

What is the appropriate use of date and date-time values in clinical documents?

Overview

As part of CDA implementation guides for continuity of care document types, data elements are defined that describe use of date or date-time values. These data elements are listed in the table on page 3, with guidance on appropriate use of TS and IVL_TS data types in each case.

The table covers requirements on appropriate use of date only; exact date-time; approximate/partial date and approximate/partial time, and duration period for these elements.

Appropriate usage

1. When a time value is supplied it SHALL also be accompanied by a four-digit time-zone value.
2. When a time value is supplied it SHALL include hours and minutes; it MAY also include seconds and fractions of sections.
3. The specific usage defined in the table on page 3 is recommended as appropriate for each data element – comments may also highlight areas where uses are specifically prohibited.
(Continued on next page.)

Table column headings

The column headings for the recommended specific usage table on page 3 are explained below.

Recommended specific usage table

IG section	IG section title	IG data element path	IG description	Type	Usage
DS-5.1, EREF-5.1, ES-5.1, SHS-5.1, SL-5.1	Clinical Document	ClinicalDocument/effectiveTime	Signifies the document creation time, when the document first came into being. Where the CDA document is a transform from an original document in some other format, the ClinicalDocument.effectiveTime is the time the original document is created.	TS	yyyyMMddHHmm[ss[.f...]]±zzz
5.1.1		galAuthenticator/time/@value	Indicates the time of authentication.	TS	yyyyMMddHHmm[ss[.f...]]±zzzz

Nominal title of the section referenced in the implementation guide.

Specified path per the implementation guide.

Description text from implementation guide.

Data type of the data elements
 TS Point-in-time/date-time
 IVL_TS Interval of date-time
 IVL_TS/TS Interval of date-time that may also be validly instantiated as a point-in-time/date-time

Appropriate usage for each case. The precision notation (see details on next page) applies to date/date-time values for a TS or for each (high/low) end of IVL_TS, depending on type specified.

Implementation guide section reference including document type and section number (see details on next page).

Appropriate usage continued

4. When populating date/times, use the guidance in the table on page 3 to determine whether the time, day or month portion of a date/time should be included in the CDA document.
5. These values should only be included when they are displayed to or chosen by the user. Further, if the time, day or month portions are required, as summarised below, then they should be displayed to or chosen by the user, as appropriate to the context.

Note that a few of the examples in the CDA implementation guides do not conform to the guidance in this document. However, the examples are not normative and the advice in this document should be followed in preference to the examples.

IG section and precision notation details

The following tables explain the entries in the IG section and precision notation columns of the table.

IG section

DS	eDischarge Summary CDA Implementation Guide v3.4
EREF	eReferral CDA Implementation Guide v2.2
ES	Event Summary CDA Implementation Guide v1.2
SHS	Shared Health Summary CDA Implementation Guide v1.3
SL	Specialist Letter CDA Implementation Guide v1.3

Precision notation

yyyy	Year SHALL be 4 digits e.g. '2012'
MM	Month SHALL be 2 digits between 01 and 12 with leading zeros as needed e.g. February is '02'
dd	Day of month SHALL be 2digits between 01 and 31 with leading zeros as needed, and be valid to month length e.g. 1st is '01'
HH	Hour of the day (24 hour) SHALL be 2digits between 00 and 23 with leading zeros as needed e.g. 3pm is '15'
mm	Minutes SHALL be 2 digits between 00 and 59 with leading zeros as needed e.g. '32'
ss	Seconds SHALL be 2 digits between 00 and 59 with leading zeros as needed e.g. '42'
.f...	Fraction of seconds (repeating digit) SHALL have decimal point and as many decimal places as needed e.g. '.321232' or '.4'
±zzzz	Time zone SHALL be 4 digits, include a sign and be between 0000 and 1300 with leading zeros as needed e.g. '-0200' or '+1000'
[...]	Content contained between brackets is optional e.g. 'yyyy[MM[dd]]' allows: '2012' Year 2012; year is mandatory '201211' November 2012; month may be supplied; year must be supplied '20121113' 13th November 2012; when day is present month must be present; year must be present

