2. Control (continued)

2.A DATA TYPES

The data types in this section are listed in alphabetical order. Refer to *HL7 0440 - Data Types* for valid values and associated detail.

Beginning in v 2.5 maximum lengths are being assigned to data types.

The follow rules apply to the setting of data type length:

a) The upper bound maximum length of a data type is the sum of:

1) The combined length of all components (including those not required) that are not mutually exclusive.

2) The combined length of the largest set of mutually exclusive components.

3) The combined length of message delimiters that are required to construct the field, based on Section 2.6-Message construction Rules.

b) The lower bound maximum length of a data type is the sum of:

1) The combined length of all required components that are not mutually exclusive.

2) The combined length of the largest set of mutually exclusive required components.

3) The combined length of message delimiters that are required to construct the field, based on Section 2.6-Message construction Rules.

The data type examples in this Standard are given using the standard HL7 encoding rules, with the delimiter values from Figure 2-1 of Section 2.5.4-Message Delimiters. Although only one set of encoding rules is defined as a standard in HL7 Version 2.4, other encoding rules are possible (but since they are non-standard, they may only be used by a site-specific agreement).

In certain data type definitions, square brackets, "[" and "]", are used to specify optional parts of a data type (or of a data type component or subcomponent).

2.A.1 AD - address

HL7 Component Table - AD – Address

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	120	ST	O		Street Address		2.A.74
2	120	ST	O		Other Designation		2.A.74
3	50	ST	O		City		2.A.74
4	50	ST	O		State or Province		2.A.74
5	12	ST	O		Zip or Postal Code		2.A.74
6	3	ID	O	0399	Country		2.A.35
7	3	ID	O	0190	Address Type		2.A.35
8	50	ST	O		Other Geographic Designation		2.A.74

Definition: This data type specifies the address of a person, place or organization.

Maximum Length: 415

Note: Used only in the LA1 data type. Replaced elsewhere by the XAD data type as of v 2.3.

Example:

```
|10 ASH LN^#3^LIMA^OH^48132|
```

2.A.1.1 Street Address (ST)

Definition: This component specifies the street or mailing address of a person or institution. When referencing an institution, this first component is used to specify the institution name. When used in connection with a person, this component specifies the first line of the address.

2.A.1.2 Other Designation (ST)

Definition: This component specifies the second line of address. In general, it qualifies address. Examples: Suite 555 or Fourth Floor. When referencing an institution, this component specifies the street address.

2.A.1.3 City (ST)

Definition: This component specifies the city, district or place where the addressee is located depending upon the national convention for formatting addresses for postal usage.

2.A.1.4 State or Province (ST)

Definition: This component specifies the state or province where the addressee is located. State or province should be represented by the official postal service codes for that country.

2.A.1.5 Zip or Postal Code (ST)

Definition: This component specifies the zip or postal code where the addressee is located. Zip or postal codes should be represented by the official codes for that country. In the US, the zip code takes the form 99999[-9999], while the Canadian postal code takes the form A9A9A9 and the Australian Postcode takes the form 9999.

2.A.1.6 Country (ID)

Definition: This component specifies the country where the addressee is located. HL7 specifies that the 3-character (alphabetic) form of ISO 3166 be used for the country code. Refer to HL7 Table 0399 – Country Code in section 2.15.9.17 for valid values.

2.A.1.7 Address Type (ID)

Definition: This component specifies the kind or type of address. Refer to *HL7 Table 0190 - Address Type* for valid values.

HL7 Table 0190 - Address type

Value	Description	Comment
BA	Bad address	
N	Birth (nee) (birth address, not otherwise specified)	
BDL	Birth delivery location (address where birth occurred)	
F	Country Of Origin	
C	Current Or Temporary	
B	Firm/Business	
H	Home	
L	Legal Address	
M	Mailing	
O	Office	
P	Permanent	
RH	Registry home. Refers to the information system, typically managed by a public health agency, that stores patient information such as immunization histories or cancer data, regardless of where the patient obtains services.	
BR	Residence at birth (home address at time of birth)	

2.A.1.8 Other geographic designation (ST)

Definition: This component specifies any other geographic designation that may be necessary. It includes county, bioregion, SMSA, etc.

2.A.2 AUI - authorization information

HL7 Component Table - AUI – Authorization Information

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	30	ST	O		Authorization Number		2.A.74
2	8	DT	O		Date		2.A.21
3	199	ST	O		Source		2.A.74

Definition: This data type specifies the identifier or code for an insurance authorization instance and its associated detail.

Maximum Length: 239

Note: Replaces the CM data type used in sections 6.5.6.14 IN1-14, as of v 2.5.

2.A.2.1 Authorization Number (ST)

Definition: Identifier assigned to the authorization.

2.A.2.2 Date (DT)

Definition: Date of authorization.

2.A.2.3 Source (ST)

Definition: Source of authorization.

2.A.3 CCD - charge code and date

HL7 Component Table - CCD – Charge Code and Date

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	1	ID	R	100	Invocation Event		2.A.35
2	26	TS	O		Date/time		2.A.77

Definition: Specifies whether a charge action is based on an invocation event or is time-based.

Maximum Length: 28

Note: Replaces the CM data type used in section 4.5.2.1 BLG-1, as of v 2.5.

2.A.3.1 Invocation Event (ID)

Definition: Specifies the code for the event precipitating/triggering the charge activity. Refer to *HL7 Table 0100 - Invocation event* for valid values.

HL7 Table 0100 - Invocation event

Value	Description	Comment
D	On discharge	
O	On receipt of order	
R	At time service is completed	
S	At time service is started	
T	At a designated date/time	

2.A.3.2 Date/time (TS)

Definition: The second component is used to express the exact time to charge for the ordered service; it is used only when the ***CCD.1*** value is T. When used, it is expressed as a TS data type.

2.A.4 CCP - channel calibration parameters

HL7 Component Table – CCP - Channel Calibration Parameters

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	6	NM	O		Channel Calibration Sensitivity Correction Factor		2.A.47
2	6	NM	O		Channel Calibration Baseline		2.A.47
3	6	NM	O		Channel Calibration Time Skew		2.A.47

Definition: This data type identifies the corrections to channel sensitivity, the baseline, and the channel time skew when transmitting waveform results.

Maximum Length: 20

Note: Replaces the CM data type used in 7.14.1.5 OBX-5.3 where OBX-5 Observation value (*) is data type CD as of v 2.5.

2.A.4.1 Channel Calibration Sensitivity Correction Factor (NM)

Definition: This component defines a correction factor for channel sensitivity, which may be derived from the last calibration procedure performed. The actual channel sensitivity is the nominal channel sensitivity given in the previous component multiplied by the unitless correction factor.

2.A.4.2 Channel Calibration Baseline (NM)

Definition: This component defines the actual channel baseline (the data value which corresponds to a nominal input signal of zero). The actual baseline may differ from the ideal because of a dc offset in the amplifier connected to the ADC. The actual baseline values for all channels (which need not be integers) may be determined at the time of calibration as the average digitized values obtained when a zero input signal is connected to each channel.

2.A.4.3 Channel Calibration Time Skew (NM)

Definition: This component defines the time difference between the nominal sampling (digitization) time (which would be the same for all channels) and the actual sampling time of the channel, in seconds (or fractions thereof). This value will differ from zero when all channels in the montage are not sampled simultaneously, as occurs in systems, which sample successive channels at regular time intervals. This value may be determined from a calibration procedure in which an identical time-varying signal is applied to all channels and interchannel time differences are estimated, or more commonly it may be taken from the manufacturer's specifications for the digitizing system used. For example, for a system which samples successive channels at regular time intervals t, the time skew of channel number n would be (n-1)t. The actual time of sampling (digitization) of sample number m of channel number n in such a system would be R + (m-1)/f + (n-1)t, where R is the reference time at the start of the epoch and f is the channel sampling frequency ($t < 1/f$).

2.A.5 CD - channel definition

HL7 Component Table - CD – Channel Definition

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	22	WVI	O		Channel Identifier		2.A.83

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
2	17	WVS	O		Waveform Source		2.A.84
3	478	CSU	O		Channel Sensitivity/Units		2.A.12
4	20	CCP	O		Channel Calibration Parameters		2.A.4
5	6	NM	O		Channel Sampling Frequency		2.A.47
6	33	NR	O		Minimum/Maximum Data Values		2.A.48

Definition: This data type is used for labeling of digital waveform data. It defines a recording channel, which is associated with one of the values in each time sample of waveform data. Each channel has a number (which generally defines its position in a multichannel display) and an optional name or label (also used in displays). One or two named waveform sources may also be associated with a channel (providing for the use of differential amplifiers with two inputs). The other components of the channel definition data type are optional. The individual components are defined as follows:

Maximum Length: 581

2.A.5.1 Channel Identifier (WVI)

Definition: This component specifies the number and name of the recording channel where waveform data is transmitted. Waveform Source (WVS)

Definition: This component identifies the source of the waveform connected to the channel. Two names may be specified if it is necessary to individually identify the two inputs for a waveform. Only one name need be specified if the channel is connected to a single input. For example, in EKG recordings typically only one name is used (such as I or II); in electroencephalography, two names are typically used, one for each input of the differential amplifier (such as F3 and C3).

2.A.5.2 Channel Sensitivity and Units (CSU)

Definition: This component defines the channel sensitivity (gain) and the units in which it is measured.

2.A.5.3 Channel Calibration Parameters (CCP)

Definition: This component identifies the corrections to channel sensitivity, the baseline, and the channel time skew.

2.A.5.4 Channel Sampling Frequency (NM)

Definition: This component defines the sampling frequency in hertz of the channel, that is, the reciprocal of the time in seconds between successive samples. Note that this is the frequency of transmitted data, which may or may not be the actual frequency at which the data was acquired by an analog-to-digital converter or other digital data source (i.e. the data transmitted may be subsampled, or interpolated, from the originally acquired data.)

2.A.5.5 Minimum and Maximum Data Values (NR)

Definition: This component defines the minimum and maximum data values which can occur in this channel in the digital waveform data, that is, the range of the ADC, and also specifies whether or not non-integral data values may occur in this channel in the waveform data. If the minimum and maximum values are both integers (or not present), only integral data values may be used in this channel. If either the minimum or the maximum value contains a decimal point, then non-integral as well as integral data values may be used in this channel. For an n-bit signed ADC, the nominal baseline B = 0, and the minimum (L) and maximum (H) values may be calculated as follows:

$$L = -2n^{-1}$$

$$H = 2n^{-1} - 1$$

For an unsigned n-bit ADC, the minimum value L = 0, and the nominal baseline value (B) and maximum value (H) may be calculated from the formulas,

$$B = 2n^{-1}$$

$$H = 2n - 1$$

The actual signal amplitude A (for differentially amplified potential measurements, the potential at electrode number one minus that at electrode number two) may be calculated from the value D (range L to H) in the waveform data using the actual baseline value B and the nominal sensitivity S and actual sensitivity correction factor C by the formula,

$$A = SC(D-B)$$

2.A.6 CE - coded element

HL7 Component Table - CE – Coded Element

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	20	ST	O		Identifier		2.A.74
2	199	ST	O		Text		2.A.74
3	20	ID	O	0396	Name of Coding System		2.A.35
4	20	ST	O		Alternate Identifier		2.A.74
5	199	ST	O		Alternate Text		2.A.74
6	20	ID	O	0396	Name of Alternate Coding System		2.A.35

Definition: This data type transmits codes and the text associated with the code.

Maximum Length: 483

Note: retained for backward compatibility only as of v 2.5. Refer to the CNE and CWE data types.

Example:

```
|F-11380^CREATININE^I9^2148-5^CREATININE^LN|
```

Usage Note on the Alternate components (4, 5, 6)

These three components are defined analogously to components 1, 2 and 3 for the alternate or local coding system. If the alternate text component is absent, and the alternate identifier is present, the alternate text will be taken to be the same as the text component. If the alternate coding system component is absent, it will be taken to mean the locally-defined system.

Note: The presence of two sets of equivalent codes in this data type is semantically different from a repetition of a CE-type field. With repetition, several distinct codes (with distinct meanings) may be transmitted.

2.A.6.1 Identifier (ST)

Definition: Sequence of characters (the code) that uniquely identifies the item being referenced. Different coding schemes will have different elements here.

2.A.6.2 Text (ST)

Definition: The descriptive or textual name of the identifier, e.g., myocardial infarction or X-ray impression.

2.A.6.3 Name of Coding System (ID)

Definition: Identifies the coding scheme being used in the identifier component. The combination of the **identifier** and **name of coding system** components will be a unique code for a data item. Each system has a unique identifier.

Refer to HL7 Table 0396 in section 2.17.5 for valid values. The table includes ASTM E1238-94, Diagnostic, procedure, observation, drug ID, health outcomes and other coding systems.

Some organizations that publish code sets author more than one. The coding system, then, to be unique is a concatenation of the name of the coding authority organization and the name of its code set or table. When an HL7 table is used for a CE data type, the ***name of coding system*** component is defined as ***HL7nnnn*** where ***nnnn*** is the HL7 table number. Similarly, ISO tables will be named ISOnnnn, where nnnn is the ISO table number.

2.A.6.4 Alternate Identifier (ST)

Definition: An alternate sequence of characters (the code) that uniquely identifies the item being referenced. See usage note in section introduction.

2.A.6.5 Alternate Text (ST)

Definition: The descriptive or textual name of the alternate identifier. See usage note in section introduction.

2.A.6.6 Name of Alternate Coding System (ID)

Definition: Identifies the coding scheme being used in the alternate identifier component.

Refer to HL7 Table 0396 in section 2.17.5 for valid values. When an HL7 table is used for a CE data type, the ***name of coding system*** component is defined as ***HL7nnnn*** where ***nnnn*** is the HL7 table number.

2.A.7 CF - coded element with formatted values

HL7 Component Table - CF – Coded Element with Formatted Values

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	20	ST	O		Identifier		2.A.74
2	65536	FT	O		Formatted Text		2.A.31
3	20	ID	O	0396	Name of Coding System		2.A.35
4	20	ST	O		Alternate Identifier		2.A.74
5	65536	FT	O		Alternate Formatted Text		2.A.31
6	20	ID	O	0396	Name of Alternate Coding System		2.A.35

Definition: This data type transmits codes and the formatted text associated with the code. This data type can be used to transmit for the first time the formatted text for the **canned text** portion of a report, for example, a standard radiological description for a normal chest X-ray. The receiving system can store this information and in subsequent messages only the identifier need be sent. Another potential use of this data type is transmitting master file records that contain formatted text. This data type has six components as follows:

Maximum Length: 65536

The components, primary and alternate, are defined exactly as in the CE data type with the exception of the second and fifth components, which are of the formatted text data type.

Example:

```
OBX||CF|71020^CXR^99CPMC||79989^\H\Description:\N\\.sp\\ti+4\Heart is
   not enlarged. There is no evidence of pneumonia, effusion,
   pneumothorax or any masses.
   \.sp+3\\H\Impression:\N\\.sp\\.ti+4\Negative chest.^99CPMC
```

2.A.7.1 Identifier (ST)

Definition: Sequence of characters (the code) that uniquely identifies the item being referenced by the <text>. Different coding schemes will have different elements here.

2.A.7.2 Formatted Text (FT)

Definition: Name or description of the item in question with the addition of embedded formatting instructions.

2.A.7.3 Name of Coding System (ID)

Definition: Contains the name of the coding system employed.

Refer to HL7 Table 0396 in section 2.17.5 for valid values.

2.A.7.4 Alternate Identifier (ST)

Definition: Alternate sequence of characters (the code) that uniquely identifies the item being referenced by the <text>. This identifier is the equivalent of component one.

2.A.7.5 Alternate Formatted Text (FT)

Definition: Name or description of the alternate identifier in question with the addition of embedded formatting instructions.

2.A.7.6 Name of Alternate Coding System (ID)

Definition: Contains the name of the coding system employed for the alternate identifier.

Refer to HL7 Table 0396 in section 2.17.5 for valid values.

2.A.8 CNE – coded with no exceptions

HL7 Component Table - CNE – Coded with No Exceptions

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	20	ST	R		Identifier		2.A.74
2	199	ST	O		Text		2.A.74
3	20	ID	O	0396	Name of Coding System		2.A.35
4	20	ST	O		Alternate Identifier		2.A.74
5	199	ST	O		Alternate Text		2.A.74
6	20	ID	O	0396	Name of Alternate Coding System		2.A.35
7	10	ST	C		Coding System Version ID		2.A.74
8	10	ST	O		Alternate Coding System Version ID		2.A.74
9	199	ST	O		Original Text		2.A.74

Definition: Specifies a coded element and its associated detail. The CNE data type is used when a required or mandatory coded field is needed. The specified HL7 or externally defined table must be used and may not be extended with local values. Text may not replace the code. A CNE field must have an HL7 defined or external table associated with it. It must be specified in the standard.

Maximum Length: 705

2.A.8.1 Identifier (ST)

Sequence of characters (the code) that uniquely identifies the item being referenced by the CNE.2. Different coding schemes will have different elements here.

Usage Note: The identifier is required and must be a valid code.

2.A.8.2 Text (ST)

Definition: The descriptive or textual name of the identifier, e.g., myocardial infarction or X-ray impression. Its data type is string (ST). This is the corresponding text assigned by the coding system to the identifier.

Usage Note: Text description of code is optional but its use should be encouraged since it makes messages easier to review for accuracy, especially during interface testing and debugging.

2.A.8.3 Name of Coding System (ID)

Each coding system is assigned a unique identifier. This component will serve to identify the coding scheme being used in the identifier component. The combination of the **identifier** and **name of coding system** components will be a unique code for a data item. Each system has a unique identifier.

Refer to HL7 Table 0396 in section 2.17.5 for valid values. The table includes ASTM E1238-94, Diagnostic, procedure, observation, drug ID, health outcomes, and other coding systems.

Some organizations that publish code sets author more than one. The coding system, then, to be unique is a concatenation of the name of the coding authority organization and the name of its code set or table. When an HL7 table is used for a CNE data type, the ***name of coding system*** component is defined as ***HL7nnnn*** where ***nnnn*** is the HL7 table number. Similarly, ISO tables will be named ISOnnnn, where nnnn is the ISO table number.

Usage Note: The *Coding system* must either be present and have a value from the set of allowed coding systems or if not present it will be interpreted to have the same meaning as if it had been valued with the code meaning “HL7 coding system.” Refer to HL7 Table 0396 in section 2.17.5 for valid values.

2.A.8.4 Alternate Identifier (ST)

Analogous to “Identifier” in component 1.

Usage Notes: The Alternate Identifier is used to represent the local or user seen code as described. If present, it obeys the same rules of use and interpretation as described for component 1. If both are present, the identifiers in component 4 and component 1 should have exactly the same meaning, i.e., they should be exact synonyms.

2.A.8.5 Alternate Text (ST)

Definition: The descriptive or textual name of the alternate identifier. Analogous to "Text" in component 2. See usage notes in section introduction for further description.

Usage Notes: If present, component 5 obeys the same rules of use and interpretation as described for component 2.

2.A.8.6 Name of Alternate Coding System (ID)

Definition: Identifies the coding scheme being used in the alternate identifier component. Analogous to “Name of Coding System” in component 3. Refer to HL7 Table 0396 in section 2.17.5 for valid values.

Usage Notes: If present, components 6 obeys the same rules of use and interpretation as described for component 3.

2.A.8.7 Coding System Version ID (ST)

Definition: the version ID for the coding system identified by component 3. It belongs conceptually to components 1-3 and appears here only for reasons of backward compatibility.

Usage Note: If the coding system is any system other than an "HL7 coding system," version ID must be valued with an actual version ID. If the coding system is "HL7 coding system," version ID may have an actual value or it may be absent. If version ID is absent, it will be interpreted to have the same value as the HL7 version number in the message header. Text description of code is optional but its use should be encouraged since it makes messages easier to review for accuracy, especially during interface testing and debugging.

2.A.8.8 Alternate Coding System Version ID (ST)

Definition: the version ID for the coding system identified by component -6. It belongs conceptually to the group of Alternate components (see note *2.A.6.6*) and appears here only for reasons of backward compatibility.

Usage Notes: If present, component 8 obeys the same rules of use and interpretation as described for component 7.

2.A.8.9 Original Text (ST)

The original text that was available to an automated process or a human before a specific code was assigned.

2.A.9 CNN - composite ID number and name simplified

HL7 Component Table - CNN - Composite ID Number and Name Simplified

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	15	ST	O		ID Number		2.A.74
2	50	ST	O		Family Name		2.A.74
3	30	ST	O		Given Name		2.A.74
4	30	ST	O		Second and Further Given Names or Initials Thereof		2.A.74
5	20	ST	O		Suffix (e.g., JR or III)		2.A.74
6	20	ST	O		Prefix (e.g., DR)		2.A.74
7	5	IS	O	0360	Degree (e.g., MD		2.A.36
8	4	IS	C	0297	Source Table		2.A.36
9	20	IS	C	0363	Assigning Authority - Namespace ID		2.A.36
10	199	ST	C		Assigning Authority - Universal ID		2.A.74
11	6	ID	C	0301	Assigning Authority - Universal ID Type		2.A.35

Definition: Specifies a person using both an identifier and the person's name

Note: Restores the original data type CN as was initially implementable in the CM used in sections 4.5.3.32 and 7.4.1.32-(OBR-32) , 4.5.3.33 and 7.4.1.33 - (OBR-33) 4.5.3.34 and 7.4.1.34 - (OBR-34) 4.5.3.35 and 7.4.1.35 - (OBR-35). Components 7 and 8, however, have been promoted to data type IS to be consistent with current practice without violating backward compatibility.

Maximum Length: 406

2.A.9.0 Hidden text

2.A.9.1 ID Number (ST)

Coded ID according to a user-defined table. If the first component is present, either component 8 or 9, or both 10 and 11, must be valued.

2.A.9.2 Family Name (ST)

This component contains the person's family name in a string format.

2.A.9.3 Given Name (ST)

Used to specify a first name.

2.A.9.4 Second and Further Given Names or Initials Thereof (ST)

2.A.9.5 Suffix (ST)

Used to specify a name suffix (e.g., Jr. or III).

2.A.9.6 Prefix (ST)

Used to specify a name prefix (e.g., Dr.).

2.A.9.7 Degree (IS)

Used to specify an educational degree (e.g., MD). Refer to *User-defined Table 0360 – Degree* for suggested values.

2.A.9.8 Source Table (IS)

Refer to *User-defined Table 0297 - CN ID source* for suggested values. Used to delineate the first component. If component 1 is valued, either component 8, or 9, or both 10 and 11, must be valued.

User-defined Table 0297 – CN ID source

Value	Description	Comment
	No suggested values defined	

2.A.9.9 Assigning Authority - Namespace ID (IS)

See section, *2.A.14.4*, "*Assigning Authority (HD)*" for definition. Refer to *User-defined Table 0363 – Assigning authority* for suggested values. Assigning Authority is normally expressed as an HD data type, but has been flattened to 3 components here (CNS.9, CNS.10 and CNS.11) in this data type so that it may be fully expressed. Also note that if additional components are added to the HD data type in the future, adjustment will need to be made accordingly to this data type.

If component 1 is valued, either component 8, or 9, or both 10 and 11, must be valued.

2.A.9.10 Assigning Authority - Universal ID (ST)

See section, *2.A.14.4*, "*Assigning Authority (HD)*" for definition.

If CNN.11 is valued, this component must be valued. If component 1 is valued, either component 8, or 9, or both 10 and 11, must be valued.

2.A.9.11 Assigning Authority - Universal ID Type (ID)

See section, *2.A.14.4*, "*Assigning Authority (HD)*" for definition. If this component is a known UID refer to *HL7 Table 0301 - Universal ID type* for valid values

If CNN.10 is valued, this component must be valued. If component 1 is valued, either component 8, or 9, or both 10 and 11, must be valued.

2.A.10 CP - composite price

HL7 Component Table - CP – Composite Price

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	20	MO	R		Price		2.A.41
2	2	ID	O	0205	Price Type		2.A.35
3	16	NM	O		From Value		2.A.47
4	16	NM	O		To Value		2.A.47
5	483	CE	O		Range Units		2.A.6
6	1	ID	O	0298	Range Type		2.A.35

Note: This data type is often used to define a repeating field within a given segment.

Maximum Length: 543

Example:

```
|100.00&USD^UP^0^9^min^P~50.00&USD^UP^10^59^min^P~10.00&USD^UP^60^999^P~
   50.00&USD^AP~200.00&USD^PF
~80.00&USD^DC|
```

2.A.10.1 Price (MO)

The only required component; usually containing a decimal point. Note that each component of the MO data type (Section *2.A.41*, "*MO - money*") is a subcomponent here.

2.A.10.2 Price Type (ID)

A coded value, data type ID. Refer to *HL7 Table 0205 - Price type* for valid values.

HL7 Table 0205 - Price type

Value	Description	Comment
AP	administrative price or handling fee	
DC	direct unit cost	
IC	indirect unit cost	
PF	professional fee for performing provider	
TF	technology fee for use of equipment	
TP	total price	
UP	unit price, may be based on length of procedure or service	

2.A.10.3 From Value (NM)

Each is a NM data type; together they specify the "range". The range can be defined as either time or quantity. For example, the range can indicate that the first 10 minutes of the procedure has one price. Another repetition of the data type can use the range to specify that the following 10 to 60 minutes of the procedure is charged at another price per; a final repetition can specify that the final 60 to N minutes of the procedure at a third price.

Note that, if the <price type> component is TP, both <from value> and <to value> may be null.

2.A.10.4 To Value (NM)

See <from value> above.

2.A.10.5 Range Units (CE)

A coded value, data type CE, defined by the standard table of units for either time or quantity (see for example, the tables in Section 7.1.4, "Coding schemes"). This describes the units associated with the range, e.g., seconds, minutes, hours, days, quantity (i.e., count); it is required if <from value> and <to value> are present.

2.A.10.6 Range Type (ID)

Refer to *HL7 Table 0298 - CP range type* for valid values.

HL7 Table 0298 - CP range type

Value	Description	Comment
P	Pro-rate. Apply this price to this interval, pro-rated by whatever portion of the interval has occurred/been consumed	
F	Flat-rate. Apply the entire price to this interval, do not pro-rate the price if the full interval has not occurred/been consumed	

2.A.11 CQ - composite quantity with units

HL7 Component Table - CQ –Composite Quantity with Units

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	16	NM	O		Quantity		2.A.47
2	483	CE	O		Units		2.A.6

Maximum Length: 500

Note: CQ cannot be legally expressed when embedded within another data type. Its use is constrained to a segment field.

Examples:

```
|123.7^kg|          kilograms is an ISO unit

|150^lb&&ANSI+|     weight in pounds is a customary US unit defined
   within ANSI+.
```

2.A.11.1 Quantity (NM)

Definition: This component specifies the numeric quantity or amount of an entity.

2.A.11.2 Units (CE)

Definition: This component species the units in which the quantity is expressed. Field-by-field, default units may be defined within the specifications. When the quantity is measured in the default units, the units need not be transmitted. If the quantity is recorded in units different from the default, the units must be transmitted.

2.A.12 CSU - channel sensitivity

HL7 Component Table – CSU - Channel Sensitivity

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	60	NM	R		Channel Sensitivity		2.A.47
2	20	ST	C		Unit of Measure Identifier		2.A.74
3	199	ST	C		Unit of Measure Description		2.A.74
4	20	ID	C	396	Unit of Measure Coding System		2.A.35
5	20	ST	O		Alternate Unit of Measure Identifier		2.A.74
6	199	ST	O		Alternate Unit of Measure Description		2.A.74
7	20	ID	O	396	Alternate Unit of Measure Coding System		2.A.35

Definition: This data type defines the channel sensitivity (gain) and the units in which it is measured in a waveform result.

Maximum Length: 490

Note: Replaces the CM data type used in 7.14.1.5 OBX-5.3 where OBX-5Observation value (*) is data type CD as of v 2.5.

2.A.12.1 Channel Sensitivity (NM)

Definition: This component transmits the nominal value that corresponds to one unit in the waveform data, that is, the effective resolution of the least significant bit of the ADC, and the polarity of the channel.

2.A.12.2 Unit of Measure Identifier (ST)

Definition: The unit designation for the channel sensitivity. This field is required if the unit of measure description is not present.

2.A.12.3 Unit of Measure Description (ST)

Definition: The full text name of the unit of measure identifier. This field is required if the unit of measure identifier is not present.

2.A.12.4 Unit of Measure Coding System (IS)

Definition: Specifies the designated system of units. Refer to HL7 table 0396 – Coding System in section 2.17.5 for suggested values. This field is required if the unit of measure identifier is present.

2.A.12.5 Alternate Unit of Measure Identifier (ST)

Definition: An alternate units designation for the channel sensitivity.

2.A.12.6 Alternate Unit of Measure Description (ST)

Definition: The full text name of the alternate unit of measure identifier

2.A.12.7 Alternate Unit of Measure Coding System (IS)

Definition: Specifies the coding system for the alternate unit of measure. Refer to HL7 table 0396 – Coding System in section 2.17.5 for suggested values.

