E. Glossary

Editor: Don A. Kruse, Atomic Moving Images™

A

Abstract Message

The basic level of definition within HL7 is that of the abstract message associated with a particular trigger event. The abstract message definition includes the data fields that will be sent within a message, the valid response messages, and the treatment of application level errors or the failure of the underlying communications system. An HL7 abstract message is defined in terms of HL7 segments and fields, as described in Section 2.4.8.

Abstract Syntax Notation One (ASN.1)

ASN.1 is a data definition language which allows formal definitions of information structures to be expressed in a manner which is independent of any implementation constraints. It may be used to create complex hierarchical structures from basic primitive types.

ACK

General Acknowledgment message. The ACK message is used to respond to a message where there has been an error that precludes application processing or where the application does not define a special message type for the response.

Acknowledgment - Accept Level

The receiving system commits the message to safe storage in a manner that releases the sending system from any obligation to resend the message. A response is returned to the initiator indicating successful receipt and secure storage of the information.

Acknowledgment - Application Level

The appropriate application on the receiving system receives the transaction and processes it successfully. The receiving system returns an application-dependent response to the initiator.

ACR/NEMA

American College of Radiology and the National Electrical Manufacturers Association. The American College of Radiology formed a relationship with the National Electronic Manufacturers' Association in 1982 to develop a standard for Digital Imaging and Communications in Medicine (DICOM). The purpose of the standard was to promote a generic digital image communication format; facilitate the development and expansion of picturing archiving and

	communication systems (PACS); allow the creation of diagnostic information databases for remote access; and help assure the useability of new equipment with existing systems. The current standard (Version 3.0) defines image data as well as patient, study and visit information necessary to provide the context for the images. Approval of this document as an American National Standard may be pursued in the future by NEMA, which is accredited by ANSI.
AD	Address data type. The street or mailing address of a person or institution.
Addendum Document	An appendage to an existing document that contains supplemental information. The parent document remains in place and its content is unaltered.
Admission, Discharge and Transfer (ADT) Transaction Set	Provides for transmitting new or updated demographic and visit information about patients. Generally information will be entered into an ADT system and passed to the nursing, ancillary and financial systems either in the form of an unsolicited update or in response to a record-oriented query.
ADT	Admission, Discharge and Transfer (ADT) message.
Adverse Drug Reaction	Pre-marketing: All noxious and unintended responses to a medicinal product related to any dose. Post-marketing/WHO: A response to a drug which is noxious and unintended, and which occurs at doses normally used in man for prophylaxis, diagnosis, or therapy of disease or for the modification of physiologic function WHO: Any untoward medical occurrence that may present during treatment with a pharmaceutical product but which does not necessarily have a causal relationship with this product. Post-marketing/US: Any undesirable effect reasonably associated with the use of the drug, that may occur as part of the pharmacological action of the drug or may be unpredictable. Post-marketing/European Union: A reaction which is harmful and unintended and which occurs at doses normally used in man for the prophylaxis, diagnosis, or treatment of disease or the modification of physiological function
Adverse Event/Adverse Experience	Pre-marketing: Any untoward medical occurrence in a patient or clinical investigation subject administered a pharmaceutical product and which does not necessarily have a causal relationship with this treatment. Post-marketing/US: Any adverse event associated with the use of a drug in humans, whether or not considered drug related, including the following: An adverse event occurring in the course of the use of a drug product in professional practice; an adverse event occurring from drug overdose; an adverse event occurring from drug withdrawal; and any failure of expected pharmacologic action.

	Post-marketing/European Union: Any undesirable experience occurring to a patient treated with a pharmaceutical product whether or not considered related to the medicinal product.
ANSI	American National Standards Institute. Founded in 1918, ANSI itself does not develop standards. ANSI's roles include serving as the coordinator for U.S. voluntary standards efforts, acting as the approval body to recognize documents developed by other national organizations as American National Standards, acting as the U.S. representative in international and regional standards efforts, and serving as a clearinghouse for national and international standards development information.
ANSI HISPP	See HISPP.
Application Layer	Layer 7 of the OSI Model. Responsible for information transfer between two network applications. This involves such functions as security checks, identification of the two participants, availability checks, negotiating exchange mechanisms and most importantly initiating the exchanges themselves. See OSI Model.
Appointment	An appointment represents a booked slot or group of slots on a schedule, relating to one or more services or resources. Two examples might include a patient visit scheduled at a clinic, and a reservation for a piece of equipment.
Archived Document	A status in which a document has been stored off-line for long-term access.
ASC X12	Accredited Standards Committee X12. ASC X12 develops standards for electronic data interchange, is administered by the Data Interchange Standards Association (DISA), and is accredited to submit its documents to ANSI for approval as American National Standards. X12 has developed a number of message standards for purchase order data, invoice data, and other commonly used business documents. The Insurance Subcommittee (X12N) has developed a group of documents related to providing medical insurance claims transmission, including enrollment/maintenance (834), disability insurance claim (837), and claim payment/advice (835). None of these documents are currently approved as American National Standards, although some are currently considered draft standards for trial use. X12 intends to pursue approval of them as American National Standards in the future,
ASC X3	Accredited Standards Committee X12. ASC X3 develops generic standards for information technology, is administered by the Computer and Business Equipment Manufacturers Association (CBEMA), and is accredited to submit its documents to ANSI for approval as American National Standards.
Assessment	A type of observations/result or observations/result set performed by a health

care provider on the patient. An assessment represents a collection of data about the patient to evaluate a patient's current and ongoing condition. An assessment can be subjective or objective; initial or ongoing; clinical or non-clinical; formal or informal. Examples of assessment components include height and weight, body systems, I&O, and activities of daily living. Standards (e.g., Gordon's Functional Health Pattern) and rules are used to prepare an assessment.

