

<b>HL7</b>	Health Level 7 : ISO and ANSI standard (7 from the OSI 7 <sup>th</sup> layer) Based on message paradigm. Trigger events	
<b>Segments</b>	Message line corresponding to one type of info	
<b>MSH</b>	Message Header : contains type and trigger events	
<b>DF 1</b>	DF separator	
<b>DF 2</b>	Other separators	
<b>DF 3 → 6</b>	Receiving/Sending apps/app instances	
<b>DF 9</b>	Msg Type & Trigger Event	
<b>DF 10</b>	Msg control ID	
<b>DF 11</b>	Msg processing ID (Debugging, Production, Training) or mode (Archive, Restore...)	
<b>DF 12</b>	HL7 version	
<b>PID</b>		
<b>EVN</b>		
<b>Data Fields</b>	Compose the segments. Separated by " " (pipe)	
<b>Components</b>	Compose the data fields. Separated by the "^" (carret). Repetition by ~ (tilde)	
<b>SEQ</b>	Sequence : position of the DF	
<b>LEN</b>	Max length of DF	
<b>Optionality</b>	R required O optional C Conditional	
<b>DT</b>	Data types	
<b>ST</b>	String	
<b>DT</b>	Date	
<b>TM</b>	Time	
<b>Types</b>		
<b>ADT</b>	Admission Discharge Transfer	
<b>A01, A02,...</b>	Event types (transfer, register, update etc...)	
<b>ACK</b>	General acknowledgment	
<b>AA, AE, AR</b>	App Accept, App Error, App Reject	
<b>CA, CR, CE</b>	Commit Accept, Commit Reject, Commit Error	
<b>ORM</b>	Order Message	
<b>ORR</b>	Order Acknowledgment	
<b>ORU</b>	Observation Result/unsolicited	
<b>QRY</b>	Query (request)	
<b>SIU</b>	Scheduling Information Unsolicited	

BAR	Biling Account Record
DFT	Detailed Financial Situation

XML	Extensible Markup Language
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UML	Unified Modeling Language
Use case	Describe actors, responsibilities, situations
Sequence diagram	Define transfer mode
Activity Diagram	Detail message exchanges

DTD	Document type definition : define elements and attribute to make valid XML file
messages.dtd	
ACK.dtd	
segments.dtd	
fields.dtd	
datatypes.dtd	

XSD	XML Schema : same as dtd but used more often nowadays
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## DICOM

DICOM	Digital Imaging and Communication in Medicine : Image format AND communication standard	
<b>Book</b>		
	Part 3,5,6	Defining the data format
	Part 4,7,8	Defining the network communication protocols
	Part 12	Defining communication on media
<b>DSC</b>		
WG		DICOM Standard Committee
	Supplement	Workgroups
	CP	New developments
		Correction Proposal for small modifications
SOP Class	Service Object Pair	
SG		Service Group
	DIMSE	DICOM Message Service Element
IOD		Information Object Definition → Composite or Normalized
OD		Object Definition
IE		Information Entity
	Module	Logical group of information
	Attributes	Pixel values, metadata, etc... → Unit of information
	VR	Value Representation (DICOM Data Type)
	VM	Value Multiplicity (Cardinality)
UIDs	Unique Identifiers	
DIMSE-C	Composite DIMSE	
C-ECHO		Verification
C-STORE		Storage
C-FIND		Query/Retrieve
C-GET		Query/Retrieve
C-MOVE		Query/Retrieve
C-CANCEL		Cancel
C-PRINT		Print
RQ		Request
RSP		Response

## DICOM

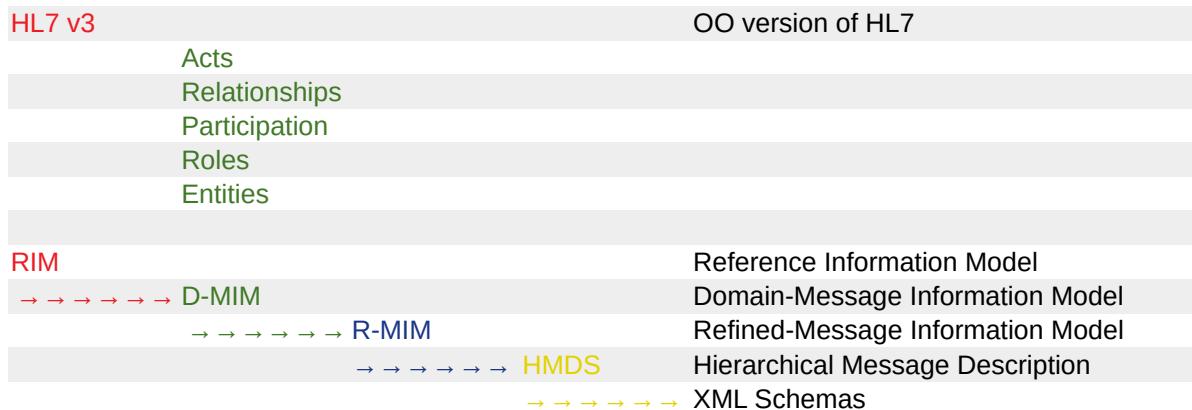
DUL		DICOM upper layer protocol for network transfer
PDU		Protocol Data Unit
	A-ASSOCIATION	Association service message to establish communication channel
	P-DATA	To exchange data value
	PDV	Presentation Data Value
SCU		Service Class User
SCP		Service Class Provider
MWL		Modality Worklist : Communication between RIS and DICOM for scheduling
MMPS		Modality Performed Procedures : Communication between RIS and DICOM during procedure

