DICOM Correction Proposal

STATUS	Final Text
Date of Last Update	2021/09/22
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Submission Date	2021/06/18

Correction Number CP-2148
Log Summary: Clarify audit trail messages
Name of Standard PS3.15 2022c
Rationale for Correction: CP1323 and CP1616 removed the reference to the value definition in RFC-3881 and added a table of value definitions to replace it. However, some parts still refer to RFC-3881. There are also a few typos. It's should be corrected. The contents of "A.5.1.2.2 Participant Object Type Code Role" (Add by CP1616) and "A.5.2.6 ParticipantObjectTypeCodeRole (Add by CP1323)" is overlap and should be integrated into A.5.1.2.2.(This is not reflected in this document.)
Correction Wording:

Amend DICOM PS3.15 A.5.1 as follows

A.5.1.2 Codes Used Within The Schema

The following value sets are defined in the audit schema above. These are not coded terminology. They are values whose meaning depends upon their use at the proper location within the message.

A.5.1.2.1 Audit Source Type Code

The Audit Source Type Code values specify the type of source where an event originated. Codes from coded terminologies and implementation defined codes can also be used for the AuditSourceTypeCode.

Table A.5.1.2.1-1. Audit Source Type Code Values

Value	**Meaning**
1	End-user interface
2	Data acquisition device or instrument
3	Web server process tier in a multi-tier system
4	Application server process tier in a multi-tier system
5	~~Application~~ **Database** server process tier in a multi-tier system
6	Security server, e.g., a domain controller
7	ISO level 1-3 network component

Value	Meaning
8	ISO level 4-6 operating software
9	External source, other or unknown type

A.5.1.2.2 Participant Object Type Code Role

The Participant Object Type Code Role is an attribute of the ParticipantObjectIdentification, and is not extensible. This attribute may be omitted or one of the following values assigned. Coded terminologies are not supported.

~~Table~~

Table A.5.1.2.2-1. Participant Object Type Code Role~~s~~ Values

Value	Meaning	Likely associated Participant Object Type Code
1	Patient	1 - Person
2	Location	3 - Organization
3	Report	2 - System Object
4	Resource	1 - Person, or 3 - Organization
5	Master File	2 - System Object
6	User	1 - Person, or 2 - System Object
7	List	2 - System Object
8	Doctor	1 - Person
9	Subscriber	3 - Organization
10	Guarantor	1 - Person, or 3 - Organization
11	Security User Entity	1 - Person, or 2 - System Object
12	Security User Group	2 - System Object
13	Security Resource	2 - System Object
14	Security Granularity Definition	2 - System Object
15	Provider	1 - Person, or 3 - Organization
16	Data Destination	2 - System Object
17	Data Repository	2 - System Object

Value	Meaning	Likely associated Participant Object Type Code
18	Schedule	2 - System Object
19	Customer	3 - Organization
20	Job	2 - System Object
21	Job Stream	2 - System Object
22	Table	2 - System Object
23	Routing Criteria	2 - System Object
24	Query	2 - System Object
25	**Data Source**	**2 - System Object**
26	**Processing Element**	**2 - System Object**

A.5.1.2.3 Participant Object Data Life Cycle

The Participant Object Data Life Cycle is an attribute of the ParticipantObjectIdentification, and is not extensible. This attribute may be omitted or one of the following values assigned. Coded terminologies are not supported.

Table A.5.1.2.3-1. Participant Object Data Life Cycle Values

Value	Meaning
1	Origination or Creation
2	Import or Copy from original
3	Amendment
4	Verification
5	Translation
6	Access or Use
7	De-identification
8	Aggregation, summarization, derivation
9	Report
10	Export or Copy to target
11	Disclosure
12	Receipt of Disclosure
13	Archiving
14	Logical Deletion
15	Permanent erasure or physical destruction

A.5.1.2.4 Participant Object ID Type Code

The Participant Object ID Type Code describes the identifier that is contained in Participant Object ID. Codes from coded terminologies and implementation defined codes can also be used for the ParticipantObjectTypeCodeRole.

Table A.5.1.2.4-1. Participant Object ID Type Code Values

Value	Meaning	Likely associated Participant Object Type Code
1	Medical Record Number	1 - Person
2	Patient Number	1 - Person
3	Encounter Number	1 - Person
4	Enrollee Number	1 - Person
5	Social Security Number	1 - Person
6	Account Number	1 - Person, or 3 - Organization
7	Guarantor Number	1 - Person, or 3 - Organization
8	Report Name	2 - System Object
9	Report Number	2 - System Object
10	Search Criteria	2 - System Object
11	User Identifier	1 - Person, or 2 - System Object
12	URI	2 - System Object

Amend DICOM PS3.15 A.5.2 as follows

A.5.2 General Message Format Conventions

The following table lists the primary fields from the message schema specified in A.5.1, with additional instructions, conventions, and restrictions on how DICOM applications shall fill in the field values. The field names are leaf elements and attributes that are in the DICOM Audit Message Schema (see Section A.5.1). Note that these fields may be enclosed in other XML elements, as specified by the schema.

Note

This schema, codes, and content were originally derived from [RFC 3881]. [RFC 3881] is not being maintained or updated by the IETF, and has gradually diverged from the DICOM schema and codes. Other documents exist that refer to [RFC 3881] as the underlying standard. [RFC 3881] does not include corrections and additions to the audit schema made in DICOM since 2004.

In subsequent tables the following notation Is used for optionality:

M This element or attribute is mandatory

U This element or attribute is user optional. The creator may include it or omit it.

MC This element or attribute is mandatory if a specified condition is true.

UC This element or attribute may be present only if a specified condition is true, if the user chooses to include it.

Table A.5.2-1. General Message Format

	Field Name	Opt.	Description	Additional Conditions on Field Format/Value
Event	EventID	M	Identifier for a specific audited event.	The identifier for the family of event. E.g., "User Authentication". DCID 400 “Audit Event ID”
	EventActionCode	U	Indicator for type of action performed during the event that generated the audit.	**C** Create a new database object, such as Placing an Order **R** Read/View/Print/Query Display or print data, such as a Doctor Census **U** Update data, such as Revise Patient Information **D** Delete items, such as a master file record **E** **Execute**~~Perform~~ a system or application function such as log-on, program execution, or use of an object's method
	EventDateTime	M	Universal coordinated time (UTC), i.e., a date/time specification that is unambiguous as to local time zones.	The time at which the audited event occurred.See Section A.5.2.5
	EventOutcomeIndicator	M	Indicates whether the event succeeded or failed.	**0** Success **4** Minor failure; action restarted, e.g., invalid password with first retry **8** Serious failure; action terminated, e.g., invalid password with excess retries **12** Major failure; action made unavailable, e.g., user account disabled due to excessive invalid log-on attempts When a particular event has some aspects that succeeded and some that failed, then one message shall be generated for successful actions and one message for the failed actions (i.e., not a single message with mixed results).
	EventTypeCode	U	Identifier for the category of event.	The specific type(s) within the family applicable to the event, e.g., "User Login". DCID 401 “Audit Event Type Code”
Active Participant (multi-valued)	UserID	M	Unique identifier for the user actively participating in the event.	See Section A.5.2.1.
	AlternativeUserID	U	Alternative unique identifier for the user.	See Section A.5.2.2.
	UserName	U	The human-meaningful name for the user.	See Section A.5.2.3.
	UserIsRequestor	M	Indicator that the user is or is not the requestor, or initiator, for the event being audited.	Used to identify which of the participants initiated the transaction being audited. If the audit source cannot determine which of the participants is the

