Overview

The CDC's Implementation Guide for Transmission of Laboratory-Based Reporting of Public Health Information using the "HL7 Version 2.5.1 Implementation Guide: Electronic Laboratory Reporting To Public Health, Release 1 (US Realm). Dated February 2010" is the reference document for Electronic Laboratory Reporting (ELR) to the Arkansas Department of Health to meet Meaningful Use.

This document contains an abridgment of the Implementation Guide in order to better emphasize required and commonly provided fields used for ELR. Additional fields can be included providing they meet HL7 v2.5.1 standards and are consistent with the above referenced Implementation Guide.

This guide follows the minimal message content, but is not intended to be the certifying standard or measure of conformance for the "HL7 Version 2.5.1 Implementation Guide: Electronic Laboratory Reporting To Public Health, Release 1 (US Realm). Dated February 2010".

Message Format

The Arkansas Department of Health currently uses HL7 2.5.1 messages for receiving the transmission of Electronic Laboratory Reporting (ELR) for Meaningful Use.

Result Reporting

LOINC codes and SNOMED CT Concept ID codes are required for a ELR HL7 2.5.1 message to be accepted for Meaningful Use by the Arkansas Department of Health. Note that the local Laboratory Information System (LIS) codes and narrative or text results may be send along with the required LOINC codes and SNOMED CT Concept ID codes in a ELR HL7 2.5.1 message.
For all coded elements (CWE.1 and CWE.4), it is strongly recommended that text be sent to accompany any identifier (CWE.2 and CWE.5). This aids greatly in debugging coding issues and for message validation.

Max Length

If a value is entered in the "Max Length" column for a field, that is the maximum field length allowed for that field. The maximum field length is a constraint of the programs that utilize the HL7 2.5.1 message. For this reason, the value in the "Max Length" column for a field overrides the default field length of the HL7 2.5.1 message.

Segments

MSH	Message Header segment
SFT	Software segment
PID	Patient Identification segment
ORC	Common Order segment
OBR	Observation Report ID segment
OBX	Observation/Result segment
NTE	Notes and Comments segment
SPM	Specimen segment

IG = Implementaion Guide

MSH	Name	HL7 Data Type	Required	Default Value	Max Length	ELR251 IG Length	Validation Table	Comments -Message Header segment
1	FieldSeparator	ST	R					
2	EncodingCharacters	ST	R					
3	SendingApplication	HD	R		163			Identifies the sending application uniquely for messaging purposes.
3.1	SendingApplication.NameSpace ID	IS	RE		12	20		
3.2	SendingApplication.Universal ID	ST	R		100	199		**ELR-063:** HD.2 (Universal ID) If HD.3 (Universal ID type) value is "ISO", SHALL be a valid ISO OID format.
3.3	SendingApplication.Universal ID Type	IS	R	ISO	50	6	0301	**ELR-007:** HD.3 (Universal ID Type) IF element is MSH-4.3 (Universal ID type) , then HD.3 (Universal ID type) SHALL contain the value "ISO" OR "CLIA", ELSE HD.3 (Universal ID type) SHALL contain the value "ISO".
4	SendingFacility	HD	R					
4.1	SendingFacility.Name Space ID	IS	RE					Uniquely identifies the facility associated with the application that plays the Laboratory Result Sender Actor that sends the message.
4.2	SendingFacility.Universal ID	ST	R					The ISO OID or CLIA ID for the sending facility.
4.3	SendingFacility.Universal ID Type	ID	R	ISO or CLIA			0301	Either ISO or CLIA.
5	ReceivingApplication	HD	R	AR.NBS^2.16.840.1.114222.4.3.3.2.5.3^ISO				ADH Receiving Application ISO OID #
6	ReceivingFacility	HD	R	AR DOH^2.16.840.1.114222.4.1.141^ISO				ADH Receiving Facility ISO OID #
7	Date/TimeOfMessage	TS	R					ELR-014: MSH-7 (Date/Time Of Message) SHALL follow the format YYYYMMDDHHMMSS[.S[S[S[S]]]]+/-ZZZZ
9	MessageType	MSG	R					
9.1	MessageType.MessageCode	ID	R	ORU			0076	**ELR-015:** MSH-9.1 (Message Code) SHALL contain the constant value "ORU"
9.2	MessageType.TriggerEvent	ID	R	R01			0003	**ELR-016**: MSH-9.2 (Trigger Event) SHALL contain the constant value "R01"

