

## Standard Specification for Coded Values Used in the Electronic Health Record<sup>1</sup>

This standard is issued under the fixed designation E1633; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon ( $\varepsilon$ ) indicates an editorial change since the last revision or reapproval.

 $\epsilon^1$  NOTE—Figures reformatted as tables editorially in March 2015.

### 1. Scope\*

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1.1 This specification covers the identification of the lexicons to be used for the data elements identified in Appendix X1 of Guide E1384. It is intended to unify the representations for: (1) primary record of care data elements, (2) the data elements identified in other standard statistical data sets, (3) data elements used in other healthcare data message exchange format standards, or (4) in data gathering forms for this purpose, and (5) in data derived from these elements in order that data recorded in the course of patient care be exchangeable and be the source of accurate statistical and resource management data. This specification is applicable to all paper and automated systems.

#### 2. Referenced Documents

- 2.1 ASTM Standards:<sup>2</sup>
- E1239 Practice for Description of Reservation/Registration-Admission, Discharge, Transfer (R-ADT) Systems for Electronic Health Record (EHR) Systems
- E1384 Practice for Content and Structure of the Electronic Health Record (EHR)
- E1715 Practice for An Object-Oriented Model for Registration, Admitting, Discharge, and Transfer (RADT) Functions in Computer-Based Patient Record Systems
- E1744 Practice for View of Emergency Medical Care in the Electronic Health Record
- 2.2 ANSI Standards:<sup>3</sup>

ANS X3.50 Representation of Date and Time

ANS X3.51 Representation of Common Units

- 2.3 ISO Standards:<sup>3</sup>
- ISO 639 Names of Languages
- ISO 2955 Representation of SI Units

## ISO 3166 Names of Countries ISO 5218 Representation of Human Sexes ISO 8601 Representation Dates 2.4 Other Standards:

HL-7 Health Industry Level 7 Interface Standards<sup>4</sup>

## 3. Terminology

3.1 Acronyms:

3.1.1 NCHS-National Center for Health Statistics

3.1.2 *NCVHS*—National Committee for Vital and Health Statistics

3.1.3 NOS-not otherwise specified

#### 4. Significance and Use

4.1 Purpose-The approval of Guide E1384, concerned with the structure and content of the computer-based patient record, now includes a formal indexing of data elements and a cataloging of the minimal essential value set for these elements. Indexing of these data elements with a unique identifier keyed to its position in the logical structure of Appendix X1 of Guide E1384 now provides a means of cataloging the value sets representing each data element (see Guide E1384). Guide E1239 describes conventions for representing many of the data values for data elements that are included in the more comprehensive listing in Guide E1384. A comprehensive listing of all of the value sets associated with Guide E1384 has not yet been assembled. This specification begins to catalog the representation conventions for a number of these elements and in particular to list the coded values. It is important that this catalog consider the traditionally assigned representations for each of these elements, and it must resolve differences in a manner that introduces systematics and consistency into the representation. The catalog must establish both a global framework consistent with international standardization and with long-term growth, while at the same time maximizing familiar or traditional representations. This standard has been developed with input from many organizations, including government agencies and other standards bodies and professional

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<sup>&</sup>lt;sup>2</sup> For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

<sup>&</sup>lt;sup>3</sup> Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036, http://www.ansi.org.

<sup>&</sup>lt;sup>4</sup> Available from Health Level 7, Mark McDougall, Executive Director, 900 Victors Way, Suite 122, Ann Arbor, MI 48108.

associations, and as a result of the effort to achieve consistency and comprehensiveness among the data dealt with by various standards efforts.

4.2 *General Values*— Early in the coordination of healthcare information standards an informal body, the Healthcare Information Standards Coordinating Committee (HISCC), identified certain common data element types and agreed upon conventions for representing these data element types in a standard manner. This set the stage for the development of the value sets for the CODED VALUE data type. The status of the standard noncoded data types, and their representations, agreed upon by the HISCC are:

4.2.1 *Person Names*— Guide E1239, Practice E1715, Practice E1744, and HL-7 use the same representation for American and European forms.

4.2.2 *Addresses*—Common format in Guide E1239, Practice E1715, and Practice E1744.

4.2.3 *Telephone Numbers*—Guide E1239 currently uses the same representation with area code enclosed in parentheses and country code preceding the parentheses.

