# Validation Engine

# Users Guide

# SCHIEPPH Version 2.0

27 October 2012

## Related Documents

The following documents and standards were referenced during the development of this profile definition:

|  |  |
| --- | --- |
| PHIN Messaging Guide For Syndromic Surveillance: Emergency Department and Urgent Care Data | Release 1.0, March 2012, Centers for Disease Control. |

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# Purpose

The purpose of this document is to create a Users Guide for the validation of the minimum set of 33 data elements based on the PHIN messaging guide for syndromic surveillance. The document will provide the necessary information for understanding and updating the Validation Engine Metadata (a.k.a. The Validation Rule Book).

# How Data Validation is Implemented in the Reference Implementation

The SCHIEPPH Reference Implementation uses a Validation Engine that is a metadata driven, HL7 field validator that can validate incoming HL7 message data.  It is currently configured to validate versions 2.3.1 and 2.5.1 of Syndromic Surveillance data that is transmitted using the HL7 data formats (pipe delimited and XML).  The Validation Engine is driven off of the Validation Rule Book, which is an XML file called SyndromicDataValidation.xml, and is located in the Mirth Connect configuration directory.

The Validation Engine is designed to be called form any SCHIEPPH adapter, however in the Reference Implementation, the validation of HL7 data occurs in the adapter, running on the receivers host, that receives the data.

# Error Handling

|  |  |  |
| --- | --- | --- |
| SCHIEPPH-Specific Error Code | Type | Error Code Meaning |
| SCHIEPPHRequiredFieldMissing | Error | A required field was missing from the submission. |
| SCHIEPPHRequiredEmptyFieldMissing | Warning | A required empty field was missing from the submission. |
| SCHIEPPHInvalidValue | Error | A field that was included in the HL7 message was found to have an invalid value. |
| SCHIEPPHInvalidFormat | Error | A field that was included in the HL7 message was found to have an invalid format. |
| SCHIEPPHRequiredSegmentMissing | Error | A required HL7 message segment was found to be missing from the HL7 message. |
| SCHIEPPHConfigurationError | Error | A configuration error was found. |
| SCHIEPPHConditionallyRequiredFieldMissing | Error | A conditionally required field was missing from the submission. |

The following sections define the SCHIEPPH-Specific error codes and SCHIEPPH-Specific error messages that are used by the Validation Engine.

## Error Codes

The SCHIEPPH-specific error codes used by the Validation Engine are defined in the following table.

## Error Messages

The SCHIEPPH-Specific error messages used by the Validation engine contain field names, field values, HL7 version numbers, HL7 segment names and ADT message types that are dynamically added to the error message at run time to make the messages more readable and understandable. The following table defines the error messages that are used by the SCHIEPPH Validation Engine:

The SCHIEPPH-specific error messages used by the Validation Engine are defined in the following table.

|  |
| --- |
| SCHIEPPH-Specific Error Messages |
| <field name>: is a required field and is missing or empty. |
| <field name>: is a required/empty field and is missing or empty. |
| <HL7 version number>: is not a supported HL7 version. |
| <ADT message type>: is not a supported ADT Message. |
| <field name>: [value = <field value>] is not a valid value. |
| <field name>: [value = <field value>] is not alphabetic. |
| <field name>: [value = <field value>] is not numeric. |
| <field name>: [value = <field value>] is not alpha-numeric. |
| <HL7 segment name> is a required HL7 message segment and is missing. |
| <field name>: is a conditionally required field and is missing or empty. |

## How the Validation Engine Generates Error Messages

The SCHIEPPH-Specific error codes and error messages are defined in one area in the Validation Rule Book and then associated with each validation check defined in the Validation Rule Book. The association is made through the use of attributes that are associated with each validation check defined in the Validation Rule Book. This allows the Reference Implementation to associate any combination of a SCHIEPPH-Specific error code and an error message, with any given field validation check. It also allows for the addition of new SCHIEPPH-Specific error codes, and error messages, to the Reference Implementation without having to recompile the SCHIEPPH Validation Engine source code. Error messages can also be modified without having to recompile the SCHIEPPH Validation Engine source code.

In addition to the predefined messages in the table “SCHIEPPH-Specific Error Messages”, the Validation Engine can produces additional information that gets appended to the predefined error message to be used. The additional message is intended to provide the user with more detailed information than can be provided by the pre-defined message. This feature is turned on by default, but can be disabled by setting the <errorMessage> element’s supressAdditioanMessage to ”true” (i.e. <errorMessage supressAdditioanMessage =”true” … > ). As of the writing of this document, the only validation check that provides additional data is the “Requires Field Value” check.

## How the Validation Engine Handles Validation Check Failures

The SCHIEPPH Validation Engine is designed to give the end user the most flexibility possible with respect to how validation errors are handled. It accomplishes this by allowing the severity of each validation check to be defined in the Validation Rule Book through the use of a “severity” attribute that is unique to each validation check that the engine performs. The severity associated with a given validation check can be one of four values.

The lowest value is “Ignore”, which tell the engine to completely ignore any validation errors. This severity level effectively comments out a given validity check, allowing it to be disabled without removing it from the Validation Rule Book.

The next severity value is “Report”, which tells the Validation Engine to write a message to the Validation report, but not to treat the validation failure in a way that would prevent the HL7 message from being passed along in the HL7 message processing work flow.

The third severity level the Validation Engine recognizes is “Hold”, which tells the Validation Engine to write a message to the Validation report and place the HL7 message in a holding directory so that the validation failure can be researched and corrected before allowing it to continue along on the HL7 message processing work flow.

The forth severity level is “Fatal”, which tells the Validation Engine to write a message to the Validation Report and then reject the record, preventing it from being passed along on the HL7 message processing work flow.

If a message fails a validation check, the validator uses the errorCodeId and errorMessagId attributes to dynamically construct an error or warning message that is ten written to a validation report.

# Implemented Data Validation Checks

## Valid HL7 Versions

This validation checks the HL7 version number in the HL7 message against the list of version numbers that the Validation Engine is configured to support. As of release 4.0 of the SCHIEPPH Reference Implementation, the supported HL7 versions are 2.3.1 and 2.5.1. To add another supported version, you would add another version number to the list and then add a <Location> element for that version number to each <Filed> element in the Rule Book. To remove support for a version, you would remove the version number from the list and remove all <Location> elements that reference the version number being removed from the Rule Book. The following is an example of an HL7Version element populated with valid version numbers:

<ValidHL7Versions errorCodeId="3" errorMessageId="3" severity="Hold" >

<version>2.3.1</version>

<version>2.5.1</version>

</ValidHL7Versions>

## Supported ADT Messages

This validation checks the ADT type in the HL7 message against the list of valid ADT message types that are defined in the Validation Rule Book. To add or remove support for an ADT Data Type, just add or remove the type name form the list. The following is an example of a SupportedAdtMessages element, populated with valid ADT message types:

<SupportedAdtMessages errorCodeId="3" errorMessageId="4" severity="Hold" >

<adtMessage>A01</adtMessage>

<adtMessage>A03</adtMessage>

<adtMessage>A04</adtMessage>

<adtMessage>A08</adtMessage>

</SupportedAdtMessages>

## Required HL7 Segments

This validation checks all the HL7 segments that are in the HL7 message to make sure that all the HL7 segments that have been defined as required segments in the Validation Rule Book are present in the HL7 message. To make a segment a required segment, just add the segment name to the list. To make the segment optional, remove it’s name from the list. The following is an example of a RequiredSegments element, populated with the list of required HL7 segments:

<RequiredSegments severity="Hold" errorMessageId="9" errorCodeId="5">

<segmentName>MSH</segmentName>

<segmentName>EVN</segmentName>

<segmentName>PID</segmentName>

<segmentName>PV1</segmentName>

<segmentName>OBX</segmentName>

</RequiredSegments>

## Validations

The validations to be performed on a given field are defined in a Validations container element. The following is an example of a Validations element:

<Validations>

<usage errorCodeId="1" errorMessageId="1" severity="Hold" >Required</usage>

<ValueList errorCodeId="3" errorMessageId="5" severity="Hold" caseSensitive =”False” >

<value>a</value>

<value>mo</value>

<value>wk</value>

<value>d</value>

<value>unk</value>

</ValueList>

</Validations>

## Data Usage

This validation checks to see if a field is present in the HL7 message. If the field is not present in the message, the Validation Engine will generate a warning message, error message or ignore the fact that it is not present, based on the usage indicator that is defined in the Validation Rule Book for that specific validation check. The Validation Engine will issue a warning if the usage indicator is “Required Empty”, an error if the usage indicator is “Required” or ignore it if the usage indicator is either “Optional” or “Conditional” (See the Required Field validation section for the one exception to the “Conditional” indicator). The following is an example of a usage element:

<usage errorCodeId="1" errorMessageId="1" severity="Hold" >Required</usage>

or

<usage errorCodeId="1" errorMessageId="1" severity="Ignore" >Optional</usage>

## Data Type

This validation checks the data to see if it is of the correct format. Valid data types are Alpha, Numeric, AlphaNumeric and Date. The date format can be specified as an attribute or, if the attribute is not specified, the Validation Engine will use the default date formats that have been defined in the Validation Rule Book. In addition to checking the specific format of the data, minimum and maximum length values can be specified as attributes to the data type element. A length value of -1 for the minimum or maximum length value means that the data has no minimum or maximum length, respectively, and any length is considered valid. The following is an example of a data type element:

<dataType severity="Hold" errorMessageId="1" errorCodeId="1" >Date</dataType>

The following information, copied verbatim from the Java API documentation, describes how to create a date format definition that the Validation Engine can recognize:

|  |  |  |  |
| --- | --- | --- | --- |
| **Letter** | **Date or Time Component** | **Presentation** | **Examples** |
| G | Era designator | Text | AD |
| y | Year | Year | 1996; 96 |
| M | Month in year | Month | July; Jul; 07 |
| w | Week in year | Number | 27 |
| W | Week in month | Number | 2 |
| D | Day in year | Number | 189 |
| d | Day in month | Number | 10 |
| F | Day of week in month | Number | 2 |
| E | Day in week | Text | Tuesday; Tue |
| a | Am/pm marker | Text | PM |
| H | Hour in day (0-23) | Number | 0 |
| k | Hour in day (1-24) | Number | 24 |
| K | Hour in am/pm (0-11) | Number | 0 |
| h | Hour in am/pm (1-12) | Number | 12 |
| m | Minute in hour | Number | 30 |
| s | Second in minute | Number | 55 |
| S | Millisecond | Number | 978 |
| z | Time zone | General time zone | Pacific Standard Time; PST; GMT-08:00 |
| Z | Time zone | RFC 822 time zone | -0800 |

Pattern letters are usually repeated, as their number determines the exact presentation:

* **Text:** For formatting, if the number of pattern letters is 4 or more, the full form is used; otherwise a short or abbreviated form is used if available. For parsing, both forms are accepted, independent of the number of pattern letters.
* **Number:** For formatting, the number of pattern letters is the minimum number of digits, and shorter numbers are zero-padded to this amount. For parsing, the number of pattern letters is ignored unless it's needed to separate two adjacent fields.
* **Year:** If the formatter's [Calendar](http://localhost/localdocs/apidocs/java1.6_docs/api/java/text/DateFormat.html#getCalendar()) is the Gregorian calendar, the following rules are applied.
  + For formatting, if the number of pattern letters is 2, the year is truncated to 2 digits; otherwise it is interpreted as a number.
  + For parsing, if the number of pattern letters is more than 2, the year is interpreted literally, regardless of the number of digits. So using the pattern "MM/dd/yyyy", "01/11/12" parses to Jan 11, 12 A.D.
  + For parsing with the abbreviated year pattern ("y" or "yy"), SimpleDateFormat must interpret the abbreviated year relative to some century. It does this by adjusting dates to be within 80 years before and 20 years after the time the SimpleDateFormat instance is created. For example, using a pattern of "MM/dd/yy" and a SimpleDateFormat instance created on Jan 1, 1997, the string "01/11/12" would be interpreted as Jan 11, 2012 while the string "05/04/64" would be interpreted as May 4, 1964. During parsing, only strings consisting of exactly two digits, as defined by [Character.isDigit(char)](http://localhost/localdocs/apidocs/java1.6_docs/api/java/lang/Character.html#isDigit(char)), will be parsed into the default century. Any other numeric string, such as a one digit string, a three or more digit string, or a two digit string that isn't all digits (for example, "-1"), is interpreted literally. So "01/02/3" or "01/02/003" are parsed, using the same pattern, as Jan 2, 3 AD. Likewise, "01/02/-3" is parsed as Jan 2, 4 BC.
* Otherwise, calendar system specific forms are applied. For both formatting and parsing, if the number of pattern letters is 4 or more, a calendar specific [long form](http://localhost/localdocs/apidocs/java1.6_docs/api/java/util/Calendar.html#LONG) is used. Otherwise, a calendar specific [short or abbreviated form](http://localhost/localdocs/apidocs/java1.6_docs/api/java/util/Calendar.html#SHORT) is used.
* **Month:** If the number of pattern letters is 3 or more, the month is interpreted as text; otherwise, it is interpreted as a number.
* **General time zone:** Time zones are interpreted as text if they have names. For time zones representing a GMT offset value, the following syntax is used: *GMTOffsetTimeZone:*
* GMT *Sign* *Hours* : *Minutes*
* *Sign:* one of
* + -
* *Hours:*
* *Digit*
* *Digit* *Digit*
* *Minutes:*
* *Digit* *Digit*
* *Digit:* one of

0 1 2 3 4 5 6 7 8 9 *Hours* must be between 0 and 23, and *Minutes* must be between 00 and 59. The format is locale independent and digits must be taken from the Basic Latin block of the Unicode standard.

## Value List

This validation checks the value of the field against a list of valid values. If the data does not match one of the valid values, the check fails. For example, if a field with a value of “wk” in it is validated against the validation shown below, the check would pass because “wk” would match <value>wk</value> in the list. The following is an example of a ValueList element:

<ValueList errorCodeId="3" errorMessageId="5" severity="Hold" caseSensetive=”False” >

<value>a</value>

<value>mo</value>

<value>wk</value>

<value>d</value>

<value>unk</value>

</ValueList>

## Required Field Values

This validation checks to see if a specific field that is a different field than the field being validated, contains a specific value. This check is used to validate that the value of a given field is a member of a coding set. For example, if an Age Unit value of “a” is found in field 3.1 of an OBX segment, this check can be used to validate that the coding set specified in field 3.3 of the same OBX segment is “UCUM”. The following is an example of a RequiresFieldValues element that implements the check outlined above:

<RequiresFieldValue errorCodeId="3" errorMessageId="5" severity="Hold" fieldNumber="3.5" >

<fieldValue>UCUM</fieldValue>

</RequiresFieldValue>

## Required Conditional Fields

This validation checks to see if a different field is present in the HL7 message. For example, if the Age field is present in the HL7 message, this validation check can be used to make sure that the Age Units field is also present. The secondary field, Age Units in this example, can have a usage indicator of Required, RequiredEmpty, Optional or Conditional. If Age Units has a usage indicator of RequiredEmpty, Optional or Conditional, that usage indicator will be temporarily changed to “Required” while all the validation checks defined for Age Units are executed.

It should be noted that even if the secondary field has a Required Conditional Field check defined within it, that check will not be performed. The reason for this is to prevent the creation of an endless loop by having two fields dependent on each other, like Age/Age Units are.

The following is an example of a RequiresConditionalField element:

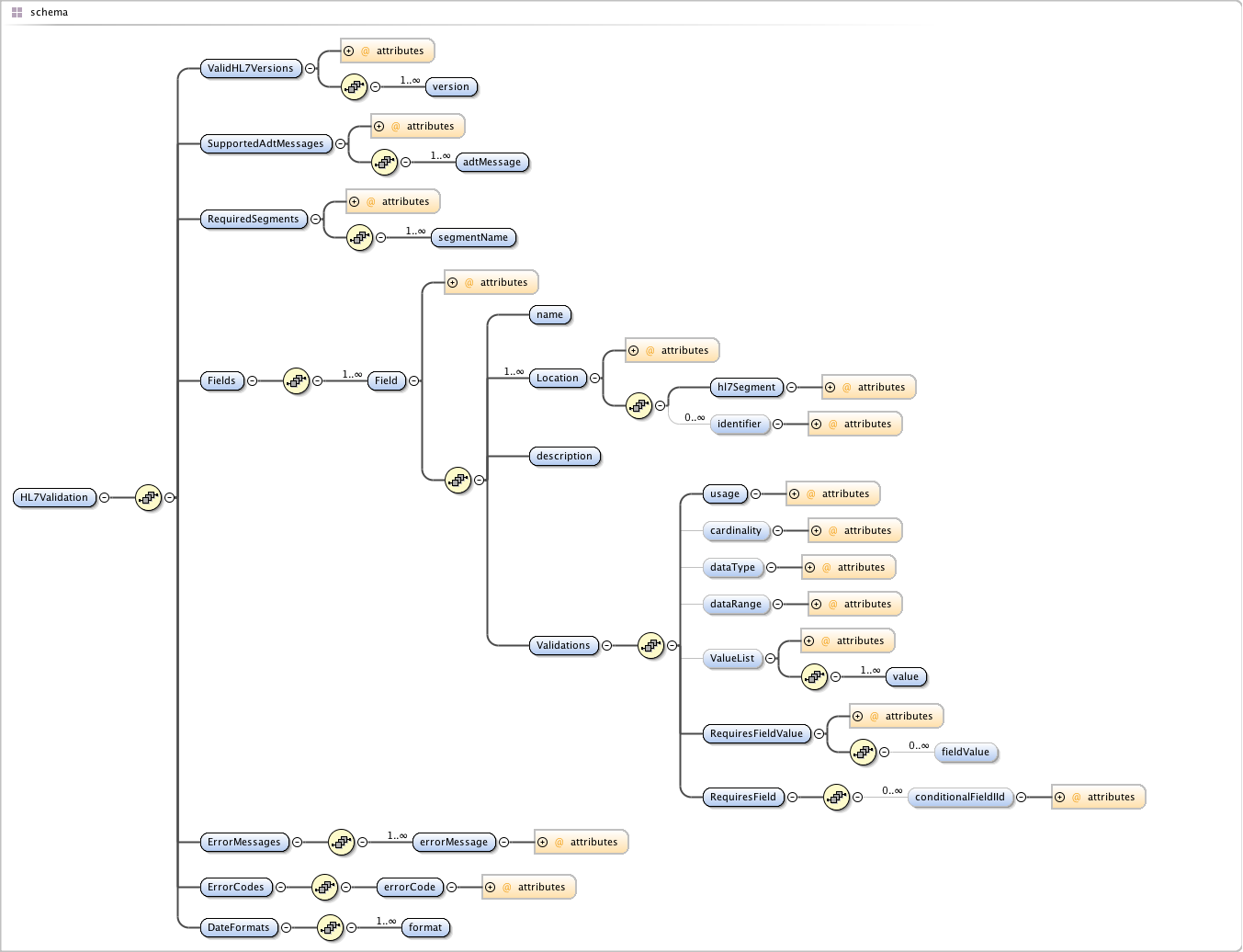
<RequiresField errorCodeId="1" errorMessageId="1" severity="Hold" >

<conditionalFieldId>7</conditionalFieldId>

</RequiresField>

# Validation Metadata (Rule Book) Schema

The following graphic shows the SCHIEPPH Validation Metadata Schema and is followed by a description of the elements in the SCHIEPPH Validation Metadata Schema, including the valid values for each element and it’s attributes.