9.3	MessageType.MessageStructure	ID	R	ORU_R01			0354	**ELR-017:** MSH-9.3 (Message Structure) SHALL contain the constant value "ORU_R01"
10	MessageControlID	ST	R					**Care must be taken to insure that the message control id is unique from the sending application.**
11	ProcessingID	PT	R	P or T			0103	**Either P for Production and T for Testing.**
12	VersionID	VID	R	2.5.1	20			**ELR-018:** MSH-12.1 (Version ID) SHALL contain the constant value "2.5.1"
21	MessageProfileIdentifier	EI	R					
21.1	MessageProfileIdentifier.Entity Identifier	ST	R	PHLabReport-NoAck				**ELR-021:** The first component (Entity Identifier) of one occurrence of MSH-21 (Message Profile Identifier) SHALL be valued with "PHLabReport-Ack" OR "PHLabReport-NoAck" OR "PHLabReport-Batch"
21.3	MessageProfileIdentifier.Universal ID	ST	R	2.16.840.1.113883.9.11				**ELR-022:** The third component (Universal ID) of one occurrence of MSH-21 (Message Profile Identifier) SHALL contain the value "2.16.840.1.113883.9.11"
21.4	MessageProfileIdentifier.Universal ID Type	ID	R	ISO				**ELR-005:** EI.4 (Universal ID Type) SHALL contain the value “ISO”.

SFT	Name	HL7 Data Type	Required	Default Value	Max Length	ELR251 IG Length	Validation Table	Comments - Software segment
1	Software Vendor Organization	XON	R					
1.1	Software Vendor Organization. Organization Name	ST	R					
2	Software Certified Version or Release Number	ST	R					
3	Software Product Name	ST	R					
4	Software Binary ID	ST	R					The Software Binary ID is a 20 digit code supplied by the vendor for each unique software instance. If you don't know it, use the text string, "Binary ID unknown", without the quotes.
6	Software Install Date	TS	RE					If valued, (Date/Time) SHALL follow the format YYYYMMDD[HH[MM[SS[.S[S[S[S]]]]]]][+/-ZZZZ]

PID	Name	HL7 Data Type	Required	Default Value	Max Length	ELR251 IG Length	Validation Table	Comments - Patient Identification segment
1	SetID - PID	SI	R	1				
3	PatientIdentifierList	CX	R					
3.1	PatientIdentifierList.IDNumber	ST	R		20	15		
3.4	PatientIdentifierList.AssigningAuthority	HD	R					The Assigning Authority component is used to identify the system,application, organization, etc. that assigned the ID Number in component 1.
3.4.1	PatientIdentifierList.AssigningAuthority.NameSpace ID	IS	RE					
3.4.2	PatientIdentifierList.AssigningAuthority.Universal ID	ST	R					**ELR-063:** HD.2 (Universal ID) If HD.3 (Universal ID type) value is "ISO", SHALL be a valid ISO OID format.
3.4.3	PatientIdentifierList.AssigningFacility.Universal ID Type	ID	R	ISO				**ELR-007:** HD.3 (Universal ID Type) IF element is MSH-4.3 (Universal ID type) , then HD.3 (Universal ID type) SHALL contain the value "ISO" OR "CLIA", ELSE HD.3 (Universal ID type) SHALL contain the value "ISO"
5	PatientName	XPN	R					
5.1	PatientName.FamilyName	FN	RE					Last Name
5.1.1	PatientName.Surname	ST	R					Last name
5.2	PatientName.GivenName	ST	RE					First name
5.3	PatientName.MiddleInitialOrName	ST	RE					Middle Initial or Middle Name
5.4	PatientName.Suffix	ST	RE					
5.5	PatientName.Prefix	ST	RE					
7	Date/TimeOfBirth	TS	R					**ELR-026:** If valued, PID-7 (Date/Time of Birth) SHALL follow the format YYYYMMDD[HH[MM[SS[.S[S[S[S]]]]]]][+/-ZZZZ]
8	Sex	IS	RE		1	20	0001	
10	Race	CWE	RE				0005	
10.1	Race.Identifier	ST	RE					
10.3	Race.NameOfCodingSystem	ID	RE				0396	
11	PatientAddress	XAD	RE					
11.1	PatientAddress.StreetAddress	SAD	RE					
11.1.1	PatientAddress.StreetOrMailingAddress	ST	RE					
11.2	PatientAddress.OtherDesignation	ST	RE					
11.3	PatientAddress.City	ST	RE					
11.4	PatientAddress.StateOrProvince	ST	RE					**ELR-010:** XAD.4 (State or Province) SHALL use the FIPS 5-2 two letter alphabetic codes.
11.5	PatientAddress.ZipOrPostalCode	ST	RE					**ELR-011:** XAD.5 (Zip or Postal Code) SHALL be formatted as 99999[-9999] for US Zip or ZIP +4 codes or as A9A9A9 for Canadian postal codes.
11.9	PatientAddress.County/ParishCode	IS	RE					**ELR-067:** XAD.9 (County/Parish Code) SHALL be formatted as 99999.
13	PhoneNumber - Home	XTN	RE					
13.6	PhoneNumber - Home.AreaOrCityCode	NM	RE		3			
13.7	PhoneNumber - Home.PhoneNumber	NM	RE					
13.8	PhoneNumber - Home.Extension	NM	RE					
14	PhoneNumber - Business	XTN	RE					
16	Marital Status	CWE	RE				0002	This is further constrain to RE for AR DOH.
22	EthnicGroup	CWE	RE				0189	
22.1	EthnicGroup.Identifier	ST	RE					
22.3	EthnicGroup.CodingSystem	ID	RE				0396	
29	Patient Death Date and Time	TS	RE					**ELR-028:** PID-29 (Patient Death Date and Time) SHALL follow the format YYYYMMDD[HH[MM[SS[.S[S[S[S]]]]]]][+/-ZZZZ]
30	Patient Death Indicator	ID	RE		1		0136	Y or N

