

Accessing and Reading the NCPDP SCRIPT Standard in HTML

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NCPDP acknowledges and thanks Surescripts for providing the content of this presentation.



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Overview

- This presentation is intended to provide a basic understanding on how to access and interpret standards in HTML.
- The intended audience of this presentation is anyone that needs to understand schema requirements for the NCPDP SCRIPT transactions.

HTML Standards View of NCPDP Schemas

- This presentation references the SCRIPT Standard Version 2017071
- Choose Schema
 - Determine the version needed.
 - Look for version number in the transport:

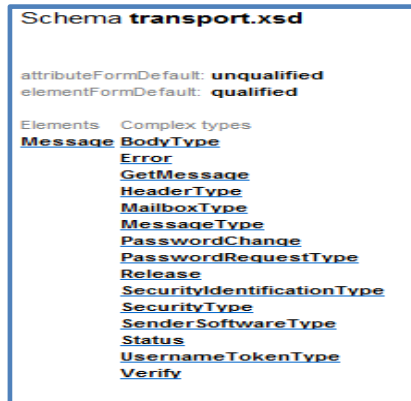
```
<xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema" elementFormDefault="qualified" attributeFormDefault="unqualified" version="2017071">
```

```
<xsd:include schemaLocation="datatypes.xsd"/>  
<xsd:include schemaLocation="ecl.xsd"/>  
<xsd:include schemaLocation="structures.xsd"/>  
<xsd:include schemaLocation="script.xsd"/>  
<xsd:include schemaLocation="specialized.xsd"/>
```

- Select the schema version you wish to use. If your default browser is not the one you wish to use, then copy and paste the contents of the search bar into the browser of your choice.

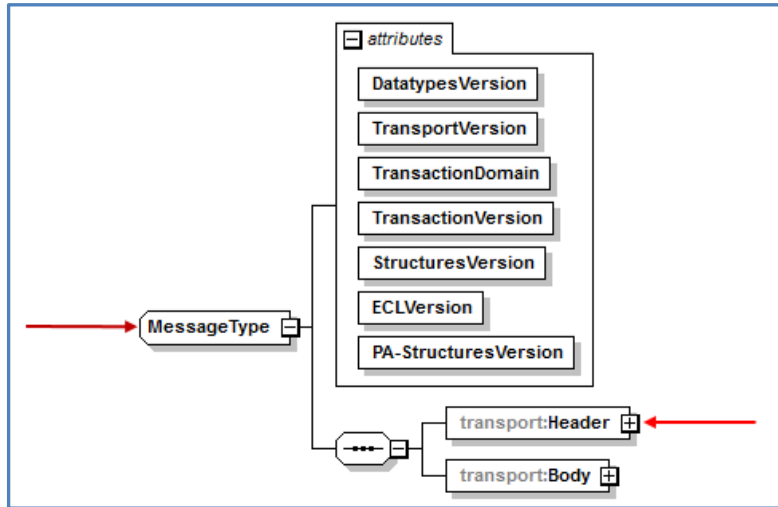
HTML Standards View of NCPDP Schemas

- **Open Schema**
 - Select NCPDP SCRIPT XML 2017071
 - The transport .xsd allows you to look at a specific message (e.g., NewRx, PAREquest), Message header, or response transactions like Error, Status, etc.
 - On older versions of the schema, click on BodyType to quickly find the transaction or click on the exact data element if already known. For newer versions, you will see the transport.xsd:



HTML Standards View of NCPDP Schemas

- Open Schema
 - To access the header, open MessageType, then open Header.



HTML Standards View of NCPDP Schemas

The Header consists of important routing, trace, and identifier elements. Header elements include:

- To
- From
- MessageID
- RelatestoMessageID
- SentTime
- Security
- SenderSoftware
- Mailbox
- TestMessage
- MessageIndicatorFlag
- RXReferenceNumber
- TertiaryIdentifier
- PrescriberOrderNumber
- DigitalSignature
- PrescriberOrderGroup
- RxReferenceOrderGroup
- ReturnReceipt
- Extension

HTML Standards View of NCPDP Schemas

- To access the schema for a specific message type (e.g., RxHistoryRequest), follow the steps below:
 1. Select BodyType