Validation Schema

# Schema Field Definitions

The following tables describes each element in the SCHIEPPH Validation Schema. Included in the text are definitions of each element and their associated attributes as well as the valid values for the element and it’s attributes.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Element Name** | Req. | **ValidHL7Version** | This element is a container element that holds a list of <version> elements that define the HL7 version numbers that are considered valid by the validation engine. | |
| **Attributes** | Req. | severity | Defines the severity level associated with the validation check. Valid values for this attribute are: | |
|  |  |  | Ignore | Do not report errors.  Return success. |
|  |  |  | Report | Report errors and warnings. Allow the record to continue along to the next step in the workflow. Return success. |
|  |  |  | Hold | Report errors and warnings. Write the record to a holding directory so the error can be researched and corrected. Do not allow the record to continue along to the next step in the workflow. Return success. |
|  |  |  | Fatal | Report errors and warnings. Write the record to a holding directory so the error can be researched and corrected. Do not allow the record to continue along to the next step in the workflow. Return failure. |
|  | Req. | errorMessageId | Contains an integer that represents the error message id of the SCHIEPPH-Specific error message to write to the validation report if validation check fails. | |
|  | Req. | errorCodeId | Contains an integer that represents the error code id of the SCHIEPPH-Specific error code to write to the validation report if validation check fails. | |
| **Values** | A list of <version> elements that define the HL7 version numbers that are considered valid by the validation engine. | | | |
| **Lineage** | <HL7Validation>:<ValidHL7Versions> | | | |
| **Example** | <ValidHL7Versions errorCodeId="3" errorMessageId="3" severity="Hold" >  <version>2.3.1</version>  <version>2.5.1</version>  </ValidHL7Versions> | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Element**  **Name** |  | **version** | This repeating element holds an HL7 version number that the validation engine will consider valid. |
| **Values** | An HL7 version number. (i.e. 2.3.1 or 2.5.1). | | |
| **Lineage** | <HL7Validation>:<ValidHL7Versions>:<version> | | |
| **Example** | <version>2.3.1</version> | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Element Name** | Req. | **SupportedAdtVersions** | This element contains a list of <version> elements that define the HL7 version numbers that are considered valid by the validation engine. | |
| **Attributes** | Req. | severity | Defines the severity level associated with the validation check. Valid values for this attribute are: | |
|  |  |  | Ignore | Do not report errors.  Return success. |
|  |  |  | Report | Report errors and warnings. Allow the record to continue along to the next step in the workflow. Return success. |
|  |  |  | Hold | Report errors and warnings. Write the record to a holding directory so the error can be researched and corrected. Do not allow the record to continue along to the next step in the workflow. Return success. |
|  |  |  | Fatal | Report errors and warnings. Write the record to a holding directory so the error can be researched and corrected. Do not allow the record to continue along to the next step in the workflow. Return failure. |
|  | Req. | errorMessageId | Contains an integer that represents the error message id of the SCHIEPPH-Specific error message to write to the validation report if validation check fails. | |
|  | Req. | errorCodeId | Contains an integer that represents the error code id of the SCHIEPPH-Specific error code to write to the validation report if validation check fails. | |
| **Values** | A list of <version> elements that define the HL7 version numbers that are considered valid by the validation engine. | | | |
| **Lineage** | <HL7Validation>:<SupportedAdtMessages> | | | |
| **Example** | <SupportedAdtMessages errorCodeId="3" errorMessageId="4" severity="Hold" >  <adtMessage>A01</adtMessage>  <adtMessage>A03</adtMessage>  </SupportedAdtMessages> | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Element**  **Name** |  | **adtMessage** | This repeating element holds an ADT message type that the validation engine will consider valid. |
| **Values** | An ADT message type that the validation engine will consider valid, such as A01. | | |
| **Lineage** | <HL7Validation>:<SupportedAdtMessages>:<adtMessage> | | |
| **Example** | <adtMessage>A01</adtMessage> | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Element Name** | Req. | **RequiredSegments** | This Element is a container Element that holds a list of HL7 message segments that must be present in a given HL7 message. | |
| **Attributes** | Req. | severity | Defines the severity level associated with the validation check. Valid values for this attribute are: | |
|  |  |  | Ignore | Do not report errors.  Return success. |
|  |  |  | Report | Report errors and warnings. Allow the record to continue along to the next step in the workflow. Return success. |
|  |  |  | Hold | Report errors and warnings. Write the record to a holding directory so the error can be researched and corrected. Do not allow the record to continue along to the next step in the workflow. Return success. |
|  |  |  | Fatal | Report errors and warnings. Write the record to a holding directory so the error can be researched and corrected. Do not allow the record to continue along to the next step in the workflow. Return failure. |
|  | Req. | errorMessageId | Contains an integer that represents the error message id of the SCHIEPPH-Specific error message to write to the validation report if validation check fails. | |
|  | Req. | errorCodeId | Contains an integer that represents the error code id of the SCHIEPPH-Specific error code to write to the validation report if validation check fails. | |
| **Values** | A list of HL7 message segments that must be present in a given HL7 message. | | | |
| **Lineage** | <HL7Validation>:<RequiredSegments> | | | |
| **Example** | <RequiredSegments severity="Hold" errorMessageId="9" errorCodeId="5">  <segmentName>MSH</segmentName>  <segmentName>EVN</segmentName>  </RequiredSegments> | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Element Name** | Req. | **segmentName** | This repeating element holds a required HL7 message segment name. |
| **Values** | An HL7 message segment name, such as MSH, PID or OBX. | | |
| **Lineage** | <HL7Validation>:<RequiredSegments> | | |
| **Example** | <segmentName>MSH</segmentName> | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Element Name** | Req. | **Fields** | This element is a container element that holds a list of <Field> elements. |
| **Values** | A list of <Field> elements. | | |
| **Lineage** | <HL7Validation>:<Fields> | | |
| **Example** | <Fields>  <Field id="1">  <name>Facility Identifier</name>  <Location version="2.3.1" >  <hl7Segment fieldNumber="5.2" >OBX</hl7Segment>  <identifier mustMatch="true" fieldNumber="3.1">SS001</identifier>  </Location>  <Location version="2.5.1" >  <hl7Segment fieldNumber="7.2" >EVN</hl7Segment>  </Location>  <description>Field #1 - Unique facility identifier…</description>  <Validations>  <usage errorCodeId="1" errorMessageId="1" severity="Hold" >Required</usage>  <dataType errorCodeId="4" errorMessageId="10" … >Alpha</dataType>  </Validations>  </Field>  </Fields> | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Element Name** | Req. | **Field** | This element holds a list of elements that define the attributes of a field to be validated, including the validations to run on each field. |
| **Attributes** | Req. | id | A numeric value that uniquely identifies the field so it can be referenced in other fields. |
|  | Opt. | canContainMultipleValues | Indicates whether or not the field can occur more than once in a given HL7 message. Valid values are “True” and “False”. The Default value is “False”. |
|  | Opt. | repeatingElement | Indicates whether the multiple field values repeat within one field in an HL7 message, separated by the repeating field separator that is defined in the MSH segment; or if the field values can be found in one segment type that repeats multiple times within a given HL7 message. Valid values are Field” and “Segment”. The Default is “Field”. |
| **Values** | A list of various elements that define the attributes of a field to be validated, including the validations to run on each field. | | |
| **Lineage** | <HL7Validation>:<Fields>:<Field> | | |
| **Example** | <Field id="1">  <name>Facility Identifier</name>  <Location version="2.3.1" >  <hl7Segment fieldNumber="5.2" >OBX</hl7Segment>  <identifier mustMatch="true" fieldNumber="3.1">SS001</identifier>  </Location>  <Location version="2.5.1" >  <hl7Segment fieldNumber="7.2" >EVN</hl7Segment>  </Location>  <description>Field #1 - Unique facility identifier…</description>  <Validations>  <usage errorCodeId="1" errorMessageId="1" severity="Hold" >Required</usage>  <dataType errorCodeId="4" errorMessageId="10" … >Alpha</dataType>  </Validations>  </Field> | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Element Name** | Req. | **name** | The name of the field to be validated. |
| **Values** | Free form text. | | |
| **Lineage** | <HL7Validation>:<Fields>:<Field>:<name> | | |
| **Example** | <name>Facility Identifier</name> | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Element Name** | Req. | **location** | This is a container Element that holds an <hl7Segment> element and an optional list of <identifier> elements that identify the location within a given HL7 message where a specific field's data can be found. |
| **Attributes** | Req. | version | This attribute identifies the version that the location applies to. |
| **Values** | An <hl7Segment> element and an optional list of <identifier> elements that identify the location within a given HL7 message where a specific field's data can be found. | | |
| **Lineage** | <HL7Validation>:<Fields>:<Field>:<Location> | | |
| **Example** | <Location version="2.3.1" >  <hl7Segment fieldNumber="5.1" >OBX</hl7Segment>  <identifier mustMatch="true" fieldNumber="3.1">SS001</identifier>  </Location> | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Element Name** | Req. | **hl7Segment** | This element holds the name of the HL7 segment where the field can be found. |
| **Attributes** | Req. | fieldNumber | The location of the field within the segment.  The numbering format is the standard HL7 numbering scheme for fields. (e.g. 3.2, 5.1, 2, 4.3.1 etc.) |
| **Values** | The name of the HL7 segment where the field’s data can be found, such as MSH,OBX or PID. | | |
| **Lineage** | <HL7Validation>:<Fields>:<Field>:<Location>:<hl7Segment> | | |
| **Example** | <hl7Segment fieldNumber="5.1" >OBX</hl7Segment> | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Element Name** | Req. | **identifier** | This element holds the value to compare to the value found in the field defined in the attributes above. If the values match, then this is the HL7 segment that we are looking for. This is mainly used to identify which OBX segment within an HL7 message holds the filed data we are interested in. |
| **Attributes** | Req. | fieldNumber | The location of the field that can be used to identify the segment within the HL7 message that holds the desired data.  The numbering format is the standard HL7 numbering scheme. |
|  | Req. | mustMatch | This attribute tells the engine whether the value in the identifier must match the value in the field pointed to by the identifier element. |
| **Values** | A free form text value that should be compared to the value found in the field defined in the fieldNumber attribute. | | |
| **Lineage** | <HL7Validation>:<Fields>:<Field>:<Location>:<identifier> | | |
| **Example** | <identifier mustMatch="true" fieldNumber="3.1">SS001</identifier> | | |

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| --- | --- | --- | --- |
| **Element Name** | Req. | **description** | This element holds a text description of the field. |
| **Values** | A free form text description of the field. | | |
| **Lineage** | <HL7Validation>:<Fields>:<Field>:<description> | | |
| **Example** | <description>Field #2 - Name of the facility where the patient … </description> | | |

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| --- | --- | --- | --- |
| **Element Name** | Req. | **Validations** | This container element holds a list of elements that define the validations to perform on the field’s data. |
| **Values** | A list of elements that define the validations to perform on the field’s data. | | |
| **Lineage** | <HL7Validation>:<Fields>:<Field>:<Validations> | | |
| **Example** | <Validations>  <usage errorCodeId="0" errorMessageId="0" severity="Ignore" >Optional</usage>  <dataType errorCodeId="4" errorMessageId="10" … >AlphaNumeric</dataType>  </Validations> | | |

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| **Element Name** | Req. | **usage** | This element defines whether the field is Required, Required Empty or Optional. Required Empty fields are fields that the sender is required to send if they have them. If they do not have them they can send “empty” data in the field. From a validation perspective, there is no difference between Required Empty and Optional. | |
| **Attributes** | Req. | severity | Defines the severity level associated with the validation check. Valid values for this attribute are: | |
|  |  |  | Ignore | Do not report errors.  Return success. |
|  |  |  | Report | Report errors and warnings. Allow the record to continue along to the next step in the workflow. Return success. |
|  |  |  | Hold | Report errors and warnings. Write the record to a holding directory so the error can be researched and corrected. Do not allow the record to continue along to the next step in the workflow. Return success. |
|  |  |  | Fatal | Report errors and warnings. Write the record to a holding directory so the error can be researched and corrected. Do not allow the record to continue along to the next step in the workflow. Return failure. |
|  | Req. | errorMessageId | Contains an integer that represents the error message id of the SCHIEPPH-Specific error message to write to the validation report if validation check fails. | |
|  | Req. | errorCodeId | Contains an integer that represents the error code id of the SCHIEPPH-Specific error code to write to the validation report if validation check fails. | |
| **Values** | One of the following strings: Optional, Conditional, Required or RequiredEmpty. | | | |
| **Lineage** | <HL7Validation>:<Fields>:<Field>:<Validations>:<usage> | | | |
| **Element** | <usage errorCodeId="1" errorMessageId="1" severity="Hold" >Required</usage> | | | |

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| --- | --- | --- | --- | --- |
| **Element Name** | Req. | **dataType** | This element defines the data type that is considered valid for this field. Valid values are Alpha, Numeric, AlphaNumeric and Date. | |
| **Attributes** | Req. | severity | Defines the severity level associated with the validation check. Valid values for this attribute are: | |
|  |  |  | Ignore | Do not report errors.  Return success. |
|  |  |  | Report | Report errors and warnings. Allow the record to continue along to the next step in the workflow. Return success. |
|  |  |  | Hold | Report errors and warnings. Write the record to a holding directory so the error can be researched and corrected. Do not allow the record to continue along to the next step in the workflow. Return success. |
|  |  |  | Fatal | Report errors and warnings. Write the record to a holding directory so the error can be researched and corrected. Do not allow the record to continue along to the next step in the workflow. Return failure. |
|  | Req. | errorMessageId | Contains an integer that represents the error message id of the SCHIEPPH-Specific error message to write to the validation report if validation check fails. | |
|  | Req. | errorCodeId | Contains an integer that represents the error code id of the SCHIEPPH-Specific error code to write to the validation report if validation check fails. | |
|  | Opt. | format | If the value of this element is Date, this attribute holds the format that the date must be in. See the section entitled Data Type for more information on specifying valid date formats. | |
|  | Opt. | specialCharacters | If the value is Alpha or AlphaNumeric, this attribute holds the additional characters that are considered valid, allowing the user to define a valid Numeric field as “12345-6”. In this example, “12345-6” would be considered a valid value while “12345-A” would be considered invalid. | |
|  | Opt. | minimumLength | The minimum number of characters that the field must contain. A value of -1 indicates that the field does not have a defined minimum length. | |
|  | Opt. | maximumLength | The maximum number of characters that the field can contain. A value of -1 indicates that the field does not have a defined maximum length. | |
| **Values** | One of the following four strings: Alpha, Numeric, AlphaNumeric or Date. | | | |
| **Lineage** | <HL7Validation>:<Fields>:<Field>:<Validations>:<dataType> | | | |
| **Elements** | <dataType errorCodeId="4" errorMessageId="10" severity="Hold" maximumLength="50" specialCharacters="-/\_,.:">AlphaNumeric</dataType> | | | |

