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Standard Guide for Providing Essential Data Needed in Advance for Prehospital Emergency Medical Services[1]

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1. Scope

1.1 This guide covers the functional elements and data records of prehospital Health Status Information Services (HSIS) needed to provide individual health status data for HSIS subscribers. When an HSIS subscriber experiences a medical emergency and becomes an EMS patient, a prehospital EMS care provider can rapidly access the individual's health status data by means of telecommunications. Access to this data will enable the EMS provider to improve patient assessment, and thereby render more appropriate treatments. This will improve the EMS provider's ability to stabilize trauma and other emergency medical conditions, and to restore and sustain vital functions, while avoiding treatments that may aggravate the severity of the medical emergency because of preexisting conditions.

1.2 In addition to improving on-site assessment, this guide will facilitate improved on-line medical direction of prehospital EMS care providers, particularly for persons experiencing life threatening medical emergencies.

1.3 Health status records provide a chronology of a person's health/medical data, including past diagnosis and treatments. The data in these records provide a vital link between the person experiencing a medical emergency, the EMS care provider, and subsequent emergency services. In order to provide the most informed care, EMS care providers and persons providing EMS medical direction need to be aware of the injured or ill person's health status.

1.4 This guide describes the minimum requirements for compiling, updating, computerizing, and storing individual's longitudinal health status data in authorized repositories, so as to protect patient privacy and confidentiality. This guide also describes requirements for providing authorized access and rapid transmittal of the data to attending EMS care providers in medical emergencies.

1.5 While this guide addresses data needed for prehospital EMS, there is also a recognized essential, but largely unmet need for similar patient health status records for emergency medical care of patients in hospital emergency departments and in definitive medical care facilities. Many development projects are in process to address this unmet need.[2] When available, such patient records are reviewed by attending physicians, in advance of hospital emergency medical care, to quickly access patient health status data that is needed for improved patient assessment and treatment and avoidance of treatments which may be contraindicated by preexisting conditions.

1.5.1 Future changes to this guide will result in health status information records for prehospital emergency medical care and analogous information systems for hospital emergency medical care, harmonized with each other and with future standards for computerized longitudinal health care patient records (see Guides E1744 and F1629) which are being developed by ASTM Committee E31.

1.5.2 This guide describes requirements that are based on current ASTM medical informatics standards and will be updated to harmonize with future versions of these rapidly evolving standards.

1.6 The scope of this guide includes harmonization of the definitions of prehospital emergency medical services data

[1] This guide is under the jurisdiction of ASTM Committee F30 on Emergency Medical Services and is the direct responsibility of Subcommittee F30.03 on Organization/Management.

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[2] A number of projects are in process to develop such information systems. One Ref (1)[3] is the Trauma Care Information Management System project funded under the Defense Technology Transfer Program that addresses health status data for both prehospital and hospital emergency medical care. Another companion development project (2), also funded under the Defense Technology Transfer Program, is the Development of Interoperability Platforms for the National Health Information System. In addition, in 1994 alone, the National Institute for Standards and Technology awarded sixteen cooperative agreements totaling over $100M for applied research in related medical informatics (3). It is expected that scheduled completion of these projects in three to five years will produce medical informatics products and processes that will enter competition in the next decade for adoption for national healthcare use.

Each of these major development projects will impact on the evolution of computerized patient health status information data bases for prehospital and hospital emergency medical care.

It is planned that testing and evaluation of the results of these projects will lead to the development of standards for such hospital information systems. Such standards will in turn be harmonized with the standards now used and being developed regarding information preparatory to patient hospital admission for non-emergent medical care. (See Specification E1238, Guide E1239, Guide E1384, Specification E1633, and Guides E1744 and F1629.)