Schema **transport.xsd**

attributeFormDefault: **unqualified**
elementFormDefault: **qualified**

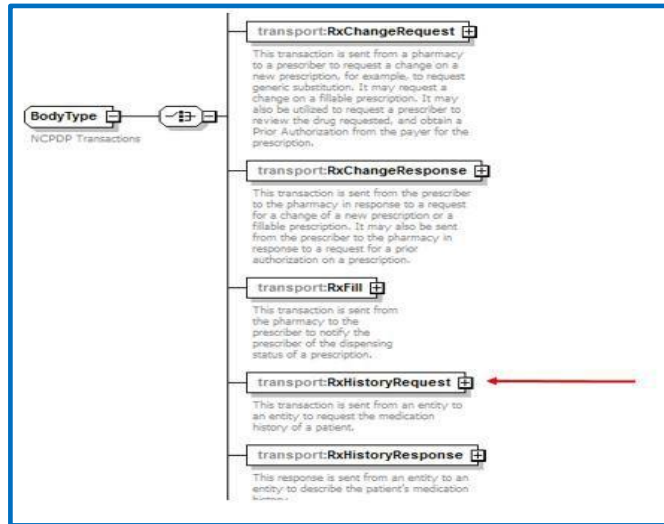
Elements: Complex types

Message **BodyType** ←

- Error
- GetMessage
- HeaderType
- MailboxType
- MessageType
- PasswordChange
- PasswordRequestType
- Release
- SecurityIdentificationType
- SecurityType
- SenderSoftwareType
- Status
- UsernameTokenType
- Verify

HTML Standards View of NCPDP Schemas

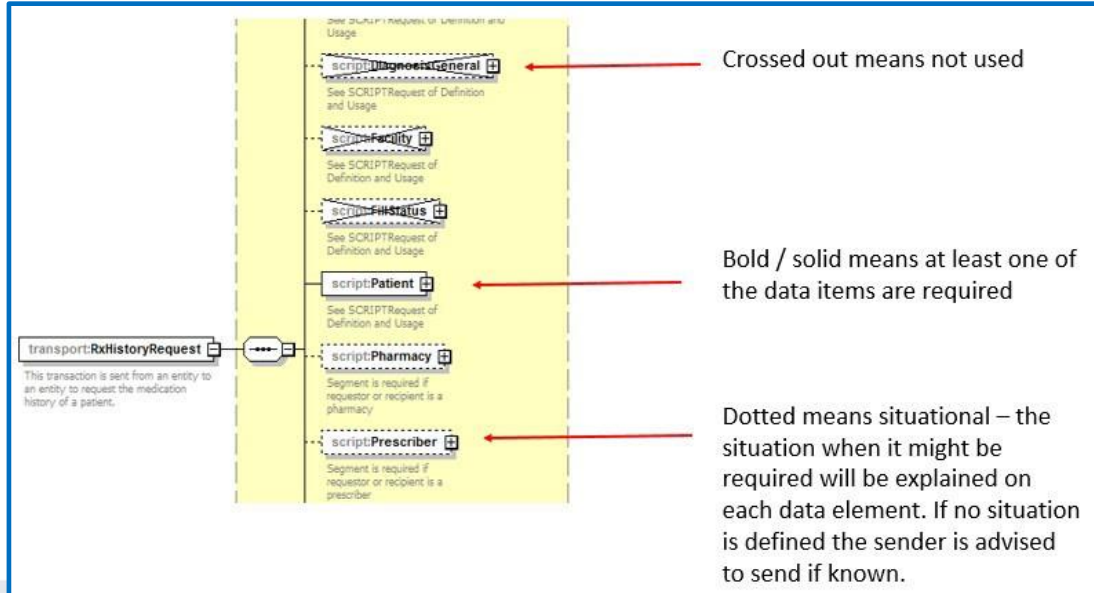
- To access the schema for a specific message type (e.g., RxHistoryRequest), follow the steps below:
 - Select the message type



