



Centers for Medicare & Medicaid Services
CMS eXpedited Life Cycle (XLC)

**CROWNWeb 4.2 – Electronic Data Interchange
(EDI)**

Interface Control Document

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1. Purpose of Interface Control

This Interface Control Document (ICD) documents and tracks the necessary information required to effectively define the CROWNWeb system's interface as well as any rules for communicating with them in order to give the development team guidance on architecture of the system to be developed. The purpose of this ICD is to clearly communicate all possible inputs and outputs from the system for all potential actions whether they are internal to the system or transparent to system users. This Interface Control is created during the Planning and Design Phases of the project. Its intended audience is the project manager, project team, development team, and stakeholders interested in interfacing with the system. This ICD helps ensure compatibility between system segments and components.

2. Introduction

This ICD specifies the interface requirements to be met by the participating systems. It describes the concept of operations for the interface, defines the message structure and protocols that govern the interchange of data, and identifies the communication paths along which the data are expected to flow.

For each interface, the following information will be provided:

- A general description of the interface;
- Assumptions where appropriate;
- A description of the data exchange format and protocol for exchange; and
- Estimated size and frequency of data exchange

There are many systems which are source systems from which XML files are created. CROWNWeb is the common target system.

See Section 4.2 Constraints for information regarding file size and record count constraints.

3. Overview

The CROWNWeb (Consolidated Renal Operations in a Web-Enabled Network, also referred to as CROWN) system allows certain users, "Batch Submitting Organizations" (BSOs) and NRAA member Nationwide Health Information Network (NwHIN) submitters to exchange data with the CROWN application via the electronic data interchange (EDI) of messages. The BSOs and NwHIN submitters' information technology systems are used to create messages as XML (eXtensible Markup Language) documents representing patient demographic or clinical data. XML is a standard platform-neutral text format to represent information for data exchange. The submitters then transmit these XML message documents through the CROWN system, which processes the information according to its normal business logic, then generates feedback messages, for retrieval by the submitter.

CROWN specifies XML schema documents (XSD documents or XSDs) to define and constrain the form and content of its XML message documents. A schema document or set of interrelated XSDs defines XML namespaces, or labeled structures, that identify and constrain the elements, attributes and types for conformance. If the XML document complies with the layout and content of its schema namespace, it is valid for that namespace, otherwise it is not valid. The XML world identifies each unique document namespace by a unique Uniform Resource Identifier (URI). The schemas for CROWN define several namespaces, whose URIs are:

- <http://crown.esrd.net/crown>
- <http://crown/crown-demographic-feedback>
- <http://crown/crown-clinical-feedback>

Despite their appearance, these URIs are not URLs (Uniform Resource Locators); there is not necessarily a web address to correspond to any of these. As URIs, they name (“identify”) the particular schema patterns in use by a particular XML document, but do not promise an actual location where to find that specification.

The **http://crown.esrd.net/crown** namespace defines the XML elements, attributes and types for CROWNWeb messages, packaged as XML documents submitted by users to the application. The feedback namespaces define the XML elements, attributes and types used for the replies to those submissions.

4. Assumptions/Constraints/Risks

4.1 Assumptions

The CROWNWeb EDI protocols assume:

- EDI users provide their own mechanisms to generate XML submissions for CROWNWeb and to parse and process the XML replies.
- CROWNWeb supports different access channels for EDI exchange. Currently, it allows users to upload XML files through the graphical user interface (GUI) and files can also be uploaded by approved submitters via the CMS enterprise infrastructure using the Nationwide Health Information Network (NwHIN).
- The results of all submitted and processed records will be recorded within a XML formatted feedback file that is generated by CROWNWeb for the user to download.
 - The feedback file will show the results of the processing for each record and include errors, warnings and their associated error codes and messages for each.
 - The error codes and messages are maintained in a separate spreadsheet; CROWNWeb_Batch_Error_Codes.xls. This spreadsheet is updated and distributed with every new CROWNWeb release.
- Schema validation errors shall return a 99998 error code and message. If there is a XML parsing error, a 99999 error code and message shall be returned.

- The 99999 error is the method for handling undocumented or generic errors within CROWNWeb. This error can be generated in several ways such as providing unsupported XSD elements, open ended tags, losing a data connection during submission, and having NULL SOURCE_ID mapping in the database.
 - A NULL SOURCE_ID mapping must be resolved by the CROWNWeb Helpdesk.

4.2 Constraints

CROWNWeb design must account for the system's deployment constraints:

- The CROWNWeb implementation must conform to CMS requirements, in particular to the three-tier technical reference architecture (TRA).
- For graphical user interface (GUI) CROWNWeb submissions, the submission file size can be no greater than 50MB and may contain 30,000 or more patient/clinical records. A file larger than 50MB will result in the display error: "The file you selected exceeded the size limit of 50MB. Please select a file to upload again."
- For NwHIN submissions, the file size limit is 35 kb and the submitter is limited to only submit one patient/clinical record per file.
- 'Collection Type' (Hemodialysis, Vascular Access, Peritoneal Dialysis) data must be submitted either in separate clinical sections within a patient's clinical submission or within totally separate clinical files. Submitting this data together without segmenting the collection type may result in errors returned.
- A patient record must be submitted prior to a clinical record being accepted by CROWNWeb for new End-Stage Renal Disease (ESRD) patients or facility transfer patients. Submitting a clinical record without a patient record first may result in errors returned.
- There are several enumerated lists that allow the user to choose "Other" as an answer to a particular question. If "Other" is chosen as an answer and there is an accompanying element for a text answer for the "Other" information, the user can then submit information for this element containing the "Other" text string. However, if the user submits text within the accompanying 'Other' element without choosing "Other" from the enumerated list, the data string will be ignored from the submission without a warning or error.
- Demographic submissions with addresses must include at least the State of the other type of address. For example; if you supply a Physical Address, you must add tags for Mailing and include at least the State. The same goes for the opposite. It is recommended to include both a complete Mailing and Physical address in demographic all submissions.
- Submission File Types: The system supports EDI submissions made via the SUI in the following file types: .xml; .zip; .gz (.zip and .gz are compressed zip files). Compressed zip files can only contain a single XML file. Multiple files within a zip file will result in an error. The 50MB file size still remains applicable.

4.3 Risks

To the extent technically feasible, the CROWNWeb design addresses risks to the system, to wit:

- RISK: Exchange protocols can be rigid, obscure and tricky to implement and maintain.
 - Mitigation: XML exchange is a well-understood and well-documented field, supported by many software platforms with readily available frameworks. The XML format is robust, extensible (as the name suggests) and being text-based, relatively easy to maintain. This reduces the cost and risks of error for the data-exchange protocol.
- RISK: Data may be misrepresented, miss required elements, appear in the wrong format, or have other surface error.
 - Mitigation: XML schemas precisely define acceptable structures and formats for XML documents. Confirmation of an XML message's schema validity is straightforward and rapidly filters out such errors.
 - The XML elements and types were designed to represent domain-specific entity information.
- RISK: Schema-valid data might fail to conform to CROWN business rules.
 - Mitigation: The EDI module relays schema-validated data as software constructs to CROWN's normal validation and persistence processes, and relays feedback messages back to the user to enable them to address discrepancies.

5. General Interface Requirements

As stated previously, CROWNWeb allows users to upload XML files through the graphical user interface (GUI) or instead via the CMS enterprise infrastructure using the Nationwide Health Information Network (NwHIN) and to download or receive feedback files providing information about the results of the submission.

5.1 Interface Overview

Overall, the XML processing follows the flow illustrated in [Figure 1](#), below. The flow of data through the interface is described in section [6.1.36-1.3](#) General Processing Steps.

5.2 Functional Allocation

The external systems provide an XML document submission to CROWN. CROWN parses the document into an internal form and confirms its XML validity.

5.3 Data Transfer

All EDI access points pass XML documents to the CROWNWeb EDI subsystem and receive XML documents from it. Please refer to Section [6.1.36-1.3](#) General Processing Steps.

5.4 Transactions

There are no transactions within the EDI subsystem. The CROWNWeb business logic manages transactions involving the extracted information, but that is out of scope for the XML messaging processes.

