview for the EDI submitter. While there are no specific requirements asked of EDI submitters for testing, they are encouraged to test thoroughly and The EDI submitter's request to onboard must be submitted via EQRS and approved before prod preview environment credentials will be issued and testing can begin. In addition, the onboarding organization must provide a list of facilities that they plan to test with in advance using the regular weekly facility updates process. This will allow the ADO time to ensure that prod preview is properly configured for the EDI submitter before testing starts.

Upon approval of the onboarding request the EDI submitter will receive a notification with instructions for secure retrieval of their EDSM credentials for prod preview authentication. The EQRS ADO will use the submitter's EQRS account to provide the credentials and endpoints to test in EDSM prod preview for the EDI submitter. While there are no specific requirements asked of EDI submitters for testing, they are encouraged to test thoroughly and carefully using a wide variety of scenarios both for new record submissions and updates to existing records in order to understand EDSM processes and to prevent service disruptions in production. Testers are encouraged to use real patient data files, emulate real world scenarios, and follow ordinary best practices. For example, EDI submitters should ensure any file types are submitted in the proper order (e.g. submit a patient file first before submitting a patient clinical file, etc).

Submitters may view error and warning code definitions in the [EQRS Documentation Repository](#) along with any necessary validations or business rules. For any questions during the onboarding and testing phases of the project please email [eqrssupport@cms.hhs.gov](mailto:eqrssupport@cms.hhs.gov).

## 10.0 Production Go Live Steps

When an EDI submitter has completed testing in prod preview they can begin taking steps to connect their client-side API to EDSM in production and start sending data to the live EQRS system. Once the submitting organization has confirmed their readiness for production, they should log into EQRS, click the EDSM API tab and request production credentials. Once credentials are created the EQRS ADO will be notified of the production request and any necessary configurations for production will be completed. Once production credentials are provided to the EDI, files can be submitted for any previously identified and configured facilities. Please be sure to make note of any facilities that will be going live in the regular weekly facility updates communication so that they can be properly mapped. EDI submitters may choose to do a hard cut-over to EDSM for all facilities or use a phased approach, where data is submitted first for only a few facilities and then later additional facilities are added gradually until all of them are live. Once a facility is live in production please open a help desk ticket with CMS for any issues.

## **10.1 Go-Live Checklist:**

1. EDI submitter logs into EQRS and requests production credentials from the EDSM API tab when they are ready. Include any facilities that you wish to go live with in the regular weekly facility updates communication so that they can be mapped.
2. EQRS ADO completes production set-up including facility mapping and configuring the batch submission organization for the EDI submitter.
3. Once the EDI submitter receives email confirmation from the ADO that their facilities have been mapped they may begin submissions in production for those sites

## Appendices

### Appendix 1: Patient Demographics/Admission

#### A1.1 Patient Demographics/Admission File Examples

##### A1.1.1 Patient Demographics/Admission (XML)

```
<?xml version="1.0" encoding="utf-8"?>
<P:demographic xmlns:P="http://crown.esrd.net/crown" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://crown.esrd.net/crown crown.xsd">
  <orgAffiliation>2</orgAffiliation>
  <patient>
    <orgPatientId>TestpatientId-12345</orgPatientId>
    <effectiveDate>2021-07-02</effectiveDate>
    <patientIdentifier hicnumNA="false" ssnNA="false">
      <lastName>Doe</lastName>
      <firstName>John</firstName>
      <mbi>1A35C04ED01</mbi>
      <ssn>666135040</ssn>
      <gender>M</gender>
      <dob>1981-05-21</dob>
      <raceEthnicity selfReported="SelfReported">
        <race>
          <raceCode>1</raceCode>
          <tribeCode>200</tribeCode>
        </race>
        <ethnicity>7</ethnicity>
      </raceEthnicity>
      <countryOfOrigin>US</countryOfOrigin>
    </patientIdentifier>

    <citizenshipStatus>USCitizen</citizenshipStatus>
    <citizenshipEffectiveDate>2021-02-08</citizenshipEffectiveDate>
    <medicareEnrollmentStatus>Coverage</medicareEnrollmentStatus>
```

```

<medicareEnrollmentEffectiveDate>2017-04-01</medicareEnrollmentEffectiveDate>
<employmentStatus>Unemployed</employmentStatus>
<employmentEffectiveDate>2016-04-01</employmentEffectiveDate>
<schoolStatus>1</schoolStatus>
<schoolEffectiveDate>2020-04-01</schoolEffectiveDate>
<vocationalRehab>2</vocationalRehab>
<vocationalRehabEffectiveDate>2017-01-01</vocationalRehabEffectiveDate>

```

```

<address addressType="Mailing">
  <street1>123 Any Street</street1>
  <street2>Suite 220</street2>
  <city>Raleigh</city>
  <state>NC</state>
  <zip>27607</zip>
  <zipExt>7012</zipExt>
  <county>Wake</county>
</address>
<address addressType="Physical">
  <street1>222 Baker St</street1>
  <street2>Apt 3B</street2>
  <city>Raleigh</city>
  <state>NC</state>
  <zip>27607</zip>
  <zipExt>1234</zipExt>
  <county>Wake</county>
</address><phone type="Tel">
  <areaCode>410</areaCode>
  <phoneNumber>555-1211</phoneNumber>
</phone>
<phone type="Mobile">
  <areaCode>443</areaCode>
  <phoneNumber>555-2211</phoneNumber>
</phone>
</patient>

```

```

<admitDischarge>
  <admitDischargeUniqueId>EDSM67-13504</admitDischargeUniqueId>
  <orgFacilityCode>000200</orgFacilityCode>

  <admitDate>2017-04-01</admitDate>
  <admitReason>1</admitReason>
  <transient>>false</transient>
  <dischargeDate>2018-05-24</dischargeDate>
  <dischargeReason>4</dischargeReason>

```

```

    <modality>
      <practitioner>
        <orgId>283567</orgId>
        <lastName>Feelgood</lastName>
        <firstName>RAMON</firstName>
        <upin>A45642</upin>
        <npi>1122334455</npi>
      </practitioner>
      <modalityId>123345</modalityId>
      <changeDate>2017-04-01</changeDate>
      <dialysisSetting>2</dialysisSetting>
      <primaryTreatmentType>1</primaryTreatmentType>
      <prescribedSessionsPerWeek>4.0</prescribedSessionsPerWeek>
      <minutesPerSession>100</minutesPerSession>
    </modality>
  </admitDischarge>
</P:demographic>

```

### A1.1.2 Patient Demographics/Admission (JSON)

```

{
  "demographic": {
    "orgAffiliation": 2,
    "patient": {
      "orgPatientId": "TestpatientId-12345",
      "effectiveDate": "2021-07-02",
      "patientIdentifier": {
        "lastName": "Doe",
        "firstName": "John",
        "mbi": "1A35C04ED01",
        "ssn": 666135040,
        "gender": "M",
        "dob": "1981-05-21",
        "raceEthnicity": {
          "race": {
            "raceCode": 1,
            "tribeCode": 200
          },
        },
      },
    },
  },
}