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| --- | --- | --- | --- | --- |
| **Element Name** | Req. | **ValueList** | This container element holds a list of <value> elements that define the valid values for this field. | |
| **Attributes** | Req. | severity | Defines the severity level associated with the validation check. Valid values for this attribute are: | |
|  |  |  | Ignore | Do not report errors.  Return success. |
|  |  |  | Report | Report errors and warnings. Allow the record to continue along to the next step in the workflow. Return success. |
|  |  |  | Hold | Report errors and warnings. Write the record to a holding directory so the error can be researched and corrected. Do not allow the record to continue along to the next step in the workflow. Return success. |
|  |  |  | Fatal | Report errors and warnings. Write the record to a holding directory so the error can be researched and corrected. Do not allow the record to continue along to the next step in the workflow. Return failure. |
|  | Req. | errorMessageId | Contains an integer that represents the error message id of the SCHIEPPH-Specific error message to write to the validation report if validation check fails. | |
|  | Req. | errorCodeId | Contains an integer that represents the error code id of the SCHIEPPH-Specific error code to write to the validation report if validation check fails. | |
|  | Opt. | caseSensitive | Indicates whether or not to consider the case of the value when check it. Valid values are “True” and “False”. The default value is “False”. | |
| **Value** | A list of <value> elements that defines the valid values for this field. | | | |
| **Lineage** | <HL7Validation>:<Fields>:<Field>:<Validations>:<ValueList> | | | |
| **Example** | <ValueList>  <value>a</value>  <value>mo</value>  </ValueList> | | | |

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| **Element Name** | Req. | **value** | This repeating element defines one valid value in a list of valid values. For example, if the field this validation is associated with a holds a color, then possible values for this element would be Red, Blue, Green, Orange, etc. |
| **Values** | Free form text. | | |
| **Lineage** | <HL7Validation>:<Fields>:<Field>:<Validations>:<ValueList>:<value> | | |
| **Example** | <value>mo</value> | | |

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| --- | --- | --- | --- | --- |
| **Element Name** | Req. | **RequiresFieldValue** | This element defines the value that a secondary field must contain if the current field is present in the HL7 message. This validation is used to validate that a given value is part of a specific value set. | |
| **Attributes** | Req. | severity | Defines the severity level associated with the validation check. Valid values for this attribute are: | |
|  |  |  | Ignore | Do not report errors.  Return success. |
|  |  |  | Report | Report errors and warnings. Allow the record to continue along to the next step in the workflow. Return success. |
|  |  |  | Hold | Report errors and warnings. Write the record to a holding directory so the error can be researched and corrected. Do not allow the record to continue along to the next step in the workflow. Return success. |
|  |  |  | Fatal | Report errors and warnings. Write the record to a holding directory so the error can be researched and corrected. Do not allow the record to continue along to the next step in the workflow. Return failure. |
|  | Req. | errorMessageId | Contains an integer that represents the error message id of the SCHIEPPH-Specific error message to write to the validation report if validation check fails. | |
|  | Req. | errorCodeId | Contains an integer that represents the error code id of the SCHIEPPH-Specific error code to write to the validation report if validation check fails. | |
|  | Req. | fieldNumber | The field number of the field to check. | |
| **Values** | A <fieldValue> element that holds the value that a secondary field, identified by the fieldNumber attribute, must contain if the current field is present in the HL7 message. | | | |
| **Lineage** | <HL7Validation>:<Fields>:<Field>:<Validations>:<RequiresFieldValue> | | | |
| **Example** | <RequiresFieldValue errorCodeId="3" errorMessageId="5" fieldNumber="5.3" … >  <fieldValue>HSLOC</fieldValue>  </RequiresFieldValue> | | | |

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| --- | --- | --- | --- |
| **Element Name** | Req. | **fieldValue** | This repeating element defines one valid value in a list of valid values. For example, if the secondary field this validation is associated with holds a color, then possible values for this element would be Red, Blue, Green, Orange, etc. |
| **Values** | Free form text. | | |
| **Lineage** | <HL7Validation>:<Fields>:<Field>:<Validations>:<RequiresFieldValue>:<fieldValue> | | |
| **Example** | <fieldValue>HSLOC</fieldValue> | | |

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| --- | --- | --- | --- | --- |
| **Element Name** | Req. | **RequiresField** | This element defines the secondary field that must be present, and valid, if the current field is present in the HL7 message. All defined validations are performed on the secondary, assuming that the usage value for the secondary field is Required, regardless of the value that the field was configured with. | |
| **Attributes** | Req. | severity | Defines the severity level associated with the validation check. Valid values for this attribute are: | |
|  |  |  | Ignore | Do not report errors.  Return success. |
|  |  |  | Report | Report errors and warnings. Allow the record to continue along to the next step in the workflow. Return success. |
|  |  |  | Hold | Report errors and warnings. Write the record to a holding directory so the error can be researched and corrected. Do not allow the record to continue along to the next step in the workflow. Return success. |
|  |  |  | Fatal | Report errors and warnings. Write the record to a holding directory so the error can be researched and corrected. Do not allow the record to continue along to the next step in the workflow. Return failure. |
|  | Req. | errorMessageId | Contains an integer that represents the error message id of the SCHIEPPH-Specific error message to write to the validation report if validation check fails. | |
|  | Req. | errorCodeId | Contains an integer that represents the error code id of the SCHIEPPH-Specific error code to write to the validation report if validation check fails. | |
| **Values** | A <conditionalFieldId> element that defines the secondary field that must be present, and valid, if the current field is present in the HL7 message. | | | |
| **Lineage** | <HL7Validation>:<Fields>:<Field>:<Validations>:<RequiresField> | | | |
| **Example** | <RequiresField errorCodeId="1" errorMessageId="1" severity="Hold" >  <conditionalFieldId>7</conditionalFieldId>  </RequiresField> | | | |

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| **Element Name** | Req. | **conditionalFieldId** | This element identifies the conditional field that needs to be present. The field is identified by the unique number in the id attribute of the field that must be present and valid. |
| **Attributes** | Opt. | mustExist | This attribute tells the validation engine that this conditional field must exist in the HL7 message for the validation to pass. The default value for this attribute is “true”. |
| **Values** | An integer that equals the value of the id attribute that is associated with the field that is required by the current field. | | |
| **Lineage** | <HL7Validation>:<Fields>:<Field>:<Validations>:<RequiresField>:<conditionalFieldId> | | |
| **Example** | <conditionalFieldId>7</conditionalFieldId> | | |

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| **Element Name** | Req. | **ErrorMessages** | This element is a container element for the error messages referenced by the validations. |
| **Values** | A list of <errorMessage> elements. | | |
| **Lineage** | <HL7Validation>:<ErrorMessages> | | |
| **Example** | <ErrorMessages>  <errorMessage id="1" printFieldName="true" printFieldValue="false" >is a … </errorMessage>  <errorMessage id="2" printFieldName="true" printFieldValue="false" >is a ...</errorMessage>  </ErrorMessages> | | |

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| **Element Name** | Req. | **errorMessage** | This element defines an error message that can be referenced by the validation elements. |
| **Attributes** | Req. | id | An integer that is unique with respect to the other error message id’s. |
|  | Req. | printFieldName | Tells the engine if it should prefix the error message with the name of the field. |
|  | Req. | printFieldValue | Tells the engine if it should prefix the error message with the value of the data found in the field. If printFieldName is true, the value will be printed after the field name. |
|  | Opt. | supressAdditionalMessage | The validation engine contains code that adds an additional message to the error message that gets written to the validation report which contains more detail about the error. Setting this optional attribute to “true” suppresses the printing of the additional message. The default value for theis attribute is “false”. |
| **Values** | Free form text. | | |
| **Lineage** | <HL7Validation>:<ErrorMessages>:<errorMessage> | | |
| **Example** | <errorMessage id="2" printFieldName="true" printFieldValue="false" >is a required/empty field and is missing.</errorMessage> | | |

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| **Element Name** | Req. | **ErrorCodes** | This element is a container element for the error codes referenced by the validations. |
| **Values** | A list of <errorCode> elements. | | |
| **Lineage** | <HL7Validation>:<ErrorCodes> | | |
| **Example** | <ErrorCodes>  <errorCode id="1">SCHIEPPHRequiredFieldMissing</errorCode>  <errorCode id="2">SCHIEPPHRequiredEmptyFieldMissing</errorCode>  </ErrorCodes> | | |

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| --- | --- | --- | --- |
| **Element Name** | Req. | **errorCode** | This element is a container element for the error messages referenced by the validations. |
| **Attributes** | Req. | id | An integer that is unique with respect to the other error codes. |
| **Values** | Free form text. | | |
| **Lineage** | <HL7Validation>:<ErrorCodes>:<errorCode> | | |
| **Example** | <errorCode id="1">SCHIEPPHRequiredFieldMissing</errorCode> | | |

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| --- | --- | --- | --- |
| **Element Name** | Req. | **DateFormats** | This element is a container element for the default date formats that will be used by the by the Data Type validation if a “date” type is defined and there is not specific date format defined in the elements format attribute. |
| **Values** | A list of <formt> elements. | | |
| **Lineage** | <HL7Validation>:<DateFormats> | | |
| **Example** | <DateFormats>  <format>yyyyMMddHHmm</format>  <format>yyyyMMddHHmm-zzzz</format>  </DateFormats> | | |

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| --- | --- | --- | --- |
| **Element Name** | Req. | **format** | This repeating element defines a specific default date format that the Validation Engine will use to validate a “date” Data Type if no specific date format is defined in the Data Type’s format attribute. |
| **Values** | A string of format characters that defines the valid format of a date string.  y = year  M = month  d = day  h = hour (12 hour format)  H = hour (24 hour format)  m = minutes  s = seconds  z = time zone  See the section entitled Data Types for more information on valid date string definitions. | | |
| **Lineage** | <HL7Validation>:<DateFormats>:<format> | | |
| **Example** | <format>yyyyMMddHHmm-zzzz</format> | | |

The following is an example of the Validation Rule Book that ships with the SCHIEPPH Reference Implementation:

<?xml version="1.0" encoding="UTF-8"?>

<!-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* -->

<!-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*RULE BOOK\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* -->

<!-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* -->

<HL7Validation xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:noNamespaceSchemaLocation="file:../../../Product/Production/XML/HL7Validation.xsd">

<ValidHL7Versions errorCodeId="3" errorMessageId="3" severity="Hold" >

<version>2.3.1</version>

<version>2.5.1</version>

</ValidHL7Versions>

<SupportedAdtMessages errorCodeId="3" errorMessageId="4" severity="Hold" >

<adtMessage>A01</adtMessage>

<adtMessage>A03</adtMessage>

<adtMessage>A04</adtMessage>

<adtMessage>A08</adtMessage>

</SupportedAdtMessages>

<RequiredSegments severity="Hold" errorMessageId="9" errorCodeId="5">

<segmentName>MSH</segmentName>

<segmentName>EVN</segmentName>

<segmentName>PID</segmentName>

<segmentName>PV1</segmentName>

<segmentName>OBX</segmentName>

</RequiredSegments>

<Fields>

<Field id="1">

<name>Facility Identifier</name>

<Location version="2.3.1" >

<hl7Segment fieldNumber="5.2" >OBX</hl7Segment>

<identifier mustMatch="true" fieldNumber="3.1">SS001</identifier>

</Location>

<Location version="2.5.1" >

<hl7Segment fieldNumber="7.2" >EVN</hl7Segment>

</Location>

<description>Field #1 - Unique facility identifier of facility where the patient originally presented (original provider of the data)</description>