5.5 Security and Integrity

CROWN does have security mechanisms in place to restrict delivery of EDI messages, access to EDI features, or operations on EDI-submitted data. These are not part of the EDI subsystem but of other CROWNWeb modules, and are out of scope for this document. Similarly, NwHIN submissions are transferred via a secure Health Information Exchange (HIE) network.

6. Detailed Interface Requirements

6.1 Requirements for CROWNWeb

The XML Schema Document (XSD) specifications define XML types, elements and attributes that represent data for interchange with the CROWNWeb system. The items correspond to CROWN system requirements; the correlations are detailed in section [6.1.56-1.5 XML Document Format and Corresponding Requirements](#)~~XML Document Format and Corresponding Requirements~~.

6.1.1 Assumptions

The design of CROWNWeb's XML-based communication protocol assumes that:

- EDI participant systems meet the general business and infrastructure requirements to participate in the data exchange.
- All EDI exchanges with CROWNWeb will feed through its common XML-processing software layers, or "stack".
- The validation and persistence layers (stacks) are the same for data whether flowing through the EDI stack or the GUI.
- These assumptions allow the XML schemas to focus on data representation and its logical structure, leaving all processing responsibility outside their scope.

6.1.2 Design Goals

The design influences on the XML schemas included:

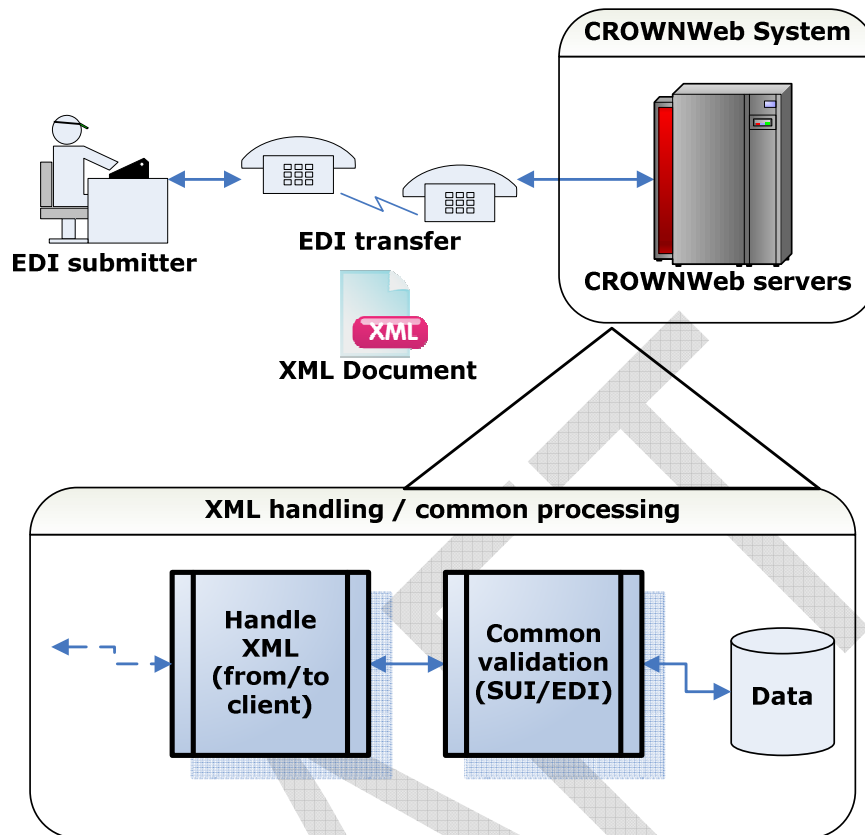
- The XML should represent the data to exchange and the broad operations requested for that data, not the detailed processing logic.
- The schema design should follow industry best practices.
- The XML processing steps should not impose barriers to deployment configuration or performance tuning.
- The XML processing should not impose barriers to feature enhancements such as the creation of new EDI messages or new connection channels.

- Include the new elements required for version CROWNWeb 4.2.
- Facilitate resolution of batch-submission discrepancies.
- Reduce the risk of inconsistencies between different XML submission types (currently comprising patient demographic information and patient clinical information).
- Enable common validation, processing, and persistence logic for data entered whether via the GUI or via XML communication channels.
- Improve the schema structures to be more logical and maintainable.
- Bring the XML structures to closer alignment with the domain ontology.
- Anticipate and facilitate future enhancements, such as planned additional enterprise communication channels for CROWNWeb XML data.
- Improve the clarity of internal documentation and nomenclature within the schemas.
- Ensure smooth integration with the enterprise infrastructure, particularly the three-tier architecture.

6.1.3 General Processing Steps

CROWNWeb understands three types of EDI documents – patient demographic data, such as name, address, admission date, treatment modality, and other data descriptive of the patient's status; clinical data, such as lab results, treatment details and the like and also Facility Attestations containing answers to the clinical years attestation survey.

Figure 1: EDI (XML) Process Flow



Feedback files are used to communicate EDI submission results to the submitters. Submitters are empowered to contact the QualityNet Help Desk for assistance, if there are issues related to the submissions. The Help Desk may create a Production incident ticket for tracking the issue.

6.1.4 Interface Processing Time Requirements

The System shall process submitted files within 24 hours of submission depending upon availability of the system.

6.1.5 XML Document Format and Corresponding Requirements

This section details the contents of the XML schemas and how they relate to requirements and business-domain concepts.

6.1.5.1 File Layout

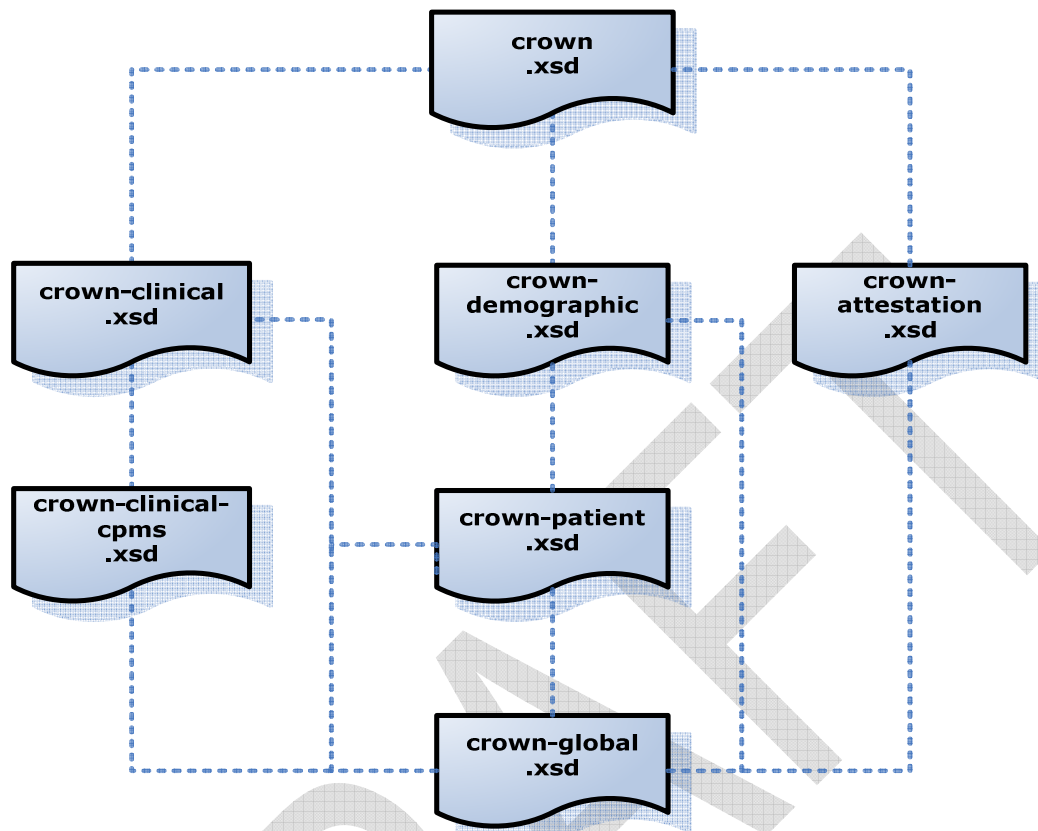
For convenience, the overall XML schema namespace is split among several individual XSD documents, starting with "crown.xsd". Logically, all these XSDs combine into a single CROWN schema, identified by the namespace "<http://crown.esrd.net/crown>".

