Public Health Information Network
HL7 Version 2.5

ARBOVIRAL
CASE NOTIFICATION
MESSAGE MAPPING GUIDE

Version 1.0

January 22, 2009

Centers for Disease Control and Prevention

REVISION HISTORY

Date	Version	Description
3/12/2008	DRAFT	Revised INV169 Condition Code field to describe that the Arbovirus will also be sent in this field. The virus is sent in the "local triplet", because an event code is not assigned at the time these messages are shipped to ArboNET. Passing the virus in the Condition Code field is known to duplicate the Arbovirus observation, but OBR-31 where the event code is passed is a mandatory field for Case Notification, and the message will error out if there is nothing in the field.
10/29/2008	Draft .8	Notification Structure Tab, Added Data Element NOT114 Receiving Application. Made this generic - did not refer to CDS since the workflow is back out to the ArboNet system. Left the literal value to be used "TBD".
10/29/2008	Draft .8	Notification Structure Tab, Added NOT115 identifier to Message Profile ID row (formerly was N/A). Second instance literal value was amended to: 'Arbo_Case_Map_v1.0^PHINMsgMapID^2.16.840.1.114222.4.10.4^ISO', as the former component 1 value was too long.
11/10/2008	Draft .8	DEM113 on the Data Element Index was erroneously described as "birth sex". It was corrected to "current sex" as on the Subject-related tab.
12/29/2008	Final Version 1.0	Generic Obs tab: Added this verbiage to the Implementation Notes for INV165 and INV166, which are generic reporting elements which are shaded and not used for ArboNet reporting: "MMWR Week and MMWR Year are not data elements of interest for Arboviral mapping guide. These data will be determined by the ArboNet system."
12/29/2008	Final Version 1.0	Subject-related tab: DEM165 - Patient Address County. Under 'Implementation Notes' columns added: 'Use 5 character numeric code from PHVS_County_FIPS_6-4'
12/29/2008	Final Version 1.0	Data Element Index: DEM165 - Patient Address County. Under 'Valid Values' column added: 'FIPS 5 character numeric county codes".
12/29/2008	Final Version 1.0	Notification Structure Tab, NOT114 Receiving Application: added the Literal Value 'CDC^2.16.840.1.114222.4.3.2.3^ISO' where the OID was formerly TBD.
12/29/2008	Final Version 1.0	Generic and Notification Structure Tabs: Revised the Implementation Notes for INV169 Condition Code field.
1/13/2009	Final Version 1.0	Removed the HL7 Repeats column from the Key and from the Mapping Methodology spreadsheets. This information was a duplicate of information contained in the Notification Message Specification/Profile.
1/13/2009	Final Version 1.0	Added NOT116 National Reporting Jurisdiction to the Generic tab. It was already added as a required field on the Data Element Index, per DISSS instruction.
1/13/2009	Final Version 1.0	Data Element Index: Second instance literal value was amended to: 'Arbo_Case_Map_v1.0^PHINMsgMapID^2.16.840.1.114222.4.10.4^ISO', from 'Gen_Case_Map_v1.0^PHINMsgMapID^2.16.840.1.114222.4.10.4^ISO', as shown on the Notification Structure tab.
1/16/2009	Final Version 1.0	Changed the name of the guide from ArboNet to Arboviral Human Case Reporting as directed by DISSS.
1/16/2009	Final Version 1.0	Removed the empty Associated Lab Report and Associated Vaccine Record tabs. Introduction already stated those tabs are not used for this message.
1/22/2009	Final Version 1.0	Data Element Index and Arboviral Obs mapping tab: Removed the"Y" in the May Repeat column for ARB002 ClinicalSyndrome (Does not allow repeats).
1/22/2009	Final Version	Data Element Index and Subject-Related mapping tab: DEM152 Race

Date	Version	Description
	1.0	Category - CDC Priority is Required and May Repeat is now blank. ArboNet does not allow repeats for race category.
1/22/2009	Final Version 1.0	Data Element Index and Generic mapping tab: For NOT109 Reporting state, clarified that CDC is expecting the numeric FIPS state code.
1/22/2009	Final Version 1.0	Subject Related Tab: Removed the Implementation Notes on DEM162 Patient Address State and DEM163 Patient Address Zip Code.
1/22/2009	Final Version 1.0	Generic Obs mapping: INV173 StateID – CDC Priority column changed from "Optional" to "Required" to make it consistent with the Data Element Index.
1/22/2009	Final Version 1.0	Generic Obs mapping: Added this Implementation Note for NOT109. "ArboNet: Business Process - message will fail if NOT109 is not populated with the numeric FIPS code."
1/22/2009	Final Version 1.0	Generic Obs mapping: The Label for INV168 Record ID is now "Local Record ID" to make it consistent with the Notification structure section.

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ARBOVIRAL CASE NOTIFICATION MESSAGE MAPPING GUIDE VERSION 1.0

1   INTRODUCTION

This Message Mapping Guide describes the content and message mapping specifications for the set of data elements used to communicate information to meet the requirements for Arboviral (ArboNet) human case 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.

ArboNET has grown to comprise 54 state and local health departments, including those of the 48 contiguous states and New York City. The participating jurisdictions must perform bird monitoring (either deaths or seroprevalence among wild birds and sentinel chicken flock seroconversions), mosquito surveillance, enhanced equine and nonhuman mammal surveillance, and enhanced passive or active human surveillance.[34] Public health campaigns regarding the use of mosquito repellents, minimizing mosquito breeding around the house, and applying larvicide in areas that foster the breeding of mosquitoes are important interventions in prevention.

Version 2.0 of the National Notification Message Structure Specification is used to inform the mapping methodology for this guide.   The ORU^ R01 - Unsolicited Observation Message is the HL7 standard message used to pass the Nationally Notifiable Condition Report message. The National Notification message is used to convey a de-identified subset of investigation/surveillance information to meet national reporting requirements, where CDC is the only receiver. This document specifies the structure and methodology for the use of the Health Level 7 (HL7) Version 2.5 Unsolicited Result Message (ORU^ R01) that supports the electronic interchange of any Nationally Notifiable Condition message from public health entities to the CDC.

1.1 REFERENCES

OMB No. 0920-0728 Varicella Surveillance Worksheet Exp. Date 2/28/2011

1.2 508 COMPLIANCE

Please note that this document is the 508-compliant version of the Excel Varicella Message Mapping Guide. The content is the same but some formatting had to be re-worked.

1.3 CONTACTS

PHIN Help Desk
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2   ARBOVIRAL EVENTS

#	CODE	CONDITION NAME
1	10049	West Nile virus non-neuroinvasive disease
2	10051	St. Louis encephalitis virus neuroinvasive disease
3	10052	Western equine encephalitis virus neuroinvasive disease
4	10053	Eastern equine encephalitis virus neuroinvasive disease
5	10054	California serogroup virus neuroinvasive disease
6	10055	Venezuelan equine encephalitis virus neuroinvasive disease
7	10056	West Nile virus neuroinvasive disease
8	10057	Powassan virus neuroinvasive disease
9	10058	Cache Valley virus neuroinvasive disease
10	10059	Japanese encephalitis virus neuroinvasive disease
11	10061	California serogroup virus non-neuroinvasive disease
12	10062	Eastern equine encephalitis virus non-neuroinvasive disease
13	10063	Powassan non-neuroinvasive disease
14	10064	St. Louis encephalitis virus non-neuroinvasive disease
15	10065	Western equine encephalitis non-neuroinvasive disease
16	10066	Cache Valley virus non-neuroinvasive disease
17	10067	Venezuelan equine encephalitis non-neuroinvasive disease
18	10068	Japanese encephalitis virus non-neuroinvasive disease
19	10660	Yellow fever
20	10680	Dengue Fever
21	10685	Dengue hemorrhagic fever

3 DATA ELEMENT INDEX

This section provides the complete list of data elements of interest requested by the CDC. The last column cross-references to the section of this document where the data element is fully specified for HL7-compliant messaging.