ASTM

American Society for Testing and Materials. ASTM was founded in 1898 and chartered in 1902 as a scientific and technical organization for the development of standards on characteristics and performance of materials. The charter was broadened in 1971 to include products, systems and services, as well as materials. ASTM is the largest non-government source of standards in the U.S., comprised of over 140 committees and over 3,000 standards.

ASTM Committee E31

ASTM Committee E31 on Computerized Systems is the committee which is responsible for the development of the medical information standards. E31 has 12 subcommittees in the healthcare area. In 1984, the AAMSI task force became subcommittee E31.11 and published E1238, Standard Specification for Transferring Clinical Observations Between Independent Systems, and is used by most of the referral clinical laboratories. Related data interchange standards include E1394 (Standard Specification for Transferring Information Between Clinical Instruments), and E1467 (Specification for Transferring Digital Neurophysiological Data Between Independent Computer Systems). Subcommittee E31.13 focuses on clinical laboratory result reporting standards. ASTM E31 is not currently accredited by ANSI.

Authenticated Document

A status in which a document or entry has been signed manually or electronically by one or more individuals who attest to its accuracy. No explicit determination is made that the assigned individual has performed the authentication. While the standard allows multiple instances of authentication, it would be typical to have a single instance of authentication, usually by the assigned individual.

Auxiliary Application

An auxiliary application neither exerts control over, nor requests changes to a schedule. It is only concerned with gathering information about a particular schedule. It can be considered an "interested third-party," in that it is interested in any changes to a particular schedule, but has no interest in changing it or controlling it in any way. It may gather information passively or actively. An auxiliary application passively collects information by receiving unsolicited updates from a filler application.

B

BAR

Add/Change Billing Account message. The BAR message supports data sent from some application (usually a registration or ADT system) to the patient accounting system to establish an account for a patient's billing/accounts

	receivable record. Many of the segments associated with this message are optional. This optionality allows those systems needing these fields to set up transactions which fulfill their requirements yet satisfy the HL7 requirements.
Batteries of Appointments.	For example, an activity consisting of an appointment with Radiology, an appointment with a specialist, and an appointment with a primary care physician might be scheduled.
Battery	The word battery is used in this specification synonymously with the word profile or panel. The individual observation elements within a battery may be characteristic of a physiologic system (e.g., liver function tests), or many different physiologic systems.
Benefits	Are the services payable under a specific payor plan. They are also referred to as an insurance product, such as professional services, prescription drugs, etc.
Block	An indication that a slot or a set of slots is unavailable for reasons other than booking an appointment.
Book	The act of reserving a slot or set of slots on a schedule for a service or resource.

C

Canceled (Deleted) Document	A status in which a document has been "removed" from a patient's record with no replacement. This is done when a document has been erroneously created or assigned to the incorrect patient.
Causal Relationship	When an event occurs a product may be suspected as causing the event but rarely can it be proven particularly at an early stage of the product's life. Certain information about the relationship between the product and the event can reinforce the believe in a causal relationship between the product and the event while others can decrease the probability that there is a causal relationship.
Causation	An exposure which truly does increase or decrease the probability of a certain outcome.
CD	Chanel definition data type.
CE	Coded Element data type. This data type transmits codes and the text associated with the code. This type has six components, as follows: identifier, text, name of coding system, alternate identifier, alternate text, and name of alternate coding system.
CEN	The Comite Europeen de Normalisation (CEN) is the European Economic Community's (EEC) standards development organization (analogous to ANSI in the U.S.). Technical Committee 251 (TC 251) is CEN's committee to develop standards in Medical Informatics. CEN also sponsors TC 224 (Machine-

	readable cards, related device interfaces and operations).
CF	Coded Element with Formatted Values data type. This data type transmits codes and the formatted text associated with the code.
Child Appointment	A child appointment is an appointment subordinate to another appointment (called a parent appointment). For example, a single instance of an appointment in a group of recurring appointments is a child to the group. Child appointments can themselves be parent appointments. For example, if a battery of appointments is scheduled, then the atomic units of the battery are children to the battery request. If the battery is scheduled as a repeating appointment, then each instance of the battery of appointments (parent to each of the atomic units) is a child to the original repeating request.
CK	Composite with Check Digits data type. A composite consisting of four components: an ID number, a check digit, a code showing the check digit scheme employed, and an assigning facility ID.
Clinical Information	Refers to the data contained in the patient record. The data may include such things as problem lists, lab results, current medications, family history, etc. For the purposes of this chapter, clinical information is limited to diagnoses (DG1), results reported (OBX/OBR), and allergies (AL1).
Clinical Pathway	A **clinical pathway** is a standardized plan of care against which progress towards health is measured. A clinical pathway is applied based upon the results of a patient assessment. A clinical pathway shows exact timing of all key patient care activities intended to achieve expected standard outcomes within designated time frames. A clinical pathway includes documentation of problems, expected outcomes/goals, and clinical interventions/orders.
Clinical Trial	A scientifically rigorous study of individual outcomes to some process of healthcare intervention. Clinical trials usually involve medical treatments so this document will use the term ***treatment***, rather than the broader term ***intervention***. A clinical trial design may randomly assign and compare one treatment approach with another, or generate safety and efficacy data on a single treatment approach. The clinical trial has a protocol for the patient's course of treatment and/or evaluation. There is usually a schedule for collection of data to measure compliance, safety, and outcomes.
CM	Composite data type. A field that is a combination of other meaningful data fields. Each portion is called a component.
CN	Composite Number and Name data type. A field identifying a person both as a coded value and with a text name. The first component is the coded ID according to a site-specific table. The second through the sixth components are the person's name as a PN field. The seventh component specifies the source table used for the first component.
Complex Appointments	For example, recurring batteries of appointments, or batteries of battery

appointments.