The two types of EDI submission, demographic and clinical, are represented by the two top-level XML elements defined in "crown.xsd", "demographic," and "clinical," respectively.

The relationship among the documents is shown in **Figure 2**.

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Figure 2: XSD Document Relationships



The CROWNWeb Batch Schemas consist of seven separate schemas. Crown.xsd, crown-demographic.xsd, crown-clinical.xsd, crown-patient.xsd, crown-clinical-cpms.xsd, crown-global.xsd, and crown-attestation.xsd.

Table 1: Field/Element Definition details the content of the XSD schemas and what it specifies.

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6.1.5.2 Data Assembly Characteristics

XML data files shall be created and assembled outside of the system to conform to the CROWNWeb 4.1 Batch Specifications. Definition of fields and elements are provided in Table 1: Field/Element Definition.

6.1.5.3 Field/Element Definition

The XML schema defines all the business elements needed for data exchange.

Table 1: Field/Element Definition

XSD	Schema Type	Element or Attribute	Item Type	Business Name	Rqmt ID
crown.xsd		Demographic	Demographic	N/A: Organize and support consistency among other data elements	N/A
crown.xsd		Clinical	Clinical	N/A: Organize and support consistency among other data elements	N/A
crown-demographic.xsd	Demographic	orgAffiliation	OrganizationAffiliation	Authorized Batch Submitting Organization	RQMT_1135
crown-demographic.xsd	Demographic	Patient	Patient	N/A: Organize and support consistency among other data elements	N/A
crown-clinical.xsd	Clinical	orgAffiliation	OrganizationAffiliation	Authorized Batch Submitting Organization	RQMT_1135
crown-clinical.xsd	Clinical	clinicalPeriod	Period	N/A: Organize and support consistency among other data elements	N/A
crown-clinical.xsd	Clinical	patientClinical	PatientClinical	N/A: Organize and support consistency among other data elements	N/A
crown-clinical.xsd	PatientClinical	orgFacilityCode	xsd:string	Organizational Facility Code	RQMT_14
crown-clinical.xsd	PatientClinical	orgPatientId	xsd:string	Organization Patient ID	N/A
crown-clinical.xsd	PatientClinical	patientId	PatientIdentifier	CROWN Unique Patient Identifier (UPI)	RQMT_111
crown-clinical.xsd	PatientClinical	clinicalRecord	ClinicalRecord	N/A: Organize and support consistency among other data elements	N/A
crown-clinical.xsd	ClinicalRecord	labValues	LabValues	N/A: Organize and support consistency among other data elements	N/A
crown-clinical.xsd	ClinicalRecord	vascularAccess	VascularAccess	N/A: Organize and support consistency among other data elements	N/A
crown-clinical.xsd	ClinicalRecord	Cpms	CPMs	N/A: Organize and support consistency among other data elements	N/A
crown-patient.xsd	Patient	orgPatientId	NonEmptyString	Organization Patient Id	RQMT_218
crown-patient.xsd	Patient	effectiveDate	xsd:date	Effective Date	RQMT_34

XSD	Schema Type	Element or Attribute	Item Type	Business Name	Rqmt ID
crown-patient.xsd	Patient	patientIdentifier	PatientIdentifier	N/A: Organize and support consistency among other data elements	N/A
crown-patient.xsd	Patient	citizenshipStatus	CitizenshipStatus	Patient Citizenship Status	RQMT_1074
crown-patient.xsd	Patient	citizenshipEffectiveDate	xsd:date	Patient Citizenship Status Effective Date	RQMT_1075
crown-patient.xsd	Patient	medicareEnrollmentStatus	MedicareEnrollmentStatus	Medicare Enrollment Status	RQMT_1071
crown-patient.xsd	Patient	medicareEnrollmentStatusEffectiveDate	xsd:date	Medicare Enrollment Status Effective Date	RQMT_1072
crown-patient.xsd	Patient	employmentStatus	EmploymentStatus	Patient Current Employment Status	RQMT_137
crown-patient.xsd	Patient	employmentStatusEffectiveDate	xsd:date	Patient Current Employment Status Effective Date	RQMT_1068
crown-patient.xsd	Patient	schoolStatus	SchoolStatus	Patient Current School Status	RQMT_151
crown-patient.xsd	Patient	schoolStatusEffectiveDate	xsd:date	Patient Current School Status Effective Date	RQMT_1069
crown-patient.xsd	Patient	vocationalRehab	VocationalRehab	Patient Current Vocational Rehabilitation Status	RQMT_152
crown-patient.xsd	Patient	vocationalRehabEffectiveDate	xsd:date	Patient Current Vocational Rehabilitation Status Effective Date	RQMT_1067
crown-patient.xsd	Patient	Phone	Phone	N/A: Organize and support consistency among other data elements	N/A
crown-patient.xsd	Patient	admitDischarge	AdmitDischarge	N/A: Organize and support consistency among other data elements	N/A
crown-patient.xsd	CitizenshipStatus		enumeration: USCitizen, NonUSCitizen, ForeignUSResident, USResident	Patient Citizenship Status	RQMT_1074
crown-patient.xsd	PatientIdentifier	lastName	LastName	Patient Last Name	RQMT_113
crown-patient.xsd	PatientIdentifier	firstName	FirstName	Patient First Name	RQMT_115
crown-patient.xsd	PatientIdentifier	middleInitial	MiddleInitial	Patient Middle Initial	RQMT_116
crown-patient.xsd	PatientIdentifier	Suffix	Suffix	Patient Suffix	RQMT_114
crown-patient.xsd	PatientIdentifier	Hicnum	Hicnum	Patient Medicare Claim Number	RQMT_117

XSD	Schema Type	Element or Attribute	Item Type	Business Name	Rqmt ID
crown-patient.xsd	PatientIdentifier	Ssn	SSN	Patient Social Security Number	RQMT_120
crown-patient.xsd	PatientIdentifier	crownPatientId	xsd:string	CROWN Unique Patient Identifier (UPI)	RQMT_111
crown-patient.xsd	PatientIdentifier	Gender	Gender	Patient Sex/Gender	RQMT_118
crown-patient.xsd	PatientIdentifier	Dob	xsd:date	Patient Date of Birth	RQMT_119
crown-patient.xsd	PatientIdentifier	Dod	xsd:date	Patient Date of Death	RQMT_135
crown-patient.xsd	PatientIdentifier	raceEthnicity	RaceEthnicity	N/A: Organize and support consistency among other data elements	N/A
crown-patient.xsd	PatientIdentifier	countryOfOrigin	Country	Patient Country/Area of Origin or Ancestry	RQMT_747
crown-patient.xsd	PatientIdentifier	hicnumNA	xsd:boolean {false}	Patient Medicare Claim Number Not applicable	RQMT_117
crown-patient.xsd	PatientIdentifier	ssnNA	xsd:boolean {false}	Patient Social Security Number Not applicable	RQMT_120
crown-patient.xsd	SSN		xsd:string	Patient Social Security Number	RQMT_120
crown-patient.xsd	Hicnum		xsd:string	Patient Medicare Claim Number	RQMT_117
crown-patient.xsd	RaceEthnicity	Race	Race	Patient Race	RQMT_131
crown-patient.xsd	RaceEthnicity	Ethnicity	Ethnicity	Patient Ethnicity	RQMT_129
crown-patient.xsd	RaceEthnicity	selfReported	ListedRaceSelfReported	Patient's Self Reporting of Race and Ethnicity	RQMT_1066
crown-patient.xsd	Race	raceCode	RaceCode	Patient Race	RQMT_131
crown-patient.xsd	Race	tribeCode	TribeCode	Name of Enrolled/Principal Tribe	RQMT_748
crown-patient.xsd	ListedRaceSelfReported		enumeration: SelfReported, NotSelfReported, FamilyReported, PatientDeclined	Patient's Self Reporting of Race and Ethnicity	RQMT_1066
crown-patient.xsd	AdmitDischarge	admitDischargeUniqueId	NonEmptyString	Admit/Discharge Unique Identifier	N/A
crown-patient.xsd	AdmitDischarge	orgFacilityCode	NonEmptyString	CROWN Facility Unique Identifier	RQMT_352
crown-patient.xsd	AdmitDischarge	admitDate	xsd:date	Admit Date	RQMT_354
crown-patient.xsd	AdmitDischarge	admitReason	AdmitReason	Admit Reason	RQMT_355
crown-patient.xsd	AdmitDischarge	Transient	xsd:Boolean	Transient Status	RQMT_356