3.1 NOTIFICATION STRUCTURE DATA ELEMENTS

These data elements provide the structure for all notifications by mapping consistently to fields in the HL7 message, regardless of what other content is requested.

PHIN Variable ID	Label/Short Name	Description	Data Type	CDC Priority	May Repeat	Valid Values	Value Set Name	Value Set Code	Section Reference
NOT108	Notification ID	The unique identifier for the notification record.	Text	R					4.5 Notification Structure
NOT114	Receiving Application	CDC's PHIN Common Data Store (CDS) is the Receiving Application for this message.	OID	R		PHINCDS^2.16.840.1.114222.4.3.2.10^ISO			4.5 Notification Structure
NOT115	Message Profile ID	First instance is the reference to the structural specification used to validate the message. Second instance is the reference to the PHIN Message Mapping Guide from which the content is derived.	Text	R	Y	First instance literal value: 'NND_ORU_v2.0^PHINProfileID^2.16.840.1.114222.4.10.3^ISO' Second instance literal value: 'Arbo_Case_Map_v1.0^PHINMsgMapID^2.16.840.1.114222.4.10.4^ISO'.			4.5 Notification Structure
DEM197	Local patient ID	The local ID of the patient/entity.	Text	R					4.5 Notification Structure
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	Y	Literal value: |~^^^^^^S|	Name Type (HL7)	PHVS_NameType_HL7_2x	4.5 Notification Structure

PHIN Variable ID	Label/Short Name	Description	Data Type	CDC Priority	May Repeat	Valid Values	Value Set Name	Value Set Code	Section Reference
INV168	Local record ID	Sending system-assigned local ID of the case investigation with which the subject is associated.	Text	R					4.5 Notification Structure
NOT099	Subject Type	Type of subject for the notification. "Person", "Place/location", or "Non-Person Living Subject" are the appropriate subject types for Notifications to CDC.	Coded	R		Literal Value: 'PERSUBJ^Person Subject^CDCPHINVS'	Notification Section Header	PHVS_NotificationSectionHeader_CDC	4.5 Notification Structure
NOT101	Notification Type	Type of notification. Notification types are "Individual Case", "Environmental", "Summary", and "Laboratory Report".	Coded	R		Literal Value: 'NOTF^Individual Case Notification^CDCPHINVS'	Notification Section Header	PHVS_NotificationSectionHeader_CDC	4.5 Notification Structure
NOT103	Date First Submitted	Date/time the notification was first sent to CDC. This value does not change after the original notification.	Date/time	R					4.5 Notification Structure
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					4.5 Notification Structure
INV169	Condition Code	Condition or event that constitutes the reason the notification is being sent.	Coded	R		Chikungunya Colorado Tick Fever Cache Valley Dengue Eastern Equine Encephalitis Flavivirus Non Specified Japanese Encephalitis LaCrosse Calif Serogroup Non-LaCrosse California Serogroup Powassen	Virus Type (Arboviral Disease)	PHVS_VirusType_ArboviralDisease	4.5 Notification Structure

PHIN Variable ID	Label/Short Name	Description	Data Type	CDC Priority	May Repeat	Valid Values	Value Set Name	Value Set Code	Section Reference
						St Louis Encephalitis Venezuelan Equine Encephalitis Western Equine Encephalitis West Nile Virus Yellow Fever Other Arbovirus			

3.2 SUBJECT-RELATED DATA ELEMENTS

This section provides a list of the demographic variables requested by the CDC.

PHIN Variable ID	Label/Short Name	Description	Data Type	CDC Priority	May Repeat	Valid Values	Value Set Name	Value Set Code	Section Reference
DEM115	Birth Date	Date of birth in YYYYMMDD format	Date	P					4.2 Subject-related
DEM113	Patient's sex	Patient's current sex.	Coded	P		Male Female Unknown	Sex (MFU)	PHVS_Sex_MFU	4.2 Subject-related
DEM152	Race Category	Field containing one or more codes that broadly refer to the patient's race(s). Note that if "Unknown" is sent, the HL7 Flavor of Null UNK is sent. See Subject-Related tab for implementation details. ArboNet specific note: Race Category does not repeat for this interface.	Coded	R		American Indian or Alaska Native Asian Black or African American Native Hawaiian or Other Pacific Islander White Unknown	Race Category	PHVS_RaceCategory_CDC	4.2 Subject-related
DEM165	Patient Address County	County of residence of the subject.	Coded	P		FIPS county codes	County	PHVS_County_FIPS_6-4	4.2 Subject-related
DEM162	Patient Address State	State of residence of the subject.	Coded	O		FIPS state codes	State	PHVS_State_FIPS_5-2	4.2 Subject-related
DEM163	Patient Address Zip Code	ZIP Code of residence of the subject.	Text	O					4.2 Subject-related
DEM155	Ethnic Group Code	Ethnic origin or ethnicity is based on	Coded	P		Hispanic	Ethnicity Group	PHVS_EthnicityGroup_	4.2 Subject-

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PHIN Variable ID	Label/Short Name	Description	Data Type	CDC Priority	May Repeat	Valid Values	Value Set Name	Value Set Code	Section Reference
		the individual's self-identity of the patient as Hispanic or Latino; choose one value from the list.				Non-hispanic		CDC	related

3.3 GENERIC DATA ELEMENTS

This section provides the content for the generic investigation questions. The variables that are not used for this particular instance are greyed out.

PHIN Variable ID	Label/Short Name	Description	Data Type	CDC Priority	May Repeat	Valid Values	Value Set Name	Value Set Code	Section Reference
NOT109	Reporting State	State reporting the notification.	Coded	R		FIPS numeric state codes	State	PHVS_State_FIPS_5-2	4.3 Generic Obs.
NOT116	National Reporting Jurisdiction	National jurisdiction reporting the notification to CDC. This will be the same value as NOT109 Reporting State for all reporting jurisdictions except New York City.	Coded	R		2-Digit FIPS Codes for 50 States plus 11 District of Columbia 60 American Samoa 64 Federated States of Micronesia 66 Guam 68 Marshall Islands 69 N.Mariana Islands 70 Republic of Palau 72 Puerto Rico 78 US Virgin Islands 975772 New York City	Reporting Area (TB)	PHVS_ReportingArea_TB	4.3 Generic Obs.
INV169	Condition Code	This field should be populated using the standardized vocabulary from PHIN VADS PHVS_VirusType_ArboviralDisease Value Set Code. The data in INV169 will match the data populated for ARB001.	Coded	R		<See Event Codes tab>	Virus Type (Arboviral Disease)	PHVS_VirusType_ArboviralDisease	Generic Obs and Notification Structure tab
INV168	Local Record ID	Sending system-assigned local ID of the case investigation with which the subject is associated.	Text	R					4.3 Generic Obs.
INV173	StateID	States use this field to link NEDSS investigations back to their own state investigations.	Text	R					4.3 Generic Obs.