Understanding Requirements

- Requirements Designation

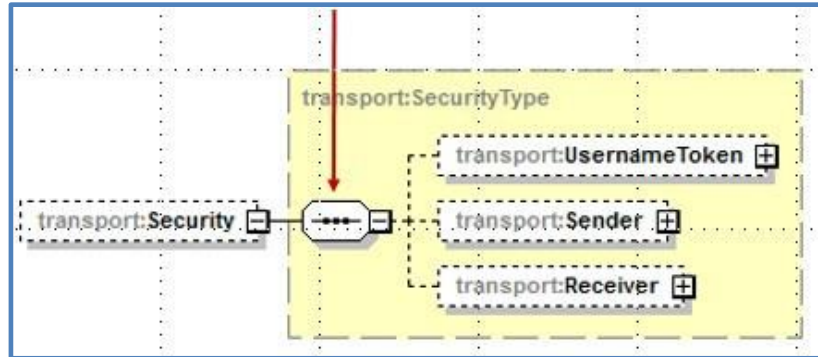
Schemas denote requirements by use of crossed out fields, bold solid lines, and dashed lines.



Understanding Requirements

- Diagram Conventions

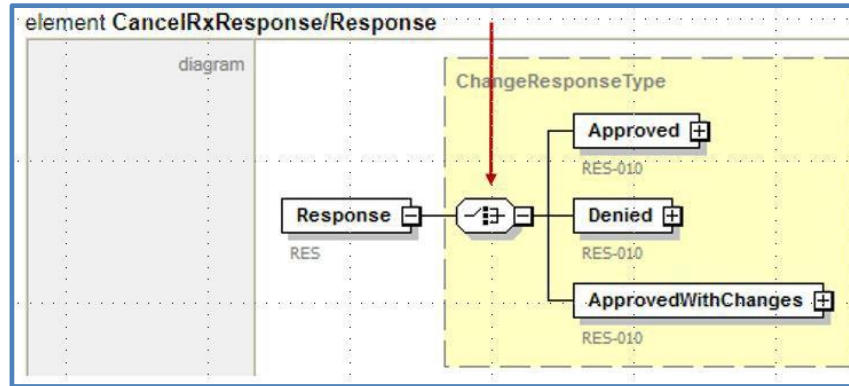
In the figure below, the horizontal dotted line indicates a sequence. This diagram says the Security element consists of the sequence of Username Token, Sender, and Receiver elements. In this example all three elements are optional. One, two, or all three elements can be sent.



Understanding Requirements

- Diagram Conventions

The switch-like symbol in the next figure indicates a choice; in this case, a choice between Approved, Denied, or ApprovedWithChanges. The solid line around the elements shows that one is required.



Understanding Requirements

- **Determining Data Type**

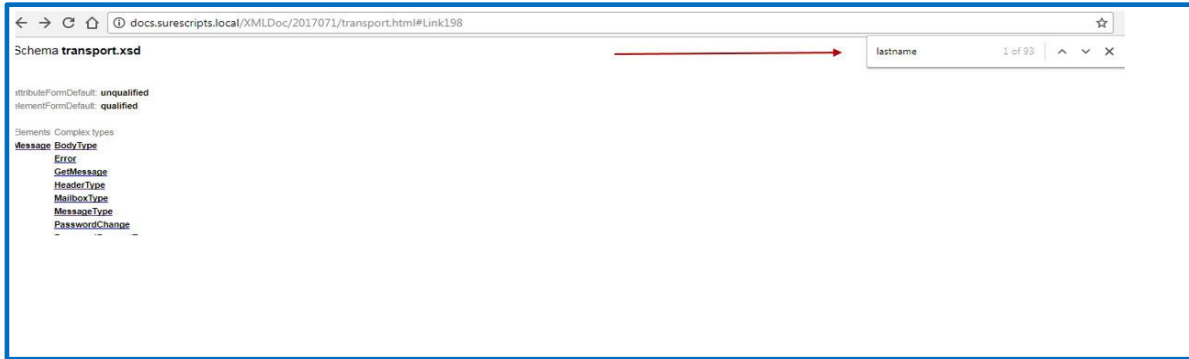
There are three types of data representation: alphabetic, numeric, and alphanumeric. These are designated by “a”, “n”, and “an”, respectively. If a number follows this designation (i.e., an3), this means the data value must be that length (i.e., the data value must be 3 alphanumeric bytes). If the designation is followed by “..” (i.e., an..3), this means the data value can be up to that length (i.e., up to 3 alphanumeric bytes) or an1..1 – is alphanumeric field, minimum of 1 character, maximum of 1 character.

