V26_IG_VRDRPT_R1_D2_2016JAN

HL7 Version 2.6 Implementation Guide: Vital Records Death Reporting, Release 1 - US Realm

January 2016

HL7 DSTU Ballot 2

Sponsored by:
Public Health and Emergency Response Work Group
Orders and Observations Work Group

HL7 Version 2.6 Implementation Guide: Reporting Death Information from the EHR to Vital Records, R1.2

ADT^A04, ADT^A08, ADT^A23

HL7 Version 2.6

HL7Draft Standard for Trial Use

PHER Work Group Co-chair:	Erin Holt Tennessee Department of Health
PHER Work Group Co-chair:	Joginder Madra Gordon Point Informatics Ltd.
PHER Work Group Co-chair:	Craig Newman Northrop Grumman
PHER Work Group Co-chair:	Laura Rappleye Altarum Institute
PHER Work Group Co-chair:	John Roberts Tennessee Department of Health
Project Facilitator:	Michelle Williamson Centers for Disease Control and Prevention National Center for Health Statistics
Principal Author:	Mead Walker Mead Walker Consulting

TABLE OF CONTENTS

1. INTRODUCTION 10

1.1 Purpose 10

1.2 Audience 10

1.3 Scope 10

1.4 Conventions 10

1.4.1 Message Element Attributes 11

2. MESSAGING INFRASTRUCTURE 16

2.1 Messaging Framework 16

2.1.1 Delimiters 16

2.1.2 Null Values In Fields Vs. Components 17

2.1.3 Lengths 17

2.1.4 Snapshot processing 18

2.2 Use Of Escape Sequences In Text Fields 18

2.3 Data Types 19

2.3.1 CE – Coded Element 20

2.3.2 CWE – Coded with Exceptions 21

2.3.3 CX – Extended Composite ID with Check Digit 22

2.3.4 DR – Date/Time Range 24

2.3.5 DTM – Date/Time 24

2.3.6 EI – Entity Identifier 24

2.3.7 ERL – Error Location 25

2.3.8 FN – Family Name 26

2.3.9 FT – Formatted Text Data 26

2.3.10 HD – Hierarchic Designator 26

2.3.11 ID – Coded Value for HL7-Defined Tables 27

2.3.12 IS – Coded Value for User-Defined Tables 27

2.3.13 MSG – Message Type 27

2.3.14 NM – Numeric 28

2.3.15 PL – Person Location 28

2.3.16 PT – Processing Type 29

2.3.17 SAD – Street Address 29

2.3.18 SI – Sequence ID 30

2.3.19 ST – String Data 30

2.3.20 TX – Text Data 30
2.3.21 VID – Version Identifier 31
2.3.22 XAD – Extended Address 31
2.3.23 XCN – Extended Composite ID Number and Name for Persons 33
2.3.24 XON – Extended Composite Name and Identification Number for Organizations 34
2.3.25 XPN – Extended Person Name (XPN) 35
2.3.1 XTN – Extended Telecommunication Number 36
3. MESSAGE PROFILE – VITAL RECORDS MEDICAL DEATH REPORTING MESSAGING 38
3.1 Message Profile Use Cases 38
3.1.1 Provider Supplied Death Information Messaging 38
3.1.2 Registry Death Information Messaging 39
3.1.3 Coded Cause of Death Messaging 40
3.1.4 Coded Race/Ethnicity Messaging 41
3.2 Dynamic Interaction Model 43
3.2.1 Acknowledgement Required 43
3.2.2 No Acknowledgement 44
3.3 Interactions 45
3.4 References 46
4. MESSAGES 47
4.1 ADT^A04 47
4.2 ADT^A08 49
4.3 ADT^A23 51
4.4 ACK^A04^ACK, ACK^A08^ACK, ACK^A28^ACK 52
5. SEGMENT AND FIELD DESCRIPTIONS 54
5.1 MSH – Message Header Segment 54
5.2 SFT – Software segment 57
5.3 MSA – Acknowledgement Segment 58
5.4 ERR – Error Segment 59
5.5 EVN – Event Type segment 60
5.6 PID – Patient Identification Segment 60
5.7 PV1 – Patient Visit Segment 63
5.8 OBX – Observation/Result Segment 66
5.8.1 Death Reporting Observation Types 68
5.9 PDA – Patient Death and Autopsy Segment 74
6. CODE SYSTEMS AND VALUE SETS 76

6.1 Vocabulary Summary 77
6.2 Vocabulary References &Tables 81
6.2.1 Acknowledgement Code (HL7) 81
6.2.2 Activity Type (NCHS) 82
6.2.3 Certifier Titles (NCHS) 82
6.2.4 Certifier Types (NCHS) 83
6.2.5 City 83
6.2.6 Coding System HL7 2x (HL70396) 84
6.2.7 Contributory Tobacco Use (NCHS) 84
6.2.8 County 85
6.2.9 Country (GEC) 85
6.2.10 Death Report Observation Identifier (NCHS) 85
6.2.11 Death Reporting Event Reason (HL70062) (NCHS) 86
6.2.12 Death Reporting Event Type (HL70003) (NCHS) 87
6.2.13 Death Reporting Message Structure (NCHS) 87
6.2.14 Death Reporting Message Type (NCHS) 88
6.2.15 Death Reporting Profiles (NCHS) 88
6.2.16 Decedent Education Level 89
6.2.17 Education Level Edit Flags (NCHS) 89
6.2.18 HL7 Name Type Code (NCHS) 90
6.2.19 HL7 Table 0155 – Accept/Application Acknowledgment Conditions (Constrained from the Full HL7 Table) 90
6.2.20 HL7 Table 0203 - Identifier Type 90
6.2.21 HL7 Table 0301 - Universal ID Type 91
6.2.22 Industry 91
6.2.23 Manner of Death (NCHS) 92
6.2.24 Marital Status (HL70002) (NCHS) 92
6.2.25 Marital Status Edit Flags (NCHS) 93
6.2.26 Message Error Condition Codes (HL7) 93
6.2.27 Method of Disposition 94
6.2.28 NCHS Bridged Race (NCHS) 94
6.2.29 NCHS Ethnicity Detail (NCHS) 95
6.2.30 NCHS Ethnicity Group (NCHS) 95
6.2.31 NCHS Race (NCHS) 96
6.2.32 Observation Result Status (HL7) 96
6.2.33 Occupation (Census) 97

6.2.34 Part\Line Number (NCHS) 97
6.2.35 Pregnancy Edit Flags (NCHS) 98
6.2.36 Pregnancy Status (NCHS) 98
6.2.37 Processing Mode (HL7) 99
6.2.38 Place of Death (NCHS) 99
6.2.39 Place of Injury (NCHS) 100
6.2.40 Processing ID (HL7) 100
6.2.41 Sex (MFU) 101
6.2.42 Source Flags (NCHS) 101
6.2.43 Telecommunication Use Code (HL7) 102
6.2.44 Telecommunication Equipment Type (HL7) 102
6.2.45 Transportation Relationships (NCHS) 103
6.2.46 Value Type (Constrained from the Full HL7 Table) 103
6.2.47 Yes No Unknown 104
7. CONFORMANCE INFORMATION 105
7.1 Conformance Statements 105
7.1.1 Data Type Conformance: All Trigger Events 105
7.1.2 Segment Level 105
7.1.3 Observation Code Based Conformance Statements 106
7.2 Condition Predicates 110
7.2.1 Data type level 110
7.2.2 Message Level 112
7.2.3 Segment Level 112
7.2.4 Observation Type Level 113
8. EXAMPLE DEATH INFORMATION MESSAGES 118
8.1 Provider Death Registration (A04 ACK required) 118
8.2 Registry Death Report (A04 ACK required) 119
8.3 Coded Cause of Death Report (A04 ACK required) 120
8.4 Coded Race & Ethnicity Report (A04 ACK required) 120
8.5 Retract Provider Death Registration (A23 No ACK) 121
8.6 Acknowledge Registry Death Report (ACK) 121

INDEX OF TABLES

Table 1 Message Element Attributes 11
Table 2. Usage Conformance Testing Recommendations 14
Table 3 Delimiters 16
Table 4 Supported Data Types 19
Table 5; Coded Element (CE) 20
Table 6. Coded with Exceptions (CWE) 21
Table 7. Extended Composite ID with check digit (CX) 22
Table 8. Date/Time Range (DR) 24
Table 10. Date/Time (DTM) 24
Table 11. Entity Identifier (EI) 24
Table 12. Error Location (ERL) 25
Table 13. Family Name (FN) 26
Table 14. Formatted Text Data (FT) 26
Table 15. Hierarchic Designator (HD) 26
Table 16. Coded Value - HL7 Defined Table (ID) 27
Table 17. Coded Value - User Defined Table (IS) 27
Table 18. Message Type (MSG) 27
Table 19. Numeric (NM) 28
Table 20. Person Location (PL) 28
Table 21. Processing Type (PT) 29
Table 22. Street Address (SAD) 29
Table 23. Sequence ID (SI) 30
Table 24. String Data (ST) 30
Table 26. Text Data (TX) 30
Table 27. Version Identifier (VID) 31
Table 28. Extended Address (XAD) 31
Table 29. Extended Composite ID Number and Name (XCN) 33
Table 30. Extended Composite ID/Name Organization (XON) 34
Table 31. Extended Person Name 35
Table 32. Extended Telecommunication Number (XTN) 36
Table 33. Provider Supplied Death Reporting Use Case Details 39
Table 34. Registry Death Reporting Use Case Details 40
Table 35 Coded Cause of Death Use Case Details 41
Table 35 Coded Cause of Death Use Case Details 42
Table 34 Dynamic Definition: Transactions with ACKs 43
Table 35. Dynamic Definitions: Transactions without ACKs 44
Table 36. Death Reporting Interactions 45
Table 37. Abstract Message - ADT^A04 47
Table 38. Abstract Message - ADT^A08 49
Table 39. Abstract Message - ADT^A23 51

Table 40. Abstract Message: ACK 52
Table 41. Message Header Segment (MSH) 54
Table 42. Software Segment (SFT) 57
Table 43. Acknowledgement Segment (MSA) 58
Table 44. Error Segment (ERR) 59
Table 45. Event Type Segment (EVN) 60
Table 46. Patient Identification Segment (PID) 60
Table 47. Patient Visit Segment (PV1) 64
Table 48. Observation/Result Segment (OBX) 66
Table 49. Death Reporting Observation Types 68
Table 50. Patient Death and Autopsy Segment (PDA) 74
Table 51. Value Set/Code System Summary 77
Table 54. Decedent Education Level 89
Table 58. Acknowledgement Conditions - HL7 0155 Constrained 90
Table 59. Universal ID Type - HL70203 Constrained 90
Table 60. Universal ID Type - HL70301 Constrained 91
Table 54. Methods of Disposition 94
Table 57. Observation Value Types - HL7 0125 Constrained 103

TABLE OF FIGURES

Figure 1. Death Information Reporting 38
Figure 2 Registry Death Information Reporting 40
Figure 3. Cause of Death Code Reporting 41
Figure 3. Cause of Death Code Reporting 42
Figure 4 Death Information Reporting – Acknowledgment Required 43
Figure 5 Death Information Reporting - Without Acknowledgment 44

1.Introduction

This document is an initial effort to provide an Implementation Guide for transmitting death related information from a clinical setting to the vital statistics registry. The use case describes the transmission of the data collected using ADT messages to address a specific public health purpose. . In addition, the document provides a way for the National Center for Health Statistics to return coded death information to state registry offices, and to health care providers.

