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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.)

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.

treatments while avoiding treatments that may be contraindicated because of the individual's preexisting health status. Information needed by a prehospital EMS provider to access this health status data may be provided by word of mouth by the person, through information provided on a health status tag worn by the person, on a patient's wallet card, or by interrogation of HSIS providers by means of the EMS communications system. (See 5.10.)

5.7 The lack of mobile communications and computer technology in ambulances, in some EMS systems, may make it impossible for prehospital emergency medical care providers to directly access the injured or ill person's health status records described in this guide. In such cases, the desired health status record may be accessed by the medical facility providing prehospital medical direction by means of wire-line computer modem connection, and used as a basis for providing improved on-line medical direction, particularly in instances of life threatening medical emergencies.

5.8 In addition to the primary use for EMS, existing HSIS are being adapted to other applications that reduce duplication of effort, help underwrite the costs of HSIS, and promote updating and accuracy of individuals' health status data.

5.8.1 For youth, HSIS record data may also serve as "ever green" immunization records, and as the health status data format for qualification for participation in school sports programs, extra school athletic activities, and for other youth programs where health status registration is required.

5.8.2 Organizations should meet these minimum requirements for a preexisting inventory and history form.

5.8.3 Adaptations of HSIS for applications other than EMS require development of appropriate data templates based on the needs of the HSIS users, the HSIS providers, and the informed prior consent of HSIS subscribers to the release of specific data to the HSIS users for specific predefined applications.

5.9 It is significant that different versions of HSIS are currently being marketed by companies interested in becoming HSIS providers. It is important that national voluntary consensus standards exist so as to help ensure that competitive HSIS meet minimum requirements as set forth in this guide.

5.10 Prehospital EMS providers and persons responsible for providing prehospital emergency medical direction should be aware of this guide and should be alert to look for and use HSIS for persons for whom it is available. HSIS providers should register with EMS systems and provide them with directions for interrogating their HSIS data base for an individual's health status records.

5.11 In the absence of necessary communications and computer technology, this guide may be used to develop paper-based, written health status information records that can be used for voice transmission.

6. HSIS Functional Elements

6.1 *Health Status Data Inventory*—HSIS providers should use the following inventory of data in compiling the health status record of subscribers:

6.1.1 *Subscriber Certification*—The data in the health status record should be certified as current, and correct by the individual or by the parent or legal guardian if the individual is a minor or has a legally designated guardian, or otherwise in conformance with state law. This certification should include:

6.1.1.1 Name (of individual),

6.1.1.2 Date of birth (of individual), and

6.1.1.3 Signature of individual, parent, or guardian.

6.1.2 *Physician's Certification*—A physician, licensed in accordance with state law, should certify that the data in the health status record are correct and are compiled from professional medical records. This certification should include:

6.1.2.1 Name (of certifying physician),

6.1.2.2 License number (physician's),

6.1.2.3 Address (physician's),

6.1.2.4 Telephone number (physician's),

6.1.2.5 Date (of physician's certification),

6.1.2.6 Date (of last professional medical record from which data is included), and

6.1.2.7 Signature (physician's).

6.1.3 *Individual Identification*—The health status record should include the following data that identify the individual and relates him/her to a particular record.

6.1.3.1 *Individual's Record Number*—This number is used by the HSIS provider for filing/locating the individual's record:

6.1.3.2 Name,

6.1.3.3 Address,

6.1.3.4 Date of birth,

6.1.3.5 Telephone number (home),

6.1.3.6 Telephone number (work),

6.1.3.7 Social security number,

6.1.3.8 Religion,

6.1.3.9 Medical insurance carrier name (primary),

6.1.3.10 Medical insurance policy number (primary),

6.1.3.11 Medical insurance carrier name (secondary),

6.1.3.12 Medical insurance carrier number (secondary),

6.1.3.13 Name of designated primary contact (for minors, usually a parent or guardian; for adult usually the spouse or other close associate),

6.1.3.14 Telephone numbers of primary contact,

6.1.3.15 Names of personal physicians (include all licensed professionals or providers such as psychiatrists, dentists, orthodontists, and so forth),

6.1.3.16 Telephone numbers of personal physicians,

6.1.3.17 Individual organ donor program participation (appropriate individual's donor card is necessary),

6.1.3.18 Sex,

6.1.3.19 Height,

6.1.3.20 Weight,

6.1.3.21 Color of eyes,

6.1.3.22 Color of skin, and

6.1.3.23 Color of hair.

6.1.4 *Subscriber Medical History*—The health status record should include the following data describing the medical history of the subject of this medical record.

6.1.4.1 *Previously Diagnosed Medical Problems*—Including "hidden diseases" and disabilities such as epilepsy, asthma, diabetes, blindness, deafness, AIDS, chromosomal

abnormalities, congenital heart disease, anesthesia problems listed in order of severity by the individual's personal physician/s.

