



RESOURCE AND PATIENT MANAGEMENT SYSTEM

Non-RPMS Sites

COVID Minimal Message Structure

Version 1.0
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Office of Information Technology
Division of Information Technology

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1.0 Introduction

The file specification for the COVID Immunization Tracking project is based on the *HL7 Version 2.5.1 Implementation Guide for Immunization Messaging* release 1.5 (IG), which can be found at:

<https://www.cdc.gov/vaccines/programs/iis/technical-guidance/downloads/hl7guide-1-5-2014-11.pdf>

And subsequent addendum found at:

<https://www.cdc.gov/vaccines/programs/iis/technical-guidance/downloads/hl7guide-addendum-7-2015.pdf>

The message profile that will be used is **Profile Z22**, which starts on Page 69 of the IG. The **Batch Specifications** can be found on page 272 of the IG.

The extract must be run daily (late at night or early in the morning) and include all immunizations, refusals, and contraindications documented since the last extract was completed. The extract can include both COVID and non-COVID immunizations since the IHS COVID Central Aggregator will selectively parse only the COVID Immunization lot numbers distributed to IHS.

The filename should have the following format:

izdata_<ASUFAC of the master location>_<Date in YYYYMMDD format>_<Time in HHMMSS format>.covid

The underscores must be included in the filename, as follows:

izdata_999999_20201115_235005.covid

2.0 Message Structure

The following sections indicate the minimal message structure that must be sent to the COVID central aggregator. The message can have additional segments and fields as allowed by the *HL7 Version 2.5.1 Implementation Guide for Immunization Messaging* release 1.5 (IG).

Table 2-1 has the minimal segments for each submission. As indicated, additional segments are allowed, as long as they follow the requirements of the VXU message as defined by the IG.

Table 2-1: Minimal Segments for Submission

Segment	Cardinality	Usage	Comment
FHS	[1..1]	R	Every Batch message begins with a File Header Segment
BHS	[1..1]	R	Every Batch message has a Batch Header segment that follows the File Header Segment
{Begin Message group	[1..*]	R	A COVID file must have one or more message groups
MSH	[1..1]	R	Every message group begins with a MSH segment
PID	[1..1]	R	Every message group has one PID segment.
{Begin Order group	[1..*]	R	Each message group may have one or more Order groups
ORC	[1..1]	R	The order group must have one ORC segments.
RXA	[1..1]	R	Each ORC segment in a COVID message must have one RXA segment. Every RXA requires an ORC segment.
[RXR]	[0..1]	RE	Every RXA segment in a VXU may have zero or one RXR segments. A RXR segment is required for an administered immunization. It is not required for a refusal
OBX	[2..*]	R	Every RXA segment in a COVID message may zero or more OBX segments. Note that an administered vaccination requires the one OBX segment documented later in this document. A refusal does not require an OBX segment.
End Order group}			
End Message group}			
BTS	[1..1]	R	Every Batch message has a Batch Trailer Segment that precedes the File Trailer Segment
FTS	[1..1]	R	Every Batch message ends with a File Trailer Segment

The remainder of the document highlights the segment definitions. The first eight columns (Seq through Value Set) were copied from the IG. The last two columns give additional information specific to the COVID Immunization Tracking extract. Encoding and separator characters must comply with the IG conformance statement.