Release 2 extends the HL7 Implementation Guide for transmitting death related information from a clinical setting to the vital statistics registry. Our goal is to address the requirements for reporting death information from jurisdictional Vital Registry offices to the NCHS, and to provide additional content for the coded cause of death information reported back to the Vital Registry offices.

1.1 PURPOSE

The guide is needed in order to provide documentation of the constraints of specific implementations.

1.2 AUDIENCE

This guide is designed for use by analysts and developers who require guidance on optional and ambiguous elements of the *HL7 Version 2.6 ADT Update Patient Information* relative to its specialized use for providing death reporting related information. Users of this guide must be familiar with the details of HL7 message construction and processing. This guide is not intended to be a tutorial on that subject.

1.3 SCOPE

This specification covers the provision of death reporting data to the applicable jurisdictional Vital Reporting agency. The specification also provides the capacity for the National Center for Health Statistics to provide coded cause of death information to state and local vital reporting agencies. In addition, Release 2 includes the provision of death reporting data to NCHS by the applicable jurisdictional Vital Reporting agency

Use of Vocabulary Standards This guide calls for specific vocabulary standards for managing death reporting information.. Use of standard vocabularies is important for a number of reasons. Use of standard vocabularies allows broad distribution of healthcare information without the need for individual institutions to exchange master files for data such as test codes, result codes, etc. Each institution maps its own local vocabularies to the standard code, allowing information to be shared broadly, rather than remaining isolated as a single island of information.

This specification documents a message profile for reporting clinician sourced death information (CS Death Information Receiver profile).

The document includes three profiles:

- Electronic Health Record Death Report – a message profile for an Electronic Health Record to provide relevant death reporting information to a jurisdictional vital records registry.
- Jurisdiction Registry Death Report – a message profile for a jurisdictional vital records registry to provide relevant death reporting information to a national statistics agency
- Coded Cause of Death Report – a message profile for the national statistics agency to provide coded cause of death information to a jurisdictional registry.

1.4 CONVENTIONS

This guide adheres to the following conventions:

- The guide is constructed assuming the implementer has access to the 2.6 version of the HL7 Standard. Although some information from the standard is included in this implementation guide, much information from the standard has not been repeated here.
- The rules outlined in *HL7 2.6, Chapter 2, Section 2.B, Conformance Using Message Profiles*, were used to document the use case for, and constraints applied to, the messages described in this guide.

- Data types have been described separately from the fields that use the data types. For details regarding data type field lengths, please refer to *Section 2.1.3, Lengths*, in this document.
- No conformance information is provided for optional message elements. This includes length, usage, cardinality, value sets and descriptive information. Implementers who want to use optional message elements should refer to the HL7 Standard to determine how these optional message elements will be used.

1.4.1 Message Element Attributes

The following table describes the various attributes used by this guide to document data type attribute tables, message structure attribute tables and segment attribute tables. Not all attributes apply to all attribute tables.

Table 1 Message Element Attributes

Attribute	Definition
Seq	Sequence of the elements as numbered in the HL7 message element. The Seq. attribute applies to the data type attribute table and the segment attribute table.
Segment	Three-character code for the segment and the abstract syntax (*e.g.*, the square and curly braces). [XXX] Optional { XXX } Repeating XXX Required [{ XXX }] Optional and Repeating Note that for segment groups there is no segment code present, but the square and curly braces will still be present. The Segment attribute only applies to the Message attribute table.
Length	Maximum length of the element. Lengths are provided only for primitive data types. The length attribute apples to data type attribute tables and segment attribute tables. Lengths should be considered recommendations, not absolutes. The receiver can truncate fields, components and sub-components that are longer than the recommended length. The receiver should continue to process a message even when a field, component, or sub-component length exceeds the maximum recommended length identified in this specification. See *Section 2.1.3, Lengths* for documentation on how lengths are handled in this guide. The length attribute may contain a character indicating how the data may be truncated by a receiver. The truncation characters are defined as follows: • = Truncation not allowed • # Truncation allowed • No character indicates the truncation behavior is not defined.
DT	Data type used by this profile for HL7 element. The data type attribute applies to data type attribute tables and segment attribute tables.
Usage	Usage of the message element for this profile. Indicates whether the message element (segment, segment group, field, component, or subcomponent) is required, optional, or conditional in the corresponding message element. Usage applies to the message attribute table, data type attribute table and the segment attribute table. In this implementation guide, usage has been divided by actor. This guide documents two separate actors: • Electronic Health Record Sender

Attribute	Definition
	• Vital Records Receiver Both of these actors are considered “Normative” in this guide. See section 3.1 for additional information about the various actors documented in this guide. Legal usage values are: **R –** Required. HL7 Definition: A conforming sending application shall populate all “R” elements with a non-empty value. Conforming receiving application shall process (save/print/archive/etc.) or ignore the information conveyed by required elements. A conforming receiving application must not raise an error due to the presence of a required element, but may raise an error due to the absence of a required element. Any element designated as required in a standard HL7 message definition shall also be required in all HL7 message profiles of that standard message. **RE –** Required, but can be empty. HL7 Definition: The element may be missing from the message, but must be sent by the sending application if there is relevant data. A conforming sending application must be capable of providing all "RE" elements. If the conforming sending application knows the required values for the element, then it must send that element. If the conforming sending application does not know the required values, then that element will be omitted. Receiving applications will be expected to process (save/print/archive/etc.) or ignore data contained in the element, but must be able to successfully process the message if the element is omitted (no error message should be generated because the element is missing). **O –** Optional. HL7 Definition: This code indicates that the Usage for this element has not yet been defined. A usage of ‘Optional’ may not be used in ‘implementation’ profiles (no-optionality profiles). Conformance may not be tested on an Optional field. Narrower profiles may be defined based on this profile, and may assign any usage code to the element. Those items listed as optional within this guide are not required in order to support the functional content of the guide. In many cases, they are outside of the scope of death reporting and may be ignored by implementers. Those items which are clearly not relevant to death reporting are marked with yellow shading within the guide to clearly note that senders do not have to provide content, and that receivers do not have to process any content received within those fields. At the same time it is important to note that providing information within an optional field does not constitute an error that would lead to rejecting a message. **C –** Conditional. HL7 Definition: This usage has an associated condition predicate (See section 2.B.7.6, "Condition predicate"). **If the predicate is satisfied:** A conformant sending application must always send the element. A conformant receiving application must process or ignore data in the element. It may raise an error if the element is not present. **If the predicate is NOT satisfied:** A conformant sending application must NOT send the element. A conformant receiving application must NOT raise an error if the condition predicate is false and the element is not present, though it may raise an error if the element IS present. **CE –** Conditional, but may be empty. HL7 Definition: This usage has an associated condition predicate (See section 2.B.7.6, "Condition predicate").

Attribute	Definition
	If the predicate is satisfied: If the conforming sending application knows the required values for the element, then the application must send the element. If the conforming sending application does not know the values required for this element, then the element shall be omitted. The conforming sending application must be capable of knowing the element (when the predicate is true) for all 'CE' elements. If the element is present, the conformant receiving application shall process (display/print/archive/etc.) or ignore the values of that element. If the element is not present, the conformant receiving application shall not raise an error due to the presence or absence of the element. **If the predicate is not satisfied:** The conformant sending application shall not populate the element. The conformant receiving application may raise an application error if the element is present. **X –** Not used for this profile. HL7 Definition: For conformant sending applications, the element will not be sent. Conformant receiving applications may ignore the element if it is sent, or may raise an application error. **-** - The hyphen (-) Indicates the profile using the actor does not provide documentation of the structure containing the particular element or does not provide documentation of the particular element in the structure. For instance in a data type specification for CE, if a profile does not provide documentation of the CE data type, then each component of the data type would have a "-" for the usage for the actor associated with that profile.
Cardinality	Minimum and maximum number of times the element may appear. [0..0] Element never present. [0..1] Element may be omitted and 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 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. Cardinality applies only to message attribute tables and segment attribute tables. .
Value Set	The set of coded values to be used with the field. The value set attribute applies only to the data type attribute tables and the segment attribute tables. The value set may equate with an entire code system part of a code system, or codes drawn from multiple code systems. Note: Where a table constraint is indicated, or where HL7 Version 2.6 standards are pre-adopted, the constrained or specified HL7 table is included below the data type table.
Name	HL7 descriptor of the message element. Name applies to the message attribute table, data type attribute table and the segment attribute table.
Description/Comments	Context and usage for the element. Description/Comments applies to the message attribute table, data type attribute table and the segment attribute table.

Note: In the tables throughout this document, Yellow = This Interoperability Specification does not support the use of this item. This corresponds with the Usage code "X".

1.4.1.0 Usage Conformance Testing Recommendations

The following table provides some recommendations for testing the various usage codes described in the previous table.

Table 2. Usage Conformance Testing Recommendations

Usage	Recommendation
R – Required	Required elements must be present in a message instance with the following caveats: A required segment, which is contained within a segment group, is required only when the segment group is present in the message. For instance if the segment group is RE, then when the segment group is present, the required segments in that group must be present. A required field in a segment is required only when the segment itself is present in the message. For instance if the segment is CE (conditional or empty) and the conditional predicate is satisfied, then the segment is present in the message and the required fields must be present in the segment. A required component of a data type is required only when the field the data type is associated with is present in the message. Testing of a required element generally involves generating both a fully populated message instance as well as a minimally populated message instance. It may be necessary to generate specific test cases to handle separate segment groups, segments, etc. depending on the usage associated with these higher level elements within a message.
RE – Required, but can be empty	Since conformant senders must be able to show they can send this data, the primary mechanism for testing the RE usage would involve requiring the sender to transmit a "fully" populated message instance from their application. In this case, the expectation is that the message will be generated by the application, not handcrafted. The message would contain all data the sending application can populate in the message. This generally means the sender would be populating in their application all data elements being tested, including those that are optional in the application.
O – Optional	Conformance testing for optional elements would not normally be performed. If a particular implementation decides to use an optional element, it should create an implementation specific profile which further constrains this profile, making the optional element either required, required but may be empty, condition or conditional but may be empty, and then test the element in question based upon the assigned usage in that profile.
C – Conditional	Testing conditional elements generally means a special test case must be developed based upon the specific conditional rule or conditional predicate documented for the element.
CE – Conditional, but may be empty	Testing conditional but may be empty elements generally means a special test case must be developed based upon the specific conditional rule or conditional predicate documented for the element.
X – Not used for this profile	Testing this usage code usually involves looking at both fully populated and minimally populated messages. Note that the sending application may collect the data element in question, but it should not communicate that data element in message instances.