2.A.13 CWE – coded with exceptions

HL7 Component Table - CWE – Coded with Exceptions

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	20	ST	O		Identifier		2.A.74
2	199	ST	O		Text		2.A.74
3	20	ID	O	0396	Name of Coding System		2.A.35
4	20	ST	O		Alternate Identifier		2.A.74
5	199	ST	O		Alternate Text		2.A.74
6	20	ID	O	0396	Name of Alternate Coding System		2.A.35
7	10	ST	C		Coding System Version ID		2.A.74
8	10	ST	O		Alternate Coding System Version ID		2.A.74
9	199	ST	O		Original Text		2.A.74

Definition: Specifies a coded element and its associated detail. The CWE data type is used when 1) more than one table may be applicable **or** 2) the specified HL7 or externally defined table may be extended with local values **or** 3) when text is in place, the code may be omitted.

Maximum Length: 705

Usage Notes: This is a field that is generally sent using a code, but where the code may be omitted in exceptional instances or by site agreement. Exceptional instances arise when the coding system being used does not have a code to describe the concept in the text.

Components 1-3 & 7 are used in one of three ways:

a) **Coded:** The identifier contains a valid code from a coding system. The coding system must either be present and have a value from the set of allowed coding systems, or if not present, it will be interpreted to have the same meaning as if it had been valued with the code meaning "HL7 coding system". Refer to HL7 Table 0396 in section 2.17.5 for valid values. The table includes ASTM E1238-94, Diagnostic, procedure, observation, drug ID, and health outcomes coding systems. If the coding system is any system other than "HL7 coding system," version ID must be valued with an actual version ID. If the coding system is "HL7 coding system," version ID may have an actual value or it may be absent. If version ID is absent, it will be interpreted to have the same value as the HL7 version number in the message header. Text description is optional, but its use should be encouraged to aid in readability of the message during testing and debugging.

Example 1a: OBX segment where the observation identifier is a LOINC code and the observation value is being sent as a CWE value, and the value is taken from SNOMED International.

```
OBX|1|CWE|883-9^ABO Group^LN|1|F-D1250^Type O^SNM3^^^^3.4|||N||F<cr>
```

Example 1b: OBX segment where the observation identifier is a LOINC code and the observation value is being sent as an CWE value, and the value is taken from a (currently hypothetical) HL7 table.

```
OBX|1|CWE|883-9^ABO Group^LN|1|O^Type O^HL74875^^^^2.3.1|||N||F<cr>
```

b) **Uncoded:** Text is valued, the identifier has no value, and coding system and version ID follow the same rules as discussed for option 1.

Example 2: OBX segment where the observation identifier is a LOINC code and the observation value is being sent as a CWE value, and the value is sent as text because the correct clinical value, "Wesnerian" was not found in the set of allowed values.

```
OBX|1|CWE|883-9^ABO Group^LN|1|^Wesnerian^SNM3^^^^3.4|||A||F<cr>
```

Data missing: The name of the coding system is "HL7 CWE Status," version ID is either a real version, or if not present it has the same meaning as the version in the message header, and the identifier takes its value from one of the allowed CWE field statuses. The codes for the allowed CWE field statuses are shown below and will be maintained in a table as part of the HL7 vocabulary. Text description of code is optional.

Example 3: OBX segment where the observation identifier is a LOINC code and the observation value is being sent as an LCE value, and no value can be sent because the test was not done.

```
OBX|1|CWE|883-9^ABO Group^LN|1|NAV^Not
   Available^HL70353^^^^2.3.1|||N||F<cr>
```

Component 9:

This is the original text that was available to an automated process or a human before a specific code was assigned. This field is optional.

Components 3-6 & 8:

Components 3-6 & 8 are optional. They are used to represent the local or user seen code. If present, components 3-6 & 8 obey the same rules of use and interpretation as described for components 1-3 & 7 (of the CWE data type). If both are present, the identifiers in component 4 and component 1 should have exactly the same meaning; i.e. they should be exact synonyms.

Example 4: OBX segment where the observation identifier is a LOINC code and the observation value is being sent as an CWE value, and the value is taken from SNOMED International. The user seen fields are being used to represent a local coding system (99LAB) used in the sending system.

```
OBX|1|CWE|883-9^ABO Group^LN|1|F-D1250^Type O^SNM3^O^O Type
   Blood^99LAB^3.4^||||F<cr>
```

Summary of CWE usage notes with table of status values for various states without values:

The CWE data type should be used for coded fields that are optional or where it is permissible to send text for items that are not yet a part of the approved value set. In the normal situation, the identifier is valued with the code from the value set. If the value of the field is known, but is not part of the value set, then the value is sent as text, and the identifier has no value. If the field has an unknown status, then third form of the field is used (see **Data missing** above), and the appropriate status for the field is selected from the table of allowed statuses. When no code exists, refer to *HL7 Table 0353 – CWE statuses* for valid values.

HL7 Table 0353 - CWE statuses

Code	Description	Comment
U	Unknown	
UASK	Asked but Unknown	
NAV	Not available	
NA	Not applicable	
NASK	Not asked	

Where a text modifier might accompany a code, the "field" in the HL7 message would be of data type CWE and would be allowed to repeat. The first instance of the field would be used, as per option 1; i.e. the identifier would have a valid code. The second instance of the repeating field would be used, as per option 2, that is, the text description would take the value of the free text modifier.

2.A.13.1 Identifier (ST)

Definition: Sequence of characters (the code) that uniquely identifies the item being referenced. Different coding schemes will have different elements here.

2.A.13.2 Text (ST)

Definition: The descriptive or textual name of the identifier, e.g., myocardial infarction or X-ray impression.

2.A.13.3 Name of Coding System (ID)

Definition: Identifies the coding scheme being used in the identifier component.

The combination of the **identifier** and **name of coding system** components will be a unique code for a data item. Each system has a unique identifier.

Refer to HL7 Table 0396 in section 2.17.5 for valid values. The table includes ASTM E1238-94, Diagnostic, procedure, observation, drug ID, health outcomes and other coding systems.

Some organizations that publish code sets author more than one. The coding system, then, to be unique is a concatenation of the name of the coding authority organization and the name of its code set or table. When an HL7 table is used for a CE data type, the ***name of coding system*** component is defined as ***HL7nnnn*** where ***nnnn*** is the HL7 table number. Similarly, ISO tables will be named ISOnnnn, where nnnn is the ISO table number.

2.A.13.4 Alternate Identifier (ST)

Definition: An alternate sequence of characters (the code) that uniquely identifies the item being referenced. Analogous to "Identifier" in component 1. See usage note in section introduction.

2.A.13.5 Alternate Text (ST)

Definition: The descriptive or textual name of the alternate identifier. Analogous to "Text" in component 2. See usage note in section introduction.

2.A.13.6 Name of Alternate Coding System (ID)

Definition: Identifies the coding scheme being used in the alternate identifier component. Analogous to “Name of Coding System” above. See usage note in section introduction.

2.A.13.7 Coding System Version ID (ST)

This is the version ID for the coding system identified by components 1-3. It belongs conceptually to the group of component 1-3 and appears here only for reasons of backward compatibility.

2.A.13.8 Alternate Coding System Version ID (ST)

This is the version ID for the coding system identified by components 4-6. It belongs conceptually to the group of alternate components (See usage note in section introduction) and appears here only for reasons of backward compatibility.

2.A.13.9 Original Text (ST)

The original text that was available to an automated process or a human before a specific code was assigned.

2.A.14 CX - extended composite ID with check digit

HL7 Component Table - CX – Extended Composite ID with Check Digit

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	15	ST	R		ID Number		2.A.74

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
2	1	ST	O		Check Digit		2.A.74
3	3	ID	O	0061	Check Digit Scheme		2.A.35
4	227	HD	O	0363	Assigning Authority		2.A.33
5	5	ID	O	0203	Identifier Type Code		2.A.35
6	227	HD	O		Assigning Facility		2.A.33
7	8	DT	O		Effective Date		2.A.21
8	8	DT	O		Expiration Date		2.A.21
9	705	CWE	O		Assigning Jurisdiction		2.A.13
10	705	CWE	O		Assigning Agency or Department		2.A.13

Definition: This data type is used for specifying an identifier with its associated administrative detail.

Maximum Length: 1913

Note: The check digit and check digit scheme are null if ID is alphanumeric.

Example:

```
|1234567^4^M11^ADT01^MR^Good Health Hospital|
```

2.A.14.1 ID (ST)

Definition: The value of the identifier itself.

2.A.14.2 Check Digit (ST)

The check digit in this data type is not an add-on produced by the message processor. It is the check digit that is part of the identifying number used in the sending application. If the sending application does not include a self-generated check digit in the identifying number, this component should be valued null.

2.A.14.3 Check Digit Scheme (ID)

Definition: Contains the code identifying the check digit scheme employed.

Refer to *HL7 Table 0061 - Check digit scheme* for valid values.

HL7 Table 0061 - Check digit scheme

Value	Description	Comment
NPI	Check digit algorithm in the US National Provider Identifier	
ISO	ISO 7064: 1983	
M10	Mod 10 algorithm	
M11	Mod 11 algorithm	

The algorithm for calculating a Mod10 check digit is as follows:

Assume you have an identifier - 12345. Take the odd digit positions, counting from the right, i.e., 531, multiply this number by 2 to get 1062. Take the even digit positions, starting from the right (i.e., 42), prepend these to the 1062 to get 421062. Add all of these six digits together to get 15. Subtract this number from the next highest multiple of 10, i.e., 20 - 15 to get 5. The Mod10 check digit is 5. The Mod10 check digit for 401 is 0; for 9999, it's 4; for 99999999, it's 8.

The algorithm for calculating a Mod11 check digit is as follows:

Terms

d	=	digit of number starting from units digit, followed by 10's position, followed by 100's position, etc.
w	=	weight of digit position starting with the units position, followed by 10's position, followed by 100's position etc. Values for w = 2, 3, 4, 5, 6, 7, 2, 3, 4, 5, 6, 7, etc. (repeats for each group of 6 digits)
c	=	check digit

Calculation

(Step 1) m	=	sum of (d * w) for positions 1, 2, etc. starting with units digit for d = digit value starting with units position to highest order for w = weight value from 2 to 7 for every six positions starting with units digit
(Step 2) c1	=	m mod 11
(Step 3) if c1	=	0 then reset c1 = 1
(Step 4)	=	(11 - c1) mod 10

Example:

```
If the number is 1234567, then the mod 11 check digit = 4
```

The calculations are:

```
M  = (7*2)+(6*3)+(5*4)+(4*5)+(3*6)+(2*7)+(1*2)
   = 14 + 18 + 20 + 20 + 18 + 14 + 2
   = 106
c1 = 106 mod 11
   = 7
c  = (11-c1) mod 10
   = 4 mod 10
   = 4
```

Other variants of these check digit algorithms exist and may be used by local bilateral site agreement.

Note: The check digit and code identifying check digit scheme are null if ID is alphanumeric.

2.A.14.4 Assigning Authority (HD)

The assigning authority is a unique name of the system (or organization or agency or department) that creates the data. . Refer to *User-defined Table 0363 – Assigning authority* for suggested values.

User-defined Table 0363 – Assigning authority

Value	Description	Comment
	No suggested values	

The reader is referred to the CX.9 and the CX.10 if there is a need to transmit values with semantic meaning for an assigning jurisdiction or assigning department or agency in addition to, or instead of, an assigning authority. However, all 3 components may be valued. If, in so doing, it is discovered that the

values in CX.9 and/or CX.10 conflict with CX.4, the user would look to the Message Profile or other implementation agreement for a statement as to which takes precedence.

Note: When the HD data type is used in a given segment as a component of a field of another data type, *User-defined Table 0300 - Namespace ID* (referenced by the first sub-component of the HD component) may be re-defined (given a different user-defined table number and name) by the technical committee responsible for that segment.

By site agreement, implementers may continue to use *User-defined Table 0300 – Namespace ID* for the first sub-component.

2.A.14.5 Identifier Type Code (ID)

A code corresponding to the type of identifier. In some cases, this code may be used as a qualifier to the "Assigning authority" component. Refer to *HL7 Table 0203 - Identifier type* for suggested values.

HL7 Table 0203 - Identifier type

Value	Description	Comment
AM	American Express	Deprecated and replaced by BC in v 2.5.
AN	Account number	An identifier that is unique to an account.
ANON	Anonymous identifier	An identifier for a living subject whose real identity is protected or suppressed Justification: For public health reporting purposes, anonymous identifiers are occasionally used for protecting patient identity in reporting certain results. For instance, a state health department may choose to use a scheme for generating an anonymous identifier for reporting a patient that has had a positive human immunodeficiency virus antibody test. Anonymous identifiers can be used in PID 3 by replacing the medical record number or other non-anonymous identifier. The assigning authority for an anonymous identifier would be the state/local health department.
ANC	Account number Creditor	Class: Financial A more precise definition of an account number: sometimes two distinct account numbers must be transmitted in the same message, one as the creditor, the other as the debitor. Kreditorenkontonummer
AND	Account number debitor	Class: Financial A more precise definition of an account number: sometimes two distinct account numbers must be transmitted in the same message, one as the creditor, the other as the debitor. Debitorenkontonummer
ANT	Temporary Account Number	Class: Financial Temporary version of an Account Number. Use Case: An ancillary system that does not normally assign account numbers is the first time to register a patient. This ancillary system will generate a temporary account number that will only be used until an official account number is assigned.
APRN	Advanced Practice Registered Nurse number	An identifier that is unique to an advanced practice registered nurse within the jurisdiction of a certifying board
BA	Bank Account Number	Class: Financial

Value	Description	Comment
BC	Bank Card Number	Class: Financial An identifier that is unique to a person's bank card. Replaces AM, DI, DS, MS, and VS beginning in v 2.5.
BR	Birth registry number	
BRN	Breed Registry Number	
CC	Cost Center number	Class: Financial Use Case: needed especially for transmitting information about invoices.
CY	County number	
DDS	Dentist license number	An identifier that is unique to a dentist within the jurisdiction of the licensing board
DEA	Drug Enforcement Administration registration number	An identifier for an individual or organization relative to controlled substance regulation and transactions. Use case: This is a registration number that identifies an individual or organization relative to controlled substance regulation and transactions. A DEA number has a very precise and widely accepted meaning within the United States. Surprisingly, the US Drug Enforcement Administration does not solely assign DEA numbers in the United States. Hospitals have the authority to issue DEA numbers to their medical residents. These DEA numbers are based upon the hospital's DEA number, but the authority rests with the hospital on the assignment to the residents. Thus, DEA as an Identifier Type is necessary in addition to DEA as an Assigning Authority.
DI	Diner's Club card	Deprecated and replaced by BC in v 2.5.
DFN	Drug Furnishing or prescriptive authority Number	An identifier issued to a health care provider authorizing the person to write drug orders Use Case: A nurse practitioner has authorization to furnish or prescribe pharmaceutical substances; this identifier is in component 1.
DL	Driver's license number	
DN	Doctor number	
DPM	Podiatrist license number	An identifier that is unique to a podiatrist within the jurisdiction of the licensing board.
DO	Osteopathic License number	An identifier that is unique to an osteopath within the jurisdiction of a licensing board.
DR	Donor Registration Number	
DS	Discover Card	Deprecated and replaced by BC in v 2.5.
EI	Employee number	A number that uniquely identifies an employee to an employer.
EN	Employer number	
FI	Facility ID	
GI	Guarantor internal identifier	Class: Financial
GL	General ledger number	Class: Financial
GN	Guarantor external identifier	Class: Financial
HC	Health Card Number	
JHN	Jurisdictional health number (Canada)	Class: Insurance 2 uses: a) UK jurisdictional CHI number; b) Canadian provincial health card number:
IND	Indigenous/Aboriginal	A number assigned to a member of an indigenous or aboriginal group outside of Canada.
LI	Labor and industries number	
LN	License number	
LR	Local Registry ID	

Value	Description	Comment
MA	Patient Medicaid number	Class: Insurance
MB	Member Number	An identifier for the insured of an insurance policy (this insured always has a subscriber), usually assigned by the insurance carrier. Use Case: Person is covered by an insurance policy. This person may or may not be the subscriber of the policy.
MC	Patient's Medicare number	Class: Insurance
MCD	Practitioner Medicaid number	Class: Insurance
MCN	Microchip Number	
MCR	Practitioner Medicare number	Class: Insurance
MD	Medical License number	An identifier that is unique to a medical doctor within the jurisdiction of a licensing board. Use Case: These license numbers are sometimes used as identifiers. In some states, the same authority issues all three identifiers, e.g., medical, osteopathic, and physician assistant licenses all issued by one state medical board. For this case, the CX data type requires distinct identifier types to accurately interpret component 1. Additionally, the distinction among these license types is critical in most health care settings (this is not to convey full licensing information, which requires a segment to support all related attributes).
MI	Military ID number	A number assigned to an individual who has had military duty, but is not currently on active duty. The number is assigned by the DOD or Veterans' Affairs (VA).
MR	Medical record number	An identifier that is unique to a patient within a set of medical records, not necessarily unique within an application.
MRT	Temporary Medical Record Number	Temporary version of a Medical Record Number Use Case: An ancillary system that does not normally assign medical record numbers is the first time to register a patient. This ancillary system will generate a temporary medical record number that will only be used until an official medical record number is assigned.
MS	MasterCard	Deprecated and replaced by BC in v 2.5.
NE	National employer identifier	In the US, the Assigning Authority for this value is typically CMS, but it may be used by all providers and insurance companies in HIPAA related transactions.
NH	National Health Plan Identifier	Class: Insurance Used for the UK NHS national identifier. In the US, the Assigning Authority for this value is typically CMS, but it may be used by all providers and insurance companies in HIPAA related transactions.
NI	National unique individual identifier	Class: Insurance In the US, the Assigning Authority for this value is typically CMS, but it may be used by all providers and insurance companies in HIPAA related transactions.
NII	National Insurance Organization Identifier	Class: Insurance In Germany a national identifier for an insurance company. It is printed on the insurance card (health card). It is not to be confused with the health card number itself. Krankenkassen-ID der KV-Karte

Value	Description	Comment
NIIP	National Insurance Payor Identifier (Payor)	Class: Insurance In Germany the insurance identifier addressed as the payor. Krankenkassen-ID des Rechnungsempfängers Use case: a subdivision issues the card with their identifier, but the main division is going to pay the invoices.
NNxxx	National Person Identifier where the xxx is the ISO table 3166 3-character (alphabetic) country code	
NP	Nurse practitioner number	An identifier that is unique to a nurse practitioner within the jurisdiction of a certifying board.
NPI	National provider identifier	Class: Insurance In the US, the Assigning Authority for this value is typically CMS, but it may be used by all providers and insurance companies in HIPAA related transactions.
OD	Optometrist license number	A number that is unique to an individual optometrist within the jurisdiction of the licensing board.
PA	Physician Assistant number	An identifier that is unique to a physician assistant within the jurisdiction of a licensing board
PCN	Penitentiary/correctional institution Number	A number assigned to individual who is incarcerated.
PE	Living Subject Enterprise Number	An identifier that is unique to a living subject within an enterprise (as identified by the Assigning Authority).
PEN	Pension Number	
PI	Patient internal identifier	A number that is unique to a patient within an Assigning Authority.
PN	Person number	A number that is unique to a living subject within an Assigning Authority.
PNT	Temporary Living Subject Number	Temporary version of a Lining Subject Number.
PPN	Passport number	A unique number assigned to the document affirming that a person is a citizen of the country. In the US this number is issued only by the State Department.
PRC	Permanent Resident Card Number	
PRN	Provider number	A number that is unique to an individual provider, a provider group or an organization within an Assigning Authority. Use case: This allows PRN to represent either an individual (a nurse) or a group/organization (orthopedic surgery team).
PT	Patient external identifier	
QA	QA number	
RI	Resource identifier	A generalized resource identifier. Use Case: An identifier type is needed to accommodate what are commonly known as resources. The resources can include human (e.g. a respiratory therapist), non-human (e.g., a companion animal), inanimate object (e.g., an exam room), organization (e.g., diabetic education class) or any other physical or logical entity.
RPH	Pharmacist license number	An identifier that is unique to a pharmacist within the jurisdiction of the licensing board.
RN	Registered Nurse Number	An identifier that is unique to a registered nurse within the jurisdiction of the licensing board.
RR	Railroad Retirement number	
RRI	Regional registry ID	

Value	Description	Comment
SL	State license	
SN	Subscriber Number	Class: Insurance An identifier for a subscriber of an insurance policy which is unique for, and usually assigned by, the insurance carrier. Use Case: A person is the subscriber of an insurance policy. The person's family may be plan members, but are not the subscriber.
SR	State registry ID	
SS	Social Security number	
TAX	Tax ID number	
TN	Treaty Number/ (Canada)	A number assigned to a member of an indigenous group in Canada. Use Case: First Nation.
U	Unspecified identifier	
UPIN	Medicare/CMS (formerly HCFA)'s Universal Physician Identification numbers	Class: Insurance
VN	Visit number	
VS	VISA	Deprecated and replaced by BC in v 2.5.
WC	WIC identifier	
WCN	Workers' Comp Number	
XX	Organization identifier	

2.A.14.6 Assigning Facility (HD)

Definition: The place or location identifier where the identifier was first assigned to the patient. This component is not an inherent part of the identifier but rather part of the history of the identifier: as part of this data type, its existence is a convenience for certain intercommunicating systems.

Note: When the HD data type is used in a given segment as a component of a field of another data type, *User-defined Table 0300 - Namespace ID* (referenced by the first sub-component of the HD component), may be re-defined (given a different user-defined table number and name) by the technical committee responsible for that segment.

2.A.14.7 Effective Date (DT)

Definition: The first date, if known, on which the identifier is valid and active.

2.A.14.8 Expiration Date (DT)

Definition: The last date, if known, on which the identifier is valid and active.

2.A.14.9 Assigning Jurisdiction (CWE)

Definition: The geo-political body that assigned the identifier in component 1.

- Refer to HL7 Table 0399 Country Code in section 2.15.9.17 for valid values if the administrative unit under whose jurisdiction the identifier was issued is a country.

- Refer to *User-Defined Table 0347 State/Province* for suggested values if the administrative unit under whose jurisdiction the identifier was issued is a state or province. This table is country specific. In the US postal codes may be used.

User-defined Table 0347 – State/province

Value	Description	Comment
AB	Alberta (US and Canada)	

Value	Description	Comment
MI	Michigan (US)	

- Refer to *User-defined Table –0289 County/Parish* for suggested values if the administrative unit under whose jurisdiction the identifier was issued is a county or parish.

The reader is referred to the CX.4, if there is a need to transmit this information as an OID.

2.A.14.10 Assigning Agency or Department (CWE)

Definition: The agency or department that assigned the identifier in component 1.

Refer to *User-defined Table –0530 Organizations, Agency, Department* for suggested values if the administrative unit under whose jurisdiction the identifier was issued is an organization, agency or department. This is populated with site-specific assigning authorities. It also should contain national or international codes when CX-5 Identifier Type may be assigned by more than one authority within a governmental or organizational unit. For example, a federal government may have 2 departments that assign a military identifier, its Veterans Affairs department and its department of defense. It is **not** recommended to include values for entities such as Social Security Administration (SSA), Immigration and Naturalization Service (INS), Center for Medicare and Medicaid Services (CMS) because they are included in the identifier type table. In these cases the name of the country plus the identifier type yields the correct interpretation of the identifier in component one. Likewise, entries like department of motor vehicles (DMV) and licensing boards are **not** recommended for inclusion because the combination of state and identifier type yields the correct interpretation of the identifier in component one. This approach is not to be confused with the detailed information provided in the chapter 15 segments that have provision for specifying the precise granting body and issuing body information needed in personnel management messages.

User-defined Table 0530 – Organization, agency, department

Value	Description	Comment
AE	American Express	
DEA	Drug Enforcement Agency	The US Drug Enforcement Administration does not solely assign DEA numbers in the United States. Hospitals have the authority to issue DEA numbers to their medical residents. These DEA numbers are based upon the hospital's DEA number, but the authority rests with the hospital on the assignment to the residents. Thus, DEA as an Assigning Authority is necessary in addition to DEA as an Identifier Type.
DOD	Department of Defense	In some countries e.g., the US, more than one department may issue a military identifier. Hence, US is not sufficient as the Assigning Authority.
MC	Master Card	
VA	Veterans Affairs	
VI	Visa	

Example 1: <Identifier> plus <Visa> yields a unique identifier.

Example 2: <identifier> plus <state> plus <DLN> yields a unique driver's license number.

Example 3: <identifier> plus <country> plus <INS> yields a unique immigration number.

The reader is referred to the CX.4, if there is a need to transmit this information as an OID.

2.A.15 DDI - daily deductible information

HL7 Component Table - DDI – Daily Deductible Information

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	3	NM	O		Delay Days		2.A.47
2	16	MO	R		Monetary Amount		2.A.41
3	4	NM	O		Number of Days		2.A.47

Definition: This data type specifies the detail information for the daily deductible.

Maximum Length: 25

Note: Replaces the CM data type used in section 6.5.7.30 IN2-30, as of v 2.5.

2.A.15.1 Delay Days (NM)

Definition: The number of days after which the daily deductible begins

2.A.15.2 Monetary Amount (MO)

Definition: The monetary amount of the deductible

2.A.15.3 Number of Days (NM)

Definition: The number of days to apply the deductible. If this component is not populated, it means that the number of days is indefinite.

2.A.16 DIN - date and institution name

HL7 Component Table - DIN – Date and Institution Name

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	26	TS	R		Date		2.A.77
2	483	CE	R	0531	Institution Name		2.A.6

Definition: Specifies the date and institution information where a staff member became active or inactive.

Maximum Length: 510

Note: Replaces the CM data type used in sections 15.4.6.12 STF-12 and 15.4.6.14 STF-13, as of v 2.5.

2.A.16.1 Date (TS)

Definition: Specifies the date when a staff member became active or inactive.

2.A.16.2 Institution Name (CE)

Definition: Specifies the institution where a staff member is or was active. Refer to *User-Defined Table0531 – Institutions* for suggested values.

User-defined Table 0531 – Institution

Value	Description	Comment
	No suggested values	

2.A.17 DLD – discharge to location and date

HL7 Component Table - DLD – Discharge Location and Date

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	20	IS	R	0113	Discharge Location		2.A.36
2	26	TS	O		Effective Date		2.A.77

Definition: Specifies the healthcare facility to which the patient was discharged and the date.

Maximum Length: 47

Note: Replaces the CM data type used in section 3.4.3.37 PV1-37, as of v 2.5.

2.A.17.1 Discharge Location (IS)

Definition: Specifies the healthcare facility to which the patient was discharged. Refer to *User-defined Table 0113 - Discharged to location* for suggested values.

User-defined Table 0113 - Discharged to location

Value	Description	Comment
	No suggested values defined	

2.A.17.2 Effective Date (TS)

Definition: Specifies the date on which the patient was discharged to a healthcare facility.

2.A.18 DLN - driver's license number

HL7 Component Table - DLN – Driver's License Number

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	20	ST	R		License Number		2.A.74
2	20	IS	O	0333	Issuing State, Province, Country		2.A.36
3	24	DT	O		Expiration Date		2.A.21

Definition: This field contains the driver's license information. For state or province refer to official postal codes for that country; for country refer to ISO 3166 for codes.

Maximum Length: 66

2.A.18.1 Driver's License Number (as ST data type)

This field contains the driver's license number.

2.A.18.2 Issuing State, Province, Country (IS)

Issuing authority for driver's license. For state or province refer to official postal codes for that country; for country refer to ISO 3166 for codes. The ISO 3166 table has three separate forms of the country code: HL7 specifies that the 3-character (alphabetic) form be used for the country code. *User-defined Table 0333 - Driver's license issuing authority* is used as the HL7 identifier for the user-defined table of values for this component.

User-defined Table 0333 – Driver's license issuing authority

Value	Description	Comment
	No suggested values defined	

2.A.18.3 Expiration Date (DT)

Expiration date (DT) for driver's license.

2.A.19 DLT - delta

HL7 Component Table - DLT – Delta

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	33	NR	O		Normal Range		2.A.48
2	4	NM	O		Numeric Threshold		2.A.47
3	1	ID	O	0523	Change Computation		2.A.74
4	4	NM	O		Days Retained		2.A.47

Definition: Describes the information that controls delta check warnings.

Length: 45

Note: Replaces the CM data type used in section 8.8.4.9 – OM2-9, as of v 2.5.

2.A.19.1 Normal Range (NR)

Definition: Specifies the normal interval of the reference data

2.A.19.2 Numeric Threshold (NM)

Definition: The numeric threshold of the change that is detected.

For example the threshold may be set to 10.

2.A.19.3 Change Computation (ID)

Definition: Specifies if the change is computed as a percent change or as an absolute change. Refer to *HL7 Table 0523 – Computation type* for valid values.

HL7 Table 0523 – Computation type

Value	Description	Comment
%	Indicates a percent change	
a	Absolute Change	

2.A.19.4 Days Retained (NR)

Definition: The length of time in days that the value is retained for computing delta checks.

2.A.20 DR - date/time range

HL7 Component Table - DR – Date/Time Range

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	26	TS	O		Range Start Date/Time		2.A.77
2	26	TS	O		Range End Date/Time		2.A.77

Note: DR cannot be legally expressed when embedded within another data type. Its use is constrained to a segment field.

Maximum Length: 53

2.A.20.1 Range Start Date/Time (TS)

Definition: The first component contains the earliest date/time (time stamp) in the specified range.

2.A.20.2 Range End Date/Time (TS)

The second component contains the latest date/time in the specified range. Note that the TS (time stamp) data type allows the specification of precision.