Component Separator — The component separator is used to separate adjacent components of some data fields. Its use is described in the descriptions of the relevant data fields. The character that represents the component separator is specified for each message as the first character in the Encoding Characters data field of the MSH segment. Absent other considerations it is recommended that all sending applications use `^' as the component separator. However, all applications are required to accept whatever character is included in the Message Header and use it to parse the message.

Composite Document — A document which consists of an original document and one or more addenda.

Computer-Based Patient Record Institute, Inc. (CPRI) — CPRI is an organization committed to initiating and coordinating urgently needed activities to facilitate and promote the routine use of computer-based patient records. CPRI was incorporated in January 1992 in response to the Institute of Medicine's Patient Record Study Committee report.

CP — Composite price data type. In version 2.3, replaces the MO data type.

CQ — Composite Quantity with Units data type. The first component is a quantity and the second is the units in which the quantity is expressed.

CQ — Composite quantity with units data type.

D

Data Fields — Appendix A, the data dictionary, provides an alphabetical listing of data elements, listings of recommended coded values, and a cross reference from data elements to segments.

Data Schedule — The treatment, diagnostic, and procedural requirements, as well as data collection due dates, scheduled on a timeline for most clinical trials. As data are reported, they may need to reflect the scheduled time point that they satisfy. Clinical trials quality control requires attention to compliance between the protocol's schedule and patient data records.

The data schedule will be keyed by time points relative to the study. Some data may be due prior to and at the conclusion of the study and/or one or more of its phases. Some are interim within the study or its phases depending on protocol events such as administration of treatment, arbitrary time intervals instated to make and record assessments, or some clinical milestone such as relapse of disease. Often, multiple data parameters are scheduled at the same time point. Several examples follow:

Data Type — HL7 provides a special set of HL7 data types. These are defined in Chapter 2.

Deferred Processing	In this mode the responding system sends an acknowledgment to the initiating system that means the message has been placed in some type of secure environment and the receiving system commits to processing it within a "reasonable" amount of time, if (a) the message contains the necessary information, and (b) nothing causes the message's request for action to be canceled before the responding system processes the request. Both of these conditions are checked at the time of processing, not at the time of the first acknowledgment.
Dependent	Refers to a person who is affiliated with a subscriber, such as spouse or child.
DFT	Detail Financial Transaction message. The DFT message is used to describe a financial transaction transmitted between systems.
DICOM	Digital Imaging and Communications in Medicine. Draft standard in development by ACR/NEMA for exchange of radiological images. Version 3 of DICOM defines image data as well as patient, study and visit information necessary to provide the context for the images. This version incorporates an object-oriented data model and adds support for ISO Standard communications.
Dictated	A status in which information has been orally recorded but not yet transcribed.
Diet	A diet consists of the diet codes, supplements, and preferences effective at a given time. These three specifications govern which foods a patient will receive. Diets generally do not have a stated ending time to ensure that the patient always receives food.
Diet Code	A diet code defines which foods a patient may receive; a patient must have at least one diet code to receive food.
Dietary Orders	An order for a patient diet. A patient may have only one effective diet order at a time.
Documented	A status in which document content, other than dictation, has been received but has not been translated into the final electronic format. Examples include paper documents, whether hand-written or typewritten, and intermediate electronic forms, such as voice to text.
Drug	Any chemical compound that may be used on or administered to humans or animals as an aid in the diagnosis, treatment or prevention of disease or other abnormal condition, for the relief of pain or suffering, or to control or improve any physiologic condition (Dorland's Illustrated Medical Dictionary 27th edition).

DSR	Display Response message.
DT	Date data type. Always in the format YYYYMMDD.

E

ED	Encapsulated data data type. Supports ASCII MIME-encoding of binary data.
EDIFACT	The **E**lectronic **D**ata **I**nterchange **F**or **A**dministration, **C**ommerce and **T**ransport (EDIFACT) is a set of internationally agreed standards, directories, and guidelines for the electronic interchange of structured data related to trade in goods and services between independent computerized information systems. The basic EDIFACT (ISO 9735) syntax standard was formally adopted in September 1987.
Edited Document	A document that alters an existing document which had not been made available for patient care.
EI	Entity identifier data type.
Eligibility/Coverage	Refers to the period of time a subscriber or dependent is entitled to benefits.
Encoding Rules	To determine the exact representation of an abstract message, one applies the HL7 encoding rules defined in Chapter 2 to the abstract definition from the relevant transaction definition chapter. This level corresponds most closely to ISO layers 5 and 6. In effect, the encoding rules support an established session for each message and its reply.
Encounter	Refers to a face-to-face meeting between a covered person and a health care provider whose services are provided.
Escape Character	In text fields (Type TX or FT) another special character is allowed, the escape character. Any character allowed in a TX or FT field may serve as the escape character. The single character that represents the escape character is specified differently for each message as the third character in the Encoding Characters data field of the MSH segment. This field is optional. Applications that do not need to use an escape character may omit this character. Absent other considerations it is recommended that all sending applications use '\' as the escape character. However, all applications are required to accept whatever character is included in this field and use it to parse text fields within the message.