PHIN Variable ID	Label/Short Name	Description	Data Type	CDC Priority	May Repeat	Valid Values	Value Set Name	Value Set Code	Section Reference
INV128	Hospitalized	Was patient hospitalized because of this event?	Coded	R		Yes No Unknown	Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	4.3 Generic Obs.
INV137	OnsetDate	Date of the beginning of the illness. Reported date of the onset of symptoms of the condition being reported to the public health system	Date	P					4.3 Generic Obs.
INV145	Fatality	Did the patient die from this illness or complications of this illness?	Coded	P		Yes No Unknown	Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	4.3 Generic Obs.
INV146	DateOfDeath	The date and time the subject's death occurred.	Date	P					4.3 Generic Obs.
INV152	ImportedFrom	Indication of where the disease/condition was likely acquired.	Coded	P		Not Imported (Indigenous) Acquired Out of Country Acquired Out of State Unknown	Disease Acquired Jurisdiction	PHVS_DiseaseAcquiredJurisdiction_NND	4.3 Generic Obs.
INV153	CountryOf Origin	If the disease or condition was imported, indicates the country in which the disease was likely acquired.	Text	P		ISO Country Codes	Country	PHVS_Country_3166-1	4.3 Generic Obs.
INV163	CaseStatus	Status of the case/event as suspect, probable, confirmed, or "not a case" per CSTE/CDC surveillance case definitions.	Coded	R		Confirmed Not a Case Probable Suspect Unknown	Case Classification Status	PHVS_CaseClassStatus_NND	4.3 Generic Obs.
INV178	Pregnant	Indicates whether the patient was pregnant at the time of the event.	Coded	P		Yes No Unknown	Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	4.3 Generic Obs.
INV2001	Age	Patient age at time of case investigation	Numeric	P					4.3 Generic Obs.
INV2002	AgeUnit	Patient age units at time of case investigation	Coded	P		Days Months Weeks Years	Age Unit	PHVS_AgeUnit_UCUM	4.3 Generic Obs.

3.4 ARBOVIRUS-SPECIFIC DATA ELEMENTS

These data elements are either shared across some condition reporting or specific only to varicella reporting but they are not considered "generic".

PHIN Variable ID	Label/Short Name	Description	Data Type	CDC Priority	May Repeat	Valid Values	Value Set Name	Value Set Code	Section Reference
ARB001	Arbovirus	Type of arbovirus the case was infected with.	Coded	R		CHIK Chikungunya CTF Colorado Tick Fever CV Cache Valley DEN Dengue EEE Eastern Equine Encephalitis Flavivirus Non Specified JE Japanese Encephalitis LAC LaCrosse Non-LAC Calif Serogroup Non-LaCrosse California Serogroup POW Powassen SLE St Louis Encephalitis VEE Venezuelan Equine Encephalitis WEE Western Equine Encephalitis WNV West Nile Virus YF Yellow Fever Other Arbovirus	Virus Type (Arboviral Disease)	PHVS_VirusType_ArboviralDisease	4.4 Arboviral Obs.
ARB002	ClinicalSyndrome	Clinical Syndrome is the type of clinical presentation the case had.	Coded	P		-Meningitis -Encephalitis - Including Meningoencephalitis -Hepatitis/Jaundice -Multi-System Organ Failure -Dengue Hemorrhagic Fever/Dengue Shock Syndrome -Dengue With Hemorrhage -Uncomplicated Fever -Asymptomatic -Other Clinical -Unknown	Clinical Syndrome (Arbovirus)	PHVS_ClinicalSyndrome_Arbovirus	4.4 Arboviral Obs.
ARB003	LabAcquired	Person fell ill with arboviral illness that was likely acquired due to work with infectious agents in a	Coded	P		Yes No	Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	4.4 Arboviral Obs.

PHIN Variable ID	Label/Short Name	Description	Data Type	CDC Priority	May Repeat	Valid Values	Value Set Name	Value Set Code	Section Reference
		laboratory setting.				Unknown			
ARB004	NonLabAcquired	Non-Lab Occupationally Acquired. Indicates possible infection in an occupational setting that is not a laboratory.	Coded	P		Yes No Unknown	Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	4.4 Arboviral Obs.
ARB005	BloodDonor	Person who fell ill with arboviral illness and reported that they had donated blood sometime within the last 30 days prior to onset.	Coded	P		Yes No Unknown	Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	4.4 Arboviral Obs.
ARB006	BloodTransfusion	Person who fell ill with arboviral illness and reported that they had received a blood transfusion sometime within the last 30 days prior to onset.	Coded	R		Yes No Unknown	Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	4.4 Arboviral Obs.
ARB007	OrganDonor	Person who fell ill with arboviral illness and reported that they had donated an organ sometime within the last 30 days prior to onset.	Coded	R		Yes No Unknown	Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	4.4 Arboviral Obs.
ARB008	OrganTransplant	Person who fell ill with arboviral illness and reported that they had received an organ transplant sometime within the last 30 days prior to onset.	Coded	R		Yes No Unknown	Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	4.4 Arboviral Obs.
ARB009	BreastFedInfant	Person who fell ill with arboviral illness and reported that they were breast feeding or breast fed prior to the illness onset.	Coded	R		Yes No Unknown	Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	4.4 Arboviral Obs.
ARB010	InfectedInUtero	Infant that was born to a mother who had a WNV illness/infection during their pregnancy.	Coded	R		Yes No Unknown	Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	4.4 Arboviral Obs.
ARB011	Published	Published indicator	Boolean	P		Yes No	Yes No Indicator (HL7)	PHVS_YesNo_HL7_2x	4.4 Arboviral Obs.
ARB012	AFP	Did the patient suffer Acute Flaccid Paralysis?	Coded	R		Yes No Unknown	Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	4.4 Arboviral Obs.
ARB013	IdentifiedByBloodDonorScreening	Donors who have been identified as having a WNV infection through routine blood donation screening by the blood collection agency. May or	Coded	R		Yes No Unknown	Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	4.4 Arboviral Obs.

PHIN Variable ID	Label/Short Name	Description	Data Type	CDC Priority	May Repeat	Valid Values	Value Set Name	Value Set Code	Section Reference
		may not be symptomatic.							
ARB014	DateOfDonation	Date of blood donation	Date	P					4.4 Arboviral Obs.
ARB015	LabTestingBy	Information on whether the specimen was tested in public health labs or exclusively in commercial laboratories.	Coded	P		Public Health (state or CDC) only Public Health and Commercial Commercial Only Unknown	Public Private Lab	PHVS_PublicPrivateLab_NND	4.4 Arboviral Obs.
ARB016	RiskFactorDiabetes	Before your infection, did a health care provider ever tell you that you had diabetes?	Coded	P		Yes No Unknown	Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	4.4 Arboviral Obs.
ARB017	RiskFactorHypertension	Before your infection, did a health care provider ever tell you that you had high blood pressure (hypertension)?	Coded	P		Yes No Unknown	Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	4.4 Arboviral Obs.
ARB018	RiskFactorHeartAttack	Before your infection, did a health care provider ever tell you that you had heart attack (myocardial infarction)?	Coded	P		Yes No Unknown	Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	4.4 Arboviral Obs.
ARB019	RiskFactorCoronary Artery	Before your infection, did a health care provider ever tell you that you had angina or coronary artery disease?	Coded	P		Yes No Unknown	Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	4.4 Arboviral Obs.
ARB020	RiskFactorCHF	Before your infection, did a health care provider ever tell you that you had congestive heart failure (CHF)?	Coded	P		Yes No Unknown	Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	4.4 Arboviral Obs.
ARB021	RiskFactorStroke	Before your infection, did a health care provider ever tell you that you had a stroke (CVA)?	Coded	P		Yes No Unknown	Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	4.4 Arboviral Obs.
ARB022	RiskFactorCOPD	Before your infection, did a health care provider ever tell you that you had chronic obstructive pulmonary disease (COPD)?	Coded	P		Yes No Unknown	Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	4.4 Arboviral Obs.
ARB023	RiskFactorLiverDisease	Before your infection, did a health care provider ever tell you that you had chronic liver disease?	Coded	P		Yes No Unknown	Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	4.4 Arboviral Obs.
ARB024	RiskFactorKidneyDisease	Before your infection, did a health care provider ever tell you that you	Coded	P		Yes No	Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	4.4 Arboviral Obs.

