Attachment 1A.

Lead Case Notification Message

Mapping Guide 05172007.xls

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Lead Individual Case Notification Message Mapping Guide

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

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 Individual Case reporting 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 Case Observations	This tab provides the mapping methodology for the case 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.

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Revisions

Date	Version	Description
4/25/2007	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.
4/25/2007	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.
4/25/2007	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.
4/25/2007	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)
4/25/2007	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.
4/25/2007	Draft v. 0.5	"State Patient ID" concept UID changed to DEM147 from INV172. Note that this element maps under the new "Subject Type" section header in OBR|1|.
4/25/2007	Draft v. 0.5	LEA135 Local Address ID generalized to DEM2010. It continues to appear without the UID or text as PID-11.2 - Patient Address Other Designation.
5/3/2007	Draft v. 0.5	Removed NOT110 Record Type variable. This observation is no longer necessary as the Notification Type specified in NOT101 contains this information.

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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 Cardinality	Implementation Notes
DEM197	Local patient ID	The local ID of the patient/entity.	Text	R					PID-3 Patient Identifier List (does not pass Variable ID or label)	CX	R	[1..1]	also shown on Notification Structure tab
INV172 remapped to DEM147	State patient ID	Patient ID value assigned by the state	Text	O					Observation/OBX Segment with this variable ID and label	ST	O	[0..1]	
DEM115	Birth Date	Reported date of birth of patient.	Date	R					PID-7 Date/Time of Birth (does not pass Variable ID or label)	TS	O	[0..1]	
DEM113	Patient's sex	Patient's current sex.	Code	O		Male Female Unknown	Sex (MFU)		PID-8 Administrative Sex (does not pass Variable ID or label)	IS	O	[0..1]	
DEM152	Race Category	Field containing one or more codes that broadly refer to the patient's race(s).	Code	O	Y	American Indian or Alaska Native Asian Black or African American Native Hawaiian or Other Pacific Islander White Other Race	Race Category		PID-10 Race (does not pass Variable ID or label)	CE	O	[0..*]	

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 Cardinality	Implementation Notes
DEM153	Detailed Race	A patient record may have zero, one, or multiple detailed race categories assigned. This variable is not passed unless specified for the particular condition.	Code	O	Y	<see vocab download>	Detailed Race		Observation/OBX Segment with this UID and label under the Patient Subject section header in OBR-4. To keep the race category in context with detailed races, pass the race category in the first instance of this field and the detailed race codes as repeats. If more than one race category was passed in PID-10 Race, use a second OBX Detailed Race segment instance to keep that grouping in context.	CWE	O	[0..*]	
DEM155	Ethnic Group Code	Ethnic origin or ethnicity is based on the individual's self-identity of the patient as Hispanic or Latino; choose one value from the list.	Code	O		Hispanic Non-hispanic	Ethnicity Group		PID-22 Ethnic Group (does not pass Variable ID or label)	CE	O	[0..1]	Note that HL7 says this field may repeat but not expecting repeats.

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
							Subject/Demographic Variables				**Mapping Methodology**		
DEM156	Detailed Ethnicity	If the value specified in Ethnicity is Hispanic or Latino, choose detailed ethnicity value(s) that better define the patient's Latino ethnicity; values may include Cuban, Mexican, etc.; choose one or multiple values from this list. This variable is not passed unless specified for the particular condition.	Code	O	Y	<see vocab download>	Detailed Ethnicity		Observation/OBX Segment with this UID and label under the Patient Subject section header in OBR-4.	CWE	O	[0..*]	
Address Data - note that all addresses related to the patient are sent, so the entire Extended Address construct in PID-11 will repeat.													
LEA135 remapped to DEM2010	Address ID	The system-assigned unique address ID	Text	O	Y				PID-11.2 Patient Address - Other Designation (note that the variable ID and label do not appear in the message)	ST	O	[0..*]	
DEM161	Patient Address City	Patient's address city as text	Text	O	Y				PID-11.3 Patient Address - City (note that the variable ID and label do not appear in the message)	ST	O	[0..*]	
DEM162	Patient Address State	Patient's address state.	Code	O	Y		State		PID-11.4 Patient Address - State (note that the variable ID and label do not appear in the message)	ST	O	[0..*]	
DEM163	Patient Address Zip Code	Patient's address Zip code.	Text	O	Y				PID-11.5 Patient Address - Postal Code (note that the variable ID and label do not appear in the message)	ST	O	[0..*]	