2. Messaging Infrastructure

2.1 MESSAGING FRAMEWORK

2.1.1 Delimiters

This profile supports the use of the normal HL7 delimiters. It is recommended, but not required, that implementers be able to send messages using the standard HL7 delimiters. Receivers must be capable of receiving any legal delimiters that are sent in a particular message instance.

This table is adopted from the *HL7 Version 2.6*, which offers information regarding best practices. Note that this implementation guide includes additional constraints and explanations for the entries.

Table 3 Delimiters

Delimiter	Required Value	Encoding Character Position	Description
Segment Terminator	<cr>	-	Terminates a segment record. This value cannot be changed by implementers. Additional Constraints and Explanation: The <cr> denotes the ASCII-013 carriage return character. There is a common misunderstanding that a linefeed character, or carriage return followed by a linefeed character, is allowed also. Neither HL7 nor this profile allows either of these two as part of the segment terminator. Only the ASCII-013 carriage return is allowed.
Field Separator	|	-	Separates two adjacent data fields within a segment. It also separates the segment ID from the first data field in each segment. Additional Constraints and Explanation: It is required that senders use ASCII-124, the vertical bar (|) character, as the field separator.
Component Separator	^	1	Separates adjacent components of data fields where allowed. Additional Constraints and Explanation: It is required that senders use ASCII-094, the caret (^) character, as the component separator.
Repetition Separator	~	2	Separates multiple occurrences of a field where allowed. Additional Constraints and Explanation: It is required that senders use ASCII-126, the tilde character (~), as the repetition separator.
Escape Character	\	3	Use the escape character with any field represented by an ST, TX or FT data type, or for use with the data (fifth) component of the ED data type. If no escape characters are used in a message, this character may be omitted. However, it must be present if subcomponents are used

Delimiter	Required Value	Encoding Character Position	Description
			in the message. Best practice is always to include this character. Additional Constraints and Explanation: It is required that senders use ASCII-091, the backslash (\) character, as the escape character.
Subcomponent Separator	&	4	Separates adjacent subcomponents of data fields where allowed. If there are no subcomponents, this character may be omitted. Best practice is always to include this character. Additional Constraints and Explanation: It is required that senders use ASCII-038, the ampersand (&) character, as the subcomponent separator.
Truncation Character	#	5	Indicates that the content of a field, component, or subcomponent has been truncated. It is required that senders use ASCII-035, the ampersand (#) character, as the truncation separator.

2.1.2 Null Values In Fields Vs. Components

In HL7, a null value for a field is indicated by paired double quotes (|""|). The null value applies to the field as a whole, not to the components/subcomponents of the field. A null field value indicates that the receiver of the message should delete the corresponding set of information from the data store. For this implementation guide, null values within components and subcomponents are meaningless. For example, |lastname^firstname^""^^^^L| would be interpreted exactly as |lastname^firstname^^^^^L|. The components and subcomponents of a data type constitute a snapshot of the data. The set of data represented by the data type is handled as a complete set; therefore, using the null value to indicate a missing component or subcomponent is unnecessary.

2.1.3 Lengths

In *HL7 Version 2.5*, HL7 assigned lengths to the components of data types, but did not standardize the lengths of the fields that use those data types. This guide pre-adopts the length rules from *HL7 Version 2.7*: Starting with v2.7, HL7 allows documentation of both a minimum and maximum length for an element.

In *HL7 Version 2.7* length is specified for primitive data types (i.e., those without components). Length is not specified for composite elements. For composite data types, the actual minimum and maximum lengths can be very difficult to determine due to the interdependencies on the component content, and the specification of actual lengths is not useful either. In general, this guide will adopt lengths from *HL7 Version 2.7*. However, where relevant, the length constraints defined within the NCHS data transmission specifications are used.

The concept of truncation is being pre-adopted from HL7 Version 2.7 as well, but only in regards to length documentation.

See section C.3.3 for additional documentation about how lengths are documented in this guide.

> *Note: In* HL7 Version 2.6, *the length of 65536 has a special meaning: For HL7, "If the maximum length needs to convey the notion of a Very Large Number, the number 65536 should be displayed to alert the user."*
> *In this implementation guide, fields or components with length 65536 should be understood as having no prescribed length. Receivers should be prepared to accept any size chunk of data carried in the field or component.*

2.1.4 Snapshot processing

HL7 distinguishes between two methods of update: the "snapshot" and the "action code/unique identifier" modes. Both modes apply to repeating segments and repeating segment groups. For repeating fields, only snapshot processing applies. For the purpose of this guide, only snapshot processing is supported for segments, segment groups and fields.

2.1.4.0 Repeating Segments

HL7 defines snapshot processing for segments as follows:

> In the "snapshot" mode, the information contained in the set of repeating segments or segment groups from the incoming message replaces the corresponding information in the receiving application. This is equivalent to a deletion of the prior information followed by the addition of the newly supplied information. In this mode, everything (all repeating segments and segment groups) must be sent with every subsequent message in the series of messages. There is no other way to indicate which ones changed and which ones did not.
> To specify "delete all of the segments in this repeating group" in the snapshot mode, send a single segment with "delete data" (indicated by a value of "") in all fields. This actively signals the receiver that there is information that needs to be deleted. If no segment were sent, this would equate to "no information." No information should not signal the receiver to take an action. There would be risk that the receiver might misinterpret the sender's intent.[1]

2.1.4.1 Repeating Fields

Snapshot processing for repeating fields requires sending a full list of repetitions for each transaction. If the intent is to delete an element, the element is left off the list. This is analogous to the snapshot mode for repeating segments and segment groups. To delete the whole list, transmit the field once with a |""| (null) in the first component.

Repetitions of fields shall not have empty repetitions followed by repetitions containing data, except where the HL7 standard clearly reserves certain repetitions for specific purposes. For instance, PID-5 Patient Name is a repeating field, the first repetition of which is reserved by HL7 for the legal name. In the case where a name is known for the patient, but is not the legal name, format the name field as follows: |~lastname^firstname^mi^^^^A|.

2.2 USE OF ESCAPE SEQUENCES IN TEXT FIELDS

Senders and receivers using this profile shall handle escape sequence processing as described in *HL7 Version 2.6, Chapter 2, Section 2.7.4 (Special Characters*). This requirement applies to the ST, TX and FT data types. Implementers shall not support escape sequences described in *Sections 2.7.2 (Escape sequences supporting multiple character sets), 2.7.3 (Highlighting), 2.7.5 (Hexadecimal), 2.7.6 (Formatted Text)* and *2.7.7 (Local)*. This restriction applies to the TX and FT data types.

[1] Taken from HL:7 2.6, Chapter 2, section 2.10.4.1.

2.3 DATA TYPES

The table documents the list of data types used within the included profiles.

Table 4 Supported Data Types

Data type	Data Type Name
CE	Coded element
CWE	Coded with Exceptions
CX	Extended Composite ID with Check Digit
DR	Date/Time Range
DTM	Date/Time
EI	Entity Identifier
ERL	Error Location
FN	Family Name
FT	Formatted Text Data
HD	Hierarchic Designator
ID	Coded Values for HL7 Tables
IS	Coded value for User-Defined Tables
MSG	Message Type
NM	Numeric
PL	Person Location
PT	Processing Type
SAD	Street Address
SI	Sequence ID
ST	String
TX	Text Data

Data type	Data Type Name
VID	Version Identifier
XAD	Extended Address
XCN	Extended Composite ID Number and Name
XON	Extended Composite Name and ID Number for Organizations
XPN	Extended Person Name
XTN	Extended telecommunications number

2.3.1 CE – Coded Element

Table 5; Coded Element (CE)

SEQ	LEN	DT	Report Sender	Report Receiver	Value Set	Component Name	Comments
1	20	ST	RE	RE		Identifier	
2	199	ST	RE	RE		Text	It is strongly recommended that text be sent to accompany any identifier. When a coded value is not known, text can still be sent, in which case no coding system should be identified.
3	20	ID	CE	CE	HL70396	Name of Coding System	Required if an identifier is provided in component 1.
4			O	O		Alternate Identifier	Not expected to be supported.
5			O	O		Alternate Text	Not expected to be supported.
6			O	O	HL70396	Name of Alternate Coding System	Not expected to be supported.

```
Example:  |625-4^Bacteria identified:Prid:Pt:Stool:Nom:Culture^LN^BAC^Bacteria Culture^99Lab|
```

2.3.2 CWE – Coded with Exceptions

Table 6. Coded with Exceptions (CWE)

SEQ	LEN	DT	Report Sender	Report Receiver	Value Set	Component Name	Comments
1	20	ST	RE	RE		Identifier	
2	199	ST	CE	CE		Text	It is strongly recommended that text be sent to accompany any identifier. When a coded value is not known, the original text attribute is used to carry the text, not the text component. If the Identifier component is empty, then this component must be empty.
3	20	ID	CE	CE	HL70396	Name of Coding System	Required if an identifier is provided in component 1. See section 6 for description of the use of coding systems in this implementation guide.
4			O	O		Alternate Identifier	Not expected to be supported.
5			O	O		Alternate Text	Not expected to be supported.
6			O	O	HL70396	Name of Alternate Coding System	Not expected to be supported.
7			O	O		Coding System Version ID	Not expected to be supported.
8			O	O		Alternate Coding System Version ID	Not expected to be supported.
9	199	ST	CE	CE		Original Text	Either original Text is used to convey the text that was the basis for coding, or when there is no code to be sent, only free text. If no identifier and alternate identifier are present, then this component is required.

Usage: The CWE data type is used where it is necessary to communicate a code, text, coding system and the version of coding system the code was drawn from. It also allows the communication of an alternate code drawn from another coding system. Many coded fields in this specification identify coding systems or value sets that must be used for the field. **When populating the CWE data types with these values, this guide does not give preference to the triplet in which the standard code should appear.** The receiver is expected to examine the coding system names in components 3 and 6 to determine if it recognizes the coding system.

The CWE data type allows communication of an early form of what has come to be called "null flavors." HL7 2.6 refers to these as CWE Statuses, where the values are drawn from HL7 Table 0353. The CWE Statuses are Not supported.in this guide.

```
Example:  |625-4^Bacteria identified:Prid:Pt:Stool:Nom:Culture^LN^ ^ ^^^ ^Bacteria identified
     from stool culture|
```

2.3.3 CX – Extended Composite ID with Check Digit

Table 7. Extended Composite ID with check digit (CX)

SEQ	LEN	DT	Report Sender	Report Receiver	Value Set	Component Name	Comments
1	15	ST	R	R		ID Number	The ID Number must uniquely identify the associated object, i.e., any object with which the field is associated. Note - despite the component being named “ID Number” this component is an ST string data type, not numeric, so the component is not limited to just numbers.
2			O	O		Check Digit	Not expected to be supported
3			O	O		Check Digit Scheme	Not expected to be supported

SEQ	LEN	DT	Report Sender	Report Receiver	Value Set	Component Name	Comments
4	227	HD	R	R		Assigning Authority	The assigning authority is a unique name for the system (or organization or agency or department) that created the data.
5	5	ID	R	R	HL70203	Identifier Type Code	The value provides indicates the type for the identifier. HL7 has provided a list of suggested values.
6			O	O		Assigning Facility	Not expected to be supported.
7			O	O		Effective Date	Not expected to be supported.
8			O	O		Expiration Date	Not expected to be supported.
9			O	O		Assigning Jurisdiction	Not expected to be supported.
10			O	O		Assigning Agency or Department	Not expected to be supported.

