**HL7**

HL7, which stands for Health Level 7, is a standardized message format used by the health care industry. The HL7 protocol defines the rules by which two applications will exchange data in an orderly way. he protocol architecture is hierarchical, moving from high-level groupings and structures to a set of several hundred data fields. Each level of the hierarchy serves a different organizing purpose. Areas of the protocol are grouped according to common application function; for example, ADT, Order Entry, Finance, Control, and Ancillary Reporting all represent groups described in the standard. Different functional groups are typically given individual chapters in the HL7 specification document. Within a functional group are defined one or more message types that can be implemented in various combinations to support high-level business rules for the applications involved. For example, ADT only specifies one message type while Order Entry describes more than a dozen. Segments provide a logical grouping for data elements. For example, the Patient Identification segment (PID) includes fields for such identifying information as patient name, Social Security number, medical record number, account number, and miscellaneous demographic details. How fields are grouped in segments forms part of the HL7 implied data model. Segments can be required or optional, can be nested, and can repeat. Each segment then contains a nested hierarchy of data elements in the form of fields, components, and sub components that are also optional or can repeat.

Here is an example ADT message, which transmits patient demographic information.

MSH|^~\&|Hospital System|Hospital Test|Physician Portal|Physician Group|200912071648||ADT^A08|20091207164815862|P|2.3EVN|A08|200912071648PID|1|003|15862^^^PRMCARESP||TEST003^NUMBER3||19450103|M|||5833 N.WEST CIRCLE AVE.^^CHICAGO^IL^60631||(773)763-8403|||M|||360-36-9744PV1||O|^^^PRMCARESPGT1|1|4744|RUER^SHERWIN^||5833 N.WEST CIRCLE AVE.^^CHICAGO^IL^60631|(773)763-8403||19390321|M||SPO|||||RIN1|1|EDI00003|B008|BC/BS OF ILLINOIS PPO|P.O. BOX 805107^^CHICAGO^IL^60680||(800)972-8088|P16602||||20050101||||RUER^SHERWIN^|SPO|19390321|5833 N.WEST CIRCLE AVE.^^CHICAGO^IL^60631|||1||||||||||||||CTY000338393|||||||MIN1|2|DEF|DEF||^^^^|||||||||||TEST^TIMMY^D|SEL|19451024|5833 N.WEST CIRCLE AVE.^^CHICAGO^IL^60631|||2|||||||||||||||||||||FIN1|3|DEF|DEF||^^^^|||||||||||TEST^TIMMY^D|SEL|19451024|5833 N.WEST CIRCLE AVE.^^CHICAGO^IL^60631|||3|||||||||||||||||||||FIN2|1||RIN2|2|360-36-9744|IN2|3|360-36-9744|

Here is an example ORM message, which transmits the information for a patient order.

MSH|^~\&|LH81|AA302|||20120524005334||ORM^O01|9416615|P|2.3PID|1|007|00545982||TEST007^NUMBER7^||19460628|F|||^^^ ^|||||||1684881251||||||||||||||||||||^CPV1|| |A||||H81146^ALEKSANDR GALPERIN, M.D.||||||||||||Q 0405977|GT1|1||KARNAUCHOVA^NIJOLE||^^^^^|||U|||OT||ORC|NW|^ACL|Q 0405977THINDNA|Q 0405977|IP||00001^ONCE^^201205240057^^R||20120524005334|||0000582A|1OBR|1|007444||BIOPSY|||201205231800|||||||201205230039||1^ALEKSANDR GALPERIN, M.D.|||Q 0405977AA302|||20120524005334||1|||^^^^^R

Here is an example ORU message, which transmits the patient’s result report.

MSH|^~\&|COMLAB|ACL|IDX|ACERN|20091027113620||ORU^R01|31|P|2.2|||||

PID|1||80393010||MOCK^HMP||19850909|F||||||3253222222A||||11621|546315455||||||||

PV1||O|HMP^N/A^N/A^N/A||||225511|||||||||||||||||||||||||||||||||||||||||||

ORC|RE|1186542719|1186542719C991201122|||||||||225511|||||||

OBR|1|006222|006222|PDFA^PDFA|||200910071515|||999|MC|||200910071615|BRLA^BRONCHOALVEOLAR LAVAGE|225511||IDX||C991201122||||MB|P||^^^^^R|||||||||

OBX|1|TX|SOURCE^SPECIMEN DESCRIPTION:|1|BRONCHOALVEOLAR LAVAGE||||||P|||200910071515|MAIN||

OBX|2|TX|RES^RESULT:|1|POSITIVE FOR PNEUMOCYSTIS JIROVECI (CARINII) BY DFA|||P|||P|||200910071515|MAIN||

OBX|2|TX|RES^RESULT:|1|GIARDIA LAMBLIA (CRITICAL/ALERT VALUE)|||C|||F|||200910071515|MAIN||

OBX|2|TX|RES^RESULT:|1|LEVELS PASSED|||P|||P|||200910071515|MAIN||

More information about HL7 can be found at [http://www.hl7.org](http://www.hl7.org/)