	Field Name	Opt.	Description	Additional Conditions on Field Format/Value
				requestor, then the field shall be present with the value FALSE in all participants. The system shall not identify multiple participants as UserIsRequestor. If there are several known requestors, the reporting system shall pick only one as UserIsRequestor.
	RoleIDCode	U	Specification of the role(s) the user plays when performing the event, as assigned in role-based access control security.	DCID 402 “Audit Active Participant Role ID Code” Note Usage of this field is refined in the individual message descriptions below. Other additional roles may also be present, since this is a multi-valued field.
	NetworkAccessPointTypeCode	U	An identifier for the type of network access point.	See Section A.5.2.4.
	NetworkAccessPointID	U	An identifier for the network access point of the user device This could be a device id, IP address, or some other identifier associated with a device.	
Audit Source	AuditEnterpriseSiteID	U	Logical source location within the healthcare enterprise network, e.g., a hospital or other provider location within a multi-entity provider group.	Serves to further qualify the Audit Source ID, since Audit Source ID is not required to be globally unique.
	AuditSourceID	M	Identifier of the source.	The identification of the system that detected the auditable event and created this audit message. Although often the audit source is one of the participants, it could also be an external system that is monitoring the activities of the participants (e.g., an add-on audit-generating device).
	AuditSourceTypeCode	U	Code specifying the type of source.	See Section A.5.1.2.1. E.g., an acquisition device might use "2" (data acquisition device), a PACS/RIS system might use "4 "(application server process).
Participant Object (multi-valued)	ParticipantObjectTypeCode	U	Code for the participant object type being audited. This value is distinct from the user's role or any user relationship to the participant object.	**1** Person **2** System Object **3** Organization **4** Other
	ParticipantObjectTypeCodeRole	U	Code representing the functional application role of Participant Object being audited.	See Section A.5.1.2.2.

	Field Name	Opt.	Description	Additional Conditions on Field Format/Value
	ParticipantObjectDataLifeCycle	U	Identifier for the data life-cycle stage for the participant object. This can be used to provide an audit trail for data, over time, as it passes through the system.	See Section A.5.1.2.3.
	ParticipantObjectIDTypeCode	M	Describes the identifier that is contained in Participant Object ID.	See Section A.5.1.2.4 and CID 404 “Audit Participant Object ID Type Code” Note Usage of this field is refined in the individual message descriptions below. Multiple roles may also be present, since this is a multi-valued field.
	ParticipantObjectSensitivity	U	Denotes policy-defined sensitivity for the Participant Object ID such as VIP, HIV status, mental health status, or similar topics.	Locally defined terms.
	ParticipantObjectID	M	Identifies a specific instance of the participant object.	Usage refined by individual message descriptions
	ParticipantObjectName	U	An instance-specific descriptor of the Participant Object ID audited, such as a person's name.	Usage refined by individual message descriptions
	ParticipantObjectQuery	U	The actual query for a query-type participant object.	Usage refined by individual message descriptions
	ParticipantObjectDetail	U	Implementation-defined data about specific details of the object accessed or used.	This element is a Type-value pair. The "type" attribute is an implementation-defined text string. The "value" attribute is base 64 encoded data. The value is suitable for conveying binary data.
	SOPClass	MC		The UIDs of SOP classes referred to in this participant object. Required if ParticipantObjectIDTypeCode is (110180, DCM, "Study Instance UID") and any of the optional fields (AccessionNumber, ContainsMPPS, NumberOfInstances, ContainsSOPInstances,Encrypted,Anonymized) are present in this Participant Object. May be present if ParticipantObjectIDTypeCode is (110180, DCM, "Study Instance UID") even though none of the optional fields are present.
	Accession	U		An Accession Number(s) associated with this participant object.

	Field Name	Opt.	Description	Additional Conditions on Field Format/Value
	MPPS	U		An MPPS Instance UID(s) associated with this participant object.
	NumberOfInstances	U		The number of SOP Instances referred to by this participant object.
	Instance	U		SOP Instance UID value(s) Note Including the list of SOP Instances can create a fairly large audit message. Under most circumstances, the list of SOP Instance UIDs is not needed for audit purposes.
	Encrypted	U		A single value of True or False indicating whether or not the data was encrypted. Note If there was a mix of encrypted and non-encrypted data, then create two event reports.
	Anonymized	U		A single value of True or False indicating whether or not all patient identifying information was removed from the data
	ParticipantObjectContainsStudy	U		A Study Instance UID, which may be used when the ParticipantObjectIDTypeCode is not (110180, DCM, "Study Instance UID").

A.5.2.1 UserID

If the participant is a person, then the User ID shall be the identifier used for that person on this particular system, in the form of loginName@domain-name.

If the participant is an identifiable process, the UserID selected shall be one of the identifiers used in the internal system logs. For example, the User ID may be the process ID as used within the local operating system in the local system logs. If the participant is a node, then User ID may be the node name assigned by the system administrator. Other participants such as threads, relocatable processes, web service end-points, web server dispatchable threads, etc. will have an appropriate identifier. The implementation shall document in the conformance statement the identifiers used, see Section A.6. The purpose of this requirement is to allow matching of the audit log identifiers with internal system logs on the reporting systems. .

When importing or exporting data, e.g., by means of media, the UserID field is used both to identify people and to identify the media itself. When the Role ID Code is EV(110154, DCM, "Destination Media") or EV(110155, DCM, "Source Media"), the UserID may be:

a. a URI (the preferred form) identifying the source or destination,

b. an email address of the form "mailto:user@address"

c. a description of the media type (e.g., DVD) together with a description of its identifying label, as a free text field,

d. a description of the media type (e.g., paper, film) together with a description of the location of the media creator (i.e., the printer).

The UserID field for Media needs to be highly flexible given the large variety of media and transports that might be used.

A.5.2.2 AlternativeUserID

If the participant is a person, then Alternative User ID shall be the identifier used for that person within an enterprise for authentication purposes, for example, a Kerberos Username (user@realm). If the participant is a DICOM application, then Alternative User ID shall be one or more of the AE Titles that participated in the event. Multiple AE titles shall be encoded as:

AETITLES= *aetitle1;aetitle2;…*

When importing or exporting data, e.g., by means of media, the Alternative UserID field is used either to identify people or to identify the media itself. When the Role ID Code is (110154, DCM, "Destination Media") or (110155, DCM, "Source Media"), the Alternative UserID may be any machine readable identifications on the media, such as media serial number, volume label, or DICOMDIR SOP Instance UID.