EUCLIDES

EUCLIDES, an acronym derived from **EU**ropean **CLI**nical **D**ata **E**xchange **S**tandard, provides a standard for clinical laboratory data exchange between independent and heterogeneous medical information systems. EUCLIDES is supported by the Commission of the European Communities (CEC DGXIII) within the framework of the Advanced Informatics in Medicine (AIM) Program.

Expected Adverse Product Reaction

Expected events are those which prior experience has demonstrated to be probabilistically linked to the product and are generally included in product labeling.

Pre-marketing: An adverse reaction, the nature or severity of which is not consistent with the applicable product information (e.g., Investigator's Brochure for an unapproved investigational product).

Post-marketing/US (current): Unexpected means an adverse drug experience that is not listed in the current labeling for the drug product and includes an event that may be symptomatically and pathophysiologically related to an event listed in the labeling but differs from the event because of greater severity or specificity.

Post-marketing/US (proposed): The applicant's core safety data sheet shall be a document prepared by the applicant that contains all relevant safety information, including adverse drug experiences, which the applicant believes should e listed for the drug in all countries where the drug is marketed. It may be used by the applicant as the reference document by which an adverse drug experience is judged to be expected or unexpected for purposes of this post-marketing periodic report.

Post-marketing/European Union: This relates to an adverse reaction which is not mentioned in any ECsummary of product characteristics (SPC). In the absence of any European SPC, an international document prepared by the marketing authorization holder containing all relevant safety information which the marketing authorization holder considers should be listed for the medicinal product in all countries where the medicinal product is marketed (Care Data Sheet).

Post-marketing/WHO: An adverse reaction, the nature or severity of which is not consistent with domestic labeling or market authorization, or expected from characteristics of the drug.

F

Field

An HL7 field is a string of characters defined by one of the HL7 data types.

Field Components

A field entry may also have discernable parts or components. For example, the patient's name is recorded as last name, first name, and middle initial, each of which is a distinct entity separated by a component delimiter (sub-subfield in astm e1238-94).

Field Separator

The HL7 field separator separates two adjacent data fields within an HL7 segment. It also separates the segment ID from the first data field in the

	segment. The value that represents the field separator may be defined differently for each message. Whatever character is the fourth character of the MSH segment serves as the field separator for all segments in the message. Absent other considerations, it is recommended that all sending applications use "|" as the field separator. However, all receiving applications are required to accept whatever character is included in this position and use it to parse the message.
Filler	The application responding to, i.e., performing, a request for services (orders) or producing an observation. The fill can also originate requests for services (new orders), add additional services to existing orders, replace existing orders, put an order on hold, discontinue an order, release a held order, or cancel existing orders. Referred to as Producer in ASTM terminology.
Filler	***Person, or service, who produces the observations (fills the order) requested by the requestor. The word is synonymous with "producer" and includes diagnostic services and clinical services and care providers who report observations about their patients. The clinical laboratory is a producer of lab test results (filler of a lab order), the nursing service is the producer of vital signs observations (the filler of orders to measure vital signs), and so on*
Filler Application	The filler application role in the scheduling model is very similar to the filler application concept presented in Chapter 4, Order Entry. A filler application, in the scheduling model, is one that "owns" one or more schedules for one or more services or resources. It fulfills requests to book slots for the services or resources over which it exerts control. It also notifies other applications of activity related to appointments, such as new bookings, modifications, cancellations, etc.
FT	Formatted Text data type. This data type is derived from the string data type by allowing the addition of embedded formatting instructions. These instructions are limited to those that are intrinsic and independent of the circumstances under which the field is to be displayed, FT supports width-independent and device-independent text display.
Goal	A **goal** refers to an objective to be achieved as a consequence of health care interventions applied to an individual. Goals are set in many areas of the health care system, and include educational, behavior modification, and clinical goals such as reduced discomfort, improved circulation. Goals are documented by a variety of health care professionals including physicians, nurses, and respiratory and other therapists. Goals are defined during patient visits and they may span one or multiple visits, encounters, or episodes of care.
Guarantor	Refers to a person who has financial responsibility for the payment of a patient account.

H

HD — Hierarchic designator data type.

Health Care Provider — Refers to a person licensed, certified or otherwise authorized or permitted by law to administer health care in the ordinary course of business or practice of a profession, including a health care facility.

HISPP — Healthcare Informatics Standards Planning Panel. HISPP was formed in early 1992. HISPP is charged with coordinating the work of the standards groups for healthcare data interchange and healthcare informatics (e.g., HL7), and other relevant standards groups (e.g., ASC X12) toward achieving the evolution of a unified set of non-redundant, non-conflicting standards that are compatible with ISO and non-ISO communications environments. HISPP also interacts with and provides input to CEN/TC251 in a coordinated fashion and explores avenues of international standards development (e.g., ISO).

HL7 — Health Level Seven (HL7) is an application protocol for electronic data exchange in health care environments. The HL7 protocol is a collection of standard formats which specify the implementation of interfaces between computer applications from different vendors. This communication protocol allows healthcare institutions to exchange key sets of data amount different application systems. Flexibility is built into the protocol to allow compatibility for specialized data sets that have facility-specific needs.

HL7 Batch Protocol — Protocol utilized to transmit a batch of HL7 messages. The protocol uses FHS, BHS, BTS and FTS segments to delineate the batch.