ORC	Name	HL7 Data Type	Required	Default Value	Max Length	ELR251 IG Length	Validation Table	Comments - Common Order segment
1	OrderControl	ID	R	RE			0119	**ELR-034:** ORC-1 (Order Control) SHALL contain the constant value "RE".
2	PlacerOrderNumber	EI	RE					
2.1	PlacerOrderNumber.EntityIdentifier	ST	R		18	199		**ELR-035:** ORC-2 (Placer Order Number) SHALL be the same value as OBR-2 within same Order_Observation Group.
2.2	PlacerOrderNumber.Namespace ID	IS	RE			20		
2.3	PlacerOrderNumber.Universal ID	ST	R			199		**ELR-004:** EI.3 (Universal ID) SHALL be valued with an ISO-compliant OID.
2.4	PlacerOrderNumber.Universal ID Type	ID	R	ISO		6	0301	**ELR-005:** EI.4 (Universal ID Type) SHALL contain the value “ISO”.
3	FillerOrderNumber	EI	R					**ELR-036:** ORC.3 (Filler Order Number) SHALL be the same value as OBR.3 (FIller Order Number) within same Order_Observation Group.
3.1	FillerOrderNumber.EntityIdentifier	ST	R		18	199		Look out for length issue, possible truncation error
3.2	FillerOrderNumber.Namespace ID	IS	RE					
3.3	FillerOrderNumber.Universal ID	ST	R					**ELR-004:** EI.3 (Universal ID) SHALL be valued with an ISO-compliant OID.
3.4	FillerOrderNumber.Universal ID Type	ID	R	ISO			0301	**ELR-005:** EI.4 (Universal ID Type) SHALL contain the value “ISO”.
21	OrderingFacilityName	XON	R					
22	OrderingFacilityAddress	XAD	R					
22.1	OrderingFacilityAddress.StreetAddress	SAD	R					
22.1.1	OrderingFacilityAddress.StreetOrMailingAddress	ST	R					
22.2	OrderingFacilityAddress.OtherDesignation	ST	R					
22.3	OrderingFacilityAddress.City	ST	R					
22.4	OrderingFacilityAddress.StateOrProvince	ST	R					**ELR-010:** XAD.4 (State or Province) SHALL use the FIPS 5-2 two letter alphabetic codes.
22.5	OrderingFacilityAddress.ZipOrPostalCode	ST	R					**ELR-011:** XAD.5 (Zip or Postal Code) SHALL be formatted as 99999[-9999] for US Zip or ZIP +4 codes or as A9A9A9 for Canadian postal codes.
23	OrderingFacilityPhoneNumber	XTN	R					
23.6	OrderingFacilityPhoneNumber.Area/CityCode	NM	R		3			
23.7	OrderingFacilityPhoneNumber.LocalNumber	NM	R					
23.8	OrderingFacilityPhoneNumber.Extension	NM	RE					
24	OrderingProviderAddress	XAD	R					
24.1	OrderingProviderAddress.StreetAddress	SAD	RE					
24.1.1	OrderingProviderAddress.StreetOrMailingAddress	ST	R					
24.3	OrderingProviderAddress.City	ST	RE					
24.4	OrderingProviderAddress.StateOrProvince	ST	RE					**ELR-010:** XAD.4 (State or Province) SHALL use the FIPS 5-2 two letter alphabetic codes.
24.5	OrderingProviderAddress.ZipOrPostalCode	ST	RE					**ELR-011:** XAD.5 (Zip or Postal Code) SHALL be formatted as 99999[-9999] for US Zip or ZIP +4 codes or as A9A9A9 for Canadian postal codes.