2.A.21 DT - date

HL7 Component Table - DT – Date

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
	8				Date		

Definition: Specifies the century and year with optional precision to month and day.

Maximum Length: 8

As of v 2.3, the number of digits populated specifies the precision using the format specification YYYY[MM[DD]]. Thus:

a) only the first four digits are used to specify a precision of "year"

b) the first six are used to specify a precision of "month"

c) the first eight are used to specify a precision of "day"

Examples:

```
|19880704|
|199503|
```

Prior to v 2.3, this data type was specified in the format YYYYMMDD. As of v 2.3 month and days are no longer required. By site-specific agreement, YYYYMMDD may be used where backward compatibility must be maintained.

2.A.22 DTM - date/time

HL7 Component Table - DTM – Date/Time

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
	24				Date/Time		

Definition: Specifies a point in time using a 24-hour clock notation.

Maximum Length: 24

The number of characters populated (excluding the time zone specification) specifies the precision.

Format: YYYY[MM[DD[HH[MM[SS[.S[S[S[S]]]]]]]]][+/-ZZZZ].

Thus:

a) only the first four are used to specify a precision of "year"

b) the first six are used to specify a precision of "month"

c) the first eight are used to specify a precision of "day"

d) the first ten are used to specify a precision of "hour"

e) the first twelve are used to specify a precision of "minute"

f) the first fourteen are used to specify a precision of "second"

g) the first sixteen are used to specify a precision of "one tenth of a second"

h) the first nineteen are used to specify a precision of " one ten thousandths of a second"

Example: |199904| specifies April 1999.

The time zone (+/-ZZZZ) is represented as +/-HHMM offset from Co-ordinated Universal Time (UTC) (formerly Greenwich Mean Time (GMT)), where +0000 or -0000 both represent UTC (without offset). The specific data representations used in the HL7 encoding rules are compatible with ISO 8824-1987(E).

Note that if the time zone is not included, the time zone defaults to that of the local time zone of the sender. Also note that a DTM or TS valued field with the HHMM part set to "0000" represents midnight of the night extending from the previous day to the day given by the YYYYMMDD part (see example below). Examples:

Example	Description
|19760704010159-0500|	1:01:59 on July 4, 1976 in the Eastern Standard Time zone (USA)
|19760704010159-0400|	1:01:59 on July 4, 1976 in the Eastern Daylight Saving Time zone (USA).
|198807050000|	Midnight of the night extending from July 4 to July 5, 1988 in the local time zone of the sender.
|19880705|	Same as prior example, but precision extends only to the day. Could be used for a birth date, if the time of birth is unknown.
|19981004010159+010|	1:01:59 on October 4, 1998 in Amsterdam, NL. (Time zone=+0100).

The HL7 Standard strongly recommends that all systems routinely send the time zone offset but does not require it. All HL7 systems are required to accept the time zone offset, but its implementation is application specific. For many applications the time of interest is the local time of the sender. For example, an application in the Eastern Standard Time zone receiving notification of an admission that takes place at 11:00 PM in San Francisco on December 11 would prefer to treat the admission as having occurred on December 11 rather than advancing the date to December 12.

Note: The time zone [+/-ZZZZ], when used, is restricted to legally-defined time zones and is represented in HHMM format.

One exception to this rule would be a clinical system that processed patient data collected in a clinic and a nearby hospital that happens to be in a different time zone. Such applications may choose to convert the data to a common representation. Similar concerns apply to the transitions to and from daylight saving time. HL7 supports such requirements by requiring that the time zone information be present when the information is sent. It does not, however, specify which of the treatments discussed here will be applied by the receiving system.

2.A.23 DTN - day type and number

HL7 Component Table - DTN – Day Type and Number

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	2	IS	R	0149	Day Type		2.A.36
2	3	NM	R		Number of Days		2.A.47

Definition: This data type specifies the type and number of days for which a certification is valid.

Maximum Length: 6

Note: Replaces the CM data type used in section 6.5.8.11 IN3-11, as of v 2.5.

2.A.23.1 Day Type (IS)

Definition: Specifies whether the days are denied, pending, or approved.

Refer to *User-defined Table 0149 - Day type* for suggested values.

User-defined Table 0149 - Day type

Value	Description	Comment
AP	Approved	
DE	Denied	
PE	Pending	

2.A.23.2 Number of Days (NM)

Definition: Specifies the number of days for which the certification is valid.

2.A.24 ED - encapsulated data

HL7 Component Table - ED – Encapsulated Data

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	227	HD	O		Source Application		2.A.33
2	9	ID	R	0191	Type of Data		2.A.35
3	18	ID	O	0291	Data Subtype		2.A.35
4	6	ID	R	0299	Encoding		2.A.35
5	65536	TX	R		Data		2.A.78

Definition: This data type transmits encapsulated data from a source system to a destination system. It contains the identity of the source system, the type of data, the encoding method of the data, and the data itself. This data type is similar to the RP (reference pointer) data type of Section *2.A.65*, "*RP - reference pointer*," except that instead of pointing to the data on another system, it contains the data which is to be sent to that system.

Maximum Length: 65536

2.A.24.1 Source Application (HD)

A unique name that identifies the system which was the source of the data. Identical format and restrictions as in reference pointer (see Section *2.A.65.2*, "*Application ID (HD)*").

2.A.24.2 Type of Data (ID)

Identical to “type of data” component in the reference pointer (RP) data type. See Section *2.A.65.3*, "*Type of Data (ID)*".

Refer to *HL7 Table 0191 – Type of referenced data* for valid values.

2.A.24.3 Data Subtype (ID)

Identical to “subtype” component in the reference pointer (RP) data type. See Section *2.A.65.4*, "*Subtype (ID)*".

Refer to *HL7 Table 0291 - Subtype of referenced data* for valid values.

2.A.24.4 Encoding (ID)

The type of encoding used to represent successive octets of binary data as displayable ASCII characters. Refer to *HL7 Table 0299 - Encoding* for valid values.

HL7 Table 0299 - Encoding

Value	Description	Comment
A	No encoding - data are displayable ASCII characters.	
Hex	Hexadecimal encoding - consecutive pairs of hexadecimal digits represent consecutive single octets.	
Base64	Encoding as defined by MIME (Multipurpose Internet Mail Extensions) standard RFC 1521. Four consecutive ASCII characters represent three consecutive octets of binary data. Base64 utilizes a 65-character subset of US-ASCII, consisting of both the upper and lower case alphabetic characters, digits "0" through “9”, “+”, “/", and “=”.	The Request For Comment (RFC) 1521 standard is available at: http://www.ietf.org/rfc/rfc1521.txt

2.A.24.5 Data (TX)

Displayable ASCII characters which constitute the data to be sent from source application to destination application. The characters are limited to the legal characters of the ST data type, as defined in Section *2.A.74*, "*ST - string data*," and, if encoded binary, are encoded according to the method of Section *2.A.24.2*, "*Type of Data (ID)*".

If the encoding component (see Section *2.A.24.4*, "*Encoding (ID)*") = "A" (none), then the data component must be scanned before transmission for HL7 delimiter characters, and any found must be escaped by using the HL7 escape sequences defined in Section 2.7 Use of escape sequences in text fields. On the receiving application, the data field must be de-escaped after being parsed.

If the encoding component ED.4 does not equal "A," then, after encoding, the (encoded) data must be scanned for HL7 delimiter characters, and any found must be escaped by using the HL7 escape sequences. Only then can the component be added to the HL7 segment/message. On the receiving application, the data field must be de-escaped after being parsed out of the message before being decoded. This can be expressed as "encode," "escape, "parse," "de-escape" or "decode".

2.A.25 EI - entity identifier

HL7 Component Table - EI – Entity Identifier

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	199	ST	O		Entity Identifier		2.A.74
2	20	IS	O	0363	Namespace ID		2.A.36
3	199	ST	C		Universal ID		2.A.74
4	6	ID	C	0301	Universal ID Type		2.A.35

Definition: The entity identifier defines a given entity within a specified series of identifiers.

Maximum Length: 427

The EI is appropriate for, but not limited to, machine or software generated identifiers. The generated identifier goes in the first component. The remaining components, 2 through 4, are known as the assigning authority; they identify the machine/system responsible for generating the identifier in component 1.

The specified series, the assigning authority, is defined by components 2 through 4. The assigning authority is of the hierarchic designator (HD) data type, but it is defined as three separate components in the EI data type, rather than as a single component as would normally be the case. This is in order to maintain backward compatibility with the EI's use as a component in several existing data fields. Otherwise, the components 2 through 4 are as defined in Section *2.A.33*, "*HD - hierarchic designator*". Hierarchic designators (HD) are unique across a given HL7 implementation.

2.A.25.1 Entity Identifier (ST)

The first component, <entity identifier>, is usually defined to be unique within the series of identifiers created by the <assigning authority>, defined by a hierarchic designator, represented by components 2 through 4. See Section *2.A.33*, "*HD - hierarchic designator*".

2.A.25.2 Namespace ID (IS)

See Section *2.A.33.1*, "*Namespace ID (IS)*" for definition.

The assigning authority is a unique identifier of the system (or organization or agency or department) that creates the data. Refer to *User-defined Table 0363 – Assigning authority* for suggested values.

Note: When the HD is used as a part of another data type, in this case as part of the EI data type, this table may be re-defined (given a different user-defined table number and name) by the technical committee responsible for that segment. By site agreement, implementers may continue to use *User-defined Table 0300 – Namespace ID* for the first component

2.A.25.3 Universal ID (ST)

See Section *2.A.33.2*, "*Universal ID (ST)*" for definition.

2.A.25.4 Universal ID Type (ID)

Refer to *HL7 Table 0301 - Universal ID type* for valid values. See Section *2.A.33.3*, "*Universal ID Type (ID)*," for definition.

2.A.26 EIP - entity identifier pair

HL7 Component Table - EIP – Entity Identifier Pair

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	427	EI	O		Placer Assigned Identifier		2.A.25
2	427	EI	O		Filler Assigned Identifier		2.A.25

Definition: Specifies an identifier assigned to an entity by either the placer or the filler system. If both components are populated the identifiers must refer to the same entity.

Maximum Length: 855

Note: Replaces the CM data type used in sections 4.5.1.8 - ORC-8, 4.5.3.29 – OBR-29, 7.3.1.29 – OBR-29, as of v 2.5.

2.A.26.1 Placer Assigned Identifier (EI)

Definition: Specifies an identifier assigned to an entity by the placer system.

For example, the component might be used to convey the following:

a) placer order number of the parent order

b) the specimen identifier as assigned by the placer.

c) A location identifier assigned (or used by) the placer.

2.A.26.2 Filler Assigned Identifier (EI)

Definition: Specifies an identifier assigned to an entity by the filler system.

For example, the component might convey the following:

a) filler order number of the parent order

b) the specimen identifier as assigned by the filler.

c) A location identifier assigned (or used by) the filler.

2.A.27 ELD - error location and description

HL7 Component Table - ELD – Error Location and Description

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	3	ST	O		Segment ID		2.A.74
2	2	NM	O		Segment Sequence		2.A.47
3	2	NM	O		Field Position		2.A.47
4	483	CE	O	0357	Code Identifying Error		2.A.6

Definition: Specifies the segment that contains an error and describes the nature of the error.

Maximum Length: 493

Note: Replaces the CM data type used in 2.16.5.1 ERR-1 as of v 2.5. Retained for backward compatibility only as of v 2.5. Refer to ERR segment.

2.A.27.1 Segment ID (ST)

Definition: The segment containing the error in another message

2.A.27.2 Segment sequence (NM)

Definition: Specifies the specific occurrence if the segment specified in component 1 occurs more than once in the message.

2.A.27.3 Field Position (NM)

Definition: Ordinal position of the data field within the segment. For systems that do not use the HL7 Encoding Rules, the data item number may be used for the third component.

2.A.27.4 Code Identifying Error (CE)

Definition: A code that describes the nature of the error. Refer to *HL7 Table 0357 - Message error condition codes* for valid values.

2.A.28 ERL - error location

HL7 Component Table - ERL – Error Location

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	3	ST	R		Segment ID		2.A.74
2	2	NM	R		Segment Sequence		2.A.47
3	2	NM	O		Field Position		2.A.47
4	2	NM	O		Field Repetition		2.A.47
5	2	NM	O		Component Number		2.A.47
6	2	NM	O		Sub-Component Number		2.A.47

Definition: This data type identifies the segment and its constituent where an error has occurred.

Maximum Length: 18

2.A.28.1 Segment ID (ST)

Definition: Specifies the 3-letter name for the segment.

2.A.28.2 Segment Sequence (NM)

Definition: Identifies the segment occurrence within the message.

2.A.28.3 Field Position (NM)

Definition: Identifies the number of the field within the segment. The first field is assigned a number of 1. Field number should not be specified when referring to the entire segment.

2.A.28.4 Field Repetition (NM)

Definition: Identifies the repetition number of the field. The first repetition is counted as 1. If a Field Position is specified, but Field Repetition is not, Field Repetition should be assumed to be 1. If Field Position is not specified, Field Repetition should not be specified.

2.A.28.5 Component Number (NM)

Definition: Identifies the number of the component within the field. The first component is assigned a number of 1. Component number should not be specified when referring to the entire field.

2.A.28.6 Sub-Component Number (NM)

Definition: Identifies the number of the sub-component within the component. The first sub-component is assigned a number of 1. Sub-component number should not be specified when referring to the entire component.

2.A.29 FC - financial class

HL7 Component Table - FC– Financial Class

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	20	IS	R	0064	Financial Class Code		2.A.36
2	26	TS	O		Effective Date		2.A.77

Maximum Length: 47

2.A.29.1 Financial Class Code(IS)

This component contains the financial class assigned to a person. *User-defined Table 0064 - Financial class* is used as the HL7 identifier for the user-defined table of values for this component.

User-defined Table 0064 – Financial class

Value	Description	Comment
	no suggested values	

2.A.29.2 Effective Date (TS)

This component contains the effective date/time of the person's assignment to the financial class specified in the first component.

2.A.30 FN - family name

HL7 Component Table - FN – Family Name

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	50	ST	R		Surname		2.A.74
2	20	ST	O		Own Surname Prefix		2.A.74
3	50	ST	O		Own Surname		2.A.74
4	20	ST	O		Surname Prefix From Partner/Spouse		2.A.74
5	50	ST	O		Surname From Partner/Spouse		2.A.74

Definition: This data type allows full specification of the surname of a person. Where appropriate, it differentiates the person's own surname from that of the person's partner or spouse, in cases where the person's name may contain elements from either name. It also permits messages to distinguish the surname prefix (such as "van" or "de") from the surname root.

Maximum Length: 194

Note: Appears ONLY in the PPN, XCN and XPN.

2.A.30.1 Surname (ST)

The atomic element of the person's family name. In most Western usage, this is the person's last name.

2.A.30.2 Own Surname Prefix (ST)

Internationalization usage for Germanic languages. This component is optional. An example of a <surname prefix> is the "van" in "Ludwig van Beethoven". Since the <surname prefix> doesn't sort completely alphabetically, it is reasonable to specify it as a separate sub-component of the PN and extended PN data types (XPN and XCN).

Note: Subcomponents <own surname prefix>, <own surname>, <surname prefix from partner/spouse> and <surname from partner/spouse> decompose complex Germanic names such as "Martha de Mum-van Beethoven". If these subcomponents are valued, the <surname> subcomponent should still be fully valued for backward compatibility, i.e., ^de Mum-van Beethoven&de&Mum&van&Beethoven^.
Also, for clarity, the <last name prefix> has been renamed to <own surname prefix>.

2.A.30.3 Own Surname (ST)

The portion of the surname (in most Western usage, the last name) that is derived from the person's own surname, as distinguished from any portion that is derived from the surname of the person's partner or spouse. This component is optional.

If the person's surname has legally changed to become (or incorporate) the surname of the person's partner or spouse, this is the person's surname immediately prior to such change. Often this is the person's "maiden name".

2.A.30.4 Surname Prefix from Partner/Spouse (ST)

Internationalization usage for Germanic languages. This component is optional. An example of a <surname prefix> is the “van” in "Ludwig van Beethoven". Since the <surname prefix> doesn't sort completely alphabetically, it is reasonable to specify it as a separate sub-component of the PN and extended PN data types (XPN and XCN).

Note: Subcomponents <own surname prefix>, <own surname>, <surname prefix from partner/spouse> and <surname from partner/spouse> decompose complex Germanic names such as “Martha de Mum-van Beethoven”. If these subcomponents are valued, the <surname> subcomponent should still be fully valued for backward compatibility, i.e., ^de Mum-van Beethoven&de&Mum&van&Beethoven^.
Also, for clarity, the <last name prefix> has been renamed to <own surname prefix>.

2.A.30.5 Surname from Partner/Spouse (ST)

The portion of the person's surname (in most Western usage, the last name) that is derived from the surname of the person's partner or spouse, as distinguished from the part derived from the person's own surname. This component is optional.

If no portion of the person's surname is derived from the surname of the person's partner or spouse, this component is not valued. Otherwise, if the surname of the partner or spouse has legally changed to become (or incorporate) the person's surname, this is the surname of the partner or spouse immediately prior to such change.

2.A.31 FT - formatted text data

HL7 Component Table - FT – Formatted Text Data

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
	65536				Coded Value for HL7-Defined Tables		

Maximum Length: 65536

This data type is derived from the string data type by allowing the addition of embedded formatting instructions. These instructions are limited to those that are intrinsic and independent of the circumstances under which the field is being used. The actual instructions and their representation are described elsewhere in this chapter. ***The FT field is of arbitrary length (up to 64k)*** and may contain formatting commands enclosed in escape characters.

Example:

```
|\.sp\(skip one vertical line)|
```

For additional examples of formatting commands see Section 2.7, "Use of Escape Sequences in Text Fields".

To include alternative character sets, use the appropriate escape sequence. See Section 2.15.9.18, "Character set" and Section 2.15.9.20, "Alternate character set handling".

2.A.32 GTS – general timing specification

HL7 Component Table - GTS – General Timing Specification

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
	199				General Timing Specification		

The General Timing Specification data type is used to communicate complex inter-related information Timing information. The value of such a field follows the formatting rules for a ST field. The string data will be structured according to the rules set forth in the "Version 3 Data Types Part II Unabridged Specification" for the General Timing Specification (GTS) data type.

Maximum Length: 199

2.A.33 HD - hierarchic designator

HL7 Component Table - HD – Hierarchic Designator

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	20	IS	O	0300	Namespace ID		2.A.36
2	199	ST	C		Universal ID		2.A.74
3	6	ID	C	0301	Universal ID Type		2.A.35

Definition: The basic definition of the HD is that it identifies an (administrative or system or application or other) entity that has responsibility for managing or assigning a defined set of instance identifiers (such as placer or filler number, patient identifiers, provider identifiers, etc.). This entity could be a particular health care application such as a registration system that assigns patient identifiers, a governmental entity such as a licensing authority that assigns professional identifiers or drivers' license numbers, or a facility where such identifiers are assigned.

Maximum Length: 227

The HD is designed to be a more powerful and more general replacement for the application identifier of HL7 versions 2.1 and 2.2. It adds two additional components, the <universal ID> and the <universal ID type> to the former application ID (which is renamed more generically to be the namespace ID).

In the case where an HD identifies an entity that assigns/creates instance identifiers such as a particular patient registration system, it defines an "assigning authority". In the case where an HD identifies a location where instance identifiers are given out (although they may be created by another entity at another location) such as a particular "department of motor vehicles office location," it defines an "assigning facility". These two different uses of the HD appear in many of the extended data types.

The "assigning authority" defined by the HD is similar in its role to the coding system (and version) part of the coded element data types: both identify a set of more discrete instance identifiers. The difference is that the set of HD-defined discrete instances contain identifiers of "real-world" things such as patient or clinical orders, while the coded element-defined set of discrete instances contains concept identifiers (codes).

The HD is designed to be used either as a local identifier (with only the <namespace ID> valued) or a publicly-assigned identifier, a UID (<universal ID> and <universal ID type> both valued). Syntactically, the HD is a group of two identifiers: a local identifier defined by the first component and a universal identifier defined by the second and third components. HDs that have defined third components (defined UID types) must have a second component that is unique within the series of IDs defined by that component.

Note: The HD is used in fields that in earlier versions of HL7 used the IS data type. Thus, a single component HD (only the first component valued) will look like a simple IS data type for older systems expecting a single component in the place of the HD data type.

If the first component for the HD data type is present, the second and third components are optional. If the third component is present, then the second must also be present (although in this case the first is optional). The second and third components must either both be valued (both non-null), or both be not valued (both null).

This means that if all three components of the HD are valued, the entity identified by the first component is the same as the entity identified by components two and three taken together. However, implementers may choose, by site agreement, to specify that if all three components of the HD are valued, the first component defines a member in the set defined by the second and third components.

Examples:

Example 1: ISO examples with only the 2nd and 3rd components valued:

```
|^1.2.344.24.1.1.3^ISO|
|^1.2.34.4.1.5.1.5.1,1.13143143.131.3131.1^ISO|
```

The syntax of the second component is defined by the ISO standard for object identifiers, not by HL7 (for which the second component is of the ST data type). Thus the periods (".") and comma (",") in the second component are part of the ISO syntax, but are legal by the definition of the HL7 ST data type.

Example 2: A GUID example

```
|^14344.14144321.4122344.14434.654^GUID|
```

Example 3: An internet example

```
|^falcon.iupui.edu^DNS|
```

Example 4: a RANDOM UID

```
|^40C983F09183B0295822009258A3290582^RANDOM|
```

Local examples:

Example 5: Local use only: a HD that looks like an IS data type

```
|LAB1|
|RX.PIMS.SystemB.KP.CA.SCA|
```

Note that the syntax of the first component is not defined by HL7 but by the site according to its own needs: the only requirement is that the first component's structure is allowed by the HL7 string (ST) data type, which is used for values by the IS data type.

Example 6: Local identifier using components 2 and 3 only

```
|^RX.PIMS.SystemB.CA.SCA^M|
```

An alternate way to encode the previous example, illustrating the use of the third component value of "M" (see above HL7 Table 0301) to identify a locally-defined identifier set. The second component has the same value as the previous example but is now defined to be a member of a set of allowable values defined by a site for the identifier set "M".

Example 7: Local identifier with 2nd and 3rd components populated.

```
|PathLab^PL.UCF.UC^L|
```

The 'PathLab' application is identified by the namespace component but it is also identified by the 2nd and 3rd components, (i.e., by the locally-defined UID system "L"). The two identifiers are equivalent.

This is a more complex HD in which the middle component, which is locally defined, is itself structured. As with the ISO example above, the middle component's structure is not defined by HL7 but by the site according to its own needs: the only requirement is that the middle component's structure is allowed by the HL7 string (ST) data type.

Example 8: local identifier and universal ID types:

```
|LAB1^1.2.3.3.4.6.7^ISO|
```

A HD with an ISO "object Identifier" as a UID and a locally defined system name. Both the first component and the second and third (taken together) refer to the same entity. This example shows that the local value and the universal ID value may be transmitted with a single HD field.

2.A.33.1 Namespace ID (IS)

User-defined Table 0300 - Namespace ID is used as the HL7 identifier for the user-defined table of values for this component.

User-defined Table 0300 – Namespace ID

Value	Description	Comment
	No suggested values defined	

Note: When the HD is used in a given segment (either as a field or as a component of another data type) this table may be re-defined (given a different user-defined table number and name) by the technical committee responsible for that segment.

2.A.33.2 Universal ID (ST)

The HD's second component, <universal ID> (UID), is a string formatted according to the scheme defined by the third component, <universal ID type> (UID type). The UID is intended to be unique over time within the UID type. It is rigorously defined. Each UID must belong to one of the specifically enumerated schemes for constructing UIDs (defined by the UID type). The UID (second component) must follow the syntactic rules of the particular universal identifier scheme (defined by the third component). Note that these syntactic rules are not defined within HL7 but are defined by the rules of the particular universal identifier scheme (defined by the third component).

2.A.33.3 Universal ID Type (ID)

The third component governs the interpretation of the second component of the HD. If the third component is a known UID refer to *HL7 Table 0301 - Universal ID type* for valid values, then the second component is a universal ID of that type.

HL7 Table 0301 - Universal ID type

Value	Description	Comment
DNS	An Internet dotted name. Either in ASCII or as integers	
GUID	Same as UUID.	
HCD	The CEN Healthcare Coding Scheme Designator. (Identifiers used in DICOM follow this assignment scheme.)	
HL7	Reserved for future HL7 registration schemes	
ISO	An International Standards Organization Object Identifier	
L,M,N	These are reserved for locally defined coding schemes.	
Random	Usually a base64 encoded string of random bits. The uniqueness depends on the length of the bits. Mail systems often generate ASCII string "unique names," from a combination of random bits and system names. Obviously, such identifiers will not be constrained to the base64 character set.	
URI	Uniform Resource Identifier	

Value	Description	Comment
UUID	The DCE Universal Unique Identifier	
x400	An X.400 MHS format identifier	
x500	An X.500 directory name	

Note: X400, X500, and DNS are not technically universally valid for all time. Names can be de-registered from an existing user and registered to a new user.

2.A.34 ICD - insurance certification definition

HL7 Component Table - ICD – Insurance Certification Definition

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	11	IS	O	150	Certification Patient Type		2.A.36
2	1	ID	R	136	Certification Required		2.A.35
3	26	TS	O		Date/Time Certification Required		2.A.77

Definition: This data type specifies whether insurance certification is required for particular patient types, and the time window for obtaining the certification.

Maximum Length: 40

Note: Replaces the CM data type used in section 6.5.8.20 IN3-20, as of v 2.5.

2.A.34.1 Certification Patient Type (IS)

Definition: Specifies the category or type of patient for which this certification is requested. Refer to *User-defined Table 0150 - Certification patient type* for suggested values.

User-defined Table 0150 - Certification patient type

Value	Description	Comment
ER	Emergency	
IPE	Inpatient elective	
OPE	Outpatient elective	
UR	Urgent	

2.A.34.2 Certification Required (ID)

Definition: Specifies whether or not a certification is required. Refer to HL7 table 0136 - Yes/no indicator for valid values.

2.A.34.3 Date/Time Certification Required (TS)

Definition: The date/time by which the certification must be obtained.

2.A.35 ID - coded value for HL7 defined tables

HL7 Component Table - ID – String Data

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
					Coded Value for HL7-Defined Tables		

Maximum Length: Varies - dependent on length of longest code in code set.

The value of such a field follows the formatting rules for an ST field except that it is drawn from a table of legal values. There shall be an HL7 table number associated with ID data types. An example of an ID field

is OBR-25-result status. This data type should be used only for HL7 tables (see Section 2.5.3.6 -Table). The reverse is not true, since in some circumstances it is more appropriate to use the CNE or CWE data type for HL7 tables.

2.A.36 IS - coded value for user-defined tables

HL7 Component Table - IS – String Data

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
	20				Coded Value for User-Defined Tables		

Maximum Length: 20

The value of such a field follows the formatting rules for a ST field except that it is drawn from a site-defined (or user-defined) table of legal values. There shall be an HL7 table number associated with IS data types. An example of an IS field is the Event reason code defined in Section 3.3.1.4, "Event reason code". This data type should be used only for user-defined tables (see Section 2.5.3.6 - Table). The reverse is not true, since in some circumstances, it is more appropriate to use the CWE data type for user-defined tables.

2.A.37 JCC - job code/class

HL7 Component Table - JCC– Job Code/Class

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	20	IS	O	0327	Job Code		2.A.36
2	20	IS	O	0328	Job Class		2.A.36
3	250	TX	O		Job Description Text		2.A.78

Maximum Length: 292

Example 1: Codified job (where 1 represents the code for Administrator and F represents full time)

```
|1^F^Administrator|
```

Example 2: Uncodified job (where job codes are not codified and PT represents part time)

```
|^PT^Analyst|.
```

2.A.37.1 Job Code (IS)

This component contains the person's job code. *User-defined Table 0327 - Job code* is used as the HL7 identifier for the user-defined table of values for this component.

User-defined Table 0327 – Job code

Value	Description	Comment
	No suggested values defined	

2.A.37.2 Job Class (IS)

This component contains the person's employee classification. Refer to *User-defined Table 0328 - Employee classification* for suggested values.

User-defined Table 0328 – Employee classification

Value	Description	Comment
	No suggested values defined	

2.A.37.3 Job Description Text (TX)

This component contains the text of the job description. This will accommodate systems where job descriptions are not codified.

2.A.38 LA1 - location with address variation 1

HL7 Component Table – LA1 – Location with Address Variation 1

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	20	IS	O	302	Point of Care		2.A.36
2	20	IS	O	303	Room		2.A.36
3	20	IS	O	304	Bed		2.A.36
4	227	HD	O		Facility		2.A.33
5	20	IS	O	306	Location Status		2.A.36
6	20	IS	O	305	Patient Location Type		2.A.36
7	20	IS	O	307	Building		2.A.36
8	20	IS	O	308	Floor		2.A.36
9	415	AD	O		Address		2.A.1

Definition: Specifies a location and its address.

Maximum Length: 790

Note: Replaces the CM data type used in 4.14.1.8 RXO-8 and 4.14.4.8 RXE-8 as of v 2.5. Retained for backward compatibility only as of v 2.5,

2.A.38.1 Point of Care (IS)

Definition: This component specifies the code for the point where patient care is administered. It is conditional on person location type (e.g., nursing unit or department or clinic). After floor, it is the most general patient location designation. Refer to *User-defined Table 0302 - Point of care* for suggested values.