Usage: The CX data type is used to carry identifiers. This guide requires that all identifiers carry an identifier type in order to distinguish among the several ids passed for the decedent.

Although the Identifier Type Code component is required, it is not a part of the actual identifier. Rather, it is metadata about the identifier. The ID Number and Assigning Authority component, together, constitute the actual identifier. The reason for this requirement is to promote forward compatibility with *HL7 Version 3* identifiers, where there is no concept of identifier type codes. Although this guide does not deal directly with *Version 3* constructs, it is intended to work within the context of the HITSP Interoperability constructs, which work with both *Version 2.x* messaging and *Version 3* constructs.

```
Example:  |363636367^^^^MR|
```

2.3.4 DR – Date/Time Range

Table 8. Date/Time Range (DR)

SEQ	LEN	DT	Report Sender	Report Receiver	Value Set	Component Name	Comments
1	26	TS	R	R		Range Start Date/Time	
2	26	TS	RE	RE		Range End Date/Time	

```
Example:   |200806021328.0001-0005^200906021328.0001-0005|
```

2.3.5 DTM – Date/Time

Table 9. Date/Time (DTM)

SEQ	LEN	DT	Report Sender	Report Receiver	Value Set	Component Name	Comments
1	4..24	-	R	R		Date/Time	Format: YYYY[MM[DD[HH[MM[SS[.S[S[S[S]]]]]]]]][+/-ZZZZ]

Usage: It is strongly recommended that the time zone offset always be included in the DTM particularly if the granularity includes hours, minutes, seconds, etc. Specific fields in this implementation guide may require Date/Time to a specific level of granularity, which may require the time zone offset.

```
Example:   |200806021328.0001-0005|
```

2.3.6 EI – Entity Identifier

Table 10. Entity Identifier (EI)

SEQ	LEN	DT	Report Sender	Report Receiver	Value Set	Component Name	Comments
1	199	ST	R	R		Entity Identifier	
2	20	IS	RE	RE	Local	Namespace ID	The coding system for this component is locally managed.
3	199	ST	CE	CE		Universal ID	Must be an OID.
4	6	ID	CE	CE	HL70301	Universal ID Type	Constrained to the value "ISO.".

Usage: The EI data type is used to carry identifiers. This guide requires that all entity identifiers be accompanied by assigning authorities. This allows the exchange of unique identifiers for the associated object across organizational and enterprise boundaries, enabling broad interoperability.

In the EI data type, the Namespace ID, Universal ID and Universal ID type correspond to the HD data type identified elsewhere. These types, together, are commonly considered the assigning authority for the identifier. The Entity Identifier and Assigning Authority components, together, constitute the actual identifier.

```
Example:  |23456^EHR^2.16.840.1.113883.19.3.2.3^ISO|
```

2.3.7 ERL – Error Location

Table 11. Error Location (ERL)

SEQ	LEN	DT	Report Sender	Report Receiver	Value Set	Component Name	Comments
1	3	ST	R	R		Segment ID	The 3-character name for the segment (i.e., PID).
2	2	NM	R	R		Segment Sequence	
3	2	NM	CE	CE		Field Position	The field number with the error. Should not be populated for errors involving the entire segment. This component is required if components 4, 5 and/or 6 are populated.
4	2	NM	CE	CE		Field Repetition	The first field repetition is counted a 1. This component is required if the field identified in components 1, 2, and 3 is a repeating field.
5	2	NM	CE	CE		Component Number	This component is required if component 6 is populated.
6	2	NM	RE	RE		Sub-component Number	

```
Example:  |MSH^1^21^1^2|
```

2.3.8 FN – Family Name

Table 12. Family Name (FN)

SEQ	LEN	DT	Report Sender	Report Receiver	Value Set	Component Name	Comments
1	50	ST	R	R		Surname	
2			O	O		Own Surname Prefix	Not expected to be supported
3			O	O		Own Surname	Not expected to be supported
4			O	O		Surname Prefix From Partner/Spouse	Not expected to be supported
5			O	O		Surname From Partner/Spouse	Not expected to be supported

```
Example:   |Smith|
```

2.3.9 FT – Formatted Text Data

Table 13. Formatted Text Data (FT)

SEQ	LEN	DT	Report Sender	Report Receiver	Value Set	Component Name	Comments
	65536	-	R	R		Formatted Text Data	

Usage: The FT data type allows use of the formatting escape sequences documented in *HL7 Version 2.6, Chapter 2, Section 2.7 - Use of Escape Sequences in Text Fields*. In this document, the only allowed escape sequences are those allowed in HL7 Version 2.6, Chapter 2, Section 2.7.4 - Special Characters. These are the escape sequences for the message delimiters (i.e., |^&~\).

```
Example:   |Culture \T\ Sensitivity Report …|
```

2.3.10 HD – Hierarchic Designator

Table 14. Hierarchic Designator (HD)

SEQ	LEN	DT	Report Sender	Report Receiver	Value Set	Component Name	Comments
1	20	IS	RE	RE	Local	Namespace ID	The coding system for this component is locally managed.
2	199	ST	O	CE		Universal ID	Must be an OID.
3	6	ID	O	CE	HL70301	Universal ID Type	Constrained to the value 'ISO'.

Usage: The HD data type is used directly to identify objects such as applications or facilities. It is used also as a component of other data types, where it is typically an assigning authority for an identifier. It may be used to identify a Universal Resource Indicator (URI). Where this capability is used in this specification, that usage is described separately. Note that the HD data type has been constrained to carry an OID identifying an application, a facility, or an assigning authority.

```
Example:   |Lab^2.16.840.1.113883.19.3.1.1^ISO|
```

2.3.11 ID – Coded Value for HL7-Defined Tables

Table 15. Coded Value - HL7 Defined Table (ID)

SEQ	LEN	DT	Report Sender	Report Receiver	Value Set	Component Name	Comments
1	1..15	-	R	R		Coded Value for HL7-Defined Tables	

```
Example:   |ABC|
```

2.3.12 IS – Coded Value for User-Defined Tables

Table 16. Coded Value - User Defined Table (IS)

SEQ	LEN	DT	Report Sender	Report Receiver	Value Set	Component Name	Comments
1	20	-	R	R		Coded Value for User-Defined Tables	

```
Example:   |XYZ|
```

2.3.13 MSG – Message Type

Table 17. Message Type (MSG)

SEQ	LEN	DT	Report Sender	Report Receiver	Value Set	Component Name	Comments
1	3	ID	R	R	HL70076	Message Code	
2	3	ID	R	R	HL70003	Trigger Event	
3	7	ID	R	R	HL70354	Message Structure	

```
Example:   |ADT^A08^ADT_A08|
```

2.3.14 NM – Numeric

Table 18. Numeric (NM)

SEQ	LEN	DT	Report Sender	Report Receiver	Value Set	Component Name	Comments
1	16	-	R	R		Numeric	HL7 allows only ASCII numeric characters as well as an optional leading plus or minus sign and an option decimal point. Note that use of scientific notation for numbers is not supported by this data type.

```
Example:  |123.4|
```

2.3.15 PL – Person Location

Table 19. Person Location (PL)

SEQ	LEN	DT	Report Sender	Report Receiver	Value Set	Component Name	Comments
1			O	O		Point of Care	Not expected to be supported.
2			O	O		Room	Not expected to be supported.
3			O	O		Bed	Not expected to be supported.
4			O	O		Facility	Not expected to be supported.
5			O	O		Location Status	Not expected to be supported.
6	20	IS	RE	RE	HL70305	Person Location Type	A code to indicate the type of place where the person died.
7			O	O		Building	Not expected to be supported.
8			O	O		Floor	Not expected to be supported.
9	199	ST	RE	RE		Location Description	Can be used to either provide the name of the facility where the patient died or if the location type is “Other”, to provide more detail.
10			O	O		Comprehensive Location Identifier	Not expected to be supported.

SEQ	LEN	DT	Report Sender	Report Receiver	Value Set	Component Name	Comments
11			O	O		Assigning Authority for Location	Not expected to be supported.

Use of the PL data type in this implementation guide is optional. All fields using the data type are either optional or not supported. Specifics on what components of the PL to use in an implementation would need to be determined by the implementers.

```
Example:  |^^^^^INH^^^Good Health Hospital|
```

2.3.16 PT – Processing Type

Table 20. Processing Type (PT)

SEQ	LEN	DT	Report Sender	Report Receiver	Value Set	Component Name	Comments
1	1	ID	R	R	HL70103	Processing ID	
2	1	ID	RE	RE	HL70207	Processing Mode	

```
Example:  |P^T|
```

2.3.17 SAD – Street Address

Table 21. Street Address (SAD)

SEQ	LEN	DT	Report Sender	Report Receiver	Value Set	Component Name	Comments
1	120	ST	R	R		Street or Mailing Address	
2			O	O		Street Name	Not expected to be supported.
3			O	O		Dwelling Number	Not expected to be supported.

Usage: The SAD is used only as a component of the XAD data type.

```
Example:  |2222 Home Street|
```

2.3.18 SI – Sequence ID

Table 22. Sequence ID (SI)

SEQ	LEN	DT	Report Sender	Report Receiver	Value Set	Component Name	Comments
1	4	-	R	R		Sequence ID	Non-negative integer up to 9999. May be further constrained to limit the number of times a segment may repeat.

```
Example:  |1|
```

2.3.19 ST – String Data

Table 23. String Data (ST)

SEQ	LEN	DT	Report Sender	Report Receiver	Value Set	Component Name	Comments
1		-	R	R		String Data	

Usage: The ST data type is normally used for short text strings. No leading blanks (space characters) are permitted. Trailing blanks are permitted. In this ELR Profile, the only allowed escape sequences are those allowed in HL7 Version 2.6, Chapter 2, Section 2.7.4 - Special Characters. These are the escape sequences for the message delimiters (i.e., |^&~\).

```
Example:  |almost any test data at all|
```

2.3.20 TX – Text Data

Table 24. Text Data (TX)

SEQ	LEN	DT	Report Sender	Report Receiver	Value Set	Component Name	Comments
1		-	R	R		Text Data	

Usage: The TX data type is used to carry string data intended for display purposes. It can contain leading blanks (space characters). In this Death Reporting Profile, the only allowed escape sequences are those allowed in HL7 Version 2.6, Chapter 2, Section 2.7.4 - Special Characters. These are the escape sequences for the message delimiters (i.e., |^&~\).

```
Example:  |  leading spaces are allowed.|
```

2.3.21 VID – Version Identifier

Table 25. Version Identifier (VID)

SEQ	LEN	DT	Report Sender	Report Receiver	Value Set	Component Name	Comments
1	5	ID	R	R	HL70104	Version ID	Restricted to *2.6* in this guide. Literal value: '2.6'
2			O	O	Country Value Set	Internationalization Code	Not expected to be supported.
3			O	O	Local	International Version ID	Not expected to be supported.

```
Example:  |2.6|
```