XSD	Schema Type	Element or Attribute	Item Type	Business Name	Rqmt ID
crown-patient.xsd	AdmitDischarge	transientReason	TransientReason	Transient Reason	RQMT_357
crown-patient.xsd	AdmitDischarge	dischargeDate	xsd:date	Discharge Date	RQMT_361
crown-patient.xsd	AdmitDischarge	dischargeReason	DischargeReason	Discharge Reason	RQMT_362
crown-patient.xsd	AdmitDischarge	involuntaryDischarge	InvoluntaryDischarge	Involuntary Discharge	RQMT_363
crown-patient.xsd	AdmitDischarge	transferDischarge	TransferDischarge	Transfer Discharge Subcategory	RQMT_364
crown-patient.xsd	AdmitDischarge	transientAddress	Address	Patient Transient Address	RQMT_375
crown-patient.xsd	AdmitDischarge	transientPhoneNumber	Phone	Patient Transient Contact Phone Number	RQMT_380
crown-patient.xsd	AdmitDischarge	Modality	Modality	Primary Type of Treatment (Modality)	RQMT_367
crown-patient.xsd	AdmitDischarge	action This field is currently not used by the system.	Action {declare}	N/A - System Action	N/A
crown-patient.xsd	Modality	Practitioner	Physician	CROWN Personnel Unique Identifier	RQMT_84
crown-patient.xsd	Modality	modalityId	NonEmptyString	Modality Unique Identifier	N/A
crown-patient.xsd	Modality	changeDate	xsd:date	Effective Date (Change)	RQMT_150
crown-patient.xsd	Modality	dialysisSetting	DialysisSetting	Primary Dialysis Setting	RQMT_366
crown-patient.xsd	Modality	primaryTreatmentType	TreatmentType	Primary Type of Treatment	RQMT_367
crown-patient.xsd	Modality	prescribedSessionsPerWeek	xsd:decimal	Sessions per Week	RQMT_368
crown-patient.xsd	Modality	minutesPerSession	xsd:positiveInteger	Time Per Session (Delivered)	RQMT_369
crown-patient.xsd	Modality	dialysisTraining	DialysisTraining	N/A: Organize and support consistency among other data elements	N/A
crown-patient.xsd	Physician	orgId	NonEmptyString	Organization Facility Code	RQMT_14
crown-patient.xsd	Physician	lastName	NonEmptyString	Attending Practitioner Name	RQMT_370
crown-patient.xsd	Physician	firstName	NonEmptyString	Attending Practitioner Name	RQMT_370
crown-patient.xsd	Physician	Upin	UPIN	Attending Practitioner UPIN	RQMT_372
crown-patient.xsd	Physician	Npi	NPI	Attending Practitioner National Provider Identifier (NPI)	RQMT_373

XSD	Schema Type	Element or Attribute	Item Type	Business Name	Rqmt ID
crown-patient.xsd	DialysisTraining	trainingType	DialysisType	Type of Training	RQMT_367
crown-patient.xsd	DialysisTraining	Value	xsd:string	Type of Training	RQMT_367
crown-patient.xsd	DialysisTraining	dialysisPeriod	DialysisPeriod	Dialysis Time Period	RQMT_1073
crown-patient.xsd	DialysisTraining	dialysisTrainingStart	xsd:date	Date Training Began	RQMT_274
crown-patient.xsd	DialysisTraining	dialysisTrainingEnd	xsd:date	Training Completion Date	RQMT_278
crown-patient.xsd	DialysisTraining	expectedSelfCare	SelfCareSetting	Expected Self-Care Setting	RQMT_1070
crown-patient.xsd	Suffix		enumeration: 1 - 7	Patient Suffix	RQMT_114
crown-patient.xsd	Gender		enumeration: M, F	Patient Sex/Gender	RQMT_118
crown-patient.xsd	AdmitReason		enumeration: 1-5	Admit Reason	RQMT_355
crown-patient.xsd	TransientReason		enumeration: 1-7	Transient Reason	RQMT_357
crown-patient.xsd	DischargeReason		enumeration: 1 - 9,11	Discharge Reason	RQMT_362
crown-patient.xsd	InvoluntaryDischarge		enumeration: 1-7	Involuntary Discharge	RQMT_363
crown-patient.xsd	TransferDischarge		enumeration: 1-6	Transfer Discharge Subcategory	RQMT_364
crown-patient.xsd	DialysisSetting		enumeration: 1-3	Primary Dialysis Setting	RQMT_366
crown-patient.xsd	TreatmentType		enumeration: 1-4	Primary Type of Treatment	RQMT_367
crown-patient.xsd	Ethnicity		enumeration: 6-7	Patient Ethnicity	RQMT_129
crown-patient.xsd	SchoolStatus		enumeration: 1-3	Patient Current School Status	RQMT_151
crown-patient.xsd	EmploymentStatus		enumeration: Unemployed, FullTime, PartTime, Homemaker, RetiredAgePref, RetiredDisability, MedicalLeave, Student	Patient Current Employment Status	RQMT_137
crown-patient.xsd	VocationalRehab		enumeration: 1-5	Patient Current Vocational Rehabilitation Status	RQMT_152
crown-patient.xsd	RaceCode		enumeration: 1 - 4, 6	Patient Race	RQMT_131
crown-patient.xsd	TribeCode		enumeration: 0 - 448, 990, 997 : except: 239, 241-242, 253-254, 264,-265, 270-271, 288-289, 292, 296-302, 310-311, 316-319, 325-329, 341-344, 361-362, 386-289, 409, 414, 416, 436-440	Name of Enrolled/Principal Tribe	RQMT_748

XSD	Schema Type	Element or Attribute	Item Type	Business Name	Rqmt ID
crown-clinical-cpms.xsd	CPMs	Adequacy	Adequacy	N/A: Organize and support consistency among other data elements	N/A
crown-clinical-cpms.xsd	CPMs	esaPrescription	ESAPrescription	N/A: Organize and support consistency among other data elements	N/A
crown-clinical-cpms.xsd	CPMs	fluidWeightManagement	FluidWeightManagement	N/A: Organize and support consistency among other data elements	N/A
crown-clinical-cpms.xsd	CPMs	Hospitalization	Hospitalization	N/A: Organize and support consistency among other data elements	N/A
crown-clinical-cpms.xsd	CPMs	Vaccinations	Vaccinations	N/A: Organize and support consistency among other data elements	N/A
crown-clinical-cpms.xsd	CPMs	ironCpm	IronCpm	N/A: Organize and support consistency among other data elements	N/A
crown-clinical-cpms.xsd	Adequacy	hKtVInfo	HKtVInfo	N/A: Organize and support consistency among other data elements	N/A
crown-clinical-cpms.xsd	Adequacy	pKtVInfo	PKtVInfo	N/A: Organize and support consistency among other data elements	N/A
crown-clinical-cpms.xsd	ESA	wasPrescribed	xsd:Boolean	ESA Agent Was Administered	RQMT_305
crown-clinical-cpms.xsd	ESA	Prescription	ESAPrescription	N/A: Organize and support consistency among other data elements	N/A
crown-clinical-cpms.xsd	ESAPrescription	Date	xsd:date	Date ESA Administered Changed	RQMT_306
crown-clinical-cpms.xsd	FluidWeightManagement	postDialysisWgtAssessmentDate	xsd:date	Post Dialysis Weight Assessment Date	RQMT_1053
crown-clinical-cpms.xsd	FluidWeightManagement	postDialysisTargetWgtRxed	xsd:Boolean	Post-Dialysis Target Weight for Session	RQMT_1052
crown-clinical-cpms.xsd	Hospitalization	hospitalizationId	xsd:string	HospitalizationID	N/A
crown-clinical-cpms.xsd	Hospitalization	admissionDate	xsd:date	Hospital Admission Date	RQMT_1027
crown-clinical-cpms.xsd	Hospitalization	dischargeDate	xsd:date	Hospital Discharge Date	RQMT_1028