Recommended specific usage table

Implementation guide (IG) section	IG section title	IG data element path	IG description	Type	Usage
DS-5.1, EREF-5.1, ES-5.1, SHS-5.1, SL-5.1	Clinical Document	ClinicalDocument/effectiveTime	Signifies the document creation time, when the document first came into being. Where the CDA document is a transform from an original document in some other format, the ClinicalDocument.effectiveTime is the time the original document is created.	TS	yyyyMMddHHmm[ss[.f...]]±zzzz
DS-5.1.1, EREF-5.1.1, ES-5.1.1, SHS-5.1.1, SL-5.1.1	LegalAuthenticator	legalAuthenticator/time/@value	Indicates the time of authentication.	TS	yyyyMMddHHmm[ss[.f...]]±zzzz
SL-6.1.1, DS-6.1.2, EREF-6.1.2, ES-6.1.2, SHS-6.1.2	Subject of Care	recordTarget/patientRole/patient/birthTime	The date of birth of the person.	TS	yyyyMMdd[HHmm[ss[.f...]]±zzzz] usually only date except when the document is created as part of the care immediately following birth
SL-6.1.1, DS-6.1.2, EREF-6.1.2, ES-6.1.2, SHS-6.1.2	Subject of Care	recordTarget/patientRole/patient/ext:deceasedTime	The date or date and time at which a person was estimated or certified to have died.	TS	yyyyMMdd[HHmm[ss[.f...]]±zzzz]
SL-6.1.1, DS-6.1.2, EREF-6.1.2, ES-6.1.2, SHS-6.1.2	Subject of Care	ext:coverage2/ext:entitlement/ext:effectiveTime	The time interval for which an entitlement is valid.	IVL_TS	yyyyMM[dd[HHmm[ss[.f...]]±zzzz]] usually date only range
SL-6.1.2, DS-6.1.1, EREF-6.1.1, ES-6.1.1, SHS-6.1.1	Document Author	author/time	The time interval during which the participation in the health care event occurred.	TS	yyyyMMddHHmm[ss[.f...]]±zzzz only the end time need be recorded
DS-7.1.1.1	Encounter	componentOf[enc]/encompassingEncounter/effectiveTime	The date (and optionally time) of the start and end of the encounter that this discharge summary refers to.	IVL_TS	yyyyMMdd[HHmm[ss[.f...]]±zzzz]

Implementation guide (IG) section	IG section title	IG data element path	IG description	Type	Usage
DS-7.1.1.1.1	Responsible Health Professional at Time of Discharge	encounterParticipant/time	The time interval during which the participation in the health care event occurred.	IVL_TS/TS	yyyyMMdd[HHmm[ss[.f...]]±zzzz] usually a date only or date only range
DS-7.1.1.1.2	Other Participant	participant/time	The time interval during which the participation in the health care event occurred.	IVL_TS/TS	yyyyMMdd[HHmm[ss[.f...]]±zzzz] usually a date only or date only range
DS-7.1.1.5.1 EREF-7.1.5.1 ES-7.1.6.1 SL-7.1.5.1	Pathology Test Result	entry[path_test_res]/observation / entryRelationship[tst_date]/ observation/effectiveTime	The date and, optionally, time of the Pathology Test Result observation. If the Pathology Test Result Duration is non-zero, it is the time at which the Pathology Test Result observation was completed, i.e. the date (and time) of the trailing edge of the Pathology Test Result Duration.	TS	yyyyMMdd[HHmm[ss[.f...]]±zzzz] usually includes time, see the FAQ ¹
DS-7.1.1.5.1.1 EREF-7.1.5.1.1 ES-7.1.6.1.1 SL-7.1.5.1.1	Test Specimen Detail	entryRelationship[spec]/ observation/effectiveTime	The date and time that collection has been ordered to take place or has taken place.	TS	yyyyMMdd[HHmm[ss[.f...]]±zzzz] usually includes time
DS-7.1.1.5.1.1 EREF-7.1.5.1.1 ES-7.1.6.1.1 SL-7.1.5.1.1	Test Specimen Detail	entryRelationship[spec]/ observation/ entryRelationship[date_rec]/ observation/value:TS	The date and time that the sample was received at the laboratory	TS	yyyyMMddHHmm[ss[.f...]]±zzzz
DS-7.1.1.5.1.2.1 EREF-7.1.5.1.2.1 ES-7.1.6.1.2.1 SL-7.1.5.1.2.1	Result Group Specimen Detail	component/observation/ effectiveTime	The date and time that collection has been ordered to take place or has taken place.	TS	yyyyMMddHHmm[ss[.f...]]±zzzz

¹The FAQ referred to there is “Proper representation of Pathology test result Date/Time” (<https://vendors.nehta.gov.au/sections/myCompany/index.cfm?assetCategoryId=373#0>). Consult this for information about date times in pathology reports.