2.3.22 XAD – Extended Address

Table 26. Extended Address (XAD)

SEQ	LEN	DT	Report Sender	Report Receiver	Value Set	Component Name	Comments
1	184	SAD	RE	RE		Street Address	
2	120	ST	RE	RE		Other Designation	Example: Suite 555
3	50	ST	RE	RE		City	
4	50	ST	RE	RE	State Value Set	State or Province	
5	12	ST	RE	RE	Postal Code Value Set	Zip or Postal Code	In the US, the zip code takes the form 99999[-9999], while the Canadian postal code takes the form A9A9A9. Rules for other countries will differ.
6	3	ID	CE	CE	Country Value Set	Country	Country code is required for addresses outside of the United States.
7			O	O		Address Type	Not expected to be supported.
8	50	ST	RE	RE		Other Geographic Designation	Used to indicate whether or not an address is within city limits. The content of the component shall be a value from the value set Yes No Unknown

SEQ	LEN	DT	Report Sender	Report Receiver	Value Set	Component Name	Comments
9	20	IS	RE	RE		County/Parish Code	Not expected to be supported.
10			O	O		Census Tract	Not expected to be supported.
11			O	O		Address Representation Code	Not expected to be supported.
12			X	X		Address Validity Range	Deprecated as of *HL7 Version 2.5*. See XAD-13 Effective Date and XAD-14 Expiration Date components.
13			O	O		Effective Date	Not expected to be supported.
14			O	O		Expiration Date	Not expected to be supported.
15			O	O		Expiration Reason	Not expected to be supported.
16			O	O		Temporary Indicator	Not expected to be supported.
17			O	O		Bad Address Indicator	Not expected to be supported.
18			O	O		Address Usage	Not expected to be supported.
19			O	O		Addressee	Not expected to be supported.
20			O	O		Comment	Not expected to be supported.
21			O	O		Preference Order	Not expected to be supported.
22			O	O		Protection Code	Not expected to be supported.
23			O	O		Address Identifier	Not expected to be supported.

```
Example:  |4444 Healthcare Drive^Suite 123^Ann Arbor^MI^99999^USA|
```

2.3.23 XCN – Extended Composite ID Number and Name for Persons

Table 27. Extended Composite ID Number and Name (XCN)

SEQ	LEN	DT	Report Sender	Report Receiver	Value Set	Component Name	Comments
1	15	ST	RE	RE		ID Number	The ID Number component combined with the Assigning Authority component (component 9) must uniquely identify the associated person. Note - despite the component being named "ID Number" this component is an ST string data type, not numeric, so the component is not limited to just numbers.
2	194	FN	RE	RE		Family Name	
3	30	ST	RE	RE		Given Name	I.e., first name.
4	30	ST	RE	RE		Second and Further Given Names or Initials Thereof	
5	20	ST	RE	RE		Suffix (e.g., JR or III)	
6	20	ST	RE	RE		Prefix (e.g., DR)	
7			X	X		Degree (e.g., MD)	Not supported. (Deprecated as of *HL7 Version 2.4*.) Use XCN-21 Professional Suffix.
8			O	O		Source Table	Not expected to be supported.
9	227	HD	CE	CE		Assigning Authority	The Assigning Authority component is used to identify the system, application, organization, etc. that assigned the ID Number in component 1. Harmonized condition predicate: Required if component 1 (ID Number) is populated.
10			O	O		Name Type Code	Not expected to be supported.
11			O	O		Identifier Check Digit	Not expected to be supported.
12			O	O		Check Digit Scheme	Not expected to be supported.
13	5	ID	CE	CE	HL70203	Identifier Type Code	Required if component 1 (ID Number) is populated.
14	227	HD	RE	RE		Assigning Facility	

SEQ	LEN	DT	Report Sender	Report Receiver	Value Set	Component Name	Comments
15			O	O		Name Representation Code	Not expected to be supported.
16			O	O		Name Context	Not expected to be supported.
17			O	O		Name Validity Range	Deprecated as of *HL7 Version 2.5*. See XCN-19 Effective Date and XCN-20 Expiration Date components.
18			O	O		Name Assembly Order	Not expected to be supported.
19			O	O		Effective Date	Not expected to be supported.
20			O	O		Expiration Date	Not expected to be supported.
21	199	ST	RE	RE		Professional Suffix	Suggest using values from HL7 table 360.
22			O	O		Assigning Jurisdiction	Not expected to be supported.
23			O	O		Assigning Agency or Department	Not expected to be supported.

```
Example:  |1234^Admit^Alan^A^III^Dr^^^&2.16.840.1.113883.19.4.6&ISO^
^^^EI^&2.16.840.1.113883.19.4.6&ISO^^^^^^^MD|
```

2.3.24 XON – Extended Composite Name and Identification Number for Organizations

Table 28. Extended Composite ID/Name Organization (XON)

SEQ	LEN	DT	Report Sender	Report Receiver	Value Set	Component Name	Comments
1	50	ST	CE	CE		Organization Name	Must be present if there is no Organization Identifier in component 10. Send it if you have it.
2			O	O		Organization Name Type Code	Not expected to be supported.
3			X	X		ID Number	(Deprecated as of *HL7 Version 2.5*.) Use XON-10 Organization Identifier.
4			O	O		Check Digit	Not expected to be supported.

SEQ	LEN	DT	Report Sender	Report Receiver	Value Set	Component Name	Comments
5			O	O		Check Digit Scheme	Not expected to be supported.
6	227	HD	CE	CE		Assigning Authority	The Assigning Authority component is used to identify the system, application, organization, etc. that assigned the ID in component 10.
7	5	ID	CE	CE	HL70203	Identifier Type Code	Required if component 10 (Organization Identifier) is populated.
8			O	O		Assigning Facility	Not expected to be supported.
9			O	O		Name Representation Code	Not expected to be supported.
10	20	ST	RE	RE		Organization Identifier	

```
Example:  |Level Seven Healthcare, Inc.^ ^^^^&2.16.840.1.113883.19.4.6&ISO^XX^^^1234|
```

2.3.25 XPN – Extended Person Name (XPN)

Table 29. Extended Person Name

SEQ	LEN	DT	Report Sender	Report Receiver	Value Set	Component Name	Comments
1	194	FN	RE	RE		Family Name	Required if component 7, name type code, is anything but “S” (Pseudo name) or “U” (unknown name).
2	30	ST	RE	RE		Given Name	I.e., first name. Required if component 7, name type code, is anything but “S” (Pseudo name) or “U” (unknown name).
3	30	ST	RE	RE		Second and Further Given Names or Initials Thereof	AKA Middle Name
4	20	ST	RE	RE		Suffix (e.g., JR or III)	
5			O	O		Prefix (e.g., DR)	Not expected to be supported.
6			O	O		Degree (e.g., MD)	Not expected to be supported.

SEQ	LEN	DT	Report Sender	Report Receiver	Value Set	Component Name	Comments
7			RE	RE	0200	Name Type Code	Used to differentiate between legal name and alias name of the decedent.
8			O	O		Name Representation Code	Not expected to be supported.
9			O	O		Name Context	Not expected to be supported.
10			X	X		Name Validity Range	Deprecated as of *HL7 Version 2.5*. See XPN-12 Effective Date and XPN-13 Expiration Date components.
11			O	O		Name Assembly Order	Not expected to be supported.
12			O	O		Effective Date	Not expected to be supported.
13			O	O		Expiration Date	Not expected to be supported.
14			O	O		Professional Suffix	Not expected to be supported.

```
Example:  |Admit^Alan^A^III^Dr^^L^^^^^^^^|
```

2.3.1 XTN – Extended Telecommunication Number

Table 30. Extended Telecommunication Number (XTN)

SEQ	LEN	DT	Report Sender	Report Receiver	Value Set	Component Name	Comments
1			X	X		Telephone Number	Deprecated as of *HL7 Version 2.3*.
2	3	ID	RE	RE	HL70201	Telecommunication Use Code	Should use 'NET' if component 4 (Email Address) is present.
3	9	ID	RE	RE	HL70202	Telecommunication Equipment Type	Should use 'Internet' if component 4 (Email Address) is present.
4	199	ST	CE	CE		Email Address	Required if component 7 (local number) is not present. Component 4 (Email Address) must be empty if component 7 (Local Number) is present.
5	3	NM	CE	CE		Country Code	This component is required or empty (RE) if component 7 (Local Number) is present otherwise it must be empty.

SEQ	LEN	DT	Report Sender	Report Receiver	Value Set	Component Name	Comments
6	5	NM	CE	CE		Area/City Code	This component is required or empty (RE) if component 7 (Local Number) is present otherwise it must be empty.
7	9	NM	CE	CE		Local Number	Required if component 4 (Email Address) is not present. Component 7 (Local Number) must be empty if component 4 (Email Address) is present.
8	5	NM	CE	CE		Extension	This component is required or empty (RE) if component 7 (Local Number) is present otherwise it must be empty.
9	199	ST	RE	RE		Any Text	For example: "Regular hours 8 am to 5 pm."
10			O	O		Extension Prefix	Not expected to be supported.
11			O	O		Speed Dial Code	Not expected to be supported.
12			O	O		Unformatted Telephone number	Not expected to be supported.
13			O	O		Effective Start Date	Not expected to be supported.
14			O	O		Expiration Date	Not expected to be supported.
15			O	O		Expiration Reason	Not expected to be supported.
16			O	O		Protection Code	Not expected to be supported.
17			O	O		Shared Telecommunication Identifier	Not expected to be supported.
18			O	O		Preference order	Not expected to be supported.

Usage: Note that component 4 (Email Address) and component 7 (Local Number) are mutually exclusive. You must populate one or the other, but not both in a single repeat of this data type.

```
Example:  |^PRN^PH^^1^555^5552003|
   |^NET^Internet^eve.everywoman@hl7.org|
```

3.Message Profile – Vital Records Medical Death Reporting Messaging

3.1 MESSAGE PROFILE USE CASES

The use case model includes four use cases. They support the flow of death information from the provider to the national statistical agency, as well as the provision of coded information back to local registries.

- Provider Supplied Death Information Messaging
- Registry Death Information Messaging
- Coded Cause of Death Messaging
- Coded Race/Ethnicity Messaging

3.1.1 Provider Supplied Death Information Messaging

The *Provider Supplied Death Information Messaging* Use Case Model has two participating actors, the Electronic Health Record Sender – the initiator of the use case - and the Jurisdictional Death Registry.