2.A.38.2 Room (IS)

Definition: This component specifies the code for the patient room. After point of care, it is the most general person location designation. Refer to *User-defined Table 0303 - Room* for suggested values.

2.A.38.3 Bed (IS)

Definition: This component specifies the code for the patient bed. After room, it is the most general person location designation. Refer to *User-defined Table 0304 - Bed* for suggested values.

2.A.38.4 Facility (HD)

Definition: This component is subject to site interpretation but generally describes the highest level physical designation of an institution, medical center or enterprise. It is the most general person location designation.

2.A.38.5 Location Status (IS)

Definition: This component specifies the code for the status or availability of the location. For example, it may convey bed status. Refer to *User-defined Table 0306 - Location status* for suggested values.

2.A.38.6 Patient Location Type (IS)

Definition: Person location type is the categorization of the person's location defined by facility, building, floor, point of care, room or bed. Although not a required field, when used, it may be the only populated

field. It usually includes values such as nursing unit, department, clinic, SNF, physician's office. Refer to *User-defined Table 0305 - Person location type* for suggested values.

2.A.38.7 Building (IS)

Definition: This component specifies the code for the building where the person is located. After facility, it is the most general person location designation. Refer to *User-defined Table 0307 - Building* for suggested values.

2.A.38.8 Floor (IS)

Definition: This component specifies the code for the floor where the person is located. After building, it is the most general person location designation. Refer to *User-defined Table 0308 - Floor* for suggested values.

2.A.38.9 Location Description (ST)

Definition: This component describes the location in free text.

2.A.38.10 Address (AD)

Definition: This component specifies the address of a location.

2.A.39 LA2 - location with address variation 2

HL7 Component Table – LA2 – Location with Address Variation 2

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	20	IS	O	302	Point of Care		2.A.36
2	20	IS	O	303	Room		2.A.36
3	20	IS	O	304	Bed		2.A.36
4	227	HD	O		Facility		2.A.33
5	20	IS	O	306	Location Status		2.A.36
6	20	IS	O	305	Patient Location Type		2.A.36
7	20	IS	O	307	Building		2.A.36
8	20	IS	O	308	Floor		2.A.36
9	120	ST	O		Street Address		2.A.74
10	120	ST	O		Other Designation		2.A.74
11	50	ST	O		City		2.A.74
12	50	ST	O		State or Province		2.A.74
13	12	ST	O		Zip or Postal Code		2.A.74
14	3	ID	O	399	Country		2.A.35
15	3	ID	O	190	Address Type		2.A.35
16	50	ST	O		Other Geographic Designation		2.A.74

Definition: Specifies a location and its address.

Maximum Length: 790

Note: Replaces the CM data type used in 4.14.5.13 RXD-13, 4.14.6.11 RXG-11 and 4.14.7.11 RXA-11 as of v 2.5. Retained for backward compatibility only as of v 2.5,

2.A.39.1 Point of Care (IS)

Definition: This component specifies the code for the point where patient care is administered. It is conditional on LA2. 6 Person Location Type (e.g., nursing unit or department or clinic). After floor, it is the

most general patient location designation. Refer to *User-defined Table 0302 - Point of care* for suggested values.

2.A.39.2 Room (IS)

Definition: This component specifies the code for the patient room. After point of care, it is the most general person location designation. Refer to *User-defined Table 0303 - Room* for suggested values.

2.A.39.3 Bed (IS)

Definition: This component specifies the code for the patient's bed. After room, it is the most general person location designation. Refer to *User-defined Table 0304 - Bed* for suggested values.

2.A.39.4 Facility (HD)

Definition: This component is subject to site interpretation but generally describes the highest level physical designation of an institution, medical center or enterprise. It is the most general person location designation.

2.A.39.5 Location Status (IS)

Definition: This component specifies the code for the status or availability of the location. For example, it may convey bed status. Refer to *User-defined Table 0306 - Location status* for suggested values.

2.A.39.6 Patient Location Type (IS)

Definition: Person location type is the categorization of the person's location defined by facility, building, floor, point of care, room or bed. Although not a required field, when used, it may be the only populated field. It usually includes values such as nursing unit, department, clinic, SNF, physician's office. Refer to *User-defined Table 0305 - Person location type* for suggested values.

2.A.39.7 Building (IS)

Definition: This component specifies the code for the building where the person is located. After facility, it is the most general person location designation. Refer to *User-defined Table 0307 - Building* for suggested values.

2.A.39.8 Floor (IS)

Definition: This component specifies the code for the floor where the person is located. After building, it is the most general person location designation. Refer to *User-defined Table 0308 - Floor* for suggested values.

2.A.39.9 Street Address (ST)

Definition: This component specifies the street or mailing address of a person or institution. When referencing an institution, it is used to specify the institution name. When used in connection with a person, it specifies the first line of the address.

2.A.39.10 Other Designation (ST)

Definition: This component specifies the second line of an address. In general, it qualifies address. Examples: Suite 555 or Fourth Floor. When referencing an institution, this component specifies the street address.

2.A.39.11 City (ST)

Definition: This component specifies the city, or district or place where the person or institution is located depending upon the national convention for formatting addresses for postal usage. City should be represented by the official postal service codes for that state.

2.A.39.12 State or Province (ST)

Definition: This component specifies the state or province where the person or institution is located. State or province should be represented by the official postal service codes for that country.

2.A.39.13 Zip or Postal Code (ST)

Definition: This component specifies the zip or postal code where the person or institution is located. Zip or postal codes should be represented by the official codes for that country. In the US, the zip code takes the form 99999[-9999], while the Canadian postal code takes the form A9A9A9 and the Australian Postcode takes the form 9999.

2.A.39.14 Country (ID)

Definition: This component specifies the country where the person or institution is located. ISO 3166 provides a list of country codes that may be used.[1] HL7 specifies that the 3-character (alphabetic) form of ISO 3166 be used for the country code. Refer to HL7 Table 0399 – Country code in section 2.15.9.17 for valid values.

2.A.39.15 Address Type (ID)

Definition: This component specifies the kind or type of address. Refer to *HL7 Table 0190 - Address type* for valid values.

2.A.39.16 Other Geographic Designation (ST)

Definition: This component specifies any other geographic designation that may be necessary. It includes county, bioregion, SMSA, etc.

2.A.40 MA - multiplexed array

HL7 Component Table - MA – Multiplexed Array

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
	16	NM	O		Sample 1 From Channel 1		2.A.47
2	16	NM	O		Sample 1 From Channel 2		2.A.47
3	16	NM	O		Sample 1 From Channel N		2.A.47
4	16	NM	O		Sample 2 From Channel 1		2.A.47
5	16	NM	O		Sample 2 From Channel N		2.A.47
6	16	NM	O		Sample N From Channel N		2.A.47

Definition: This data type is used to represent channel-multiplexed waveform data, (e.g., the digitized values from an analog-to-digital converter or other digital data source). Each value is of type NM, and represents a time sample from a channel. This segment may contain data from one or more channels. The waveform data is in channel-multiplexed format (that is, the values for all channels for the first time sample are transmitted, then the values for the next time sample, and so on until the requisite number of time samples have been transmitted). Time samples are separated by repeat delimiters (~), and channels within a sample are separated by component delimiters (^). The time between samples (the sampling interval) is the reciprocal of the digitization frequency as specified using the CD data type.

[1] Available from ISO 1 Rue de Varembe, Case Postale 56, CH 1211, Geneva, Switzerland.

Maximum Length: 65536

Example 1: 3 channels (identical), 6 time-samples

```
|0^0^0~1^1^1~2^2^2~3^3^3~4^4^4~5^5^5|
```

Example 2: 1 channel, 11 time-samples

```
|0~1~2~3~4~5~6~7~8~9~10|
```

2.A.41 MO - money

HL7 Component Table - MO – Money

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	16	NM	O		Quantity		2.A.47
2	3	ID	O		Denomination		2.A.35

Definition: This data type specifies an amount of money and the denomination in which it is expressed.

Maximum Length: 20

2.A.41.1 Quantity (NM)

The first component is a quantity.

2.A.41.2 Denomination (ID)

The second component is the denomination in which the quantity is expressed. The values for the denomination component are those specified in ISO-4217. If the denomination is not specified, MSH-17-country code is used to determine the default. Example:

```
|99.50^USD|
```

where USD is the ISO 4217 code for the U.S. American dollar.

2.A.42 MOC - money and charge code

HL7 Component Table - MOC – Money and Code

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	20	MO	O		Monetary Amount		2.A.41
2	483	CE	O		Charge Code		2.A.6

Definition: Transmits monetary information and the associated charge code for services performed.

Maximum Length: 504

Note: Replaces the CM data type used in sections 4.5.3.23 OBR-23 and 7.4.1.23- OBR-23 as of v 2.5.

2.A.42.0 Monetary Amount (MO)

Definition: The amount and denomination of money associated with the charge code.

2.A.42.1 Charge Code (CE)

Definition: The code identifying the charge to the ordering entity for the services performed.

2.A.43 MOP - money or percentage

HL7 Component Table – MOP – Money or Percentage

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	2	ID	R	148	Money or Percentage Indicator		2.A.35
2	16	NM	R		Money or Percentage Quantity		2.A.47
3	3	ID	O		Currency Denomination		2.A.35

Definition: This data type specifies an amount that may be either currency or a percentage. It is a variation on the MO data type that is limited to currency.

Maximum Length: 23

Note: Replaces the CM data type used in section 6.5.8.5 IN3-5, as of v 2.5. This data type is restricted to this field.

Example: USD is the ISO 4217 code for the U.S. American dollar.

```
|AT^99.50^USD|
```

2.A.43.1 Money or Percentage Indicator (ID)

Definition: Specifies whether the amount is currency or a percentage.

Refer to *HL7 Table 0148 – Money or percentage indicator* for valid values.

HL7 Table 0148 – Money or percentage indicator

Value	Description	Comment
AT	Currency amount	
PC	Percentage	

2.A.43.2 Money or Percentage Quantity (NM)

Definition: Specifies the currency or percentage quantity.

2.A.43.3 Currency Denomination (ID)

Definition: the denomination in which the quantity is expressed where the amount is currency. The values for the denomination component are those specified in ISO-4217. If the denomination is not specified, the context of the message or MSH-17-country code is used to determine the default.

2.A.44 MSG - message type

HL7 Component Table - MSG – Message Type

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	3	ID	R	0076	Message Code		2.A.35
2	3	ID	R	0003	Trigger Event		2.A.35
3	7	ID	R	0354	Message Structure		2.A.35

Definition: This field contains the message type, trigger event, and the message structure ID for the message.

Maximum Length: 15.

Note: Replaces the CM data type used in 2.16.9.9 MSH-9 as of v 2.5.

2.A.44.1 Message Code (ID)

Definition: Specifies the message type code. Refer to HL7 Table – Message Type in section 2.17.1 for valid values.

This table contains values such as ACK, ADT, ORM, ORU etc.

See section 2.5.1- Messages for further discussion.

2.A.44.2 Trigger Event (ID)

Definition: Specifies the trigger event code. Refer to HL7 Table – Event Type in section 2.17.2 for valid values.

This table contains values like A01, O01, R01 etc.

See section 2.3.1 – Trigger Events for further discussion.

2.A.44.3 Message Structure (ID)

Definition: Specifies the abstract message structure code. Refer to HL7 Table 0354 – Message Structure in section 2.17.3 for valid values.

2.A.45 NA - numeric array

HL7 Component Table - NA – Numeric Array

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	16	NM	R		Value1		2.A.47
2	16	NM	O		Value2		2.A.47
3	16	NM	O		Value3		2.A.47
4	16	NM	O		Value4		2.A.47
…							

Definition: This data type is used to represent a series (array) of numeric values. A field of this type may contain a one-dimensional array (vector or row) of numbers. Also, by allowing the field to repeat, a two-dimensional array (table) of numbers may be transmitted using this format, with each row of the table represented as one repetition of the field. Arrays that have one or more values not present may be transmitted using this data type. "Not present" values are represented as two adjacent component delimiters. If the absent values occur at the end of a row, the trailing component delimiters may be omitted. If an entire row of a table has no values, no component delimiters are necessary (in this case, there will be two adjacent repetition delimiters).

Maximum Length: 65536

Example 1: vector of 8 numbers

```
|125^34^-22^-234^569^442^-212^6|
```

Example 2: 3 x 3 array of numbers

```
|1.2^-3.5^5.2~2.0^3.1^-6.2~3.5^7.8^-1.3|
```

Example 3: 5 x 4 array of numbers with the values in positions (1,1), (2,2), (2,3), (3,3), (3,4), (4,1), (4,2), (4,3), and (4,4) not present

```
|^2^3^4~5^^^8~9^10~~17^18^19^20|
```

2.A.46 NDL – name with date and location

HL7 Component Table - NDL – Name with Date and Location

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	406	CNN	O		Name		2.A.9
2	26	TS	O		Start Date/time		2.A.77
3	26	TS	O		End Date/time		2.A.77
4	20	IS	O	0302	Point of Care		2.A.36
5	20	IS	O	0303	Room		2.A.36
6	20	IS	O	0304	Bed		2.A.36
7	227	HD	O		Facility		2.A.33
8	20	IS	O	0306	Location Status		2.A.36
9	20	IS	O	0305	Patient Location Type		2.A.36
10	20	IS	O	0307	Building		2.A.36
11	20	IS	O	0308	Floor		2.A.36

Definition: Specifies the name of the person performing a service, when the person performed the service and where the person performed the service.

Maximum Length: 835

Note: Replaces the CM data type used in sections 4.5.3.32 and 7.4.1.32-(OBR-32), 4.5.3.33 and 7.4.1.33 - (OBR-33) 4.5.3.34 and 7.4.1.34 - (OBR-34) 4.5.3.35 and 7.4.1.35 - (OBR-35) as of v 2.5.

2.A.46.1 Name (CNN)

Definition: This component specifies the name of the person performing a service.

2.A.46.2 Start date/time (TS)

Definition: This component specifies the starting date and time for when the person is performing the service.

2.A.46.3 End Date/time (TS)

Definition: This component specifies the ending date and time for when the person is performing the service.

2.A.46.4 Point of Care (IS)

Definition: This component specifies the code for the point where patient care is administered. It is conditional on NDL. 9 Person Location Type (e.g., nursing unit or department or clinic). After floor, it is the most general patient location designation. Refer to *User-defined Table 0302 - Point of care* for suggested values

2.A.46.5 Room (IS)

Definition: Patient room. After point of care, it is the most general location designation. Refer to *User-defined Table 0303 - Room* for suggested values.

2.A.46.6 Bed (IS)

Definition: This component specifies the code for the patient's bed. After room, it is the most general location designation. Refer to *User-defined Table 0304 - Bed* for suggested values.

2.A.46.7 Facility (HD)

Definition: This component is subject to site interpretation but generally describes the highest level physical designation of an institution, medical center or enterprise. It is the most general location designation.

2.A.46.8 Location Status (IS)

Definition: This component specifies the code for the status or availability of the location. For example, it may convey bed status. Refer to *User-defined Table 0306 - Location status* for suggested values.

2.A.46.9 Location Type (IS)

Definition: Location type is the categorization of the location defined by facility, building, floor, point of care, room or bed. Although not a required field, when used, it may be the only populated field. Usually includes values such as nursing unit, department, clinic, SNF, physician's office. Refer to *User-defined Table 0305 - Person location type* for suggested values.

2.A.46.10 Building (IS)

Definition: This component specifies the code for the building where the person is located. After facility, it is the most general location designation. Refer to *User-defined Table 0307 - Building* for suggested values.

2.A.46.11 Floor (IS)

Definition: This component specifies the code for the floor where the person is located. After building, it is the most general location designation. Refer to *User-defined Table 0308 - Floor* for suggested values.

2.A.47 NM - numeric

HL7 Component Table - NM – Numeric

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
	16				Numeric		

Definition: A number represented as a series of ASCII numeric characters consisting of an optional leading sign (+ or -), the digits and an optional decimal point. In the absence of a sign, the number is assumed to be positive. If there is no decimal point the number is assumed to be an integer.

Maximum Length: 16

Examples:

```
|999|
|-123.792|
```

Leading zeros, or trailing zeros after a decimal point, are not significant. For example, the following two values with different representations, "01.20" and "1.2," are identical. Except for the optional leading sign (+ or -) and the optional decimal point (.), no non-numeric ASCII characters are allowed. Thus, the value <12 should be encoded as a structured numeric (SN) (preferred) or as a string (ST) (allowed, but not preferred) data type.

2.A.48 NR - numeric range

HL7 Component Table - NR – Numeric Range

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	16	NM	O		Low Value		2.A.47

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
2	16	NM	O		High Value		2.A.47

Definition: Specifies the interval between the lowest and the highest values in a series of data. In the case where a numeric range is unbounded on one side, the component of the unbounded side is null. Whether the end points are included in the range is defined in the usage note for the field.

Note: Replaces the CM data type used in sections 8.8.4.6.1– OM2-6.1, 8.8.4.6.3– OM2-6.3and 8.8.4.6.4– OM2-6.4, as of v 2.5.

Maximum Length: 33

2.A.48.1 Low Value (NM)

Definition: The number specifying the lower limit or boundary of the range.

2.A.48.2 High Value (NM)

Definition: The number specifying the high limit or boundary of the range.

2.A.49 OCD - occurrence code and date

HL7 Component Table - OCD – Occurrence Code and Date

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	705	CNE	R	0350	Occurrence Code		2.A.8
2	8	DT	R		Occurrence Date		2.A.21

Definition: The code and associated date defining a significant event relating to a bill that may affect payer processing.

Maximum Length: 714

Note: Replaces the CM data type used in sections 6.5.10.10 UB1-16 and 6.5.11.7 UB2-7, as of v 2.5.

This data type carries data defined by CMS or other regulatory agencies. It corresponds to UB82 Fields 28-32 and UB92 fields 32a, 32b, 33a, 33b, 34a, 34b, 35a, and 35b. Refer to a UB specification for additional information.

Use Case: A Medicare beneficiary was confined in hospital from January 1, 1992 to January 10, 1992, however, his Medicare Part A benefits were exhausted as of January 8, 1992, and he was not entitled to Part B benefits. Therefore, Form Locator 32 should contain code 23 and the date 010892.

Example:

```
|23&Benefits Exhausted&NUBC^19920108|
```

2.A.49.1 Occurrence Code (CNE)

Definition: The NUBC code for the event or occurrence relating to a bill that may affect payer processing.

Refer to *HL7-defined Table 0350 – Occurrence code* for valid values.

Values for this component need to come from National Uniform Billing Committee (NUBC). No extensions are allowed.

HL7-defined Table 0350 - Occurrence code

Value	Description	Comment
	Use NUBC codes	

2.A.49.2 Occurrence Date (DT)

Definition: The date the event, relating to a bill that may affect payer processing, occurred.

2.A.50 OSD - order sequence definition

HL7 Component Table - OSD – Order Sequence Definition

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	1	ID	R	0524	Sequence/Results Flag		2.A.35
2	15	ST	R		Placer Order Number: Entity Identifier		2.A.74
3	6	IS	O	0363	Placer Order Number: Namespace ID		2.A.36
4	15	ST	R		Filler Order Number: Entity Identifier		2.A.74
5	6	IS	O	0363	Filler Order Number: Namespace ID		2.A.36
6	12	ST	O		Sequence Condition Value		2.A.74
7	3	NM	O		Maximum Number of Repeats		2.A.47
8	15	ST	R		Placer Order Number: Universal ID		2.A.74
9	6	ID	O	0301	Placer Order Number: Universal ID Type		2.A.35
10	15	ST	R		Filler Order Number: Universal ID		2.A.74
11	6	ID	O	0301	Filler Order Number: Universal ID Type		2.A.35

Definition: This data type specifies a fully coded version for forming a relationship between an order and one or more other orders. The relationship may be sequential or a cyclical pattern.

Usage of the OSD is restricted to the TQ data type (especially as it is applied to the ORC-7?). Retained for backward compatibility only as of v 2.5. The reader is advised to consider the TQ1 and TQ2 segments rather than this data type if sequencing levels or cyclical patterns need to be transmitted.

Maximum Length: 110

Note: Replaces the CM data type used in the TQ data type, component 10, as of v 2.5.

There are many situations, such as the creation of an order for a group of intravenous (IV) solutions, where the sequence of the individual intravenous solutions (each a service in itself) needs to be specified, e.g., hyperalimentation with multi-vitamins in every third bottle.

There are other situations where part of the order's instructions contains a results condition of some type, such as "PRN pain". There is currently a free text "condition" component of ORC-7-quantity/timing that allows any condition to be specified.

The sequencing conditions are based on the completion of a predecessor service.

Usage notes:

Suppose the following:

The predecessor order is defined by the OE1000&OrdEnt as the placer order number, in subcomponents 2 and 3 of component 10 of ORC-7-quantity/timing.

The successor order, this order, has the placer order number OE1001^OrdEnt in the ORC segment.

The following sequence condition values have the following meanings:

Value	Description	Comment
ES + 10M	Start time of the successor	The finish time of OE1000&OrdEnt (predecessor) plus 10 minutes defines the start time of the successor, OE1001^OrdEnt (this order); i.e., start this order 10 minutes after the completion of its predecessor.
SS - 10M	Start time of this order	The start time of the predecessor minus 10 minutes defines the start time of this order; i.e., start this order 10 minutes before its predecessor.

Use Case 1: Cyclic placer order groups

For the special case where there is a cycle of orders that must be repeated, the first order to be executed will have a "sequence condition value" whose first character must be an asterisk (*). The last order to be executed may have a "sequence condition value" whose first character must be a pound sign (#).

Example:

Value	Description	Comment
*FS+10M		Translates to: execute this order the first time without evaluating the condition specified in the 10th component; but repeat only its execution when the specified external order's start or finish date/time has met this condition. This specification generates a repetition of the order for each iteration of the cycle.

Note: This requires that the ordering application be able to specify the placer order number of the last order in the cycle in the first order's quantity/timing specification.

To implement a cyclic group of four IV orders using the parent/child paradigm, the parent specifies a custom group of IVs, and the following occurs:

ORC-7-quantity/timing of the second child order specifies that it follows the first child order.

ORC-7-quantity/timing of the third child order specifies that it follows the second child order.

ORC-7-quantity/timing of the fourth child order specifies that it follows the third order.

To repeat the group of four child orders in a cyclic manner, the following occurs:

ORC-7-quantity/timing of the first child order specifies that it is to be executed once without any dependence on the completion of other orders.

Its second execution follows the completion of the fourth order. See example in Chapter 4 RXO segment examples. This scheme allows the following to be tracked:

The status of the whole group of orders to be reported back at the level of the parent order.

The status for each individual IV order by following the status of the corresponding child order.

Separate Orders example:

The same group of orders can be sent as a group of four orders (without a common parent), linked only by the data in their quantity/timing fields. In this case, there is no convenient HL7 method of transmitting the order status of the group as a whole without transmitting the status of each of the four separate orders.

Use Case 2: Inheritance of order status

Cancellation/discontinuation/hold order control events:

This logic implies the normal execution of the referenced predecessor order. Thus a cancel (or discontinuation or hold) of a predecessor order implies the cancellation (or discontinuation or hold) of all subsequent orders in the chain.

If the referenced order has been canceled (or discontinued or held), the current order inherits that same status.

In the case of hold, the removal of the hold of the predecessor implies a removal of the hold for the given order (which can then be executed according to the specification in the 10th component).

2.A.50.1 Sequence/Results Flag (ID)

Definition: Identifies whether sequence conditions or a repeating cycle of orders is defined. Refer to HL7-defined Table 0524 – Sequence condition for valid values.

HL7 Table 0524 – Sequence condition

Value	Description	Comment
S	Sequence conditions	
C	Repeating cycle of orders	
R	Reserved for possible future use	

2.A.50.2 Placer Order Number: Entity Identifier (ST)

Definition: Contains the first component of the placer order number, entity identifier .

2.A.50.3 Placer Order Number: Namespace ID (IS)

Definition: Contains the second component of the placer order number, namespace ID. Refer to *user-defined table 0363 - Assigning Authority* for suggested values.

2.A.50.4 Filler Order Number: Entity Identifier (ST)

Definition: Contains the first component of the filler order number, entity identifier.

2.A.50.5 Filler Order Number: Namespace ID (IS)

Definition: Contains the second component of the filler order number, namespace ID. Refer to *user-defined table 0363 - Assigning Authority* for suggested values

2.A.50.6 Sequence Condition Value (ST)

Definition: Defines the relationship between the start/end of the related predecessor or successor order and the current order from ORC-2, 3 or 4.

The acceptable condition values have the form commonly used in project planning methodologies in the following format: <one of “SS", “EE", “SE", or “ES”> +/- <time>.

The first letter stands for start (S) or end (E) of predecessor order, where the predecessor is defined by the placer or filler order number in subcomponents 1,2 or subcomponents 3,4.

The second letter stands for the start (S) or end (E) of the successor order, where the successor order is the order containing this quantity/timing specification.

The time specifies the interval between the predecessor and successor starts or ends (see following examples).

Where <time> is defined as:

Example	Description	Comment
S<integer>	do for <integer> seconds	
M<integer>	do for <integer> minutes	
H<integer>	do for <integer> hours	
D<integer>	do for <integer> days	
W<integer>	do for <integer> weeks	
L<integer>	do for <integer> months	

2.A.50.7 Maximum Number of Repeats (NM)

Definition: The maximum number of repeats to be used only on cyclic groups. The total number of repeats is constrained by the end date/time of the last repeat or the end date/time of the parent, whichever is first.

2.A.50.8 Placer Order Number: Universal ID (ST)

Definition: Contains the next to the last component of the placer order number, universal ID.

2.A.50.9 Placer Order Number: Universal ID Type (ID)

Definition: Contains the last component of the placer order number. Refer to *HL7 table 0301 - Universal ID Type* for valid values.

2.A.50.10 Filler Order Number: Universal ID (ST)

Definition: Contains the next to the last component of the filler order number, universal ID.

2.A.50.11 Filler Order Number: Universal ID Type (ID)

Definition: Contains the last component of the placer order number. Refer to *HL7 table 0301 - Universal ID Type* for valid values.

2.A.51 OSP - occurrence span code and date

HL7 Component Table - OSP – Occurrence Span Code and Date

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	705	CNE	R	0351	Occurrence Span Code		2.A.8
2	8	DT	C		Occurrence Span Start Date	Either start or stop date or both must be present.	2.A.21
3	8	DT	C		Occurrence Span Stop Date	Either start or stop date or both must be present.	2.A.21

Definition: A code and the related dates that identify an event that relates to the payment of the claim. For example, Prior Stay Dates which is the from/through dates given by the patient of any hospital stay that ended within 60 days of this hospital or SNF admission.

Maximum Length: 723

Note: Replaces the CM data type used in section 6.5.11.8 UB2-8, as of v 2.5.

Use case: The patient was admitted for minor surgery (1/6/03) and discharged the following day (1/7/03). Complications ensured and the patient was readmitted the following day (1/8/03). When the claim for 1/8/03 is filed, the prior stay dates (1/6/03-1/7/03) must be reported (per the Health Plan) using Occurrence Span Code and Dates 71 - Prior Stay Date. Example:

```
|71&Prior Stay Date&NUBC^20030106^20030107|
```

2.A.51.0 Occurrence Span Code (CNE)

Definition: The NUBC code itself that identifies an event that relates to the payment of a claim.

Refer to *HL7-defined Table 0351 – Occurrence span* for valid values. Values for this component need to come from National Uniform Billing Committee (NUBC). No extensions are allowed.

HL7-defined Table 0351 - Occurrence span

Value	Description	Comment
	use NUBC codes	

2.A.51.1 Occurrence Span Start Date (DT)

Definition: The date an event started that relates to the payment of a claim.

2.A.51.2 Occurrence Span Stop Date (DT)

Definition: The date an event ended that relates to the payment of a claim.

2.A.52 PIP – practitioner institutional privileges

HL7 Component Table - PIP – Practitioner Institutional Privileges

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	483	CE	R	0525	Privilege		2.A.6
2	483	CE	O	0526	Privilege Class		2.A.6
3	8	DT	O		Expiration Date		2.A.21
4	8	DT	O		Activation Date		2.A.21
5	427	EI	O		Facility		2.A.25

Definition: This data type specifies the institutional privileges with associated detail granted to a provider.

Maximum Length: 1413

Note: Replaces the CM data type used in 15.4.5.7 PRA-7 as of v 2.5.

2.A.52.1 Privilege (CE)

Definition: Specifies the institutional privilege itself. Refer to user-defined table 0525 – Privilege for suggested values.

User-defined Table 0525 – Privilege

Value	Description	Comment
	No suggested values	

2.A.52.2 Privilege Class (CE)

Definition: Specifies the class category of institutional privilege. Refer to *User-Defined Table 0526 – Privilege Class* for suggested values.

User-defined Table 0526 – Privilege class

Value	Description	Comment
	No suggested values	

2.A.52.3 Expiration Date (DT)

Definition: Specifies the date the institutional privilege is/was no longer valid.

2.A.52.4 Activation Date (DT)

Definition: Specifies the date the institutional privilege became/becomes valid.

2.A.52.5 Facility (EI)

Definition: Specifies the facility in which the institutional privilege is/was valid.