## Data protection

HIPAA	Health Insurance Portability & Accountability Act	
	Administrative procedures	
	Physical safeguards	
	Technical security services	
	Technical mechanisms	
	DF 1	DF separator
	DF 2	Other separators
	DF 3 → 6	Receiving/Sending apps/app instances
	DF 9	Msg Type & Trigger Event
	DF 10	Msg control ID
	DF 11	Msg processing ID (Debugging, Production, Training) or mode (Archive, Restore...)
	DF 12	HL7 version
	(e)PHI	(electronic) Protected Health Information
CIA triad	Confidentiality Integrity Availability	
NIST	National Institute of Standards and Technology	
	NIST 800-53	Special Publication 800-53 (26 families of controls) Requirement standard
	NIST CSF	Cybersecurity Framework (5 sections of controls 22 categories) Guideline standard
	NIST RMF	Risk Management Framework
ISO	International Organization for Standardization	
	ISO/IEC 27002	InfoSec controls
	Types	
GDPR	ADT	Admission Discharge Transfer
	ACK	A01, A02, ... Event types (transfer, register, update etc...) General acknowledgment
		AA, AE, AR CA, CR, CE App Accept, App Error, App Reject Commit Accept, Commit Reject, Commit Error
AAA triad (triple A model)	ORM	Order Message
	ORR	Order Acknowledgment
	IdM	ORU Observation Result/unsolicited
		QRY Query (request)
DS	SIU	Scheduling Information Unsolicited

		Data protection
	BAR	Biling Account Record
	ITU-T X500 DFT	Detailed Financial Situation
	LDAP	Lightweight Directory Access Protocol – Standard network protocol
XML	DIT	Extensible Markup Language
	LDIF	LDAP Data Interchangeable Format
UML		Unified Modeling Language
	Use case	Describe actors, responsibilities, situations
	Sequence diagram	Define transfer mode
	Activity Diagram	Detail message exchanges
DTD		Document type definition : define elements and attribute to make valid XML file
	messages.dtd	
	ACK.dtd	
	segments.dtd	Identity Provider
	fields.dtd	
	datatype.dtd	Desktop-base SSO – Based on Ticket Granting Ticket
	SAML	Security Assertion Markup Language – Server redirects Client to IdP which generates a SAML token
XSD	Oauth2	XML Schema : same as dtd but used more often nowadays

## HL7 v3 FHIR



## Terminologie

CIM (ICD)	Classification Internationales des Maladies (finalité statistique)	
ICD-9	3 chiffres + 1 chiffre de spécification	
ICD-10		
	DF 1	DF separator
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	DF 3 → 6	Receiving/Sending apps/app instances
	DF 9	Msg Type & Trigger Event
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	DF 12	HL7 version
Codes INAMI	Finalité administrative	
CPT	Current Procedural Terminology	
ICPC-2	International Classification of Primary Care	
POMR	Problem Oriented Medical Report	
SODA (SOAP)	Subjectif Objectif Diagnostique Actes	
SNDO	Standard Nomenclature of Diseases and Operations (2 axes)	
SNOP	Systemized Nomenclature of Pathology (4 axes)	
SNOMED	Systemized Nomenclature of Medicine (6 axes)	
Types	7 à 11 axes	
	ADT	Admission Discharge Transfer
NIH	ACK	A01, A02,... Event types (transfer, register, update etc...) General acknowledgment
		AA, AE, AR App Accept, App Error, App Reject
		CA, CR, CE Commit Accept, Commit Reject, Commit Error
NLM	ORM	Order Message
	ORR	Order Acknowledgment
MeSH	ORU	Observation Result/unsolicited
UMLS	QRY	Query (request)
	SIU	Scheduling Information Unsolicited

## Terminologie

DSM	BAR	Biling Account Record
ACR	DFT	Detailed Financial Situation
LOINS		Biologie Clinique
XML		Extensible Markup Language
KMEHR		Kind Messages for Electronic Healthcare Records (Analogue CDA (XML))
UML		Unified Modeling Language
	Use case	Describe actors, responsibilities, situations
	Sequence diagram	Define transfer mode
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