PHIN Variable ID	Label/Short Name	Description	Data Type	CDC Priority	May Repeat	Valid Values	Value Set Name	Value Set Code	Section Reference
		had kidney/renal disease or failure?				Unknown			
ARB025	RiskFactorAlcoholism	History of alcoholism?	Coded	P		Yes No Unknown	Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	4.4 Arboviral Obs.
ARB026	RiskFactorBoneMarrowTrans	History of bone marrow transplant	Coded	P		Yes No Unknown	Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	4.4 Arboviral Obs.
ARB027	RiskFactorSolidOrganTransplant	History of solid organ transplant?	Coded	P		Yes No Unknown	Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	4.4 Arboviral Obs.
ARB028	RiskFactorOrgansTransplanted	What organ was transplanted? (may be multiple organs)	Coded	P	Y	<list of transplantable organs>	Transplant Organ	PHVS_TransplantOrgan_CDC	4.4 Arboviral Obs.
ARB029	RiskFactorOrganTransplantYear	What year was the transplant? (may be multiple years for multiple transplants)	Date	P	Y				4.4 Arboviral Obs.
ARB030	RiskFactorCancer	History of cancer?	Coded	P		Yes No Unknown	Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	4.4 Arboviral Obs.
ARB031	RiskFactorCancerType	If the patient reported cancer, what type(s)? (may be one or more cancer types)	Coded	P	Y	<list of cancer types>	Cancer Type	PHVS_CancerType_CDC	4.4 Arboviral Obs.
ARB032	RiskFactorCancerYear	What year was cancer diagnosed? (may be multiple years)	Date	P	Y				4.4 Arboviral Obs.
ARB033	RiskFactorCancerTreatment	Are you currently being treated for cancer?	Coded	P		Yes No Unknown	Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	4.4 Arboviral Obs.
ARB034	RiskFactorImmuneSuppressed	At the time you were diagnosed with West Nile virus infection, were you immune suppressed?	Coded	P		Yes No Unknown	Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	4.4 Arboviral Obs.
ARB035	RiskFactorImmuneCondition	If the patient reported being immune suppressed, what is the immune condition?	Coded	P		<list of immune conditions>	Immunosuppressed Condition	PHVS_ImmunosuppressedCondition_CDC	4.4 Arboviral Obs.
ARB036	RiskFactorChemo	At the time you were diagnosed with West Nile virus infection, were you undergoing chemotherapy?	Coded	P		Yes No Unknown	Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	4.4 Arboviral Obs.
ARB037	RiskFactorOtherCancer	At the time you were diagnosed with West Nile virus infection, were you undergoing other treatments for	Coded	P		Yes No Unknown	Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	4.4 Arboviral Obs.

PHIN Variable ID	Label/Short Name	Description	Data Type	CDC Priority	May Repeat	Valid Values	Value Set Name	Value Set Code	Section Reference
		cancer?							
ARB038	RiskFactorHemodialysis	At the time you were diagnosed with West Nile virus infection, were you undergoing hemodialysis?	Coded	P		Yes No Unknown	Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	4.4 Arboviral Obs.
ARB039	RiskFactorOtherKidneyTreatment	At the time you were diagnosed with West Nile virus infection, were you undergoing other treatments for kidney disease?	Coded	P		Yes No Unknown	Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	4.4 Arboviral Obs.
ARB040	RiskFactorSteroids	At the time you were diagnosed with West Nile virus infection, were you receiving oral or injected steroids?	Coded	P		Yes No Unknown	Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	4.4 Arboviral Obs.
ARB041	RiskFactorInsulin	At the time you were diagnosed with West Nile virus infection, were you receiving insulin or other medications to treat diabetes?	Coded	P		Yes No Unknown	Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	4.4 Arboviral Obs.
ARB042	RiskFactorHypertensionMeds	At the time you were diagnosed with West Nile virus infection, were you receiving medications to treat high blood pressure?	Coded	P		Yes No Unknown	Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	4.4 Arboviral Obs.
ARB043	RiskFactorCoronaryArteryMeds	At the time you were diagnosed with West Nile virus infection, were you receiving medications to treat coronary artery disease?	Coded	P		Yes No Unknown	Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	4.4 Arboviral Obs.
ARB044	RiskFactorCongestiveHeartMeds	At the time you were diagnosed with West Nile virus infection, were you receiving medications to treat congestive heart failure?	Coded	P		Yes No Unknown	Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	4.4 Arboviral Obs.
ARB045	RiskFactorImmuneSuppressMeds	At the time you were diagnosed with West Nile virus infection, were you receiving medications that suppress the immune system?	Coded	P		Yes No Unknown	Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	4.4 Arboviral Obs.
ARB046	RiskFactorPatient	Is the patient the source of the medical information?	Coded	P		Yes No	Yes No Indicator (HL7)	PHVS_YesNo_HL7_2x	4.4 Arboviral Obs.
ARB047	RiskFactorProvider	Is the provider the source of the medical information?	Coded	P		Yes No	Yes No Indicator (HL7)	PHVS_YesNo_HL7_2x	4.4 Arboviral Obs.
ARB048	RiskFactorFamily	Is the patient's family the source of the medical information?	Coded	P		Yes No	Yes No Indicator (HL7)	PHVS_YesNo_HL7_2x	4.4 Arboviral Obs.

PHIN Variable ID	Label/Short Name	Description	Data Type	CDC Priority	May Repeat	Valid Values	Value Set Name	Value Set Code	Section Reference
ARB049	RiskFactorMedicalRecord	Is the medical record the source of the medical information?	Coded	P		Yes No	Yes No Indicator (HL7)	PHVS_YesNo_HL7_2x	4.4 Arboviral Obs.

4 DATA ELEMENT TO MESSAGE MAPPINGS

This section provides the data elements of interest cross-referenced to the HL7 messaging context. The Program Variables Section has the same information as the Data Element index. The Message Mapping Methodology Section specifies how the data element is conveyed in an HL7-compliant manner.

4.1 KEY

The column headers and their definitions are as follows:

Column	Description
Program Variables Section	
PHIN Variable ID	PHIN data element identifier 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. It may not match exactly with the description in PHIN Questions, because there may be local variations on the description that do not change the basic concept being mapped to the PHIN Question identifier.
Data Type	Data type for the variable response expected by the program area. Data Types are Coded, Numeric, Date or Date/time, and Text.
CDC Priority	Indicator whether the program specifies the field as: **R - Required** - Mandatory for sending the message/will error message out **P - Preferred** - This is an optional variable and there is no requirement to send this information to CDC. However, if this variable is already being collected by the state/territory or if the state/territory is planning to collect this information because it is deemed important for your own programmatic needs, CDC would like this information sent. CDC preferred variables are the most important of the optional variables to be earmarked for CDC analysis/assessment, even if sent from a small group of states. **O - Optional** - This is an optional variable and there is no requirement to send this information to CDC. This variable is considered nice-to-know if the state/territory already collects this information or is planning to collect this information, but has a lower level of importance to CDC than the preferred classification of optional data elements.
May Repeat	Indicator whether the response to the data element may repeat. "Y" in the field indicates that it may repeat. If the program does not indicate the response can repeat, the field is not populated or contains "N". Repeats require special processing.
Value Set Name	Name of the pre-coordinated value set in PHIN-VADS 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 (PHIN VADS).
Value Set Code	Code for the pre-coordinated value set in PHIN-VADS from which the response is drawn.

Column	Description
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. Datatypes expected are CWE, SN, DT, ST, TX, XPN, XTN, or XAD, depending on the type of data being passed.
HL7 Optionality	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.
Implementation Notes	Related implementation comments.

4.2 SUBJECT-RELATED DATA ELEMENT MAPPINGS

This section provides the mapping methodology for the demographic variables requested by the program. These subject-related surveillance elements are generally reported in the PID segment as attributes or they map as observations under the first OBR that identifies Subject Type in OBR-4.