<Validations>

<usage errorCodeId="1" errorMessageId="1" severity="Hold" >Required</usage>

<dataType errorCodeId="4" errorMessageId="10" severity="Hold" maximumLength="199" specialCharacters="-/\_,.:">AlphaNumeric</dataType>

</Validations>

</Field>

<Field id="2">

<name>Facility Name</name>

<Location version="2.3.1" >

<hl7Segment fieldNumber="5.1" >OBX</hl7Segment>

<identifier mustMatch="true" fieldNumber="3.1">SS001</identifier>

</Location>

<Location version="2.5.1" >

<hl7Segment fieldNumber="7.1" >EVN</hl7Segment>

</Location>

<description>Field #2 - Name of facility where the patient originally presented (original provider of the data)</description>

<Validations>

<usage errorCodeId="0" errorMessageId="0" severity="Ignore" >Optional</usage>

<dataType errorCodeId="4" errorMessageId="10" severity="Hold" maximumLength="20" specialCharacters="-/\_,.:">AlphaNumeric</dataType>

</Validations>

</Field>

<Field id="3">

<name>Facility Location - Street Address</name>

<Location version="2.3.1" >

<hl7Segment fieldNumber="5.2" >OBX</hl7Segment>

<identifier mustMatch="true" fieldNumber="3.1">SS002</identifier>

</Location>

<Location version="2.5.1" >

<hl7Segment fieldNumber="5.2" >OBX</hl7Segment>

<identifier mustMatch="true" fieldNumber="3.1">SS002</identifier>

</Location>

<description>Field #3 - Street address of treating facility location</description>

<Validations>

<usage errorCodeId="0" errorMessageId="0" severity="Ignore" >Optional</usage>

<dataType errorCodeId="4" errorMessageId="10" severity="Hold" maximumLength="120" specialCharacters="-/\_,.:">AlphaNumeric</dataType>

</Validations>

</Field>

<Field id="4">

<name>Facility Location - City</name>

<Location version="2.3.1" >

<hl7Segment fieldNumber="5.6" >OBX</hl7Segment>

<identifier mustMatch="true" fieldNumber="3.1">SS002</identifier>

</Location>

<Location version="2.5.1" >

<hl7Segment fieldNumber="5.6" >OBX</hl7Segment>

<identifier fieldNumber="3.1">SS002</identifier>

</Location>

<description>Field #4 - City of treating facility location</description>

<Validations>

<usage errorCodeId="0" errorMessageId="0" severity="Ignore" >Optional</usage>

<dataType errorCodeId="4" errorMessageId="10" severity="Hold" maximumLength="50" specialCharacters="-/\_,.:">AlphaNumeric</dataType>

</Validations>

</Field>

<Field id="6">

<name>Facility Location - County</name>

<Location version="2.3.1" >

<hl7Segment fieldNumber="5.9" >OBX</hl7Segment>

<identifier mustMatch="true" fieldNumber="3.1">SS002</identifier>

</Location>

<Location version="2.5.1" >

<hl7Segment fieldNumber="5.9" >OBX</hl7Segment>

<identifier mustMatch="true" fieldNumber="3.1">SS002</identifier>

</Location>

<description>Field #5 - County of treating facility location</description>

<Validations>

<usage errorCodeId="0" errorMessageId="0" severity="Ignore" >Optional</usage>

<dataType errorCodeId="4" errorMessageId="10" severity="Hold" maximumLength="20" specialCharacters="-/\_,.:">AlphaNumeric</dataType>

</Validations>

</Field>

<Field id="7">

<name>Facility Location - State</name>

<Location version="2.3.1" >

<hl7Segment fieldNumber="5.7" >OBX</hl7Segment>

<identifier mustMatch="true" fieldNumber="3.1">SS002</identifier>

</Location>

<Location version="2.5.1" >

<hl7Segment fieldNumber="5.7" >OBX</hl7Segment>

<identifier mustMatch="true" fieldNumber="3.1">SS002</identifier>

</Location>

<description>Field #6 - State of treating facility location</description>

<Validations>

<usage errorCodeId="0" errorMessageId="0" severity="Ignore" >Optional</usage>

<dataType errorCodeId="4" errorMessageId="10" severity="Hold" maximumLength="50" specialCharacters="-/\_,.:">AlphaNumeric</dataType>

</Validations>

</Field>

<Field id="8">

<name>Facility/Visit Type</name>

<Location version="2.3.1" >

<hl7Segment fieldNumber="5.1" >OBX</hl7Segment>

<identifier mustMatch="true" fieldNumber="3.1">SS003</identifier>

</Location>

<Location version="2.3.1" >

<hl7Segment fieldNumber="9" >OBX</hl7Segment>

<identifier mustMatch="true" fieldNumber="3.1">SS003</identifier>

</Location>

<Location version="2.5.1" >

<hl7Segment fieldNumber="5.1" >OBX</hl7Segment>

<identifier mustMatch="true" fieldNumber="3.1">SS003</identifier>

</Location>

<Location version="2.5.1" >

<hl7Segment fieldNumber="9" >OBX</hl7Segment>

<identifier mustMatch="true" fieldNumber="3.1">SS003</identifier>

</Location>

<description>Field #7 - Type of facility that the patient visited for treatment</description>

<Validations>

<usage errorCodeId="1" errorMessageId="1" severity="Hold" >Required</usage>

<!-- Excluded codes 207XP3100X (Specialty Care) and 225XN1300X (Primary Care)-->

<ValueList errorCodeId="3" errorMessageId="5" severity="Hold" >

<value>170300000X</value>

<value>251V00000X</value>

</ValueList>

<RequiresFieldValue errorCodeId="3" errorMessageId="5" severity="Hold" fieldNumber="5.3" >

<fieldValue>HSLOC</fieldValue>

</RequiresFieldValue>

</Validations>

</Field>

<Field id="9">

<name>Report Date/Time</name>

<Location version="2.3.1" >

<hl7Segment fieldNumber="2" >EVN</hl7Segment>

</Location>

<Location version="2.5.1" >

<hl7Segment fieldNumber="2" >EVN</hl7Segment>

</Location>

<description>Field #8 - Date and time of report transmission from original source (from treating facility)</description>

<Validations>

<usage errorCodeId="1" errorMessageId="1" severity="Hold" >Required</usage>

<dataType errorCodeId="4" errorMessageId="10" severity="Hold">Date</dataType>

</Validations>

</Field>

<Field id="10" canContainMultipleValues="true" repeatingElement="Field" >

<name>Unique Patient Identifier</name>

<Location version="2.3.1" >

<hl7Segment fieldNumber="3.1" >PID</hl7Segment>

</Location>

<Location version="2.5.1" >

<hl7Segment fieldNumber="3.1" >PID</hl7Segment>

</Location>

<description>Field #9 - Unique identifier for the patient</description>

<Validations>

<usage errorCodeId="1" errorMessageId="1" severity="Hold" >Required</usage>

<RequiresFieldValue errorCodeId="3" errorMessageId="5" severity="Hold" fieldNumber="3.5" caseSensetive="false" >

<fieldValue>AN</fieldValue>

<fieldValue>ANC</fieldValue>

<fieldValue>AND</fieldValue>

<fieldValue>APRN</fieldValue>

<fieldValue>AM</fieldValue>

<fieldValue>ANON</fieldValue>

<fieldValue>BA</fieldValue>

<fieldValue>BC</fieldValue>

<fieldValue>BR</fieldValue>

<fieldValue>CY</fieldValue>

<fieldValue>DDS</fieldValue>

<fieldValue>DI</fieldValue>

<fieldValue>DS</fieldValue>

<fieldValue>DN</fieldValue>

<fieldValue>DR</fieldValue>

<fieldValue>DL</fieldValue>

<fieldValue>DEA</fieldValue>

<fieldValue>DFN</fieldValue>

<fieldValue>EI</fieldValue>

<fieldValue>GL</fieldValue>

<fieldValue>GN</fieldValue>

<fieldValue>GI</fieldValue>

<fieldValue>HC</fieldValue>

<fieldValue>IND</fieldValue>

<fieldValue>JHN</fieldValue>

<fieldValue>LI</fieldValue>

<fieldValue>LN</fieldValue>

<fieldValue>PE</fieldValue>

<fieldValue>LR</fieldValue>

<fieldValue>MS</fieldValue>

<fieldValue>MD</fieldValue>

<fieldValue>MR</fieldValue>

<fieldValue>UPIN</fieldValue>

<fieldValue>MB</fieldValue>

<fieldValue>MCN</fieldValue>

<fieldValue>MI</fieldValue>

<fieldValue>NH</fieldValue>

<fieldValue>NII</fieldValue>

<fieldValue>NPI</fieldValue>

<fieldValue>NI</fieldValue>

<fieldValue>NP</fieldValue>

<fieldValue>OD</fieldValue>

<fieldValue>DO</fieldValue>

<fieldValue>PPN</fieldValue>

<fieldValue>PT</fieldValue>

<fieldValue>PI</fieldValue>

<fieldValue>MA</fieldValue>

<fieldValue>MC</fieldValue>

<fieldValue>PCN</fieldValue>

<fieldValue>PEN</fieldValue>

<fieldValue>PRC</fieldValue>

<fieldValue>PN</fieldValue>

<fieldValue>RPH</fieldValue>

<fieldValue>PA</fieldValue>

<fieldValue>DPM</fieldValue>

<fieldValue>MCD</fieldValue>

<fieldValue>MCR</fieldValue>

<fieldValue>PRN</fieldValue>

<fieldValue>QA</fieldValue>

<fieldValue>RR</fieldValue>

<fieldValue>RRI</fieldValue>

<fieldValue>RN</fieldValue>

<fieldValue>RI</fieldValue>

<fieldValue>SS</fieldValue>

<fieldValue>SL</fieldValue>

<fieldValue>SR</fieldValue>

<fieldValue>SN</fieldValue>

<fieldValue>TAX</fieldValue>

<fieldValue>ANT</fieldValue>

<fieldValue>PNT</fieldValue>

<fieldValue>MRT</fieldValue>

<fieldValue>TN</fieldValue>

<fieldValue>U</fieldValue>

<fieldValue>VS</fieldValue>

<fieldValue>VN</fieldValue>

<fieldValue>WC</fieldValue>

<fieldValue>WCN</fieldValue>

</RequiresFieldValue>

</Validations>

</Field>

<Field id="11" canContainMultipleValues="true">

<name>Medical Record Number</name>

<Location version="2.3.1" >

<hl7Segment fieldNumber="3.1" >PID</hl7Segment>

<identifier mustMatch="true" fieldNumber="3.5">MR</identifier>

</Location>

<Location version="2.5.1" >

<hl7Segment fieldNumber="3.1" >PID</hl7Segment>

<identifier mustMatch="true" fieldNumber="3.5">MR</identifier>

</Location>

<description>Field #10 - Patient medical record number</description>

<Validations>

<usage errorCodeId="0" errorMessageId="0" severity="Ignore" >Optional</usage>

</Validations>

</Field>

<Field id="12">

<name>Age</name>

<Location version="2.3.1" >

<hl7Segment fieldNumber="5.1" >OBX</hl7Segment>

<identifier fieldNumber="3.1">21612-7</identifier>

</Location>

<Location version="2.5.1" >

<hl7Segment fieldNumber="5.1" >OBX</hl7Segment>

<identifier mustMatch="true" fieldNumber="3.1">21612-7</identifier>

</Location>

<description>Field #11 - Numeric value of patient age </description>

<Validations>

<usage errorCodeId="1" errorMessageId="1" severity="Hold" >Required</usage>

<dataType errorCodeId="4" errorMessageId="10" severity="Hold">Numeric</dataType>

<!-- This element defines the secondary field (Field ID 13 - Age Unit) that must be present, and valid, if the current field is present in the HL7 message. -->