```

```
"ethnicity": 7
},
"countryOfOrigin": "US"
},
"citizenshipStatus": "USCitizen",
"citizenshipEffectiveDate": "2021-02-08",
"medicareEnrollmentStatus": "Coverage",
"medicareEnrollmentEffectiveDate": "2017-04-01",
"employmentStatus": "Unemployed",
"employmentEffectiveDate": "2016-04-01",
"schoolStatus": 1,
"schoolEffectiveDate": "2020-04-01",
"vocationalRehab": 2,
"vocationalRehabEffectiveDate": "2017-01-01",
"address": [
  {
    "street1": "123 Any Street",
    "street2": "Suite 220",
    "city": "Raleigh",
    "state": "NC",
    "zip": 27607,
    "zipExt": 7012,
    "county": "Wake"
  },
  {
    "street1": "222 Baker St",
    "street2": "Apt 3B",
    "city": "Raleigh",
    "state": "NC",
    "zip": 27607,
    "zipExt": 1234,
    "county": "Wake"
  }
],
"phone": [
  {
    "areaCode": 410,
```

```
    "phoneNumber": "555-1211"
  },
  {
    "areaCode": 443,
    "phoneNumber": "555-2211"
  }
]
},
"admitDischarge": {
  "admitDischargeUniqueId": "EDSM67-13504",
  "orgFacilityCode": 200,
  "admitDate": "2017-04-01",
  "admitReason": 1,
  "transient": false,
  "dischargeDate": "2018-05-24",
  "dischargeReason": 4,
  "modality": {
    "practitioner": {
      "orgId": 283567,
      "lastName": "Feelgood",
      "firstName": "RAMON",
      "upin": "A45642",
      "npi": 1122334455
    },
    "modalityId": 123345,
    "changeDate": "2017-04-01",
    "dialysisSetting": 2,
    "primaryTreatmentType": 1,
    "prescribedSessionsPerWeek": 4,
    "minutesPerSession": 100
  }
}
}
```

### A1.1.3 Validation Error Response on Submission (XML):

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<demographic-feedback xmlns="http://crown.esrd.net/crown-demographic-feedback"
xmlns:ns2="http://crown.esrd.net/crown-common-feedback">
  <fileId>file-id</fileId>
  <patient>
    <orgPatientId>12334567</orgPatientId>
    <orgFacilityCode>123456</orgFacilityCode>
    <errors>
      <ns2:error code="400">Could not find an unique facility with the given orgFacilityCode
000200</ns2:error>
    </errors>
    <warnings/>
  </patient>
</demographic-feedback>
```

### A1.1.4 Validation Error Response on Submission (JSON):

```
{
  "demographic-feedback": {
    "fileId": "file-id",
    "patient": {
      "orgPatientId": 12334567,
      "orgFacilityCode": 123456,
      "errors": {
        "error": "Could not find an unique facility with the given orgFacilityCode 000200"
      },
      "warnings": ""
    }
  }
}
```



## Appendix 2: Clinical

### A2.1 Clinical File Examples

#### A2.1.1 Clinical Data Submission Telemedicine (XML)

```
<?xml version="1.0" encoding="UTF-8" ?>
<p:clinical xmlns:p="http://crown.esrd.net/crown"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://crown.esrd.net/crown crown.xsd">
  <orgAffiliation>2</orgAffiliation>
  <clinicalPeriod>
    <month>Sep</month>
    <year>2021</year>
  </clinicalPeriod>
  <patientClinical>
    <orgFacilityCode>000200</orgFacilityCode>
    <orgPatientId>C2206149_EQRSPRTL704</orgPatientId>
    <clinicalRecord>
      <collectionType>PD</collectionType>
      <labValues>
        <hgb>
          <value>14.7</value>
          <date>2021-09-05</date>
        </hgb>
        <fer>
          <value>2700</value>
          <date>2021-09-05</date>
        </fer>
        <tsat>
          <value>92</value>
          <date>2021-09-05</date>
        </tsat>
        <chr>
```

```
<value>30</value>
  <date>2021-09-05</date>
</chr>
<phos>
  <value>9.9</value>
  <date>2021-09-05</date>
</phos>
<phosMethod>PLASMA</phosMethod>
<cca>
  <value>8.9</value>
  <date>2021-09-05</date>
</cca>
<uca>
  <value>20.0</value>
  <date>2021-09-05</date>
</uca>
<alb>
  <value>4.7</value>
  <date>2021-09-05</date>
  <method>BCP</method>
  <lowValue>3.2</lowValue>
</alb>
<cre>
  <value>7.0</value>
  <date>2021-09-05</date>
</cre>
</labValues>
<cpms>
  <adequacy>
    <pKtVInfo>
      <ktV>
        <value>2.50</value>
        <date>2021-09-05</date>
        <method>
          <listed>Watson</listed>
        </method>
        <bsaMethod>
```

```

    <listed>DuBoisDuBois</listed>
  </bsaMethod>
  <rrf>true</rrf>
</ktV>
<nPCR>
  <value>137.5</value>
  <date>2021-09-05</date>
</nPCR>
<urineVol>2300</urineVol>
<wgt>
  <value>68.1</value>
  <unit>Kilogram</unit>
</wgt>
<bsac>false</bsac>
<crc>
  <value>99.9</value>
  <unit>LWK173M2</unit>
</crc>
<hgt>
  <value>64</value>
  <unit>Inch</unit>
</hgt>
</pKtVInfo>
</adequacy>
<esaAdministered>
  <wasAdministered>false</wasAdministered>
  <agentNA>true</agentNA>
  <monthlyDoseNA>true</monthlyDoseNA>
</esaAdministered>
<hospitalizationNA>true</hospitalizationNA>
<vaccinations>
  <hepatitisBVaccineNotGiven>true</hepatitisBVaccineNotGiven>
  <hepatitisB>
    <exclusion>
      <patient>Personal</patient>
    </exclusion>
  <antiHBs>

```



```

        <testResultNA>true</testResultNA>
      </antiHBs>
    </hepatitisB>
  </vaccinations>
  <infectionNA>true</infectionNA>
  <ironCpm>
    <ivAdministeredNA>true</ivAdministeredNA>
    <ivIronNA>true</ivIronNA>
    <ivDoseNA>true</ivDoseNA>
    <poPrescribedNA>true</poPrescribedNA>
    <poIronNA>true</poIronNA>
    <poDoseNA>true</poDoseNA>
  </ironCpm>
  <telemedicine>
    <Telemedicine>true</Telemedicine>
    <LastTelemedicineVisit>1980-02-16</LastTelemedicineVisit>
    <NumberOfTelemedicineVisits>1</NumberOfTelemedicineVisits>
  </telemedicine>

</cpms>
</clinicalRecord>
</patientClinical>
</p:clinical>

```

### A2.1.2 Clinical Data Submission Telemedicine Success Response (XML)

```

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<clinical-feedback xmlns="http://crown.esrd.net/crown-clinical-feedback" xmlns:ns2="http://crown.esrd.net/crown-
common-feedback">
  <fileId>c67a91c4-ec0e-499d-ba29-bb38a0df2a81</fileId>
  <clinicalDate>09/01/2021</clinicalDate>
  <clinicalData>
    <orgPatientId>C2206149_EQRSPRTL704</orgPatientId>
    <crownPatientId>3100328579</crownPatientId>
    <orgFacilityCode>000200</orgFacilityCode>
    <crownFacilityId>600375456</crownFacilityId>
  </clinicalData>
</clinical-feedback>

```