6.1.4.2 *Previously Diagnosed Allergies*—Such as animals, insect stings, house dust, foods, penicillin, pollen, chemicals, poison ivy, or other plants, listed in order of severity by the individual's personal physician/s.

6.1.4.3 *Prosthetic Devices and Devices Used or Implanted in Major Medical Procedures (Present or Previous)*—(Such as cardiac pacemaker, hearing aid, dentures, brain shunt, renal dialysis, colostomy, tracheotomy, lens implant, or other).

6.1.4.4 *Visual Prosthesis*—Contact lenses, regular glasses, artificial eye/s, and so forth.

6.1.4.5 *Immunizations*—Type, status, and date.

6.1.4.6 *Physiological Injuries or Growth Problems*—Most recent to past (such as fractures, dislocations, soft tissue injuries).

6.1.4.7 *Psychological Disorders*—Most recent to past.

6.1.4.8 *Hospitalization*—Most recent to past (including name of hospital, address, reason for hospitalization, discharge date).

6.1.4.9 *Operations or Other Medical Procedures*—Most recent to past.

6.1.4.10 *Medical Conditions*—Current or past (such as arthritis, asthma, cancer, cardiac, diabetes, hypertension, and so forth).

6.1.4.11 *Allergies*—Current or past.

6.1.4.12 *Prescriptions Drugs*—Current or past.

6.1.4.13 *Radiation Treatment*—Current or past.

6.1.4.14 *Chemotherapy*—Current or past.

6.1.4.15 *Blood Test Results and Dates*—Most recent to past (including hemoglobin, white blood count, electrolytes, blood type, antibody screen, and so forth).

6.1.4.16 *Electrocardiogram Results and Dates*—Current or past.

6.1.4.17 *X-Ray Findings and Dates*—Most recent to past.

6.1.4.18 *Episodes of Prolonged Bleeding or Clotting*—Most recent to past including dates and circumstances.

6.1.5 Fig. 1 illustrates a sample paper form for inventorying and recording the above data for the individual health status record.

6.2 Fig. 2 lists definitions of the data that should be considered, if they exists, for recording in the inventory of the individual's health status record. Much of this data may not exist for young people or particularly healthful individuals.

6.3 Fig. 3 is a sample prehospital EMS health status data template of the "essential" and "desirable" data that should, if they exist, be extracted from an individual's health status data inventory for display/print out, in response to an authorized request by a prehospital EMS provider for use in assessment and prehospital care of medical emergencies. This minimum data set is based on guidelines in Guide E1744 and Guide F1629, and recommendations contained in Ref (**6**).

6.3.1 The prehospital emergency medical care data template contained in Fig. 3 should be considered as a "minimum data set" since it includes only those health status data elements which are judged to be "essential" or "desirable" in the final report of the Uniform Pre-Hospital Emergency Medical Services (EMS) Data Element Consensus Development Conference, (**6**), for defining "pre-existing" conditions.

6.3.2 HSIS providers may expand the list of data contained in their prehospital EMS health status data template, based on the expressed needs of participating EMS provider services, and with the prior consent of their subscribers. It should be emphasized that the HSIS providers have a responsibility to inform subscribers and obtain their consent regarding the specific data that will be made available in response to authorized requests from prehospital EMS providers.

6.4 *HSIS Database*—The HSIS providers should aggregate individuals' computerized health status records into a uniform HSIS database.

6.4.1 *Updating Individual Health Status Records*—Individuals who have a health status record should be provided with a manifold form for updating their records. The form should include copies for retention by the individual, for retention by health care providers or institutions submitting new or corrected information, and for submission to the HSIS provider. The form should include the individual's HSIS record number (see 6.1.3.1), should identify the data element/s to be changed, should specify the change/s, and should include individual subscriber and physician certification information in accordance with 6.1.1 and 6.1.2.

6.4.1.1 Individual subscribers are responsible for submitting changes and corrections to their HSIS providers. The HSIS providers should enter the certified changes and corrections in the individual's record, and if requested, provide individuals with an updated copy of their health status record.

6.4.2 *HSIS Database Confidentiality, Privacy, Access, and Security*—The HSIS operators should provide the following safeguards for health status information. These summarized safeguards have been extracted from the applicable ASTM draft standard (see Guide E1744), and will, when the draft standard is approved, be incorporated by reference into this guide. Additional applicable information on this subject should be obtained from the referenced ASTM standard.

6.4.2.1 *Confidentiality*—Subject to exceptions provided by laws, physicians, nurses, midwives, secretaries, medical technicians, prehospital EMS providers, EMSS staff, social workers, hospital managers, computer staff, research investigators, social workers, and others with access to HSIS data should have a professional or contractual duty, or both, to safeguard the privacy of individuals' HSIS data, regardless of how it is acquired, collected, stored, processed, generated, retrieved, and transmitted. The HSIS providers should develop policies and procedures including penalties for inappropriate access and use of HSIS data.