	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 Cardinality	Implementation Notes
DEM165	Patient Address County	County of residence of the subject.	Code	O	Y		County		PID-11.9 Patient Address - County (note that the variable ID and label do not appear in the message)	IS	O	[0..*]	
DEM168	Census Tract	Census tract where the address is located is a unique identifier associated with a small statistical subdivision of a county. Census tract data allows a user to find population and housing statistics about a specific part of an urban area. A single community may be composed of several census tracts.	Text	O	Y				PID-11.10 Patient Address - Census Tract (note that the variable ID and label do not appear in the message)	IS	O	[0..*]	Census codes not in PHIN-VADS - treated as a user-defined code passed without description or OID
DEM169	Residence From Date	Residence *From* date.	Date	O	Y				PID-11.13 Patient Address - Effective Date (note that the variable ID and label do not appear in the message)	TS	O	[0..*]	
DEM170	Residence To Date	Residence *To* date.	Date	O	Y				PID-11.14 Patient Address - Expiration Date (note that the variable ID and label do not appear in the message)	TS	O	[0..*]	
End of repeating address info that is passed in PID-11													
DEM171	Patient's City – Coded	Patient's address city as encoded value. This field will repeat a coded Place value for each city string in the repeating address field, and in the same order in which the address was presented.	Code	O	Y		City	Entire address construct repeats.	Observation/OBX segment for FIPS city/place codes derived from the repeating address field contents in PID-11. This UID and description are in OBX-3.	CWE	O	[0..*]	

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Lead Case Notification Variables

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
INV2001	Age at time of case investigation	Patient age at time of case investigation	Numeric	R					Observation/OBX Segment with this variable ID and label	SN	R	[0..1]	
INV2002	Age units at time of case investigation	Patient age units at time of case investigation	Code	O		Days Months Weeks Years	Age unit		uses the INV2001 observation - maps to OBX-6-Units (does not use INV2002 ID or label)	CE	O	[0..1]	
INV178	Pregnancy Status	Indicates whether the patient was pregnant during the event.	Code	O		Yes No Unknown	Yes No Unknown (YNU)		Observation/OBX Segment with this variable ID and label	CWE	O	[0..1]	
NOT109	Reporting State	State reporting the investigation/case	Code	R			State		Observation/OBX Segment with this UID and label	CWE	O	[0..1]	
LEA105	Previous country of residence	Previous country of residence - send the 3 most recent countries.	Code	O			Country		Observation/OBX Segment with this UID and label under the Patient Subject section header in OBR-4.	CWE	O	[0..1]	
LEA137	Travel outside of US	Travel outside of US <Future Functionality>	Code	O		Yes No Unknown	Yes No Unknown (YNU)		Observation/OBX Segment with this UID and label under the Patient Subject section header in OBR-4.	CWE	O	[0..1]	
Case Data													
INV2006	Case Close Date	Case Close date.	Date	O				If the user selects a Case Status = 'Closed' then the system will require the entry of the Date Closed and Closure Reason and will default the Date Closed to current date If the user enters the Date Closed for a case then the date must be >= Date Opened	Observation/OBX Segment with this variable ID and label	TS	O	[0..*]	