<RequiresField errorCodeId="11" errorMessageId="11" severity="Hold">

<conditionalFieldId>13</conditionalFieldId>

</RequiresField>

</Validations>

</Field>

<Field id="13">

<name>Age Units</name>

<Location version="2.3.1" >

<hl7Segment fieldNumber="6.1" >OBX</hl7Segment>

<identifier mustMatch="true" fieldNumber="3.1">21612-7</identifier>

</Location>

<Location version="2.5.1" >

<hl7Segment fieldNumber="6.1" >OBX</hl7Segment>

<identifier mustMatch="true" fieldNumber="3.1">21612-7</identifier>

</Location>

<description>Field #12 - Unit corresponding to numeric value of patient age (e.g. Days, Month or Years) </description>

<Validations>

<usage errorCodeId="1" errorMessageId="1" severity="Hold" >Required</usage>

<!-- Add valid values with value set code PHVS\_AgeUnit\_SyndromicSurveillance -->

<ValueList errorCodeId="3" errorMessageId="5" severity="Hold" >

<value>d</value>

<value>mo</value>

<value>UNK</value>

<value>wk</value>

<value>a</value>

</ValueList>

<!-- This element defines the value that a secondary field (6.3) must contain if the current field (6.1) is present in the HL7 message. -->

<RequiresFieldValue errorCodeId="6" errorMessageId="12" severity="Hold" fieldNumber="6.3" >

<fieldValue>UCUM</fieldValue>

</RequiresFieldValue>

<!-- This element defines the secondary field (5.1 - Age) that must be present, and valid, if the current field is present in the HL7 message. -->

<RequiresField errorCodeId="11" errorMessageId="11" severity="Hold">

<conditionalFieldId>12</conditionalFieldId>

</RequiresField>

</Validations>

</Field>

<Field id="14">

<name>Gender</name>

<Location version="2.3.1" >

<hl7Segment fieldNumber="8" >PID</hl7Segment>

</Location>

<Location version="2.5.1" >

<hl7Segment fieldNumber="8" >PID</hl7Segment>

</Location>

<description>Field #13 - Gender of patient</description>

<Validations>

<usage errorCodeId="2" errorMessageId="2" severity="Report" >RequiredEmpty</usage>

<!-- Add valid values -->

<ValueList errorCodeId="3" errorMessageId="5" severity="Hold" >

<value>F</value>

<value>M</value>

<value>O</value>

<value>U</value>

</ValueList>

</Validations>

</Field>

<Field id="15">

<name>Patient City/Town</name>

<Location version="2.3.1" >

<hl7Segment fieldNumber="11.3" >PID</hl7Segment>

</Location>

<Location version="2.5.1" >

<hl7Segment fieldNumber="11.3" >PID</hl7Segment>

</Location>

<description>Field #14 - City/Town of patient residence</description>

<Validations>

<usage errorCodeId="0" errorMessageId="0" severity="Ignore" >Optional</usage>

<dataType errorCodeId="4" errorMessageId="10" severity="Hold" maximumLength="50" specialCharacters="-/\_,.:">AlphaNumeric</dataType>

</Validations>

</Field>

<Field id="16">

<name>Patient Zip Code</name>

<Location version="2.3.1" >

<hl7Segment fieldNumber="11.5" >PID</hl7Segment>

</Location>

<Location version="2.5.1" >

<hl7Segment fieldNumber="11.5" >PID</hl7Segment>

</Location>

<description>Field #15 - ZIP Code of patient residence</description>

<Validations>

<usage errorCodeId="2" errorMessageId="2" severity="Report" >RequiredEmpty</usage>

<dataType errorCodeId="4" errorMessageId="10" severity="Hold" maximumLength="12" specialCharacters="-/\_,.:">AlphaNumeric</dataType>

</Validations>

</Field>

<Field id="17">

<name>Patient State</name>

<Location version="2.3.1" >

<hl7Segment fieldNumber="11.4" >PID</hl7Segment>

</Location>

<Location version="2.5.1" >

<hl7Segment fieldNumber="11.4" >PID</hl7Segment>

</Location>

<description>Field #16 - State of patient residence </description>

<Validations>

<usage errorCodeId="0" errorMessageId="0" severity="Ignore" >Optional</usage>

<!-- Add valid values with value set code PHVS\_State\_FIPS\_5-2-->

<ValueList errorCodeId="3" errorMessageId="5" severity="Hold" >

<value>01</value>

<value>02</value>

<value>60</value>

<value>04</value>

<value>05</value>

<value>81</value>

<value>06</value>

<value>08</value>

<value>09</value>

<value>10</value>

<value>11</value>

<value>64</value>

<value>12</value>

<value>13</value>

<value>66</value>

<value>15</value>

<value>84</value>

<value>16</value>

<value>17</value>

<value>18</value>

<value>19</value>

<value>86</value>

<value>67</value>

<value>20</value>

<value>21</value>

<value>89</value>

<value>22</value>

<value>23</value>

<value>68</value>

<value>24</value>

<value>25</value>

<value>26</value>

<value>71</value>

<value>27</value>

<value>28</value>

<value>29</value>

<value>30</value>

<value>76</value>

<value>31</value>

<value>32</value>

<value>33</value>

<value>34</value>

<value>35</value>

<value>36</value>

<value>37</value>

<value>38</value>

<value>69</value>

<value>39</value>

<value>40</value>

<value>41</value>

<value>70</value>

<value>95</value>

<value>42</value>

<value>72</value>

<value>44</value>

<value>45</value>

<value>46</value>

<value>47</value>

<value>48</value>

<value>74</value>

<value>49</value>

<value>50</value>

<value>78</value>

<value>51</value>

<value>79</value>

<value>53</value>

<value>54</value>

<value>55</value>

<value>56</value>

</ValueList>

</Validations>

</Field>

<Field id="18">

<name>Patient Country</name>

<Location version="2.3.1" >

<hl7Segment fieldNumber="11.6" >PID</hl7Segment>

</Location>

<Location version="2.5.1" >

<hl7Segment fieldNumber="11.6" >PID</hl7Segment>

</Location>

<description>Field #17 - Country of patient residence</description>

<Validations>

<usage errorCodeId="0" errorMessageId="0" severity="Report" >RequiredEmpty</usage>

<!-- Add valid values with value set code PHVS\_Country\_ISO\_3166-1-->

<ValueList errorCodeId="3" errorMessageId="5" severity="Hold" >

<value>AFG</value>

<value>ALA</value>

<value>ALB</value>

<value>DZA</value>

<value>ASM</value>

<value>AND</value>

<value>AGO</value>

<value>AIA</value>

<value>ATA</value>

<value>ATG</value>

<value>ARG</value>

<value>ARM</value>

<value>ABW</value>

<value>AUS</value>

<value>AUT</value>

<value>AZE</value>

<value>BHS</value>

<value>BHR</value>

<value>BGD</value>

<value>BRB</value>

<value>BLR</value>

<value>BEL</value>

<value>BLZ</value>

<value>BEN</value>

<value>BMU</value>

<value>BTN</value>

<value>BOL</value>

<value>BIH</value>

<value>BWA</value>

<value>BVT</value>

<value>BRA</value>

<value>IOT</value>

<value>BRN</value>

<value>BGR</value>

<value>BFA</value>

<value>BDI</value>

<value>KHM</value>

<value>CMR</value>

<value>CAN</value>

<value>CPV</value>

<value>CYM</value>

<value>CAF</value>

<value>TCD</value>

<value>CHL</value>

<value>CHN</value>

<value>CXR</value>

<value>CCK</value>

<value>COL</value>

<value>COM</value>

<value>COG</value>

<value>COD</value>

<value>COK</value>

<value>CRI</value>

<value>CIV</value>

<value>HRV</value>

<value>CUB</value>

<value>CYP</value>

<value>CZE</value>

<value>DNK</value>

<value>DJI</value>

<value>DMA</value>

<value>DOM</value>

<value>ECU</value>

<value>EGY</value>

<value>SLV</value>

<value>GNQ</value>

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<value>ETH</value>

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<value>FRO</value>

<value>FJI</value>

<value>FIN</value>

<value>FRA</value>

<value>GUF</value>

<value>PYF</value>

<value>ATF</value>

<value>GAB</value>

<value>GMB</value>

<value>GEO</value>

<value>DEU</value>

<value>GHA</value>

<value>GIB</value>

<value>GRC</value>

<value>GRL</value>

<value>GRD</value>

<value>GLP</value>

<value>GUM</value>

<value>GTM</value>

<value>GGY</value>

<value>GIN</value>

<value>GNB</value>

<value>GUY</value>

<value>HTI</value>

<value>HMD</value>

<value>VAT</value>

<value>HND</value>

<value>HKG</value>

<value>HUN</value>

<value>ISL</value>

<value>IND</value>

<value>IDN</value>

<value>IRN</value>

<value>IRQ</value>

<value>IRL</value>

<value>IMN</value>

<value>ISR</value>

<value>ITA</value>

<value>JAM</value>

<value>JPN</value>

<value>JEY</value>

<value>JOR</value>

<value>KAZ</value>

<value>KEN</value>

<value>KIR</value>

<value>PRK</value>

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<value>KWT</value>

<value>KGZ</value>

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<value>LBN</value>

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<value>LIE</value>

<value>LTU</value>

<value>LUX</value>

<value>MAC</value>

<value>MKD</value>

<value>MDG</value>

<value>MWI</value>

<value>MYS</value>

<value>MDV</value>

<value>MLI</value>

<value>MLT</value>

<value>MHL</value>

<value>MTQ</value>

<value>MRT</value>

<value>MUS</value>

<value>MYT</value>

<value>MEX</value>

<value>FSM</value>

<value>MDA</value>

<value>MCO</value>

<value>MNG</value>

<value>MNE</value>

<value>MSR</value>

<value>MAR</value>

<value>MOZ</value>

<value>MMR</value>

<value>NAM</value>

<value>NRU</value>

<value>NPL</value>

<value>NLD</value>

<value>ANT</value>

<value>NCL</value>

<value>NZL</value>

<value>NIC</value>

<value>NER</value>

<value>NGA</value>

<value>NIU</value>

<value>NFK</value>

<value>MNP</value>

<value>NOR</value>

<value>OMN</value>

<value>PAK</value>

<value>PLW</value>

<value>PSE</value>

<value>PAN</value>

<value>PNG</value>

<value>PRY</value>

<value>PER</value>

<value>PHL</value>

<value>PCN</value>

<value>POL</value>

<value>PRT</value>

<value>PRI</value>

<value>QAT</value>

<value>REU</value>

<value>ROU</value>

<value>RUS</value>

<value>RWA</value>

<value>BLM</value>

<value>SHN</value>

<value>KNA</value>

<value>LCA</value>

<value>MAF</value>

<value>SPM</value>

<value>VCT</value>

<value>WSM</value>

<value>SMR</value>

<value>STP</value>

<value>SAU</value>

<value>SEN</value>

<value>SRB</value>

<value>SYC</value>

<value>SLE</value>

<value>SGP</value>

<value>SVK</value>

<value>SVN</value>

<value>SLB</value>

<value>SOM</value>

<value>ZAF</value>

<value>SGS</value>

<value>ESP</value>

<value>LKA</value>

<value>SDN</value>

<value>SUR</value>

<value>SJM</value>

<value>SWZ</value>

<value>SWE</value>

<value>CHE</value>

<value>SYR</value>

<value>TWN</value>

<value>TJK</value>

<value>TZA</value>

<value>THA</value>

<value>TLS</value>

<value>TGO</value>

<value>TKL</value>

<value>TON</value>

<value>TTO</value>

<value>TUN</value>

<value>TUR</value>

<value>TKM</value>

<value>TCA</value>

<value>TUV</value>

<value>UGA</value>

<value>UKR</value>

<value>ARE</value>

<value>GBR</value>

<value>USA</value>

<value>UMI</value>

<value>URY</value>

<value>UZB</value>

<value>VUT</value>

<value>VEN</value>

<value>VNM</value>

<value>VGB</value>

<value>VIR</value>

<value>WLF</value>

<value>ESH</value>

<value>YEM</value>

<value>ZMB</value>

<value>ZWE</value>

</ValueList>

</Validations>

</Field>

<Field id="19" canContainMultipleValues="true" repeatingElement="Field" >

<name>Race</name>

<Location version="2.3.1" >

<hl7Segment fieldNumber="10" >PID</hl7Segment>

</Location>

<Location version="2.5.1" >

<hl7Segment fieldNumber="10" >PID</hl7Segment>

</Location>

<description>Field #18 - Race of patient</description>

<Validations>

<usage errorCodeId="2" errorMessageId="2" severity="Report" >RequiredEmpty</usage>