An example message that can be used for reference is included below. Extra whitespace was added between segments for clarity but would not normally be included. Also note that the first Order Group is an administered immunization, and the second order group is a refusal.

```

FHS|^~\&|
BHS|^~\&|

MSH|^~\&|SITE SPECIFIC^SITE SPECIFIC^ISO|DATABASE ID^SITE SPECIFIC^ISO|COVID|COVID|20201020230734-
0700||VXU^V04^VXU_V04|IHS-2002|P|2.5.1|||ER|AL|||Z22^CDCPHINVS^^|

PID|1||99999P123^^^HOPE HOSPITAL^XX||SMITH^SAM^M^^^L^^^||19970827|M||1002-5^AMERICAN INDIAN OR ALASKA
NATIVE^CDCREC|327 ELM AVE^^ANYTOWN^NM^87119^^P^^FULTON|||111223333||2186-5^NOT HISPANIC OR LATINO^CDCREC|||

ORC|RE|21442-232101^IHS|2321015080021442^IHS|||999999999^JONES^SARAH^^^RN^^^NPI^L^^^NPI|||

RXA|0|1|20201020153000||999^COVID-1^CVX|.5|mL^MilliLiters^UCUM||00^NEW IMMUNIZATION
RECORD^NIP001|999999999^JORGENSEN^SUE^M^^RN^^^NPI^L^^^NPI^^^R.N.^ASUFAC&SITE
SPECIFIC&ISO|||XYZ321|20661231|PMC^SANOFI PASTEUR^MVX||CP|A|

RXR|C28161^Intramuscular^NCIT|RD^Right Deltoid^HL70163

OBX|1|CE|64994-7^Vaccine Funding Program Eligibility^LN|2|V04^Am Indian/AK
Native^HL70064|||F||20201020||VXC40^per immunization^CDCPHINVS

OBX|2|NM|30973-2^Dose Number in Series^LN|1|1|NA^^HL70353|||F||20201020

ORC|RE|232101R001^SITE SPECIFIC|9999^IST-AA-IZ-
2|||999999999^ADMINUSER^TWO^M^^RN^^^NPI^L^^^NPI|||999999^CLINIC ONE^HL70362

RXA|0|1|20100217||208^PFIZER COVID-19 VACCINE^CVX|999|||^ASUFAC&SITE SPECIFIC&ISO^^^123 MAIN
ST^^ANYTOWN^NM^11111^^001|||03^Patient decision^NIP002||RE|A

<Additional Message groups would follow>

BTS|1
FTS|
    
```

Figure 2-1: Segment Definitions example message

2.1 File Header Segment (FHS)

One and only one FHS segment is required.

Table 2-2: File Header Segment (FHS)

Seq	Element Name	Data Type	Usage	Cardinality	Length	Conditional Predicate	Value Set	Required for COVID	Data
1	File Field Separator	ST	R	[1..1]	1..1			Yes	Fixed Value -
2	File Encoding Characters	ST	R	[1..1]	4..4			Yes	Fixed Value - ^~\&
3	File Sending Application	HD	O					No	
4	File Sending Facility	HD	O					No	
5	File Receiving Application	HD	O					No	
6	File Receiving Facility	HD	O					No	
7	File Creation Date/Time	TS	O					No	
8	File Security	ST	O					No	
9	File Name/ID	ST	O					No	
10	File Header Comment	ST	O					No	
11	File Control ID	ST	O					No	
12	Reference File Control ID	ST	O					No	

2.2 Batch Header Segment (BHS)

One and only one BHS segment is required.

Table 2-3: Batch Header Segment (BHS)

Seq	Element Name	Data Type	Usage	Cardinality	Length	Conditional Predicate	Value Set	Required for COVID	Data
1	Batch Field Separator	ST	R	[1..1]	1..1			Yes	Fixed Value -
2	Batch Encoding Characters	ST	R	[1..1]	4..4			Yes	Fixed Value - ^~\&
3	Batch Sending Application	HD	O					No	
4	Batch Sending Facility	HD	O					No	
5	Batch Receiving Application	HD	O					No	
6	Batch Receiving Facility	HD	O					No	
7	Batch Creation Date/Time	TS	O					No	

2.3 Message Header Segment (MSH)

Each message in the COVID Immunization Tracking batch file will have one or more MSH segments. A MSH segment should be created for each patient that had an administered vaccination or refusal for the period that the extract was run.