6.4.3 *Privacy*—By reference, the following basic tenets outlined in the Privacy Act of 1974 apply to HSIS data:

6.4.3.1 Individuals have the right to know what specific identifiable personal data is available in their HSIS record and to know what those data are used for.

6.4.3.2 Individuals should have access to their records, have the right to have a copy made, and have the right to amend or correct the records.

6.4.3.3 The HSIS data should not be used for any application beyond that for which there is prior individual consent.

1. INDIVIDUAL'S CERTIFICATION

1. **NAME :** _____
   Last **First** **MI**
2. **DATE OF BIRTH :** _____
   Year/Month/Day
3. **As the subject of this record or the subject's parent or legal guardian, I hereby certify that these records are current and accurate.**

SIGNATURE : _____
(Subject, Parent, or Guardian)

2. PHYSICIAN'S CERTIFICATION

I hereby certify that this Health Status Record is compiled from professional medical records and is accurate as of the certification date cited below.

1. **NAME :** (Print) _____
   (Signature) _____
   Last First MI
2. **LICENSE NO :** _____ _____
   Number State
3. **PHYSICIAN'S ADDRESS :**

_____
Street

_____
City State Zip Code

4. **TELEPHONE NUMBER :** _____ _____
5. **DATE OF CERTIFICATION :** _____
   Year/Month/Day
6. **MEDICAL RECORD SOURCE DATE :** _____
   Year/Month/Day

3. INDIVIDUAL'S IDENTIFICATION

1. **INDIVIDUAL'S RECORD NUMBER :** _____
2. **NAME :** _____
   Last First MI
3. **ADDRESS:**

_____
Street

_____
City State Zip Code

4. **DATE OF BIRTH :** _____
   Year/Month/Day
5. **TELEPHONE NUMBER (HOME) :** _____
6. **TELEPHONE NUMBER (WORK) :** _____
7. **SOCIAL SECURITY NUMBER :** _____ _____ _____
8. **RELIGION :**

CATHOLIC	____	**JEWISH**	____
PROTESTANT	____	**ISLAM**	____
CHRISTIAN SCIENCE	____	**JEHOVAH'S WITNESS**	____

OTHER _____
Specify

FIG. 1 Individual's Health Status Record Data Inventory

MEDICAL INSURANCE

		Carrier Name		Policy Number
9.	**Primary**	_____	10.	_____
11.	**Secondary**	_____	12.	_____

13. **DESIGNATED PRIMARY CONTACT:** _____
Name & Relationship

14. **TELEPHONE NUMBERS OF DESIGNATED PRIMARY CONTACT:**
HOME: _____ _____ **WORK:** _____ _____

PERSONAL PHYSICIANS

	Names		Telephone Numbers
15.	_____	16.	_____
	_____		_____
	_____		_____

17. **ORGAN DONOR PROGRAM PARTICIPATION:** _____
If yes, cite existence donor statement (driver's license, living will, donor card, etc.)

18. **SEX:** _____ Male _____ Female

19. **HEIGHT** _____ Inches

20. **WEIGHT:** _____ Pounds

21. **EYE COLOR:** _____ (State color)

22. **SKIN COLOR:** _____ (State color)

23. **HAIR COLOR:** _____ (State color)

4. INDIVIDUAL'S MEDICAL HISTORY

1. **PREVIOUSLY DIAGNOSED MEDICAL PROBLEMS:** List in order of severity based on certifying physician's judgement or assessment. Include such "hidden diseases" and disabilities such as epliepsy, asthma, diabetes, blindness, deafness, AIDS, chromosomal abnormality, congenital heart disease, anesthesia problems, etc.
(1) _____ (2) _____ (3) _____
(4) _____ (5) _____ (6) _____
List additional problems in order of severity.

2. **PREVIOUSLY DIAGNOSED ALLERGIES:** List in order of severity based on certifying physician's judgement or assessment. Include such allergic substances such as animals, insect stings, house dust, pollen, chemicals, poison ivy or other plants, etc.
(1) _____ (2) _____ (3) _____
(4) _____ (5) _____ (6) _____
List additional allergies in order of severity.