Holder of Marketing Authorization (HMA) — The organization which holds the authority to market a product. This will often be the organization which manufactures the product.

I

ID — Coded Value data type. The value of such a field follows the formatting rules for a ST field except that it is drawn from a table of legal values. Examples of ID fields include religion and sex.

IEEE — Institute of Electrical and Electronics Engineers. IEEE is accredited by ANSI to submit its documents for approval as American National Standards. IEEE subcommittee P1073 develops standards for healthcare informatics: MEDIX (P1157) and MIB (P1073).

IEEE MEDIX — IEEE P1157 Medical Data Interchange (MEDIX) Committee. MEDIX was organized in 1987 to draft a standard for the exchange of data between hospital

	computer systems. The MEDIX committee, is committed to developing a standard set of hospital system interface transactions based on the ISO standards for all seven layers of the OSI reference model. The committee proposes to use the ASN.1 standard to specify message content as well as encode standard messages. IEEE is also developing the standard medical information bus (MIB; IEEE P1073) for communicating among critical care devices and computers.
IEEE MIB	IEEE Medical Information Bus Committee. IEEE subcommittee (P1073) to develop standards for communications between patient monitoring devices and computer systems.
In Progress/Assigned Document	A workflow status change in which the recipient has assigned the material to personnel to perform the task of transcription. The document remains in this state until the document is transcribed.
Incomplete Document	A status in which information is known to be missing from a transcribed document.
IS	Coded value for user defined tables data type.
ISO	International Standards Organization. A voluntary, non-treaty organization established in 1949 to promote international standards. Developers of the ISO Reference Model for Open Systems Interconnection (OSI Model), a standard approach to network design which introduces modularity by dividing the complex set of functions into more manageable, self-contained, functional slices (layers).

L

Legally Authenticated Document	A status in which a document or entry has been signed manually or electronically by the individual who is legally responsible for that document or entry. This is the most mature state in the workflow process.
Level Seven	Level Seven refers to the highest level of International Standards Organizations (ISO) communications model for Open Systems Interconnection (OSI)—the application level. Issues within the application level include definition of the data to be exchanged, the timing of the interchange, and communication of certain errors to the application. The seventh level supports such functions as security checks, identification of the participants, availability checks, negotiating exchange mechanisms and, most importantly, structuring the data exchanges themselves.
Local-Area Network (LAN)	A user-owned, user-operated, high-volume data transmission facility

	connecting a number of communicating devices (e.g., computers, terminals, word processor, printers, and mass storage units) within a single building or campus of buildings.

M

MA	Multiplexed array data type.
Master Files	A set of common reference files used by one or more application systems. These common reference files need to be synchronized across the various applications at a given site. The Master Files Notification transactions provide a way of maintaining this synchronization.
Master Files Notification transactions	The Master Files Notification transactions support the distribution of changes to various master files between systems in either on-line or batch modes, and allow the use of either original or enhanced acknowledgment modes, as well as providing for a delayed application acknowledgment mode.
MCF	Delayed Acknowledgment message. This message remains in the specification only for reasons of backwards compatibility. It is used as a part of the protocol which creates a generic form of an asynchronous application level acknowledgment.
Medical Device:	Something contrived for or used in the diagnosis (vascular catheters), treatment (thermotherapy units) or prevention of disease or other abnormal condition, for the relief of pain or suffering or to control or improve any physiologic condition, including instrumentation and implanted devices (prosthetic cardiac valves, pacemakers, hip prostheses).
MEDIX	See IEEE MEDIX
Message	A message is the atomic unit of data transferred between systems. It is comprised of a group of segments in a defined sequence. Each message has a message type that defines its purpose. For example, the ADT Message type is used to transmit portions of a patient's ADT data from one system to another. A three character code contained within each message identifies its type.
Message Delimiters	In constructing a message certain characters are used. These include the Segment Terminator, the Field Separator, the Component Separator, the Sub-Component Separator, Repetition Character, and the Escape Character.
Message Type	Each message has a message type that defines its purpose. For example, the ADT Message Type is used to transmit portions of a patient's ADT data from

	one system to another. A 3-character code contained within each message identifies its type.
MFD	Master Files Delayed Application Acknowledgment message.
MFN	Master Files Change Notification message.
MFQ	Master Files Query message allows a system to query for a particular record in a particular master file.
MIB	See IEEE MIB
MO	Money data type. The first component is a quantity and the second is the denomination in which quantity is expressed. See also **CP** data type.
MSDS	Message Standards Developers Subcommittee of the ANSI HISPP.

N

NA	Numeric array data type.
NCPDP	National Council for Prescription Drug Programs. The Standardization Committee within the NCPDP developed a standard format for the electronic submission of third party drug claims. The standard was developed to accommodate the eligibility verification process at the point-of-sale and to provide a consistent format for electronic claims processing. The standard is used primarily by pharmacy providers, insurance carriers, third-party administrators and other responsible parties. The NCPDP communication standard is used by more than 60% of the nation's prescription volume.
New or Original Document	The first version of a document. The original may or may not be final or authenticated. An original document should have a set of associated statuses to define its current condition.
NM	Numeric data type. A number represented as a series of ASCII numeric characters consisting of an optional leading sign (+ or -), the digits and an optional decimal point.
NMD	Network Management Data message. One system creates an unsolicited update (UU) Network Management Data message (NMD) to transmit network management information to another system.
NMQ	Network Management Query message. One system needs network information

from another system. The NMQ is used by one system to make system-level requests for information or action to another system.