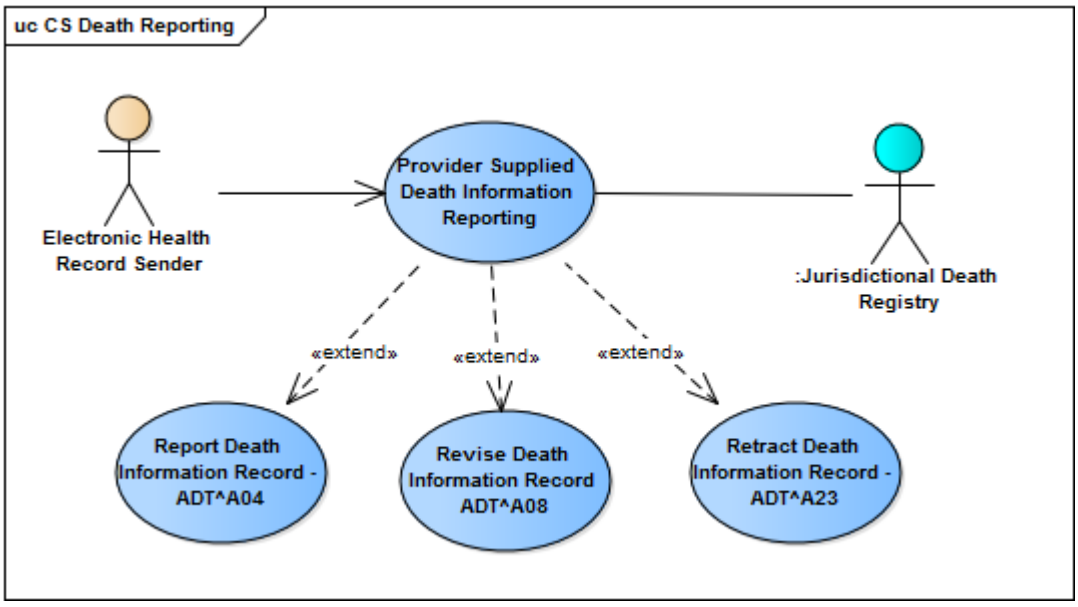


Figure 1. Death Information Reporting

Table 31. Provider Supplied Death Reporting Use Case Details

Item	Detail
Description	The *Provider Supplied Death Information Messaging Use Case* focuses on the use case describing the communication of that portion of the death record collected by clinicians to appropriate local, state, and territorial vital statistics agencies using the *HL7 2.6* Update Patient Information (ADT^A08) message. It includes optional acknowledgments of receipt of transactions. The goal of the use case is to provide safe, reliable delivery of relevant clinical information to vital records. If PHIN MS is used for transport, then use of the HL7 Acknowledgments may be unnecessary, although PHIN MS does not ensure that the payload conforms to HL7 formatting rules, it does provide safe and reliable transport. The use case does not cover the data that is reported by funeral directors. This use case is not intended to cover reporting to national public health agencies (NCHS).
Actors	Electronic Health Record Sender – The electronic health record sender actor is an application managing patient care, of recording the death of a patient, and of collecting the information needed to support filing a death certificate. Jurisdictional Death Registry – The jurisdictional death registry sender actor is an application that manages the information collected by an appropriate local, state, and territorial vital statistics agency during the process of filing a death certificate, and reporting appropriate date to the national statistical agency.
Assumptions	The following assumptions are preconditions for the use of this profile: The data requirements for clinician supplied death information for items to be completed by the medical certifier according to the Edit Specifications for the U.S. Standard Certificate of Death. The jurisdiction may have additional data requirements and edit specifications that will be addressed at the jurisdictional level.

3.1.2 Registry Death Information Messaging

The *Registry Death Information Messaging* Use Case Model has two participating actors, the Jurisdictional Death Registry – the initiator of the use case - and the National Statistics Agency.

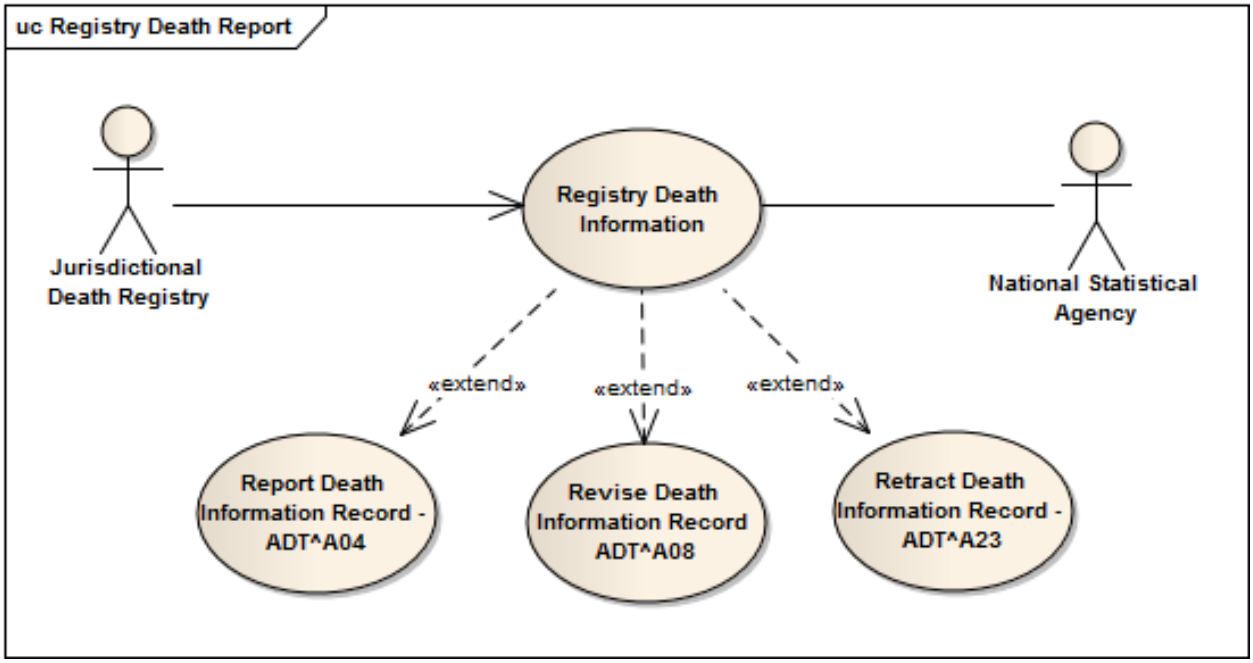


Figure 2 Registry Death Information Reporting

Table 32. Registry Death Reporting Use Case Details

Item	Detail
Description	The *Registry Death Information Use Case* focuses on the use case describing the communication of relevant death record information from appropriate local, state, and territorial vital statistics agencies to the national center using the *HL7 2.6* Update Patient Information (ADT^A08) message. It includes optional acknowledgments of receipt of transactions. The goal of the use case is to provide safe, reliable delivery of death related information to the national statistical agency. If PHIN MS is used for transport, then use of the HL7 Acknowledgments may be unnecessary, although PHIN MS does not ensure that the payload conforms to HL7 formatting rules, it does provide safe and reliable transport.
Actors	Jurisdictional Death Registry – The jurisdictional death registry sender actor is an application that manages the information collected by an appropriate local, state, and territorial vital statistics agency during the process of filing a death certificate, and reporting appropriate date to the national statistical agency. National Statistical Agency – The national statistical agency is an application capable of receiving death information, of linking information received from a clinician or electronic health record with that received from other public health reporting sources, and of recording the relevant information needed for a death certificate. It may also provide coded cause of death and other information back to the local jurisdiction.
Assumptions	The following assumptions are preconditions for the use of this profile: The data requirements for death reporting and coded cause of death are defined according to the Edit Specifications for the U.S. Standard Certificate of Death.

3.1.3 Coded Cause of Death Messaging

The *Coded Cause of Death Messaging* Use Case Model has two participating actors, the National Statistical Agency – the initiator of the use case - and the Jurisdictional Death Registry.

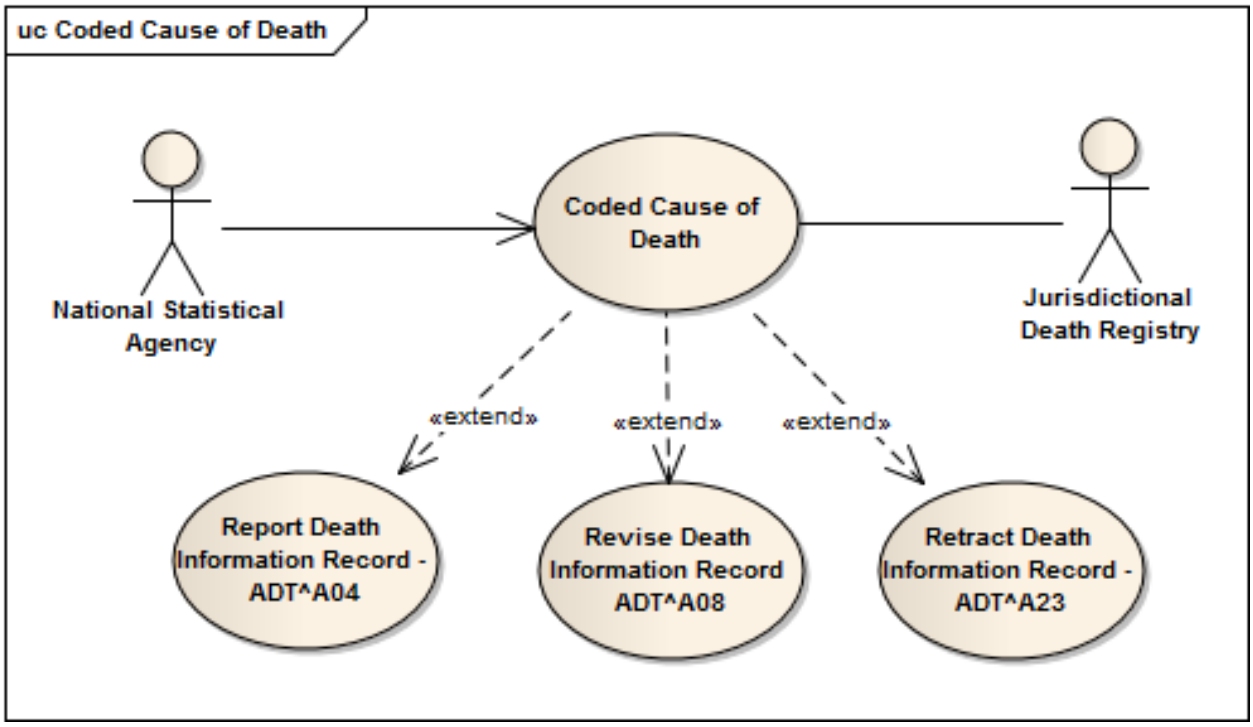


Figure 3. Cause of Death Code Reporting

Table 33 Coded Cause of Death Use Case Details

Item	Detail
Description	The *Coded Cause of Death Messaging Use Case* focuses on the use case describing the communication of coded cause of death information to appropriate local, state, and territorial vital statistics agencies using the *HL7 2.6* Update Patient Information (ADT^A08) message. It includes optional acknowledgments of receipt of transactions. The goal of the use case is to provide safe, reliable delivery of coded cause of death information to vital records. If PHIN MS is used for transport, then use of the HL7 Acknowledgments may be unnecessary, although PHIN MS does not ensure that the payload conforms to HL7 formatting rules, it does provide safe and reliable transport.
Actors	National Statistical Agency – The national statistical agency is an application capable of receiving death information, of linking information received from a clinician or electronic health record with that received from other public health reporting sources, and of recording the relevant information needed for a death certificate. It may also provide coded cause of death and other information back to the local jurisdiction. Jurisdictional Death Registry – The jurisdictional death registry sender actor is an application that manages the information collected by an appropriate local, state, and territorial vital statistics agency during the process of filing a death certificate, and reporting appropriate date to the national statistical agency.
Assumptions	The following assumptions are preconditions for the use of this profile: The processes for assigning codes to the text describing the clinician's assessment of the cause of death will provide ICD (International Classification of Disease) codes.