Table 2-4: Message Header Segment (MSH)

Seq	Element Name	Data Type	Usage	Cardinality	Length	Conditional Predicate	Value Set	Required for COVID	Data
1	Field Separator	ST	R	[1..1]				Yes	Fixed Value -
2	Encoding Characters	ST	R	[1..1]				Yes	Fixed Value - ^~\&
3	Sending Application	HD	RE	[0..1]				Yes	Site Specified
4	Sending Facility	HD	RE	[0..1]				Yes	Database ID
5	Receiving Application	HD	RE	[0..1]				Yes	Fixed Value-COVID
6	Receiving Facility	HD	RE	[0..1]				Yes	Fixed Value-COVID
7	Date/Time of Message	TS_Z	R	[1..1]				Yes	Creation Date-Time of message with time zone
8	Security	ST	O					No	
9	Message Type	MSG	R	[1..1]				Yes	Fixed - VXU^V04^VXY_V04
10	Message Control ID	ST	R	[1..1]				Yes	Site Specified
11	Processing ID	PT	R	[1..1]				Yes	Fixed Value - P
12	Version ID	VID	R	[1..1]				Yes	Fixed Value - 2.5.1
13	Sequence Number	NM	O					No	

Seq	Element Name	Data Type	Usage	Cardinality	Length	Conditional Predicate	Value Set	Required for COVID	Data
14	Continuation Pointer	ST	O	[0..1]				No	
15	Accept Acknowledgement Type	ID	R	[0..1]				Yes	Fixed Value - ER (a response will not be returned)
16	Application Acknowledgement Type	ID	R	[1..1]				Yes	Fixed Value - AL (a response will not be returned)
17	Country Code	ID	O					No	
18	Character Set	ID	O					No	
19	Principle Language of Message	CE	O					No	
20	Alternate Character Set Handling Scheme	ID	O					No	
21	Message Profile Identifier	EI	R	[1..1]				Yes	Fixed Value - Z22^CDCPHINVS^^
22	Sending Responsible Organization	XON	RE	[0..1]				No	
23	Receiving Responsible Organization	XON	RE	[0..1]				No	
24	Sending Network Address	HD	O					No	N/A
25	Receiving Network Address	HD	O					No	N/A

2.4 Patient Identifier (PID) Segment

Within each message, there will be one PID segment to identify the patient for which the message is being created.

Table 2-5: Patient Identifier (PID) Segment

Seq	Element Name	Data Type	Usage	Cardinality	Length	Conditional Predicate	Value Set	Required for COVID	Data
1	Set ID - PID	SI	R	[1..1]				Yes	Fixed Value - 1
2	Patient ID	CX	X					No	

Seq	Element Name	Data Type	Usage	Cardinality	Length	Conditional Predicate	Value Set	Required for COVID	Data
3	Patient Identifier List	CX	R	[1..*]				Yes	<p>One of the repeating components needs to be a unique ID but not the Medical Record Number. It should include the Database ID and the local record number/IEN. This ID should have 'XX' in PID-3.5 (e.g., '99999P123^^^HOPE HOSPITAL^XX) where 99999 is the database ID, "P" is a delimiter and 123 is the local patient record number).</p> <p>In addition, it would be good to send the Medical Record Number with PID-3.5 equal to "MR". The medical record number should be a unique Patient ID across IHS. Suggested value is ASUFAC (six digits) concatenated with the Health Record Number</p>
4	Alternate Patient ID - 00106	CX	X					No	
5	Patient Name	XPN	R	[1..*]				Yes	For the COVID extract, the Last, First, and Middle (if known) name components are required.

Seq	Element Name	Data Type	Usage	Cardinality	Length	Conditional Predicate	Value Set	Required for COVID	Data
6	Mother's Maiden Name	XPN_M	RE	[0..1]				Optional	
7	Date/Time of Birth	TS_NZ	R	[1..1]				Yes	Patient DOB
8	Administrative Sex	IS	RE	[0..1]			HL70001	Yes	See HL70001 value set for allowed values
9	Patient Alias	XPN	X					No	
10	Race	CE	RE	[0..*]			HL70005	Yes	See HL70005 value set for allowed values
11	Patient Address	XAD	RE	[0..*]				Yes	Required Values: Street Address; City; State; Zip; County
12	County Code	IS	X					No	
13	Phone Number - Home	XTN	RE	[0..*]				Optional	
14	Phone Number - Business	XTN	O					No	
15	Primary Language	CE	O					No	
16	Marital Status	CE	O					No	
17	Religion	CE	O					No	
18	Patient Account Number	CX	O					No	
19	SSN Number - Patient	ST	X					No	