OBR	Name	HL7 Data Type	Required	Default Value	Max Length	ELR251 IG Length	Validation Table	Comments - Observation Request segment
1	SetID - OBR	SI	R					
2	PlacerOrderNumber	EI	RE					
2.1	PlacerOrderNumber.EntityIdentifier	ST	R		18	199		**ELR-035:** ORC-2 (Placer Order Number) SHALL be the same value as OBR-2 within same Order_Observation Group.
2.2	PlacerOrderNumber.Namespace ID	IS	RE					
2.3	PlacerOrderNumber.Universal ID	ST	R					**ELR-004:** EI.3 (Universal ID) SHALL be valued with an ISO-compliant OID.
2.4	PlacerOrderNumber.Universal ID Type	ID	R	ISO			0301	**ELR-005:** EI.4 (Universal ID Type) SHALL contain the value "ISO".
3	FillerOrderNumber	EI	R					**ELR-040: OBR-3 (Filler Order Number) SHALL NOT contain the same value as another occurrence of OBR-3 (Filler Order Number) in the message.**
3.1	FillerOrderNumber.EntityIdentifier	ST	R		18	199		Look out for length issue, possible truncation error
3.2	FillerOrderNumber.Namespace ID	IS	RE					
3.3	FillerOrderNumber.Universal ID	ST	R					**ELR-004:** EI.3 (Universal ID) SHALL be valued with an ISO-compliant OID.
3.4	FillerOrderNumber.Universal ID Type	ID	R	ISO			0301	**ELR-005:** EI.4 (Universal ID Type) SHALL contain the value "ISO".
4	UniversalServiceID	CWE	RE					Expect the Standard LOINC code in first triplet and/or the local code in the second triplet Required to provide either 4.1-4.3, 4.4-4.6, or 4.1-4.6 Example CWE: LOINCcode^LOINCText^LN^LOCALCode^LocalText^L^^^(Original Text) Both LOINC and Local Code 23826-1^Bordetella... amplification method^LN^BPRP^Bordetella pertussis PCR^L^2.40^local version^Bordetella pertussis PCR NO LOINC ^^^BPRP^Bordetella pertussis PCR^L NO local code 23826-1^Bordetella... amplification method^LN
4.1	UniversalServiceID.Identifier	ST	RE					LOINC code
4.2	UniversalServiceID.Text	ST	C(RE/X)					LOINC description , If CWE.1 (Identifier) is valued.
4.3	UniversalServiceID.NameOfCodingSystem	ST	C(R/X)	LN				If CWE.1 (Identifier) is valued.
4.4	UniversalServiceID.AltarnateIdentifier	ST	RE					Local Code
4.5	UniversalServiceID.AlternateText	ST	C(RE/X)					Local description , If CWE.4 (Identifier) is valued
4.6	UniversalServiceID.NameOfAlternateCodingSystem	ST	C(R/X)	L				If CWE.4 (Identifier) is valued
4.9	UniversalServiceID.original text	ST	C(R/RE)					Original Text is used to convey the text that was the basis for coding. If CWE.1 (Identifier) AND CWE.4 (alternate identifier) are not valued.
7	ObservationDateTime	TS	R					**ELR-041:** OBR-7 (Observation Date/Time) SHALL follow the format YYYYMMDD[HH[MM[SS[.S[S[S[S]]]]]]][+/-ZZZZ] OR contain the value "0000" when the collection date/time is unknown.
8	ObservationEndDateTime	TS	RE					**ELR-043:** OBR-8 (Observation End Date/Time) SHALL follow the format YYYYMMDD[HH[MM[SS[.S[S[S[S]]]]]]][+/-ZZZZ]OR contain the value "0000" when the collection date/time is unknown.
13	RelevantClinicalInformation.Text	ST	RE					
16	OrderingProvider	XCN	RE					**ELR-037:** ORC-12 (Ordering Provider) SHALL be the same value as OBR-16 within same Order_Observation Group.
16.2.1	OrderingProvider.Surname	ST	R					
16.3	OrderingProvider.GivenName	ST	RE					
16.9	OrderingProvider.AssigningAuthority	HD	R					
17	OrderCallbackPhoneNumber	XTN	RE					**ELR-038:** ORC-14 (Call Back Phone Number) SHALL be the same value as OBR-17 within same Order_Observation Group.
17.6	OrderCallbackPhoneNumber.Area/CityCode	NM	RE		3			
17.7	OrderCallbackPhoneNumber.LocalNumber	NM	RE					
17.8	OrderCallbackPhoneNumber.Extension	NM	RE					
22	ResultsRpt/StatusChng -Date/Time	TS	R					**ELR-047:** OBR-22 (Results Rpt/Status Chng - Date/Time) SHALL follow the format YYYYMMDDHHMM[SS[.S[S[S[S]]]]]+/-ZZZZ.
25	ResultStatus	ID	R				0123	
26	ParentResult	PRL	RE					Used for linking reflex order to parent test order (ie. culture and susceptibility).
26.1	ParentResult.ParentObservationIdentifier	CWE	R					Expect the Standard LOINC code in first triplet and/or the local code in the second triplet. OBR.4 above for guidance
26.1.1	ParentResult.ParentObservationIdentifier.Identifier	ST	RE		20			LOINC code
26.1.2	ParentResult.ParentObservationIdentifier.Text	ST	C(RE/X)		100			LOINC description , If CWE.1 (Identifier) is valued.