Understanding Requirements

- **Determining Data Type**

Data Type can be found by clicking on the data element. This is how to determine the data type for Last Name:

- Use “Find” “CTRL-F” and type in lastname




Understanding Requirements

- **Determining Data Type**

Data Type can be found by clicking on the data element. This is how to determine the data type for Last Name:

- Search will lead you to the element level and you can see the data type for last name is an1..35. This means alphanumeric minimum 1 character maximum 35.



element NameType/LastName										
diagram										
type	an1..35									
properties	content simple									
facets	<table border="1"><thead><tr><th>Kind</th><th>Value</th><th>Annotation</th></tr></thead><tbody><tr><td>maxLength</td><td>35</td><td></td></tr><tr><td>pattern</td><td>([!~][])*[!~]([!~][])*</td><td></td></tr></tbody></table>	Kind	Value	Annotation	maxLength	35		pattern	([!~][])*[!~]([!~][])*	
Kind	Value	Annotation								
maxLength	35									
pattern	([!~][])*[!~]([!~][])*									
source	<code><xsd:element name="LastName" type="an1..35"/></code>									

Understanding Requirements

- **Determining Data Type**

Data Type can be found by clicking on the data element.

- Another example is DaysSupply. The data type is numeric and minimum 1 digit and maximum 3


diagram	 Days Supply See Medication for Definition and Usage
 type	<u>n1..3</u>
properties	minOcc 0 maxOcc 1 content simple

Understanding Requirements

- **Determining Data Type**

Data Type can be found by clicking on the data element.

- The properties indicate how many occurrences may be used for that element. DaysSupply has a minimum of zero and a maximum occurrence of 1. That means it is optional and can only be sent once.


diagram	 Days Supply See Medication for Definition and Usage									
type	n1..3									
properties	minOcc 0 maxOcc 1 content simple									
facets	<table><thead><tr><th>Kind</th><th>Value</th><th>Annotation</th></tr></thead><tbody><tr><td>maxLength</td><td>3</td><td></td></tr><tr><td>pattern</td><td>[0-9]+(\.[0-9]+)?</td><td></td></tr></tbody></table>	Kind	Value	Annotation	maxLength	3		pattern	[0-9]+(\.[0-9]+)?	
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Understanding Requirements

- **Determining Data Type**

Data Type can be found by clicking on the data element.

- The properties indicate how many occurrences may be used for that element. DaysSupply has a minimum of zero and a maximum occurrence of 1. That means it is optional and can only be sent once.

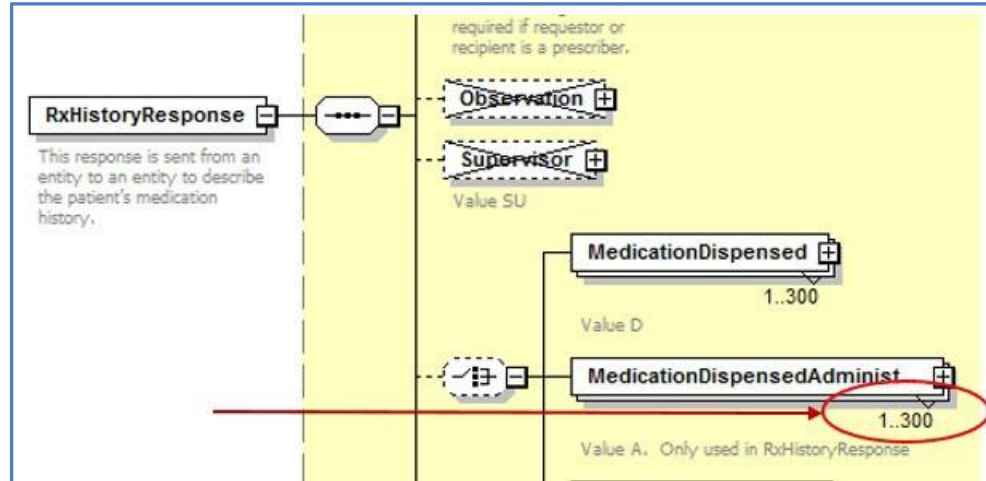
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Kind	Value	Annotation								
maxLength	3									
pattern	[0-9]+(\.[0-9]+)?									

