Attachment 1B.

Lead Environmental Notification Message

Mapping Guide 05172007.xls

Lead Environmental Investigation Notification Message Mapping Guide

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VERSION: The version of this Message Mapping Guide is Draft 0.5 dated 5/17/2007.

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This Message Mapping Guide describes the content and message mapping specifications for the fixed set of data elements used to communicate information to meet the requirements for Lead Environmental Investigation notifications to CDC. The intended audience for this document are the state/local and CDC programs and other public health related organizations interested in using the HL7 V2.5 case notification message specification for transmitting their data elements.

References

Version 1.0 of the _Message Specification Guide_ is used to inform the mapping methodology for this guide.

Notify CDC Message–All PAMs from NEDSS PAM Platform Team. Last updated 1/26/2007.

NEDSS PAM Platform Help Guide, 11/30/2006.

Understanding the Organization of the Mapping Guide

Revisions	This tab is intended to provide revision control for updates made to the document.
Key	Key to columns in each Tab/Worksheet
Subject-related	This tab provides the mapping methodology for the demographic variables requested by the program.
Lead Env Observations	This tab provides the mapping methodology for the investigation content requested by the program for this specific notification.
Notification Structure	This tab provides the structural elements for the Notification. These variables are not negotiable. Default values are provided for HL7 structural elements that are required but not part of the surveillance data requested.

Variables as Observations

Other than the variables that map to the Patient Identifier segment (see Subject-Specific tab), all other variables are passed as a series of OBX-Observation/Result segments that are logically tied to the OBR-Observation Request "section header" segment that immediately precedes it. This content presents the real differences between the messages since all types of Notifications are handled in a standard manner up to this point.

Key to columns in each Tab/Worksheet:

Column	Description
Program Variables Section	
PHIN Variable ID	PHIN element UID drawn from the coding system PH_PHINQuestions_CDC
Label	Short name for the data element, which is passed in the message.
Description	Description of the data element as in PHIN Questions.
Data Type	Data type for the variable response expected by the program area
Prog. Req/Opt	Indicator whether the program specifies the field as: **R** - Required - mandatory for sending the message **O** - Optional - if the data is available it should be passed
May Repeat	Indicator whether the response to the data element may repeat. "Yes" in the field indicates that it may; otherwise, the field is not populated. Repeats require special processing.
Coded Concepts	Concepts that the program uses in answer to a particular question that required a coded response.
Value Set Name	Name of the pre-coordinated value set from which the response is drawn. The value sets and coding systems are accessible via the Public Health Information Network Vocabulary Access and Distribution Services at http://www.cdc.gov/PhinVSBrowser/StrutsController.do.
Data Validation	Business rules used for validating data integrity
Message Mapping Methodology Section	
Message Context	Specific HL7 segment and field mapping for the element.
HL7 Data Type	HL7 data type used by PHIN to express the variable.
HL7 Usage	Use of the field for PHIN. Indicates if the field is required, optional, or conditional in a segment. The only values that appear in the Message Mapping are: • R – Required. Must always be populated • O – Optional. May optionally be populated.
HL7 Cardinality	Indicator of the minimum and maximum number of times the element may appear. • [0..0] Element never present. • [0..1] Element may be omitted and it can have at most, one Occurrence. • [1..1] Element must have exactly one Occurrence. • [0..n] Element may be omitted or may repeat up to n times. • [1..n] Element must appear at least once, and may repeat up to n times. • [0..*] Element may be omitted or repeat for an unlimited number of times. • [1..*] Element must appear at least once, and may repeat unlimited number of times. • [m..n] Element must appear at least m, and at most, n times.
Implementation Notes	Related implementation comments.