A.5.2.3 User~~n~~Name

A human readable identification of the participant. If the participant is a person, the person's name shall be used. If the participant is a process, then the process name shall be used.

A.5.2.4 ~~Multi-homed Nodes~~NetworkAccessPointTypeCode, NetworkAccessPointID

The NetworkAccessPointTypeCode and NetworkAccessPointID can be ambiguous for systems that have multiple physical network connections. For these multi-homed nodes a single DNS name or IP address shall be selected and used when reporting audit events. DICOM does not require the use of a specific method for selecting the network connection to be used for identification, but it must be the same for all of the audit messages generated for events on that node.

A.5.2.5 EventDateTime

The EventDateTime is the date and time that the event being reported took place. Some events have a significant duration. In these cases, a date and time shall be chosen by a method that is consistent and appropriate for the event being reported.

The EventDateTime shall include the time zone information.

Creators of audit messages may support leap-seconds, but are not required to. Recipients of audit messages shall be able to process messages with leap-second information.

A.5.2.6 ParticipantObjectTypeCodeRole

The ParticipantObjectTypeCodeRole identifies the role that the object played in the event that is being reported. Most events involve multiple participating objects. ParticipantObjectTypeCodeRole identifies which object took which role in the event. It also covers agents, multi-purpose entities, and multi-role entities. For the purpose of the event one primary role is chosen.

Table A.5.2.6-1. ParticipantObjectTypeCodeRole

Code	Short Description	Description
1	Patient	This object is the patient that is the subject of care related to this event. It is identifiable by patient ID or equivalent. The patient may be either human or animal.
2	Location	This is a location identified as related to the event. This is usually the location where the event took place. Note that for shipping, the usual events are arrival at a location or departure from a location.
3	Report	This object is any kind of persistent document created as a result of the event. This could be a paper report, film, electronic report, DICOM Study, etc. Issues related to medical records life cycle management are conveyed elsewhere.
4	Resource	(deprecated)

Code	Short Description	Description
5	Master File	This is any configurable file used to control creation of documents or behavior. Examples include the objects maintained by the HL7 Master File transactions, Value Sets, etc.
6	User	A human participant not otherwise identified by some other category
7	List	(deprecated)
8	Doctor	A person who is providing or performing care related to the event, generally a physician. The key distinction between doctor and provider is the nature of their participation. The doctor is the human who actually performed the work. The provider is the human or organization that is responsible for the work.
9	Subscriber	A person or system that is being notified as part of the event. This is relevant in situations where automated systems provide notifications to other parties when an event took place.
10	Guarantor	Insurance company, or any other organization who accepts responsibility for paying for the healthcare event.
11	Security User Entity	A person or active system object involved in the event with a security role.
12	Security User Group	(deprecated)
13	Security Resource	A passive object, such as a role table, that is relevant to the event.
14	Security Granularity Definition	(deprecated) Relevant to certain RBAC security methodologies.
15	Provider	A person or organization responsible for providing care. This encompasses all forms of care, licensed or otherwise, and all sorts of teams and care groups. Note, the distinction between providers and the doctor that actually provided the care to the patient.
16	Data Destination	The destination for data transfer, when some other role is not appropriate.
17	Data Archive	A source or destination for data transfer that acts as an archive, database, or similar role.
18	Schedule	An object that holds schedule information. This could be an appointment book, availability information, etc.
19	Customer	An organization or person that is the recipient of services. This could be an organization that is getting services for a patient, or a person that is getting services for an animal.
20	Job	An order, task, work item, procedure step, or other description of work to be performed. E.g., a particular instance of an MPPS.
21	Job Stream	A list of jobs or a system that provides lists of jobs. E.g., an MWL SCP.
22	Table	(Deprecated)
23	Routing Criteria	An object that specifies or controls the routing or delivery of items. For example, a distribution list is the routing criteria for mail. The items delivered may be documents, jobs, or other objects.
24	Query	The contents of a query. This is used to capture the contents of any kind of query. For security surveillance purposes knowing the queries being made is very important.
25	Data Source	The source or origin of data, when there is no other matching role available.
26	Processing Element	A data processing element that creates, analyzes, modifies, or manipulates data as part of this event.

Amend DICOM PS3.15 A.5.3 as follows

A.5.3.2 Audit Log Used

This message describes the event of a person or process reading a log of audit trail information.

Note

For example, an implementation that maintains a local cache of audit information that has not been transferred to a central collection point might generate this message if its local cache were accessed by a user.

Table A.5.3.2-1. Audit Log Used Message

Real World Entities	Field Name	Opt.	Value Constraints
Event	EventID	M	EV (110101, DCM, "Audit Log Used")
	EventActionCode	M	Shall be enumerated value: R = read
	EventDateTime	M	not specialized
	EventOutcomeIndicator	M	not specialized
	EventTypeCode	U	not specialized
Active Participant: Persons and or processes that started the Application (1..2)	UserID	M	The person or process accessing the audit trail. If both are known, then two active participants shall be included (both the person and the process).
	AlternativeUserID	U	not specialized
	UserName	U	not specialized
	UserIsRequestor	M	not specialized
	RoleIDCode	U	not specialized
	NetworkAccessPointTypeCode	U	not specialized
	NetworkAccessPointID	U	not specialized
Participating Object: Identity of the audit log (1)	ParticipantObjectTypeCode	M	Shall be: 2 = ~~s~~**S**ystem **Object**
	ParticipantObjectTypeCodeRole	M	Shall be: 13 = ~~s~~**S**ecurity ~~r~~**R**esource
	ParticipantObjectDataLifeCycle	U	not specialized
	ParticipantObjectIDTypeCode	M	Shall be: 12 = ~~EV (12, RFC 3881, "URI")~~**URI**
	ParticipantObjectSensitivity	U	not specialized
	ParticipantObjectID	M	The URI of the audit log
	ParticipantObjectName	U	Shall be: "Security Audit Log"

Real World Entities	Field Name	Opt.	Value Constraints
	ParticipantObjectQuery	U	not specialized
	ParticipantObjectDetail	U	not specialized
	ParticipantObjectDescription	U	not specialized
	SOPClass	U	See Section A.5.2
	Accession	U	See Section A.5.2
	NumberOfInstances	U	See Section A.5.2
	Instances	U	See Section A.5.2
	Encrypted	U	See Section A.5.2
	Anonymized	U	See Section A.5.2
	ParticipantObjectContainsStudy	U	See Section A.5.2

A.5.3.3 Begin Transferring DICOM Instances

This message describes the event of a system beginning to transfer a set of DICOM instances from one node to another node within control of the system's security domain. This message may only include information about a single patient.

Note

A separate Instances Transferred message is defined for transfer completion, allowing comparison of what was intended to be sent and what was actually sent.