Seq	Element Name	Data Type	Usage	Cardinality	Length	Conditional Predicate	Value Set	Required for COVID	Data
20	Driver's License Number - Patient	DLN	X					No	
21	Mother's Identifier	CX	X					No	
22	Ethnic Group	CE	RE	[0..1]			CDCREC	Yes	See CDCREC value set for allowed values
23	Birth Place	ST	O					No	
24	Multiple Birth Indicator	ID	RE	[0..1]			HL70136	Optional	
25	Birth Order	NM	C(RE/O)	[0..1]		If PID-24 (Multiple Birth Indicator) is valued "Y "		Optional	
26	Citizenship	CE	O					No	
27	Veterans Military Status	CE	O					No	
28	Nationality	CE	O					No	
29	Patient Death Date and Time	TS	C(RE/X)	[0..1]		If PID-30 (patient death indicator) is valued "Y"		No	
30	Patient Death Indicator	ID	RE	[0..1]			HL70136	No	
31	Identity Unknown Indicator	ID	O					No	

Seq	Element Name	Data Type	Usage	Cardinality	Length	Conditional Predicate	Value Set	Required for COVID	Data
32	Identity Reliability Code	IS	O					No	
33	Last Update Date/Time	TS	O					No	
34	Last Update Facility	HD	O					No	
35	Species Code	CE	O					No	
36	Breed Code	CE	O					No	
37	Strain	ST	O					No	
38	Production Class Code	CE	O					No	
39	Tribal Citizenship	CWE	O					No	

2.5 Order Request (ORC) Segment

Within each message, there will be one or more ORC segments with an ORC segment for each administer vaccination or patient refusal for the period for which the extract is run.

Table 2-6: Order Request (ORC) Segment

Seq	Element Name	Data Type	Usage	Cardinality	Length	Conditional Predicate	Value Set	Required for COVID	Data
1	Order Control	ID	R	[1..1]	2		HL70119 (constrained)	Yes	Fixed Value-RE
2	Placer Order Number	EI	RE	[0..1]				Required for Refusals Optional for administered immunization	For refusals, this needs to be a unique ID and should include ASUFAC. Suggestion value would be ASUFAC concatenated with the local IEN/record for the refusal (e.g., 112233R123 where 112233 is the ASUFAC for the administering location, 'R' is a delimiter and 123 is the refusal record number), For administered immunization, this is an optional alternate unique ID for each immunization

Seq	Element Name	Data Type	Usage	Cardinality	Length	Conditional Predicate	Value Set	Required for COVID	Data
3	Filler Order Number	EI	R	[1..1]				Yes	Unique ID for each immunization given. It should include ASUFAC to guarantee uniqueness across all systems. Preference would be ASUFAC concatenated with a unique local ID for the immunization.
4	Placer Group Number	EI	O					No	
5	Order Status	ID	O					No	
6	Response Flag	ID	O					No	
7	Quantity/Timing	TQ	X					No	
8	Parent	EIP	O					No	
9	Date/Time of Transaction	TS	O					No	
10	Entered By	XCN	RE	[0..1]				No	
11	Verified By	XCN	O					No	
12	Ordering Provider	XCN	C(RE/O)	[0..1]		If the first occurrence of RXA-9.1 is valued "00" and RXA-20 is valued "CP" or "PA"		Yes	Provider who ordered the vaccine

Seq	Element Name	Data Type	Usage	Cardinality	Length	Conditional Predicate	Value Set	Required for COVID	Data
13	Enterer's Location	PL	O					No	
14	Call Back Phone Number	XTN	O					No	
15	Order Effective Date/Time	TS	O					No	
16	Order Control Code Reason	CE	O					No	
17	Entering Organization	CE	RE				HL70362	No	
18	Entering Device	CE	O					No	
19	Action By	XCN	O					No	
20	Advanced Beneficiary Notice Code	CE	O					No	
21	Ordering Facility Name	XON	O					No	
22	Ordering Facility Address	XAD	O					No	
23	Ordering Facility Phone Number	XTN	O					No	
24	Ordering Provider Address	XAD	O					No	
25	Order Status Modifier	CWE	O					No	