26.1.3	ParentResult.ParentObservationIdentifier.NameOfCodingSystem	ID	C(R/X)					If CWE.1 (Identifier) is valued.
26.1.4	ParentResult.ParentALTObservationIdentifier	ST	RE					Local Code
26.1.5	ParentResult.ParentALTObservationIdentifier.Identifier	ST	C(RE/X)					Local description , If CWE.4 (Identifier) is valued
26.1.6	ParentResult.ParentObservationIdentifier.aLTNameOfCodingSystem	ID	C(R/X)					If CWE.4 (Identifier) is valued
26.1.9	ParentResult.ParentOriginALText.Text	ST	C(R/RE)					Original Text is used to convey the text that was the basis for coding. If CWE.1 (Identifier) AND CWE.4 (alternate identifier) are not valued.
31	ReasonForStudy	CWE	RE		120			
31.1	ReasonForStudy.Identifier	ST	RE					
31.2	ReasonForStudy.Text	ST	C(RE/X)					
31.3	ReasonForStudy.NameOfCodingSystem	ID	C(R/X)					
31.4	ReasonForStudy.AltarnateIdentifier	ST	RE					
31.5	ReasonForStudy.AlternateText	ST	C(RE/X)					
31.5	ReasonForStudy.NameOfAlternateCodingSystem	ID	C(R/X)					
31.9	ReasonForStudy.original text	ST	C(R/RE)					Original Text is used to convey the text that was the basis for coding.