Table A.5.3.3-1. Audit Message for Begin Transferring DICOM Instances

Real World Entities	Field Name	Opt.	Value Constraints
Event	EventID	M	EV (110102, DCM, "Begin Transferring DICOM Instances")
	EventActionCode	M	Shall be: E = Execute
	EventDateTime	M	not specialized
	EventOutcomeIndicator	M	not specialized
	EventTypeCode	U	not specialized
Active Participant: Process Sending the Data (1)	UserID	M	The identity of the process sending the data.
	AlternativeUserID	U	not specialized
	UserName	U	not specialized
	UserIsRequestor	M	not specialized
	RoleIDCode	M	EV (110153, DCM, "Source Role ID")
	NetworkAccessPointTypeCode	U	not specialized

Real World Entities	Field Name	Opt.	Value Constraints
	NetworkAccessPointID	U	not specialized
Active Participant: Process receiving the data (1)	UserID	M	The identity of the process receiving the data.
	AlternativeUserID	U	not specialized
	UserName	U	not specialized
	UserIsRequestor	M	not specialized
	RoleIDCode	M	EV (110152, DCM, "Destination Role ID")
	NetworkAccessPointTypeCode	U	not specialized
	NetworkAccessPointID	U	not specialized
Active Participant: Other Participants (0..N)	UserID	M	The identity of any other participants that might be involved and known, especially third parties that are the requestor
	AlternativeUserID	U	not specialized
	UserName	U	not specialized
	UserIsRequestor	M	not specialized
	RoleIDCode	U	not specialized
	NetworkAccessPointTypeCode	U	not specialized
	NetworkAccessPointID	U	not specialized
Participating Object: Studies being transferred (1..N)	ParticipantObjectTypeCode	M	Shall be: 2 = ~~s~~**S**ystem **Object**
	ParticipantObjectTypeCodeRole	M	Shall be: 3 = ~~r~~**R**eport
	ParticipantObjectDataLifeCycle	U	not specialized
	ParticipantObjectIDTypeCode	M	EV (110180, DCM, "Study Instance UID")
	ParticipantObjectSensitivity	U	not specialized
	ParticipantObjectID	M	The Study Instance UID
	ParticipantObjectName	U	not specialized
	ParticipantObjectQuery	U	not specialized
	ParticipantObjectDetail	U	Element "ContainsSOPClass" with one or more SOP Class UID values
	ParticipantObjectDescription	U	not specialized
	SOPClass	MC	not specialized
	Accession	U	not specialized

Real World Entities	Field Name	Opt.	Value Constraints
	NumberOfInstances	U	not specialized
	Instances	U	not specialized
	Encrypted	U	not specialized
	Anonymized	U	not specialized
Participating Object: Patient (1)	ParticipantObjectTypeCode	M	Shall be: 1 = ~~p~~**P**erson
	ParticipantObjectTypeCodeRole	M	Shall be: 1 = ~~p~~**P**atient
	ParticipantObjectDataLifeCycle	U	not specialized
	ParticipantObjectIDTypeCode	M	Shall be: ~~EV (2, RFC-3881, "Patient Number")~~**2 = Patient Number**
	ParticipantObjectSensitivity	U	not specialized
	ParticipantObjectID	M	The patient ID
	ParticipantObjectName	U	The patient name
	ParticipantObjectQuery	U	not specialized
	ParticipantObjectDetail	U	not specialized
	ParticipantObjectDescription	U	not specialized

A.5.3.4 Data Export

This message describes the event of exporting data from a system, meaning that the data is leaving control of the system's security domain. Examples of exporting include printing to paper, recording on film, conversion to another format for storage in an EHR, writing to removable media, or sending via e-mail. Multiple patients may be described in one event message.

Table A.5.3.4-1. Audit Message for Data Export

Real World Entities	Field Name	Opt.	Value Constraints
Event	EventID	M	EV (110106, DCM, "Export")
	EventActionCode	M	Shall be: R = Read
	EventDateTime	M	not specialized
	EventOutcomeIndicator	M	not specialized
	EventTypeCode	U	not specialized
Active Participant: Remote Users and Processes (0..n)	UserID	M	The identity of the remote user or process receiving the data
	AlternativeUserID	U	not specialized
	UserName	U	not specialized

Real World Entities	Field Name	Opt.	Value Constraints
	UserIsRequestor	M	See Section A.5.3.4.1
	RoleIDCode	M	EV (110152, DCM, "Destination Role ID")
	NetworkAccessPointTypeCode	U	not specialized
	NetworkAccessPointID	U	not specialized
Active Participant: User or Process Exporting the data(1..2)	UserID	M	The identity of the local user or process exporting the data. If both are known, then two active participants shall be included (both the person and the process).
	AlternativeUserID	U	not specialized
	UserName	U	not specialized
	UserIsRequestor	M	See Section A.5.3.4.1
	RoleIDCode	M	EV (110153, DCM, "Source Role ID")
	NetworkAccessPointTypeCode	U	not specialized
	NetworkAccessPointID	U	not specialized
Active Participant: Media (1)	UserID	M	See Section A.5.2.**3~~2~~1**
	AlternativeUserID	U	See Section A.5.2.**4~~3~~2**
	UserName	U	not specialized
	UserIsRequestor	M	Shall be FALSE
	RoleIDCode	M	EV (110154, DCM, "Destination Media")
	NetworkAccessPointTypeCode	MC	Required if being exported to other than physical media, e.g., to a network destination rather than to film, paper or CD. May be present otherwise.
	NetworkAccessPointID	MC	Required if Net Access Point Type Code is present. May be present otherwise.
	MediaIdentifier	MC	Volume ID, URI, or other identifier for media. Required if digital media. May be present otherwise.
	MediaType	M	Values selected from DCID 405 “Media Type Code”
Participating Object: Studies (0..N)	ParticipantObjectTypeCode	M	Shall be: 2 = ~~s~~**S**ystem **Object**
	ParticipantObjectTypeCodeRole	M	Shall be: 3 = ~~r~~**R**eport
	ParticipantObjectDataLifeCycle	U	not specialized
	ParticipantObjectIDTypeCode	M	EV (110180, DCM, "Study Instance UID")

Real World Entities	Field Name	Opt.	Value Constraints
	ParticipantObjectSensitivity	U	not specialized
	ParticipantObjectID	M	The Study Instance UID
	ParticipantObjectName	U	not specialized
	ParticipantObjectQuery	U	not specialized
	ParticipantObjectDetail	U	not specialized
	ParticipantObjectDescription	U	not specialized
	SOPClass	MC	See Table A.5.2-1
	Accession	U	not specialized
	NumberOfInstances	U	not specialized
	Instances	U	not specialized
	Encrypted	U	not specialized
	Anonymized	U	not specialized
Participating Object: Patients (1..N)	ParticipantObjectTypeCode	M	Shall be: 1 = ~~p~~**P**erson
	ParticipantObjectTypeCodeRole	M	Shall be: 1 = ~~p~~**P**atient
	ParticipantObjectDataLifeCycle	U	not specialized
	ParticipantObjectIDTypeCode	M	Shall be: ~~EV (2, RFC 3881, "Patient Number")~~**2 = Patient Number**
	ParticipantObjectSensitivity	U	not specialized
	ParticipantObjectID	M	The patient ID
	ParticipantObjectName	U	The patient name
	ParticipantObjectQuery	U	not specialized
	~~ParticipantObjectQuery~~	~~U~~	~~not specialized~~
	ParticipantObjectDetail	U	not specialized
	ParticipantObjectDescription	U	not specialized

A.5.3.4.1 UserIsRequestor

A single user (either local or remote) shall be identified as the requestor, i.e., UserIsRequestor with a value of TRUE. This accommodates both push and pull transfer models for media.