Lead Environmental Investigation Notification Message Mapping Guide

Revisions

Date	Version	Description
4/30/2007	Draft v. 0.5	Added "notification subject type" to the Notification Structural Data to bring the message structure in line with the Outbreak Management version of the ORU Case Investigation Report message.
4/30/2007	Draft v. 0.5	PID segment is now required for all Notifications, and for environmental reporting, the PID contains the subject identifier and address.
4/30/2007	Draft v. 0.5	There is one subject-level observation, LOC026 Dwelling Type, which appears under the new OBR|1| that identifies Subject Type as Place.
4/30/2007	Draft v. 0.5	Changed all observations that use the CE value type in OBX-2 to CWE - coded with exception - to prepare for versioning of value sets. The additional fields are still optional at this point.
4/30/2007	Draft v. 0.5	Added "patient name type" to the Notification Structural data to account for the default value that must be provided in the message.
4/30/2007	Draft v. 0.5	LOC001 Local Address ID no longer treated as an observation. It is used as subject identifier mapped to PID-3 Patient Identifier List.
4/30/2007	Draft v. 0.5	All of the LOC-tagged address fields map to PID-11 Patient Address, just as any subject address
4/30/2007	Draft v. 0.5	No longer supporting the *RE - required but may be empty* concept. The Program Optional/Required column reflects what the source messaging document specifies.
4/30/2007	Draft v. 0.5	Remapped NTF139 to NOT108 for use as the PHIN Variable ID used for MSH-10 Message Control ID (UID nor text appears in this context)

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	Subject/Demographic Variables									Mapping Methodology				
PHIN Variable ID	Label/Short Name	Description	Data Type	Prog. Req/Opt	May Repeat	Coded Concepts	Value Set Name	Data Validation		Message Context	HL7 Data Type	HL7 Usage	HL7 Cardina lity	Implementat ion Notes
LOC001	Local Address ID	Identifier for subject location (entity ID).	Text	R						PID-3 Patient Identifier List (does not pass Variable ID or label)	ST	R	[1..1]	Also on the Notification Structure tab
LOC005	Location City	City name associated with the address for a subject location.	Code	O			City			PID-11.3 Patient Address - City (note that the variable ID and label do not appear in the message)	ST	O	[0..1]	
LOC008	Location County	County associated with the address for a subject location.	Code	O			County			PID-11.9 Patient Address - County (note that the variable ID and label do not appear in the message)	IS	O	[0..1]	
LOC006	Location State	State associated with the address for a subject location.	Code	O			State			PID-11.4 Patient Address - State (note that the variable ID and label do not appear in the message)	ST	O	[0..1]	
LOC007	Location Postal Code	Zip or Postal code associated with the address for a subject location.	Text	O						PID-11.5 Patient Address - Postal Code (note that the variable ID and label do not appear in the message)	ST	O	[0..1]	
LOC025	Location Census Tract	Census tract associated with the address for a subject location.	Text	O						PID-11.10 Patient Address - Census Tract (note that the variable ID and label do not appear in the message)	IS	O	[0..1]	
LOC026	Location Dwelling Type	Dwelling type associated with the address for a subject location. Dwelling type is used to classify the building and may include office, duplex, single family, etc.	Code	O		Mobile Home Office Duplex Single Family Multi-unit Dwelling	Dwelling Type			Observation/OBX Segment under the Subject Type header (OBR segment) with this variable ID and label	CWE	O	[0..1]	

Lead Environmental Investigation Notification Variables

	Program-Specific Surveillance Variables							Mapping Methodology				
PHIN Variable ID	Label/Short Name	Description	Data Type	Prog. Req/Opt	May Repeat	Coded Concepts	Value Set Name	Data Validation	Message Context	HL7 Data Type	HL7 Usage	HL7 Cardinality	Implementation Notes
INV111	Referral Date for Investigation	Date the event or illness was first reported by the reporting source.	Date	R	TS			If the user enters the 'Date Referred' then that date must be >= Date Opened	Observation/OBX Segment with this variable ID and label	TS	O	[0..1]	
LEA113	Risk Assessment Completed Date	Date of risk assessment/inspection completion.	Date	O	TS			If the user enters the 'Risk Assessment Completed Date' then that date must be >= **Risk Assessment Start Date**	Observation/OBX Segment with this variable ID and label	TS	O	[0..1]	
LEA114	Investigation Reason Code	Reason for opening the environmental investigation, such as a citizen request or a complaint response	Code	O	CE	Primary Prevention Citizen Request Physician Order Complaint Response Relocation Address Meets Persistently EBLL Criteria Safe Work Practice Complaint Community Development Block Grant (CDBG) Meets Standard Investigation Criteria HUD	Environmental Investigation Reason		Observation/OBX Segment with this variable ID and label	CWE	O	[0..1]	