Understanding Requirements

- **Determining Data Type**

Data Type can be found by clicking on the data element.

- Occurrences of a group of data or looping can be seen in the schema. Here is an example of the medication loops for the RxHistoryResponse. It can occur up to 300 times meaning each response can contain up to 300 drugs for that patient.



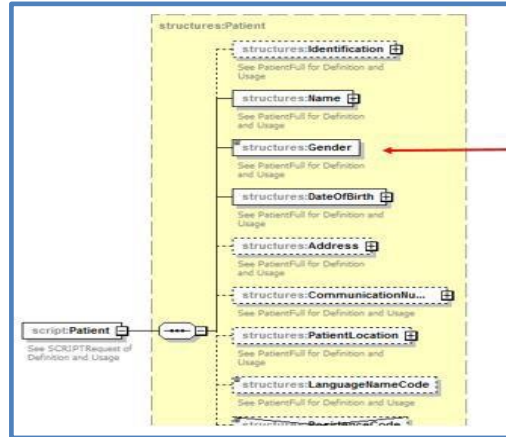
Understanding Requirements

- **Date/Time**
 - In XML, the Date fields contain the format of date and time, with hyphens to separate the subsets of the date. When time is used, a “T” separates the fields; and colons separate the subsets of the date and time.
 - Date is represented as YYYY-MM-DD
 - DateTime is represented as YYYY-MM-DDTHH:MM:SS

Understanding Requirements


Determining Possible Code Values

- There are two types of code values. Codes that are internal to NCPDP and codes that are external to NCPDP. All of these codes are referenced in the ECL (external code list) even though some are maintained “internally” by NCPDP and others are maintained “externally” to NCPDP.
 - Example of internal code list to NCPDP is Gender.




Understanding Requirements

Select Gender to see the data element description and other data attributes including the code values appropriate to send in that field.

element Patient/Gender		
diagram	 See PatientFull for Definition and Usage	
namespace	http://www.ncdp.org/schema/structures	
type	ecl:GenderCode	
properties	content simple	
facets	Kind	Value Annotation
	pattern	([!~][])*[!~][]*
	enumeration M	documentation Male
	enumeration F	documentation Female
	enumeration U	documentation Not Specified or Unknown
annotation	documentation See PatientFull for Definition and Usage	
source	<pre><xsd:element name="Gender" type="ecl:GenderCode"> <xsd:annotation> <xsd:documentation>See PatientFull for Definition and Usage</xsd:documentation> </xsd:annotation> </xsd:element></pre>	

Understanding Requirements

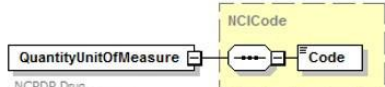
Another example of an NCPDP internal code list for PAClosedReasonCode