	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	Closure Reason	If the case is *closed*, choose the reason why the case was closed	Code	O		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]	
INV147	Case Start Date	The date the case investigation was initiated.	Date	R				If the user enters the case Date Opened then the date must be <= current date (done in questions.txt), >=Patient Date of Birth, and >= Sample Draw Date (if case triggered from Elevated BLL)	Observation/OBX Segment with this variable ID and label	TS	R	[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
Program-Specific Surveillance Variables									**Mapping Methodology**				
INV168	Case ID	System-assigned local ID of the investigation with which the case subject/entity is associated.	Text	R					OBR-3.1 Filler Order Number (note that the variable ID and label do not appear in the message)	EI	R	[0..1]	Also on the Notification Structure tab
INV107	Jurisdiction Code	Identifier for the physical site from which the report is being submitted. Jurisdictions are defined by the reporting entity.	Code	R			state-assigned		Observation/OBX Segment with this variable ID and label	IS	R	[0..1]	
Patient Risk Assessment Data													
LEA112	Pica as risk factor	Indicate whether the child showed signs of pica (repeated eating of nonfood items).	Code	O		Yes No	Yes No Indicator (HL7)		Observation/OBX Segment with this variable ID and label	IS	O	[0..1]	
LEA131	Imported Cosmetics as risk factor	Patient Risk Assessment: Indicate whether imported cosmetics were present in the household.	Code	O		Yes No Unknown	Yes No Unknown (YNU)		Observation/OBX Segment with this variable ID and label	CWE	O	[0..1]	
LEA132	Imported foods as risk factor	Patient Risk Assessment: Indicate whether imported foods were present at the household, such as chapulines or tamarind candy.	Code	O		Yes No Unknown	Yes No Unknown (YNU)		Observation/OBX Segment with this variable ID and label	CWE	O	[0..1]	
LEA133	Imported non-glossy vinyl mini-blinds as risk factor	Patient Risk Assessment: Indicate whether the household had imported non-glossy vinyl mini-blinds.	Code	O		Yes No Unknown	Yes No Unknown (YNU)		Observation/OBX Segment with this variable ID and label	CWE	O	[0..1]	
LEA134	Liquids stored in metal, pewter, or crystal containers as risk factor	Patient Risk Assessment: Indicate whether any of the food containers were metal, soldered, or glazed.	Code	O		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
LEA109	Non-paint lead source – pottery, imported or improperly fired	Indicates whether there is a non-paint lead source that is imported or improperly fired pottery.	Code	O		Yes No Unknown	Yes No Unknown (YNU)		Observation/OBX Segment with this variable ID and label	CWE	O	[0..1]	
LEA106	Non-paint lead source – traditional medicines	Indicates whether there is a non-paint lead source from traditional home remedies, like azarcon or surma, present in the household.	Code	O		Yes No Unknown	Yes No Unknown (YNU)		Observation/OBX Segment with this variable ID and label	CWE	O	[0..1]	
LEA107	Non-paint lead source – occupation of household member	Indicates whether there is a non-paint lead source from the occupation(s) of household member.	Code	O		<see download in PHIN-VADS>	Industry (NAICS) or Industry (SIC)		Observation/OBX Segment with this variable ID and label	CWE	O	[0..1]	
LEA108	Non-paint lead source – hobby of household member	Indicates whether there is a non-paint lead source from one or more hobbies of household member.	Code	O		Jewelry/Crafts Ceramics/Pottery Hunting Fishing Stained Glass Making Firing Range/Target Shooter/Re-loader Remodel/Restore/ Renovate Making/Casting Fishing Sinkers Making/Casting Bullets Furniture Refinishing Radiator Repair Painting	Non-paint lead source - hobby related		Observation/OBX Segment with this variable ID and label	CWE	O	[0..1]	
LEA110	Non-paint lead source – patient occupation	Indicates whether there is a non-paint lead source from the occupation(s) of the patient.	Code	O		<see download in PHIN-VADS>	Industry (NAICS) or Industry (SIC)		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
LEA111	Non-paint lead source – patient hobbies	Indicates whether there is a non-paint lead source from one or more hobbies of the patient.	Code	O		Jewelry/Crafts Ceramics/Pottery Hunting Fishing Stained Glass Making Firing Range/Target Shooter/Re-loader Remodel/Restore/ Renovate Making/Casting Fishing Sinkers Making/Casting Bullets Furniture Refinishing Radiator Repair Painting	Non-paint lead source - hobby related		Observation/OBX Segment with this variable ID and label	CWE	O	[0..1]	
ABLES Data													
DEM139	Census Occupation Code	Patient's occupation(s). Multiple occupations may be selected.	Code	O		<see download in PHIN-VADS>	Occupation		Observation/OBX Segment with this variable ID and label	CWE	O	[0..1]	

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

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
									Mapping Methodology				
NOT108	Notification ID	The unique identifier for the notification record.	String	R					MSH-10-Message Control ID. No UID or label is passed in the message.	ST	R	[1..1]	
DEM197	Local patient ID	The local ID of the patient/entity.	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]	Only the sending system's internally assigned patient id used for these de-identified messages
DEM100	Patient name type	Name is not requested by the program, but the Patient Name field is required to be populated for the HL7 message to be valid. Have adopted the HL7 convention for processing a field where the name has been removed for de-identification purposes.	Coded	R		Pseudonym	Name Type (HL7)		PID-5.7 Patient Name Type - second instance (does not pass Variable ID or label). HL7 reserves the first instance of the name for Legal Name.	CX	R	[1..2]	Literal value: | ~^^^^^^S|
INV168	(RVCT ID specific to TB)	Sending system-assigned local ID of the case investigation with which the subject is associated.	Text	R					OBR-3-Filler Order Number where OBR-3.1 is the internally assigned case/investigation ID, OBR-3.3 is the OID for sending application as assigning authority, and OBR-3.4 is the literal value 'ISO'. The UID and label are not passed in the message.	ST	R	[1..1]	<same value in each OBR instance>
NOT099	Subject Type	Type of subject for the notification.	Coded	R		Person 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: 'PERSUBJ^Person Subject^2.16.840.1.114222.4.5.274'

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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 Cardina lity	Implementation Notes
NOT101	Notification Type	Type of notification. Main notification types are "Individual Case", "Environmental", "Summary", and "Laboratory Report".	Coded	R		Individual Case 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: 'NOTF^Case 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>
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 Infectious Disease (NNID) reportable to the Nationally Notifiable Disease Surveillance System (NNDSS)		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^2.16.8 40.1.114222.4.5. 255'