Program-Specific Surveillance Variables								Mapping Methodology				
PHIN Variable ID	Label/Short Name	Description	Data Type	Prog. Req/Opt	May Repeat	Coded Concepts	Value Set Name	Data Validation	Message Context	HL7 Data Type	HL7 Usage	HL7 Cardina lity	Implementati on Notes
INV2006	Investigation Close Date	Investigation Close Date	Date	O	TS			If the user enters the 'Date Closed' then the user must also enter the Closure Reason	Observation/OBX Segment with this variable ID and label	TS	O	[0..1]	
LEA115	No hazard identified indicator	Check this box to indicate that no hazard was identified at the property that is the focus of the investigation, but a new (alternate) location was identified for which an environmental investigation was opened or will be opened.	Boolean	O	IS	T or F		If the user indicates that no hazard was found in the investigation outcome then the system will not allow the entry of the Date Remediation Complete If the user indicates 'No Hazard Identified' in the investigation outcome then the system will disable entry of 'No Hazard Identified - Alternate Location Identified,' 'Lead Paint,' Occupational Exposure,' and 'Lead Sources Other Than Lead Found.'	Observation/OBX Segment with this variable ID and label	IS	O	[0..1]	

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	Program-Specific Surveillance Variables								Mapping Methodology				
PHIN Variable ID	Label/Short Name	Description	Data Type	Prog. Req/Opt	May Repeat	Coded Concepts	Value Set Name	Data Validation	Message Context	HL7 Data Type	HL7 Usage	HL7 Cardina lity	Implementati on Notes
LEA116	No Hazard/ Alternate Location Identified Indicator	Indicate whether a hazard was identified in the environmental investigation; check this box if no hazard was identified in the alternate location	Boolean	O	IS	T or F			Observation/OBX Segment with this variable ID and label	IS	O	[0..1]	
LEA117	Lead paint source identified indicator	Indicate whether lead paint was identified as a hazard during the environmental investigation; *No* if no lead paint hazard was found at the property; *Yes* if a lead paint hazard was found at the property; *Unknown* if it is not known whether lead paint was a hazard at the property.	Code	O	CE		Yes No Unknown (YNU)		Observation/OBX Segment with this variable ID and label	CWE	O	[0..1]	
LEA118	Interior Lead Paint Hazard Indicator	Indicator of *interior lead paint hazard*. This is a derived field: if any Risk Assessment interior room/component combination has COMPONENT_HAZARD_IDENT IFIED_INDICATOR checked, then code as "true", otherwise leave blank.	Boolean	O	IS	T or F			Observation/OBX Segment with this variable ID and label	IS	O	[0..1]	Used IS datatype to pass the T or F only
LEA119	Exterior Lead Paint Hazard Indicator	Indicator of *exterior lead paint hazard*. This is a derived field: if any Risk Assessment exterior site/component combo has COMPONENT_HAZARD_IDENT IFIED_INDICATOR checked, then code as "true", otherwise leave blank.	Boolean	O	IS	T or F			Observation/OBX Segment with this variable ID and label	IS	O	[0..1]	Used IS datatype to pass the T or F only
LEA120	Occupational Exposure	Investigation findings of sources - Occupational Exposure.	Code	O	CE	Yes No Unknown	Yes No Unknown (YNU)		Observation/OBX Segment with this variable ID and label	CWE	O	[0..1]	