2.A.53 PL - person location

HL7 Component Table - PL– Person Location

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	20	IS	O	0302	Point of Care		2.A.36
2	20	IS	O	0303	Room		2.A.36
3	20	IS	O	0304	Bed		2.A.36
4	227	HD	O		Facility		2.A.33
5	20	IS	O	0306	Location Status		2.A.36
6	20	IS	C	0305	Person Location Type		2.A.36
7	20	IS	O	0307	Building		2.A.36
8	20	IS	O	0308	Floor		2.A.36
9	199	ST	O		Location Description		2.A.74
10	427	EI	O		Comprehensive Location Identifier		2.A.25
11	227	HD	O		Assigning Authority for Location		2.A.33

Definition: This data type is used to specify a patient location within a healthcare institution. Which components are valued depends on the needs of the site. For example for a patient treated at home, only the person location type is valued. It is most commonly used for specifying patient locations, but may refer to other types of persons within a healthcare setting.

Maximum Length: 1230

Note: This data type contains several location identifiers that should be thought of in the following order from the most general to the most specific: facility, building, floor, point of care, room, bed. Additional data about any location defined by these components can be added in the following components: person location type, location description and location status.

Example: Nursing Unit

A nursing unit at Community Hospital: 4 East, room 136, bed B

```
4E^136^B^CommunityHospital^^N^^^
```

Example: Clinic

A clinic at University Hospitals: Internal Medicine Clinic located in the Briones building, 3rd floor.

```
InternalMedicine^^^UniversityHospitals^^C^Briones^3^
```

Example: Home

The patient was treated at his home.

```
^^^^^H^^^
```

2.A.53.1 Point of Care (IS)

Definition: This component specifies the code for the point where patient care is administered. It is conditional on PL.6 Person Location Type (e.g., nursing unit or department or clinic). After floor, it is the most general patient location designation. Refer to *User-defined Table 0302 - Point of care* for suggested values.

User-defined Table 0302 – Point of care

Value	Description	Comment
	No suggested values defined	

2.A.53.2 Room (IS)

Definition: This component specifies the code for the patient's room. After point of care, it is the most general person location designation. Refer to *User-defined Table 0303 - Room* for suggested values.

User-defined Table 0303 – Room

Value	Description	Comment
	No suggested values defined	

2.A.53.3 Bed (IS)

Definition: This component specifies the code for the patient's bed. After room, it is the most general person location designation. Refer to *User-defined Table 0304 - Bed* for suggested values.

User-defined Table 0304 – Bed

Value	Description	Comment
	No suggested values defined	

2.A.53.4 Facility (HD)

Definition: This component is subject to site interpretation but generally describes the highest level physical designation of an institution, medical center or enterprise. It is the most general person location designation.

(See Section *2.A.33*, "*HD - hierarchic designator*" for discussion of data type.)

Note: When the HD data type is used in a given segment as a component of a field of another data type, *User-defined Table 0300 - Namespace ID* (referenced by the first sub-component of the HD component)

may be redefined (given a different user-defined table number and name) by the technical committee responsible for that segment.

2.A.53.5 Location Status (IS)

Definition: This component specifies the code for the status or availability of the location. For example, it may convey bed status. Refer to *User-defined Table 0306 - Location status* for suggested values.

User-defined Table 0306 – Location status

Value	Description	Comment
	No suggested values defined	

2.A.53.6 Person Location Type (IS)

Definition: Person location type is the categorization of the person's location defined by facility, building, floor, point of care, room or bed. Although not a required field, when used, it may be the only populated field. It usually includes values such as nursing unit, department, clinic, SNF, physician's office. Refer to *User-defined Table 0305 - Person location type* for suggested values.

User-defined Table 0305 – Person location type

Value	Description	Comment
C	Clinic	
D	Department	
H	Home	
N	Nursing Unit	
O	Provider's Office	
P	Phone	
S	SNF	

2.A.53.7 Building (IS)

Definition: This component specifies the code for the building where the person is located. After facility, it is the most general person location designation. Refer to *User-defined Table 0307 - Building* for suggested values.

User-defined Table 0307 – Building

Value	Description	Comment
	No suggested values defined	

2.A.53.8 Floor (IS)

Definition: This component specifies the code for the floor where the person is located. After building, it is the most general person location designation. Refer to *User-defined Table 0308 - Floor* for suggested values.

User-defined Table 0308 – Floor

Value	Description	Comment
	No suggested values defined.	

2.A.53.9 Location Description (ST)

Definition: This component describes the location in free text.

2.A.53.10 Comprehensive Location Identifier (EI)

Definition: The unique identifier that represents the physical location as a whole without regard for the individual components. This accommodates sites that may have a different method of defining physical units or who may code at a less granular level. For example, point of care, room, and bed may be 1 indivisible code.

2.A.53.11 Assigning Authority for Location (HD)

Definition: The entity that creates the data for the individual physical location components. If populated, it should be the authority for all components populated. Refer to *User-defined Table 0363 – Assigning authority* for suggested values for the first sub-component of the HD component, <namespace ID>.

This component makes it possible for codes to be differentiated when the field in which this data type is used repeats.

Note: When the HD data type is used in a given segment as a component of a field of another data type, *User-defined Table 0300 - Namespace ID* (referenced by the first sub-component of the HD component) may be re-defined (given a different user-defined table number and name) by the technical committee responsible for that segment.

By site agreement, implementors may continue to use *User-defined Table 0300 – Namespace ID* for the first sub-component.

2.A.54 PLN – practitioner license or other Id number

HL7 Component Table - PLN – Practitioner License or Other ID Number

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	20	ST	R		ID Number		2.A.74
2	8	IS	R	0338	Type of ID Number		2.A.36
3	62	ST	O		State/other Qualifying Information		2.A.74
4	8	DT	O		Expiration Date		2.A.21

Definition: This data type specifies a practitioner's license number, or other ID number such as UPIN, Medicare and Medicaid number, and associated detail.

Maximum Length: 101

Note: Replaces the CM data type used in 15.4.5.6 PRA-6, 11.6.3.7 PRD-7 and 11.6.4.7 CTD-7 as of v 2.5.

2.A.54.1 ID Number (ST)

Definition: Specifies the license number or other ID number such as UPIN, Medicare and Medicaid number.

2.A.54.2 Type of ID Number (IS)

Definition: Specifies the type of number.

Refer to *User-defined table 0338 – Practitioner ID Number* for suggested values.

User-defined Table 0338 - Practitioner ID number type

Value	Description	Comment
CY	County number	
DEA	Drug Enforcement Agency no.	

Value	Description	Comment
GL	General ledger number	
LI	Labor and industries number	
L&I	Labor and industries number	Deprecated as of v 2.5; Use LI instead
MCD	Medicaid number	
MCR	Medicare number	
QA	QA number	
SL	State license number	
TAX	Tax ID number	
TRL	Training license number	
UPIN	Unique physician ID no.	

2.A.54.3 State/other Qualifying Information (ST)

Definition: Specifies the state or province in which the license or ID is valid, if relevant, or other qualifying information. It is recommended that state qualifications use the abbreviations from the postal service of the country.

2.A.54.4 Expiration date (DT)

Definition: Specifies the date when the license or ID is no longer valid.

2.A.55 PPN - performing person time stamp

HL7 Component Table – PPN – Performing Person Time Stamp

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	15	ST	O		ID Number		2.A.74
2	194	FN	O		Family Name		2.A.30
3	30	ST	O		Given Name		2.A.74
4	30	ST	O		Second and Further Given Names or Initials Thereof		2.A.74
5	20	ST	O		Suffix (e.g., JR or III)		2.A.74
6	20	ST	O		Prefix (e.g., DR)		2.A.74
7	5	IS	B	0360	Degree (e.g., MD)	deprecated as of 2.5	2.A.36
8	4	IS	C	0297	Source Table		2.A.36
9	227	HD	O	0363	Assigning Authority		2.A.33
10	1	ID	O	0200	Name Type Code		2.A.35
11	1	ST	O		Identifier Check Digit		2.A.74
12	3	ID	C	0061	Check Digit Scheme		2.A.35
13	5	ID	O	0203	Identifier Type Code		2.A.35
14	227	HD	O		Assigning Facility		2.A.33
15	26	TS	O		Date/Time Action Performed		2.A.77
16	1	ID	O	0465	Name Representation Code		2.A.35
17	483	CE	O	0448	Name Context		2.A.6
18	17	DR	B		Name Validity Range	deprecated as of 2.5	2.A.20
19	1	ID	O	0444	Name Assembly Order		2.A.35
20	26	TS	O		Effective Date		2.A.77
21	26	TS	O		Expiration Date		2.A.77
22	199	ST	O		Professional Suffix		2.A.74
23	705	CWE	O		Assigning Jurisdiction		2.A.13
24	705	CWE	O		Assigning Agency or Department		2.A.13

Maximum Length: 2993

This data type is the equivalent of an XCN data type joined with a TS data type. However, the XCN data type has been flattened to allow legal expression of its embedded complex data types HD, TS, CE and CWE.

2.A.55.1 ID Number (ST)

Coded ID according to a user-defined table, defined by the 8th component. If the first component is present, either the source table or the assigning authority must be valued.

2.A.55.2 Family Name (FN)

This component allows full specification of the surname of a person. Where appropriate, it differentiates the person's own surname from that of the person's partner or spouse, in cases where the person's name may contain elements from either name. It also permits messages to distinguish the surname prefix (such as "van" or "de") from the surname root. See section *2.A.30*.

2.A.55.3 Given Name (ST)

First name.

2.A.55.4 Second and Further Given Names or Initials Thereof (ST)

Multiple middle names may be included by separating them with spaces.

2.A.55.5 Suffix (ST)

Used to specify a name suffix (e.g., Jr. or III).

2.A.55.6 Prefix (ST)

Used to specify a name prefix (e.g., Dr.).

2.A.55.7 Degree (IS)

Retained for backward compatibility only as of v 2.5. See Professional Suffix component.

Used to specify an educational degree (e.g., MD). Refer to *User-defined Table 0360 – Degree* for suggested values.

2.A.55.8 Source Table (IS)

User-defined Table 0297 - CN ID source is used as the HL7 identifier for the user-defined table of values for this component. Used to delineate the first component.

User-defined Table 0297 – CN ID source

Value	Description	Comment
	No suggested values defined	

2.A.55.9 Assigning Authority (HD)

The assigning authority is a unique identifier of the system (or organization or agency of department) that creates the data. It is a HD data type. *User-defined Table 0363 – Assigning authority* is used as the HL7 identifier for the user-defined table of values for the first sub-component of the HD component, <namespace ID>.

Note: When the HD data type is used in a given segment as a component of a field of another data type, *User-defined Table 0300 - Namespace ID* (referenced by the first sub-component of the HD component)

may be re-defined (given a different user-defined table number and name) by the technical committee responsible for that segment.

By site agreement, implementers may continue to use *User-defined Table 0300 – Namespace ID* for the first sub-component.

The reader is referred to the PPN.23 and the PPN.24 if there is a need to transmit values with semantic meaning for an assigning jurisdiction or assigning department or agency in addition to, or instead of, an assigning authority. However, all 3 components may be valued. If, in so doing, it is discovered that the values in PPN.23 and/or PPN.24 conflict with PPN.94, the user would look to the Message Profile or other implementation agreement for a statement as to which takes precedence.

2.A.55.10 Name Type Code (ID)

A code that represents the type of name. Refer to *HL7 Table 0200 - Name type* for valid values (see Section *2.A.88*, "*XPN - extended person name*").

2.A.55.11 Identifier Check Digit (ST)

The check digit in this data type is not an add-on produced by the message processor. It is the check digit that is part of the identifying number used in the sending application. If the sending application does not include a self-generated check digit in the identifying number, this component should be valued null.

2.A.55.12 Check Digit Scheme (ID)

Definition: Contains the code identifying the check digit scheme employed.

Refer to *HL7 Table 0061 - Check digit scheme* for valid values.

2.A.55.13 Identifier Type Code (ID)

A code corresponding to the type of identifier. In some cases, this code may be used as a qualifier to the "Assigning authority" component. Refer to *HL7 Table 0203 - Identifier type* for suggested values.

2.A.55.14 Assigning Facility (HD)

The place or location identifier where the identifier was first assigned to the patient. This component is not an inherent part of the identifier but rather part of the history of the identifier: as part of this data type, its existence is a convenience for certain intercommunicating systems.

Note: When the HD data type is used in a given segment as a component of a field of another data type, *User-defined Table 0300 - Namespace ID* (referenced by the first sub-component of the HD component) may be re-defined (given a different user-defined table number and name) by the technical committee responsible for that segment.

2.A.55.15 Date/Time Action Performed (TS)

This component describes when the activity was performed.

Note: If this field is not null, both the performing person and the time stamp must be valued.

2.A.55.16 Name Representation Code (ID)

Different name/address types and representations of the same name/address should be described by repeating of this field, with different values of the Name/Address Type and/or Name/Address Representation component.

Note: This new component remains in "alphabetic" representation with each repetition of the field using these data types. I.e. even though the name may be represented in an ideographic character set, this component will remain represented in an alphabetic character set.

HL7 Table 0465 - Name/address representation

Value	Description	Comment
I	Ideographic (i.e., Kanji)	
A	Alphabetic (i.e., Default or some single-byte)	
P	Phonetic (i.e., ASCII, Katakana, Hiragana, etc.)	

In general this component provides an indication of the representation provided by the data item. It does not necessarily specify the character sets used. Thus, even though the representation might provide an indication of what to expect, the sender is still free to encode the contents using whatever character set is desired. This component provides only hints for the receiver, so it can make choices regarding what it has been sent and what it is capable of displaying.

2.A.55.17 Name Context (CE)

This component is used to designate the context in which a name is used. The main use case is in Australian healthcare: indigenous patients who prefer to use different names when attending different healthcare institutions. Another use case occurs in the US where health practitioners can be licensed under slightly different names and the reporting of the correct name is vital for administrative purposes. Refer to chapter 3, section 3.4.2.6 for more detailed information on how to use this table. Refer to *User-defined table 0448 – Name context* for suggested values.

User-defined Table 0448 – Name context

Value	Description	Comment
	No suggested values defined	

2.A.55.18 Name Validity Range (DR)

This component contains the start and end date/times, which define the period during which this name was valid. See section *2.A.20*, "*DR - date/time range*" for description of subcomponents.

Retained for backward compatibility only as of v 2.5. Refer to PPN.20 Effective Date and PPN.21Expiration Date. This component cannot be fully expressed and was identified as v 2.4 erratum.

2.A.55.19 Name Assembly Order (ID)

A code that represents the preferred display order of the components of this person name. Refer to *HL7 Table 0444 – Name assembly order* for valid values.

HL7 Table 0444 – Name assembly order

Value	Description	Comment
G	Prefix Given Middle Family Suffix	
F	Prefix Family Middle Given Suffix	

2.A.55.20 Effective Date (TS)

Definition: The first date, if known, on which the address is valid and active.

2.A.55.21 Expiration Date (TS)

Definition: The last date, if known, on which the address is valid and active.

2.A.55.22 Professional Suffix (ST)

Definition: Used to specify an abbreviation, or a string of abbreviations, denoting qualifications that support the person's profession, (e.g., licenses, certificates, degrees, affiliations with professional societies, etc.). The Professional Suffix normally follows the Family Name when the Person Name is used for display purposes. Please note that this component is an unformatted string and is used for display purposes only.

Detailed information regarding the contents of Professional Suffix is obtained using appropriate segments in Chapter 15, Personnel Management.

2.A.55.23 Assigning Jurisdiction (CWE)

Definition: The geo-political body that assigned the identifier in component 1.

See section *2.A.14.9*, "*Assigning Jurisdiction (CWE)*" for further detail.

2.A.55.24 Assigning Agency or Department (CWE)

Definition: The agency or department that assigned the identifier in component 1.

See section *2.A.14.10*, "*Assigning Agency or Department (CWE)*" for further details.

2.A.56 PRL - parent result link

HL7 Component Table - PRL – Parent Result Link

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	483	CE	R		Parent Observation Identifier	Defined in the OBX-3 of the parent result.	2.A.6
2	20	ST	O		Parent Observation Sub-identifier	Defined in the OBX-4 of the parent result.	2.A.74
3	250	TX	O		Parent Observation Value Descriptor	Taken from the OBX-5 of the parent result.	2.A.78

Definition: Uniquely identifies the parent result's OBX segment related to the current order, together with the information in OBR-29-parent.

Usage Note: This data type is applied only to OBR-26 - Parent Result where it serves to make information available for other types of linkages (e.g., toxicology). This important information, together with the information in OBR-29-parent, uniquely identifies the parent result's OBX segment related to this order. The value of this OBX segment in the parent result is the organism or chemical species about which this battery reports. For example, if the current battery is an antimicrobial susceptibility, the parent results identified OBX contains a result that identifies the organism on which the susceptibility was run. This indirect linkage is preferred because the name of the organism in the parent result may undergo several preliminary values prior to finalization.

We emphasize that this field does not take the entire result field from the parent. It is meant only for the text name of the organism or chemical subspecies identified. This field is included only to provide a method for linking back to the parent result for those systems that could not generate unambiguous Observation IDs and sub-IDs.

This field is present only when the parent result is identified by OBR-29-parent and the parent spawns child orders for each of many results. See Chapter 7 for more details about this linkage.

Maximum Length: 755

Note: Replaces the CM data type used in sections 4.5.3.26 - OBR-26 and 7.4.1.26 - OBR-26 as of v 2.5.

2.A.56.1 Parent Observation Identifier (CE)

Definition: Contains the unique identifier of the parent observation as defined in the OBX-3 of the parent result. The value is the same as the OBX-3 of the parent.

2.A.56.2 Parent Observation Sub-identifier (ST)

Definition: Contains the sub-ID of the parent result as defined in the OBX-4 of the parent result. The value is the same as the OBX-4 of the parent.

2.A.56.3 Parent Observation Value Descriptor (TX)

Definition: Contains a descriptor of the parent observation value as specified in the OBX-5 of the parent result.

As an example, the third component may be used to record the name of the microorganism identified by the parent result directly. The organism in this case should be identified exactly as it is in the parent culture.

2.A.57 PT - processing type

HL7 Component Table - PT – Processing Type

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	1	ID	O	0103	Processing ID		2.A.35
2	1	ID	O	0207	Processing Mode		2.A.35

Definition: This data type indicates whether to process a message as defined in HL7 Application (level 7) Processing rules.

Maximum Length: 3

2.A.57.1 Processing ID (ID)

A value that defines whether the message is part of a production, training, or debugging system. Refer to *HL7 Table 0103 - Processing ID* for valid values.

HL7 Table 0103 - Processing ID

Value	Description	Comment
D	Debugging	
P	Production	
T	Training	

2.A.57.2 Processing Mode (ID)

A value that defines whether the message is part of an archival process or an initial load. Refer to *HL7 Table 0207 - Processing mode* for valid values.

HL7 Table 0207 - Processing mode

Value	Description	Comment
A	Archive	
R	Restore from archive	
I	Initial load	
T	Current processing, transmitted at intervals (scheduled or on demand)	
Not present	Not present (the default, meaning *current* processing)	

2.A.58 PTA - policy type and amount

HL7 Component Table - PTA – Policy Type and Amount

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	5	IS	R	147	Policy Type		2.A.36
2	9	IS	O	193	Amount Class		2.A.36

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
3	16	NM	B		Money or Percentage Quantity	deprecated as of v 2.5	2.A.47
4	23	MOP	R		Money or Percentage		2.A.43

Definition: This data type specifies the policy type and amount covered by the insurance.

Maximum Length: 56

Note: Replaces the CM data type used in section 6.5.7.29 IN2-29, as of v 2.5.

2.A.58.1 Policy Type (IS)

Definition: Specifies the policy type.

Refer to *User-defined Table 0147 - Policy type* for suggested values.

User-defined Table 0147 - Policy type

Value	Description	Comment
ANC	Ancillary	
2ANC	Second ancillary	
MMD	Major medical	
2MMD	Second major medical	
3MMD	Third major medical	

2.A.58.2 Amount Class (IS)

Definition: Specifies the amount quantity class.

Refer to *User-defined Table 0193 - Amount class* for suggested values.

User-defined Table 0193 - Amount class

Value	Description	Comment
AT	Amount	Retained for backward compatibility only as of v 2.5
LM	Limit	
PC	Percentage	Retained for backward compatibility only as of v 2.5
UL	Unlimited	

2.A.58.3 Money or Percentage Quantity (NM)

Definition: Specifies the currency or percentage quantity.

Retained for backward compatibility only as of v 2.5. Refer to PTA.4 instead.

2.A.58.4 Money or Percentage (MOP)

Definition: specifies an amount that may be either currency or a percentage.

2.A.59 QIP - query input parameter list

HL7 Component Table - QIP – Query Input Parameter List

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	12	ST	R		Segment Field Name		2.A.74
2	199	ST	R		Values		2.A.74

Definition: This data type contains a segment field name and the list of values to be passed to the query processor.

Maximum Length: 212

Example:

```
|@PID.5.1^EVANS|
```

2.A.59.1 Segment Field Name (ST)

This component contains the segment field name.

Naming conventions:

Segment field names are designated by the "@" symbol concatenated with the HL7 segment ID followed by the sequence number for the field separated by a period. See sections 2.5.2 Segments and segment groups and 2.5.3.1 Position (sequence within the segment) for a definition of segment ID and sequence number. If the field is divided into components, the designation may be suffixed with ".nn", to identify a particular component (a suffix of ".3" indicates the third component of the field); otherwise, the whole field is assumed. If the field is further divided into subcomponents, the designation is suffixed with ".nn.mm", which identifies the component and subcomponent requested by relative position.

Site-specific segment field names may be used**.** In this case, the site-specific segment ID (if the field is not being added to an existing HL7 segment) and the sequence number must be defined so that they do not conflict with existing HL7 segment IDs and field sequence numbers.

Values for this field are defined in the function-specific chapters of this specification.

Note: If the "@" is being used as one of the delimiter characters defined in MSH-2-encoding characters, it must be "escaped." See Section 2.7.1 - Formatting Codes.

2.A.59.2 Values (ST)

This component contains the field value or values in the form "value1& value2 & value3…"

A single-valued parameter contains only a single subcomponent in the second component, thus no subcomponent delimiters are needed (e.g., <segment field name> ^ <value>). A simple list of values (i.e., a one-dimensional array) may be passed instead of a single value by separating each value with the subcomponent delimiter (e.g., <segment field name>^<value1 & value2 &…>)

2.A.60 QSC - query selection criteria

HL7 Component Table - QSC – Query Selection Criteria

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	12	ST	R		Segment Field Name		2.A.74
2	2	ID	O	0209	Relational Operator		2.A.35
3	199	ST	O		Value		2.A.74
4	3	ID	O	0210	Relational Conjunction		2.A.35

Definition: This field indicates the conditions that qualify the rows to be returned in the query response. Note that this field conveys the same information as the "WHERE" clause in the corresponding SQL expression of the query, but is formatted differently.

Maximum Length: 219

Example:

```
|@PID.5.1^EQ^EVANS|
```

2.A.60.1 Segment Field Name (ST)

The name of the field that is participating as a qualifier (usually the "key"). Refer to Section *2.A.59.1*, "*Segment Field Name (ST)*," for segment field name conventions.

2.A.60.2 Relational Operator (ID)

Refer to *HL7 Table 0209 - Relational operator* for valid values.

HL7 Table 0209 - Relational operator

Relational operator	Value	Comment
EQ	Equal	
NE	Not Equal	
LT	Less than	
GT	Greater than	
LE	Less than or equal	
GE	Greater than or equal	
CT	Contains	
GN	Generic	

2.A.60.3 Value (ST)

The value to which the field will be compared.

2.A.60.4 Relational Conjunction (ID)

Refer to *HL7 Table 0210 - Relational conjunction* for valid values. The relational conjunction is defined as follows: If more than one comparison is to be made to select qualifying rows, a conjunction relates this repetition of the field to the next.

HL7 Table 0210 - Relational conjunction

Relational conjunction	Note	Comment
AND	Default	
OR		

- When applied to strings, the relational operators LT, GT, LE, and GE imply an alphabetic comparison.
- A "generic" comparison selects a record for inclusion in the response when the beginning of the designated field matches the select string.
- Where a repeating field is specified as an operand, a match on any instance of that field qualifies the row for inclusion in the response message.
- AND takes precedence over OR. More sophisticated precedence rules require that the query be expressed as an embedded query language message or a stored procedure query message (see chapter 5)

2.A.61 RCD - row column definition

HL7 Component Table - RCD – Row Column Definition

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	12	ST	O		Segment Field Name		2.A.74
2	3	ID	O	0440	HL7 Data Type		2.A.35
3	2	NM	O		Maximum Column Width		2.A.47

Definition: This specifies the format of a column in terms of a segment field name, a data type, and a maximum length.

Maximum Length: 19

Example: This defines a column containing the value of the "last name" component of PID-5, expressed as a ST data type with a maximum width of 20.

```
|@PID.5.1^ST^20|
```

2.A.61.1 Segment Field Name (ST)

The HL7 segment field name, which identifies the field occupying the column. Refer to Section *2.A.59.1*, "*Segment Field Name (ST)*," for segment field name definition conventions.

2.A.61.2 HL7 Data Type (ID)

The two or three character HL7 data type. Refer to HL7 Table 0440 – Data Types in section 2.16 for valid values.

2.A.61.3 Maximum Column Width (NM)

The maximum width of the column, as dictated by the responding system. This may vary from the HL7-defined maximum field length.

2.A.62 RFR - reference range

HL7 Component Table - RFR – Reference Range

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	33	NR	R		Numeric Range		2.A.48
2	8	IS	O	0001	Administrative Sex		2.A.36
3	33	NR	O		Age Range		2.A.48
4	33	NR	O		Gestational Age Range		2.A.48
5	20	ST	O		Species		2.A.74
6	20	ST	O		Race/subspecies		2.A.74
7	199	TX	O		Conditions		2.A.78

Definition: Describes a reference range and its supporting detail.

Maximum Length: 352

Note: Replaces the CM data type used in sections 8.8.4.6 - OM2-6, 8.8.4.7 - OM2-7 and8.8.4.8 - OM2-8 as of v 2.5.

Examples:

a) A range that applies unconditionally, such as albumin, is transmitted as:

```
|3.0&5.5|
```

b) A normal range that depends on sex, such as Hgb, is transmitted as:

```
|13.5&18^M~12.0 & 16^F|
```

c) A normal range that depends on age, sex, and race (a concocted example) is:

```
|10&13^M^0&2^^^B11&13.5^M^2&20^^^B~12&14.5^M^20&70^^^B~13&16.0^M^70&^^^B
    |
```

d) When no value is specified for a particular component, the range given applies to all categories of that component. For example, when nothing is specified for race/species, the range should be taken as the human range without regard to race. If no age range is specified, the normal range given is assumed to apply to all ages.

2.A.62.1 Numeric Range (NR)

Definition: This component specifies the numeric interval of the reference data. Range is taken to be inclusive (i.e., the range includes the end points). Units are context sensitive and are defined in the usage note for the field where this data type is used.

2.A.62.2 Administrative Sex (IS)

Definition: This component specifies which gender for which the reference range is valid. Refer to User-defined Table 0001 – Administrative Sex for suggested values.

2.A.62.3 Age Range (NR)

Definition: This component specifies the age range for which the reference range is valid. Ages of less than one year should be specified as a fraction (e.g., 1 month = 0.0830, 1 week = 0.01920, 1 day = 0.0027300). However, for most purposes involving infants, the gestational age (measured in weeks) is preferred. The lower end of the range is not indicated; the upper end is, assuring that series of ranges do not overlap.

2.A.62.4 Gestational Age Range (NR)

Definition: This component specifies the gestational age range for which the reference range is valid. Gestational age is relevant only when the reference range is influenced by the stage of pregnancy. The gestational age is measured in weeks from conception. For example, |1&4| implies that the normals apply to gestational ages from 1 week to 4 weeks inclusive. The lower end of the range is not included; the upper end is, assuring that series of age ranges do not overlap.

2.A.62.5 Species (TX)

Definition: This component specifies the species for which the reference range is valid. Species is assumed to be human unless otherwise stated. Example values are rabbit, mouse, and rat.

2.A.62.6 Race/subspecies (ST)

Definition: This component specifies the race or subspecies for which the reference range is valid. In the case of humans (the default species), the race is specified when race influences the reference range. When normal ranges for animals are being described, this component can be used to describe subspecies or special breeds of animals.

2.A.62.7 Conditions (TX)

Definition: This component specifies any arbitrary condition for which the reference range is valid. This may include such conditions as phase of menstrual cycle or dose of a particular drug. It is provided as a way to communicate the normal ranges for special conditions. It does not allow automatic checking of these text conditions.

2.A.63 RI - repeat interval

HL7 Component Table - RI – Repeat Interval

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	6	IS	O	0335	Repeat Pattern		2.A.36
2	199	ST	O		Explicit Time Interval		2.A.74

Definition: contains the interval between repeated services.

Maximum Length: 206

Note: The reader is referred to the RPT data type, which provides a more rigorous framework for defining repeating time intervals.

2.A.63.1 Repeat Pattern (IS)

Definition: The repeating frequency with which the treatment is to be administered. It is similar to the frequency and SIG code tables used in order entry systems.

Refer to *User-defined Table 0335 - Repeat pattern* for suggested values.