3. **PROSTHETIC DEVICES AND DEVICES USED IN MAJOR MEDICAL PROCEDURES - present or past:**

cardiac pacemeker	_____	hearing aid	_____
dentures	_____	brain shunt	_____
renal dialysis	_____	colostomy	_____
tracheostomy	_____	lens implant	_____
other	_____		

Specify

4. **VISUAL PROSTHESIS:** contact lenses _____ regular glasses _____

FIG. 1 *(continued)*

5. **IMMUNIZATIONS:**

	Fully Immunized Yes	Fully Immunized No	Date - Year/Month/Day
Tetanus	_____	_____	_____
DP	_____	_____	_____
Polio	_____	_____	_____
MMR	_____	_____	_____
Chicken Pox	_____	_____	_____
Other - Specify	_____	_____	_____

6. **PHYSIOLOGICAL INJURIES OR GROWTH PROBLEMS:** List most recent to past including such conditions as fractures, dislocations, soft tissue damage, etc.

1. _____ **2.** _____
3. _____ **4.** _____

7. **PSYCHOLOGICAL DISORDERS:** List most recent to past including such conditions as panic disorder, depression, chronic phobias, etc.

1. _____ **2.** _____
3. _____ **4.** _____

8. **HOSPITALIZATIONS:** List most recent to past, including hospital name and address, reason for hospitalization, and discharge date.

1. _____
Name of Hospital

_____
Address - (Street, City, State, Zip Code)

_____ _____
Reason for hospitalization **Discharge (Year/Month/Day)**

2. _____
Name of Hospital

_____
Address - (Street, City, State, Zip Code)

_____ _____
Reason for hospitalization **Discharge (Year/Month/Day)**

3. _____
Name of Hospital

_____
Address - (Street, City, State, Zip Code)

_____ _____
Reason for hospitalization **Discharge (Year/Month/Day)**

9. **OPERATIONS AND OTHER MEDICAL PROCEDURES:** List most recent to past, including such procedures as surgeries, radiation therapy, chemical therapies, etc.

1. _____ **2.** _____
3. _____ **4.** _____
5. _____ **6.** _____

10. **MEDICAL CONDITIONS CURRENTLY UNDER TREATMENT:** List most recent to past, including such conditions as arthritis, asthma, cancer, cardiac, diabetes, and other conditions listed in 4.1 under "PREVIOUSLY DIAGNOSED MEDICAL PROBLEMS".

1. _____ **2.** _____
3. _____ **4.** _____
5. _____ **6.** _____

11. **ALLERGIES CURRENTLY UNDER TREATMENT:** List most recent to past. (See "PREVIOUSLY DIAGNOSED ALLERGIES".)

1. _____ **2.** _____
3. _____ **4.** _____

FIG. 1 *(continued)*

12. **PRESCRIPTION DRUGS:** List most recent to past, including periods of use (year/month/date to year/month/date), National Drug Code (NDC) /name/strength /and form of drug, daily dosage, and route of administration.

Period YY/MM/DD–YY/MM/DD	NDC, Name/Strength/Form	Dosage per Day	Route

13. **RADIATION TREATMENT:** List most recent to past including dates and purpose of radiation therapy.

Dates (YY/MM/DD–YY/MM/DD)	Purpose of Treatment/Therapy

14. **CHEMOTHERAPY:** List most recent to past including dates, chemical and reason for therapy.

Dates (YY/MM/DD–YY/MM/DD)	Chemical and Reason for Therapy

15. **BLOOD TEST RESULTS:** List most recent to past including date, blood type (A, B, AB, O), hemoglobin (g/DL), white blood count, Electrolytes (Including Glucose, BUN [Mg/DL]), Na [ME G/L], K [ME G/L], CL [ME G/L], Antibody Screen (Positive/Negative).

Date	Type	Hemo	WBC	Electrolytes					Antibodies
				Glu	BUN	Na	K	CL	Pos/Neg

16. **ELECTROCARDIOGRAM DATES AND RESULTS:**

Date	Results

17. **X–RAY DATES AND FINDINGS:** List most recent to past.

Date	Findings

18. **EPISODES OF PROLONGED BLEEDING OR CLOTTING** – List most recent to past including date and circumstances.

Date	Circumstances

FIG. 1 *(continued)*

ITEM NUMBER. NAME: Definition: Coding

1. **INDIVIDUAL'S CERTIFICATION:** This block of data contains the individuals certification that the information contained herein is a current and accurate statement of his health status.: Coding not applicable.

1.1 **NAME:** Printed last name, first name, and middle initial, separated by commas, of the individual who is the subject of this health record: Alphabetic coding

1.2 **DATE OF BIRTH:** Date of birth of the subject of this health record.: Use numeric code (YY/MM/DD) to represent the year, month, and day of birth.

1.3 **SIGNATURE:** Handwritten signature of the subject.: Coding not applicable.

2. **PHYSICIAN'S CERTIFICATION:** This block of data contains a certification by a licensed physician's that the data being entered into the health status record is compiled from the individual's medical records and is accurate as of the date of certification.: Coding not applicable.