A.5.3.5 Data Import

This message describes the event of importing data into an organization, implying that the data now entering the system was not under the control of the security domain of this organization. Transfer by media within an organization is often considered a data transfer rather than a data import event. An example of importing is creating new local instances from data on removable media. Multiple patients may be described in one event message.

A single user (either local or remote) shall be identified as the requestor, i.e., UserIsRequestor with a value of TRUE. This accommodates both push and pull transfer models for media.

Table A.5.3.5-1. Audit Message for Data Import

Real World Entities	Field Name	Opt.	Value Constraints
Event	EventID	M	EV (110107, DCM, "Import")
	EventActionCode	M	Shall be: C = Create
	EventDateTime	M	not specialized
	EventOutcomeIndicator	M	not specialized
	EventTypeCode	U	not specialized
Active Participant: User or Process Importing the data (1..n)	UserID	M	The identity of the local user or process importing the data.
	AlternativeUserID	U	not specialized
	UserName	U	not specialized
	UserIsRequestor	M	See Section A.5.3.5
	RoleIDCode	M	EV (110152, DCM, "Destination Role ID")
	NetworkAccessPointTypeCode	U	not specialized
	NetworkAccessPointID	U	not specialized
Active Participant: Source Media (1)	UserID	M	See Section A.5.2.~~3~~**1**
	AlternativeUserID	U	See Section A.5.2.~~4~~**2**
	UserName	U	not specialized
	UserIsRequestor	M	Shall be FALSE
	RoleIDCode	M	EV (110155, DCM, "Source Media")
	NetworkAccessPointTypeCode	U	not specialized
	NetworkAccessPointID	MC	Shall be present if Net Access Point Type Code is present.
	MediaIdentifier	M	Volume ID, URI, or other identifier for media
	MediaType	M	Values selected from DCID 405 “Media Type Code”
Active Participant: Source (0..n)	UserID	M	See Section A.5.2.~~3~~**1**
	AlternativeUserID	U	See Section A.5.2.~~4~~**2**
	UserName	U	not specialized
	UserIsRequestor	M	See Section A.5.3.5

Real World Entities	Field Name	Opt.	Value Constraints
	RoleIDCode	M	EV (110153, DCM, "Source Role ID")
	NetworkAccessPointTypeCode	U	not specialized
	NetworkAccessPointID	MC	Shall be present if Net Access Point Type Code is present.
Participating Object: Studies (0..N)	ParticipantObjectTypeCode	M	Shall be: 2 = ~~s~~**S**ystem **Object**
	ParticipantObjectTypeCodeRole	M	Shall be: 3 = ~~r~~**R**eport
	ParticipantObjectDataLifeCycle	U	not specialized
	ParticipantObjectIDTypeCode	M	EV (110180, DCM, "Study Instance UID")
	ParticipantObjectSensitivity	U	not specialized
	ParticipantObjectID	M	The Study Instance UID
	ParticipantObjectName	U	not specialized
	ParticipantObjectQuery	U	not specialized
	ParticipantObjectDetail	U	Not specialized
	ParticipantObjectDescription	U	not specialized
	SOPClass	MC	See Table A.5.2-1
	Accession	U	not specialized
	NumberOfInstances	U	not specialized
	Instances	U	not specialized
	Encrypted	U	not specialized
	Anonymized	U	not specialized
Participating Object: Patients (1..N)	ParticipantObjectTypeCode	M	Shall be: 1 = ~~p~~**P**erson
	ParticipantObjectTypeCodeRole	M	Shall be: 1 = ~~p~~**P**atient
	ParticipantObjectDataLifeCycle	U	not specialized
	ParticipantObjectIDTypeCode	M	Shall be: ~~EV (2, RFC-3881, "Patient Number")~~ **2 = Patient Number**
	ParticipantObjectSensitivity	U	not specialized
	ParticipantObjectID	M	The patient ID
	ParticipantObjectName	U	The patient name
	ParticipantObjectQuery	U	not specialized
	ParticipantObjectDetail	U	not specialized

Real World Entities	Field Name	Opt.	Value Constraints
	ParticipantObjectDescription	U	not specialized

A.5.3.6 DICOM Instances Accessed

This message describes the event of DICOM SOP Instances being viewed, utilized, updated, or deleted. This message shall only include information about a single patient and can be used to summarize all activity for several studies for that patient. This message records the studies to which the instances belong, not the individual instances.

If all instances within a study are deleted, then the EV(110105, DCM, "DICOM Study Deleted") event shall be used, see Section A.5.3.8.

Table A.5.3.6-1. Audit Message for DICOM Instances Accessed

Real World Entities	Field Name	Opt.	Value Constraints
Event	EventID	M	EV (110103, DCM, "DICOM Instances Accessed")
	EventActionCode	M	Enumerated value: C = create R = read U = update D = delete
	EventDateTime	M	not specialized
	EventOutcomeIndicator	M	not specialized
	EventTypeCode	U	not specialized
Active Participant: Person and or Process manipulating the data (1..2)	UserID	M	not specialized
	AlternativeUserID	U	not specialized
	UserName	U	not specialized
	UserIsRequestor	M	not specialized
	RoleIDCode	U	not specialized
	NetworkAccessPointTypeCode	U	not specialized
	NetworkAccessPointID	U	not specialized
Participating Object: Studies (1..N)	ParticipantObjectTypeCode	M	Shall be: 2 = ~~s~~**S**ystem **Object**
	ParticipantObjectTypeCodeRole	M	Shall be: 3 = ~~r~~**R**eport
	ParticipantObjectDataLifeCycle	U	not specialized
	ParticipantObjectIDTypeCode	M	EV (110180, DCM, "Study Instance UID")
	ParticipantObjectSensitivity	U	not specialized

Real World Entities	Field Name	Opt.	Value Constraints
	ParticipantObjectID	M	The Study Instance UID
	ParticipantObjectName	U	not specialized
	ParticipantObjectQuery	U	not specialized
	ParticipantObjectDetail	U	Not specialized
	ParticipantObjectDescription	U	Not specialized
	SOPClass	MC	See Table A.5.2-1
	Accession	U	not specialized
	NumberOfInstances	U	not specialized
	Instances	U	not specialized
	Encrypted	U	not specialized
	Anonymized	U	not specialized
Participating Object: Patient (1)	ParticipantObjectTypeCode	M	Shall be: 1 = ~~p~~**P**erson
	ParticipantObjectTypeCodeRole	M	Shall be: 1 = ~~p~~**P**atient
	ParticipantObjectDataLifeCycle	U	not specialized
	ParticipantObjectIDTypeCode	M	Shall be: ~~EV (2, RFC-3881, "Patient Number")~~**2 = Patient Number**
	ParticipantObjectSensitivity	U	not specialized
	ParticipantObjectID	M	The patient ID
	ParticipantObjectName	U	The patient name
	ParticipantObjectQuery	U	not specialized
	ParticipantObjectDetail	U	not specialized
	ParticipantObjectDescription	U	not specialized

A.5.3.7 DICOM Instances Transferred

This message describes the event of the completion of transferring DICOM SOP Instances between two Application Entities. This message may only include information about a single patient.

