



Standard Specification for Clinical XML DTDs in Healthcare¹

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1. Scope

1.1 This specification defines an electronic representation that includes the varying information required for broad exchange in health care both today and in the future. eXtensible Markup Language (XML) is a convergence of data processing, communication, and publishing technology. XML is a platform, vendor, and application independent technology for describing document content and structure in tags or elements. The names of the tags and the rules for using them are contained in the Document Type Definition (DTD). The DTD describes the structure of the document and defines the names of tags it contains. Additionally the DTD declares the order in which the tags occur and how often the tags can appear; that is, the DTD defines the hierarchy of the tags. A DTD for a prescription might contain structural elements for the medication prescribed <medication>, the dosage <dosage>, the form <form>, the quantity <quantity>, and so forth. This specification is in the form of a set of standard XML DTDs that match the electronic document requirements in the health care industry.

1.2 This specification refers to and makes use of recommendations from the World Wide Web consortium, the W3C (<http://www.w3.org>).

1.3 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory requirements prior to use.*

2. Referenced Documents

2.1 ASTM Standards:

E 1239 Guide for Description of Reservation/Registration-Admission, Discharge, Transfer (R-ADT) Systems for Automated Patient Care Information Systems²

E 1384 Guide for Content and Structure of the Electronic Health Record (EHR)²

E 1633 Specification for Coded Values Used in the Electronic Health Record²

E 2183 Guide for XML DTD Design, Architecture and Implementation²

2.2 W3C World Wide Web Consortium Recommendations, (<http://www.w3.org>)

XML 1.0 Recommendation, <http://www.w3.org/TR/REC-xml>

XHTML Basic Recommendation, <http://www.w3.org/TR/xhtml-basic>

XML Linking (Xlink) 1.0 Recommendation, <http://www.w3.org/TR/xlink>

XML Namespaces Recommendation, <http://www.w3.org/TR/REC-xml-names>

XPointer, <http://www.w3.org/TR/xptr>

XSLT, <http://www.w3.org/TR/xslt>

2.3 HL7 Standards, (<http://www.HL7.org>)

Informative Document: Using XML as an Alternative Message Syntax for HL7 Version 2.3.x

Clinical Document Architecture: Level 1

2.4 IETF Specifications, (<http://www.ietf.org>)

RFC 2396: Uniform Resource Identifiers (URI), <http://ietf.org/rfc/rfc2396>

3. Terminology

3.1 Definitions:

3.1.1 *clinical document, n*—defined in terms of the native XML architecture. The Document Type Definition (DTD) is the base method of defining the structure of a clinical document. XML schema languages such as the W3C XML Schema Language and the OASIS RELAXNG Schema language provide alternative methods of defining clinical document structures.

3.1.2 *document type definition (DTD), n*—the formal definition of the elements, structures, and rules for enabling platform independent data access via XML or for marking up a given type of SGML document.

3.1.3 *extensible markup language (XML), n*—a standard from the World Wide Web Consortium (W3C) that provides for tagging of information content within documents, offering a means for representation of content in a format which is both human and machine readable. Through the use of customizable style sheets and schemas, information can be represented in a

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² *Annual Book of ASTM Standards*, Vol 14.01.