XSD	Schema Type	Element or Attribute	Item Type	Business Name	Rqmt ID
crown-clinical-cpms.xsd	Hospitalization	Visit	HospitalVisit	All Hospital Visits	RQMT_1026
crown-clinical-cpms.xsd	Vaccinations	hepatitisBVaccineNotGiven	xsd:Boolean	Vaccination Exclusion Type	RQMT_1110
crown-clinical-cpms.xsd	Vaccinations	hepatitis	HepatitisB	N/A: Organize and support consistency among other data elements	N/A
crown-clinical-cpms.xsd	Vaccinations	influenzaVaccineNotGiven	xsd:Boolean	Vaccination Exclusion Type	RQMT_1110
crown-clinical-cpms.xsd	Vaccinations	Influenza	Vaccination	Influenza Vaccination date	RQMT_990
crown-clinical-cpms.xsd	Vaccinations	PneumococcalVaccineNotGiven	xsd:Boolean	Vaccination Exclusion Type	RQMT_1110
crown-clinical-cpms.xsd	Vaccinations	Pneumococcal	Vaccination	Pneumococcal Vaccination date	RQMT_995
crown-clinical-cpms.xsd	Infection	infectionId	xsd:string	InfectionId	N/A
crown-clinical-cpms.xsd	Infection	outpatientAntibiotics	Complex Type; hospitalizationDate	Infection Hospitalization Date	RQMT_1209
crown-clinical-cpms.xsd	Infection	isHospitalizationReqd	xsd:Boolean	Infection Requires Hospitalization	RQMT_1202
crown-clinical-cpms.xsd	IronCpm	ivPrescribed	xsd:Boolean	Intravenous (IV) Iron Prescribed	RQMT_313
crown-clinical-cpms.xsd	IronCpm	ivIron	IVIron	Intravenous (IV) Iron	RQMT_981
crown-clinical-cpms.xsd	IronCpm	poPrescribed	xsd:Boolean	Oral (PO) Iron Prescribed	RQMT_984
crown-clinical-cpms.xsd	IronCpm	poIron	POIron	Oral (PO) Iron	RQMT_985
crown-clinical-cpms.xsd	HKtVInfo	Method	HKtVMethod	Kt/V Hemodialysis Method	RQMT_323
crown-clinical-cpms.xsd	HKtVInfo	Hgt	Height	Patient Height	RQMT_338
crown-clinical-cpms.xsd	HKtVInfo	Bun	Bun	N/A: Organize and support consistency among other data elements	N/A
crown-clinical-cpms.xsd	HKtVInfo	nPCR	NPCRValue	Normalized Protein Catabolic (nPCR) and Collection Date	RQMT_1009
crown-clinical-cpms.xsd	Bun	bunPreDialysis	xsd:int	BUN Pre-Dialysis	RQMT_330
crown-clinical-cpms.xsd	Bun	preDialysisWgt	xsd:decimal	Pre-Dialysis Weight	RQMT_332

XSD	Schema Type	Element or Attribute	Item Type	Business Name	Rqmt ID
crown-clinical-cpms.xsd	Bun	preDialysisWgtUnit	WeightUnit	Pre-Dialysis Weight Unit of Measure	RQMT_333
crown-clinical-cpms.xsd	Bun	bunPostDialysis	xsd:int	BUN Post-Dialysis	RQMT_331
crown-clinical-cpms.xsd	Bun	postDialysisWgt	xsd:decimal	Post-Dialysis Weight	RQMT_334
crown-clinical-cpms.xsd	Bun	postDialysisWgtUnit	WeightUnit	Post-Dialysis Weight Unit of Measure	RQMT_335
crown-clinical-cpms.xsd	Bun	bunSessionMinutes	xsd:int	Delivered Minutes of BUN Hemodialysis Session	RQMT_337
crown-clinical-cpms.xsd	PKtVInfo	ktV	PKtV	Weekly Kt/V Peritoneal Dialysis	RQMT_325
crown-clinical-cpms.xsd	PKtVInfo	nPCR	NPCRValue	Normalized Protein Catabolic (nPCR) and Collection Date	RQMT_1009
crown-clinical-cpms.xsd	PKtVInfo	urineVol	xsd:int	Urine Volume	RQMT_347
crown-clinical-cpms.xsd	PKtVInfo	Wgt	Weight	Clinic Weight	RQMT_340
crown-clinical-cpms.xsd	PKtVInfo	Bsac	xsd:Boolean	BSA Corrected	RQMT_342
crown-clinical-cpms.xsd	PKtVInfo	Crc	CrcValue	Creatinine Clearance	RQMT_343
crown-clinical-cpms.xsd	PKtVInfo	Hgt	Height	Patient Height	RQMT_338
crown-clinical-cpms.xsd	PKtV	Value	xsd:decimal	Weekly Kt/V Peritoneal Dialysis	RQMT_325
crown-clinical-cpms.xsd	PKtV	Date	xsd:date	Date of PD Adequacy Measurement	RQMT_324
crown-clinical-cpms.xsd	PKtV	Method	PKtVMethod	Kt/V Peritoneal Dialysis Method	RQMT_326
crown-clinical-cpms.xsd	PKtV	bsaMethod	BsaMethod	Body Surface Area Method	RQMT_327
crown-clinical-cpms.xsd	PKtV	Rrf	xsd:Boolean	Residual Renal Function Assessed in Calculating Kt/V?	RQMT_328
crown-clinical-cpms.xsd	OutpatientAntibiotics	hospitalizationDate	xsd:date	Infection Hospitalization Date	RQMT_1209
crown-clinical-cpms.xsd	HepatitisB	vaccinationDate1	xsd:date	Hepatitis B Vaccination Dates1	RQMT_1003
crown-clinical-cpms.xsd	HepatitisB	vaccinationDate2	xsd:date	Hepatitis B Vaccination Dates2	RQMT_1003

XSD	Schema Type	Element or Attribute	Item Type	Business Name	Rqmt ID
crown-clinical-cpms.xsd	HepatitisB	vaccinationDate3	xsd:date	Hepatitis B Vaccination Dates3	RQMT_1003
crown-clinical-cpms.xsd	HepatitisB	vaccinationDate4	xsd:date	Hepatitis B Vaccination Dates4	RQMT_1003
crown-clinical-cpms.xsd	HepatitisB	boosterDate1	xsd:date	Hepatitis B Booster Dates1	RQMT_1022
crown-clinical-cpms.xsd	HepatitisB	boosterDate2	xsd:date	Hepatitis B Booster Dates2	RQMT_1022
crown-clinical-cpms.xsd	HepatitisB	boosterDate3	xsd:date	Hepatitis B Booster Dates3	RQMT_1022
crown-clinical-cpms.xsd	HepatitisB	boosterDate4	xsd:date	Hepatitis B Booster Dates4	RQMT_1022
crown-clinical-cpms.xsd	HepatitisB	Exclusion	Exclusion	Reason No Hepatitis B Immunization	RQMT_1110
crown-clinical-cpms.xsd	HepatitisB	antiHBs	AntiHBs	Anti-HBs (mIU/mL)	RQMT_1001
crown-clinical-cpms.xsd	AntiHBs	testResult	xsd:decimal	Anti-HBs	RQMT_1001
crown-clinical-cpms.xsd	AntiHBs	testDate	xsd:date	Anti-HBs Date Performed	RQMT_1002
crown-clinical-cpms.xsd	NPCRValue	Value	xsd:decimal	Normalized Protein Catabolic (nPCR) Rate	RQMT_1009
crown-clinical-cpms.xsd	NPCRValue	Date	Date	Normalized Protein Catabolic (nPCR) Collection Date	RQMT_1010
crown-clinical-cpms.xsd	VascularAccess	accessType	VascularAccessType	Access Type for Dialysis	RQMT_395
crown-clinical-cpms.xsd	VascularAccess	accessDate	xsd:date	Date Access Type for Dialysis Changed	RQMT_1138
crown-clinical-cpms.xsd	VascularAccess	dxSessDate	xsd:date	Date of Reported Dialysis Session	RQMT_399
crown-clinical-cpms.xsd	VascularAccess	avfCreateDate	xsd:date	AVF Creation Date	RQMT_1139
crown-clinical-cpms.xsd	VascularAccess	avfUseDate	xsd:date	AVF Usable Date	RQMT_401
crown-clinical-cpms.xsd	VascularAccess	avfMaturing	xsd:boolean	Maturing AVF Present?	RQMT_396
crown-clinical-cpms.xsd	VascularAccess	avfState	AvState	AV Fistula State	RQMT_402
crown-clinical-cpms.xsd	VascularAccess	avgMaturing	xsd:boolean	Maturing Graft Present?	RQMT_397
crown-clinical-cpms.xsd	VascularAccess	avgState	AvState	AV Graft State	RQMT_403