Subject/Demographic Variables								Mapping Methodology			
PHIN Variable ID	Label/Short Name	Description	Data Type	CDC Priority	May Repeat	Value Set Name	Value Set Code	Message Context	HL7 Data Type	HL7 Optionality	Implementation Notes
DEM115	Birth Date	Reported date of birth of patient.	Date	P				PID-7 Date/Time of Birth (does not pass Variable ID or label)	TS	O	
DEM113	Patient's sex	Patient's current sex.	Coded	P		Sex (MFU)	PHVS_Sex_MFU	PID-8 Administrative Sex (does not pass Variable ID or label)	IS	O	
DEM152	Race Category	Field containing one or more codes that broadly refer to the patient's race(s). Note that if "Unknown" is sent, the HL7 Flavor of Null UNK is sent. ArboNet specific note: Race Category does not repeat for this interface.	Coded	R		Race Category	PHVS_RaceCategory_CDC	PID-10 Race (does not pass Variable ID or label)	CE	O	To send an "Unknown" because the application allows Unknown to be selected (that is, not as a default value): PID-10 would appear as |UNK^Unknown^NULLFL|

Subject/Demographic Variables								Mapping Methodology			
PHIN Variable ID	Label/Short Name	Description	Data Type	CDC Priority	May Repeat	Value Set Name	Value Set Code	Message Context	HL7 Data Type	HL7 Optionality	Implementation Notes
DEM165	Patient Address County	County of residence of the subject.	Coded	P		County	PHVS_County_FIPS_6-4	PID-11.9 Patient Address - County	IS	O	
DEM162	Patient Address State	State of residence of the subject.	Coded	O		State	PHVS_State_FIPS_5-2	PID-11.4 Patient Address - State	ST	O	
DEM163	Patient Address Zip Code	ZIP Code of residence of the subject.	Text	O				PID-11.5 Patient Address - Postal Code	ST	O	
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.	Coded	P		Ethnicity Group	PHVS_EthnicityGroup_CDC	PID-22 Ethnic Group (does not pass Variable ID or label)	CE	O	

4.3 GENERIC DATA ELEMENT MAPPINGS

The generic surveillance elements that are not used for this particular notification are shaded. Some of the generic elements are also notification structural elements, and they appear again in the Notification Structure mapping section.

Generic Surveillance Variables								Mapping Methodology			
PHIN Variable ID	Label/Short Name	Description	Data Type	CDC Priority	May Repeat	Value Set Name	Value Set Code	Message Context	HL7 Data Type	HL7 Optionality	Implementation Notes
NOT109	State	State reporting the notification.	Coded	R		State	PHVS_State_FIPS_5-2	Observation (OBX segment) under an OBR-4 value of 'NOTF'	CWE	O	ArboNet: Business Process - message will fail if NOT109 is not populated with the numeric FIPS code.

Generic Surveillance Variables								Mapping Methodology			
PHIN Variable ID	Label/Short Name	Description	Data Type	CDC Priority	May Repeat	Value Set Name	Value Set Code	Message Context	HL7 Data Type	HL7 Optionality	Implementation Notes
NOT116	National Reporting Jurisdiction	National jurisdiction reporting the notification to CDC. This will be the same value as NOT109 Reporting State for all reporting jurisdictions except New York City.	Coded	R		Reporting Area (TB)	PHVS_ReportingArea_TB	Passed as an observation/OBX segment using this variable ID and label.	CWE	O	
INV169	Condition Code	Condition or event that constitutes the reason the notification is being sent. Must be populated in the "alternate code" component with the Arbovirus code, since the messages incoming to CDC from the state do not have an Arboviral condition code assigned.	Coded	R		Virus Type (Arboviral Disease)	PHVS_VirusType_ArboviralDisease	OBR-31 Reason for Study - *note that for HL7 this is an optional field but for Case Notification, this is a mandatory field. This row also appears on the Notification Structure tab.*	CE	R	This field should be populated using the standardized vocabulary from PHIN VADS PHVS_VirusType_ArboviralDisease Value Set Code. The data in INV169 will match the data populated for ARB001.
INV168	Local Record ID	Sending system-assigned local ID of the case investigation with which the subject is associated.	Text	R				(note that this is a Notification structural element)	EI	R	
INV173	StateID	States use this field to link NEDSS investigations back to their own state investigations.	Text	R				Observation (OBX segment) under an OBR-4 value of 'NOTF'	ST	O	
INV107	Jurisdiction Code	Identifier for the physical site from which the notification is being submitted.	Coded					Observation (OBX segment) under an OBR-4 value of 'NOTF'	CWE	O	
INV109	Case Investigation Status Code	Status of the investigation. For example, *open* or *closed*.	Coded			Case Investigation Status	PHVS_CaseInvestigationStatus_NND	Observation (OBX segment) under an OBR-4 value of 'NOTF'	CWE	O	
INV2006	Case Close Date	Date the case investigation status was marked as Closed.	Date					Observation (OBX segment) under an OBR-4 value of 'NOTF'	TS	O	

Generic Surveillance Variables								Mapping Methodology			
PHIN Variable ID	Label/Short Name	Description	Data Type	CDC Priority	May Repeat	Value Set Name	Value Set Code	Message Context	HL7 Data Type	HL7 Optionality	Implementation Notes
INV110	Investigation Date Assigned	Date the investigator was assigned to this investigation.	Date					Observation (OBX segment) under an OBR-4 value of 'NOTF'	TS	O	
INV111	Date of Report	Date the event or illness was first reported by the reporting source	Date					Observation (OBX segment) under an OBR-4 value of 'NOTF'	TS	O	
INV112	Reporting Source Type Code	Type of facility or provider associated with the source of information sent to Public Health.	Coded			Reporting Source Type	PHVS_ReportingSourceType_NND	Observation (OBX segment) under an OBR-4 value of 'NOTF'	CWE	O	
INV118	Reporting Source Zip Code	Zip Code of the reporting source for this case.	Text					Observation (OBX segment) under an OBR-4 value of 'NOTF'	ST	O	
INV120	Earliest Date Reported to County	Earliest date reported to county public health system	Date					Observation (OBX segment) under an OBR-4 value of 'NOTF'	TS	O	
INV121	Earliest Date Reported to State	Earliest date reported to state public health system	Date					Observation (OBX segment) under an OBR-4 value of 'NOTF'	TS	O	
INV128	Hospitalized	Was patient hospitalized because of this event?	Coded	O		Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	Observation (OBX segment) under an OBR-4 value of 'NOTF'	CWE	O	
INV132	Admission Date	Subject's admission date to the hospital for the condition covered by the investigation.	Date					Observation (OBX segment) under an OBR-4 value of 'NOTF'	TS	O	
INV133	Discharge Date	Subject's discharge date from the hospital for the condition covered by the investigation.	Date					Observation (OBX segment) under an OBR-4 value of 'NOTF'	TS	O	
INV134	Duration of hospital stay in days	Subject's duration of stay at the hospital for the condition covered by the investigation.	Numeric					Observation (OBX segment) under an OBR-4 value of 'NOTF'	SN	O	