element PAReasonClosedCodeType/ClosedReasonCode																																																	
diagram	 Code indicating the reason for the prior authorization closure.																																																
namespace	http://www.ncdpd.org/schema/pa-structures																																																
type	ec1:PAClosedReasonCode																																																
properties	minOcc: 1 maxOcc: 10 content: simple																																																
facets	<table border="1"><thead><tr><th>Kind</th><th>Value</th><th>Annotation</th></tr></thead><tbody><tr><td>enumeration</td><td>CC</td><td>Prior Authorization not required for patient/medication</td></tr><tr><td>enumeration</td><td>CD</td><td>Cannot find matching patient</td></tr><tr><td>enumeration</td><td>CE</td><td>Patient not eligible (does not have coverage with the payer)</td></tr><tr><td>enumeration</td><td>CF</td><td>Prior Authorization duplicate/approved</td></tr><tr><td>enumeration</td><td>CG</td><td>Prior Authorization duplicate/in process</td></tr><tr><td>enumeration</td><td>CH</td><td>Closed by health plan/payer/processor/PBM</td></tr><tr><td>enumeration</td><td>CJ</td><td>Closed by Provider</td></tr><tr><td>enumeration</td><td>CK</td><td>Closed by Member</td></tr><tr><td>enumeration</td><td>BY</td><td>Other</td></tr><tr><td>enumeration</td><td>BX</td><td>Electronic Prior Authorization not supported. Submit via other methods.</td></tr><tr><td>enumeration</td><td>CL</td><td>Attachment type (mimetype) not supported.</td></tr><tr><td>enumeration</td><td>CM</td><td>Prescriber not allowed to submit PA request.</td></tr><tr><td>enumeration</td><td>CN</td><td>Response content is inconsistent with the question.</td></tr><tr><td>enumeration</td><td>CO</td><td>The receiver is not the PA processor for this patient.</td></tr><tr><td>enumeration</td><td>CP</td><td>The receiver is not the PA processor for this patient and medication combination.</td></tr></tbody></table>	Kind	Value	Annotation	enumeration	CC	Prior Authorization not required for patient/medication	enumeration	CD	Cannot find matching patient	enumeration	CE	Patient not eligible (does not have coverage with the payer)	enumeration	CF	Prior Authorization duplicate/approved	enumeration	CG	Prior Authorization duplicate/in process	enumeration	CH	Closed by health plan/payer/processor/PBM	enumeration	CJ	Closed by Provider	enumeration	CK	Closed by Member	enumeration	BY	Other	enumeration	BX	Electronic Prior Authorization not supported. Submit via other methods.	enumeration	CL	Attachment type (mimetype) not supported.	enumeration	CM	Prescriber not allowed to submit PA request.	enumeration	CN	Response content is inconsistent with the question.	enumeration	CO	The receiver is not the PA processor for this patient.	enumeration	CP	The receiver is not the PA processor for this patient and medication combination.
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documentation	Code indicating the reason for the prior authorization closure.																																																
source	<pre><xsd:element name="ClosedReasonCode" type="ec1:PAClosedReasonCode" maxOccurs="10"> <xsd:annotation> <xsd:documentation>Code indicating the reason for the prior authorization closure.</xsd:documentation> </xsd:annotation> </xsd:element></pre>																																																

Possible Code Values

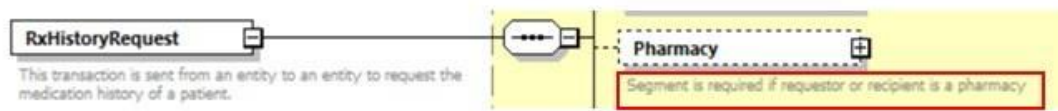
Understanding Requirements

Example of external code list is the QuantityUnitOfMeasure. It is an NCI Code and the second arrow shows where to find the available list (<http://www.cancer.gov/cancertopics/terminologyresources/page7>). In addition, it says you should see the External Code List Introduction for information on NCI Thesaurus Code Lists

element CompoundQuantity/QuantityUnitOfMeasure	
diagram	 <p>QuantityUnitOfMeasure</p> <p>NCI Code</p> <p>Code</p> <p>NCPDP Drug QuantityUnitOfMeasure Terminology - available at http://www.cancer.gov/cancertopics/terminologyresources/page7 See External Code List Introduction for information on NCI Thesaurus Code Lists.</p>
type	NCI Code
properties	content complex
children	Code
annotation	documentation NCPDP Drug QuantityUnitOfMeasure Terminology - available at http://www.cancer.gov/cancertopics/terminologyresources/page7 See External Code List Introduction for information on NCI Thesaurus Code Lists.
source	<pre><xsd:element name="QuantityUnitOfMeasure" type="NCI Code"> <xsd:annotation> <xsd:documentation>NCPDP Drug QuantityUnitOfMeasure Terminology - available at http://www.cancer.gov/cancertopics/terminologyresources/page7 See External Code List Introduction for information on NCI Thesaurus Code Lists.</xsd:documentation> </xsd:annotation> </xsd:element></pre>

Understanding Requirements

- Annotations in element diagrams provide instructional usage to help the implementer with rules of usage.
 - For example, in RxHistoryRequest, the Pharmacy segment is optional, but the annotation explains that it is required if the requestor or recipient is a pharmacy.



Other Education

- Webinar - [SCRIPT: What is XML and How is it Used in ePrescribing?](#)