Note

This message may have been preceded by a Begin Transferring Instances message. The Begin Transferring Instances message conveys the intent to store SOP Instances, while the Instances Transferred message records the completion of the transfer. Any disagreement between the two messages might indicate a potential security breach.

Table A.5.3.7-1. Audit Message for DICOM Instances Transferred

Real World Entities	Field Name	Opt.	Value Constraints
Event	EventID	M	EV (110104, DCM, "DICOM Instances Transferred")
	EventActionCode	M	Enumerated Value: C = (create) if the receiver did not hold copies of the instances transferred R = (read) if the receiver already holds copies of the SOP Instances transferred, and has determined that no changes are needed to the copies held. U = (update) if the receiver is altering its held copies to reconcile differences between the held copies and the received copies. If the Audit Source is either not the receiver, or otherwise does not know whether or not the instances previously were held by the receiving node, then use "R" = (Read).
	EventDateTime	M	Shall be the time when the transfer has completed
	EventOutcomeIndicator	M	not specialized
	EventTypeCode	U	not specialized
Active Participant: Process that sent the data (1)	UserID	M	not specialized
	AlternativeUserID	U	not specialized
	UserName	U	not specialized
	UserIsRequestor	M	not specialized
	RoleIDCode	M	EV (110153, DCM, "Source Role ID")
	NetworkAccessPointTypeCode	U	not specialized
	NetworkAccessPointID	U	not specialized
Active Participant: The process that received the data. (1)	UserID	M	not specialized
	AlternativeUserID	U	not specialized
	UserName	U	not specialized
	UserIsRequestor	M	not specialized
	RoleIDCode	M	EV (110152, DCM, "Destination Role ID")
	NetworkAccessPointTypeCode	U	not specialized
	NetworkAccessPointID	U	not specialized
Active Participant:	UserID	M	not specialized

Real World Entities	Field Name	Opt.	Value Constraints
Other participants that are known, especially third parties that are the requestor (0..N)	AlternativeUserID	U	not specialized
	UserName	U	not specialized
	UserIsRequestor	M	not specialized
	RoleIDCode	U	not specialized
	NetworkAccessPointTypeCode	U	not specialized
	NetworkAccessPointID	U	not specialized
Participating Object: Studies being transferred (1..N)	ParticipantObjectTypeCode	M	Shall be: 2 = ~~s~~**S**ystem **Object**
	ParticipantObjectTypeCodeRole	M	Shall be: 3 = ~~r~~**R**eport
	ParticipantObjectDataLifeCycle	U	not specialized
	ParticipantObjectIDTypeCode	M	EV (110180, DCM, "Study Instance UID")
	ParticipantObjectSensitivity	U	not specialized
	ParticipantObjectID	M	The Study Instance UID
	ParticipantObjectName	U	not specialized
	ParticipantObjectQuery	U	not specialized
	ParticipantObjectDetail	U	Not specialized
	ParticipantObjectDescription	U	Not specialized
	SOPClass	MC	See Table A.5.2-1
	Accession	U	not specialized
	NumberOfInstances	U	not specialized
	Instances	U	not specialized
	Encrypted	U	not specialized
	Anonymized	U	not specialized
Participating Object: Patient (1)	ParticipantObjectTypeCode	M	Shall be: 1 = ~~p~~**P**erson
	ParticipantObjectTypeCodeRole	M	Shall be: 1 = ~~p~~**P**atient
	ParticipantObjectDataLifeCycle	U	not specialized
	ParticipantObjectIDTypeCode	M	Shall be: ~~EV (2, RFC-3881, "Patient Number")~~**2 = Patient Number**
	ParticipantObjectSensitivity	U	not specialized
	ParticipantObjectID	M	The patient ID

Real World Entities	Field Name	Opt.	Value Constraints
	ParticipantObjectName	U	The patient name
	ParticipantObjectQuery	U	not specialized
	ParticipantObjectDetail	U	not specialized
	ParticipantObjectDescription	U	not specialized

A.5.3.8 DICOM Study Deleted

This message describes the event of deletion of one or more studies and all associated SOP Instances in a single action. This message shall only include information about a single patient.

Table A.5.3.8-1. Audit Message for DICOM Study Deleted

Real World Entities	Field Name	Opt.	Value Constraints
Event	EventID	M	EV (110105, DCM, "DICOM Study Deleted")
	EventActionCode	M	Shall be: D = delete
	EventDateTime	M	not specialized
	EventOutcomeIndicator	M	not specialized
	EventTypeCode	U	not specialized
Active Participant: the person or process deleting the study (1..2)	UserID	M	not specialized
	AlternativeUserID	U	not specialized
	UserName	U	not specialized
	UserIsRequestor	M	not specialized
	RoleIDCode	U	not specialized
	NetworkAccessPointTypeCode	U	not specialized
	NetworkAccessPointID	U	not specialized
Participating Object: Studies being transferred (1..N)	ParticipantObjectTypeCode	M	Shall be: 2 = ~~s~~**S**ystem **Object**
	ParticipantObjectTypeCodeRole	M	Shall be: 3 = ~~r~~**R**eport
	ParticipantObjectDataLifeCycle	U	not specialized
	ParticipantObjectIDTypeCode	M	EV (110180, DCM, "Study Instance UID")
	ParticipantObjectSensitivity	U	not specialized
	ParticipantObjectID	M	The Study Instance UID
	ParticipantObjectName	U	not specialized
	ParticipantObjectQuery	U	not specialized

Real World Entities	Field Name	Opt.	Value Constraints
	ParticipantObjectDetail	U	Not specialized
	ParticipantObjectDescription	U	Not specialized
	SOPClass	MC	See Table A.5.2-1
	Accession	U	not specialized
	NumberOfInstances	U	not specialized
	Instances	U	not specialized
	Encrypted	U	not specialized
	Anonymized	U	not specialized
Participating Object: Patient (1)	ParticipantObjectTypeCode	M	Shall be: 1 = ~~p~~**P**erson
	ParticipantObjectTypeCodeRole	M	Shall be: 1 = ~~p~~**P**atient
	ParticipantObjectDataLifeCycle	U	not specialized
	ParticipantObjectIDTypeCode	M	Shall be: ~~EV (2, RFC 3881, "Patient Number")~~**2 = Patient Number**
	ParticipantObjectSensitivity	U	not specialized
	ParticipantObjectID	M	The patient ID
	ParticipantObjectName	U	The patient name
	ParticipantObjectQuery	U	not specialized
	ParticipantObjectDetail	U	not specialized
	ParticipantObjectDescription	U	not specialized

A.5.3.10 Query

This message describes the event of a Query being issued or received. The message does not record the response to the query, but merely records the fact that a query was issued. For example, this would report queries using the DICOM SOP Classes:

a. Modality Worklist

b. UPS Pull

c. UPS Watch

d. Composite Instance Query

Note

1. The response to a query may result in one or more Instances Transferred or Instances Accessed messages, depending on what events transpire after the query. If there were security-related failures, such as access violations, when processing a query, those failures should show up in other audit messages, such as a Security Alert message.