Seq	Element Name	Data Type	Usage	Cardinality	Length	Conditional Predicate	Value Set	Required for COVID	Data
26	Advanced Beneficiary Notice Override Reason	CWE	O					No	
27	Filler's Expected Availability Date/Time	TS	O					No	
28	Confidentiality Code	CWE	O					No	
29	Order Type	CWE	O					No	
30	Enterer Authorization Mode	CNE	O					No	
31	Parent Universal Service Identifier	CWE	O					No	

2.6 Pharmacy/Treatment Administration (RXA) Segment

Paired with each ORC segment, there will be a single RXA segment that has additional information about the vaccine that was administered or refused.

Table 2-7: Pharmacy/Treatment Administration (RXA) Segment

Seq	Element Name	Data Type	Usage	Cardinality	Length	Conditional Predicate	Value Set	Required for COVID	Data
1	Give Sub-ID Counter	NM	R	[1..1]	4			Yes	Fixed Value-0
2	Administration Sub-ID Counter	NM	R	[1..1]	4			Yes	Fixed Value-1
3	Date/Time Start of Administration	TS_NZ	R	[1..1]				Yes	Date/Time Start of Administration
4	Date/Time End of Administration	TS	O	[0..1]				No	
5	Administered Code	CE	R	[1..1]			CVX	Yes	CVX Code in RXA-5.1
6	Administered Amount	NM	R	[1..1]	20			Yes	Administered Amount
7	Administered Units	CE	C(R/O)	[0..1]		If Administered Amount is not valued "999"	UCUM	Yes	Administered Units in UCUM (e.g., mL^MilliLiters^UCUM)
8	Administered Dosage Form	CE	O	[0..1]				No	
9	Administration Notes	varies	C(R/O)	[0..*]		If RXA-20 is valued "CP" or "PA"	NIP 0001	Yes	See NIP001 value set for allowed values

Seq	Element Name	Data Type	Usage	Cardinality	Length	Conditional Predicate	Value Set	Required for COVID	Data
10	Administering Provider	XCN	C(RE/O)	[0..1]		If the first occurrence of RXA-9.1 is valued "00" and RXA-20 is valued "CP" or "PA"		Yes	Provider name with Last name, First Name and preferably NPI identifier.
11	Administered-at Location	LA2	C(RE/O)	[0..1]		If the first occurrence of RXA-9.1 is valued "00" and RXA-20 is valued "CP" or "PA"		Yes	ASUFAC of the administering location in RXA-11.4 If possible, include the location address If possible, include the county in RXA-11.16
12	Administered Per (Time Unit)	ST	O					No	
13	Administered Strength	NM	O					No	
14	Administered Strength Units	CE	O					No	
15	Substance Lot Number	ST	C(R/O)	[0..*]		If the first occurrence of RXA-9.1 is valued "00" and RXA-20 is valued "CP" or "PA"		Required for administered vaccines; Not required for Refusals	Vaccine Lot Number

Seq	Element Name	Data Type	Usage	Cardinality	Length	Conditional Predicate	Value Set	Required for COVID	Data
16	Substance Expiration Date	TS_M	C(RE/O)	[0..1]		If the first occurrence of RXA-9.1 is valued "00" and RXA-20 is valued "CP" or "PA"		Required for administered vaccines; Not required for Refusals	Vaccine Expiration Date
17	Substance Manufacturer Name	CE	C(R/O)	[0..1]		If the first occurrence of RXA-9.1 is valued "00" and RXA-20 is valued "CP" or "PA"	MVX	Required for administered vaccines; Not required for Refusals	See MVX value set for allowed values
18	Substance/Treatment Refusal Reason	CE	C(R/X)	[0..*]		If the RXA-20 (Completion Status) is valued "RE "	NIP002	Not required for administered vaccines; Required for Refusals	See NIP002 value set for allowed values
19	Indication	CE	O					No	
20	Completion Status	ID	RE	[0..1]	2		HL70322	Yes	See HL70322 value set for allowed values ("RE" for Refusals)
21	Action Code - RXA	ID	C(R/O)	[0..1]	2	If RXA-5.1 is not valued "998"	HL70323	Yes	See HL70323 value set for allowed values
22	System Entry Date/Time	TS	O					No	