2.1 **NAME & SIGNATURE:** Printed last name, first name, and middle initial, separated by commas, of the certifying physician, followed by the physician's handwritten signature.: Alphabetic coding

2.2 **LICENSE NUMBER:** License number and issuing State of certifying physician: Use Alpha/numeric coding to represent the license number and two-letter abbreviation of State

2.3 **ADDRESS:** Street number and name plus apartment or suite number, followed by name of city, two-letter abbreviation of the State, followed by the nine number zip code of the certifying physician: Alpha/numeric coding.

2.4 **TELEPHONE NUMBER:** Three-digit area code followed by three-digit prefix and four-digit telephone numbers separated by spaces, plus extension number (if applicable) of certifying physician.: Numeric Coding

2.5 **DATE OF CERTIFICATION:** Year, month, and day of physician's certification of health status date being entered into the record.: Use numeric code (YY/MM/DD) to represent date of certification

2.6 **MEDICAL RECORD SOURCE DATE:** Year, month, and day of medical record which was the source of from which the health status record entry was taken.: Use numeric code (YY/MM/DD) to represent date of certification

FIG. 2 Individual's Health Status Record Data Element Definitions

3. INDIVIDUAL'S IDENTIFICATION: This section contains data identifying the individual who is the subject of this health status record.: Coding not applicable.

3.1 INDIVIDUAL'S RECORD NUMBER: A number assigned by the HSIS provider to the individuals record and used for filing/locating the individual's record.

3.2 NAME: Printed last name, first name, and middle initial, separated by commas, of the individual who is the subject of this health record: Alphabetic coding

3.3 ADDRESS: Street number and name plus apartment or suite number, followed by name of city, two-letter abbreviation of the State, followed by the nine number zip code of the individual who is the subject of this health record: Alpha/numeric coding.

3.4 DATE OF BIRTH: Date of birth of the subject of this health record.: Use numeric code (YY/MM/DD) to represent the year, month, and day of birth. (Same as 1.2)

3.5 TELEPHONE NUMBER (HOME): Three-digit area code followed by three-digit prefix and four-digit telephone numbers separated by spaces, plus extension number (if applicable) of the subject of this health record.: Numeric Coding

3.6 TELEPHONE NUMBER (WORK): Three-digit area code followed by three-digit prefix and four-digit telephone numbers separated by spaces, plus extension number (if applicable) of the subject of this health record.: Numeric Coding

3.7 SOCIAL SECURITY NUMBER: Social Security Number of the subject of this health record consisting of 9 numbers represented by the numeric code (NN NNN NNNN)

3.8 RELIGION: The religious affiliation claimed by the subject of this health record expressed in a two-character alphabetic code as indicated in the following examples:

CATHOLIC	CA	JEWISH	JE
PROTESTANT	PR	ISLAM	IS
CHRISTIAN SCIENCE	CS	JEHOVAH'S WITNESS	JW

OTHER _____
Specify

3.9 PRIMARY MEDICAL INSURER: The name of the primary health/medical insurance company of the subject of this health record: Alphabetic Coding:

3.10 PRIMARY POLICY NUMBER: The number of the primary health/medical insurance policy of the subject of this health record: Alpha/numeric coding:

FIG. 2 *(continued)*

3.11 SECONDARY MEDICAL INSURER: The name of the secondary health/medical insurance company of the subject of this health record: Alphabetic Coding:

3.12 SECONDARY POLICY NUMBER: The number of the secondary health/medical insurance policy of the subject of this health record: Alpha/numeric coding:

3.13 DESIGNATED PRIMARY CONTACT: Name of Designated Primary Contact (for minors, usually a parent or guardian; for adult usually the spouse or other close associate): Alphabetic coding:

3.14 PRIMARY CONTACT TELEPHONE NUMBERS: the letter "H" followed by ten-digits corresponding to the home telephone number followed by a space and the letter "W" followed by the ten digits corresponding to the work telephone number of the primary contact: Alpha/Numeric coding:

3.15 PERSONAL PHYSICIANS' NAMES: Names of physicians (include all licensed professionals or providers such as psychiatrists, dentists, orthodontists, etc.) who are currently providing medical care to the subject of this health record. Alphabetic coding:

3.16 PERSONAL PHYSICIANS' TELEPHONE NUMBER/S: Corresponding telephone number/s which can be used to contact the personal physicians. Numeric coding:

3.17 ORGAN DONOR PROGRAM PARTICIPATION: If the subject of this medical record has completed an organ donor statement, cite the form of the statement and where that statement can be found (drivers license, living will, donor card, etc.). Alphabetic coding:

3.18 SEX: The sex of the subject of this medical record expressed as M for Male or F for Female: Alphabetic Coding:

3.19 HEIGHT: Height of the subject of this medical record expressed in inches: Numeric coding:

3.20 WEIGHT: Current weight of the subject of this medical record expressed in pounds and tenths of pounds. Numeric coding:

3.21 EYE COLOR: Observed color of the eyes of the subject of this medical record (blue, brown, green, gray, etc.). Alphabetic coding:

3.22 SKIN COLOR: Observed color of skin of subject of this medical record (white, black, brown, yellow, etc.). Alphabetic coding:

3.23 HAIR COLOR: Observed color of hair of subject of this medical record (black, brown, red, blond, etc.). Alphabetic coding:

FIG. 2 *(continued)*

4. INDIVIDUAL'S MEDICAL HISTORY: This section contains data describing the medical history of the subject of this medical record.: Coding not applicable:

4.1 PREVIOUSLY DIAGNOSED PROBLEMS: A list, in order of severity based on certifying physician's judgment or assessment, of diagnosed problems of the subject of this medical record, including such "hidden diseases" and disabilities such as epilepsy, asthma, diabetes, blindness, deafness, AIDS, chromosomal abnormality, congenital heart disease, anesthesia problems, etc.: Alphabetic coding:

4.2 PREVIOUSLY DIAGNOSED ALLERGIES: A list, in order of severity, based on certifying physician's judgment or assessment of previously diagnosed allergies of the subject of this medical record, including such allergic substances such as animals, insect stings, house dust, pollen, chemicals, poison ivy or other plants, etc.: Alphabetic coding:

4.3 PROSTHETIC DEVICES AND DEVICES USED IN MAJOR MEDICAL PROCEDURES: A list of prosthetic devices & devices used in major medical procedures (present or previous) on the subject of this medical record (such as cardiac pacemaker, hearing aid, dentures, brain shunt, renal dialysis, colostomy, tracheotomy, lens implant, or other).: Alphabetic coding:

4.4 VISUAL PROSTHESIS: Visual prosthesis such as contact lenses, regular eye glasses, artificial eyes, etc. used by the subject of this medical record.: Alphabetic coding:

4.5 IMMUNIZATIONS: A list of the diseases (tetanus, diphtheria, polio, chicken pox, mumps/measles/rubella, etc) for which the subject of this medical record has been fully immunized followed by the date on which full immunization was administered.: Alpha/numeric coding:

4.6 PHYSIOLOGICAL INJURIES OR GROWTH PROBLEMS: A list of injuries or growth problems (fractures, dislocations, soft tissue injuries, etc.,) for which the subject of this health record has been diagnosed, from most recent to past.: Alphabetic coding:

4.7 PSYCHOLOGICAL DISORDERS: A listing of psychological problems (depression, chronic phobias, panic disorder, etc.) for which the subject of this health record has been diagnosed, from most recent to past.: Alphabetic coding:

4.8 HOSPITALIZATIONS: A listing of hospitalizations of the subject of this health record, from most recent to past, including the name and address of the hospital, reason for hospitalization, and date of discharge.: Alpha/numeric coding:

4.9 OPERATIONS AND OTHER MEDICAL PROCEDURES: A listing of medical procedures such as surgeries, radiation therapy, chemical therapies, etc., which the subject of this health record has received, from most recent to past.: Alphabetic coding:

FIG. 2 *(continued)*

4.10 MEDICAL CONDITIONS CURRENTLY UNDER TREATMENT: A listing from most recent to past, including previously diagnosed medical problems in 1.4 above, of such conditions as arthritis, asthma, cancer, cardiac, diabetes, and other conditions, for which the subject of this health record is currently being treated.: Alphabetic coding:

4.11 ALLERGIES CURRENTLY UNDER TREATMENT: A listing, from most recent to past of allergic conditions, such as are listed in 4.2 above, for which the subject of this health record is currently being treated.: Alphabetic coding:

4.12 PRESCRIPTION DRUGS: A listing, from most recent to past, including periods of use (year/month/date to year/month/date), National Drug Code (NDC)/name/strength/and form of drug, daily dosage, and route of administration of physician prescribed drugs used by the subject of this health record.: Alpha/numeric coding:

4.13 RADIATION TREATMENT: A listing, from most recent to past, including dates and purpose of radiation therapy administered to the subject of this health record.: Alpha/numeric coding:

4.14 CHEMOTHERAPY: A listing, from most recent to past, including dates, chemical and reason, of chemotherapy received by the subject of this health record.: Alpha/numeric coding:

4.15 BLOOD TEST RESULTS: A listing for the subject of this health record, from most recent to past including date, of blood test results including type (A, B, AB, O), hemoglobin (g/DL), white blood count, Electrolytes (Including Glucose, BUN [Mg/DL], Na [ME G/L], K [ME G/L], CL [ME G/L], Antibody Screen (Positive/Negative), etc.: Alpha/numeric coding:

4.16 ELECTROCARDIOGRAM DATES AND RESULTS: A listing of the dates and results of electrocardiograms administered to the subject of this health record.: Alpha/numeric coding:

4.17 X-RAY DATES AND FINDINGS: A listing, from most recent to past, of X-ray diagnostic exposures administered to the subject of this health record including dates and findings.: Alpha/numeric coding:

4.18 EPISODES OF PROLONGED BLEEDING OR CLOTTING: A listing, from most recent to past of episodes of prolonged bleeding or clotting of the subject of this health record, including dates and circumstances.: Alpha/numeric coding:

FIG. 2 *(continued)*

As a minimum, the following health status data should be downloaded for printout/display in response to an authorizeed request for access to an individual's health status data made by a prehospital EMS provider or by a person providing on–line medical direction for a prehospital EMS response. This data is listed in two categories two categories as described in reference 2.1.6: Demographics of the Emergency Patient and Pre–existing Conditions.

Data number elements are those listed in Figure 1.

DEMOGRAPHICS OF THE EMERGENCY PATIENT

3.1 **INDIVIDUAL'S RECORD NUMBER:** _____

3.2 **NAME:** _____
Last First MI

3.3 **ADDRESS:**

_____
Street

_____
City State Zip Code

3.4 **DATE OF BIRTH:** _____
Year/Month/Day

3.5 **TELEPHONE NUMBER (HOME):** _____

3.7 **SOCIAL SECURITY NUMBER:** _____ _____ _____

3.8 **RELIGION:**

CATHOLIC	____	**JEWISH**	____
PROTESTANT	____	**ISLAM**	____
CHRISTIAN SCIENCE	____	**JEHOVAH'S WITNESS**	____

OTHER _____
Specify

3.9 Primary Insurance Carrier _____ **3.10.** **Policy No** _____

3.11 **Secondary Insurance Carrier** _____ **3.12** **Policy No** _____

FIG. 3 Sample Prehospital EMS Health Status Data Template

3.13. DESIGNATED PRIMARY CONTACT: _____
Name & Relationship

3.14. TELEPHONE NUMBERS OF DESIGNATED PRIMARY CONTACT:

HOME: _____ _____ **WORK:** _____ _____

PERSONAL PHYSICIANS

	Names		Telephone Numbers
3.15	_____	**3.16**	_____
	_____		_____
	_____		_____

3.17 ORGAN DONOR PROGRAM PARTICIPATION:

_____

If yes, cite existence donor statement (driver's license, living will, donor card, etc.)

3.18 SEX: _____ Male _____ Female

3.19 HEIGHT _____ Inches

3.20 WEIGHT: _____ Pounds

3.21 EYE COLOR: _____ (State color)

3.22 SKIN COLOR: _____ (State color)

3.23 HAIR COLOR: _____ (State color)

PRE-EXISTING CONDITIONS

4.1 PREVIOUSLY DIAGNOSED MEDICAL PROBLEMS: List in order of severity based on certifying physician's judgement or assessment. Include such "hidden diseases" and disabilities such as epliepsy, asthma, diabetes, blindness, deafness, AIDS, chromosomal abnormality, congenital heart disease, anesthesia problems, etc.

(1) _____ (2) _____ (3) _____
(4) _____ (5) _____ (6) _____
List additional problems in order of severity.

4.2 PREVIOUSLY DIAGNOSED ALLERGIES: List in order of severity based on certifying physician's judgement or assessment. Include such allergic substances such as animals, insect stings, house dust, pollen, chemicals, poison ivy or other plants, etc.

(1) _____ (2) _____ (3) _____
(4) _____ (5) _____ (6) _____
List additional allergies in order of severity.

4.3 PROSTHETIC DEVICES AND DEVICES USED IN MAJOR MEDICAL PROCEDURES – present or past:

cardiac pacemeker	_____	**hearing aid**	_____
dentures	_____	**brain shunt**	_____
renal dialysis	_____	**colostomy**	_____
tracheostomy	_____	**lens implant**	_____

other _____ **(Specify)**

FIG. 3 *(continued)*

4.4 VISUAL PROSTHESIS: **contact lenses** _____ **regular glasses** _____
artificial eye/s _____ other _____

4.6 PHYSIOLOGICAL INJURIES OR GROWTH PROBLEMS: List most recent to past including such conditions as fractures, dislocations, soft tissue damage, etc.

1. _____ 2. _____
3. _____ 4. _____

4.8 MOST RECENT HOSPITALIZATION:

_____
Name of Hospital

_____
Address - (Street, City, State, Zip Code)

_____ _____
Reason for hospitalization **Discharge (Year/Month/Day)**

4.9 OPERATIONS AND OTHER MEDICAL PROCEDURES: List most recent to past, including such procedures as surgeries, radiation therapy, chemical therapies, etc.