2. Non-DICOM queries may also be captured by this message. The Participant Object ID Type Code, the Participant Object ID, and the Query fields may have values related to such non-DICOM queries.

Table A.5.3.10-1. Audit Message for Query

Real World Entities	Field Name	Opt.	Value Constraints
Event	EventID	M	EV (110112, DCM, "Query")
	EventActionCode	M	Shall be: E = Execute
	EventDateTime	M	not specialized
	EventOutcomeIndicator	M	not specialized
	EventTypeCode	U	not specialized
Active Participant: Process Issuing the Query (1)	UserID	M	not specialized
	AlternativeUserID	U	not specialized
	UserName	U	not specialized
	UserIsRequestor	M	not specialized
	RoleIDCode	M	EV (110153, DCM, "Source Role ID")
	NetworkAccessPointTypeCode	U	not specialized
	NetworkAccessPointID	U	not specialized
Active Participant: The process that will respond to the query (1)	UserID	M	not specialized
	AlternativeUserID	U	not specialized
	UserName	U	not specialized
	UserIsRequestor	M	not specialized
	RoleIDCode	M	EV (110152, DCM, "Destination Role ID")
	NetworkAccessPointTypeCode	U	not specialized
	NetworkAccessPointID	U	not specialized
Active Participant: Other Participants that are known, especially third parties that requested the query (0..N)	UserID	M	not specialized
	AlternativeUserID	U	not specialized
	UserName	U	not specialized
	UserIsRequestor	M	not specialized
	RoleIDCode	U	not specialized
	NetworkAccessPointTypeCode	U	not specialized
	NetworkAccessPointID	U	not specialized
Participating Object: SOP Queried and the Query (1)	ParticipantObjectTypeCode	M	Shall be: 2 = ~~s~~**S**ystem **Object**
	ParticipantObjectTypeCodeRole	M	Shall be: 3 = ~~r~~**R**eport

Real World Entities	Field Name	Opt.	Value Constraints
	ParticipantObjectDataLifeCycle	U	not specialized
	ParticipantObjectIDTypeCode	M	DT (110181, DCM, "SOP Class UID")
	ParticipantObjectSensitivity	U	not specialized
	ParticipantObjectID	M	If the ParticipantObjectIDTypeCode is (110181, DCM, "SOP Class UID"), then this field shall hold the UID of the SOP Class being queried
	ParticipantObjectName	U	not specialized
	ParticipantObjectQuery	M	If the ParticipantObjectIDTypeCode is (110181, DCM, "SOP Class UID"), then this field shall hold the Dataset of the DICOM query, xs:base64Binary encoded. Otherwise, it shall be the query in the format of the protocol used.
	ParticipantObjectDetail	MC	Required if the ParticipantObjectIDTypeCode is (110181, DCM, "SOP Class UID") A ParticipantObjectDetail element with the XML attribute "TransferSyntax" shall be present. The value of the Transfer Syntax attribute shall be the UID of the transfer syntax of the query. The element contents shall be xs:base64Binary encoding. The Transfer Syntax shall be a DICOM Transfer Syntax.
	ParticipantObjectDescription	U	not specialized
	SOPClass	U	See Table A.5.2-1
	Accession	U	not specialized
	NumberOfInstances	U	not specialized
	Instances	U	not specialized
	Encrypted	U	not specialized
	Anonymized	U	not specialized

A.5.3.11 Security Alert

This message describes any event for which a node needs to report a security alert, e.g., a node authentication failure when establishing a secure communications channel.

Note

The Node Authentication event can be used to report both successes and failures. If reporting of success is done, this could generate a very large number of audit messages, since every authenticated DICOM association, HL7 transaction, and HTML connection should result in a successful node authentication. It is expected that in most situations only the failures will be reported.

Table A.5.3.11-1. Audit Message for Security Alert

Real World Entities	Field Name	Opt.	Value Constraints
Event	EventID	M	EV (110113, DCM, "Security Alert")

Real World Entities	Field Name	Opt.	Value Constraints
	EventActionCode	M	Shall be: E = Execute
	EventDateTime	M	not specialized
	EventOutcomeIndicator	M	Success implies an informative alert. The other failure values imply warning codes that indicate the severity of the alert. A Minor or Serious failure indicates that mitigation efforts were effective in maintaining system security. A Major failure indicates that mitigation efforts may not have been effective, and that the security system may have been compromised.
	EventTypeCode	M	Values selected from DCID 403 “Security Alert Type Code”.
Active Participant: Reporting Person and/or Process (1..2)	UserID	M	not specialized
	AlternativeUserID	U	not specialized
	UserName	U	not specialized
	UserIsRequestor	M	not specialized
	RoleIDCode	U	not specialized
	NetworkAccessPointTypeCode	U	not specialized
	NetworkAccessPointID	U	not specialized
Active Participant: Performing Persons or Processes (0..N)	UserID	M	not specialized
	AlternativeUserID	U	not specialized
	UserName	U	not specialized
	UserIsRequestor	M	Shall be FALSE
	RoleIDCode	U	not specialized
	NetworkAccessPointTypeCode	U	not specialized
	NetworkAccessPointID	U	not specialized
Participating Object: Alert Subject (0..N)	ParticipantObjectTypeCode	M	Shall be: 2 = ~~s~~**S**ystem **Object**
	ParticipantObjectTypeCodeRole	U	Defined Terms: 5 = ~~m~~**M**aster ~~f~~**F**ile 13 = ~~s~~**S**ecurity ~~r~~**R**esource
	ParticipantObjectDataLifeCycle	U	not specialized
	ParticipantObjectIDTypeCode	M	Defined Terms: ~~DT (12, RFC-3881, "URI")~~**12 = URI** DT (110182, DCM, "Node ID")

Real World Entities	Field Name	Opt.	Value Constraints
	ParticipantObjectSensitivity	U	not specialized
	ParticipantObjectID	M	For a ParticipantObjectIDTypeCode of ~~(12, RFC-3881, "URI")~~**12 = URI**, then this value shall be the URI of the file or other resource that is the subject of the alert. For a ParticipantObjectIDTypeCode of (110182, DCM, "Node ID") then the value shall include the identity of the node that is the subject of the alert either in the form of node_name@domain_name or as an IP address. Otherwise, the value shall be an identifier of the type specified by ParticipantObjectIDTypeCode of the subject of the alert.
	ParticipantObjectName	U	not specialized
	ParticipantObjectQuery	U	not specialized
	ParticipantObjectDetail	M	An element with the Attribute "type" equal to "Alert Description" shall be present with a free text description of the nature of the alert as the value
	ParticipantObjectDescription	U	not specialized
	SOPClass	U	See Table A.5.2-1
	Accession	U	not specialized
	NumberOfInstances	U	not specialized
	Instances	U	not specialized
	Encrypted	U	not specialized
	Anonymized	U	not specialized

A.5.3.13 Order Record

This message describes the event of an order being created, modified, accessed, or deleted. This message may only include information about a single patient.