```
<errors/>
<warnings/>
</clinicalData>
</clinical-feedback>
```

### A2.1.3 Clinical Data Submission Telemedicine Error Response (XML)

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<clinical-feedback xmlns="http://crown.esrd.net/crown-clinical-feedback" xmlns:ns2="http://crown.esrd.net/crown-
common-feedback">
  <fileId>c67a91c4-ec0e-499d-ba29-bb38a0df2a81</fileId>
  <clinicalDate>09/01/2021</clinicalDate>
  <clinicalData>
    <orgPatientId>C2206149_EQRSPRTL704</orgPatientId>
    <crowPatientId>3100328579</crowPatientId>
    <orgFacilityCode>000200</orgFacilityCode>
    <crowFacilityId>600375456</crowFacilityId>
    <errors>
      <ns2:error code="30610">Last Telemedicine Visit cannot be prior to the patient's Date of Birth
(02/17/1980).</ns2:error>
      <ns2:error code="30611">Last Telemedicine Visit must be a date during the Clinical Month and Year
Selected.</ns2:error>
    </errors>
    <warnings/>
  </clinicalData>
</clinical-feedback>
```

### A2.1.4 Clinical Data Submission Telemedicine (JSON)

```
{
  "clinical" : {
    "clinicalPeriod" : {
      "month" : "Sep",
      "year" : 2021
    },
  },
}
```

```
"orgAffiliation" : "2",
"patientClinical" : [
  {
    "clinicalRecord" : [
      {
        "collectionType" : "PD",
        "cpms" : [
          {
            "adequacy" : {
              "pKtVInfo" : {
                "bsac" : false,
                "crc" : {
                  "unit" : "LWK173M2",
                  "value" : 99.9
                },
                "hgt" : {
                  "unit" : "Inch",
                  "value" : 64
                },
                "ktV" : {
                  "bsaMethod" : {
                    "listed" : "DuBoisDuBois"
                  },
                  "date" : "2021-09-05",
                  "method" : {
                    "listed" : "Watson"
                  },
                  "rrf" : true,
                  "value" : 2.5
                },
                "nPCR" : {
                  "date" : "2021-09-05",
                  "value" : 137.5
                },
                "urineVol" : 2300,
                "wgt" : {
                  "unit" : "Kilogram",
```

```
        "value" : 68.1
      }
    },
    "esaAdministered" : {
      "agentNA" : true,
      "monthlyDoseNA" : true,
      "wasAdministered" : false
    },
    "hospitalizationNA" : true,
    "infectionNA" : true,
    "ironCpm" : {
      "ivAdministeredNA" : true,
      "ivDoseNA" : true,
      "ivIronNA" : true,
      "poDoseNA" : true,
      "poIronNA" : true,
      "poPrescribedNA" : true
    },
    "telemedicine" : {
      "LastTelemedicineVisit" : "1980-02-16",
      "NumberOfTelemedicineVisits" : 1,
      "Telemedicine" : true
    },
    "vaccinations" : {
      "hepatitisB" : {
        "antiHBs" : {
          "testResultNA" : true
        },
        "exclusion" : {
          "patient" : "Personal"
        }
      },
      "hepatitisBVaccineNotGiven" : true
    }
  },
],
```

```
"labValues" : {
  "alb" : {
    "date" : "2021-09-05",
    "lowValue" : 3.2,
    "method" : "BCP",
    "value" : 4.7
  },
  "cca" : {
    "date" : "2021-09-05",
    "value" : 8.9
  },
  "chr" : {
    "date" : "2021-09-05",
    "value" : 30
  },
  "cre" : {
    "date" : "2021-09-05",
    "value" : 7
  },
  "fer" : {
    "date" : "2021-09-05",
    "value" : 2700
  },
  "hgb" : {
    "date" : "2021-09-05",
    "value" : 14.7
  },
  "phos" : {
    "date" : "2021-09-05",
    "value" : 9.9
  },
  "phosMethod" : "PLASMA",
  "tsat" : {
    "date" : "2021-09-05",
    "value" : 92
  },
  "uca" : {
```





```
        "date" : "2021-09-05",
        "value" : 20
      }
    }
  ],
  "orgFacilityCode" : "000200",
  "orgPatientId" : "C2206149_EQRSPRTL704"
}
]
```

#### **A2.1.5 Clinical Data Submission Telemedicine Success Response (JSON)**

```
{
  "clinicalData" : [
    {
      "crownFacilityId" : 600375456,
      "crownPatientId" : 3100328579,
      "errors" : [],
      "orgFacilityCode" : "000200",
      "orgPatientId" : "C2206149_EQRSPRTL704",
      "warnings" : []
    }
  ],
  "clinicalDate" : "09/01/2021",
  "fileId" : "58b5e346-8c32-4c22-a3b3-7ef6e677c47c"
}
```

#### **A2.1.6 Clinical Data Submission Telemedicine Error Response (JSON)**

```
{
  "clinicalData" : [
    {
```



```

"crowFacilityId" : 600375456,
"crowPatientId" : 3100328579,
"errors" : [
  {
    "code" : 30610,
    "value" : "Last Telemedicine Visit cannot be prior to the patient's Date of Birth (02/17/1980).",
  },
  {
    "code" : 30611,
    "value" : "Last Telemedicine Visit must be a date during the Clinical Month and Year Selected."
  }
],
"orgFacilityCode" : "000200",
"orgPatientId" : "C2206149_EQRSPRTL704",
"warnings" : []
}
],
"clinicalDate" : "09/01/2021",
"fileId" : "58b5e346-8c32-4c22-a3b3-7ef6e677c47c"
}

```

### A2.1.7 Clinical Data Submission Vascular Access (XML)

```

<?xml version="1.0" encoding="ISO-8859-1"?>
<P:clinical xsi:schemaLocation="http://crown.esrd.net/crown crown.xsd"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:P="http://crown.esrd.net/crown">
  <orgAffiliation>2</orgAffiliation>
  <clinicalPeriod>
    <month>May</month>
    <year>2021</year>
  </clinicalPeriod>
  <patientClinical>
    <orgFacilityCode>000200</orgFacilityCode>
    <orgPatientId>C1703743_Patient1</orgPatientId>
    <clinicalRecord>
      <collectionType>VA</collectionType>
      <vascularAccess>

```

```

    <accessType>
      <listed>CatheterOnly</listed>
    </accessType>
    <accessDate>2021-05-10</accessDate>
    <dxSessDate>2021-05-10</dxSessDate>
    <avfUseDateNA>true</avfUseDateNA>
    <avfMaturing>false</avfMaturing>
    <avfState>Inactive</avfState>
    <avgMaturing>false</avgMaturing>
    <avgState>NotPresent</avgState>
  </vascularAccess>
</clinicalRecord>
</patientClinical>

```

### A2.1.8 Clinical Data Submission Vascular Access Success Response (XML)

```

</P:clinical>
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<clinical-feedback xmlns="http://crown.esrd.net/crown-clinical-feedback" xmlns:ns2="http://crown.esrd.net/crown-
common-feedback">
  <fileId>5acde804-42cb-4cfe-b5be-a38942d678f4</fileId>
  <clinicalDate>05/01/2021</clinicalDate>
  <clinicalData>
    <orgPatientId>C1703743_Patient1</orgPatientId>
    <crowPatientId>3100231671</crowPatientId>
    <orgFacilityCode>000200</orgFacilityCode>
    <crowFacilityId>600375456</crowFacilityId>
    <errors/>
    <warnings/>
  </clinicalData>
</clinical-feedback>