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element definitions used in this guide with definitions used in other ASTM standards. The definition of data elements in this guide will be the same as the definition of the data element in other ASTM standards. In cases where a data element used in this guide does not appear in another ASTM standard, the guide will use the definition specified for federal health services information systems (**4, 5**).[3]

2. Referenced Documents

2.1 *ASTM Standards:*[4]

E1238 Specification for Transferring Clinical Observations Between Independent Computer Systems (Withdrawn 2002)[5]

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)

E1633 Specification for Coded Values Used in the Electronic Health Record

E1744 Practice for View of Emergency Medical Care in the Electronic Health Record

F1629 Guide for Establishing Operating Emergency Medical Services and Management Information Systems, or Both

3. Terminology

3.1 *Definitions:*

3.1.1 *health status information services (HSIS)*—a generic, non-proprietary term that describes the functional elements (data, resources, procedures, and processes) that constitute an information system designed, developed, and operated to provide individual health status data for subscribers in accordance with this guide.

4. Summary of Guide

4.1 This guide describes the standard functional elements that should exist to provide HSIS, namely:

4.1.1 An inventory of data elements that should be addressed in compiling individual health status records.

4.1.2 Uniform data element definitions for health status data. (See Guide F1629 and Refs (**4, 5**, and **6**).)

4.1.3 Guidance for encoding of HSIS computerized data. (See Specifications E1238 and E1633.)

4.1.4 A computerized HSIS data base of the health status records of individuals who subscribe to a HSIS service.

4.1.5 A template and uniform format for on-site display or print out of an individual's health status data, for use by a prehospital EMS provider who has been authorized to access the record. (See Guide E1744 and Ref (**6**).)

4.1.6 A confidential HSIS access password (or number) that can be made available by an individual or an authorized surrogate to an on-scene EMS provider or to an off-scene medical director to authorize access to an individual's health status record for a particular emergency medical episode. (See Guide E1744.)

4.1.7 Provisions for updating and correcting an individual's health status record and for "refreshing" the individuals confidential HSIS access password (or number) after each use.

5. Significance and Use

5.1 This is a guide for recording, computerizing, storing, accessing, and transmitting data for an individual's uniform health status record so as to enable pre-hospital EMS providers to rapidly access the data for improved assessment and appropriate treatment of an individual experiencing a medical emergency.

5.2 Lack of health status information on an individual's preexisting medical conditions, such as data on allergies, diseases, medications being used, previous medical care, and so forth, may result in application of standard prehospital medical treatments that may be contraindicated and sometimes fatally incorrect.

5.3 At present, most people do not carry their health status data on their person. An individual's health status data may be distributed at various locations such as in hospital records, in physicians' files in various formats including hand-written paper forms. Some organizations, such as health maintenance organizations, schools, camps, and sports groups, attempt to maintain specific sets of health status data. Retrieval and transfer of selected information needed in emergencies from such records is usually slow and incomplete.

5.4 Currently, when a person suffers a medical emergency, pre-hospital EMS providers must rely on word-of-mouth information from the patient or from on-scene relatives or friends, for health status data that may be critical to selection and outcome of appropriate pre-hospital treatment. Often such data are not available because the patient is unconscious, otherwise unresponsive, or unaccompanied.

5.5 Increasingly, individuals with serious allergies, disease, or other health problems are being advised by their doctors to obtain and wear a tag (a durable bracelet or necklace) containing selected health status information so as to help ensure that in the case of a medical emergency, prehospital EMS providers will be alerted to preexisting conditions. Such tags may also contain the wearer's name, address, and phone number for identification purposes; and may indicate the presence on the wearer of a personal medical information card with further health status data as well as the name and telephone number of the wearer's doctor or health care organization, or both. This tag may also indicate the telephone number for accessing additional health status data for the wearer. Thus, this guide can be used by providers of such health status tags, to give their subscribers added safeguards from prehospital and hospital medical misadventure.

5.6 Use of this guide will lead to improved access by prehospital EMS providers to health status data needed to better assess a persons conditions and select the appropriate

[4] 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.

[5] The last approved version of this historical standard is referenced on www.astm.org.