Seq	Element Name	Data Type	Usage	Cardinality	Length	Conditional Predicate	Value Set	Required for COVID	Data
23	Administered Drug Strength Volume	NM	O					No	
24	Administered Drug Strength Volume Units	CWE	O					No	
25	Administered Barcode Identifier	CWE	O					No	
26	Pharmacy Order Type	ID	O					No	

2.7 Pharmacy/Treatment Route (RXR) Segment

Each ORC segment will have an associated RXR segment with information about how the vaccine was administered. A refusal will not have a RXR segment.

Table 2-8: Pharmacy/Treatment Route (RXR) Segment

Seq	Element Name	Data Type	Usage	Cardinality	Length	Conditional Predicate	Value Set	Required for COVID	Data
1	Route	CE	R	[1..1]			NCIT	Yes	See NCIT value set for allowed values
2	Administration Site	CWE	RE	[0..1]			HL70163	Yes	See HL70163 value set for allowed values
3	Administration Device	CE	O					No	
4	Administration Method	CWE	O					No	
5	Routing Instruction	CE	O					No	
6	Administration Site Modifier	CWE	O					No	

2.8 Observation Result (OBX) Segment for Vaccine Funding Program

Each administered vaccination can have multiple OBX segments that provides additional information for the vaccination. The COVID Immunization Extract require at least one OBX segment that includes the Vaccine Funding Program and that is documented in this section. However, additional OBX segments can be included. A refusal does not require an OBX segment.

Table 2-9: Observation Result (OBX) Segment for Vaccine Funding Program

Seq	Element Name	Data Type	Usage	Cardinality	Length	Conditional Predicate	Value Set	Required for COVID	Data
1	Set ID – OBX	SI	R	[1..1]	1..4			Yes	Sequence Number of the OBX segment within the message
2	Value Type	ID	R	[1..1]	2..3		HL70125 (constrained)	Yes	Fixed - CE
3	Observation Identifier	CE	R	[1..1]			NIP003	Yes	64994-7^Vaccine Funding Program Eligibility^LN
4	Observation Sub-ID	ST	R	[1..1]	1..20		Constrain to positive integers	Yes	Unique number within the OBX repeating group
5	Observation Value	varies ²⁵	R	[1..1]			varies	Yes	Vaccine Funding Program in value set HL70064 (e.g., V04^Am Indian/AK Native^HL70064)

Seq	Element Name	Data Type	Usage	Cardinality	Length	Conditional Predicate	Value Set	Required for COVID	Data
6	Units	CE	C(R/O)	[0..1]		If OBX-2(Value Type) is valued "NM" or "SN". Note: If there is not a unit of measure available while the Condition Predicated is true, then the value "NA" SHALL be used in CE.1 and "HL70353" in CE.3.	UCUM	No	
7	References Range	ST	O					No	
8	Abnormal Flags	IS	O					No	
9	Probability	NM	O					No	
10	Nature of Abnormal Test	ID	O					No	
11	Observation Result Status	ID	R	[1..1]	1		HL70085 (constrained)	Yes	Fixed - F
12	Effective Date of Reference Range Values	TS	O					No	
13	User Defined Access Checks	ST	O					No	

Seq	Element Name	Data Type	Usage	Cardinality	Length	Conditional Predicate	Value Set	Required for COVID	Data
14	Date/Time of the Observation	TS_NZ	RE	[0..1]				Yes	
15	Producer's Reference	CE	O					No	
16	Responsible Observer	XCN	O					No	
17	Observation Method	CE	C(RE/O)	[0..1]		If OBX-3.1 is "64994-7"	CDCPHINVS	No	
18	Equipment Instance Identifier	EI	O					No	
19	Date/Time of the Analysis	TS	O					No	
20	Reserved for harmonization with V2.6		X					No	
21	Reserved for harmonization with V2.6		X					No	
22	Reserved for harmonization with V2.6		X					No	
23	Performing Organization Name	XON	O					No	
24	Performing Organization Address	XAD	O					No	

Seq	Element Name	Data Type	Usage	Cardinality	Length	Conditional Predicate	Value Set	Required for COVID	Data
25	Performing Organization Medical Director	XCN	O					No	

2.9 Observation Result (OBX) Segment for Dose Number

An OBX segment with the Dose Number is not required but if your site has this information, it would be helpful to include the COVID Immunization Tracking message.