	Generic Surveillance Variables							Mapping Methodology			
PHIN Variable ID	Label/Short Name	Description	Data Type	CDC Priority	May Repeat	Value Set Name	Value Set Code	Message Context	HL7 Data Type	HL7 Optionality	Implementation Notes
INV136	Diagnosis Date	Date of diagnosis of condition being reported to public health system	Date					Observation (OBX segment) under an OBR-4 value of 'NOTF'	TS	O	
INV137	OnsetDate	Date of the beginning of the illness. Reported date of the onset of symptoms of the condition being reported to the public health system.	Date	O				Observation (OBX segment) under an OBR-4 value of 'NOTF'	TS	O	
INV138	Illness End Date	Time at which the disease or condition ends.	Date					Observation (OBX segment) under an OBR-4 value of 'NOTF'	TS	O	
INV139	Illness Duration	Length of time this person had this disease or condition.	Numeric					Observation (OBX segment) under an OBR-4 value of 'NOTF'	SN	O	
INV140	Illness Duration Units	Unit of time used to describe the length of the illness or condition.	Coded			Age Unit	PHVS_AgeUnit_UCUM	uses the INV139 observation - maps to OBX-6-Units (does not use INV140 ID or label)	CE	O	
INV145	Fatality	Did the patient die from this illness or complications of this illness?	Coded	O		Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	Observation (OBX segment) under an OBR-4 value of 'NOTF'	CWE	O	
INV146	DateOfDeath	The date and time the subject's death occurred.	Date	O				Observation (OBX segment) under an OBR-4 value of 'NOTF'	TS	O	
INV147	Investigation Start Date	The date the case investigation was initiated.	Date					Observation (OBX segment) under an OBR-4 value of 'NOTF'	TS	O	
INV150	Case outbreak indicator	Denotes whether the reported case was associated with an identified outbreak.	Coded			Yes No Unknown (YNU)	Yes No Unknown (YNU)	Observation (OBX segment) under an OBR-4 value of 'NOTF'	CWE	O	
INV151	Case Outbreak Name	A state-assigned name for an indentified outbreak.	Coded					Observation (OBX segment) under an OBR-4 value of 'NOTF'	CWE	O	

Generic Surveillance Variables								Mapping Methodology			
PHIN Variable ID	Label/Short Name	Description	Data Type	CDC Priority	May Repeat	Value Set Name	Value Set Code	Message Context	HL7 Data Type	HL7 Optionality	Implementation Notes
INV152	ImportedFrom	Indication of where the disease/condition was likely acquired.	Coded	O		Disease Acquired Jurisdiction	PHVS_DiseaseAcquiredJurisdiction_NND	Observation (OBX segment) under an OBR-4 value of 'NOTF'	CWE	O	
INV153	CountryOfOrigin	If the disease or condition was imported, indicates the country in which the disease was likely acquired.	Coded	O		Country	PHVS_Country_3166-1	Observation (OBX segment) under an OBR-4 value of 'NOTF'	CWE	O	
INV154	Imported State	If the disease or condition was imported, indicates the state in which the disease was likely acquired.	Coded			State	PHVS_State_FIPS_5-2	Observation (OBX segment) under an OBR-4 value of 'NOTF'	CWE	O	
INV155	Imported City	If the disease or condition was imported, indicates the city in which the disease was likely acquired.	Coded			City	PHVS_City_USGS_GNIS	Observation (OBX segment) under an OBR-4 value of 'NOTF'	CWE	O	
INV156	Imported County	If the disease or condition was imported, contains the county of origin of the disease or condition.	Coded			County	PHVS_County_FIPS_6-4	Observation (OBX segment) under an OBR-4 value of 'NOTF'	CWE	O	
INV157	Transmission Mode	Code for the mechanism by which disease or condition was acquired by the subject of the investigation.	Coded			Case Transmission Mode	PHVS_CaseTransmissionMode_NND	Observation (OBX segment) under an OBR-4 value of 'NOTF'	CWE	O	
INV161	Confirmation Method	Code for the mechanism by which the case was classified, providing information about how the case classification status was derived. More than one confirmation method may be indicated.	Coded		Y	Case Confirmation Method	PHVS_CaseConfirmationMethod_NND	Observation (OBX segment) under an OBR-4 value of 'NOTF'	CWE	O	
INV162	Confirmation Date	If an investigation is confirmed as a case, the confirmation date is entered.	Date					Observation (OBX segment) under an OBR-4 value of 'NOTF'	TS	O	

Generic Surveillance Variables								Mapping Methodology			
PHIN Variable ID	Label/Short Name	Description	Data Type	CDC Priority	May Repeat	Value Set Name	Value Set Code	Message Context	HL7 Data Type	HL7 Optionality	Implementation Notes
INV163	CaseStatus	Status of the case/event as suspect, probable, confirmed, or "not a case" per CSTE/CDC/ surveillance case definitions.	Coded	R		Case Classification Status	PHVS_CaseClass Status_NND	Observation (OBX segment) under an OBR-4 value of 'NOTF'	CWE	O	
INV165	MMWR Week	MMWR Week for which case information is to be counted for MMWR publication.	Numeric					Observation (OBX segment) under an OBR-4 value of 'NOTF'	SN	O	MMWR Week and MMWR Year are not data elements of interest for Arboviral mapping guide. These data will be determined by the ArboNet system.
INV166	MMWR Year	MMWR Year (YYYY) for which case information is to be counted for MMWR publication.	Date					Observation (OBX segment) under an OBR-4 value of 'NOTF'	TS	O	MMWR Week and MMWR Year are not data elements of interest for Arboviral mapping guide. These data will be determined by the ArboNet system.
INV176	Date of First Report to CDC	Date the case was first reported to the CDC.	Date					Observation (OBX segment) under an OBR-4 value of 'NOTF'	TS	O	
INV177	Date First Reported PHD	Earliest date the case was reported to a public health department.	Date					Observation (OBX segment) under an OBR-4 value of 'NOTF'	TS	O	
INV178	Pregnant	Indicates whether the patient was pregnant at the time of the event.	Coded	O		Yes No Unknown (YNU)	PHVS_YesNoUnk nown_CDC	Observation (OBX segment) under an OBR-4 value of 'NOTF'	CWE	O	
INV2001	Age	Patient age at time of case investigation	Numeric	O				Observation (OBX segment) under an OBR-4 value of 'NOTF'	SN	O	

Generic Surveillance Variables								Mapping Methodology			
PHIN Variable ID	Label/Short Name	Description	Data Type	CDC Priority	May Repeat	Value Set Name	Value Set Code	Message Context	HL7 Data Type	HL7 Optionality	Implementation Notes
INV2002	AgeUnit	Patient age units at time of case investigation	Coded	O		Age Unit	PHVS_AgeUnit_UCUM	uses the INV2001 observation - maps to OBX-6-Units (does not use INV2002 ID or label)	CE	O	

4.4 ARBOVIRAL-SPECIFIC DATA ELEMENT MAPPINGS

This section provides the mapping methodology for the case/investigation content requested by the program for this specific notification.

Program-Specific Variables								Mapping Methodology			
PHIN Variable ID	Label/Short Name	Description	Data Type	CDC Priority	May Repeat	Value Set Name	Value Set Code	Message Context	HL7 Data Type	HL7 Optionality	Implementation Notes
ARB001	Arbovirus	Type of arbovirus the case was infected with.	Coded	R		Virus Type (Arboviral Disease)	PHVS_VirusType_ArboviralDisease	Observation (OBX segment) under an OBR-4 value of 'NOTF'	CWE	O	
ARB002	ClinicalSyndrome	Clinical Syndrome is the type of clinical presentation the case had.	Coded	P		Clinical Syndrome (Arbovirus)	PHVS_ClinicalSyndrome_Arbovirus	Observation (OBX segment) under an OBR-4 value of 'NOTF'	CWE	O	
ARB003	LabAcquired	Person fell ill with arboviral illness that was likely acquired due to work with infectious agents in a laboratory setting.	Coded	P		Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	Observation (OBX segment) under an OBR-4 value of 'NOTF'	CWE	O	
ARB004	NonLabAcquired	Non-Lab Occupationally Acquired. Indicates possible infection in an occupational setting that is not a laboratory.	Coded	P		Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	Observation (OBX segment) under an OBR-4 value of 'NOTF'	CWE	O	
ARB005	BloodDonor	Person who fell ill with arboviral illness and reported that they had donated blood sometime within the last 30 days prior	Coded	P		Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	Observation (OBX segment) under an OBR-4 value of 'NOTF'	CWE	O	