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Program-Specific Surveillance Variables								Mapping Methodology				
PHIN Variable ID	Label/Short Name	Description	Data Type	Prog. Req/Opt	May Repeat	Coded Concepts	Value Set Name	Data Validation	Message Context	HL7 Data Type	HL7 Usage	HL7 Cardina lity	Implementati on Notes
LEA121	Lead sources other than paint	Investigation findings of sources - *lead sources other than paint.* This field may repeat.	Code	O	CE	Traditional Medicines Hobbies Occupations Jewelry Food Toys Industrial Hazard Cosmetics	Non Paint Lead Source		Observation/OBX Segment with this variable ID and label	CWE	O	[0..1]	
LEA122	Occupational Exposure of other household member	Occupational exposure of other household member. This is a derived field: Code as "True" if PATIENT_OR_OTHER_HOUSE HOLD_MEMBER (under Occupation on Other Risk Factors Tab) = "Other Household Member", otherwise leave blank.	Boolean	O	IS	T or F			Observation/OBX Segment with this variable ID and label	IS	O	[0..1]	Used IS datatype to pass the T or F only
LEA123	Soil hazard indicator	Indicator of *soil hazard*. This is a derived field: Code as "true" if any SOIL_SITE_HAZARD_IDENTIFI ED_INDICATOR checked, otherwise leave blank.	Boolean	O	IS	T or F			Observation/OBX Segment with this variable ID and label	IS	O	[0..1]	Used IS datatype to pass the T or F only
LEA124	Water hazard indicator	Indicator of *water hazard*. This is a derived field: Code as "true" if any WATER_SITE_HAZARD_IDENT IFIED_INDICATOR checked, otherwise leave blank.	Boolean	O	IS	T or F			Observation/OBX Segment with this variable ID and label	IS	O	[0..1]	Used IS datatype to pass the T or F only

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Program-Specific Surveillance Variables								Mapping Methodology				
PHIN Variable ID	Label/Short Name	Description	Data Type	Prog. Req/Opt	May Repeat	Coded Concepts	Value Set Name	Data Validation	Message Context	HL7 Data Type	HL7 Usage	HL7 Cardinality	Implementation Notes
LEA101	Case Investigation Closure Reason	If the value specified in Case Status is *Closed*, choose the reason why the case was closed.	Code	O	CE	Case Opened in Error False Positive Moved Out of Compliance Lost to Follow-Up/Unable to Locate Uncooperative or refused Closure Criteria Met Moved Out of Jurisdiction/State Remediation Complete No Hazard Found House Demolished Inspection Refused No Longer Rental Unit Permanent Injunction Insufficient Funds - Remediation Not Complete Administratively Closed	Case Investigation Closure Reason		Observation/OBX Segment with this variable ID and label	CWE	O	[0..1]	
LEA125	Date remediation due	Due date of remediation.	Date	O	TS			If the user enters the 'Date Remediation Due' then that date must be >= Date Opened	Observation/OBX Segment with this variable ID and label	TS	O	[0..1]	

Program-Specific Surveillance Variables								Mapping Methodology				
PHIN Variable ID	Label/Short Name	Description	Data Type	Prog. Req/Opt	May Repeat	Coded Concepts	Value Set Name	Data Validation	Message Context	HL7 Data Type	HL7 Usage	HL7 Cardina lity	Implementati on Notes
LEA126	Date address hazard remediation or abatement completed	Date address hazard remediation or abatement completed.	Date	O	TS			If the user enters the 'Date Completed' then that date must be >= Date Referred unless Date Referred not entered	Observation/OBX Segment with this variable ID and label	TS	O	[0..1]	
LEA127	Date clearance testing completed	Date clearance testing completed.	Date	O	TS			If the user enters the 'Completion Date' for Clearance Testing then that date must be >= Date Opened	Observation/OBX Segment with this variable ID and label	TS	O	[0..1]	
LEA128	Clearance testing performed indicator	Indicator of *clearance testing performed*. This is a derived field: if CLEARANCE_TESTING_COMP LETE_INDICATOR = "Yes" then code as "True". If CLEARANCE_TESTING_COMP LETE_INDICATOR = "No" or is blank, AND any sample is entered for clearance testing, then code as "True". Otherwise code as blank.	Boolean	O	IS	T or F			Observation/OBX Segment with this variable ID and label	IS	O	[0..1]	Used IS datatype to pass the T or F only
LEA129	Clearance testing performed date	Date clearance testing performed. This is a field derived from the Earliest Date Sample Obtained for Clearance Testing.	Date	O	TS				Observation/OBX Segment with this variable ID and label	TS	O	[0..1]	