3.1.4 Coded Race/Ethnicity Messaging

The *Coded Race/Ethnicity Messaging* Use Case Model has two participating actors, the National Statistical Agency – the initiator of the use case - and the Jurisdictional Death Registry.

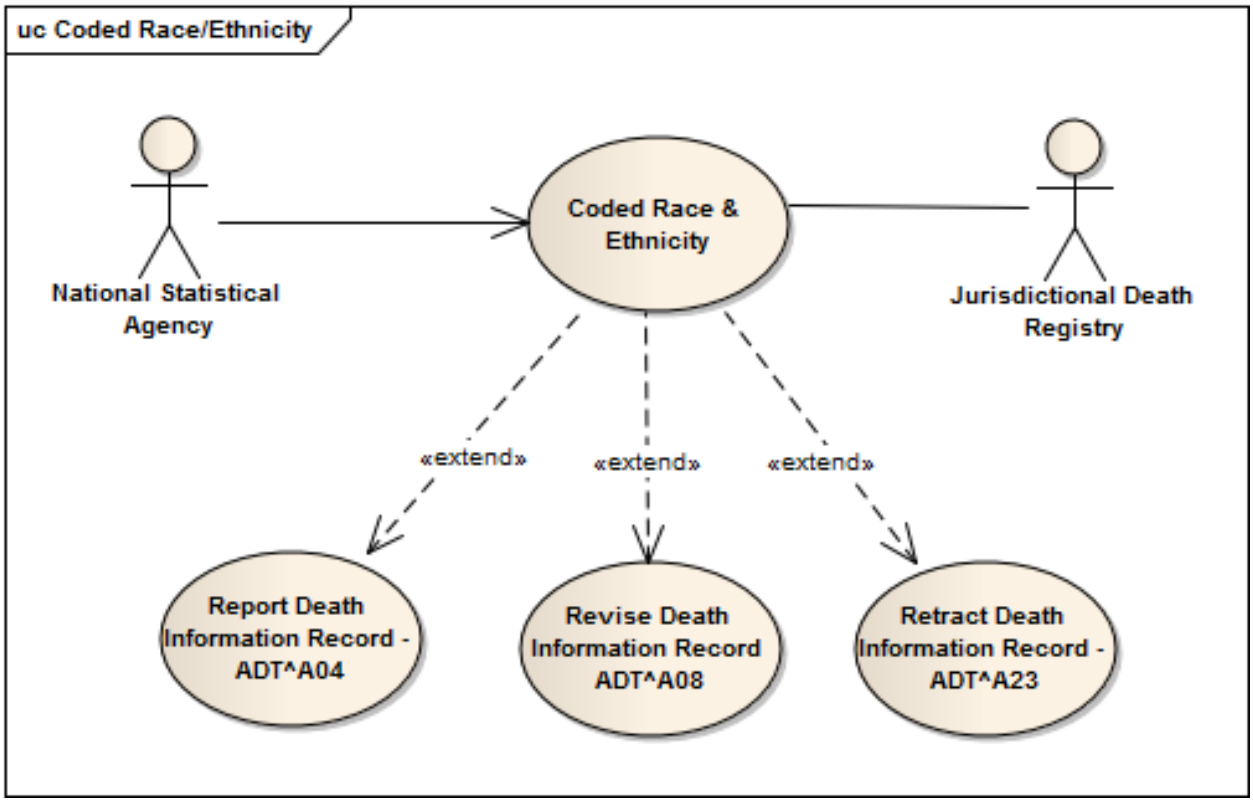


Figure 4. Cause of Death Code Reporting

Table 34 Coded Cause of Death Use Case Details

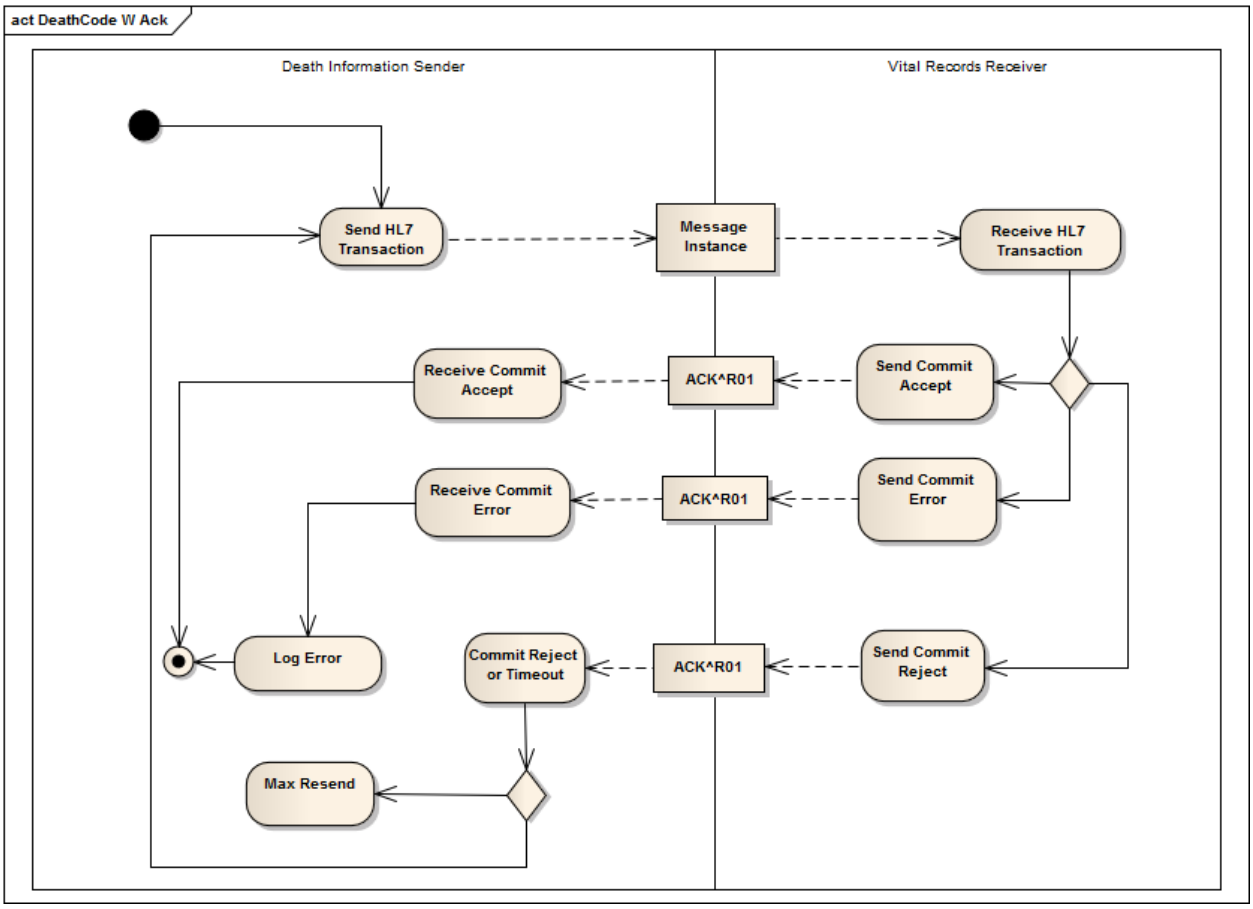
Item	Detail
Description	The *Coded Race/Ethnicity Messaging Use Case* focuses on the use case describing the communication of recoded race and ethnicity information to appropriate local, state, and territorial vital statistics agencies using the *HL7 2.6* Update Patient Information (ADT^A08) message. It includes optional acknowledgments of receipt of transactions. The goal of the use case is to provide safe, reliable delivery of coded race and ethnicity information to vital records. If PHIN MS is used for transport, then use of the HL7 Acknowledgments may be unnecessary, although PHIN MS does not ensure that the payload conforms to HL7 formatting rules, it does provide safe and reliable transport.
Actors	National Statistical Agency – The national statistical agency is an application capable of receiving death information, of linking information received from a clinician or electronic health record with that received from other public health reporting sources, and of recording the relevant information needed for a death certificate. It may also provide coded cause of death and other information back to the local jurisdiction. Jurisdictional Death Registry – The jurisdictional death registry sender actor is an application that manages the information collected by an appropriate local, state, and territorial vital statistics agency during the process of filing a death certificate, and reporting appropriate date to the national statistical agency.
Assumptions	The following assumptions are preconditions for the use of this profile: The processes for assigning codes to the text describing the clinician's assessment of the cause of death will provide ICD (International Classification of Disease) codes.

3.2 DYNAMIC INTERACTION MODEL

The dynamic definitions are provided to support cases where acknowledgments are required, and where they are not used.

3.2.1 Acknowledgement Required

Figure 5 Death Information Reporting – Acknowledgment Required



If message partners agree on the need for an acknowledgement for the message, then processing that acknowledgement needs to be managed.

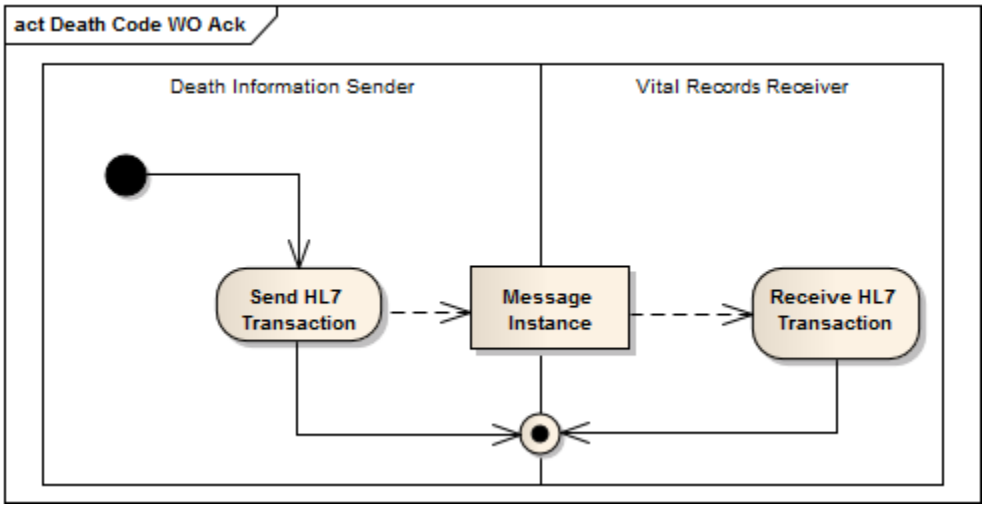
Table 35 Dynamic Definition: Transactions with ACKs

Item	Value
Profile ID	DeathReport-Ack
HL7 Version	2.6
Accept Acknowledgement	AL – Always
Application Acknowledgement	Refer to HL7 Table 0155 – Accept/Application Acknowledgment conditions in section 6.2.41 for valid values.
Acknowledgement Mode	Immediate
Profile Type	Constrainable Profile
Message Types	ADT^A04, ADT^A08, ADT^A23, ACK^R01^ACK

Encoding	ER7 (required) 2.6 XML (optional)

3.2.2 No Acknowledgement

Figure 6 Death Information Reporting - Without Acknowledgment



Messaging with requiring an application acknowledgement is considerably simpler.