Program-Specific Variables								Mapping Methodology			
PHIN Variable ID	Label/Short Name	Description	Data Type	CDC Priority	May Repeat	Value Set Name	Value Set Code	Message Context	HL7 Data Type	HL7 Optionality	Implementation Notes
		to onset.									
ARB006	BloodTransfusion	Person who fell ill with arboviral illness and reported that they had received a blood transfusion sometime within the last 30 days prior to onset.	Coded	R		Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	Observation (OBX segment) under an OBR-4 value of 'NOTF'	CWE	O	
ARB007	OrganDonor	Person who fell ill with arboviral illness and reported that they had donated an organ sometime within the last 30 days prior to onset.	Coded	R		Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	Observation (OBX segment) under an OBR-4 value of 'NOTF'	CWE	O	
ARB008	OrganTransplant	Person who fell ill with arboviral illness and reported that they had received an organ transplant sometime within the last 30 days prior to onset.	Coded	R		Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	Observation (OBX segment) under an OBR-4 value of 'NOTF'	CWE	O	
ARB009	BreastFedInfant	Person who fell ill with arboviral illness and reported that they were breast feeding or breast fed prior to the illness onset.	Coded	R		Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	Observation/OBX Segment with this variable ID and label	CWE	O	
ARB010	InfectedInUtero	Infant that was born to a mother who had a WNV illness/infection during their pregnancy.	Coded	R		Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	Observation/OBX Segment with this variable ID and label	CWE	O	
ARB011	Published	Published indicator	Boolean	P		Yes No Indicator (HL7)	PHVS_YesNo_HL7_2x	Observation/OBX Segment with this variable ID and label	CWE	O	

	Program-Specific Variables							Mapping Methodology			
PHIN Variable ID	Label/Short Name	Description	Data Type	CDC Priority	May Repeat	Value Set Name	Value Set Code	Message Context	HL7 Data Type	HL7 Optionality	Implementation Notes
ARB012	AFP	Did the patient suffer Acute Flaccid Paralysis?	Coded	R		Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	Observation/OBX Segment with this variable ID and label	CWE	O	
ARB013	IdentifiedByBloodDonorScreening	Donors who have been identified as having a WNV infection through routine blood donation screening by the blood collection agency. May or may not be symptomatic.	Coded	R		Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	Observation (OBX segment) under an OBR-4 value of 'NOTF'	CWE	O	
ARB014	DateOfDonation	Date of blood donation	Date	P				Observation (OBX segment) under an OBR-4 value of 'NOTF'	TS	O	
ARB015	LabTestingBy	Information on whether the specimen was tested in public health labs or exclusively in commercial laboratories.	Coded	P		Public Private Lab	PHVS_PublicPrivateLab_NND	Observation/OBX Segment with this variable ID and label	CWE	O	
ARB016	RiskFactorDiabetes	Before your infection, did a health care provider ever tell you that you had diabetes?	Coded	P		Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	Observation/OBX Segment with this variable ID and label	CWE	O	
ARB017	RiskFactorHypertension	Before your infection, did a health care provider ever tell you that you had high blood pressure (hypertension)?	Coded	P		Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	Observation/OBX Segment with this variable ID and label	CWE	O	
ARB018	RiskFactorHeart Attack	Before your infection, did a health care provider ever tell you that you had heart attack (myocardial infarction)?	Coded	P		Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	Observation/OBX Segment with this variable ID and label	CWE	O	
ARB019	RiskFactorCoronaryArtery	Before your infection, did a health care provider ever tell you that you had angina or coronary artery disease?	Coded	P		Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	Observation/OBX Segment with this variable ID and label	CWE	O	

	Program-Specific Variables							Mapping Methodology			
PHIN Variable ID	Label/Short Name	Description	Data Type	CDC Priority	May Repeat	Value Set Name	Value Set Code	Message Context	HL7 Data Type	HL7 Optionality	Implementation Notes
ARB020	RiskFactorCHF	Before your infection, did a health care provider ever tell you that you had congestive heart failure (CHF)?	Coded	P		Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	Observation/OBX Segment with this variable ID and label	CWE	O	
ARB021	RiskFactorStroke	Before your infection, did a health care provider ever tell you that you had a stroke (CVA)?	Coded	P		Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	Observation/OBX Segment with this variable ID and label	CWE	O	
ARB022	RiskFactorCOPD	Before your infection, did a health care provider ever tell you that you had chronic obstructive pulmonary disease (COPD)?	Coded	P		Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	Observation/OBX Segment with this variable ID and label	CWE	O	
ARB023	RiskFactorLiver Disease	Before your infection, did a health care provider ever tell you that you had chronic liver disease?	Coded	P		Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	Observation/OBX Segment with this variable ID and label	CWE	O	
ARB024	RiskFactorKidneyDisease	Before your infection, did a health care provider ever tell you that you had kidney/renal disease or failure?	Coded	P		Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	Observation/OBX Segment with this variable ID and label	CWE	O	
ARB025	RiskFactorAlcoholism	History of alcoholism?	Coded	P		Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	Observation/OBX Segment with this variable ID and label	CWE	O	
ARB026	RiskFactorBoneMarrowTrans	History of bone marrow transplant	Coded	P		Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	Observation/OBX Segment with this variable ID and label	CWE	O	
ARB027	RiskFactorSolidOrganTransplant	History of solid organ transplant?	Coded	P		Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	Observation/OBX Segment with this variable ID and label	CWE	O	
ARB028	RiskFactorOrgansTransplanted	What organ was transplanted? (may be multiple organs)	Coded	P	Y	Transplant Organ	PHVS_TransplantOrgan_CDC	Observation/OBX Segment with this variable ID and label	CWE	O	

Program-Specific Variables								Mapping Methodology			
PHIN Variable ID	Label/Short Name	Description	Data Type	CDC Priority	May Repeat	Value Set Name	Value Set Code	Message Context	HL7 Data Type	HL7 Optionality	Implementation Notes
ARB029	RiskFactorOrganTransplantYear	What year was the transplant? (may be multiple years for multiple transplants)	Date	P	Y			Observation/OBX Segment with this variable ID and label	TS	O	
ARB030	RiskFactorCancer	History of cancer?	Coded	P		Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	Observation/OBX Segment with this variable ID and label	CWE	O	
ARB031	RiskFactorCancerType	If the patient reported cancer, what type(s)? (may be one or more cancer types)	Coded	P	Y	Cancer Type	PHVS_CancerType_CDC	Observation/OBX Segment with this variable ID and label	CWE	O	
ARB032	RiskFactorCancerYear	What year was cancer diagnosed? (may be multiple years)	Date	P	Y			Observation/OBX Segment with this variable ID and label	TS	O	
ARB033	RiskFactorCancerTreatment	Are you currently being treated for cancer?	Coded	P		Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	Observation/OBX Segment with this variable ID and label	CWE	O	
ARB034	RiskFactorImmuneSuppressed	At the time you were diagnosed with West Nile virus infection, were you immune suppressed?	Coded	P		Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	Observation/OBX Segment with this variable ID and label	CWE	O	
ARB035	RiskFactorImmuneCondition	If the patient reported being immune suppressed, what is the immune condition?	Coded	P		Immunosuppressed Condition	PHVS_ImmunosuppressedCondition_CDC	Observation/OBX Segment with this variable ID and label	CWE	O	
ARB036	RiskFactorChemo	At the time you were diagnosed with West Nile virus infection, were you undergoing chemotherapy?	Coded	P		Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	Observation/OBX Segment with this variable ID and label	CWE	O	
ARB037	RiskFactorOtherCancer	At the time you were diagnosed with West Nile virus infection, were you undergoing other treatments for cancer?	Coded	P		Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	Observation/OBX Segment with this variable ID and label	CWE	O	