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PHIN Variable ID	Label/Short Name	Description	Data Type	Prog. Req/Opt	May Repeat	Coded Concepts	Value Set Name	Data Validation	Message Context	HL7 Data Type	HL7 Usage	HL7 Cardinality	Implementation Notes
LEA130	Clearance testing result	Result of clearance testing. This is a derived field: if CLEARANCE_TESTING_COMPLETE_INDICATOR = "Yes" then code as "Passed". If "no" then code as "Failed"; if blank, and any sample is entered for clearance testing, then code as "Unknown". If blank and no samples are entered, then leave blank.	Code	O	CE	Passed Failed Unknown	Passed Failed Unknown		Observation/OBX Segment with this variable ID and label	CWE	O	[0..1]	
NOT109	Reporting State	State reporting the notification.	Code	R	CE		State		Observation/OBX Segment with this variable ID and label	CWE	O	[0..1]	
ABLES DATA													
INV154	State of Exposure	If the disease or condition was imported, indicate the state in which the disease was likely acquired.	Code	O	CE		State		Observation/OBX Segment with this variable ID and label	CWE	O	[0..1]	
INV156	County of Exposure	If the disease or condition was imported, this field will contain the county of origin of the disease or condition.	Code	O	CE		County		Observation/OBX Segment with this variable ID and label	CWE	O	[0..1]	

Column group headers: **Program-Specific Surveillance Variables** / **Mapping Methodology**

These variables are not negotiable. Default values are provided for HL7 structural elements that are required but not part of the surveillance data requested.

Notification Variables								Mapping Methodology				
PHIN Variable ID	Label/Short Name	Description	Data Type	CDC Req/Opt	May Repeat	Coded Concepts	Value Set Name	Data Validation	Message Context	HL7 Data Type	HL7 Usage	HL7 Cardinality	Implementation Notes
NOT108	Notification ID	The unique identifier for the notification record. For the V2 Case Notification, this concept maps to the HL7 attribute MSH-10 Message Control ID. No UID or label is passed in the message.	String	R					MSH-10-Message Control ID. No UID or label is passed in the message.	ST	R	[1..1]	
LOC001	Local address ID	Identifier for subject location (entity ID).	String	R					PID-3.1 Patient Identifier List – ID Number PID-3.4 Assigning Authority format <localID&OID&ISO> Does not pass Variable ID or label.	CX	R	[1..1]	
NOT099	Subject Type	Type of subject for the notification.	Coded	R		Place Subject	Notification Section Header		OBR|1|: Maps to the HL7 attribute OBR-4-Universal Service ID. No UID or label is passed in the message.	CE	R	[1..1]	Literal Value: 'LOCSUBJ^Location/Place Subject^2.16.840.1.114222.4.5.274'
NOT101	Notification Type	Type of notification. Main notification types are "Individual Case", "Environmental", "Summary", and "Laboratory Report".	Coded	R		Environmental Notification	Notification Section Header		OBR|2|: Maps to the HL7 attribute OBR-4-Universal Service ID. No UID or label is passed in the message.	CE	R	[1..1]	Literal Value: 'ENVNTF^Environmental Investigation Notification^2.16.840.1.114222.4.5.274'
NOT103	Date First Submitted	Date the notification was first sent to CDC. This value does not change after the original notification. For the V2 Case Notification, this concept maps to the HL7 attribute OBR-7-Observation Date/time. No UID or label is passed in the message.	Date/time	R					Maps to the HL7 attribute OBR-7-Observation Date/time. No UID or label is passed in the message.	TS	R	[1..1]	<same value in each OBR instance>

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	Notification Variables									Mapping Methodology				
PHIN Variable ID	Label/Short Name	Description	Data Type	CDC Req/Opt	May Repeat	Coded Concepts	Value Set Name	Data Validation		Message Context	HL7 Data Type	HL7 Usage	HL7 Cardinality	Implementation Notes
NOT106	Date of Report	Date/time this version of the notification was sent. It will be the same value as NOT103 for the original notification. For updates, this is the update/send date/time.	Date/time	R						Maps to the HL7 attribute OBR-22-Result Report/Status Chg Date/time. No UID or label is passed in the message.	TS	R	[1..1]	<same value in each OBR instance>
INV169	Condition Code	Condition or event that constitutes the reason the notification is being sent.	Coded	R		32010 Lead Poisoning	Nationally Notifiable Disease Surveillance System (NNDSS) & Other Conditions of Public Health Importance			Maps to HL7 attribute OBR-31-Reason for Study. The UID and label are not passed in the message.	CE	R	[1..1]	Default value in each OBR instance: '32010^Lead Poisoning^2.16.840.1.114222.4.5.255'