4.2.4 *Dates*—Date and time represented as ANS X3.51-1986/ISO 8601-1988 with years in four digits; time not separated from date by "T" as permitted by ISO 8601.

4.2.5 *Numbers*—Numbers are represented either as integers or fixed point numbers; exponential notation not presently accepted in Guide E1239 or HL-7. Units of Measure by ISO 2955-1983 or ANS X3.50-86.

4.2.6 *Strings*—7-bit ASCII characters; multilingual character sets not yet defined.<sup>5</sup>

#### 5. Assignment of Coded Values

5.1 The major important data elements in Guide E1384 having coded data types and the current status of the cataloging of their values are:

01035 01040 01042	Patient Multiple Birth code (5.2.23) Sex (5.2.20) Biogeographic Ancestry (Race) (5.2.3)
01045	Ethnicity (5.2.4)
01047	Religion (5.2.7)
01052	Marital status (5.2.2)
01055	Nationality/Country of Origin (5.2.6)
01057	Language (5.2.5)
01060	Educational Level (5.2.8)
	Educational Certification (5.2.9)
01062	Current Work Status (5.2.24)
01065	Occupation (5.2.11) also 01070,01090.03
01067	Current Vocational Status (5.2.25)
01085	Usual Living arrangement (5.2.26)
01099	Foreign Residency Code (5.2.27)
01090.03	Family Relationship (5.2.10)
01155	Color Eyes (5.2.38)
01160	Color Hair (5.2.39)
01175	Body Build for Identification (5.2.40)
02052	Durable Power of Attorney Status (5.2.28)
06001.01.15	Immunization reaction/result (5.2.63)
04001.50	Professional Specialty (5.2.16)
08005	Birth method (5.2.64)
08095	Health History Response (5.2.76)
09001.12	Body System/Region (5.2.22)
09001.13	Exam Finding (5.2.77)
09001.30	Tooth ID (5.2.74)

<sup>&</sup>lt;sup>5</sup> The boldface numbers in parentheses refer to the list of references at the end of this standard.

09001.30.05	Tooth Surface (5.2.75)
09001.30.06	Tooth Sensitivity Code (5.2.65)
09001.30.07	Tooth Mobility Code (5.2.66)
09001.40.1	Prosthesis Type (5.2.67)
11001.01.24	Test Specimen Source (5.2.68)
14001.A002	Patient (Encounter) Type/Admission Source (5.2.17)
14001.A004	Confidentiality Status (5.2.1)
14001.A010	Encounter Status (5.2.69)
14001.A013	Facility Care/Healthcare setting (5.2.18)
14001.A016	Reason for Visit (5.2.19)
14001.A020	Encounter patient Arrival Condition (5.2.70)
14001.A021	Mode of Arrival (5.2.29)
14001.A030	Nature of Injury (5.2.30)
14001.A033	Mode of Injury (5.2.31)
14001.A034	Product of Injury (5.2.37)
14001.A040	Injury On the Job Status (5.2.71)
14001.A044	Protective Equipment Used (5.2.32)
14001.A063	Patient Admission Type (5.2.12)
14001.A110	Professional Specialty (5.2.16)
14001.A133	Accommodation type (5.2.15)
14001.A163.01	Patient In-residence Transfer Type (5.2.13)
14001.A170	Diagnosis (5.2.33)
14001.A170.01	Diagnosis Type (5.2.34)
14001.A170.02	Diagnosis Status Code (5.2.35)
14001.A186.01	Current Clinical Status (5.2.36)
14001.A206	Police Hold Status (5.2.72)
14001.A213	Medical Examiner Notification Code (5.2.73)
14001.A223	Source of Payment Code (5.2.21)
14001.F050	Discharge Disposition Category (5.2.14)

This standard identifies the current value list for each of these elements as of the approval date of this standard (see footnote 1) and states the evolving status of this catalog as the knowledge of the use of these elements expands as a result of ongoing investigation. Each element is identified by the index assigned to it in the revised Appendix X1 of Guide E1384. Moreover, the definition for that element from the Data Element Catalog (1) is included with the value set.

5.2 Value Set Tables—These tables collect the representation of coded data values for specific data elements in computerbased patient record structures identified in Appendix X1 of Guide E1384. The terms listed here are the minimal essential ones but may be further subclassified to include more specific terms by appropriate extensions of the included terms.