OBX	Name	HL7 Data Type	Required	Default Value	Max Length	ELR251 IG Length	Validation Table	Comments - Observation/Result Segment
1	SetID - OBX	SI	R					**ELR-037:** ORC-12 (Ordering Provider) SHALL be the same value as OBR-16 within same Order_Observation Group.
2	ValueType	ID	R					Defines the format of the observation value in OBX-5. USE **CWE instead of CE** and **SN** instead of NM data types.
3	ObservationIdentifier	CWE	R					Expect the Standard LOINC code in first triplet and the local code in the second triplet. Required to provide either 3.1-3.3 or 3.1-3.6
3.1	ObservationIdentifier.Identifier	ST	R					LOINC code
3.2	ObservationIdentifier.Text	ST	RE					LOINC description
3.3	ObservationIdentifier.NameOfCodingSystem	ID	R	LN				**ELR-069:** NONOBX5_CWE.1 (Identifier) If NONOBX5_CWE.3 (Name of Coding System) value is "LN", SHALL be a valid LOINC code identifier format.
3.4	ObservationIdentifier.AlternateIdentifier	ST	RE					Local Code
3.5	ObservationIdentifier.AlternateText	ST	RE					Local description
3.6	ObservationIdentifier.NameOfAlternateCodingSystem	ID	C(R/X)	L				IF CWE.4 (Identifier) is valued.
3.9	Original Text		RE					Original Text is used to convey the text that was the basis for coding. If no local code place local text here. Example: 23826-1^Bordetella... amplification method^LN^^^^^^Bordetella pertussis PCR
4	ObservationSub-ID	ST	C(R/RE)					If there are multiple OBX segments associated with the same OBR segment that have the same OBX-3 (Observation Identifier) values for (OBX-3.1 and OBX-3.3) or (OBX-3.4 and OBX 3.6).
5	ObservationValue	Var	R					Required to provide a result in OBX.5.
				OBX.5 CWE				
5	ObservationValue.CWE	CWE	R					for Coded results use CWE datatype in OBX.5 Expect the Standard code in first triplet and the local code in the second triplet
5.1	ObservationValue.Identifier	ST	R					SNOMED-CT numeric code is required if code available. Required to provide either 5.1-5.3, 5.9 or 5.1-5.6,5.9 (if SNOMED-CT numeric Concept ID is not available for concept then use either: 441742003^Evaluation finding^SCT or NAV^Not Available^HL70386)
5.2	ObservationValue.Text	ST	RE					SNOMED CT Concept Name
5.3	ObservationValue.NameOfCodingSystem	ID	R	SCT				For SNOMED-CT this SHALL be SCT
5.4	ObservationValue.AltarnateIdentifier	ST	RE					Local code
5.5	ObservationValue.AlternateText	ST	RE					Local description
5.6	ObservationValue.NameOfAlternateCodingSystem	ID	C(R/X)	L				IF CWE.4 (Identifier) is valued.
5.9	ObservationValue.OriginalText	ST	R					Original Text is used to convey the text that was the basis for coding.
				OBX.5 SN				
5	ObservationValue.SN	SN	R					For numeric results use SN datatype in OBX.5
5.1	ObservationValue.Comparator	NM	RE					Component that must be one of ">" or "<" or ">=" or "<=" or "=" or "<>". This component defaults to "=" if empty.
5.2	ObservationValue.Num1	ST	RE					The Number can consist of an optional leading sign (+ or -), the digits, and an optional decimal
5.3	ObservationValue.Separator/Suffix	NM	RE					Component that must be one of "-" or "+" or "/" or "." or ":".
5.4	ObservationValue.Num2	ST	Re					The Number can consist of an optional leading sign (+ or -), the digits, and an optional decimal
				OBX.5 TX, ST or FT				
5	ObservationValue.ST	ST	R					The ST, TX, FT Data types Shall support only the following escape sequences: \F\ field separator for "|" \S\ component separator for "^" \T\ subcomponent separator for "&" \R\ repetition separator for "~" \E\ escape character "\"

5	ObservationValue.TX	TX	R					The ST, TX, FT Data types Shall support only the following escape sequences: \F\ field separator for "|" \S\ component separator for "^" \T\ subcomponent separator for "&" \R\ repetition separator for "~" \E\ escape character "\"
5	ObservationValue.FT	ST	R					The ST, TX, FT Data types Shall support only the following escape sequences: \F\ field separator for "|" \S\ component separator for "^" \T\ subcomponent separator for "&" \R\ repetition separator for "~" \E\ escape character "\"