Note

An order record typically is managed by a non-DICOM system. However, DICOM applications often manipulate order records, and thus may be obligated by site security policies to record such events in the audit logs.

Table A.5.3.13-1. Audit Message for Order Record

Real World Entities	Field Name	Opt.	Value Constraints
Event	EventID	M	EV (110109, DCM, "Order Record")
	EventActionCode	M	Enumerated value: C = create

Real World Entities	Field Name	Opt.	Value Constraints
			R = read U = update D = delete
	EventDateTime	M	not specialized
	EventOutcomeIndicator	M	not specialized
	EventTypeCode	U	not specialized
User (1..2)	UserID	M	The identity of the person or process manipulating the data. If both the person and the process are known, both shall be included.
	Alternative**UserID**	U	not specialized
	UserName	U	not specialized
	UserIsRequestor	U	not specialized
	RoleIDCode	U	not specialized
	NetworkAccessPointTypeCode	U	not specialized
	NetworkAccessPointID	U	not specialized
Patient (1)	ParticipantObjectTypeCode	M	~~EV 1 (person)~~**Shall be: 1 = Person**
	ParticipantObjectTypeCodeRole	M	~~EV 1 (patient)~~**Shall be: 1 = Patient**
	ParticipantObjectDataLifeCycle	U	not specialized
	ParticipantObjectIDTypeCode	M	~~EV 2 (patient ID)~~**Shall be: 2 = Patient Number**
	ParticipantObjectSensitivity	U	not specialized
	ParticipantObjectID	M	The patient ID
	ParticipantObjectName	U	The patient name
	ParticipantObjectQuery	U	not specialized
	ParticipantObjectDetail	U	not specialized
	ParticipantObjectDescription	U	not further specialized

A.5.3.14 Patient Record

This message describes the event of a patient record being created, modified, accessed, or deleted.

Note

There are several types of patient records managed by both DICOM and non-DICOM system. DICOM applications often manipulate patient records managed by a variety of systems, and thus may be obligated by site security policies to record such events in the audit logs. This audit event can be used to record the access or manipulation of patient records where specific DICOM SOP Instances are not involved.

Table A.5.3.14-1. Audit Message for Patient Record

Real World Entities	Field Name	Opt.	Value Constraints
Event	EventID	M	EV (110110, DCM, "Patient Record")
	EventActionCode	M	Enumerated value: C = create R = read U = update D = delete
	EventDateTime	M	not specialized
	EventOutcomeIndicator	M	not specialized
	EventTypeCode	U	not specialized
User (1..2)	UserID	M	The identity of the person or process manipulating the data. If both are known, then two active participants shall be included (both the person and the process).
	Alternative~~ive~~UserID	U	not specialized
	UserName	U	not specialized
	UserIsRequestor	U	not specialized
	RoleIDCode	U	not specialized
	NetworkAccessPointTypeCode	U	not specialized
	NetworkAccessPointID	U	not specialized
Patient (1)	ParticipantObjectTypeCode	M	~~EV 1 (person)~~**Shall be: 1 = Person**
	ParticipantObjectTypeCodeRole	M	~~EV 1 (patient)~~**Shall be: 1 = Patient**
	ParticipantObjectDataLifeCycle	U	not specialized
	ParticipantObjectIDTypeCode	M	~~EV 2 (patient ID)~~**Shall be: 2 = Patient Number**
	ParticipantObjectSensitivity	U	not specialized
	ParticipantObjectID	M	The patient ID
	ParticipantObjectName	U	The patient name
	ParticipantObjectQuery	U	not specialized
	ParticipantObjectDetail	U	not specialized
	ParticipantObjectDescription	U	not further specialized

A.5.3.15 Procedure Record

This message describes the event of a procedure record being created, accessed, modified, accessed, or deleted. This message may only include information about a single patient.

Note

1. DICOM applications often manipulate procedure records, e.g. with MPPS update. Modality Worklist query events are described by the Query event message.

2. The same accession number may appear with several order numbers. The Study participant fields or the entire message may be repeated to capture such many to many relationships.

Table A.5.3.15-1. Audit Message for Procedure Record

Real World Entities	Field Name	Opt.	Value Constraints
Event	EventID	M	EV (110111, DCM, "Procedure Record")
	EventActionCode	C	Enumerated value: C = create R = read U = update D = delete
	EventDateTime	M	not specialized
	EventOutcomeIndicator	M	not specialized
	EventTypeCode	U	not specialized
User (1..2)	UserID	M	The identity of the person or process manipulating the data. If both are known, then two active participants shall be included (both the person and the process).
	Alternat**iv**eUserID	U	not specialized
	UserName	U	not specialized
	UserIsRequestor	U	not specialized
	RoleIDCode	U	not specialized
	NetworkAccessPointTypeCode	U	not specialized
	NetworkAccessPointID	U	not specialized
Study (0..N)	ParticipantObjectTypeCode	M	~~EV 2 (system)~~**Shall be: 2 = System Object**
	ParticipantObjectTypeCodeRole	M	~~EV 3 (report)~~**Shall be: 3 = Report**
	ParticipantObjectDataLifeCycle	U	not specialized
	ParticipantObjectIDTypeCode	M	EV (110180, DCM, "Study Instance UID")
	ParticipantObjectSensitivity	U	not specialized
	ParticipantObjectID	M	The Study Instance UID
	ParticipantObjectName	U	not specialized

Real World Entities	Field Name	Opt.	Value Constraints
	ParticipantObjectQuery	U	not specialized
	ParticipantObjectDetail	U	Not further specialized
	ParticipantObjectDescription	U	Not further specialized
	SOPClass	MC	not further specialized
	Accession	U	not further specialized
	NumberOfInstances	U	not further specialized
	Instances	U	not further specialized
	Encrypted	U	not further specialized
	Anonymized	U	not further specialized
Patient (1)	ParticipantObjectTypeCode	M	~~EV 1 (person)~~**Shall be: 1 = Person**
	ParticipantObjectTypeCodeRole	M	~~EV 1 (patient)~~**Shall be: 1 = Patient**
	ParticipantObjectDataLifeCycle	U	not specialized
	ParticipantObjectIDTypeCode	M	~~EV 2 (patient ID)~~**Shall be: 2 = Patient Number**
	ParticipantObjectSensitivity	U	not specialized
	ParticipantObjectID	M	The patient ID
	ParticipantObjectName	U	The patient name
	ParticipantObjectQuery	U	not specialized
	ParticipantObjectDetail	U	not specialized
	ParticipantObjectDescription	U	not further specialized