XSD	Schema Type	Element or Attribute	Item Type	Business Name	Rqmt ID
crown-clinical-cpms.xsd	VascularAccessType	Listed	ListedVascularAccessType	Access Type for Dialysis	RQMT_395
crown-clinical-cpms.xsd	ListedVascularAccessType		enumeration: AVFonly, AVFwAVG, AVFwCatheter, AVGonly, AVGwCatheter, CatheterOnly, PortOnly, Other	Access Type for Dialysis	RQMT_395
crown-clinical-cpms.xsd	AvState		enumeration: NotPresent, Created, Active, Inactive, Removed	AV Fistula State	RQMT_402
crown-clinical-cpms.xsd	AvState		enumeration: NotPresent, Created, Active, Inactive, Removed	AV Graft State	RQMT_403
crown-clinical-cpms.xsd	HospitalVisit		enumeration: ER, Hospitalization, ERResultingHospitalization	All Hospital Visits	RQMT_1026
crown-clinical-cpms.xsd	IVIron	Date	xsd:date	Iron Dose Date	
crown-clinical-cpms.xsd	POIron	Date	xsd:date	PO Iron Dose Date	
crown-clinical-cpms.xsd	HkTVMMethod	Listed	ListedHkTVMMethod	Kt/V Hemodialysis Method	RQMT_323
crown-clinical-cpms.xsd	ListedHkTVMMethod		enumeration: UKM, Daugirdas2	Kt/V Hemodialysis Method	RQMT_323
crown-clinical-cpms.xsd	PKtVMMethod	Listed	ListedPKtVMMethod	Kt/V Peritoneal Dialysis Method	RQMT_326
crown-clinical-cpms.xsd	PKtVMMethod	Other	xsd:string	Kt/V Peritoneal Dialysis Method	RQMT_326
crown-clinical-cpms.xsd	ListedPKtVMMethod		enumeration: PercentBodyWgt, Hume, Watson, Other	Kt/V Peritoneal Dialysis Method	RQMT_326
crown-clinical-cpms.xsd	LabValues	Hgb	HgbValue	Hemoglobin	RQMT_303
crown-clinical-cpms.xsd	LabValues	Fer	FerValue	Serum Ferritin	RQMT_307
crown-clinical-cpms.xsd	LabValues	Tsat	TsatValue	Iron Saturation (TSAT) Percentage	RQMT_309
crown-clinical-cpms.xsd	LabValues	Chr	ChrValue	Reticulocyte Hemoglobin (CHr)	RQMT_311
crown-clinical-cpms.xsd	LabValues	Phos	PhosValue	Serum Phosphorus	RQMT_315
crown-clinical-cpms.xsd	LabValues	Cca	CcaValue	Corrected Serum Calcium	RQMT_317

XSD	Schema Type	Element or Attribute	Item Type	Business Name	Rqmt ID
crown-clinical-cpms.xsd	LabValues	Uca	UcaValue	Uncorrected Serum Calcium	RQMT_319
crown-clinical-cpms.xsd	LabValues	Alb	AlbValue	Serum Albumin	RQMT_296
crown-clinical-cpms.xsd	LabValues	Cre	CreValue	Serum Creatinine	RQMT_300
crown-clinical-cpms.xsd	HgbValue	Value	DecimalDateGroup	Hemoglobin Value	RQMT_303
crown-clinical-cpms.xsd	HgbValue	Date	DecimalDateGroup	Hemoglobin Collection Date	RQMT_304
crown-clinical-cpms.xsd	FerValue	Value	IntDateGroup	Serum Ferritin Value	RQMT_307
crown-clinical-cpms.xsd	FerValue	Date	IntDateGroup	Serum Ferritin Collection Date	RQMT_308
crown-clinical-cpms.xsd	TsatValue	Value	IntDateGroup	Iron Saturation (TSAT) Percentage Value	RQMT_309
crown-clinical-cpms.xsd	TsatValue	Date	IntDateGroup	Iron Saturation (TSAT) Percentage Collection Date	RQMT_310
crown-clinical-cpms.xsd	ChrValue	Value	IntDateGroup	Reticulocyte Hemoglobin (CHR) Value	RQMT_311
crown-clinical-cpms.xsd	ChrValue	Date	IntDateGroup	Reticulocyte Hemoglobin (CHR) Collection Date	RQMT_312
crown-clinical-cpms.xsd	PhosValue	Value	DecimalDateGroup	Serum Phosphorus Value	RQMT_315
crown-clinical-cpms.xsd	PhosValue	Date	DecimalDateGroup	Serum Phosphorus Collection Date	RQMT_316
crown-clinical-cpms.xsd	CcaValue	Value	DecimalDateGroup	Corrected Serum Calcium Value	RQMT_317
crown-clinical-cpms.xsd	CcaValue	Date	DecimalDateGroup	Corrected Serum Calcium Collection Date	RQMT_318
crown-clinical-cpms.xsd	UcaValue	Value	DecimalDateGroup	Uncorrected Serum Calcium Value	RQMT_319
crown-clinical-cpms.xsd	UcaValue	Date	DecimalDateGroup	Uncorrected Serum Calcium Collection Date	RQMT_320
crown-clinical-cpms.xsd	AlbValue	Method	AlbMethod	Lab Method (for Serum Albumin)	RQMT_299
crown-clinical-cpms.xsd	AlbValue	lowValue	xsd:decimal	Serum Albumin Lower Limit	RQMT_298
crown-clinical-cpms.xsd	AlbValue	Value	DecimalDateGroup	Serum Albumin Value	RQMT_296
crown-clinical-cpms.xsd	AlbValue	Date	DecimalDateGroup	Serum Albumin Collection Date	RQMT_297