6	Units	CWE	C(R/RE)		20			IF OBX-2 (Value Type) is valued "NM", "SN" AND OBX-11 (Observation Result Status) is not valued "X".
7	ReferencesRange	ST	RE		19	60		
8	AbnormalFlags	CWE	RE				0078	
11	ObservationResultStatus	ID	R				0085	
14	Date/TimeOfTheObservation	TS	R					This is the specimen collection date/time, put date/time of test in OBX.19. ELR-049: OBX-14 (Date/Time of the Observation) SHALL follow the format YYYYMMDD[HH[MM[SS[.S[S[S[S]]]]]]][+/-ZZZZ] OR contain the value "0000" when the collection date/time is unknown. ELR-051: OBX-14 (Date/Time of the Observation) For observation related to testing of specimen (OBX's following the OBR), SHALL be identical to OBR-7 (Observation Date/Time) value within the same Order_Observation Group.
16	ResponsibleObserver	XCN	RE					
17	ObservationMethod	CWE	RE					
19	Date/TimeOfTheAnalysis	TS	R					ELR-052: OBX-19 (Date/Time of the Analysis) SHALL follow the format YYYYMMDDHHMM[SS[.S[S[S[S]]]]][+/-ZZZZ]
23	Performing Organization Name.	XON	R					This is where LAB name should go: format: <<lab Name here>>>^^^^^CLIA&2.16.840.1.113883.4.7&ISO^XX^^^<<CLIA Identifier Here>>
23.1	Performing Organization Name.Organization Name	ST	R					Lab Name
23.2	Performing Organization Name.Organization Name Type Code	IS	RE					
23.6	Performing Organization Name.Assigning Authority	HD	R					CLIA is the assigning authority
23.6.1	Performing Organization Name.Namespace ID	IS	RE	CLIA				
23.6.2	Performing Organization Name.Universal ID	ID	R	2.16.840.1.113883.4.7				
23.6.3	Performing Organization Name.Universal ID Type	ID	R	ISO				
23.7	Performing Organization Name.Identifier Type Code	ID	R	XX				XX- organization identifier
23.10	Performing Organization Name.Organization Identifier	ST	R					CLIA Identifier Here
24	PerformingOrganizationAddress	XAD	R					
24.1	PerformingOrganizationAddress.StreetAddress	SAD	R					
24.1.1	PerformingOrganizationAddress.StreetOrMailingAddress	ST	R					
24.2	PerformingOrganizationAddress.OtherDesignation	ST	RE					
24.3	PerformingOrganizationAddress.City	ST	R					
24.4	PerformingOrganizationAddress.StateOrProvince	ST	R					**ELR-010:** XAD.4 (State or Province) SHALL use the FIPS 5-2 two letter alphabetic codes.
24.5	PerformingOrganizationAddress.ZipOrPostalCode	ST	R					**ELR-011:** XAD.5 (Zip or Postal Code) SHALL be formatted as 99999[-9999] for US Zip or ZIP +4 codes or as A9A9A9 for Canadian postal codes.
25	PerformingOrganizationMedicalDirector	XCN	RE					

NTE	Name	HL7 Data Type	Required	Default Value	Max Length	ELR251 IG Length	Validation Table	Comments - Notes and Comments segment
1	SetID - NTE	SI	R					The NTE segment is an optional segment, but if present NTE.1 and NTE.3 are required.
3	Comment	FT	R					The ST, TX, FT Data types Shall support only the following escape sequences: \F\ field separator for "|" \S\ component separator for "^" \T\ subcomponent separator for "&" \R\ repetition separator for "~" \E\ escape character "\"