```

### A2.1.9 Clinical Data Submission Vascular Access Error Response (XML)

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<clinical-feedback xmlns="http://crown.esrd.net/crown-clinical-feedback" xmlns:ns2="http://crown.esrd.net/crown-
common-feedback">
  <fileId>546716f3-63f0-450b-baff-7cbfe2aeb292</fileId>
  <clinicalData>
    <orgPatientId>C1703743_Patient1</orgPatientId>
    <orgFacilityCode>000200</orgFacilityCode>
    <errors>
      <ns2:error code="401">Could not find an unique patient with the given orgPatientId
C1703743_Patient1</ns2:error>
    </errors>
    <warnings/>
  </clinicalData>
</clinical-feedback>
```

### A2.1.10 Clinical Data Submission Vascular Access (JSON)

```
{
  "clinical": {
    "orgAffiliation": "2",
    "clinicalPeriod": {
      "month": "May",
      "year": 2021
    },
    "patientClinical": [
      {
        "orgFacilityCode": "200",
        "orgPatientId": "C1703743_Patient1",
        "clinicalRecord": [{
          "collectionType": "VA",
          "vascularAccess": {
            "accessType": {
```

```
        "listed": "CatheterOnly"
      },
      "accessDate": "2021-05-10",
      "dxSessDate": "2021-05-10",
      "avfUseDateNA": true,
      "avfMaturing": false,
      "avfState": "Inactive",
      "avgMaturing": false,
      "avgState": "NotPresent"
    }
  ]
}
}
```

#### **A2.1.11 Clinical Data Submission Vascular Access Success Response (JSON)**

```
{
  "clinicalData" : [
    {
      "crownFacilityId" : 600375456,
      "crownPatientId" : 3100231671,
      "errors" : [],
      "orgFacilityCode" : "00200",
      "orgPatientId" : "C1703743_Patient1",
      "warnings" : []
    }
  ],
  "clinicalDate" : null,
  "fileId" : "005f2074-1d4e-41f6-b0e8-b330401f18b4"
}
```

### A2.1.12 Clinical Data Submission Vascular Access Error Response (JSON)

```
{
  "clinicalData" : [
    {
      "crownFacilityId" : null,
      "crownPatientId" : 3100231671,
      "errors" : [
        {
          "code" : 400,
          "value" : "Could not find an unique facility with the given orgFacilityCode 200"
        }
      ],
      "orgFacilityCode" : "200",
      "orgPatientId" : "C1703743_Patient1",
      "warnings" : []
    }
  ],
  "clinicalDate" : null,
  "fileId" : "dc651ee1-76b6-483b-aebf-87a0483a43e8"
}
```

## Appendix 3: Attestation

### A3.1 Attestation File Examples

#### A3.1.1 Attestation (XML)

```
<?xml version="1.0" encoding="UTF-8" ?>
<p:attestation xmlns:p="http://crown.esrd.net/crown" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://crown.esrd.net/crown crown.xsd">
  <orgAffiliation>000</orgAffiliation>
  <performanceYear>2021</performanceYear>
  <facilityAttestation>
    <orgFacilityCode>1234567890</orgFacilityCode>
    <measurement>
      <measurementType>ICH CAHPS</measurementType>
      <response>Y</response>
      <onBehalfOf>0000111222</onBehalfOf>
    </measurement>
  </facilityAttestation>
</p:attestation>
```

#### A3.1.2 Attestation Success Response (XML)

```
<clinical-feedback xmlns="http://crown.esrd.net/crown-clinical-feedback" xmlns:ns2="http://crown.esrd.net/crown-
common-feedback">
  <fileId>c2261f55-c515-43d9-8af3-3f796ca9bf8a</fileId>
  <clinicalDate>2022-01-01</clinicalDate>
  <clinicalData>
    <orgFacilityCode>000200</orgFacilityCode>
    <crownFacilityId>600375456</crownFacilityId>
    <errors/>
    <warnings/>
  </clinicalData>
```

```
</clinical-feedback>
```

### A3.1.3 Attestation Error Response (XML)

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<clinical-feedback xmlns="http://crown.esrd.net/crown-clinical-feedback" xmlns:ns2="http://crown.esrd.net/crown-
common-feedback">
  <fileId>1864198b-1da6-4fdc-ad80-110f207973a8</fileId>
  <clinicalDate>2022-01-01</clinicalDate>
  <clinicalData>
    <orgFacilityCode>12345678</orgFacilityCode>
    <errors>
      <ns2:error code="30022">Invalid Performance Year in attestation file. Valid performance year for
current attestations is 2021</ns2:error>
    </errors>
    <warnings/>
  </clinicalData>
</clinical-feedback>
```

### A3.1.4 Attestation (JSON)

```
{
  "attestation" : {
    "facilityAttestation" : [
      {
        "measurement" : [
          {
            "measurementType" : "ICH CAHPS",
            "onBehalfOf" : "2104707695",
            "response" : "Y"
          }
        ],
        "orgFacilityCode" : "000200"
      }
    ],
    "orgAffiliation" : "2",
    "performanceYear" : 2021
  }
}
```



```
}  
}
```

### A3.1.5 Attestation Success Response (JSON)

```
{  
  "clinicalData" : [  
    {  
      "crownFacilityId" : null,  
      "errors" : [],  
      "orgFacilityCode" : "000200",  
      "warnings" : []  
    }  
  ],  
  "clinicalDate" : "2022-01-01",  
  "fileId" : "f4edeae1-9df7-46ac-8481-ddb6f739b81c"  
}
```

### A3.1.6 Attestation Error Response (JSON)

```
{  
  "clinicalData" : [  
    {  
      "errors" : [  
        {  
          "code" : 30022,  
          "value" : "Invalid Performance Year in attestation file. Valid performance year for current  
attestations is 2021"  
        }  
      ],  
      "orgFacilityCode" : "000200",  
      "warnings" : []  
    }  
  ],  
  "clinicalDate" : "2022-01-01",  
  "fileId" : "f4edeae1-9df7-46ac-8481-ddb6f739b81c"
```

## Appendix 4: Form 2728

### A4.1 Form 2728 File Examples

#### A4.1.1 Form 2728 (XML)

```

}
<?xml version="1.0" encoding="UTF-8"?>
<P:demographic xmlns:P="http://crown.esrd.net/crown" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://crown.esrd.net/crown crown.xsd">
  <orgAffiliation>102</orgAffiliation>
  <form>
    <orgFacilityCode>000200</orgFacilityCode>
    <formAction>Submit</formAction>
    <form2728>
      <orgPatientId>C1713244-Initial</orgPatientId>
      <orgForm2728Id>C1713244-Initial</orgForm2728Id>
      <form2728Type>InitialDialysis</form2728Type>
      <gfrCalculationMethod>MDRD</gfrCalculationMethod>
      <partA>
        <patientInformation>
          <patientIdentifier>
            <lastName>C1713244-EQRSEDSM54-Pat01</lastName>
            <firstName>SerumAlbumin-SectionA</firstName>
            <mbi>6DC1MH8XA43</mbi>
            <ssn>462305012</ssn>
            <gender>M</gender>
            <dob>1963-04-04</dob>
            <raceEthnicity selfReported="SelfReported">
              <race>
                <raceCode>6</raceCode>
                <tribeCode>200</tribeCode>
              </race>
              <ethnicity>7</ethnicity>
            </raceEthnicity>
          </patientIdentifier>
        </patientInformation>
      </partA>
    </form2728>
  </form>
</P:demographic>