Non-Proprietary (Generic) Name — Drug name that are not protected by a trademark, usually descriptive of its chemical structure; sometimes called a public name. In the US, most generic drug names are assigned by the US adopted name council (USAN). Other generic names in common use are the national formulary (NF) and the us pharmacopoeia (USP) names. *Figure 2-3* (chapter 2) lists other available drug coding systems.

O

Observation — An observation is a measurement of a single variable or a single value derived logically and/or algebraically from other measured or derived values. A test result, a diastolic blood pressure, and a single chest x-ray impression are examples of observations.

Observation — A measurement of a single variable or a single value derived logically and/or algebraically from other measured or derived values. A test result, a diastolic blood pressure, and a single chest xray impression are examples of observations. In certain circumstances, tracings and images may be treated by HL7 as individual observations and sent as a single OBX. These include waveform data described in Section 7.14 and encapsulated data aggregates using the ED data type described in 2.4.5.12 (which can represent actual images, audio data, etc.).

Obsolete Document — A status in which a document has been replaced by a document which contains revised content.

OBX — Observation/result message. OBX is intended to cover all types of patient specific observation reports except pharmacy.

ODS — (New with Version 2.2) Dietary orders, supplements and preferences segment.

ODT — (New with Version 2.2) Diet tray instructions segment.

Order — An order is a request for a service from one application to a second application. The second application may in some cases be the same, i.e., an application is allowed to place orders with itself. Usually orders are associated with a particular patient.

Order Detail Segment — One of several segments that can carry order information. Examples are OBR and RXO.

Order Group — See Placer Order Group.

ORM — General Order message. The function of this message is to initiate the

transmission of information about an order. This includes placing new orders, cancellation of existing orders, discontinuation, holding, etc. ORM messages can originate also with a placer, filler or an interested third party.

ORR General Order Response message. The function of this message is to respond to an ORM message.

ORU Unsolicited Transmission of an Observation. For each patient order (OBR segment) more results may be transmitted depending upon the number of observations generated by the order.

OSI Model Open Systems Interconnection Model. A standard approach to network design developed by the International Standards Organization (ISO) that introduces modularity by dividing the complex set of functions into more manageable, self-contained, functional slices. The seven layers, from the innermost layer, are:
1. Physical Layer - concerned with the mechanical and electrical means by which devices are physically connected and data is transmitted.
2. Link Layer - concerned with moving data reliably across the physical data link.
3. Network Layer - provides the means to establish, maintain and terminate connections between systems; concerned with information switching and routing.
4. Transport Layer - concerned with end-to-end data integrity and quality of service.
5. Session Layer - standardizes the task of setting up and terminating a session; it coordinates interaction between end application processes.
6. Presentation Layer - relates to the character set and data code used, and to the way data is displayed on a screen or printer.
7. Application Layer - concerned with the higher-level functions that provide support to the application or system activities.

P

Parent Appointment A parent appointment is an appointment that consists of one or more subordinate appointments (called child appointments). A parent appointment is used to relate or group multiple appointments together in various ways. Examples of kinds of parent scheduled activities include, but are not limited to, the following.

Parent appointments can themselves be children to other appointments.

Patient Accounting Message Set The Patient Accounting message set provides for the entry and manipulation of charge, payment, adjustment, demographic, insurance, and other related patient billing and accounts receivable information. The specification includes

	all the data defined in the National Uniform Billing Data Element Specifications (UB-82 and UB-92).
Payor	Indicates a third party entity who pays for or underwrites coverage for health care expenses. A payor may be an insurance company, a health maintenance organization (HMO), a preferred provider organization (PPO), a government agency or an agency such as a third party administrator (TPA).
Pharmacy Order Messages	A series of messages used to convey pharmacy order information. Messages include ORM (general order; proposed as RDO), RDE (pharmacy encoded order), RDS (pharmacy dispensing information), RGV (pharmacy give) and RAS (pharmacy administration).
Phase of a Clinical Trial	The phase structure serves several purposes in the clinical trials messages. Other computer systems may need to know that the patient has begun a phase with a particular treatment regimen or diagnostic schedule, such as the pharmacy or order entry systems. When reporting study data, observations and variables often describe particular phase instances. For example, each course of treatment may have its own values for the same set of observations or variables. Phase instances may also have distinct data schedules that need to be linked to submitted data.
PL	Patient location data type.
Placer	The application (system or individual) originating a request for services (order).
Placer	*****Person or service that requests (places order for) an observation battery, e.g., the physician, the practice, clinic, or ward service, that orders a lab test, xray, vital signs, etc. The meaning is synonymous with, and used interchangably with, requestor***
Placer Application	The role of the placer application in the scheduling model is also very similar to its counterpart in the Order Entry chapter. A placer application must request the booking, modification, cancellation, etc., of an appointment for a service or resource because it cannot exert any control over that service or resource on the schedule. In requesting that these appointments be booked or modified in some way, the placer application is asking the filler application to exert its control over the schedule on the placer application's behalf.
Placer Order Group	A list of associated orders coming from a single location regarding a single patient;usually representing a single session by an ordering provider. A group is established when the placer supplies a placer group number with the original order.
PN	Person Name data type. A name includes multiple free text components: family name, given name, middle initial or name, suffix, prefix, and degree.

Pre-Authenticated Document A status in which a document is transcribed but not authenticated.

Pre-Authorization Refers to the process of obtaining prior approval as to the appropriateness of a service. Pre-authorization does not guarantee coverage.