1. _____ 2. _____
3. _____ 4. _____
5. _____ 6. _____

4.10 MEDICAL CONDITIONS CURRENTLY UNDER TREATMENT: List most recent to past, including such conditions as arthritis, asthma, cancer, cardiac, diabetes, and other conditions listed in 4.1 under "PREVIOUSLY DIAGNOSED MEDICAL PROBLEMS".

1. _____ 2. _____
3. _____ 4. _____
5. _____ 6. _____

4.11 ALLERGIES CURRENTLY UNDER TREATMENT: List most recent to past. (See "PREVIOUSLY DIAGNOSED ALLERGIES".)

1. _____ 2. _____
3. _____ 4. _____

4.12 PRESCRIPTION DRUGS: List drugs currently being used including periods of use (year/month/date to present), National Drug Code (NDC)/name/strength /and form of drug, daily dosage, and route of administration.

Period YY/MM/DD– PRESENT	NDC, Name/Strength/Form	Dosage per Day	Route

FIG. 3 *(continued)*

4.15 BLOOD TEST RESULTS: List most recent results, including date, blood type (A, B, AB, O), hemoglobin (g/DL), white blood count, Electrolytes (Including Glucose, BUN [Mg/DL], Na [ME G/L], K [ME G/L], CL [ME G/L], Antibody Screen (Positive/Negative).

Date	Type	Hemo	WBC	Electrolytes					Antibodies
				Glu	BUN	Na	K	CL	Pos/Neg

18. EPISODES OF PROLONGED BLEEDING OR CLOTTING - List most recent to past.

Date	Circumstances

NOTE 1—As a minimum, this health status data should be downloaded for printout/display in response to an authorized request for access to an individual's health status data made by a prehospital EMS provider or by a person providing on-line medical direction for a prehospital EMS response. This data is listed in two categories as described in Guide E1774 demographics of the emergency patient and preexisting conditions. Data number elements are those listed in1.

FIG. 3 *(continued)*

6.4.3.4 Prior consent of the individual must be obtained for all other uses of individual HSIS data.

6.4.3.5 Individual health status data should be collected and used only for necessary and lawful purposes.

6.4.3.6 *Access*—The HSIS provider shall provide each individual or individual's surrogate with his/her health status record number (see 6.1.3.1), and a password to be provided to prehospital EMS providers or to persons providing medical direction, to request authorized access and downloading EMS template data from the individual's health status record. The password should be changed after each use and after significant changes/corrections are made to an individual's record. Such changes in the password will help avoid unauthorized access to the individuals health status record and compromise of patient privacy and confidentiality and, will ensure that downloaded health status data are current.

6.4.3.7 *Health Status Record Security*—The individual's health status record should be stored in a centralized HSIS database in an electronic format for rapid retrieval and transmission in an emergency situation on authorized request. The HSIS provider is responsible for the security and integrity of the database and for prevention of unauthorized access to or changes in the health status records. This includes provisions to safeguard records from occurrences and exposure to: (*1*) accidental or intentional disclosure to unauthorized persons, (*2*) accidental or malicious alteration, (*3*) unauthorized copying, (*4*) loss or theft, or (*5*) destruction by hardware failures; software deficiencies; operating mistakes; physical damage by fire, water, smoke, excessive temperatures, electrical failure, or sabotage, or a combination thereof.

6.4.4 In EMS systems, where the existing telecommunications and computer technology do not permit access by means of computer modem, provisions should exist for accessing data in an individual's health status record by means of two-way voice communications, by telephone FAX transmission, or by means of other available telecommunications.

6.4.5 Hard copies of selected data from individuals' health status records may be authorized for specific applications such as for school or summer camp health files. Templates should be developed for each specific application and provisions should exist for the custodian(s) of such hard copy health status records to ensure the security and authorized use of the records.

6.5 *Health Status Record Data Transmission*—The HSIS data shall be transmitted from the HSIS provider to independent computers in accordance with Specification E1238.

7. Keywords

7.1 health status information services; information services; prehospital emergency medical services

REFERENCES

(1) Rockwell International Corporation Project: Trauma Care Information Management System (TCIMS), funded under ARPA Agreement MDA972-94-200010.

(2) Rockwell International Corporation Project: National Information Infrastructure—Health Information Network (NII-HIN), funded under ARPA Agreement.

(3) *94-04 Program in Information Infrastructure for Healthcare*, U.S. Department of Commerce, Technology Administration, National Institute of Standards and Technology, 1994.

(4) *Uniform Ambulatory Care Data Set*, U.S. Department of Health and Human Services, 1994.

(5) *Uniform Hospital Discharge Data Set*, U.S. Department of Health and Human Services, 1994.

(6) Uniform Pre-Hospital Emergency Medical Services (EMS) Data Element Consensus Development Conference, *Final Report*, National Highway Traffic Safety Administration, June 1994.