```



```
<countryOfOrigin>US</countryOfOrigin>
</patientIdentifier>
<mailingAddress addressType="Physical">
  <street1>222 Baker St</street1>
  <street2>Apt 3B</street2>
  <city>Columbia</city>
  <state>MD</state>
  <zip>21046</zip>
</mailingAddress>
<phone type="Work">
  <areaCode>410</areaCode>
  <phoneNumber>847-8564</phoneNumber>
</phone>
</patientInformation>
<medicareApply>true</medicareApply>
<currentMedicalCoverage>
  <listed>Medicare</listed>
</currentMedicalCoverage>
<height>
  <value>75</value>
  <unit>Inch</unit>
</height>
<dryWeight>
  <value>180</value>
  <unit>Pound</unit>
</dryWeight>
<primaryCauseRenalFailure>N179</primaryCauseRenalFailure>
<currentEmploymentStatus>PartTime</currentEmploymentStatus>
<priorEmploymentStatus>FullTime</priorEmploymentStatus>
<coMorbidityConditions>
  <listed>a</listed>
  <listed>h</listed>
</coMorbidityConditions>
<receiveExoEryth>
  <value>No</value>
</receiveExoEryth>
<nephrologistCare>
```

```
<value>Yes</value>
  <range>LessThan6Months</range>
</nephrologistCare>
<kidneyDietitianCare>
  <value>Yes</value>
  <range>6-12Months</range>
</kidneyDietitianCare>
<firstAccessUsed>Catheter</firstAccessUsed>
<maturingAVFPresent>>true</maturingAVFPresent>
<maturingGraftPresent>>false</maturingGraftPresent>
<alb>
  <value>5.51</value>
  <date>2019-01-01</date>
</alb>
<albMethod>BCG</albMethod>
<albLowerLimit>5.51</albLowerLimit>
<cre>
  <value>12.2</value>
  <date>2019-01-01</date>
</cre>
<hgb>
  <value>10</value>
  <date>2019-01-01</date>
</hgb>
<hbA1c>
  <value>14.1</value>
  <date>2019-01-01</date>
</hbA1c>
<lipidProfileTC>
  <value>130</value>
  <date>2019-01-01</date>
</lipidProfileTC>
<ldl>
  <value>180</value>
  <date>2019-01-01</date>
</ldl>
<hdl>
```

```
<value>40</value>
  <date>2019-01-01</date>
</hdl>
<tg>
  <value>100</value>
  <date>2019-01-01</date>
</tg>
</partA>
<partB>
  <dialysisSetting>2</dialysisSetting>
  <primaryTreatmentType>1</primaryTreatmentType>
  <prescribedSessionsPerWeek>3</prescribedSessionsPerWeek>
  <hoursPerSession>1.5</hoursPerSession>
  <chronicDialysisBeginDate>2019-01-01</chronicDialysisBeginDate>
  <chronicDialysisBeginFaciltyDate>2019-01-01</chronicDialysisBeginFaciltyDate>
  <transplantOptions>true</transplantOptions>
</partB>
<partE>
  <physician>
    <orgId>283567</orgId>
    <lastName>Feelgood</lastName>
    <firstName>Ramon</firstName>
    <upin>A45644</upin>
    <npi>1122334455</npi>
  </physician>
  <physicianDate>2019-01-10</physicianDate>
</partE>
<partF>
  <signatureDate>2019-01-10</signatureDate>
</partF>
</form2728>
</form>
</P:demographic>
```

### A4.1.2 Form 2728 Success Response (XML)

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<demographic-feedback xmlns="http://crown.esrd.net/crown-demographic-feedback"
xmlns:ns2="http://crown.esrd.net/crown-common-feedback">
  <fileId>82f682bf-276b-4ef4-be09-55e7c2092df8</fileId>
  <patient>
    <orgPatientId>C1713244-Initial</orgPatientId>
    <crowPatientId>3100237664</crowPatientId>
    <orgFacilityCode>000200</orgFacilityCode>
    <crowFacilityId>600375456</crowFacilityId>
    <errors/>
    <warnings/>
  </patient>
</demographic-feedback>
```

### A4.1.3 Form 2728 Error Response (XML)

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<demographic-feedback xmlns="http://crown.esrd.net/crown-demographic-feedback"
xmlns:ns2="http://crown.esrd.net/crown-common-feedback">
  <fileId>82f682bf-276b-4ef4-be09-55e7c2092df8</fileId>
  <patient>
    <orgPatientId>C1713244-Initial</orgPatientId>
    <crowPatientId>3100237664</crowPatientId>
    <orgFacilityCode>000200</orgFacilityCode>
    <crowFacilityId>600375456</crowFacilityId>
    <errors>
      <ns2:error code="40305">Admission date (01/01/2019) corresponding to this 2728 is on or after ICD-10
effective date (10/01/2015). Only ICD-10 codes shall be entered.</ns2:error>
      <ns2:error code="20060">Name of Enrolled/Principal Tribe was not updated because the Race value did
not correspond to the Name of Enrolled/Principal Tribe.</ns2:error>
    </errors>
  </patient>
</demographic-feedback>
```

```

</errors>
<warnings>
  <ns2:warning code="40038">Serum Albumin (18a.1) is not in the valid range (1.00 -
5.50).</ns2:warning>
  <ns2:warning code="40066">HbA1c (18d) is not in the valid range (4.0 - 14.0).</ns2:warning>
  <ns2:warning code="40039">Serum Albumin Lower Limit (18a.2) is not in the valid range (0.50 -
5.50).</ns2:warning>
</warnings>
</patient>
</demographic-feedback>

```

#### A4.1.4 Form 2728 (JSON)

```

{
  "demographic" : {
    "form" : [
      {
        "form2728" : {
          "form2728Type" : "InitialDialysis",
          "gfrCalculationMethod" : "MDRD",
          "orgForm2728Id" : "C1713244-Initial",
          "orgPatientId" : "C1713244-Initial",
          "partA" : {
            "alb" : {
              "date" : "2019-01-01",
              "value" : 5.51
            },
            "albLowerLimit" : 5.51,
            "albMethod" : "BCG",
            "coMorbidityConditions" : {
              "listed" : [
                "a",
                "h"
              ]
            }
          },
          "cre" : {
            "date" : "2019-01-01",
            "value" : 12.2
          },
          "currentEmploymentStatus" : "PartTime",

```

```

"currentMedicalCoverage" : {
  "listed" : [
    "Medicare"
  ]
},
"dryWeight" : {
  "unit" : "Pound",
  "value" : 180
},
"firstAccessUsed" : "Catheter",
"hbA1c" : {
  "date" : "2019-01-01",
  "value" : "14.1"
},
"hdl" : {
  "date" : "2019-01-01",
  "value" : 40
},
"height" : {
  "unit" : "Inch",
  "value" : 75
},
"hgb" : {
  "date" : "2019-01-01",
  "value" : 10
},
"kidneyDietitianCare" : {
  "range" : "6-12Months",
  "value" : "Yes"
},
"ldl" : {
  "date" : "2019-01-01",
  "value" : 180
},
"lipidProfileTC" : {
  "date" : "2019-01-01",
  "value" : 130
},
"maturingAVFPresent" : false,
"maturingGraftPresent" : false,
"medicareApply" : false,
"nephrologistCare" : {
  "range" : "LessThan6Months",