Preferences (related to Dietary Orders) Preferences consist of likes, dislikes, substitutions, and complementary foods. Preferences are diet orders, effectively from the patient, but transmitted from the ward. They are subject to change. Preferences are independent of the diet order and do not change when the order changes.

Primary Care Provider Indicates the provider responsible for delivering care as well as authorizing and channeling care to specialists and other providers in a gatekeeper system. The provider is also referred to as a case manager or a gatekeeper.

Problem A **problem** of a given individual can be described by formal diagnosis coding systems (such as DRG's, NANDA Nursing Diagnosis, ICD9, DSM, etc.) or by other professional descriptions of health care is sues affecting an individual. Problems can be short or long term in nature, chronic or acute, and have a status. In a longitudinal record, all problems may be of importance in the overall long term care of an individual, and may undergo changes in status repeatedly. Problems are identified during patient visits, and may span multiple visits, encounters, or episodes of care.

Product A drug or medical device.

Product Manufacturer The organization which is responsible for the manufacture of a product. This will usually be the entity which hold the marketing authorization for the product.

Protocol A set of procedures for establishing and controlling data transmission.

Protocol Conversion The process of translating the protocol native to an end-user device (e.g., a terminal) into a different protocol (e.g., ASCII to BSC), enabling that device to communicate with another device (e.g., a computer) with which it would otherwise be incompatible. Protocol conversion

Purged Document A status in which a document is no longer available in this system.

Q

QRY Query message.

Querying Application A querying application neither exerts control over, nor requests changes to a schedule. Rather than accepting unsolicited information about schedules, as does an auxiliary application, the querying application actively solicits this

information using a query mechanism. It will be driven by a person wanting information about schedules, and may be part of an application filling the placer application role as defined in this chapter. The information that the querying application receives is valid only at the exact time that the query results are generated by the filler application. Changes made to the schedule after the query results have been returned are not communicated to the querying application until it issues another query transaction.

R

RAS Pharmacy Administration message.

RDE Pharmacy Encoded Order message.

RDO Pharmacy Prescription message.

RDS Pharmacy Dispense message. The RDS message may be created by the Pharmacy application for each instance of dispensing drugs to fill an existing order(s).

Recurring (Repeating) Appointments. For example, a physical therapy appointment may be scheduled every Tuesday at 4:00 PM for three months.

Referral Means a provider's recommendation that a covered person receive care from a different provider.

Referred-to-Provider Typically indicates a specialty care provider who provides services at the request of a primary care provider or another specialty care provider .

Referring Provider Indicates the provider who requests services from a specialist or another primary care provider. A referring provider may, in fact, be a specialist who is referring a patient to another specialist.

Regulatory Agency Many geopolitical entities have established agencies/authority responsible for regulating products used in health care. The agencies are collectively referred to as regulatory agencies.

Repeated Value Some fields may contain many repeat fields. For example, the diagnoses field may contain many different diagnoses.

Repetition Separator The repetition separator is used in some data fields to separate multiple occurrences of a field. It is used only where specifically authorized in the descriptions of the relevant data fields. The character that represents the repetition separator is specified for each message as the second character in the Encoding Characters data field of the MSH segment. Absent other considerations it is recommended that all sending applications use "~" as the repetition separator. However, all applications are required to accept whatever character is included in the Message Header and use it to parse the message.

Replacement Document A document that replaces an existing document**.** The original document becomes obsolete, but is still retained in the system for historical reference.

Resource A resource is any person, place or thing that must be reserved prior to its use.

Restricted Document A status in which access to a document has institutionally assigned limitations.

Revised Document This is not a supported trigger event. When a document has not been made available for patient care, the "Edit" trigger event (T07) may be used to accomplish this function. Once a document has been made available, revision is not allowed. Instead, a replacement is issued (T010) which contains the revised content, together with a notice that the original documentwhich it supersedes) remains but is now obsolete.

RGV Pharmacy Give message. The RGV message can communicate drug administration instructions and/or dispensing information.

Role A **role** refers to the function or responsibility assumed by a person in the context of a health care event. Role information documents a person's association with an identified healthcare activity. Examples include primary care provider, transcriptionist, reviewer, and consulting physician.

RP Reference Pointer data type. This data type transmits information about data stored on another system.

RQ1 One of several segments related to supply orders. Contains additional information of detail for each requisitioned item. It is required for all non-stock orders (and is paired with the RQD in this case).

RQD One of several segments related to supply orders. Contains the detail for each requisitioned item. It is required for all stock orders. It is assumed that this is enough information for the application receiving the message to identify the item.

RS-232C A technical specification published by the Electronic Industries Association (EIA) that establishes mechanical and electrical interface requirements among computers, terminals and communications lines.

S

Schedule A schedule is the sum of all of the slots related to a service or resource.

Segment An HL7 segment is a logical grouping of data fields. Segments of a message may be required or optional. They may occur only once in a message or they