XSD	Schema Type	Element or Attribute	Item Type	Business Name	Rqmt ID
crown-clinical-cpms.xsd	CreValue	Value	DecimalDateGroup	Serum Creatinine Value	RQMT_300
crown-clinical-cpms.xsd	CreValue	Date	DecimalDateGroup	Serum Creatinine Collection Date	RQMT_301
crown-clinical-cpms.xsd	CrcValue	Value	xsd:decimal	Creatinine Clearance	RQMT_343
crown-clinical-cpms.xsd	CrcValue	Unit	CrcUnit	Creatinine Clearance Method	RQMT_746
crown-clinical-cpms.xsd	AlbMethod		enumeration: BCG, BCP	Lab Method (for Serum Albumin)	RQMT_299
crown-clinical-cpms.xsd	BsaMethod	Listed	ListedBsaMethod	Body Surface Area Method	RQMT_327
crown-clinical-cpms.xsd	BsaMethod	Other	xsd:string	Other Body Surface Area Method	RQMT_327
crown-clinical-cpms.xsd	ListedBsaMethod		enumeration: DuBoisDuBois, Other	Body Surface Area Method	RQMT_327
crown-clinical-cpms.xsd	CrcUnit		enumeration: LWK, LWK173M2	Creatinine Clearance Method	RQMT_746
crown-global.xsd	Address	street1	NonEmptyString	Patient Street Address (Mailing)	RQMT_123
crown-global.xsd	Address	street1	NonEmptyString	Patient Address (Physical)	RQMT_139
crown-global.xsd	Address	street2	NonEmptyString	Patent Street Address 2 (Mailing)	RQMT_124
crown-global.xsd	Address	street2	NonEmptyString	Patient Address 2 (Physical)	RQMT_140
crown-global.xsd	Address	City	NonEmptyString	Patient City (Mailing)	RQMT_125
crown-global.xsd	Address	City	NonEmptyString	Patient City (Physical)	RQMT_141
crown-global.xsd	Address	State	State	Patient State of Residence	RQMT_122
crown-global.xsd	Address	State	State	(Mailing) and (Physical)	RQMT_138
crown-global.xsd	Address	Zip	ZipCode	Patient Zip Code (Mailing)	RQMT_126
crown-global.xsd	Address	Zip	ZipCode	Patient Zip Code (Physical)	RQMT_143
crown-global.xsd	Address	zipExt	ZipCodeExt	Patient + 4 Zip Code (Mailing)	RQMT_127
crown-global.xsd	Address	zipExt	ZipCodeExt	Patient + 4 Zip Code (physical)	RQMT_144
crown-global.xsd	Address	County	NonEmptyString	Patient County (Physical)	RQMT_142
crown-global.xsd	Address	addressType	AddressType	N/A: Organize and support consistency among other data elements.	N/A

XSD	Schema Type	Element or Attribute	Item Type	Business Name	Rqmt ID
crown-global.xsd	AreaCode		xsd:string	Phone Number Area code	N/A
crown-global.xsd	DialysisPeriod		enumeration: Day, Nocturnal	Dialysis Time Period	RQMT_1073
crown-global.xsd	IntervalUnit		enumeration: DHM, Hours, Minutes	N/A: Organize and support consistency among other data elements	N/A
crown-global.xsd	MonthYearGroup	Month	Month	N/A: Organize and support consistency among other data elements	N/A
crown-global.xsd	MonthYearGroup	Year	xsd:int	N/A: Organize and support consistency among other data elements	N/A
crown-global.xsd	Period		MonthYearGroup	N/A: Organize and support consistency among other data elements.	N/A
crown-global.xsd	Period	Date	xsd:date	N/A: Organize and support consistency among other data elements.	N/A
crown-global.xsd	Phone	areaCode	AreaCode	Phone Number Area code	N/A
crown-global.xsd	Phone	phoneNumber	PhoneNumber	Patient Home Phone Number	RQMT_145
crown-global.xsd	Phone	phoneNumber	PhoneNumber	Patient Work Phone Number	RQMT_146
crown-global.xsd	Phone	phoneNumber	PhoneNumber	Patient Cell Phone Number	RQMT_148
crown-global.xsd	Phone	Ext	NonEmptyString	Phone Number Extension	N/A
crown-global.xsd	Phone	Type	PhoneType	N/A: Organize and support consistency among other data elements.	N/A
crown-global.xsd	PhoneNumber		xsd:string	Patient Home Phone Number	RQMT_145
crown-global.xsd	PhoneNumber		xsd:string	Patient Work Phone Number	RQMT_146
crown-global.xsd	PhoneNumber		xsd:string	Patient Cell Phone Number	RQMT_148
crown-global.xsd	Height	Value	xsd:decimal	Patient Height	RQMT_338
crown-global.xsd	Height	Unit	LengthSmallUnit	Patient Height Unit of Measure	RQMT_339
crown-global.xsd	Weight	Value	xsd:decimal	Pre-Dialysis Weight	RQMT_332
crown-global.xsd	Weight	Unit	WeightUnit	Pre-Dialysis Weight Unit of Measure	RQMT_333

XSD	Schema Type	Element or Attribute	Item Type	Business Name	Rqmt ID
crown-global.xsd	ZipCode		xsd:string	Address Zip Code	N/A
crown-global.xsd	ZipCodeExt		xsd:string	Zip code extension	N/A
crown-global.xsd	Exclusion	Medical	ExclusionMedical	Hepatitis B Medical Reasons	RQMT_1111
crown-global.xsd	Exclusion	Patient	ExclusionPatient	Hepatitis B Patient Reasons	RQMT_1111
crown-global.xsd	ExclusionMedical		enumeration: Allergic, Adverse, OtherMedical	N/A: Organize and support consistency among other data elements	N/A
crown-global.xsd	ExclusionPatient		enumeration: Cultural, Patient	N/A: Organize and support consistency among other data elements	N/A
crown-global.xsd	Vaccination	whenGiven	xsd:date	N/A: Organize and support consistency among other data elements	N/A
crown-global.xsd	Vaccination	Month	Month	N/A: Organize and support consistency among other data elements	N/A
crown-global.xsd	Vaccination	Year	xsd:int	N/A: Organize and support consistency among other data elements	N/A
crown-global.xsd	Vaccination	whereGiven	OnOffSite	N/A: Organize and support consistency among other data elements	N/A
crown-global.xsd	Vaccination	Exclusion	Exclusion	N/A: Organize and support consistency among other data elements	N/A
crown-global.xsd	SelfCareSetting		enumeration: Home, Incenter	Expected Self-Care Setting	RQMT_1070
crown-global.xsd	AddressType		enumeration: Mailing, Physical	N/A: Organize and support consistency among other data elements	N/A
crown-global.xsd	NPI		xsd:string	National Provider Identifier (NPI)	RQMT_12
crown-global.xsd	NonEmptyString		xsd:string	N/A: Organize and support consistency among other data elements	N/A
crown-global.xsd	UPIN		xsd:string	Personnel UPIN	RQMT_93
crown-global.xsd	Action	This field is currently not used by the system.	enumeration: declare, update, remove, retrieve	N/A: Organize and support consistency among other data elements	N/A

XSD	Schema Type	Element or Attribute	Item Type	Business Name	Rqmt ID
crown-global.xsd	SimpleAction	This field is currently not used by the system.	enumeration: declare, remove	N/A: Organize and support consistency among other data elements	N/A
crown-global.xsd	Country		values documented externally	Patient Country/Area of Origin or Ancestry	RQMT_747
crown-global.xsd	LengthSmallUnit		enumeration: Inch, Centimeter	N/A: Organize and support consistency among other data elements	N/A
crown-global.xsd	Month		enumeration: Jan, Feb, Mar, Apr, May, Jun, Jul, Aug, Sep, Oct, Nov, Dec	N/A: Organize and support consistency among other data elements	N/A
crown-global.xsd	OnOffSite		enumeration: Onsite, Offsite	N/A: Organize and support consistency among other data elements	N/A
crown-global.xsd	OrganizationAffiliation		xsd: string	Organizational Affiliation	N/A
crown-global.xsd	PhoneType		enumeration: Work, Tel, Fax, Mobile, Pager, Other	Patient Home Phone Number	RQMT_145
crown-global.xsd	PhoneType		enumeration: Work, Tel, Fax, Mobile, Pager, Other	Patient Work Phone Number	RQMT_146
crown-global.xsd	PhoneType		enumeration: Work, Tel, Fax, Mobile, Pager, Other	Patient Cell Phone Number	RQMT_148
crown-global.xsd	Polarity		enumeration: Positive, Negative, Unknown	N/A: Organize and support consistency among other data elements	N/A
crown-global.xsd	State		values documented externally	Patient State of Residence (Mailing)	RQMT_122
crown-global.xsd	State		values documented externally	Patient State of Residence (Physical)	RQMT_138
crown-global.xsd	WeightUnit		enumeration: Pound, Kilogram	N/A: Organize and support consistency among other data elements	N/A
crown-global.xsd	DialysisType	Listed	ListedDialysisType	Type of Training	RQMT_367
crown-global.xsd	DialysisType	Other	xsd:string	Type of Training	RQMT_367
crown-global.xsd	ListedDialysisType		enumeration: Hemodialysis, CAPD, CCPD, Other	Type of Training	RQMT_367
crown-global.xsd	MedicareEnrollmentStatus		enumeration: Pending, NoCoverage, Coverage	Medicare Enrollment Status	RQMT_1071
crown-global.xsd	DecimalDateGroup	Value	xsd:decimal	N/A: Organize and support consistency among other data elements	N/A