```



```

"value" : "Yes"
},
"patientInformation" : {
  "mailingAddress" : {
    "addressType" : "Physical",
    "city" : "Columbia",
    "state" : "MD",
    "street1" : "222 Baker St",
    "street2" : "Apt 3B",
    "zip" : "21046"
  },
  "patientIdentifier" : {
    "countryOfOrigin" : "US",
    "dob" : "1963-04-04",
    "firstName" : "SerumAlbumin-SectionA",
    "gender" : "M",
    "lastName" : "C1713244-EQRSEDSM54-Pat01",
    "mbi" : "6DC1MH8XA43",
    "raceEthnicity" : {
      "ethnicity" : "7",
      "race" : [
        {
          "raceCode" : "6",
          "tribeCode" : "200"
        }
      ]
    },
    "selfReported" : "SelfReported"
  },
  "ssn" : "462305012"
},
"phone" : {
  "areaCode" : "410",
  "phoneNumber" : "847-8564",
  "type" : "Work"
}
},
"primaryCauseRenalFailure" : "N179",
"priorEmploymentStatus" : "FullTime",
"receiveExoEryth" : {
  "value" : "No"
},
"tg" : {
  "date" : "2019-01-01",

```

```

        "value" : 100
      }
    },
    "partB" : {
      "chronicDialysisBeginDate" : "2019-01-01",
      "chronicDialysisBeginFacilityDate" : "2019-01-01",
      "dialysisSetting" : "2",
      "hoursPerSession" : 1.5,
      "prescribedSessionsPerWeek" : 3,
      "primaryTreatmentType" : "1",
      "transplantOptions" : false
    },
    "partE" : {
      "physician" : {
        "firstName" : "Ramon",
        "lastName" : "Feelgood",
        "npi" : "1122334455",
        "orgId" : "283567",
        "upin" : "A45644"
      },
      "physicianDate" : "2019-01-10"
    },
    "partF" : {
      "signatureDate" : "2019-01-10"
    }
  },
  "formAction" : "Submit",
  "orgFacilityCode" : "000200"
}
],
"orgAffiliation" : "102",
"schemaLocation" : "http://crown.esrd.net/crown crown.xsd"
}
}

```

#### A4.1.5 Form 2728 Success Response (JSON)

```

{
  "fileId" : "ceecba2a-b0ec-4586-ba81-027919c0a795",
  "patients" : [
    {

```

```
    "crownFacilityId" : 600375456,  
    "crownPatientId" : 3100237664,  
    "errors" : [ ],  
    "orgFacilityCode" : "000200",  
    "orgPatientId" : "C1713244-Initial",  
    "warnings" : [ ]  
  }  
]  
}
```

#### A4.1.6 Form 2728 Error Response (JSON)

```
{  
  "fileId" : "ceecba2a-b0ec-4586-ba81-027919c0a795",  
  "patients" : [  
    {  
      "crownFacilityId" : 600375456,  
      "crownPatientId" : 3100237664,  
      "errors" : [  
        {  
          "code" : 40126,  
          "value" : "Reasons Why Patient Has Not Been Informed of Kidney Transplant Options (26) are  
mandatory."  
        },  
        {  
          "code" : 40305,  
          "value" : "Admission date (01/01/2019) corresponding to this 2728 is on or after ICD-10 effective  
date (10/01/2015). Only ICD-10 codes shall be entered."  
        },  
        {  
          "code" : 20060,  
          "value" : "Name of Enrolled/Principal Tribe was not updated because the Race value did not  
correspond to the Name of Enrolled/Principal Tribe."  
        }  
      ],  
      "orgFacilityCode" : "000200",  
      "orgPatientId" : "C1713244-Initial",  
    }  
  ]  
}
```

```
"warnings" : [  
  {  
    "code" : 40038,  
    "value" : "Serum Albumin (18a.1) is not in the valid range (1.00 - 5.50)."  
  },  
  {  
    "code" : 40066,  
    "value" : "HbA1c (18d) is not in the valid range (4.0 - 14.0)."  
  },  
  {  
    "code" : 40039,  
    "value" : "Serum Albumin Lower Limit (18a.2) is not in the valid range (0.50 - 5.50)."  
  }  
]  
}  
]
```

## Appendix 5: Form 2746

### A5.1 Form 2746 File Examples

#### A5.1.1 Form 2746 (XML)

```
<?xml version="1.0" encoding="UTF-8" ?>
  <p:demographic xmlns:p="http://crown.esrd.net/crown" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance"
  xsi:schemaLocation="http://crown.esrd.net/crown crown.xsd">
    <orgAffiliation>125</orgAffiliation>
    <form>
      <orgFacilityCode>000200</orgFacilityCode>
      <formAction>Save</formAction>
      <form2746>
        <orgPatientId>NullWfbFQ52</orgPatientId>
        <orgForm2746Id>Form2746-Pat</orgForm2746Id>
        <patientInformation>
          <patientIdentifier>
            <lastName>Null</lastName>
            <firstName>EHekcovzyjzVXumZcgaTPEXKfyPdoiYhpay</firstName>
            <mbi>7EY1W51CH08</mbi>
            <ssn>551494981</ssn>
            <gender>M</gender>
            <dob>1992-01-27</dob>
          </patientIdentifier>
          <stateOfResidence>PA</stateOfResidence>
          <modalityAtDeath>IncenterHemodialysis</modalityAtDeath>
        </patientInformation>
        <placeOfDeath>Hospital</placeOfDeath>
        <primaryCauseOfDeath>36</primaryCauseOfDeath>
        <secondaryCauseOfDeath>98</secondaryCauseOfDeath>
        <secondaryCauseOfDeath>101</secondaryCauseOfDeath>
        <secondaryCauseOfDeath>104</secondaryCauseOfDeath>
        <secondaryCauseOfDeath>27</secondaryCauseOfDeath>
      </form2746>
    </form>
  </p:demographic>
```

```

    <otherCauseOfDeath>This element can contain up to 75 characters, but no
more.</otherCauseOfDeath>
    <therapyDiscontinued>true</therapyDiscontinued>
    <discontinuedReason>MedicalComplication</discontinuedReason>
    <lastDialysisTreatmentDate>2021-06-03</lastDialysisTreatmentDate>
    <dialysisEndedAfterRequest>NA</dialysisEndedAfterRequest>
    <graftFunctioningAtDeath>Yes</graftFunctioningAtDeath>
    <resumedDialysisBeforeDeath>No</resumedDialysisBeforeDeath>
    <receivingHospiceCare>Unknown</receivingHospiceCare>
    <physician>
      <orgId>082300</orgId>
      <lastName>Null</lastName>
      <firstName>Personnel</firstName>
      <upin>A32537</upin>
      <npi>4910208030</npi>
    </physician>
    <personCompletingForm>1500317213</personCompletingForm>
    <signedDate>2021-07-21</signedDate>
  </form2746>
</form>
</p:demographic>