<!-- Add valid values with value set code PHVS\_RaceCategory\_CDC-->

<ValueList errorCodeId="3" errorMessageId="5" severity="Hold" >

<value>1002-5</value>

<value>2028-9</value>

<value>2054-5</value>

<value>2076-8</value>

<value>2131-1</value>

<value>2106-3</value>

</ValueList>

</Validations>

</Field>

<Field id="20" canContainMultipleValues="true" repeatingElement="Field">

<name>Ethnicity</name>

<Location version="2.3.1" >

<hl7Segment fieldNumber="22" >PID</hl7Segment>

</Location>

<Location version="2.5.1" >

<hl7Segment fieldNumber="22" >PID</hl7Segment>

</Location>

<description>Field #19 - Ethnicity of patient</description>

<Validations>

<usage errorCodeId="2" errorMessageId="2" severity="Report" >RequiredEmpty</usage>

<!-- Add valid values with value set code PHVS\_EthnicityGroup\_CDC-->

<ValueList errorCodeId="3" errorMessageId="5" severity="Hold" >

<value>2135-2</value>

<value>2186-5</value>

</ValueList>

</Validations>

</Field>

<Field id="21">

<name>Patient County</name>

<Location version="2.3.1" >

<hl7Segment fieldNumber="11.9" >PID</hl7Segment>

</Location>

<Location version="2.5.1" >

<hl7Segment fieldNumber="11.9" >PID</hl7Segment>

</Location>

<description>Field #20 - County/Parish Code</description>

<Validations>

<usage errorCodeId="0" errorMessageId="0" severity="Ignore" >Optional</usage>

<dataType errorCodeId="4" errorMessageId="10" severity="Hold" maximumLength="20" specialCharacters="-/\_,.:">AlphaNumeric</dataType>

</Validations>

</Field>

<Field id="22">

<name>Unique Visiting Id</name>

<Location version="2.3.1" >

<hl7Segment fieldNumber="19.1" >PV1</hl7Segment>

</Location>

<Location version="2.5.1" >

<hl7Segment fieldNumber="19.1" >PV1</hl7Segment>

</Location>

<description>Field #21 - Unique identifier for a Patient visit </description>

<Validations>

<usage errorCodeId="1" errorMessageId="1" severity="Hold" >Required</usage>

<!-- Add valid values with value set code PHVS\_IdentifierType\_SyndromicSurveillance-->

<ValueList errorCodeId="3" errorMessageId="5" severity="Hold" >

<value>AN</value>

<value>ANC</value>

<value>AND</value>

<value>APRN</value>

<value>AM</value>

<value>ANON</value>

<value>BA</value>

<value>BC</value>

<value>BR</value>

<value>CY</value>

<value>DDS</value>

<value>DI</value>

<value>DS</value>

<value>DN</value>

<value>DR</value>

<value>DL</value>

<value>DEA</value>

<value>DFN</value>

<value>EI</value>

<value>GL</value>

<value>GN</value>

<value>GI</value>

<value>HC</value>

<value>IND</value>

<value>JHN</value>

<value>LI</value>

<value>LN</value>

<value>PE</value>

<value>LR</value>

<value>MS</value>

<value>MD</value>

<value>MR</value>

<value>UPIN</value>

<value>MB</value>

<value>MCN</value>

<value>MI</value>

<value>NH</value>

<value>NII</value>

<value>NNxxx</value>

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<value>NI</value>

<value>NP</value>

<value>OD</value>

<value>DO</value>

<value>PPN</value>

<value>PT</value>

<value>PI</value>

<value>MA</value>

<value>MC</value>

<value>PCN</value>

<value>PEN</value>

<value>PRC</value>

<value>PN</value>

<value>RPH</value>

<value>PA</value>

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<value>MCR</value>

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<value>RN</value>

<value>RI</value>

<value>SS</value>

<value>SL</value>

<value>SR</value>

<value>SN</value>

<value>TAX</value>

<value>ANT</value>

<value>PNT</value>

<value>MRT</value>

<value>TN</value>

<value>U</value>

<value>VS</value>

<value>VN</value>

<value>WC</value>

<value>WCN</value>

</ValueList>

</Validations>

</Field>

<Field id="23">

<name>Visit Date/Time</name>

<Location version="2.3.1" >

<hl7Segment fieldNumber="44" >PV1</hl7Segment>

</Location>

<Location version="2.5.1" >

<hl7Segment fieldNumber="44" >PV1</hl7Segment>

</Location>

<description>Field #22 - Date/Time of patient presentation</description>

<Validations>

<usage errorCodeId="1" errorMessageId="1" severity="Hold" >Required</usage>

<dataType errorCodeId="4" errorMessageId="10" severity="Hold">Date</dataType>

</Validations>

</Field>

<Field id="24">

<name>Date of Onset</name>

<Location version="2.3.1" >

<hl7Segment fieldNumber="5.1" >OBX</hl7Segment>

<identifier mustMatch="true" fieldNumber="3.1">11368-8</identifier>

</Location>

<Location version="2.5.1" >

<hl7Segment fieldNumber="5.1" >OBX</hl7Segment>

<identifier mustMatch="true" fieldNumber="3.1">11368-8</identifier>

</Location>

<description>Field #23 - Date that patient began having symptoms of condition being reported</description>

<Validations>

<usage errorCodeId="0" errorMessageId="0" severity="Ignore" >Optional</usage>

<!-- The minimum acceptable precision for "Date of onset" is to the nearest day so this date format accepts year, month and day. -->

<dataType errorCodeId="4" errorMessageId="10" severity="Hold" format="yyyyMMdd">Date</dataType>

</Validations>

</Field>

<Field id="25">

<name>Patient Class</name>

<Location version="2.3.1" >

<hl7Segment fieldNumber="2.1" >PV1</hl7Segment>

</Location>

<Location version="2.5.1" >

<hl7Segment fieldNumber="2.1" >PV1</hl7Segment>

</Location>

<description>Field #24 - Patient classification within facility</description>

<Validations>

<usage errorCodeId="0" errorMessageId="0" severity="Ignore" >Optional</usage>

<!-- Add valid values with value set code PHVS\_PatientClass\_SyndromicSurveillance-->

<ValueList errorCodeId="3" errorMessageId="5" severity="Hold" >

<value>E</value>

<value>I</value>

<value>B</value>

<value>O</value>

<value>P</value>

<value>R</value>

</ValueList>

</Validations>

</Field>

<Field id="26" canContainMultipleValues="true" repeatingElement="Segment">

<name>Chief Complaint / Reason for visit</name>

<Location version="2.3.1" >

<hl7Segment fieldNumber="5.9" >OBX</hl7Segment>

<identifier mustMatch="true" fieldNumber="3.1">8661-1</identifier>

</Location>

<Location version="2.5.1" >

<hl7Segment fieldNumber="5.9" >OBX</hl7Segment>

<identifier mustMatch="true" fieldNumber="3.1">8661-1</identifier>

</Location>

<description>Field #25 - Short description of the chief complaint or reason of patient’s visit, recorded when seeking care</description>

<Validations>

<usage errorCodeId="2" errorMessageId="2" severity="Report" >RequiredEmpty</usage>

<dataType errorCodeId="4" errorMessageId="10" severity="Hold" maximumLength="199" specialCharacters="-/\_,.:">AlphaNumeric</dataType>

</Validations>

</Field>

<Field id="27">

<name>Triage Notes</name>

<Location version="2.3.1" >

<hl7Segment fieldNumber="5.1" >OBX</hl7Segment>

<identifier mustMatch="true" fieldNumber="3.1">54094-8</identifier>

</Location>

<Location version="2.5.1" >

<hl7Segment fieldNumber="5.1" >OBX</hl7Segment>

<identifier mustMatch="true" fieldNumber="3.1">54094-8</identifier>

</Location>

<description>Field #26 - Triage notes for the patient visit</description>

<Validations>

<usage errorCodeId="0" errorMessageId="0" severity="Ignore" >Optional</usage>

<dataType errorCodeId="4" errorMessageId="10" severity="Hold" maximumLength="65536" specialCharacters="-/\_,.:">AlphaNumeric</dataType>

</Validations>

</Field>

<Field id="28" canContainMultipleValues="true" repeatingElement="Segment" >

<name>Diagnosis/Injury Code</name>

<Location version="2.3.1" >

<hl7Segment fieldNumber="3.1" >DG1</hl7Segment>

</Location>

<Location version="2.5.1" >

<hl7Segment fieldNumber="3.1" >DG1</hl7Segment>

</Location>

<description>Field #27 - Diagnosis or injury code of patient condition</description>

<Validations>

<!-- Not validated with valid values as it uses three different coding systems and for now we want to keep it open and not constrain or validate at such deeper level-->

<usage errorCodeId="2" errorMessageId="2" severity="Report" >RequiredEmpty</usage>

<dataType errorCodeId="4" errorMessageId="10" severity="Hold" maximumLength="20" specialCharacters="-/\_,.:">AlphaNumeric</dataType>

</Validations>

</Field>

<Field id="29">

<name>Clinical Impression</name>

<Location version="2.3.1" >

<hl7Segment fieldNumber="5.1" >OBX</hl7Segment>

<identifier mustMatch="true" fieldNumber="3.1">44833-2</identifier>

</Location>

<Location version="2.5.1" >

<hl7Segment fieldNumber="5.1" >OBX</hl7Segment>

<identifier mustMatch="true" fieldNumber="3.1">44833-2</identifier>

</Location>

<description>Field #28 - Clinical impression (free text) of the diagnosis </description>

<Validations>

<usage errorCodeId="0" errorMessageId="0" severity="Ignore" >Optional</usage>

<dataType errorCodeId="4" errorMessageId="10" severity="Hold" maximumLength="65536" specialCharacters="-/\_,.:">AlphaNumeric</dataType>