5.2.1 *Confidentiality Status*—This data element, Index: 14001.A004, contains the minimal commonly used values appearing in both manual and automated systems.

Unwed mother	UWM
Celebrity	VIP
Psychiatric patient	PSY
Employee	EMP
AIDS patient	AID
HIV patient	HIV
Alcohol/Drug patient	ETH
Usual control	U
Restricted	R
Very restricted	V

5.2.2 *Marital Status*—This data element, Index: 01052, encompasses the values noted by Westermeyer (2), Bureau of Census, the VA DHCP system, the DoD CHCS system, the X12 835 Transaction Set (3), UB-82 (4), and used in common practice.

Never married	в
Single	S
Married	Μ
Divorced	D
Divorced/annulled	L
Divorced/separated	Н
Annulled	Ν

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Widowed	W	
Separated, NOS	A	
Separated, legal	E	
Separated, nonlegal	К	
Marriage, separation, temporary absence	Х	
Marriage, separation, permanent absence	V	
Consensual union	J	
Unknown	U	
Common Law	С	
Domestic Partner	Р	
Registered Domestic Partner	R	
Living together	G	
Interlocutory	I	
Other	0	
Unreported	Т	

5.2.3 Biogeographic Ancestry (previously stated as: Race)——This data element, Index: 01042, indicates the region of the world from which the patient's ancestors came. This is a biologic attribute that very generally indicates possible biologic diversity to which the patient might be subject. Due to ambiguity inherent in the diversity of the large number of inherited attributes which might characterize such ancestry, other data elements of the care record will be required to assign full meaning to the value set recorded for this attribute. The name originates from recommendations in the genetics literature (Am J Hum Gent 77:519-532 2005). Therefore, utilization of these other attributes is strongly recommended. To be consistent with census data, the six values currently given in OMB Directive 15 are shown for relationship to the recommended new terms. New subcategories may be added as recommended by the genetics professional disciplines. The check digit for the code is calculated via program shown in Appendix X1. Note that NOS in the term means "Not Otherwise Specified."

Proposed Term	Code	Present Term
AFRICA:NOS	2054-5	BLACK
AFRICA:WEST AFRICA	0218-	
AFRICA:CENTRALSUB-	0219-	
SAHARAN AFRICA		

AFRICA: EAST AFRICA 0220-AFRICA:SOUTHERN AFRICA 0221-AMERICA:NOS AMERICAN INDIAN/ 1002-5 ALASKA NATIVE AMERICA:NORTH AMERICA 0222-(ABORIGINAL) AMERICA:CENTRAL AMERICA/ 0223-CARIBBEAN (ABORIGINAL) AMERICA:SOUTH AMERICA 0224-EAST ASIA:NOS 2028-9 ASIAN FAST ASIA CENTRAL ASIA 0225-EAST ASIA:NORTHERN ASIA 0226-EAST ASIA: EAST ASIA 0227-EAST ASIA:SOUTH ASIA 0228-EAST ASIA:SOUTHEAST ASIA 0229-EAST ASIA: AUSTRALIA (ABORIGINAL) 0230-**FURASIA**·NOS 2106-3 WHITE EURASIA:WESTERN EUROPE 0231-EURASIA:NORTHERN EUROPE 0232-EURASIA: EASTERN EUROPE 0233-EURASIA:SOUTHERN EUROPE/ 0234-MEDITERANIAN 0235-EURASIA:NORTH AFRICA EURASIA:NEAR EAST 0236-EURASIA:ARABIAN PENINSULA 0237-EURASIA:WESTERN EURASIA 0238-HAWAIIAN/ OCEANIA:NOS 2076-8 PACIFIC ISLANDER OCEANIA: PACIFIC ISLANDS 0239-OTHER 2131-3

5.2.4 *Ethnicity*—In keeping with current demographic practice, this data element, Index: 01045, reflects the ethnic cultural group with which the patient identifies. Multiple selections may be made. Each value has associated with it an ancestral cultural origin tag that is most closely associated with the ancestral geographic origin of that cultural pattern. This tag does not signify the ancestral biologic characteristics of the individual which is recorded in other data elements of the record. See Table 1.