	may be allowed to repeat. Each segment is identified by a unique three character code known as the Segment ID.
Segment (Record)	A typed aggregate of fields (fields) describing one complete aspect of a message. For example, the information about one order is sent as type of segment (OBR), the information related to an observation is sent as another segment (OBX). The segment in a message is analogous to a record in a database, and in previous versions of the standard we used record in place of the word segment. We have changed the nomenclature to be consistent with HL7 and other standards organizations in this version.
Segment Terminator	The segment terminator is the last character of every segment. It is always the ASCII CR character (hex 0D).
Sequence Number Protocol	An extension to the basic HL7 message protocol used for certain types of data transactions between systems where the issue of keeping the data bases synchronized is critical. Although the sequence number protocol is limited to the use of sequence numbers on a single transaction stream between two applications, this sequencing protocol is sufficiently robust to allow the design of HL7-compatible store-and-forward applications.
Serious Adverse Product Reaction	An adverse product reaction which: • is fatal (results in death) • is life threatening • requires hospitalization or prolongation of a hospitalization • results in persistent or significant disability/incapacity • results in a congenital anomaly/birth defect. Medical and scientific judgment should be exercised in deciding whether expedited reporting is appropriate in other situations, such as important medical events that may not be immediately life-threatening or result in hospitalization but may jeopardize the patient or may require intervention to prevent one of the other outcomes listed in the definition above. These should also be considered serious.
Service	A service is any activity that must be scheduled prior to its performance.
SI	Sequence ID data type. A positive integer in the form of a NM field.
Slot	A slot is one unit on a schedule. A slot represents the smallest unit of time or quantity that a service or resource may be booked. Depending on the nature of the service or resource, there may be more than one defined slot at a given instant of time. For example, if a service is an open group therapy session with twelve available seats, then there are twelve slots for the given block of time.
SN	Structured numeric data type.

Specialist Means a provider of services which are beyond the capabilities or resources of the primary care provider. A specialist is also known as a specialty care provider who provides services at the request of a primary care provider or another specialty care provider.

ST String data type. String Data is left justified with trailing blanks optional. Any printable ASCII characters are allowed.

Subcomponent Separator The subcomponent separator is used to separate adjacent subcomponents of some data fields. Its use is described in the descriptions of the relevant data fields. The character that represents the subcomponent separator is specified for each message as the fourth character in the Encoding Characters data field of the MSH segment. Absent other considerations it is recommended that all sending applications use "&" as the subcomponent separator. However, all applications are required to accept whatever character is included in the Message Header and use it to parse the message.

Subscriber Refers to a person who elects benefits and is affiliated with an employer or insurer.

Supplements Supplements provide a mechanism for giving any additional desired foods to a patient. Supplements are foods given to a patient regardless of their diet codes. These foods are part of the patient's diet without being restricted by any other part of the order.

Supply Order Segment One of several segments that can carry supply order information. Supply order segments include RQD (stock orders) and RQ1 (non-stock orders)

Supply Orders Supply Orders are used to order medical and surgical supplies, both stock and non-stock. Stock Orders are supplies stocked in the hospital in designated areas, such as the warehouse, central supply, nursing floors, or operating room. Nonstock Orders are supplies are not stocked anywhere in the hospital that must be ordered from an industry distributor or manufacturer. A supply order may or may not be associated with a patient.

T

TC 224 Technical Committee 224. Established by the European Committee for Standardization (CEN), TC 224 focuses on the development of standards for machine-readable cards, related device interfaces and operations.

TC 251 Technical Committee 251. Established by the European Committee for Standardization (CEN), TC 251 focuses on the development of standards for healthcare informatics. A major goal of this committee is to develop standards for communication among independent medical information systems so that

	clinical and management date produced by one computer system could be transmitted to another system.
TCP/IP	Transaction Control Protocol/Internet Protocol. A set of protocols for Layers 3 (Network) and 4 (Transfer) of the OSI network model. TCP/IP has been developed over a period of 15 years under the auspices of the Department of Defense. It is a de facto standard, particularly as higher-level layers over ethernet. Although it builds upon the OSI model, TCP/IP is not OSI-compliant.
Test	Observations/results that are done on specimens and those that are standard measurements are typically referred to as tests.
TM	Time data type. Always in the format HHMM[SS[.SSSS]] using a 24 hour clock notation.
TN	Telephone Number data type. For use in the U.S. and conforming countries.
TQ	Timing/Quantity data type. Describes when a service should be performed and how frequently.
Trade (Brand) Name	Proprietary names that are registered to protect the name for the sole use of the manufacturer holding the trademark.
Transcription	A process of transforming dictated or otherwise documented information into an electronic format.
Trigger Event	The event that initiates an exchange of messages is called a trigger event. The HL7 Standard is written from the assumption that an event in the real world of health care creates the need for data to flow among systems. The real-world event is called the trigger event. For example, the trigger event "a patient is admitted" may cause the need for data about that patient to be sent to a number of other systems. There is a one-to-many relationship between message types and trigger event codes. The same trigger event code may not be associated with more than one message type.
TS	Time Stamp data type. Contains the exact time of an event, including the date and time.
TX	Text data type. String data meant for user display on a terminal or printer.

U

UDM Unsolicited Display Message. The UDM describes a display oriented message. It is the unsolicited version of the generalized Response display message. It is acknowledged by a generic ACK message.

UI Universal identifier data type.

Unsolicited Update When the transfer of information is initiated by the application system that deals with the triggering event, the transaction is termed an unsolicited update.

V

Variance **Variances** are documented deviations, either positive or negative from a pre-defined standard. Variances are documented against expected outcomes, orders, or the patient's progress in general.

W

WEDI Workgroup for Electronic Data Interchange.

X

X12 See ASC X12.

XAD Extended address data type. In version 2.3, replaces the AD data type.

XCN Extended composite ID number and name data type. In version 2.3, use instead of the CN datatype.

XON Extended composite name and ID number for organizations data type.

XPN Extended person name data type. In version 2.3, replaces the PN data type.

XTN Extended telecommunications number data type. In version 2.3, replaces the TN data type.

Z

Z Segment All message type and trigger event codes beginning with Z are reserved for

locally defined messages. No such codes will be defined within the HL7 Standard.