Table 2-10: Observation Result (OBX) Segment for Dose Number

Seq	Element Name	Data Type	Usage	Cardinality	Length	Conditional Predicate	Value Set	Required for COVID	Data
1	Set ID – OBX	SI	R	[1..1]	1..4			Yes	Sequence Number of the OBX segment within the message
2	Value Type	ID	R	[1..1]	2..3		HL70125 (constrained)	Yes	Fixed - NM
3	Observation Identifier	CE	R	[1..1]			NIP003	Yes	Fixed - 30973-2^dose number in series^LN
4	Observation Sub-ID	ST	R	[1..1]	1..20		Constrain to positive integers	Yes	Unique number within the OBX repeating group
5	Observation Value	varies ²⁵	R	[1..1]			varies	Yes	Dose Number

Seq	Element Name	Data Type	Usage	Cardinality	Length	Conditional Predicate	Value Set	Required for COVID	Data
6	Units	CE	C(R/O)	[0..1]		If OBX-2(Value Type) is valued "NM" or "SN". Note: If there is not a unit of measure available while the Condition Predicated is true, then the value "NA" SHALL be used in CE.1 and "HL70353" in CE.3.	UCUM	Yes	Fixed Value - NA^^HL70353
7	References Range	ST	O					No	
8	Abnormal Flags	IS	O					No	
9	Probability	NM	O					No	
10	Nature of Abnormal Test	ID	O					No	
11	Observation Result Status	ID	R	[1..1]	1		HL70085 (constrained)	Yes	Fixed - F
12	Effective Date of Reference Range Values	TS	O					No	
13	User Defined Access Checks	ST	O					No	

Seq	Element Name	Data Type	Usage	Cardinality	Length	Conditional Predicate	Value Set	Required for COVID	Data
14	Date/Time of the Observation	TS_NZ	RE	[0..1]				Yes	
15	Producer's Reference	CE	O					No	
16	Responsible Observer	XCN	O					No	
17	Observation Method	CE	C(RE/O)	[0..1]		If OBX-3.1 is "64994-7"	CDCPHINVS	Yes	See Value set CDCPHINVS
18	Equipment Instance Identifier	EI	O					No	
19	Date/Time of the Analysis	TS	O					No	
20	Reserved for harmonization with V2.6		X					No	
21	Reserved for harmonization with V2.6		X					No	
22	Reserved for harmonization with V2.6		X					No	
23	Performing Organization Name	XON	O					No	
24	Performing Organization Address	XAD	O					No	

Seq	Element Name	Data Type	Usage	Cardinality	Length	Conditional Predicate	Value Set	Required for COVID	Data
25	Performing Organization Medical Director	XCN	O					No	

2.10 Batch Trailer Segment (BTS)

One and only one BTS segment is required.

Table 2-11: Batch Trailer Segment (BTS)

Seq	Element Name	Data Type	Usage	Cardinality	Length	Conditional Predicate	Value Set	Required for COVID	Data
1	Batch Message Count	ST	O					Yes	Number of messages in the batch
2	Batch Comment	ST	O					No	
3	Batch Totals	NM	O					No	

2.11 File Trailer Segment (FTS)

One and only one FTS segment is required.

Table 2-12: File Trailer Segment (FTS)

Seq	Element Name	Data Type	Usage	Cardinality	Length	Conditional Predicate	Value Set	Required for COVID	Data
1	File Batch Count	NM	O					No	
2	File Trailer Comment	ST	O					No	

Contact Information

If you have any questions or comments regarding this distribution, please contact the IHS IT Service Desk.

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