```

### A5.1.2 Form 2746 Success Response (XML)

```

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<demographic-feedback xmlns="http://crown.esrd.net/crown-demographic-feedback"
xmlns:ns2="http://crown.esrd.net/crown-common-feedback">
  <fileId>5a36382d-2484-4ccc-b599-30d4c1e6c362</fileId>
  <patient>
    <orgPatientId>NullWfbFQ52</orgPatientId>
    <crownPatientId>3100429433</crownPatientId>
    <orgFacilityCode>000200</orgFacilityCode>
    <crownFacilityId>600375456</crownFacilityId>
    <errors/>
    <warnings/>
  </patient>
</demographic-feedback>

```

### A5.1.3 Form 2746 Error Response (XML)

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
  <demographic-feedback xmlns="http://crown.esrd.net/crown-demographic-feedback"
xmlns:ns2="http://crown.esrd.net/crown-common-feedback">
  <fileId>e55c041a-884a-41a7-b1de-e6674aa820e0</fileId>
  <patient>
    <orgPatientId>NullWfbFQ52</orgPatientId>
    <crownPatientId>3100429433</crownPatientId>
    <orgFacilityCode>000200</orgFacilityCode>
    <errors>
      <ns2:error code="43044">A CMS-2746 Form already exists for this patient.
    </ns2:error>
    </errors>
    <warnings/>
  </patient>
</demographic-feedback>
```

### A5.1.4 Form 2746 (JSON)

```
{
  "demographic" : {
    "form" : [{
      "form2746" : {
        "dialysisEndedAfterRequest" : "NA",
        "discontinuedReason" : "MedicalComplication",
        "graftFunctioningAtDeath" : "Yes",
        "lastDialysisTreatmentDate" : "2021-06-03",
        "orgForm2746Id" : "Form2746-Pat",
        "orgPatientId" : "NullWfbFQ52",
        "otherCauseOfDeath" : "This element can contain up to 75 characters, but no more.",
        "patientInformation" : {
          "modalityAtDeath" : "IncenterHemodialysis",
          "patientIdentifier" : {
            "dob" : "1992-01-27",
            "firstName" : "EHekcovzyjzVXumZcgaTPEXKfyPdoiYhpay",
```

```
    "gender" : "M",
    "lastName" : "Null",
    "mbi" : "7EY1W51CH08",
    "ssn" : "551494981"
  },
  "stateOfResidence" : "PA"
},
"personCompletingForm" : "1500317213",
"physician" : {
  "firstName" : "Personnel",
  "lastName" : "Null",
  "npi" : "4910208030",
  "orgId" : "082300",
  "upin" : "A32537"
},
"placeOfDeath" : "Hospital",
"primaryCauseOfDeath" : "36",
"receivingHospiceCare" : "Unknown",
"resumedDialysisBeforeDeath" : "No",
"secondaryCauseOfDeath" : [
  "98",
  "101",
  "104",
  "27"
],
"signedDate" : "2021-07-21",
"therapyDiscontinued" : true
},
"formAction" : "Save",
"orgFacilityCode" : "000200"
}],
"orgAffiliation" : "125"
}
}
```



### A5.1.5 Form 2746 Success Response (JSON)

```
{
  "fileId" : "a9107261-8011-45f8-9c1a-f2ef385bff3a",
  "patients" : [
    {
      "crownFacilityId" : "600375456",
      "crownPatientId" : "3100429433",
      "errors" : [],
      "orgFacilityCode" : "000200",
      "orgPatientId" : "NullWfbFQ52",
      "warnings" : []
    }
  ]
}
```

### A5.1.6 Form 2746 Error Response (JSON)

```
{
  "fileId" : "a9107261-8011-45f8-9c1a-f2ef385bff3a",
  "patients" : [
    {
      "crownFacilityId" : null,
      "crownPatientId" : null,
      "errors" : [
        {
          "code" : 43044,
          "value" : "A CMS-2746 Form already exists for this patient."
        }
      ],
      "orgFacilityCode" : "000200",
      "orgPatientId" : "NullWfbFQ52",
      "warnings" : []
    }
  ]
}
```

## Appendix 6: Patient Reporting

### A6.1 Patient Reporting File Examples

#### A6.1.1 Patient Reporting (XML)

```
<crow:reportingMeasure xmlns:crow="http://crow.esrd.net/crow" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance" xsi:schemaLocation="http://crow.esrd.net/crow crown.xsd">
  <orgAffiliation>2</orgAffiliation>
  <patientReportingMeasure>
    <orgFacilityCode>DVA392699</orgFacilityCode>
    <orgPatientId>PWB-1638816228-1</orgPatientId>
    <timePeriod>
      <assessmentStartDate>2021-01-01</assessmentStartDate>
      <assessmentEndDate>2021-12-31</assessmentEndDate>
    </timePeriod>
    <reportingMeasureType>ClinicalDepression</reportingMeasureType>
    <reportingOption>3</reportingOption>
  </patientReportingMeasure>
</crow:reportingMeasure>
```

#### A6.1.2 Patient Reporting Success Response (XML)

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<clinical-feedback xmlns="http://crow.esrd.net/crow-clinical-feedback" xmlns:ns2="http://crow.esrd.net/crow-
common-feedback">
  <fileId>4a8e3b5d-2baf-4f92-a332-2d5b1da61d11</fileId>
  <clinicalDate>2021-01-01</clinicalDate>
  <clinicalData>
    <orgPatientId>PWB-1638816228-1</orgPatientId>
    <crowPatientId>3100592955</crowPatientId>
    <orgFacilityCode>DVA392699</orgFacilityCode>
```

```
<errors/>
<warnings/>
</clinicalData>
</clinical-feedback>
```

### A6.1.3 Patient Reporting Error Response (XML)

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<clinical-feedback xmlns="http://crown.esrd.net/crown-clinical-feedback" xmlns:ns2="http://crown.esrd.net/crown-
common-feedback">
  <fileId>4a8e3b5d-2baf-4f92-a332-2d5b1da61d11</fileId>
  <clinicalDate>2021-01-01</clinicalDate>
  <clinicalData>
    <orgPatientId>PWB-1638816228-1</orgPatientId>
    <crowPatientId>3100592955</crowPatientId>
    <orgFacilityCode>DVA392699</orgFacilityCode>
    <errors>
      <ns2:error code="50008">Patient does not have an admission at the facility provided, within the
selected Assessment Period dates 2021-01-01 to 2021-12-31 for PWB-1638816228-1.</ns2:error>
    </errors>
    <warnings/>
  </clinicalData>
</clinical-feedback>
```

### A6.1.4 Patient Reporting (JSON)

```
{
  "reportingMeasure" : {
    "orgAffiliation" : "2",
    "patientReportingMeasure" : [
      {
        "orgFacilityCode" : "DVA392699",
        "orgPatientId" : "PWB-1638816228-1",
        "reportingMeasureType" : "ClinicalDepression",
        "reportingOption" : 3,
        "timePeriod" : {
```

```
    "assessmentEndDate" : "2021-12-31",  
    "assessmentStartDate" : "2021-01-01"  
  }  
}  
]  
}  
}
```

### A6.1.5 Patient Reporting Success Response (JSON)

```
{  
  "clinicalData" : [  
    {  
      "crownFacilityId" : null,  
      "crownPatientId" : 3100592955,  
      "errors" : [],  
      "orgFacilityCode" : "DVA392699",  
      "orgPatientId" : "PWB-1638816228-1",  
      "warnings" : []  
    }  
  ],  
  "clinicalDate" : "2021-01-01",  
  "fileId" : "8a1f3af2-87c6-4338-9efc-a5f64a5b0efc"  
}
```

### A6.1.6 Patient Reporting Error Response (JSON)