XSD	Schema Type	Element or Attribute	Item Type	Business Name	Rqmt ID
crown-global.xsd	DecimalDateGroup	Date	xsd:date	N/A: Organize and support consistency among other data elements	N/A
crown-global.xsd	IntDateGroup	Value	xsd:int	N/A: Organize and support consistency among other data elements	N/A
crown-global.xsd	IntDateGroup	Date	xsd:date	N/A: Organize and support consistency among other data elements	N/A
crown-global.xsd	BooleanDateGroup	Value	xsd:boolean	N/A: Organize and support consistency among other data elements	N/A
crown-global.xsd	BooleanDateGroup	Date	xsd:date	N/A: Organize and support consistency among other data elements	N/A
crown-global.xsd	StringDateGroup	Value	xsd:string	N/A: Organize and support consistency among other data elements	N/A
crown-global.xsd	StringDateGroup	Date	xsd:date	N/A: Organize and support consistency among other data elements	N/A
crown-feedback.xsd	errorsType	Error	xsd:string	N/A: Organize and support consistency among other data elements	N/A
crown-feedback.xsd	warningsType	Warning	xsd:string	N/A: Organize and support consistency among other data elements	N/A
crown-feedback.xsd	errorsType	Code	xsd:string	Error Code for Error	N/A
crown-feedback.xsd	warningsType	Code	xsd:string	Error Code for Warning	N/A
crown-attestation.xsd	OrganizationAffiliation	orgAffiliation	xsd:string	Organization's Affiliation Code (currently only 1,2,3 and 125 are used) for Batch/NwHIN submitters.	RQMT_1135
crown-attestation.xsd	Performance Year	performanceYear	xsd:string	Year to be reported (YYYY)	RQMT_1268
crown-attestation.xsd	Facility Attestation	orgFacilityCode	xsd:string	CROWN Facility Unique Identifier - provided by facility	RQMT_14

XSD	Schema Type	Element or Attribute	Item Type	Business Name	Rqmt ID
crown-attestation.xsd	Measurement	measurementType	enumeration: MM, CAHPS	MM = Mineral Metabolism, CAHPS = Consumer Assessment of Healthcare Providers and Systems	N/A
crown-attestation.xsd	Measurement	Response	enumeration: Y, N, NA	Attestation Response (Y, N or NA)	RQMT_1269 RQMT_1270
crown-attestation.xsd	Measurement	naReason	enumeration: Pediatric Only, No ICH	Listed N/A Reasons (for use with CAHPS only)	RQMT_1271
crown-attestation.xsd	Measurement	onBehalfOf	xsd:string	Personnel UPI of who the submission is being submitted on behalf of. Should be submitted for both questions.	RQMT_84

6.1.6 Communication Methods

All EDI transmissions are completed within the CROWNWeb system domain.

6.1.6.1 Interface Initiation

All EDI transmissions are completed within the CROWNWeb system domain. The BSOs use the GUI EDI method and due to the large file size and system constraints, each BSO is allowed to submit files on a specific day of the week. Each BSO is informed of its permitted submission schedule.

6.1.6.2 Flow Control

Results of successful submissions and those containing errors are reported to the user immediately upon the completion of processing for an uploaded EDI submission. The results for Patient submissions can be reviewed within the Patient Processing Summary tab and for Clinical submissions, within the Clinical Processing Summary tab of the CROWNWeb system.

6.1.7 Security Requirements

Batch submitters and batch submitting organizations (BSOs) shall meet the standards defined by CMS in order to submit files via EDI to the CROWNWeb system. Uploaded files are secured by a VPN and a CROWNWeb login containing a user role allowing the user to submit files via EDI.

6.2 Requirements for CROWNWeb EDI

XML data files shall be created and assembled outside of the system to conform to the CROWNWeb 4.2 Batch Specifications. Definition of fields and elements are provided in Section 6.1.5.3 Field/Element Definition.

7. Qualification Methods

The qualification of the success of the interface has been demonstrated by the existing method. Future qualification for subsequent releases shall be tested, analyzed, and demonstrated using a real time implementation.

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Appendix A: Interface Controls

N/A

Note: OSI Layer information is out of scope, based on the purposes for which this document is being used.

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Acronyms

Table 2: Acronyms

Acronym	Literal Translation
BSO	Batch Submitting Organization
CMS	Centers for Medicare & Medicaid Services
CROWNWeb	Consolidated Renal Operations in a Web-Enabled Network
EDI	Electronic Data Interchange
EMR	Electronic Medical Records
ESRD	End Stage Renal Disease
GUI	Graphical User Interface
HIE	Health Information Exchange
ICD	Interface Control Document
ISG	Information System Group
KDD	Kidney Data Directory
LDM	Logical Data Model
NwHIN	Nationwide Health Information Network
OCSQ	Office of Clinical Standards and Quality
SDD	System Design Document
TRA	Technical Reference Architecture
URI	Uniform Resource Identifier
URL	Uniform Resource Locator
VPN	Virtual Private Network
XML	eXtensible Markup Language
XSD	XML Schema Document

Glossary

Table 3: Glossary

Term	Definition
CROWN	In support of the CMS ESRD community, CMS created the Program Management and Medical Information System (PMMIS). The PMMIS is the system of records for the CMS ESRD data, and is maintained by means of a CROWN suite of systems. CROWN refers to any and all components of the suite of ESRD systems – the Renal Management Information System (REMIS), the Standard Information Management System (SIMS), CROWNWeb, COGNOS Reporting Tool, QualityNet Identity Management System (QIMS), and all related databases and architecture.
CROWNWeb	CROWNWeb refers to the web-based system that CMS authorized the design and implementation of in support of the Conditions for Coverage for ESRD Facilities. CROWNWeb accepts administrative and clinical data electronic submissions from dialysis facilities. In addition, CROWNWeb supports the electronic collection and reporting of ESRD data.
Electronic Data Interchange (EDI)	The structured transmission of data between organizations by electronic means, which is used to transfer electronic documents or business data from one computer system to another computer system
Nationwide Health Information Network (NwHIN)	An initiative for the exchange of healthcare information being developed under the auspices of the U.S. Office of the National Coordinator for Health Information Technology (ONC)

Referenced Documents

Table 4: Referenced Documents

Document Name	Document Number and/or URL	Issuance Date
Kidney Data Dictionary (KDD) Release 1.2		April 3, 2009
CROWNWeb Batch Error Codes Spreadsheet	CROWNWeb_Batch_Error_Codes.xls	February 2012

Record of Changes

Table 5: Record of Changes

Version Number	Date	Author/Owner	Description of Change
0.1	02/07/2013	Edaptive Systems/Mark Breier	Updated document for CMS XLC template.
0.2	02/08/2013	Edaptive Systems/Angela Turner and Tori Seith	Tech Edit.
0.3	02/15/2013	Edaptive Systems/David Sawilowsky	Modifications and additions to content in response to the PPQA tech edit.
0.4	02/18/2013	Edaptive Systems/Tori Seith	Accepted changes made by author from PPQA review. Removed tables in Appendix A as not applicable.

DRAFT

Approvals

The undersigned acknowledge that they have reviewed the Interface Control Document and agree with the information presented within this document. Changes to this Interface Control Document will be coordinated with, and approved by, the undersigned, or their designated representatives.

Signature: _____ Date: _____

Print Name: _____

Title: _____

Role: Submitting Organization's Approving Authority

Signature: _____ Date: _____

Print Name: _____

Title: _____

Role: CMS' Approving Authority

Signature: _____ Date: _____

Print Name: _____

Title: _____

Role: CMS Business Owner