Message Framework

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What makes up an HL7 V2 message?

Message	The atomic unit of data transferred between systems. Each message has a **message type** that defines its purpose. Messages are made up of segments, fields, and delimiters.
Segment	A logical grouping of data fields. Segments may be required or optional. They may occur once, or they may repeat. Each segment is given a name, which is identified by a unique 3-character segment ID. For example, the patient identification segment is called 'PID'.
Field	A string of characters within an HL7 segment. Fields are commonly named by combining their segment name with their sequence in the message. For example, PID-5 refers to the patient name field.
Delimiter	Special characters that help parse information in a message.

Message Segment Roundup

Message Header (MSH)	Information describing how to parse and process the message. Think of this as the "envelope" of the message.
Software (SFT)	Additional information about the software product(s) used by the sender
Notes and Comments (NTE)	Commonly follows other segments and is used to send notes and comments about the patient, lab order, lab result, or specimen.
Patient Identification (PID)	Used as the primary means of conveying patient identification and demographic information.
Next of Kin (NK1)	Information about the patient's related parties, including family members, insurance company, or employer.
Common Order (ORC)	Transmits fields that are common across all orders in the message.
Observation Request (OBR)	The report header; includes relevant ordering information for the observations under it.
Observation/Result (OBX)	Used to transmit a single observation as part of a laboratory report.
Specimen (SPM)	Describes the attributes of the specimen, such as type and where/how it was collected.

HL7 Fields

HL7 Attribute Table - PID - Patient Identification

SEQ	LEN	DT	OPT	RP/#	TBL#	ITEM#	ELEMENT NAME
1	4	SI	O			00104	Set ID - PID
2	20	CX	B			00105	Patient ID
3	250	CX	R	Y		00106	Patient Identifier List
4	20	CX	B	Y		00107	Alternate Patient ID - PID
5	250	XPN	R	Y		00108	Patient Name
6	250	XPN	O	Y		00109	Mother's Maiden Name
7	26	TS	O			00110	Date/Time of Birth
8	1	IS	O		0001	00111	Administrative Sex
9	250	XPN	B	Y		00112	Patient Alias
10	250	CE	O	Y	0005	00113	Race
11	250	XAD	O	Y		00114	Patient Address

> HL7 fields have certain metadata associated with them, which are organized into attribute tables for each HL7 message segment.

Column	Attribute Name	Description
SEQ	Position/ Sequence	The ordinal position of a field within the segment. To name a field, combine the segment identifier with the sequence, e.g., PID-5 = Patient Name
LEN	Maximum Length	Maximum number of characters that one occurrence of the field may contain.
DT	Data Type	Basic building block used to construct the contents of the field.
OPT	Optionality	Whether the field is required, optional, or conditional in a segment.
RP/#	Repetition	Whether the field may repeat. A maximum number of repeats may also be specified.
TBL#	Table Number	HL7 identifier for a set of coded values.
ITEM#	ID Number	Small integer that uniquely identifies the data field.
Name	Element Name	Descriptive name for the field or data element.