Implementation guide (IG) section	IG section title	IG data element path	IG description	Type	Usage
DS-7.1.1.5.1.2.1 EREF-7.1.5.1.2.1 ES-7.1.6.1.2.1 SL-7.1.5.1.2.1	Result Group Specimen Detail	component/observation/entryRelationship[date_rec]/observation/value:TS	The date and time that the sample was received at the laboratory	TS	yyyyMMddHHmm[ss[.f...]]±zzzz
DS-7.1.1.5.2 EREF-7.1.5.2 ES-7.1.6.2 SL-7.1.5.2	Imaging Examination Result	entry[img_exam_res]/observation/entryRelationship[res_date]/observation/effectiveTime	The date and, optionally, time when the Imaging Examination Result became available.	TS	yyyyMMdd[HHmm[ss[.f...]]±zzzz] usually includes time
DS-7.1.1.5.2.2 EREF-7.1.5.2.2 ES-7.1.6.2.2 SL-7.1.5.2.2	Examination Request Details	entryRelationship[exam_req]/act/entryRelationship[exam_perf]/act/entryRelationship[img_det]/observation/effectiveTime	Specific date/time the imaging examination was performed.	TS	yyyyMMdd[HHmm[ss[.f...]]±zzzz]
DS-7.1.2.1.2	Therapeutic Good	entry[sbadm]/substanceAdministration/effectiveTime:IVL_TS	The time period that the patient has taken or will take the prescribed medication.	IVL_TS	yyyyMMdd[HHmm[ss[.f...]]±zzzz] date-time range OR 'duration' only is also supported, that is, with only width element included defining a period of time without specific start or end date-time.
DS-7.1.4.1	Arranged Services	component[arranged]/section/entry[service]/act/effectiveTime	The datetime or date range at/during which the arranged service is scheduled to be provided to the subject of care.	IVL_TS/TS	yyyyMMdd[HHmm[ss[.f...]]±zzzz] date-time or date-time range
EREF-7.1.1	Referral Detail	entry[ref_time]/observation/value:TS	The date/time when the Referral document was sent	TS	yyyyMMddHHmm[ss[.f...]]±zzzz

Implementation guide (IG) section	IG section title	IG data element path	IG description	Type	Usage
EREF-7.1.1.1	Referral Detail	entry[ref_val]/observation/value:IVL_TS	The length of time the referral is valid from the date of the first patient/specialist encounter.	IVL_TS	'duration' only; where this is the period of time for which the referral is valid; using only the width element without specific start or end date-time
EREF-7.1.2.1 ES-7.1.4.1 SHS-7.1.3.1	Problem/Diagnosis	entry[prob]/observation/effectiveTime	Estimated or actual date the Problem/Diagnosis began, in the opinion of the clinician	TS	yyyy[MM[dd]] usually only a date; approximate allowed
EREF-7.1.2.1 SHS-7.1.3.1	Problem/Diagnosis	entry[prob]/observation/entryRelationship[crt]/observation/code/value:IVL_TS	The date or estimated date that the problem/diagnosis resolved or went into remission, as indicated/identified by the clinician	TS	yyyy[MM[dd]] time is prohibited; interval of date/date-time not specified
EREF-7.1.2.2 ES-7.1.4.2 SHS-7.1.3.3	Procedure	entry[proc]/procedure/effectiveTime	The start date and/or time for the procedure.	TS	yyyy[MM[dd][HHmm[ss[.f...]]±zzzz]] usually only a date; approximate allowed
EREF-7.1.2.3 ES-7.1.4.3 SHS-7.1.3.5	(Other) Medical History Item	entry/act/effectiveTime	The date range during which the item applied or occurred	IVL_TS	yyyy[MM[dd]] usually date only range; approximate allowed
EREF-7.1.5.3 ES-7.1.6.3 SL-7.1.5.3	Requested Service	entry[service]/act/effectiveTime	The datetime at which the arranged service is scheduled to be provided to the Subject of Care.	TS	yyyyMMdd[HHmm[ss[.f...]]±zzzz] Note that there are two different SCS elements mapped to the same CDA element
EREF-7.1.5.3 ES-7.1.6.3 SL-7.1.5.3	Requested Service	entry[service]/act/effectiveTime	The datetime or date range at/during which the arranged service is scheduled to be provided to the Subject of Care.	IVL_TS	yyyyMMdd[HHmm[ss[.f...]]±zzzz] Note that there are two different SCS elements mapped to the same CDA element
EREF-7.1.5.3 ES-7.1.6.3 SL-7.1.5.3	Requested Service	entry[service]/act/entryRelationship/act/effectiveTime	The point in time at which the Requested Service action is completed	TS	yyyyMMdd[HHmm[ss[.f...]]±zzzz]

Implementation guide (IG) section	IG section title	IG data element path	IG description	Type	Usage
ES-7.1.5.1 SHS-7.1.4.1	Immunisation	entry[med_act]/ substanceAdministration/ effectiveTime	The point in time at which the Medication Action is completed	TS	yyyyMMdd[HHmm[ss[.f...]]±zzzz]
ES-7.1.6.3.1.2 SL- 7.1.5.3.1.2	Service Provider - Organisation	performer/time	The time interval during which the participation in the health care event occurred.	IVL_TS/TS	yyyyMMdd[HHmm[ss[.f...]]±zzzz] date-time or date-time range
SL-6.1.3	Referrer	participant/time	The time interval during which the participation in the health care event occurred.	IVL_TS/TS	yyyyMMdd[HHmm[ss[.f...]]±zzzz] usually a date only or date only range
SL-7.1.2.1	Recommendation	entry[rec_prov]/act/effectiveTime	The time or time period for which the Recommendation applies.	IVL_TS/TS	yyyyMMdd[HHmm[ss[.f...]]±zzzz] usually a date only or date only range

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