</Validations>

</Field>

<Field id="30" canContainMultipleValues="true" repeatingElement="Segment" >

<name>Diagnosis Type</name>

<Location version="2.3.1" >

<hl7Segment fieldNumber="6" >DG1</hl7Segment>

</Location>

<Location version="2.5.1" >

<hl7Segment fieldNumber="6" >DG1</hl7Segment>

</Location>

<description>Field #29 - Qualifier for Diagnosis / Injury Code specifying type of diagnosis</description>

<Validations>

<usage errorCodeId="1" errorMessageId="1" severity="Hold" >Required</usage>

<!-- Add valid values with value set code PHVS\_DiagnosisType\_HL7\_2x-->

<ValueList errorCodeId="3" errorMessageId="5" severity="Hold" >

<value>A</value>

<value>F</value>

<value>W</value>

</ValueList>

</Validations>

</Field>

<Field id="31">

<name>Discharge Disposition</name>

<Location version="2.3.1" >

<hl7Segment fieldNumber="36" >PV1</hl7Segment>

</Location>

<Location version="2.5.1" >

<hl7Segment fieldNumber="36" >PV1</hl7Segment>

</Location>

<description>Field #30 - Patient's anticipated location or status following ED/UC visit</description>

<Validations>

<usage errorCodeId="2" errorMessageId="2" severity="Report" >RequiredEmpty</usage>

<dataType errorCodeId="4" errorMessageId="10" severity="Hold" maximumLength="3" specialCharacters="-/\_,.:">AlphaNumeric</dataType>

</Validations>

</Field>

<Field id="32">

<name>Disposition Date/Time</name>

<Location version="2.3.1" >

<hl7Segment fieldNumber="45" >PV1</hl7Segment>

</Location>

<Location version="2.5.1" >

<hl7Segment fieldNumber="45" >PV1</hl7Segment>

</Location>

<description>Field #31 - Date and time of disposition</description>

<Validations>

<usage errorCodeId="0" errorMessageId="0" severity="Ignore" >Optional</usage>

<dataType errorCodeId="4" errorMessageId="10" severity="Hold">Date</dataType>

</Validations>

</Field>

<Field id="33">

<name>Initial Temperature</name>

<Location version="2.3.1" >

<hl7Segment fieldNumber="5.1" >OBX</hl7Segment>

<!-- This is Concept code with set code PHVS\_ObservationIdentifier\_SyndromicSurveillance and code system = LOINC -->

<identifier mustMatch="true" fieldNumber="3.1">11289-6</identifier>

</Location>

<Location version="2.5.1" >

<hl7Segment fieldNumber="5.1" >OBX</hl7Segment>

<!-- This is Concept code with set code PHVS\_ObservationIdentifier\_SyndromicSurveillance and code system = LOINC -->

<identifier mustMatch="true" fieldNumber="3.1">11289-6</identifier>

</Location>

<description>Field #32 - First recorded temperature</description>

<Validations>

<usage errorCodeId="6" errorMessageId="12" severity="Ignore" >Optional</usage>

<dataType errorCodeId="4" errorMessageId="10" severity="Hold" maximumLength="16" specialCharacters="-/\_,.:">AlphaNumeric</dataType>

<!-- This element defines the secondary field (Field id 34 - Initial Temperauture Units) that must be present, and valid, if the current field is present in the HL7 message. -->

<RequiresField errorCodeId="11" errorMessageId="11" severity="Hold">

<conditionalFieldId>34</conditionalFieldId>

</RequiresField>

</Validations>

</Field>

<Field id="34">

<name>Initial Temperature - Units</name>

<Location version="2.3.1" >

<hl7Segment fieldNumber="6.1" >OBX</hl7Segment>

<!-- This is Concept code with set code PHVS\_ObservationIdentifier\_SyndromicSurveillance and code system = LOINC -->

<identifier mustMatch="true" fieldNumber="3.1">11289-6</identifier>

</Location>

<Location version="2.5.1" >

<hl7Segment fieldNumber="6.1" >OBX</hl7Segment>

<!-- This is Concept code with set code PHVS\_ObservationIdentifier\_SyndromicSurveillance and code system = LOINC -->

<identifier mustMatch="true" fieldNumber="3.1">11289-6</identifier>

</Location>

<description>Field #32 - First recorded temperature units</description>

<Validations>

<usage errorCodeId="6" errorMessageId="12" severity="Ignore" >Optional</usage>

<!-- Add valid values with valuse set PHVS\_TemperatureUnit\_UCUM and code system = UCUM -->

<ValueList errorCodeId="3" errorMessageId="5" severity="Hold" >

<value>Cel</value>

<value>[degF]</value>

</ValueList>

<!-- This element defines the value that a secondary field (6.3) must contain if the current field (6.1) is present in the HL7 message. -->

<RequiresFieldValue errorCodeId="6" errorMessageId="12" severity="Hold" fieldNumber="6.3" >

<fieldValue>UCUM</fieldValue>

</RequiresFieldValue>

<!-- This element defines the secondary field (Field id 33 - Initial Temperauture) that must be esent, and valid, if the current field is present in the HL7 message. -->

<RequiresField errorCodeId="11" errorMessageId="11" severity="Hold">

<conditionalFieldId>33</conditionalFieldId>

</RequiresField>

</Validations>

</Field>

<Field id="35">

<name>Initial Pulse Oximetry</name>

<Location version="2.3.1" >

<hl7Segment fieldNumber="5.1" >OBX</hl7Segment>

<!-- This is Concept code with set code PHVS\_ObservationIdentifier\_SyndromicSurveillance and code system = LOINC -->

<identifier mustMatch="true" fieldNumber="3.1">59408-5</identifier>

</Location>

<Location version="2.5.1" >

<hl7Segment fieldNumber="5.1" >OBX</hl7Segment>

<!-- This is Concept code with set code PHVS\_ObservationIdentifier\_SyndromicSurveillance and code system = LOINC -->

<identifier mustMatch="true" fieldNumber="3.1">59408-5</identifier>

</Location>

<description>Field #33 - First recorded pulse oximetry value</description>

<Validations>

<usage errorCodeId="6" errorMessageId="12" severity="Ignore" >Optional</usage>

<dataType errorCodeId="4" errorMessageId="10" severity="Hold" maximumLength="16" specialCharacters="-/\_,.:">AlphaNumeric</dataType>

<!-- This element defines the secondary field (Field id 36 - Initial Pulse Oximetry units) that must be present, and valid, if the current field is present in the HL7 message. -->

<RequiresField errorCodeId="11" errorMessageId="11" severity="Hold">

<conditionalFieldId>36</conditionalFieldId>

</RequiresField>

</Validations>

</Field>

<Field id="36">

<name>Initial Pulse Oximetry - Units</name>

<Location version="2.3.1" >

<hl7Segment fieldNumber="6.1" >OBX</hl7Segment>

<!-- This is Concept code with set code PHVS\_ObservationIdentifier\_SyndromicSurveillance and code system = LOINC -->

<identifier mustMatch="true" fieldNumber="3.1">59408-5</identifier>

</Location>

<Location version="2.5.1" >

<hl7Segment fieldNumber="6.1" >OBX</hl7Segment>

<!-- This is Concept code with set code PHVS\_ObservationIdentifier\_SyndromicSurveillance and code system = LOINC -->

<identifier mustMatch="true" fieldNumber="3.1">59408-5</identifier>

</Location>

<description>Field #33 - First recorded pulse oximetry units</description>

<Validations>

<usage errorCodeId="6" errorMessageId="12" severity="Ignore" >Optional</usage>

<!-- Add valid values with valuse set PHVS\_PulseOximetryUnit\_UCUM and code system = UCUM -->

<ValueList errorCodeId="3" errorMessageId="5" severity="Hold" >

<value>%</value>

</ValueList>

<!-- This element defines the value that a secondary field (6.3) must contain if the current field (6.1) is present in the HL7 message. -->

<RequiresFieldValue errorCodeId="6" errorMessageId="12" severity="Hold" fieldNumber="6.3" >

<fieldValue>UCUM</fieldValue>

</RequiresFieldValue>

<!-- This element defines the secondary field (Field id 35 - Initial Pulse Oximetry) that must be present, and valid, if the current field is present in the HL7 message. -->

<RequiresField errorCodeId="11" errorMessageId="11" severity="Hold">

<conditionalFieldId>35</conditionalFieldId>

</RequiresField>

</Validations>

</Field>

</Fields>

<ErrorMessages>

<!-- Error messages are dynamically created by appending one of

the following messages to the name of the field that is in error.

Message id 0 is reserved for checks that cannot fail a validity

check, such as an optional filed being missing (i.e. this is not

an error, so there is no error message to print) -->

<errorMessage id="0" printFieldName="false" printFieldValue="false" ></errorMessage>

<errorMessage id="1" printFieldName="true" printFieldValue="false" >is a required field and is missing.</errorMessage>

<errorMessage id="2" printFieldName="true" printFieldValue="false" >is a required/empty field and is missing.</errorMessage>

<errorMessage id="3" printFieldName="false" printFieldValue="true" >is not a supported HL7 version.</errorMessage>

<errorMessage id="4" printFieldName="false" printFieldValue="true" >is not a supported ADT Message.</errorMessage>

<errorMessage id="5" printFieldName="true" printFieldValue="true" >is not a valid value.</errorMessage>

<errorMessage id="6" printFieldName="true" printFieldValue="true" >is not alphabetic.</errorMessage>

<errorMessage id="7" printFieldName="true" printFieldValue="true" >is not numeric.</errorMessage>

<errorMessage id="8" printFieldName="true" printFieldValue="true" >is not alpha-numeric.</errorMessage>

<errorMessage id="9" printFieldName="true" printFieldValue="true" >is a required HL7 message segment and is missing.</errorMessage>

<errorMessage id="10" printFieldName="true" printFieldValue="true" >is not a valid format.</errorMessage>

<errorMessage id="11" printFieldName="true" printFieldValue="false" >is dependent upon another field whose definition is not found in the Rule Book.</errorMessage>

<errorMessage id="12" printFieldName="true" printFieldValue="false" >is a conditionally required field and is missing.</errorMessage>

</ErrorMessages>

<ErrorCodes>

<errorCode id="0"></errorCode>

<errorCode id="1">SCHIEPPHRequiredFieldMissing</errorCode>

<errorCode id="2">SCHIEPPHRequiredEmptyFieldMissing</errorCode>

<errorCode id="3">SCHIEPPHInvalidValue</errorCode>

<errorCode id="4">SCHIEPPHInvalidFormat</errorCode>

<errorCode id="5">SCHIEPPHRequiredSegmentMissing</errorCode>

<errorCode id="6">SCHIEPPHConditionallyRequiredFieldMissing</errorCode>

</ErrorCodes>

<DateFormats>

<format>yyyyMMddHHmm</format>

<format>yyyyMMddHHmm-zzzz</format>

<format>yyyyMMddHHmm+zzzz</format>

<format>yyyyMMddHHmmss</format>

<format>yyyyMMddHHmmss-zzzz</format>

<format>yyyyMMddHHmmss+zzzz</format>

<format>yyyyMMddHHmmss.S</format>

<format>yyyyMMddHHmmss.S-zzzz</format>

<format>yyyyMMddHHmmss.S+zzzz</format>

<format>yyyyMMddHHmmss.SS</format>

<format>yyyyMMddHHmmss.SS-zzzz</format>

<format>yyyyMMddHHmmss.SS+zzzz</format>

<format>yyyyMMddHHmmss.SSS</format>

<format>yyyyMMddHHmmss.SSS-zzzz</format>

<format>yyyyMMddHHmmss.SSS+zzzz</format>

</DateFormats>

</HL7Validation>