User-defined Table 0335 - Repeat pattern

Value	Description	Comment
Q<integer>S	every <integer> seconds	
Q<integer>M	every <integer> minutes	
Q<integer>H	every <integer> hours	
Q<integer>D	every <integer> days	
Q<integer>W	every <integer> weeks	
Q<integer>L	every <integer> months (Lunar cycle)	
Q<integer>J<day #>	repeats on a particular day of the week,	From the French *jour* (day). If <integer> is missing, the repeat rate is assumed to be 1. Day numbers are counted from 1=Monday to 7=Sunday. So Q2J2 means every second Tuesday; Q1J6 means every Saturday.
BID	twice a day at institution-specified times	(e.g., 9AM-4PM)
TID	three times a day at institution-specified times	(e.g., 9AM-4PM-9PM)
QID	four times a day at institution-specified times	(e.g., 9AM-11AM-4PM-9PM)
xID	“X” times per day at institution-specified times, where X is a numeral 5 or greater.	(e.g., 5ID=five times per day; 8ID=8 times per day)
QAM	in the morning at institution-specified time	
QSHIFT	during each of three eight-hour shifts at institution-specified times	
QOD	every other day	(same as Q2D)
QHS	every day before the hour of sleep	
QPM	in the evening at institution-specified time	
C	service is provided continuously between start time and stop time	

Value	Description	Comment
U <spec>	for future use, where <spec> is an interval specification as defined by the UNIX cron specification.	
PRN	given as needed	
PRNxxx	where xxx is some frequency code	(e.g., PRNQ6H); given as needed over the frequency period.
Once	one time only.	This is also the default when this component is null.
Meal Related Timings	<timing>C (“cum”)<meal>	
A	Ante (before)	
P	Post (after)	
I	Inter	(e.g., between this meal and the next, between dinner and sleep
M	Cibus Matutinus (breakfast)	
D	Cibus Diurnus (lunch)	
V	Cibus Vespertinus (dinner)	

The first component may repeat, with repeat values separated by a space. The repeats are interpreted as connected by logical ANDs.

Example:

Twice per day, every other day: BID QOD

Three times per day, Monday Wednesday and Friday: TID QJ135

Because of this syntax, repeat values should never contain blanks.

2.A.63.2 Explicit Time Interval (ST)

Definition: This component explicitly lists the actual times referenced by the code in the first component, in the following format: HHMM,HHMM,HHMM,.… This second component will be used to clarify the first component in cases where the actual times vary within an institution. If the time of the order spans more than a single day, this new component is only practical if the same times of administration occur for each day of the order. If the actual start time of the order (as given by the fourth component of the quantity/timing field) is after the first explicit time, the first administration is taken to be the first explicit time after the start time. In the case where the patient moves to a location having a different set of explicit times, the existing order may be updated with a new quantity/timing field showing the changed explicit times.

Example: 2nd component of quantity/timing field:

```
|QID^0230,0830,1430,2030|
```

2.A.64 RMC - room coverage

HL7 Component Table - RMC – Room Coverage

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	20	IS	R	0145	Room Type		2.A.36
2	20	IS	O	0146	Amount Type		2.A.36
3	16	NM	B		Coverage Amount		2.A.47
4	23	MOP	R		Money or Percentage		2.A.43

Definition: This data type specifies insurance coverage detail for a room.

Maximum Length: 82

Note: Replaces the CM data type used in section 6.5.7.28 IN2-28, as of v 2.5.

2.A.64.1 Room Type (IS)

Definition: Specifies the room type.

Refer to *User-defined Table 0145 - Room type* for suggested values.

User-defined Table 0145 - Room type

Value	Description	Comment
PRI	Private room	
2PRI	Second private room	
SPR	Semi-private room	
2SPR	Second semi-private room	
ICU	Intensive care unit	
2ICU	Second intensive care unit	

2.A.64.2 Amount Type (IS)

Definition: Specifies amount quantity type

Refer to *User-defined Table 0146 - Amount type* for suggested values.

User-defined Table 0146 - Amount type

Value	Description	Comment
DF	Differential	
LM	Limit	
PC	Percentage	Retained for backward compatibility only as of v 2.5
RT	Rate	
UL	Unlimited	

2.A.64.3 Coverage Amount Quantity (NM)

Definition: Specifies amount covered by the insurance as a currency or percentage quantity.

Retained for backward compatibility only as of v 2.5. Refer to 2.9.69.4 – Money or Percentage.

2.A.64.4 Money or Percentage (MOP)

Definition: specifies an amount that may be either currency or a percentage.

2.A.65 RP - reference pointer

HL7 Component Table - RP – Reference Pointer

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	15	ST	O		Pointer		2.A.74
2	227	HD	O		Application ID		2.A.33
3	9	ID	O	0191	Type of Data		2.A.35
4	19	ID	O	0291	Subtype		2.A.35

Definition: This data type transmits information about data stored on another system. It contains a reference pointer that uniquely identifies the data on the other system, the identity of the other system, and the type of data.

Maximum Length: 273

2.A.65.1 Pointer (ST)

Definition: A unique key assigned by the system that stores the data. The key, which is a ST data type, is used to identify and access the data.

2.A.65.2 Application ID (HD)

Definition: A unique designator of the system that stores the data. It is a HD data type (See Section *2.A.33*, "*HD - hierarchic designator*"). Application ID's must be unique across a given HL7 implementation.

2.A.65.3 Type of Data (ID)

Definition: An ID data type that declares the general type of data. Refer to *HL7 Table 0191- Type of referenced data* for valid values.

HL7 Table 0191 - Type of referenced data

Value	Description	Comment
AP	Other application data, typically uninterpreted binary data (HL7 V2.3 and later)	
AU	Audio data (HL7 V2.3 and later)	
FT	Formatted text (HL7 V2.2 only)	
IM	Image data (HL7 V2.3 and later)	
multipart	MIME multipart package	
NS	Non-scanned image (HL7 V2.2 only)	
SD	Scanned document (HL7 V2.2 only)	
SI	Scanned image (HL7 V2.2 only)	
TEXT	Machine readable text document (HL7 V2.3.1 and later)	
TX	Machine readable text document (HL7 V2.2 only)	

2.A.65.4 Subtype (ID)

Definition: An ID data type declaring the format for the data of subcomponent <main type>. Refer to *HL7 Table 0291 - Subtype of referenced data* for valid values.

HL7 Table 0291 - Subtype of referenced data

Value	Description	Comment
BASIC	ISDN PCM audio data	
DICOM	Digital Imaging and Communications in Medicine	
FAX	Facsimile data	
GIF	Graphics Interchange Format	
HTML	Hypertext Markup Language	
JOT	Electronic ink data (Jot 1.0 standard)	
JPEG	Joint Photographic Experts Group	
Octet-stream	Uninterpreted binary data	
PICT	PICT format image data	
PostScript	PostScript program	
RTF	Rich Text Format	
SGML	Standard Generalized Markup Language (HL7 V2.3.1 and later)	
TIFF	TIFF image data	
x-hl7-cda-level-one	HL7 Clinical Document Architecture Level One document	
XML	Extensible Markup Language (HL7 V2.3.1 and later)	

2.A.65.5 Type-subtype Combinations

Possible subtypes are specific to main types (though in principle the same subtype could be used for more than one main type), and so are defined under their main types.

Additional subtypes may be added to this Standard. In addition, private, non-standard subtypes may be defined by agreement between cooperating parties. All private, non-standard subtypes should begin with the letter **Z** to distinguish them from the standard subtypes.

2.A.65.5.1 Image subtypes

```
TIFF = TIFF image data
```

Definition: TIFF (Tagged Image File Format) is one of the common formats for scanned images. Its first version was developed in 1986 by Aldus Corporation as a standard for encoding scanned images. The official version of the TIFF standard is now maintained by Adobe Corporation. TIFF format is specified in the document "TIFF, Revision 6.0." Adobe Systems Incorporated, 1585 Charleston Road, P.O. Box 7900, Mountain View, CA 94039-7900. (415) 961-4400

The subtype "TIFF" implies recognition of that trademark and all the rights it entails.

```
PICT = PICT format image data
```

PICT is one of the common formats for scanned images. PICT is a graphics format developed by Apple Computer, Inc., Cupertino, California. PICT format is officially defined in the book set "Inside Macintosh," published by Addison-Wesley Publishing Company, Reading, Massachusetts.

```
DICOM = the Digital Imaging and Communications in Medicine (DICOM) standard
```

DICOM is the international standard format for interchange of biomedical images and ancillary data. It is standardized as NEMA PS3, and is available free on the Internet at http://medical.nema.org/. The DICOM Standards Committee address is: 1300 N. 17th St., Suite 1847, Rosslyn, VA 22209.

DICOM specifies a complete communications standard, including a generic messaging service for two-way exchange of imaging-related information between applications, as well as transfer of the actual images. In HL7, the use of DICOM data is limited to images only.

Images in this subtype shall be encoded according to the Generic DICOM File Format defined in DICOM Part 10, Media Storage and File Format (NEMA PS3.10). This shall be in accordance with the Image Information Object Definitions of DICOM Part 3 (NEMA PS3.3), Data Structure and Semantics of DICOM Part 5 (NEMA PS3.5), and the Data Dictionary of DICOM Part 6 (NEMA PS3.6).

The Generic DICOM File Format consists of two parts: a DICOM File Meta Information Header, immediately followed by a DICOM Data Set. The DICOM Data Set contains the image or images specified according to DICOM Part 10. The DICOM File Meta Information Header contains, among other information, a Transfer Syntax UID (Unique Identifier) which completely specifies the encoding of the Data Set according to DICOM Part 5. This encoding defines big endian vs. little endian byte ordering, as well as image compression via the JPEG (Joint Photographics Experts Group) standard (ISO/IS 10918-1 and 10918-2). The transfer syntax of the File Meta Information Header itself is little endian byte ordered, as required by DICOM Part 10.

```
FAX = facsimile data
```

Facsimile data as specified by CCITT standards F1.60, F1.80, F1.82, and F1.84.

```
Jot = electronic ink data, as specified by the Jot 1.0 standard
```

The JOT standard, proposed jointly by Slate Corporation, Microsoft, Apple, Lotus, GO, and General Magic, allows handwritten notes, sketches, signatures and other free-form written data to be transmitted. It is the standard by which portable pen computers or workstations equipped with stylus-input tablets can represent and exchange information.

It represents electronic ink as a series of stylus strokes, and therefore contains necessary information for potential automatic handwriting recognition, which would be lost if converted to other image representations. It may, however, be readily converted to another image representation for purposes of printing or display.

The JOT 1.0 standard is available from: Software Publishers Association, 1730 M Street Northwest, Suite 700 Washington, DC 20036-4510, (202) 452-1600

2.A.65.5.2 Audio subtypes

```
basic = ISDN PCM audio data
```

Definition: Telephone quality audio data, encoded as 8-bit ISDN mu-law Pulse Code Modulation sampled at 8 kHz, according to CCITT Fascicle III.4, Recommendation G.711. This subtype may be used for voice mail messages as well as voice dictation.

2.A.65.5.3 Application subtypes

```
octet-stream = uninterpreted binary data
```

Definition: This subtype is for binary data that has none of the other standard formats as given by Section 2.A.65.3, "Type of Data (ID)". Its interpretation by the system utilizing the data must be mutually agreed upon by sending and receiving parties.

```
PostScript = PostScript program
```

A PostScript language program typically representing a formatted document for printing on a PostScript printer, or for display on a computer screen via a PostScript interpreter.

PostScript consists of the original specification, PostScript level 1, described in “PostScript Language Reference Manual,” Addison-Wesley, 1985, and a more advanced variant, PostScript level 2, described in “PostScript Language Reference Manual,” Addison-Wesley, Second Edition, 1990. PostScript is a registered trademark of Adobe Systems, Inc. Use of the subtype "PostScript" implies recognition of that trademark and all the rights it entails.

Other types may be added as needed.

Example:

```
|1234A321634BC^EFC^SD|
```

2.A.66 RPT – repeat pattern

HL7 Component Table - RPT – Repeat Pattern

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	705	CWE	R	0335	Repeat Pattern Code		2.A.13
2	2	ID	O	0527	Calendar Alignment		2.A.35
3	10	NM	O		Phase Range Begin Value		2.A.47
4	10	NM	O		Phase Range End Value		2.A.47
5	10	NM	O		Period Quantity		2.A.47
6	10	IS	C		Period Units		2.A.36
7	1	ID	O	0136	Institution Specified Time		2.A.35

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
8	6	ID	O	0528	Event		2.A.35
9	10	NM	O		Event Offset Quantity		2.A.47
10	10	IS	C		Event Offset Units		2.A.36
11	200	GTS	O		General Timing Specification		2.A.32

Definition: The repeat pattern data type should be used where it is necessary to define the frequency at which an event is to take place. This data type provides a way to define repeat pattern codes "on the fly". The repeat pattern code is equivalent to the TQ data type, component 2, sub-component 1 (repeat pattern). The additional components define the meaning of the repeat pattern code. Components 2 - 10 are used to define relatively simple repeat patterns. Component 11 is provided to define complex repeat patterns. This data type forms a bridge between the 2.x Repeat Pattern concept from Quantity/Timing, and the Version 3.0 GTS General Timing Specification. Component 1 is the 2.x concept of repeat pattern. Components 2-7 are derived from the version 3.0 data type PIVL. Components 8-10 are derived from the version 3.0 EIVL data type. If a repeat pattern cannot be defined using components 2-10, then component 11, General Timing Specification is provided. This allows the full literal form of the version 3.0 GTS to be specified.

When using the RPT, if an application doesn't recognize the code in component 1, then it may attempt to determine the appropriate frequency using the remaining components. If the application does recognize the code in component 1, the application is not required to determine the frequency from the remaining components.

Maximum Length: 984

Use Case: The use case supporting this proposal is the need to define repeat patterns on the fly while placing an order. The TQ data type did not have the capability to define the meaning of a repeat pattern on the fly. To get around this problem, vendors have implemented a variety of solutions to solve this issue. One way was to add Z-components to the TQ data type to transmit information about the repeat pattern. Another solution was to attempt to parse the repeat pattern code in an attempt to decipher what the code meant.

Examples:

```
|Q1H&Every 1 Hour&HL7xxx^^^^1^h|

|Q2J2&Every second Tuesday&HL7xxx^DW^2^^2^wk|

|BID&Twice a day at institution specified times&HL7xxx^^^^12^h^Y|

|QAM&Every morning at the institution specified
   time&HL7xxx^HD^00^11^1^d^Y|

|QHS&Every day before the hours of sleep&HL7xxx^^^^1^d^^AHS|

|ACM&Before Breakfast&HL7xxx^^^^^^^ACM|
```

2.A.66.1 Repeat Pattern Code (CWE)

Definition: A code representing the repeat pattern defined by the other components of this data type. Refer to *User-defined Table 335 – Repeat Pattern* for suggested values.

2.A.66.2 Calendar Alignment (ID)

Definition: Specifies an alignment of the repetition to a calendar (e.g., to distinguish every 30 days from "the 5th of every month"). Refer to *HL7 Table 0527 - Calendar Alignment* for valid values.

HL7 Table 0527 – Calendar alignment

Value	Description	Units of Time
MY	month of the year	mo
WY	week of the year	wk

Value	Description	Units of Time
DM	day of the month	d
DY	day of the year	d
DW	day of the week (begins with Monday)	d
HD	hour of the day	h
NH	minute of the hour	min
SN	second of the minute	s

Note: The Units of Time in table 0527 are taken from the Unified Code for Units of Measure (UCUM) [http://aurora.rg.iupui.edu/UCUM].

2.A.66.3 Phase Range Begin Value (NM)

Definition: Used for Calendar aligned repeat patterns to determine the amount of time from the beginning of particular RPT-2 (Calendar Alignment) to the beginning of the phase. If Calendar Alignment is DW (days of week), then this would be the offset from the beginning of the week.

If Phase Range Begin Value is populated, but Phase Range End Value is not populated, then this component defines when the period (RPT-5, 6) begins.

If both Phase Range Begin Value and Phase Range End Value are populated, then this component defines the earliest point in time at which the period (RPT-5, 6) will begin.

The units of measure for this component are derived from the Calendar Alignment value in RPT-2. See Table 0572 for the units of measure associated with a particular calendar alignment.

2.A.66.4 Phase Range End Value (NM)

Definition: Used for Calendar aligned repeat patterns to determine the amount of time from the beginning of particular RPT-2 (Calendar Alignment) to the end of the phase.

If Phase Range End Value is populated, but Phase Range Begin Value is not populated, then this component defines when the timing period (RPT-5, 6) begins.

If both Phase Range Begin Value and Phase Range End Value are populated, then this component defines the latest point in time at which the period (RPT-5, 6) will begin.

The units of measure for this component are derived from the Calendar Alignment value in RPT-2. See Table 0527 for the units of measure associated with a particular calendar alignment.

2.A.66.5 Period Quantity (NM)

Definition: A time duration specifying the frequency at which the periodic interval repeats. RPT-6 (Period Units) defines the units of time for this component.

2.A.66.6 Period Units (IS)

Definition: Defines the units used for RPT-5 (Period Quantity). Constrained to units of time. The codes for unit of measure are specified in the Unified Code for Units of Measure (UCUM) [http://aurora.rg.iupui.edu/UCUM].

Condition Rule: This component is required if RPT-5 (Period Quantity) is populated.

2.A.66.7 Institution Specified Time (ID)

Definition: A code that indicates whether the exact timing is up to the party executing the schedule (e.g., to distinguish "every 8 hours" from "3 times a day".) Refer to *HL7 Table 0136 – Yes/No Indicator* for valid values.

- Y - exact timing up to party executing schedule.
- N - exact timing as specified.

2.A.66.8 Event (ID)

Definition: A code for a common (periodical) activity of daily living. Refer to *HL7 Table 0528, Event-Related Period* for valid values.

HL7 Table 0528 – Event related period

Value	Description	Comment
HS	the hour of sleep (e.g., H18-22)	
AC	before meal (from lat. *ante cibus*)	
PC	after meal (from lat. *post cibus*)	
IC	between meals (from lat. *inter cibus*)	
ACM	before breakfast (from lat. *ante cibus matutinus*)	
ACD	before lunch (from lat. *ante cibus diurnus*)	
ACV	before dinner (from lat. *ante cibus vespertinus*)	
PCM	after breakfast (from lat. *post cibus matutinus*)	
PCD	after lunch (from lat. *post cibus diurnus*)	
PCV	after dinner (from lat. *post cibus vespertinus*)	
ICM	between breakfast and lunch	
ICD	between lunch and dinner	
ICV	between dinner and the hour of sleep	

2.A.66.9 Event Offset Quantity (NM)

Definition: An interval that marks the offsets for the beginning, width and end of the event-related periodic interval measured from the time each such event actually occurred. A positive numeric value indicates the amount of time after the event in RPT-8. A negative numeric value indicates the amount of time prior to the event in RPT-8. RPT-10 (Event Offset Units) defines the units of time for this component.

Usage Note: This component should not be valued unless there is a value in RPT-8 (Event).

2.A.66.10 Event Offset Units (IS)

Definition: Defines the units used for RPT-9 (Event Offset Quantity). Constrained to units of time. The codes for unit of measure are specified in the Unified Code for Units of Measure (UCUM) [http://aurora.rg.iupui.edu/UCUM].

Condition Rule: This component is required if RPT-9 (Event Offset Quantity) is populated.

2.A.66.11 General Timing Specification (GTS)

Definition: The General Timing Specification as defined by the Version 3 Data Types document.

2.A.67 SAD – street address

HL7 Component Table - SAD – Street Address

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	120	ST	O		Street or Mailing Address		2.A.74
2	50	ST	O		Street Name		2.A.74
3	12	ST	O		Dwelling Number		2.A.74

Definition: This data type specifies an entity's street address and associated detail.

Maximum Length: 184

Note: Appears ONLY in the XAD data type

2.A.67.1 Street or Mailing Address (ST)

Definition: This component specifies the street or mailing address of a person or institution. When referencing an institution, this first component is used to specify the institution name. When used in connection with a person, this component specifies the first line of the address.

2.A.67.2 Street Name (ST)

2.A.67.3 Dwelling Number (ST)

2.A.68 SCV - scheduling class value pair

HL7 Component Table - SCV – Scheduling Class Value Pair

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	20	CWE	O		Parameter Class		2.A.13
2	20	ST	O		Parameter Value		2.A.74

Definition: This data type is used to communicate parameters and preferences to the filler application regarding the selection of an appropriate time slot, resource, location, or filler override criterion for an appointment.

Maximum Length: 41

For use only with the scheduling chapter.

2.A.68.1 Parameter Class (CWE)

The first component of this field is a code identifying the parameter or preference being passed to the filler application. Refer to *User-defined Table 0294 - Time selection criteria parameter class codes - Time selection criteria parameter class codes* for suggested values.

User-defined Table 0294 - Time selection criteria parameter class codes

Value	Description	Comment
Prefstart	An indicator that there is a preferred start time for the appointment request, service or resource.	In component 2, specify any valid time in the format HHMM, using 24-hour clock notation where HH = hour and MM = minutes
Prefend	An indicator that there is a preferred end time for the appointment request, service or resource.	In component 2, specify any valid time in the format HHMM, using 24-hour clock notation where HH = hour and MM = minutes

Value	Description	Comment
Mon	An indicator that Monday is or is not preferred for the day on which the appointment will occur.	In component 2, specify OK or NO. OK = Preferred appointment day NO = Day is not preferred
Tue	An indicator that Tuesday is or is not preferred for the day on which the appointment will occur.	In component 2, specify OK or NO. OK = Preferred appointment day NO = Day is not preferred
Wed	An indicator that Wednesday is or is not preferred for the day on which the appointment will occur.	In component 2, specify OK or NO. OK = Preferred appointment day NO = Day is not preferred
Thu	An indicator that Thursday is or is not preferred for the day on which the appointment will occur.	In component 2, specify OK or NO. OK = Preferred appointment day NO = Day is not preferred
Fri	An indicator that Friday is or is not preferred for the day on which the appointment will occur.	In component 2, specify OK or NO. OK = Preferred appointment day NO = Day is not preferred
Sat	An indicator that Saturday is or is not preferred for the day on which the appointment will occur.	In component 2, specify OK or NO. OK = Preferred appointment day NO = Day is not preferred
Sun	An indicator that Sunday is or is not preferred for the day on which the appointment will occur.	In component 2, specify OK or NO. OK = Preferred appointment day NO = Day is not preferred

2.A.68.2 Parameter Value (ST)

The second component is the actual data value for that parameter.

For example, if a filler application allows preference parameters to be passed to specify a preferred start time, a preferred end time, and preferred days of the week for the appointment, it may define the following parameter class codes and valid data sets.

2.A.69 SI - sequence ID

HL7 Component Table - SI – Sequence ID

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
	4				Sequence ID		

Definition: A non-negative integer in the form of a NM field. The uses of this data type are defined in the chapters defining the segments and messages in which it appears.

Maximum Length: 4. This allows for a number between 0 and 9999 to be specified.

2.A.70 SN - structured numeric

HL7 Component Table - SN – Structured Numeric

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	2	ST	O		Comparator		2.A.74
2	15	NM	O		Num1		2.A.47
3	1	ST	O		Separator/Suffix		2.A.74
4	15	NM	O		Num2		2.A.47

Definition: The structured numeric data type is used to unambiguously express numeric clinical results along with qualifications. This enables receiving systems to store the components separately, and facilitates the use of numeric database queries. The corresponding sets of values indicated with the <comparator> and <separator/suffix> components are intended to be the authoritative and complete set of values. If additional

values are needed for the <comparator> and <separator/suffix> components, they should be submitted to HL7 for inclusion in the Standard.

If <num1> and <num2> are both non-null, then the separator/suffix must be non-null. If the separator is "-", the data range is inclusive; e.g., <num1> - <num2> defines a range of numbers x, such that: <num1> <=x<= <num2>.

Maximum Length: 36

2.A.70.1 Comparator (ST)

Defined as greater than, less than, greater than or equal, less than or equal, equal, and not equal, respectively (= ">" or "<" or ">=" or "<=" or "=" or "<>"

If this component is not valued, it defaults to equal ("=").

2.A.70.2 Num1 (NM)

A number.

2.A.70.3 Separator/Suffix (ST)

"-" or "+" or "/" or "." or ":"

Examples:

```
|>^100|                    (greater than 100)
|^100^-^200|        (equal to range of 100 through 200)
|^1^:^228|          (ratio of 1 to 128, e.g., the results of a
   serological test)
|^2^+|                     (categorical response, e.g., occult blood
   positivity)
```

2.A.70.4 Num2 (NM)

A number or null depending on the measurement.

2.A.71 SPD – specialty description

HL7 Component Table - SPD – Specialty Description

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	50	ST	R		Specialty Name		2.A.74
2	50	ST	O		Governing Board		2.A.74
3	1	ID	O	0337	Eligible or Certified		2.A.35
4	8	DT	O		Date of Certification		2.A.21

Definition: This data type specifies the practitioner's specialty and related information.

Maximum Length: 112

Note: Replaces the CM data type used in 15.4.5.5 PRA-5 as of v 2.5.

2.A.71.1 Specialty Name (ST)

Definition: Identifies the provider's specialty.

2.A.71.2 Governing Board (ST)

Definition: Identifies the governing body providing for the specialty.

2.A.71.3 Eligible or Certified (ID)

Definition: Specifies the certification status. Refer to *HL7 Table 0337 – Certification status* for valid values.

HL7 Table 0337 - Certification status

Value	Description	Comment
C	Certified	
E	Eligible	

2.A.71.4 Date of Certification (DT)

Definition: Specifies when certification occurred.

2.A.72 SPS – specimen source

HL7 Component Table - SPS – Specimen Source

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	705	CWE	O		Specimen Source Name or Code		2.A.13
2	705	CWE	O	0371	Additives		2.A.13
3	200	TX	O		Specimen Collection Method		2.A.78
4	705	CWE	O	0163	Body Site		2.A.13
5	705	CWE	O	0495	Site Modifier		2.A.13
6	705	CWE	O		Collection Method Modifier Code		2.A.13
7	705	CWE	O	0369	Specimen Role		2.A.13

Definition: This data type identifies the site where the specimen should be obtained or where the service should be performed.

Maximum Length: 4436

Note: Replaces the CM data type used in 4.5.3.15 OBR-15, 7.4.1.15 OBR-15, 13.4.3.6 SAC-6 and 13.4.9.3 TCC-3 as of v 2.5. This data type is retained for backward compatibility only as on v 2.5, The reader is referred to the SPM segment defined in chapter 4.

2.A.72.1 Specimen Source Name or Code (CWE)

Definition: contains the specimen source name or code (as a CWE data type component). (Even in the case of observations whose name implies the source, a source may be required, e.g., blood culture-heart blood.)

A nationally recognized coding system is to be used for this field. Valid coding sources for this field include:

- HL7 table 0487 – Specimen Type (replaces HL7 table 0070 – Specimen source codes)
- SNOMED, etc.
- Veterinary medicine may choose the tables supported for the components of this field as decided by their industry.

2.A.72.2 Additives (CWE)

Definition: identifies an additive introduced to the specimen before or at the time of collection. Refer to HL7 Table 0371 – Additive in chapter 7 for valid values. The table's values are taken from NCCLS AUTO4. The value set can be extended with user specific values.

2.A.72.3 Specimen Collection Method (TX)

Definition: describes the method of collection when that information is a part of the order. When the method of collection is logically an observation result, it should be included as a result segment (i.e., OBX segment).

2.A.72.4 Body Site (CWE)

Definition: This component specifies the body site from which the specimen was obtained. A nationally recognized coding system is to be used for this field. Valid coding sources for this field include:

- *HL7 Table 0163 - Body site*
- SNOMED

2.A.72.5 Site Modifier (CWE)

Definition: modifies body site. For example, the site could be antecubital fossa, and the site modifier "right." Refer to HL7 Table 0495 Body Site Modifier for allowed values.

2.A.72.6 Collection Method Modifier Code (CWE)

Definition: Indicates whether the specimen is frozen as part of the collection method. Suggested values are F (Frozen); R (Refrigerated). If the component is blank, the specimen is assumed to be at room temperature.

2.A.72.7 Specimen Role (CWE)

Definition: indicates the role of the sample. Refer to User-defined Table 0369 – Specimen role for suggested values. Each of these values is normally identifiable by the systems and its components and can influence processing and data management related to the specimen.

2.A.73 SRT – sort order

HL7 Component Table - SRT – Sort Order

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	12	ST	R		Sort-by Field		2.A.74
2	2	ID	O	0397	Sequencing		2.A.35

Definition: Specifies those parameters by which the response will be sorted and by what method.

Maximum Length: 15

Example: In a tabular response query, where the return data is known by column name, the SRT might look like

|LastName^A~FirstName^A|

Example: In a segment response query, where the return data is known by segment and offset, the SRT field would use segment field name notation,

```
|PID.3.1^A~PID.3.2|
```

2.A.73.1 Sort-by Field (ST)

Identifies the field by which the response will be sorted. In a tabular response, this will be the column name to sort by. In the Segment Pattern and the Display Response, this will be the segment field name to sort by. See QIP in Section *2.A.59.1*, "*Segment Field Name (ST)*" for segment field name definition.

See Chapter 5, "Query," for a complete discussion of queries and their responses.