```
{  
  "clinicalData" : [  
    {  
      "crownFacilityId" : null,  
      "crownPatientId" : 3100592955,  
      "errors" : [  
        {  
          "code" : 50008,  
          "value" : "Patient does not have an admission at the facility provided, within the selected  
Assessment Period dates 2021-01-01 to 2021-12-31 for PWB-1638816228-1."  
        }  
      ]  
    }  
  ]  
}
```



```
    }  
  ],  
  "orgFacilityCode" : "DVA392699",  
  "orgPatientId" : "PWB-1638816228-1",  
  "warnings" : []  
}  
],  
"clinicalDate" : "2021-01-01",  
"fileId" : "8a1f3af2-87c6-4338-9efc-a5f64a5b0efc"  
}
```

## Appendix 7: Vaccination Reporting

### A7.1 Vaccination Reporting File Examples

#### A7.1.1 Vaccination Reporting (XML)

```
<?xml version="1.0" encoding="UTF-8" ?>
<p:vaccinationReport
  xmlns:p="http://crown.esrd.net/crown"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://crown.esrd.net/crown crown.xsd">
  <orgAffiliation>123</orgAffiliation>
  <patientVaccination>
    <orgFacilityCode>112233</orgFacilityCode>
    <orgPatientId>123-abc-id</orgPatientId>
    <vaccinationRecord>
      <vaccinationType>Pneumococcal</vaccinationType>
      <vaccinationReceived>
        <receivedAt>FCLTY</receivedAt>
        <vaccinationSubtypeCode>PCV13</vaccinationSubtypeCode>
        <receivedDate>2020-01-10</receivedDate>
        <receivedDateApproximate>No</receivedDateApproximate>
        <significantAdverseReactionIndicator>Yes</significantAdverseReactionIndicator>
        <significantAdverseReactionText>Hospital</significantAdverseReactionText>

        <significantAdverseReactionFdaReportedIndicator>Unknown</significantAdverseReactionFdaReportedIndicator>
      </vaccinationReceived>
    </vaccinationRecord>
  </patientVaccination>
</p:vaccinationReport>
```

### A7.1.2 Vaccination Reporting Success Response (XML)

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<vaccination-report-feedback xmlns="http://crown.esrd.net/crown-vaccination-report-feedback"
xmlns:ns2="http://crown.esrd.net/crown-common-feedback">
  <fileId>739e6ffe-008f-47dc-868e-8abc70eb7b0e</fileId>
  <vaccinationReport>
    <orgPatientId>124-abc-id</orgPatientId>
    <crowPatientId>3100032466</crowPatientId>
    <orgFacilityCode>112233</orgFacilityCode>
    <crowFacilityId>1500632390</crowFacilityId>
    <errors/>
    <warnings/>
  </vaccinationReport>
</vaccination-report-feedback>
```

### A7.1.3 Vaccination Reporting Error Response (XML)

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<vaccination-report-feedback xmlns="http://crown.esrd.net/crown-vaccination-report-feedback"
xmlns:ns2="http://crown.esrd.net/crown-common-feedback">
  <fileId>739e6ffe-008f-47dc-868e-8abc70eb7b0e</fileId>
  <vaccinationReport>
    <orgPatientId>124-abc-id</orgPatientId>
    <crowPatientId>3100032466</crowPatientId>
    <orgFacilityCode>112233</orgFacilityCode>
    <crowFacilityId>1500632390</crowFacilityId>
    <errors>
      <ns2:error code="400">Could not find an unique facility with the given orgFacilityCode
112233</ns2:error>
    </errors>
    <warnings/>
  </vaccinationReport>
</vaccination-report-feedback>
```

```
</vaccinationReport>  
</vaccination-report-feedback>
```

#### A7.1.4 Vaccination Reporting (JSON)

```
{  
  "vaccinationReport" : {  
    "orgAffiliation" : "123",  
    "patientVaccination" : [  
      {  
        "orgFacilityCode" : "112233",  
        "orgPatientId" : "123-abc-id",  
        "vaccinationRecord" : {  
          "orgVaccinationId" : "<This field is unused, but must be present>",  
          "vaccinationReceived" : {  
            "receivedAt" : "FCLTY",  
            "receivedDate" : "2020-01-10",  
            "receivedDateApproximate" : "No",  
            "significantAdverseReactionFdaReportedIndicator" : "Unknown",  
            "significantAdverseReactionIndicator" : "Yes",  
            "significantAdverseReactionText" : "Hospital",  
            "vaccinationSubtypeCode" : "PCV13"  
          },  
          "vaccinationType" : "Pneumococcal"  
        },  
      }  
    ]  
  }  
}
```

#### A7.1.5 Vaccination Reporting Success Response (JSON)

```
{  
  "fileId" : "30463d59-2ab6-4268-bc69-9a8a54f7e85d",  
}
```



```
"vaccinations" : [
  {
    "crownFacilityId" : 1500632390,
    "crownPatientId" : 3100032466,
    "errors" : [],
    "orgFacilityCode" : "112233",
    "orgPatientId" : "123-abc-id",
    "warnings" : []
  }
]
```

#### A7.1.6 Vaccination Reporting Error Response (JSON)

```
{
  "fileId" : "30463d59-2ab6-4268-bc69-9a8a54f7e85d",
  "vaccinations" : [
    {
      "crownFacilityId" : 1500632390,
      "crownPatientId" : 3100032466,
      "errors" : [
        {
          "code" : 400,
          "value" : "Could not find an unique facility with the given orgFacilityCode 112233"
        }
      ],
      "orgFacilityCode" : "112233",
      "orgPatientId" : "123-abc-id",
      "warnings" : []
    }
  ]
}
```

## Appendix 8: Project Milestones

| PROJECT PLAN - ACTIONS  | OWNER                      | STATUS | ESTIMATED DURATION | DUE | NOTES   |
|---|----------------------------|--------|--------------------|-----|---|
| Review the EDSM Integration Guide.  | EDI Submitter              |        |                    |     |   |
| Request EDI submitter HARP role in EQRS.  | EDI Submitter and CMS      |        | 1 Day              |     |   |
| Submit onboarding request in EQRS.  | EDI Submitter              |        | 1 Day              |     |   |
| Review/approve onboarding request.  | CMS                        |        | 3 Days             |     |   |
| Complete build out of the client-side API.  | EDI Submitter              |        |                    |     |   |
| Request and retrieve credentials and endpoints for prod preview in EQRS and provide email for expiring credentials notifications. | EDI Submitter              |        | 1 Day              |     |   |
| Provide facilities to be mapped In the test environment.  | EDI Submitter and EQRS ADO |        | 3 Days             |     | Facility mapping is completed as part of the regular weekly facility updates communication. |
| Complete testing in prod preview.   | EDI Submitter              |        |                    |     |   |
| Provide facilities to be mapped in production environment.  | EDI Submitter and EQRS ADO |        | 3 Days             |     | Facility mapping is completed as part of the regular weekly facility updates communication. |
| Request and retrieve credentials and endpoints for production in EQRS and provide email for expiring credentials notifications.   | EDI Submitter              |        | 1 Day              |     |   |
| Begin production API submissions.   | EDI Submitter              |        |                    |     |   |