SPM	Name	HL7 Data Type	Required	Default Value	Max Length	ELR251 IG Length	Validation Table	Comments - Specimen Segment
1	SetID - SPM	SI	R	1				
2	SpecimentID	EIP	R					
4	SpecimenType	CWE	R					Expect the Standard code in first triplet and the local code in the second triplet Required to provide either 4.1-4.3, 4.4-4.6, or 4.1-4.6, or 4.9 Use SNOMED-CT numeric Concept ID Specimen Heirarchy for standard coding of Specimen type. Example: Both Codes 258500001^Nasopharyngeal swab^SCT^NPS^Nasopharyngeal Swab^L SNOMED CT Code only 258500001^Nasopharyngeal swab^SCT Local Code only ^^^NPS^Nasopharyngeal Swab^L Original text only ^^^^^^^^Nasopharyngeal Swab
4.1	SpecimenType.Identifier	ST	RE					SNOMED CT Concept ID
4.2	SpecimenType.Text	ST	C(RE/X)					SNOMED CT Concept Name , If CWE.1 (Identifier) is valued.
4.3	SpecimenType.NameOfCodingSystem	ID	C(R/X)	SCT			0396	If CWE.1 (Identifier) is valued.
4.4	SpecimenType.AlternateIdentifier	ST	RE					Local Code
4.5	SpecimenType.AlternateText	ST	C(RE/X)					Local description , If CWE.4 (Identifier) is valued
4.6	SpecimenType.NameOfAlternateCodingSystem	ID	C(R/X)	L			0396	If CWE.4 (Identifier) is valued
4.9	SpecimenType.OriginalText	ST	C(R/RE)					Original Text is used to convey the text that was the basis for coding.
8	Specimen Source Site	CWE	RE					Expect the Standard code in first triplet and the local code in the second triplet Required to provide either 8.1-8.3, 8.4-8.6, or 8.1-8.6 , or 8.9 Use SNOMED-CT numeric Concept ID Body Site Heirarchy for standard coding of Specimen type. See SPM.4 fore example
8.1	SpecimenType.Identifier	ST	RE					SNOMED CT Concept ID
8.2	SpecimenType.Text	ST	C(RE/X)					SNOMED CT Concept Name , If CWE.1 (Identifier) is valued.
8.3	SpecimenType.NameOfCodingSystem	ID	C(R/X)	SCT			0396	If CWE.1 (Identifier) is valued.
8.4	SpecimenType.AlternateIdentifier	ST	RE					Local Code
8.5	SpecimenType.AlternateText	ST	C(RE/X)					Local description , If CWE.4 (Identifier) is valued
8.6	SpecimenType.NameOfAlternateCodingSystem	ID	C(R/X)	L			0396	If CWE.4 (Identifier) is valued
8.9	SpecimenType.OriginalText	ST	C(R/RE)					Original Text is used to convey the text that was the basis for coding.
17	Specimen Collection Date/Time	DR	R					
17.1	Specimen Collection Date/Time.RangeStartDate/Time	TS	R					**ELR-055:** SPM-17.1 (Range Start Date/Time) SHALL follow the format YYYYMMDD[HH[MM[SS[.S[S[S[S]]]]]]][+/-ZZZZ]OR contain the value "0000"" when the collection date/time is unknown. ELR-057: SPM-17.1 (Range Start Date/Time) SHALL be identical to OBR-7 (Observation Date/Time) value within the same Order_Observation Group.
17.2	Specimen Collection Date/Time.RangeEndDate/Time	TS	RE					**ELR-058:** SPM-17.2 (Range End Date/Time) SHALL follow the format YYYYMMDD[HH[MM[SS[.S[S[S[S]]]]]]][+/-ZZZZ] OR contain the value "0000". ELR-059: SPM-17.2 (Range End Date/Time) SHALL be identical to OBR-8 (Observation End Date/Time) value within the same Order_Observation Group.
18	Specimen Received Date/Time	TS	R					**ELR-060:** SPM-18 (Specimen Received Date/Time) SHALL follow the format YYYYMMDD[HH[MM[SS[.S[S[S[S]]]]]]][+/-ZZZZ].

If a value is entered in the "Max Length" column for a field, that is the maximum field length allowed for that field. The maximum field length is a constraint of the programs that utilize the HL7 2.5.1 message. For this reason, the maximum field length column value for a field overrides the default field length of the HL7 2.5.1 message.

Usage Rules for a Receiving Application

Optionality/Usage Indicator	Description	Implementation Requirement	Operational Requirement
R	Required	The application shall implement "R" elements.	The receiving application shall process (save/print/archive/etc.) the information conveyed by a required element. A receiving application shall raise an exception due to the absence of a required element. A receiving application shall not raise an error due to the presence of a required element,
RE	Required but may be empty	The application shall implement "RE" elements.	The receiving application shall process (save/print/archive/etc.) the information conveyed by a required but may be empty element. The receiving application shall process the message if the element is omitted (that is, an exception shall not be raised because the element is missing).
C(a/b)	Conditional	The usage code has an associated condition predicate true. **If the condition predicate associated with the element is true, follow the rules for *a* which shall be one of "R", "RE", "O" or "X".** **If the condition predicate associated with the element is false, follow the rules for *b* which shall be one of "R", "RE", "O" or "X"**.	
X	Not supported	The application (or configured) shall not implement "X" elements.	None, if the element is not sent. If the element is sent the receiving application **shall ignore the element**. The receiving application shall not process (save/print/archive/etc.) the information conveyed by a not-supported element.
O	Optional	None. The usage indicator for this element has not yet been defined. For an implementation profile all optional elements must be profiled to R, RE, C(a/b), or X.	If the element is sent the receiving application **shall ignore the element**. The receiving application shall not process (save/print/archive/etc.) the information conveyed by a not-supported element.

This guidance will evolve as needed to better define the use case for the transmission of laboratory-reportable findings to the Arkansas Department of Health.