2.A.73.2 Sequencing (ID)

Identifies how the field or parameter will be sorted; and, if sorted, whether the sort will be case sensitive (the default) or not. Refer to *HL7 Table 0397 – Sequencing* for valid values

HL7 Table 0397 – Sequencing

Value	Description	Comment
A	Ascending	
AN	Ascending, case insensitive	
D	Descending	
DN	Descending, case insensitive	
N	None	

2.A.74 ST - string data

HL7 Component Table - ST – String Data

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
	199				String Data		

Maximum Length: 199

String data is left justified with trailing blanks optional. Any displayable (printable) ACSII characters (hexadecimal values between 20 and 7E, inclusive, or ASCII decimal values between 32 and 126), except the defined escape characters and defined delimiter characters.

Example:

```
|almost any data at all|
```

To include any HL7 delimiter character (except the segment terminator) within a string data field, use the appropriate HL7 escape sequence (see Section 2.7.1, "Formatting Codes").

Usage note: The ST data type is intended for short strings (e.g., less than 200 characters). For longer strings the TX or FT data types should be used (see Sections *2.A.78*, "*TX - text data*" or *2.A.31*, "*FT - formatted text data*").

Alternate character set note: ST - string data may also be used to express other character sets. See Section 2.15.9.18, "Character set," and Section 2.15.9.20, "Alternate character set handling" for details.

2.A.75 TM – time

HL7 Component Table - TM –Time

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
	16				Time		

Definition: Specifies the hour of the day with optional minutes, seconds, fraction of second using a 24-hour clock notation and time zone.

Maximum Length: 16

As of v 2.3, the number of characters populated (excluding the time zone specification) specifies the precision.

Format: HH[MM[SS[.S[S[S[S]]]]]][+/-ZZZZ]

Thus:

a) the first two are used to specify a precision of "hour"

b) the first four are used to specify a precision of "minute"

c) the first six are used to specify a precision of "second"

d) the first eight are used to specify a precision of "one tenth of a second"

e) the first eleven are used to specify a precision of " one ten thousandths of a second"

Example: |0630| specifies 6: 30 AM.

The fractional seconds could be sent by a transmitter who requires greater precision than whole seconds. Fractional representations of minutes, hours or other higher-order units of time are not permitted.

Note: The time zone [+/-ZZZZ], when used, is restricted to legally-defined time zones and is represented in HHMM format.

The time zone of the sender may be sent optionally as an offset from the coordinated universal time (previously known as Greenwich Mean Time). Where the time zone is not present in a particular TM field but is included as part of the date/time field in the MSH segment, the MSH value will be used as the default time zone. Otherwise, the time is understood to refer to the local time of the sender.

Examples:

Time	Description
|0000|	midnight
|235959+1100|	1 second before midnight in a time zone eleven hours ahead of Universal Coordinated Time (i.e., East of Greenwich).
|0800|	Eight AM, local time of the sender.
|093544.2312|	44.2312 seconds after Nine thirty-five AM, local time of sender.
|13|	1pm (with a precision of hours), local time of sender.

Prior to v 2.3, this data type was specified in the format HHMM[SS[.SSSS]][+/-ZZZZ]. As of v 2.3 minutes are no longer required. By site-specific agreement, HHMM[SS[.SSSS]][+/-ZZZZ] may be used where backward compatibility must be maintained.

2.A.76 TQ - timing quantity

HL7 Component Table - TQ – Timing Quantity

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	267	CQ	O		Quantity		2.A.11
2	206	RI	O		Interval		2.A.63
3	6	ST	O		Duration		2.A.74
4	26	TS	O		Start Date/Time		2.A.77

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
5	26	TS	O		End Date/Time		2.A.77
6	6	ST	O		Priority		2.A.74
7	199	ST	O		Condition		2.A.74
8	200	TX	O		Text		2.A.78
9	1	ID	O	0472	Conjunction		2.A.35
10	110	OSD	O		Order Sequencing		2.A.50
11	483	CE	O		Occurrence Duration		2.A.6
12	4	NM	O		Total Occurrences		2.A.47

Definition: Describes when a service should be performed and how frequently.

Usage Note: As applied to Quantity/timing (ORC-7, OBR-27) provides a means of specifying when the service described by the order segment is to be performed and how frequently. It is a complex multicomponent field that can have repeats; i.e., more than one quantity/timing specification, separated by repeat delimiters, may appear.

Note: The TQ data type is retained for backward compatibility only as of v 2.5. Refer to the TQ1 and TQ2 segments defined in chapter 4.

Maximum Length: 1545

Examples of quantity/timing usage

```
3^Once
```

Perform the service at one point in time, e.g., order 3 units of blood to be given once.

```
1^QHS^X2
```

Perform the service twice at bedtime, e.g., give a unit of blood at bedtime on two sequential nights.

```
1^C^D3
```

Do a service continuously for 3 days.

```
1^Q1H^X4^^^^PVCs>10/min
```

Perform an EKG every hour up to a maximum of 4 EKGs, if patient is having more than 10 PVCs per minute.

```
1^Q1J2^^200005231432
```

Perform a service every Tuesday at 2:32 p.m. starting on 05/23/2000.

```
1^^^^198911210800
```

Perform a test before 11/21/89 0800, e.g., some preop laboratory tests.

```
1^Q1H^X5^198911051030
```

Perform a service every hour for 5 hours starting at 10:30 a.m. 11/5/89, e.g., draw a blood glucose.

```
1^QAM^X3^^^^^^S~1^QOD^D4^^^^if K+>5.5
```

Perform a service every morning for 3 days and then do it every other day for 4 days (i.e., max twice) if the serum potassium is greater than 5.5.

```
^^^198812120800^^T^^Trough specimen for MIC^C~^^^^^R
```

The first repeat instructs to draw a blood specimen exactly at 8:00 a.m. on 12/12/1988. The second repeat specifies to report results routinely.

```
1^QD^D7^^^^^^^^M20
```

Whirlpool ankle for twenty minutes once a day for one week.

```
1^^^19990301^19990331^^^^^^H1^3
```

Three one hour home health nursing visits within the next month.

2.A.76.1 Quantity component (CQ)

Definition: This component specifies the quantity of the service that should be provided at each service interval. For example, if two blood cultures are to be obtained every 4 hours, the quantity would be 2. If three units of blood are to be typed and cross-matched, the quantity would be 3. The default value is 1. When units are required, they can be added, specified by a subcomponent delimiter.

Note: The component contains the complex data type CQ and cannot be fully expressed. CQ cannot be legally expressed when embedded within another data type.

2.A.76.2 Interval component (RI)

Definition: Determines the interval between repeated services.

The default is one time only.

2.A.76.3 Duration component (ST)

Definition: This component indicates how long the service should continue after it is started. The default is INDEF (do indefinitely). This component is coded as follows:

Value	Description	Comment
S<integer>	<integer> seconds	
M<integer>	<integer> minutes	
H<integer>	<integer> hours	
D<integer>	<integer> days	
W<integer>	<integer> weeks	
L<integer>	<integer> months	
X<integer>	<integer> times at interval specified in the order.	A request for 2 blood cultures Q2H X3 would imply obtaining 2 blood cultures 3 different times at 2-hour intervals for a total of 6 blood cultures.
T<integer>	at the interval and amount stated until a total of <integer> “DOSAGE” is accumulated.	Units would be assumed to be the same as in the QUANTITY field.
INDEF	do indefinitely - also the default	

2.A.76.4 Start date/time component (TS)

Definition: This component may be specified by the orderer, in which case it indicates the earliest date/time at which the services should be started. In many cases, however, the start date/time will be implied or will be defined by other fields in the order record (e.g., urgency - STAT). In such a case, this field will be empty.

The filling service will often record a value in this field after receipt of the order, however, and compute an end time on the basis of the start date/time for the filling service’s internal use.

2.A.76.5 End date/time component (TS)

Definition: When filled in by the requester of the service, this component should contain the latest date/time that the service should be performed. If it has not been performed by the specified time, it should not be performed at all. The requester may not always fill in this value, yet the filling service may fill it in on the basis of the instruction it receives and the actual start time.

Regardless of the value of the end date/time, the service should be stopped at the earliest of the date/times specified by either the duration or the end date/time.

2.A.76.6 Priority component (ST)

Definition: This component describes the urgency of the request. The following values are suggested (the default for Priority is R):

Value	Description	Comment
S	Stat	With highest priority
A	ASAP	Fill after S orders
R	Routine	Default
P	Preop	
C	Callback	
T	Timing critical	A request implying that it is critical to come as close as possible to the requested time, e.g., for a trough antimicrobial level.
PRN	As needed	

If using the value "T" (timing critical), the degree of criticality can be specified thus:

Format:

Value	Description	Comment
TS<integer>	timing critical within <integer> seconds	
TM<integer>	timing critical within <integer> minutes	
TH<integer>	timing critical within <integer> hours	
TD<integer>	timing critical within <integer> days	
TW<integer>	timing critical within <integer> weeks	
TL<integer>	timing critical within <integer> months	

For the sequential orders specification, these values specify the time criticality with which the predecessor order must be followed by the given order.

The priority component may repeat; separate repeating values with a space.

2.A.76.7 Condition component (ST)

Definition: This is a free text component that describes the conditions under which the drug is to be given. For example, **PRN pain**, or **to keep blood pressure below 110**. The presence of text in this field should be taken to mean that human review is needed to determine the how and/or when this drug should be given.

2.A.76.8 Text component (TX)

Definition: This component is a full text version of the instruction (optional).

2.A.76.9 Conjunction component (ID)

Definition: This non-null component indicates that a second timing specification is to follow using the repeat delimiter. Refer to *HL7 table 0472 - TQ Conjunction ID* for valid values

HL7 table 0472 - TQ conjunction ID

Value	Description	Comment
S	Synchronous	Do the next specification after this one (unless otherwise constrained by the following components: *ORC-7^4-start date/time* and *ORC-7^5-end date/time*). An "S" specification implies that the second timing sequence follows the first, e.g., when an order is written to measure blood pressure Q15 minutes for the 1st hour, then every 2 hours for the next day.
A	Asynchronous	Do the next specification in parallel with this one (unless otherwise constrained by the following components: *ORC-7^4-start date/time* and *ORC-7^5-end date/time*). The conjunction of "A" specifies two parallel instructions, as are sometimes used in medication, e.g., prednisone given at 1 tab on Monday, Wednesday, Friday, and at 1/2 tab on Tuesday, Thursday, Saturday, Sunday.
C	Actuation Time	It will be followed by a completion time for the service. This code allows one to distinguish between the time and priority at which a service should be actuated (e.g., blood should be drawn) and the time and priority at which a service should be completed (e.g., results should be reported). For continuous or periodic services, the point at which the service is actually stopped is determined by the components *ORC-7^5-end date/time* and *ORC-7^3-duration*, whichever indicates an earlier stopping time. Ordinarily, only one of these components would be present, but if one requested an EKG with the specification ^1^QAM^X3^D10 then the EKG would be done for only three days since the number of repeats (3) defined the earlier stopping time.

2.A.76.10 Order sequencing component (OSD)

Usage Note: There are many situations, such as the creation of an order for a group of intravenous (IV) solutions, where the sequence of the individual intravenous solutions (each a service in itself) needs to be specified, e.g., hyperalimentation with multi-vitamins in every third bottle.

There are other situations where part of the order's instructions contains a results condition of some type, such as "PRN pain". There is currently a free text "condition" component of *ORC-7-quantity/timing*, which allows any condition to be specified. However, to support a fully encoded version of order sequencing, or results condition, we have defined in the following paragraphs a 10th component of ORC-7-quantity/timing.

The sequencing conditions supported by this 10th component are based on the completion of a predecessor service.

2.A.76.11 Occurrence duration component (CE)

Definition: This component contains the duration for a single performance of a service, e.g., whirlpool twenty minutes three times per day for three days. It is optional within TQ and does not repeat.

Note: The component delimiter in this CQ is demoted to a subcomponent delimiter.

2.A.76.12 Total occurrences component (NM)

Definition: This component contains the total number of occurrences of a service that should result from this order. It is optional within TQ and does not repeat. If both the end date/time and the total occurrences are valued and the occurrences would extend beyond the end date/time, then the end date/time takes precedence. Otherwise the number of occurrences takes precedence.

2.A.77 TS - time stamp

HL7 Component Table - TS – Time Stamp

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	24	DTM	R		Time		2.A.22
2	1	ID	B	0529	Degree of Precision		2.A.35

Definition: Specifies a point in time.

Maximum Length: 26

```
Format: YYYY[MM[DD[HH[MM[SS[.S[S[S[S]]]]]]]]][+/-ZZZZ]^<degree of precision>
```

2.A.77.1 Time (DTM)

Definition: The point in time.

See section *2.A.22*, "*DTM - date/time*" for the full description of this component.

2.A.77.2 Degree of Precision (ID)

Retained only for purposes of backward compatibility as of v 2.3. Refer to component 1 for current method of designating degree of precision.

Definition: Indicates the degree of precision of the time stamp (Y = year, L = month, D = day, H = hour, M = minute, S = second). Refer to HL7 Table 0529 – Precision for valid value.

Note that the Degree of Precision is either the same as or overrides the precision indicated by the first component. It may not indicate greater precision. In the following example, the second component overrides the first and indicates a lesser precision, April 1999.

```
|199904011200^L|
```

HL7 Table 0529 - Precision

Value	Description	Comment
Y	year	Retained for backward compatibility only
L	month	Retained for backward compatibility only
D	day	Retained for backward compatibility only
H	hour	Retained for backward compatibility only
M	minute	Retained for backward compatibility only
S	second	Retained for backward compatibility only

2.A.78 TX - text data

HL7 Component Table - TX – Text Data

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
					Text Data		

Definition: String data meant for user display (on a terminal or printer). Such data would not necessarily be left justified since leading spaces may contribute greatly to the clarity of the presentation to the user. Because this type of data is intended for display, it may contain certain escape character sequences

designed to control the display. Escape sequence formatting is defined in Section 2.7 "Use of escape sequences in text fields". Leading spaces should be included. Trailing spaces should be removed.

Example:

```
|  leading spaces are allowed.|
```

Since TX data is intended for display purposes, the repeat delimiter, when used with a TX data field, implies a series of repeating lines to be displayed on a printer or terminal. Therefore, the repeat delimiters are regarded as paragraph terminators or hard carriage returns (e.g., they would display as though a CR/LF were inserted in the text (DOS type system) or as though a LF were inserted into the text (UNIX style system)).

A receiving system would word-wrap the text between repeat delimiters in order to fit it into an arbitrarily sized display window but start any line beginning with a repeat delimiter on a new line.

Maximum Length: 65536

To include alternative character sets, use the appropriate escape sequence. See Section 2.15.9.18 "MSH-18 Character Set" and Section 2.15.9.20 "MSH-20 Alternate Character Set Handling Scheme".

2.A.79 UVC - UB value code and amount

HL7 Component Table - UVC – UB Value Code and Amount

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	20	CNE	R	0153	Value Code		2.A.8
2	20	MO	O		Value Amount		2.A.41

Definition: A code structure to relate amounts or values to identified data elements necessary to process this claim as qualified by the payer organization.

This data type is used to convey information defined by CMS or other regulatory agencies. It corresponds to UB fields 46A, 47A, 48A, 49A, 46B, 47B, 48B, and 49B and UB92 fields 39a, 39b, 39c, 39d, 40a, 40b, 40c, 40d, 41a, 41b, 41c, and 41d.

Maximum Length: 41

Note: Replaces the CM data type used in sections 6.5.10.10 UB1-10 and 6.5.11.6 UB2-6, as of v 2.5.

The most common semi private room rate is used in instances where the patient is placed in a private room at their request but their insurance only covers a semi-private room rate, which can be calculated using the 01-most common semi private room rate.

Example:

```
|01&most common semi private rate&NUBC^750&USD|
```

2.A.79.1 Value Code (CNE)

Definition: Specifies the National Uniform Billing Committee (NUBC) code itself.

Refer to *HL7-defined Table 0153 – Value code* for valid values. Values for this component need to come from National Uniform Billing Committee (NUBC). No extensions are allowed.

HL7-defined Table 0153 - Value code

Value	Description	comment
	See NUBC codes	

2.A.79.2 Value Amount (MO)

Definition: Specifies the numeric amount when needed to pair with the value.

2.A.80 VH - visiting hours

HL7 Component Table - VH – Visiting Hours

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	3	ID	O	0267	Start Day Range		2.A.35
2	3	ID	O	0267	End Day Range		2.A.35
3	16	TM	O		Start Hour Range		2.A.75
4	16	TM	O		End Hour Range		2.A.75

Definition: This data type contains the hours when a patient location is open for visiting. Refer to *HL7 Table 0267 - Days of the week* for valid values for the first two components.

Maximum Length: 41

2.A.80.1 Start Day Range (ID)

Starting day of visiting hours range. See *HL7 Table 0267 - Days of the week* for valid values.

2.A.80.2 End Day Range (ID)

Ending day of visiting hours range. Starting day of visiting hours range. See *HL7 Table 0267 - Days of the week* for valid values

HL7 Table 0267 - Days of the week

Value	Description	Comment
SAT	Saturday	
SUN	Sunday	
MON	Monday	
TUE	Tuesday	
WED	Wednesday	
THU	Thursday	
FRI	Friday	

2.A.80.3 Start Hour Range (TM)

Starting hour on starting day of visiting hours range. See first component, 2.A.80.1, "Start Day Range (ID)".

2.A.80.4 End Hour Range (TM)

Ending hour on ending day of visiting hours range See second component, 2.A.80.2, "End Day Range (ID)".

2.A.81 VID – version identifier

HL7 Component Table - VID – Version Identifier

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	5	ID	O	0104	Version ID		2.A.35

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
2	483	CE	O	0399	Internationalization Code		2.A.6
3	483	CE	O		International Version ID		2.A.6

Maximum Length: 973

2.A.81.1 Version ID (ID)

Used to identify the HL7 version. Refer to HL7 Table 0104 – Version ID in section 2.15.9.12 for valid values.

2.A.81.2 Internationalization Code (CE)

Used to identify the international affiliate country code. The values to be used are those of ISO 3166 - 1:1977. The ISO 3166 table has three separate forms of the country code: HL7 specifies that the 3-character (alphabetic) form be used for the country code.

Refer to HL7 Table 0399 – Country code in section 2.15.9.17 for the 3-character codes as defined by ISO 3166 table.

2.A.81.3 International Version ID (CE)

This field component identifies international affiliate's version; it is especially important when the international affiliate has more than a single local version associated with a single US version.

2.A.82 VR - value range

HL7 Component Table - VR – Value Range

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	6	ST	O		First Data Code Value		2.A.74
2	6	ST	O		Last Data Code Value		2.A.74

Definition: This data type contains the lower bound value and upper bound values that constitute a range. Either or both components may be populated.

Maximum Length: 13.

Note: Replaces the CM data type used in 5.10.5.3.11 QRD-11 as of v 2.5.

The VR differs from the Numeric Range (NR) data type only in that the values are not restricted to numbers. If the range is not numeric, the set must be orderable in some intuitive way such as alpha or the order must be defined in the field where the data type is used.

Example 1

```
|+^+++|
```

Example 2: Colors of the rainbow

```
|violet^red|
```

2.A.82.1 First Data Code Value (ST)

Definition: Specifies the lower bound value.

2.A.82.2 Last Data Code Value (ST)

Definition: Specifies the upper bound value.

2.A.83 WVI - channel identifier

HL7 Component Table – WVI - Channel Identifier

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	4	NM	R		Channel Number		2.A.47
2	17	ST	O		Channel Name		2.A.74

Definition: This data type specifies the number and name of the recording channel where waveform data is transmitted.

Maximum Length: 22

Note: Replaces the CM data type used in 7.14.1.3.1 OBX-5.1 where OBX-5 Observation value (*) is data type CD as of v 2.5.

2.A.83.1 Channel Number (NM)

Definition: This component specifies the number of the recording channel.

2.A.83.2 Channel Name (ST)

Definition: This component specifies the name of the recording channel.

2.A.84 WVS - waveform source

HL7 Component Table – WVS - Waveform Source

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	8	ST	R		Source One Name		2.A.74
2	8	ST	O		Source Two Name		2.A.74

Definition: This data type identifies the source of the waveform connected to a channel.

Maximum Length: 17

Note: Replaces the CM data type used in 7.14.1.4 OBX-5.2 where OBX-5 Observation value (*) is data type CD as of v 2.5.

2.A.84.1 Source One Name (ST)

Definition: This component identifies the first input for the waveform source.

2.A.84.2 Source Two Name (ST)

Definition: This component identifies the second input for the waveform source if a differential input is used.

2.A.85 XAD - extended address

HL7 Component Table - XAD – Extended Address

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	184	SAD	O		Street Address		2.A.67
2	120	ST	O		Other Designation		2.A.74
3	50	ST	O		City		2.A.74
4	50	ST	O		State or Province		2.A.74

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
5	12	ST	O		Zip or Postal Code		2.A.74
6	3	ID	O	0399	Country		2.A.35
7	3	ID	O	0190	Address Type		2.A.35
8	50	ST	O		Other Geographic Designation		2.A.74
9	20	IS	O	289	County/Parish Code		2.A.36
10	20	IS	O	288	Census Tract		2.A.36
11	1	ID	O	465	Address Representation Code		2.A.35
12	53	DR	B		Address Validity Range	deprecated as of v 2.5	2.A.20
13	26	TS	O		Effective Date		2.A.77
14	26	TS	O		Expiration Date		2.A.77

Definition: This data type specifies the address of a person, place or organization plus associated information.

Maximum Length: 631

Note: Replaces the AD data type as of v 2.3.

Example of usage for US:

```
|1000 Hospital Lane^Ste. 123^Ann Arbor ^MI^99999^USA^B^^WA^|
```

This would be formatted for postal purposes as

```
1000 Hospital Lane
Ste. 123
Ann Arbor MI 99999
```

Example of usage for Australia:

```
|14th Floor^1000 Hospital Lane^Sidney^QLD^9999|
```

This would be formatted for postal purposes using the same rules as for the American example as

```
14th Floor
1000 Hospital Lane
Sidney QLD 9999
```

International note: Countries typically have a standard method of formatting addresses. This data type does not specify the formatting usages, only the components of a postal address.

2.A.85.1 Street Address (SAD)

See section *2.A.67*, "*SAD – street address*" for description of components.

2.A.85.2 Other Designation (ST)

Second line of address. In US usage, it qualifies address. Examples: Suite 555 or Fourth Floor. When referencing an institution, this component specifies the street address.

2.A.85.3 City (ST)

Definition: This component specifies the city, or district or place where the addressee is located depending upon the national convention for formatting addresses for postal usage.

2.A.85.4 State or Province (ST)

Definition: This component specifies the state or province where the addressee is located. State or province should be represented by the official postal service codes for that country.

2.A.85.5 Zip or Postal Code (ST)

Definition: This component specifies the zip or postal code where the addressee is located. Zip or postal codes should be represented by the official codes for that country. In the US, the zip code takes the form 99999[-9999], while the Canadian postal code takes the form A9A9A9, and the Australian Postcode takes the form 9999.

2.A.85.6 Country (ID)

Definition: This component specifies the country where the addressee is located. HL7 specifies that the 3-character (alphabetic) form of ISO 3166 be used for the country code. Refer to HL7 Table 0399 – Country code in section 2.15.9.17 for valid values.

2.A.85.7 Address Type (ID)

Definition: This component specifies the kind or type of address. Refer to *HL7 Table 0190 - Address type* for valid values.

2.A.85.8 Other Geographic Designation (ST)

Definition: This component specifies any other geographic designation. It includes county, bioregion, SMSA, etc.

2.A.85.9 County/Parish Code (IS)

A code that represents the county in which the specified address resides. *User-defined Table 0289 - County/parish* is used as the HL7 identifier for the user-defined table of values for this component. When this component is used to represent the county (or parish), component 8 <other geographic designation> should not duplicate it (i.e., the use of <other geographic designation> to represent the county is allowed only for the purpose of backward compatibility, and should be discouraged in this and future versions of HL7).

Allowable values: codes defined by government.

User-defined Table 0289 – County/parish

Value	Description	Comment
	No suggested values defined	

2.A.85.10 Census Tract (IS)

A code that represents the census tract in which the specified address resides. *User-defined Table 0288 - Census tract* is used as the HL7 identifier for the user-defined table of values for this component.

Allowable Values: codes defined by government.

User-defined Table 0288 – Census tract

Value	Description	Comment
	No suggested values defined	

2.A.85.11 Address Representation Code (ID)

Different <name/address types> and representations of the same name/address should be described by repeating of this field, with different values of the <name/address type> and/or <name/address representation> component.

Note: Also note that this new component remains in "alphabetic" representation with each repetition of the fields using these data types. I.e. even though the address may be represented in an ideographic character set, this component will remain represented in an alphabetic character set.

Refer to *HL7 table 0465 – Name/address representation* for valid values.

In general this component provides an indication of the representation provided by the data item. It does not necessarily specify the character sets used. Thus, even though the representation might provide an indication of what to expect, the sender is still free to encode the contents using whatever character set is desired. This component provides only hints for the receiver, so it can make choices regarding what it has been sent and what it is capable of displaying.

2.A.85.12 Address Validity Range (DR)

This component cannot be fully expressed. Identified as v 2.4 erratum. Retained for backward compatibility only as of v 2.5. Refer to Effective Date and Expiration Date components.

This component contains the start and end date/times, which define the period in which this address was valid.

2.A.85.13 Effective Date (TS)

Definition: The first date, if known, on which the address is valid and active.

2.A.85.14 Expiration Date (TS)

Definition: The last date, if known, on which the address is valid and active.

2.A.86 XCN - extended composite ID number and name for persons

HL7 Component Table - XCN – Extended Composite ID Number and Name for Persons

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	15	ST	O		ID Number		2.A.74
2	194	FN	O		Family Name		2.A.30
3	30	ST	O		Given Name		2.A.74
4	30	ST	O		Second and Further Given Names or Initials Thereof		2.A.74
5	20	ST	O		Suffix (e.g., JR or III)		2.A.74
6	20	ST	O		Prefix (e.g., DR)		2.A.74
7	5	IS	B	0360	Degree (e.g., MD)	deprecated as of v 2.5	2.A.36
8	4	IS	C	0297	Source Table		2.A.36
9	227	HD	O	0363	Assigning Authority		2.A.33
10	1	ID	O	0200	Name Type Code		2.A.35
11	1	ST	O		Identifier Check Digit		2.A.74
12	3	ID	C	0061	Check Digit Scheme		2.A.35
13	5	ID	O	0203	Identifier Type Code		2.A.35
14	227	HD	O		Assigning Facility		2.A.33
15	1	ID	O	0465	Name Representation Code		2.A.35
16	483	CE	O	0448	Name Context		2.A.6
17	53	DR	B		Name Validity Range		2.A.20
18	1	ID	O	0444	Name Assembly Order		2.A.35

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
19	26	TS	O		Effective Date		2.A.77
20	26	TS	O		Expiration Date		2.A.77
21	199	ST	O		Professional Suffix		2.A.74
22	705	CWE	O		Assigning Jurisdiction		2.A.13
23	705	CWE	O		Assigning Agency or Department		2.A.13

Maximum Length: 3002

Note: Replaces CN data type as of v 2.3.

This data type is used extensively appearing in the PV1, ORC, RXO, RXE, OBR and SCH segments, as well as others, where there is a need to specify the ID number and name of a person.

Example without assigning authority and assigning facility:

```
|1234567^Everyman^Adam^A^III^DR^PHD^ADT01^^L^4^M11^MR|
```

Examples with assigning authority and assigning facility:

Dr. Harold Hippocrates' provider ID was assigned by the Provider Master and was first issued at Good Health Hospital within the Community Health and Hospitals System. Since IS table values (first component of the HD) were not used for assigning authority and assigning facility, components 2 and 3 of the HD data type are populated and demoted to sub-components as follows:

```
12188^Hippocrates^Harold^H^IV^Dr^MD^^&Provider Master.Community Health
   and Hospitals&L^L^9^M10^DN^&Good Health Hospital.Community Health and
   Hospitals&L^A
```

Ludwig van Beethoven's medical record number was assigned by the Master Patient Index and was first issued at Fairview Hospital within the University Hospitals System.

```
10535^van Beethoven&van^Ludwig^A^III^Dr^PHD^^&MPI.Community Health and
   Hospitals&L^L^3^M10^MR^& Good Health Hospital.Community Health and
   Hospitals&L^A
```

2.A.86.1 ID number (ST)

This string refers to the coded ID according to a user-defined table, defined by the 9th component. If the first component is present, either the source table or the assigning authority must be valued.

2.A.86.2 Family Name (FN)

This component allows full specification of the surname of a person. Where appropriate, it differentiates the person's own surname from that of the person's partner or spouse, in cases where the person's name may contain elements from either name. It also permits messages to distinguish the surname prefix (such as "van" or "de") from the surname root. See section *2.A.30*, " *FN - family name*".

2.A.86.3 Given Name (ST)

First name.

2.A.86.4 Second and Further Given Names or Initials Thereof (ST)

Multiple middle names may be included by separating them with spaces.

2.A.86.5 Suffix (ST)

Used to specify a name suffix (e.g., Jr. or III).

2.A.86.6 Prefix (ST)

Used to specify a name prefix (e.g., Dr.).