	Program-Specific Variables							Mapping Methodology			
PHIN Variable ID	Label/Short Name	Description	Data Type	CDC Priority	May Repeat	Value Set Name	Value Set Code	Message Context	HL7 Data Type	HL7 Optionality	Implementation Notes
ARB038	RiskFactorHemodialysis	At the time you were diagnosed with West Nile virus infection, were you undergoing hemodialysis?	Coded	P		Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	Observation/OBX Segment with this variable ID and label	CWE	O	
ARB039	RiskFactorOtherKidneyTreatment	At the time you were diagnosed with West Nile virus infection, were you undergoing other treatments for kidney disease?	Coded	P		Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	Observation/OBX Segment with this variable ID and label	CWE	O	
ARB040	RiskFactorSteroids	At the time you were diagnosed with West Nile virus infection, were you receiving oral or injected steroids?	Coded	P		Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	Observation/OBX Segment with this variable ID and label	CWE	O	
ARB041	RiskFactorInsulin	At the time you were diagnosed with West Nile virus infection, were you receiving insulin or other medications to treat diabetes?	Coded	P		Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	Observation/OBX Segment with this variable ID and label	CWE	O	
ARB042	RiskFactorHypertensionMeds	At the time you were diagnosed with West Nile virus infection, were you receiving medications to treat high blood pressure?	Coded	P		Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	Observation/OBX Segment with this variable ID and label	CWE	O	
ARB043	RiskFactorCoronaryArteryMeds	At the time you were diagnosed with West Nile virus infection, were you receiving medications to treat coronary artery disease?	Coded	P		Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	Observation/OBX Segment with this variable ID and label	CWE	O	
ARB044	RiskFactorCongestiveHeartMeds	At the time you were diagnosed with West Nile virus infection, were you receiving medications to treat congestive heart failure?	Coded	P		Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	Observation/OBX Segment with this variable ID and label	CWE	O	

Program-Specific Variables								Mapping Methodology			
PHIN Variable ID	Label/Short Name	Description	Data Type	CDC Priority	May Repeat	Value Set Name	Value Set Code	Message Context	HL7 Data Type	HL7 Optionality	Implementation Notes
ARB045	RiskFactorImmuneSuppressMeds	At the time you were diagnosed with West Nile virus infection, were you receiving medications that suppress the immune system?	Coded	P		Yes No Unknown (YNU)	PHVS_YesNoUnknown_CDC	Observation/OBX Segment with this variable ID and label	CWE	O	
ARB046	RiskFactorPatient	Is the patient the source of the medical information?	Coded	P		Yes No Indicator (HL7)	PHVS_YesNo_HL7_2x	Observation/OBX Segment with this variable ID and label	CWE	O	
ARB047	RiskFactorProvider	Is the provider the source of the medical information?	Coded	P		Yes No Indicator (HL7)	PHVS_YesNo_HL7_2x	Observation/OBX Segment with this variable ID and label	CWE	O	
ARB048	RiskFactorFamily	Is the patient's family the source of the medical information?	Coded	P		Yes No Indicator (HL7)	PHVS_YesNo_HL7_2x	Observation/OBX Segment with this variable ID and label	CWE	O	
ARB049	RiskFactorMedicalRecord	Is the medical record the source of the medical information?	Coded	P		Yes No Indicator (HL7)	PHVS_YesNo_HL7_2x	Observation/OBX Segment with this variable ID and label	CWE	O	

4.5 NOTIFICATION STRUCTURE DATA ELEMENT MAPPINGS

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. Note that this tab does not describe all of the components required for a structurally valid HL7 message; see National Notification Structural Specification (profile).

Generic Surveillance Variables								Mapping Methodology			
PHIN Variable ID	Label/Short Name	Description	Data Type	CDC Priority	May Repeat	Value Set Name	Value Set Code	Message Context	HL7 Data Type	HL7 Optionality	Implementation Notes
NOT108	Notification ID	The unique identifier for the notification record.	Text	R				MSH-10-Message Control ID. No UID or label is passed in the message.	ST	R	If notification ID is not unique, a timestamp may be appended. HL7 recommended size increased to 50.
NOT114	Receiving Application	CDC's PHIN Common Data Store (CDS) is the Receiving Application for this message.	OID	R				MSH-5 Receiving Application. PHIN required/HL7 optional.	HD	R	Literal Value: 'CDC^2.16.840.1.1 14222.4.3.2.3^ISO'
NOT115	Message Profile ID	First instance is the reference to the structural specification used to validate the message. Second instance is the reference to the PHIN Message Mapping Guide from which the content is derived.	Text	R	Y/2*			MSH-21-Message Profile ID. PHIN required/HL7 optional.	EI	R	*two repeats First instance literal value: 'NND_ORU_v2.0^ PHINProfileID^2.1 6.840.1.114222.4. 10.3^ISO' Second instance literal value: 'Arbo_Case_Map_ v1.0^PHINMsgMa pID^2.16.840.1.11 4222.4.10.4^ISO'.
DEM197	Local patient ID	The local ID of the patient/entity.	Text	R				PID-3 Patient Identifier List where PID-3.1 ID Number is the local patient ID; PID-3.4 Assigning Authority format <localID&OID&ISO> Does not pass Variable ID or label.	CX	R	Only the sending system's internally assigned patient id used for these de-identified messages

Generic Surveillance Variables								Mapping Methodology			
PHIN Variable ID	Label/Short Name	Description	Data Type	CDC Priority	May Repeat	Value Set Name	Value Set Code	Message Context	HL7 Data Type	HL7 Optionality	Implementation Notes
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	Y/2*	Name Type (HL7)	PHVS_NameType _HL7_2x	PID-5 Patient Name field SECOND INSTANCE - where PID-5.7 Patient Name Type - is S for Pseudonym._HL7 reserves the first instance of the name for Legal Name.	XPN	R	Literal value: |~^^^^^^S| * first instance is empty~name type occurs on second instance
INV168	Local record ID	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.	EI	R	<same value in each OBR instance>
NOT099	Subject Type	Type of subject for the notification (person, place, or non-person living subject are the appropriate subject types for Case Notifications).	Coded	R		Notification Section Header	PHVS_Notification SectionHeader_C DC	OBR|1|: Maps to the HL7 attribute OBR-4-Universal Service ID. No UID or label is passed in the message.	CE	R	Literal Value: 'PERSUBJ^Person Subject^CDCPHIN VS'
NOT101	Notification Type	Type of notification. Notification types are "Individual Case", "Environmental", "Summary", and "Laboratory Report".	Coded	R		Notification Section Header	PHVS_Notification SectionHeader_C DC	OBR|2|: Maps to the HL7 attribute OBR-4-Universal Service ID. No UID or label is passed in the message.	CE	R	Literal Value: 'NOTF^Individual Case Notification^CDCP HINVS'
NOT103	Date First Submitted	Date the notification was first sent to CDC. This value does not change after the original notification.	Date/time	R				Maps to the HL7 attribute OBR-7-Observation Date/time. No UID or label is passed in the message.	TS	R	<same value in each OBR instance>

Generic Surveillance Variables								Mapping Methodology			
PHIN Variable ID	Label/Short Name	Description	Data Type	CDC Priority	May Repeat	Value Set Name	Value Set Code	Message Context	HL7 Data Type	HL7 Optionality	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	<same value in each OBR instance>
INV169	Condition Code	Condition or event that constitutes the reason the notification is being sent.	Coded	R		Virus Type (Arboviral Disease)	PHVS_VirusType_ ArboviralDisease	OBR-31 Reason for Study - For HL7 this is an optional field but for the Case Notification profile, this is a mandatory field	CE	R	This field should be populated using the standardized vocabulary from PHIN VADS PHVS_VirusType_ ArboviralDisease Value Set Code. The data in INV169 will match the data populated for ARB001.

4.6 ASSOCIATED LAB REPORT DATA ELEMENT MAPPINGS

Not used.

4.7 ASSOCIATED VACCINE RECORD DATA ELEMENT MAPPINGS

Not used.