2.A.86.7 Degree (IS)

Retained for backward compatibility only as of v 2.5. See Professional Suffix component.

Used to specify an educational degree (e.g., MD). Refer to *User-defined Table 0360 – Degree* for suggested values.

2.A.86.8 Source Table (IS)

User-defined Table 0297 – CN ID source is used as the HL7 identifier for the user-defined table of values for this component. Used to delineate the first component.

2.A.86.9 Assigning Authority (HD)

The assigning authority is a unique identifier of the system (or organization or agency of department) that creates the data. *User-defined Table 0363 – Assigning authority* is used as the HL7 identifier for the user-defined table of values for the first sub-component of the HD component, <namespace ID>.

> **Note:** When the HD data type is used in a given segment as a component of a field of another data type, *User-defined Table 0300 - Namespace ID* (referenced by the first sub-component of the HD component) may be re-defined (given a different user-defined table number and name) by the technical committee responsible for that segment.
>
> By site agreement, implementers may continue to use *User-defined Table 0300 – Namespace ID* for the first sub-component.

2.A.86.10 Name Type Code (ID)

A code that represents the type of name. Refer to *HL7 Table 0200 - Name type* for valid values. See Section *2.A.88.7*, "*Name Type Code (ID)*".

2.A.86.11 Identifier Check Digit (ST)

The check digit in this data type is not an add-on produced by the message processor. It is the check digit that is part of the identifying number used in the sending application. If the sending application does not include a self-generated check digit in the identifying number, this component should be valued null.

2.A.86.12 Check Digit Scheme (ID)

Definition: Contains the code identifying the check digit scheme employed.

Refer to *HL7 Table 0061 - Check digit scheme* for valid values.

2.A.86.13 Identifier Type Code (IS)

A code corresponding to the type of identifier. In some cases, this code may be used as a qualifier to the <assigning authority> component. Refer to *HL7 Table 0203 - Identifier type* for suggested values.

2.A.86.14 Assigning Facility (HD)

The place or location identifier where the identifier was first assigned to the person. This component is not an inherent part of the identifier but rather part of the history of the identifier: as part of this data type, its existence is a convenience for certain intercommunicating systems.

Note: When the HD data type is used in a given segment as a component of a field of another data type, *User-defined Table 0300 - Namespace ID* (referenced by the first sub-component of the HD component) may be re-defined (given a different user-defined table number and name) by the technical committee responsible for that segment.

2.A.86.15 Name Representation Code (ID)

Different <name/address types> and representations of the same <name/address> should be described by repeating of this field, with different values of the <name/address type> and/or <name/address representation> component.

Note: This new component remains in "alphabetic" representation with each repetition of the field using these data types. I.e., even though the name may be represented in an ideographic character set, this component will remain represented in an alphabetic character set.

Refer to *HL7 Table 0465 – Name/address representation* for valid values.

In general this component provides an indication of the representation provided by the data item. It does not necessarily specify the character sets used. Thus, even though the representation might provide an indication of what to expect, the sender is still free to encode the contents using whatever character set is desired. This component provides only hints for the receiver, so it can make choices regarding what it has been sent and what it is capable of displaying.

2.A.86.16 Name Context (CE)

This component is used to designate the context in which a name is used. The main use case is in Australian healthcare for indigenous patients who prefer to use different names when attending different healthcare institutions. Another use case occurs in the US where health practitioners can be licensed under slightly different names and the reporting of the correct name is vital for administrative purposes. Refer to *User-defined Table 0448 – Name context* for suggested values.

User-defined Table 0448 – Name context

Value	Description	Comment
	No suggested values defined	

2.A.86.17 Name Validity Range (DR)

Retained for backward compatibility only as of v 2.5. Refer to XCN.19 Effective Date and XCN.20 Expiration Date instead. This component cannot be fully expressed and has been identified as v 2.4 erratum.

This component contains the start and end date/times that define the period during which this name was valid. See section *2.A.20*, "*DR - date/time range*" for description of subcomponents.

2.A.86.18 Name Assembly Order (ID)

A code that represents the preferred display order of the components of this person name. Refer to HL7 Table 0444 - Name Assembly Order for valid values.

2.A.86.19 Effective Date (TS)

Definition: The first date, if known, on which the address is valid and active.

2.A.86.20 Expiration Date (TS)

Definition: The last date, if known, on which the address is valid and active.

2.A.86.21 Professional Suffix (ST)

Definition: Used to specify an abbreviation, or a string of abbreviations denoting qualifications that support the person's profession, (e.g., licenses, certificates, degrees, affiliations with professional societies, etc.). The Professional Suffix normally follows the Family Name when the Person Name is used for display purposes. Please note that this component is an unformatted string and is used for display purposes only. Detailed information regarding the contents of Professional Suffix is obtained using appropriate segments in Chapter 15, Personnel Management.

2.A.86.22 Assigning Jurisdiction (CWE)

Definition: The geo-political body that assigned the identifier in component 1.

See section, *2.A.14.9*, "*Assigning Jurisdiction (CWE)*" for further detail.

2.A.86.23 Assigning Agency or Department (CWE)

Definition: The agency or department that assigned the identifier in component 1.

See section *2.A.14.10*, "*Assigning Agency or Department (CWE)*" for further details.

2.A.87 XON - extended composite name and identification number for organizations

HL7 Component Table - XON – Extended Composite Name and Identification Number for Organizations

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	50	ST	O		Organization Name		2.A.74
2	20	IS	O	0204	Organization Name Type Code		2.A.36
3	4	NM	B		ID Number		2.A.47
4	1	NM	O		Check Digit		2.A.47
5	3	ID	O	0061	Check Digit Scheme		2.A.35
6	227	HD	O	0363	Assigning Authority		2.A.33
7	5	ID	O	0203	Identifier Type Code		2.A.35
8	227	HD	O		Assigning Facility		2.A.33
9	1	ID	O	0465	Name Representation Code		2.A.35
10	20	ST	O		Organization Identifier		2.A.74

Maximum Length: 567

This data type is used in fields (e.g., PV2-23, NK1-13, PD1-3, OBR-44) to specify the name and ID number of an organization.

Example 1:

The ID for Good Health Hospital was assigned by the Community Health and Hospitals enterprise's Hospital Master and was first issued at the Central Offices.

```
Good Health Hospital^L^716^9^M10^&Hospital Master.Community Health and
   Hospitals&L^XX^&Central Offices.Community Health and Hospitals&L^A
```

Example 2:

Good Health Hospital has another ID that was issued by CMS. Assigning Authority, CMS, values only the first HD component, an IS data type and assigning facility is not relevant. This information might be transmitted accordingly:

```
Good Health Hospital^L^4544^3^M10^CMS^XX^^A
```

2.A.87.1 Organization Name (ST)

The name of the specified organization.

2.A.87.2 Organization Name Type Code (IS)

A code that represents the type of name i.e., legal name, display name. Refer to *User-defined Table 0204 - Organizational Name Type* for suggested values.

User-defined Table 0204 - Organizational name type

Value	Description	Comment
A	Alias name	
L	Legal name	
D	Display name	
SL	Stock exchange listing name	

2.A.87.3 ID Number (NM)

This component has been retained for backward compatibility only as of v 2.5. It is recommended to use component 10 Organization identifier that accommodates alphanumeric identifiers.

2.A.87.4 Check Digit (NM)

The check digit in this data type is not an add-on produced by the message processor. It is the check digit that is part of the identifying number used in the sending application. If the sending application does not include a self-generated check digit in the identifying number, this component should be valued null.

2.A.87.5 Check Digit Scheme (ID)

Definition: Contains the code identifying the check digit scheme employed.

The check digit scheme codes are defined in *HL7 Table 0061 - Check digit scheme*.

2.A.87.6 Assigning Authority (HD)

The assigning authority is a unique identifier of the system (or organization or agency or department) that creates the data. Assigning authorities are unique across a given HL7 implementation. Refer to *User-defined Table 0363 - Assigning Authority* for suggested values.

Note: When the HD data type is used in a given segment as a component of a field of another data type, *User-defined Table 0300 - Namespace ID* (referenced by the first sub-component of the HD component) may be re-defined (given a different user-defined table number and name) by the technical committee responsible for that segment.

By site agreement, implementers may continue to use *User-defined Table 0300 – Namespace ID* for the first sub-component.

2.A.87.7 Identifier Type Code (IS)

A code corresponding to the type of identifier. In some cases, this code may be used as a qualifier to the "Assigning authority" component. Refer to *HL7 Table 0203 - Identifier type* for suggested values.

2.A.87.8 Assigning Facility ID (HD)

The place or location identifier where the identifier was first assigned to the person. This component is not an inherent part of the identifier but rather part of the history of the identifier: as part of this data type, its existence is a convenience for certain intercommunicating systems.

Note: When the HD data type is used in a given segment as a component of a field of another data type, *User-defined Table 0300 - Namespace ID* (referenced by the first sub-component of the HD component) may be re-defined (given a different user-defined table number and name) by the technical committee responsible for that segment.

2.A.87.9 Name Representation Code (ID)

Different <name/address types> and representations of the same <name/address> should be described by repeating of this field, with different values of the <name/address type> and/or <name/address representation> component.

Note: This new component remains in "alphabetic" representation with each repetition of the field using these data types, i.e. even though the name may be represented in an ideographic character set, this component will remain represented in an alphabetic character set.

Refer to *HL7 Table 0465 – Name/address representation code* for valid values.

In general this component provides an indication of the representation provided by the data item. It does not necessarily specify the character sets used. Thus, even though the representation might provide an indication of what to expect, the sender is still free to encode the contents using whatever character set is desired. This component provides only hints for the receiver, so it can make choices regarding what it has been sent and what it is capable of displaying.

2.A.87.10 Organization identifier (ST)

Definition: This component contains the sequence of characters (the code) that uniquely identifies the item being referenced by XON.1 Organization Name. This component replaces XON.3 ID Number as of v 2.5.

Note: The check digit and code identifying check digit scheme are null if Organization identifier is alphanumeric.

2.A.88 XPN - extended person name

HL7 Component Table - XPN– Extended Person Name

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	194	FN	O		Family Name		2.A.30
2	30	ST	O		Given Name		2.A.74
3	30	ST	O		Second and Further Given Names or Initials Thereof		2.A.74
4	20	ST	O		Suffix (e.g., JR or III)		2.A.74
5	20	ST	O		Prefix (e.g., DR)		2.A.74
6	6	IS	B	0360	Degree (e.g., MD)		2.A.36
7	1	ID	O	0200	Name Type Code		2.A.35
8	1	ID	O	0465	Name Representation Code		2.A.35
9	483	CE	O	0448	Name Context		2.A.6
10	53	DR	B		Name Validity Range		2.A.20
11	1	ID	O	0444	Name Assembly Order		2.A.35
12	26	TS	O		Effective Date		2.A.77
13	26	TS	O		Expiration Date		2.A.77
14	199	ST	O		Professional Suffix		2.A.74

Maximum Length: 1103

Note: Replaces PN data type as of v 2.3.

Internationalization Note: In countries using ideographic or syllabic (phonetic) character sets, it is sometimes necessary to send the name in one or both of these formats, as well as an alphabetic format. The switching between the different character sets can be accomplished using a character set such as JIS X 0202 - ISO 2022 which provides an escape sequence for switching among different character sets and among single-byte and multi-byte character representations. When the name field is repeated, the different repetitions of the name may be represented by these different character sets. The details are as follows. (See also Section 2.9.2, “Escape sequences supporting multiple character sets for PN, XPN, XCN, XON, XAD, FT, ST and TX data types.”)

HL7 supports the following standards for Japanese characters:

JIS X 0201 for ISO-IR 13 (Japanese Katakana)

JIS X 0201 for ISO-IR 14 (Japanese Romaji)

JIS X 0208 for ISO-IR 87 (Japanese Kanji, Hiragana and Katakana)

JIS X 0212 for ISO-IR 159 (supplementary Japanese Kanji)

HL7 supports the following standards for European characters:

ISO 8859 (1-9) for ISO-IR 100, 101, 109, 110, 144,127, 126, 138 and 148.

Character sets are referenced in HL7 as ASCII, 8859/1,8859/2, ISO IR14, ISO IR87, and ISO IR159. DICOM uses codes laid out in ISO 2375, of the form 'ISO-IR xxx'. HL7 supports this naming as well, to facilitate interoperability.

HL7 uses the Basic G0 Set of the International Reference Version of ISO 646:1990 (ISO IR-6) as the default character repertoire for character strings. This is a single-byte character set, identical to ASCII.

Each repetition of a XPN, XON, XCN, or XAD field is assumed to begin with the default character set. If another character set is to be used, the HL7 defined escape sequence used to announce that character set must be at the beginning of the repetition, and the HL7 defined escape sequence used to start the default character set must be at the end of the repetition. Note also that several character sets may be intermixed within a single repetition as long as the repetition ends with a return to the default character set.

An application must specify which character sets it supports in the field "MSH-18 Character Sets" and which character set handling scheme it supports in the field MSH-20-Alternate character set handling scheme. It is assumed that the sending and receiving applications are aware of how to map character set names (i.e., ISO-IR xxx) to escape sequences.

For example, in many Japanese messages there is a mix of Romaji (i.e., Roman characters), Katakana (phonetic representation of foreign words), Hiragana (phonetic representation of Japanese words) and Kanji (pictographs). Such a message would require 4 character sets be specified in the MSH.

References for Internationalization of Name

	Reference	Description
1.	“Understanding Japanese Information Processing” by Ken Lunde, O’Reilly Press	
2.	NEMA PS3.5 - DICOM Part 5: Data Structure and Semantics	
3.	ANSI X3.4:1986	ASCII character set
4.	ISO 646:1990	Information Processing - ISO 7-bit coded character set for information interchange

5.	ISO/IEC 2022:1994	Information Technology - Character code structure and extension techniques
6.	ISO 2375:1986	Data Processing - Procedure for the registration of escape sequences
7.	ISO 6429:1990	Information Processing - Control functions for 7-bit and 8-bit coded character sets
8.	ISO 8859 (1-9)	Information Processing - 8-bit single-byte coded graphic character sets - parts 1-9
9.	ENV 41 503:1990	Information systems interconnection - European graphic character repertoires and their coding
10.	ENV 41 508:1990	Information systems interconnection - East European graphic character repertoires and their coding
11.	JIS X 0201-1976	Code for Information Exchange
12.	JIS X 0212-1990	Code of the supplementary Japanese Graphic Character set for information interchange
13.	JIS X 0208-1990	Code for the Japanese Graphic Character set for information interchange
14.	RFC 1468	Japanese Character Encoding for Internet Messages

Character Repertoires supported by DICOM are defined in Part 5, section 6.1. The DICOM Standard is available free on the Internet at http://medical.nema.org/.

Examples of names requiring only one iteration of the field where the XPN is applied:

Example 1: Adam A. Everyman III PhD

```
|Everyman^Adam^A^III^DR^^L^^^^^^^PHD|
```

Example 2:Ludwig van Beethoven

```
|Beethoven&van^Ludwig^^^^^L|
```

Example 3: Hermann Egon Mayer zur alten Schildesche

```
|Mayer^Hermann^Egon^zur alten Schildesche|
```

Example 4: Sister Margot

```
|^Margot^^^Sister^^C|
```

Example 5: Dr Harold Henry Hippocrates, AO, MBBS, ASCTS. A physician who holds an Honorarium, an academic degree and a board certificate. Professional suffixes are displayed as concatenated. (AO = Order of Australia (Honorarium), MBBS = Bachelor of Medicine and Bachelor of Surgery, ASCTS = Australian Society of Cardiothoracic Surgeons

```
|Hippocrates^Harold^Henry^^Dr^L^^^^^^^^ AO.MBBS.ASCTS|
```

Example 6: Nancy N. Nightingale, RN, PHN, BSN, MSN. A registered nurse who is a Public Health Nurse with 2 academic degrees, BSN and MSN.

```
|Nightingale^Nancy^N^^^^^^^^^^RN, PHN, BSN, MSN|
```

Example 7: H.Horrace Helper Jr., RN, CNP. A registered nurse who is a certified nurse practitioner.

```
|Helper^H^Horrace^Jr^^^^^^^^^^ RN, CNP|
```

Example 8: Mevrouw Irma Jongeneel de Haas. An individual whose birth name (geboortenaam) is de Haas and whose partner's name is Jongeneel.

```
| Jongeneel-de Haas&de&Haas&&Jongeneel^Irma^^^Mevrouw^^L |
```

Examples of names requiring more than one iteration of the field where the XPN is applied:

Example 9: Herr Prof. Dr. med. Joachim W. Dudeck

```
|Dudeck^Joachim^W.^^Dr.med.^^L^^^^^^^^ MD ~Dudeck^J.W.^^^Herr
   Prof.Dr.^^D|
```

Example 10: Herr Dr. Otto Graf Lambsdorff mdB a.D. According to German law “Adelstitel” like “Graf” or “Baron” belongs to the family name and therefore must be encoded in the family name field separated by blanks.

```
|Graf Lambsdorff&Graf&Lambsdorff^Otto^^^Dr.^^L~Graf
   Lambsdorff&Graf&Lambsdorff^Otto^^mdB a.D.^Herr Dr.^^D|
```

Example 11: Walter Kemper genannt (named) Mölleken

```
|Kemper^Walter^^^^^L~Mölleken^Walter^^^^^A|
```

Example 12: Herr Dr. med. Dr. h.c. Egon Maier

```
|Maier^Egon^^^Dr.med. Dr.h.c.^^L^^^^^^^MD~Maier^Egon^^^Herr Dr.med.
   Dr.h.c^^D|
```

Example 13: Herr Dipl.Ing. Egon Maier

```
|Maier^Egon^^^^^L^^^^^^^ DIPL~Maier^Egon^^^Herr Dipl.Ing.^^D|
```

Example 14: Frau Gerda Müller geb. Maier, verheiratet seit 16.2.2000

```
|Müller^Gerda^^^Frau^^L^^^^^20000216~Maier^Gerda^^^Frau^^M|
```

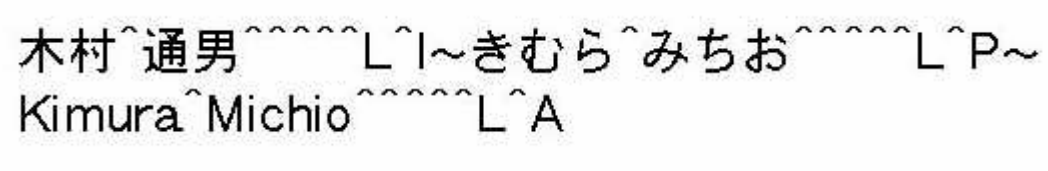
Example 15: President Adam A Everyman III, president from 1997 until 2001, aka Sonny Everyman

```
|Everyman^Adam^A.^III^President^^L~^^^^Mr.
   President^^D^^^^^19970816^20010320~Everyman^Sonny^^^^^A|
```

Example 16: Michio Kimura

This example doesn’t use title and degrees, but shows the repetition of this name for different purposes.

```
|Kimura^Michio^^^^^L^I~Kimura^Michio^^^^^L^P~ Kimura^Michio^^^^^L^A|
```



2.A.88.1 Family Name (FN)

This component allows full specification of the surname of a person. Where appropriate, it differentiates the person's own surname from that of the person's partner or spouse, in cases where the person's name may contain elements from either name. It also permits messages to distinguish the surname prefix (such as "van" or "de") from the surname root. See section *2.A.30*, "*FN - family name*".

2.A.88.2 Given Name (ST)

First name.

2.A.88.3 Second and Further Given Names or Initials Thereof (ST)

Multiple middle names may be included by separating them with spaces.

2.A.88.4 Suffix (ST)

Used to specify a name suffix (e.g., Jr. or III).

2.A.88.5 Prefix (ST)

Used to specify a name prefix (e.g., Dr.).

2.A.88.6 Degree (IS)

Retained for backward compatibility only as of v 2.5. See Professional Suffix component.

Used to specify an educational degree (e.g., MD). Refer to *User-defined Table 0360 – Degree* for suggested values.

User-defined Table 0360 – Degree/license/certificate

Value	Description	Comment
PN	Advanced Practice Nurse	
AAS	Associate of Applied Science	
AA	Associate of Arts	
ABA	Associate of Business Administration	
AE	Associate of Engineering	
AS	Associate of Science	
BA	Bachelor of Arts	
BBA	Bachelor of Business Administration	
BE	Bachelor or Engineering	
BFA	Bachelor of Fine Arts	
BN	Bachelor of Nursing	
BS	Bachelor of Science	
BSL	Bachelor of Science – Law	
BSN	Bachelor on Science - Nursing	
BT	Bachelor of Theology	
CER	Certificate	
CANP	Certified Adult Nurse Practitioner	
CMA	Certified Medical Assistant	
CNP	Certified Nurse Practitioner	
CNM	Certified Nurse Midwife	
CRN	Certified Registered Nurse	
CNS	Certified Nurse Specialist	
CPNP	Certified Pediatric Nurse Practitioner	
DIP	Diploma	
DBA	Doctor of Business Administration	
DED	Doctor of Education	
PharmD	Doctor of Pharmacy	
PHE	Doctor of Engineering	
PHD	Doctor of Philosophy	
PHS	Doctor of Science	

Value	Description	Comment
MD	Doctor of Medicine	
DO	Doctor of Osteopathy	
EMT	Emergency Medical Technician	
EMTP	Emergency Medical Technician - Paramedic	
FPNP	Family Practice Nurse Practitioner	
HS	High School Graduate	
JD	Juris Doctor	
MA	Master of Arts	
MBA	Master of Business Administration	
MCE	Master of Civil Engineering	
MDI	Master of Divinity	
MED	Master of Education	
MEE	Master of Electrical Engineering	
ME	Master of Engineering	
MFA	Master of Fine Arts	
MME	Master of Mechanical Engineering	
MS	Master of Science	
MSL	Master of Science – Law	
MSN	Master of Science – Nursing	
MT	Master of Theology	
MDA	Medical Assistant	
MT	Medical Technician	
NG	Non-Graduate	
NP	Nurse Practitioner	
PA	Physician Assistant	
RMA	Registered Medical Assistant	
RPH	Registered Pharmacist	
SEC	Secretarial Certificate	
TS	Trade School Graduate	

2.A.88.7 Name Type Code (ID)

A code that represents the type of name. Refer to *HL7 Table 0200 - Name type* for valid values.

HL7 Table 0200 - Name type

Value	Description	Comment
A	Alias Name	
B	Name at Birth	
C	Adopted Name	
D	Display Name	
I	Licensing Name	
L	Legal Name	
M	Maiden Name	
N	Nickname /"Call me" Name/Street Name	
P	Name of Partner/Spouse (retained for backward compatibility only)	
R	Registered Name (animals only)	
S	Coded Pseudo-Name to ensure anonymity	
T	Indigenous/Tribal/Community Name	
U	Unspecified	

Note: The content of Legal Name is country specific. In the US the legal name is the same as the current married name.

2.A.88.8 Name Representation Code (ID)

Different <name/address types> and representations of the same <name/address> should be described by repeating of this field, with different values of the <name/address type> and/or <name/address representation> component.

Note: This new component remains in "alphabetic" representation with each repetition of the field using these data types, i.e., even though the name may be represented in an ideographic character set, this component will remain represented in an alphabetic character set.

Refer to *HL7 Table 0465 – Name/address representation* for valid values.

In general this component provides an indication of the representation provided by the data item. It does not necessarily specify the character sets used. Thus, even though the representation might provide an indication of what to expect, the sender is still free to encode the contents using whatever character set is desired. This component provides only hints for the receiver, so it can make choices regarding what it has been sent and what it is capable of displaying.

2.A.88.9 Name Context (CE)

This component is used to designate the context in which a name is used. The main use case is in Australian healthcare for indigenous patients who prefer to use different names when attending different healthcare institutions. Another use case occurs in the US where health practitioners can be licensed under slightly different names and the reporting of the correct name is vital for administrative purposes. Refer to *User-defined Table 0448 – Name context* for suggested values.

2.A.88.10 Name Validity Range (DR)

This component cannot be fully expressed. Identified as v 2.4 erratum. Retained for backward compatibility only as of v 2.5. Refer to Effective Date and Expiration Date components.

This component contains the start and end date/times, which define the period during which this name was valid. See section *2.A.20*, "*DR - date/time range*" for description of subcomponents.

2.A.88.11 Name Assembly Order (ID)

A code that represents the preferred display order of the components of this person name. Refer to *HL7 0444 – Name assembly order* for valid values.

2.A.88.12 Effective date (TS)

Definition: The first date, if known, on which the person name is valid and active.

2.A.88.13 Expiration date (TS)

Definition: The last date, if known, on which the person name is valid and active.

2.A.88.14 Professional Suffix (ST)

Definition: Used to specify an abbreviation, or a string of abbreviations denoting qualifications that support the person's profession, (e.g., licenses, certificates, degrees, affiliations with professional societies, etc.). The Professional Suffix normally follows the Family Name when the Person Name is used for display purposes. Please note that this component is an unformatted string and is used for display purposes only. Detailed information regarding the contents of Professional Suffix is obtained using appropriate segments in Chapter 15, Personnel Management.

2.A.89 XTN - extended telecommunication number

HL7 Component Table - XTN – Extended Telecommunication Number

SEQ	LEN	DT	OPT	TBL#	COMPONENT NAME	COMMENTS	SEC.REF.
1	199	ST	B		Telephone Number	deprecated as of 2.3	2.A.74
2	3	ID	O	0201	Telecommunication Use Code		2.A.35
3	8	ID	O	0202	Telecommunication Equipment Type		2.A.35
4	199	ST	O		Email Address		2.A.74
5	3	NM	O		Country Code		2.A.47
6	5	NM	O		Area/City Code		2.A.47
7	9	NM	O		Local Number		2.A.47
8	5	NM	O		Extension		2.A.47
9	199	ST	O		Any Text		2.A.74
10	4	ST	O		Extension Prefix		2.A.74
11	6	ST	O		Speed Dial Code		2.A.74
12	199	ST	C		Unformatted Telephone number		2.A.74

Maximum Length: 850

Note: Components five through nine reiterate the basic function of the first component in a delimited form that allows the expression of both local and international telephone numbers. As of 2.3, the recommended form for the telephone number is to use the delimited form rather than the unstructured form supported by the first component (which is left in for backward compatibility only).

Note: Replaces TN data type as of v 2.3

Example: A fax number

```
^ORN^FX^^^734^6777777
```

2.A.89.1 Telephone Number (ST)

This component has been retained for backward compatibility only as of version 2.3.

Definition: Specifies the telephone number in a predetermined format that includes an optional extension, beeper number and comment.

Format: [**N**NN] [(999)]999-9999 [X99999] [B99999] [C any text]

Note: Because this component has been deprecated a new data type has not been defined to replace the formatted ST.

2.A.89.2 Telecommunication Use Code (ID)

A code that represents a specific use of a telecommunication number. Refer to *HL7 Table 0201 - Telecommunication use code* for valid values.

HL7 Table 0201 - Telecommunication use code

Value	Description	Comment
PRN	Primary Residence Number	
ORN	Other Residence Number	
WPN	Work Number	
VHN	Vacation Home Number	

Value	Description	Comment
ASN	Answering Service Number	
EMR	Emergency Number	
NET	Network (email) Address	
BPN	Beeper Number	

2.A.89.3 Telecommunication Equipment Type (ID)

A code that represents the type of telecommunication equipment. Refer to *HL7 Table 0202 - Telecommunication equipment type* for valid values.

HL7 Table 0202 - Telecommunication equipment type

Value	Description	Comment
PH	Telephone	
FX	Fax	
MD	Modem	
CP	Cellular Phone	
BP	Beeper	
Internet	Internet Address: Use Only If Telecommunication Use Code Is NET	
X.400	X.400 email address: Use Only If Telecommunication Use Code Is NET	
TDD	Telecommunications Device for the Deaf	
TTY	Teletypewriter	

2.A.89.4 Email Address (ST)

Internationalization note: To make this data type interoperate with CEN's Telecommunication data attribute group, we allow use of the second component for email addresses. The presence of an email address is specified by the addition of the value *NET* to the Phone Use Code table, and the type of Internet address is specified with the values *Internet* and *X.400* to the Phone Equipment Type table. When used for an Internet address, the first component of the XTN data type will be null. If the @-sign is being used as a subcomponent delimiter, the HL7 subcomponent escape sequence may be used when encoding an Internet address (see Section Country Code (NM).

2.A.89.5 Area/city Code (NM)

2.A.89.6 Phone Number (NM)

2.A.89.7 Extension (NM)

2.A.89.8 Any Text (ST)

Definition: Contains comments with respect to the telephone number.

```
Example: |^^^^^^^^Do not use after 5PM
```

2.A.89.9 Extension Prefix (ST)

The characters established within a company's internal telephone system network used as a prefix to the Extension component for internal dialing. Note that the use of Extension Prefix requires that the Extension component be valued and that digits, as well as special characters (e.g., *, #) may be used.

2.A.89.10 Speed Dial Code (ST)

The characters established within a company's internal telephone system used in place of the (external) telephone number to facilitate calling because its length is shorter than that of the telephone number. Note that digits, as well as special characters (e.g., *, #) may be used.

2.A.89.11 Unformatted Telephone Number (ST)

Definition: An expression of the telephone number as an unparsible string.

The phone number was entered as free text and sending system does not know how to parse it.

Example: |^^^^^^^^^^1-800-Dentist|