Table 36. Dynamic Definitions: Transactions without ACKs

Item	Value
Profile ID	DeathReport-NoAck
HL7 Version	2.6
Accept Acknowledgement	NE – Never
Application Acknowledgement	NE – Never
Acknowledgement Mode	Immediate
Profile Type	Constrainable Profile
Message Types	ADT^A04, ADT^A08, ADT^A23
Encoding	ER7 (required) 2.6 XML (optional)

3.3 INTERACTIONS

Table 37. Death Reporting Interactions

Event	Description	Sender	Receiver	Msg. Type	Receiver Action	Sender	Data Values
Report Death Information Record	Information about a patient death is transmitted to Vital Records.	R	R	ADT^A04	Commit Accept, Commit Reject or Commit Error	Electronic Health Record Sender	MSH.9 = ADT^A04
Revise Death Information Record	A revision to information about a patient death is transmitted to Vital Records.	R	R	ADT^A08	Commit Accept, Commit Reject or Commit Error	Electronic Health Record Sender	MSH.9 = ADT^A08
Delete Death Information Record	The record based on previously sent patient death information must be deleted.	R	R	ADT^A23	Commit Accept, Commit Reject or Commit Error	Electronic Health Record Sender	MSH.9 = ADT^A23
Registry Death Information Report	Information about a patient death is transmitted to the National Statistical Agency.	R	R	ADT^A04	Commit Accept, Commit Reject or Commit Error	Jurisdictional Death Registry	MSH.9 = ADT^A04
Revise Registry Death Information Report	A revision to information about a patient death is transmitted to the National Statistical Agency.	R	R	ADT^A08	Commit Accept, Commit Reject or Commit Error	Jurisdictional Death Registry	MSH.9 = ADT^A08
Delete Registry Death Information Report	The record based on previously sent patient death information must be deleted	R	R	ADT^A23	Commit Accept, Commit Reject or Commit Error	Jurisdictional Death Registry	MSH.9 = ADT^A23
Coded Cause of Death Report	Information containing coded cause of death information is transmitted to Vital Records	R	R	ADT^A04	Commit Accept, Commit Reject or Commit Error	Cause of Death Coder	MSH.9 = ADT^A04, MSH.21 = CCDR^RDI _profile
Commit Accept	Enhanced mode: Accept acknowledgment: Commit Accept	R	O	ACK^A04/A08/A23^ACK	None	Vital Records Result Receiver	MSA-1=CA

Event	Description	Sender	Receiver	Msg. Type	Receiver Action	Sender	Data Values
Commit Error	Enhanced mode: Accept acknowledgment: Commit Error	R	O	ACK^A04/A08/A23^ACK	None	Vital Records Result Receiver	MSA-1=CE
Commit Reject	Enhanced mode: Accept acknowledgment: Commit Reject	R	O	ACK^A04/A08/A23^ACK	None	Vital Records Result Receiver	MSA-1=CR

3.4 REFERENCES

This section includes l references for the content referred to in this IG. Additional references for release 2 address the particular requirements of reporting to the national statistical agency, and of returning coded cause of death information to jurisdictional death registries.

- National Center for Health Statistics. 2003 revisions of the U.S. Standard Certificates of Live Birth and Death and the Fetal Death Report. Available from: http://www.cdc.gov/nchs/nvss/vital_certificate_revisions.htm

- National Center for Health Statistics. Death edit specifications for the 2003 revision of the U.S. Standard Certificate of Death. 2005. Available from: http://www.cdc.gov/nchs/data/dvs/FinalDeathSpecs2-22-05.pdf.

- Handbooks for Death Certificate
  - National Center for Health Statistics. 2003. Physicians' handbook on medical certification of death. Hyattsville, Maryland: National Center for Health Statistics. DHHS Pub No (PHS) 2003-1108. Available from: http://www.cdc.gov/nchs/data/misc/hb_cod.pdf
  - National Center for Health Statistics. 2003. Medical examiners' and coroners' handbook on medical certification of death. Hyattsville, Maryland: National Center for Health Statistics. DHHS Pub No (PHS) 2003-1110. Available from: http://www.cdc.gov/nchs/data/misc/hb_me.pdf
  - National Center for Health Statistics. 2004. Funeral directors' handbook on death registration and fetal death reporting. Hyattsville, Maryland: National Center for Health Statistics. DHHS Pub No (PHS) 2005-1109. Available from: http://www.cdc.gov/nchs/data/misc/hb_fun.pdf.

4.Messages

The following sections detail the structure of each message, including segment name, usage, cardinality and description. See section 1.4.1 (Message Element Attributes) for a description of the columns in the Abstract Message Syntax Tables.

4.1 ADT^A04

Within the context of this document, the ADT^A04 message is constrained for transmitting information about a person's death to Vital Records.

Table 38. Abstract Message - ADT^A04

Segment in Standard	Name	Cardinality	Report Sender Usage	Report Receiver Usage	Description
MSH	Message Header	[1..1]	R	R	The message header (MSH) segment contains information describing how to parse and process the message. This includes identification of message delimiters, sender, receiver, message type, timestamp, etc.
[{SFT}]	Software Segment	[0..*]	O	O	Each HL7 aware application that touches the message on the way to the destination application must add a SFT segment for its application. For instance, PHIN MS is not HL7 aware and would not be expected to add an SFT. On the other hand, an integration engine is HL7 aware and would be expected to add an SFT. The first repeat (i.e., the originator) is required. Any other application that transforms the message must add an SFT segment for that application. Other applications that route or act as a conduit may add an SFT but are not required to do so.
EVN	Event Type	[1..1]	R	R	The Event Type (EVN) segment is used within ADT messaging to transmit trigger event information.
PID	Patient Identification	[1..1]	R	R	The patient identification (PID) segment is used to provide basic demographics to allow identification of the person and matching of the record with information provided by the funeral director.
[PD1]	Additional Demographics	[0..1]	O	O	Not expected to be supported
[{ROL}]	Role	[0..*]	O	O	Not expected to be supported
[{NK1}]	Next of Kin/Associated Parties	[0..*]	O	O	Not expected to be supported

Segment in Standard	Name	Cardinality	Report Sender Usage	Report Receiver Usage	Description
PV1	Patient Visit	[1..1]	R	R	Required within the HL7 specification.
[PV2]	Patient Visit – Additional Information	[0..1]	O	O	Not expected to be supported
[{ROL}]	Role	[0..*]	O	O	Not expected to be supported
[{DB1}]	Disability Information	[0..*]	O	O	Not expected to be supported
{OBX}	Observation/Result	[1..*]	R	R	The Observation segment is used to provide additional relevant information.
[{AL1}]	Allergy Information	[0..*]	O	O	Not expected to be supported
[{DG1}]	Diagnosis Information	[0..*]	O	O	Not expected to be supported
[DRG]	Diagnosis Related Group	[0..1]	O	O	Not expected to be supported
[{	***Procedure Begin***	[0..*]	O	O	
PR1	Procedure	[1..1]	O	O	Not expected to be supported
[{ROL}]	Role	[0..*]	O	O	Not expected to be supported
}]	***Procedure End***				
[{GT1}]	Guarantor	[0..*]	O	O	Not expected to be supported
[{	***Insurance Begin***	[0..*]	O	O	Not expected to be supported
IN1	Insurance	[1..1]	O	O	Not expected to be supported
[IN2]	Insurance Additional Info.		O	O	Not expected to be supported
[{IN3}]	Insurance Additional Info – Cert.	[0..*]	O	O	Not expected to be supported
[{ROL}]	Role	[0..*]	O	O	Not expected to be supported
}]	***Insurance End***				
[ACC]	Accident Information	[0..1]	O	O	Not expected to be supported
[UB1]	Universal Bill Information	[0..1]	O	O	Not expected to be supported
[UB2]	Universal Bill 92 Information	[0..1]	O	O	Not expected to be supported

Segment in Standard	Name	Cardinality	Report Sender Usage	Report Receiver Usage	Description
[PDA]	Patient Death and Autopsy	[1..1]	C	C	The segment carries information on a patient's death and possible autopsy. It is required for the provider and registry death reports, but not included within the coded cause of death and coded race/ethnicity messages.

4.2 ADT^A08

Within the context of this document, the ADT^A08 message is constrained for updating previously transmitted information about a person's death to Vital Records.

Table 39. Abstract Message - ADT^A08

Segment in Standard	Name	Cardinality	Report Sender Usage	Report Receiver Usage	Description
MSH	Message Header	[1..1]	R	R	The message header (MSH) segment contains information describing how to parse and process the message. This includes identification of message delimiters, sender, receiver, message type, timestamp, etc.
[{SFT}]	Software Segment	[0..*]	RE	RE	Each HL7 aware application that touches the message on the way to the destination application must add a SFT segment for its application. For instance, PHIN MS is not HL7 aware and would not be expected to add an SFT. On the other hand, an integration engine is HL7 aware and would be expected to add an SFT. The first repeat (i.e., the originator) is required. Any other application that transforms the message must add an SFT segment for that application. Other applications that route or act as a conduit may add an SFT but are not required to do so.
EVN	Event Type	[1..1]	R	R	The Event Type (EVN) segment is used within ADT messaging to transmit trigger event information.
PID	Patient Identification	[1..1]	R	R	The patient identification (PID) segment is used to provide basic demographics to allow identification of the person and matching of the record with information provided by the funeral director.
[PD1]	Additional Demographics	[0..1]	O	O	Not expected to be supported

Segment in Standard	Name	Cardinality	Report Sender Usage	Report Receiver Usage	Description
[{ROL}]	Role	[0..*]	O	O	Not expected to be supported
[{NK1}]	Next of Kin/Associated Parties	[0..*]	O	0	Not expected to be supported
PV1	Patient Visit	[1..1]	R	R	Required within the HL7 specification.
[PV2]	Patient Visit – Additional Information	[0..1]	O	O	Not expected to be supported
[{ROL}]	Role	[0..*]	O	O	Not expected to be supported
[{DB1}]	Disability Information	[0..*]	O	0	Not expected to be supported
{OBX}	Observation/Result	[1..*]	R	R	The Observation segment is used, to provide additional relevant information.
[{AL1}]	Allergy Information	[0..*]	O	O	Not expected to be supported
[{DG1}]	Diagnosis Information	[0..*]	O	O	Not expected to be supported
[DRG]	Diagnosis Related Group	[0..1]	O	0	Not expected to be supported
[{	***Procedure Begin***	[0..*]	O	O	Not expected to be supported
PR1	Procedure	[1..1]	O	O	Not expected to be supported
[{ROL}]	Role	[0..*]	O	0	Not expected to be supported
}]	***Procedure End***				Not expected to be supported
[{GT1}]	Guarantor	[0..*]	O	O	Not expected to be supported
[{	***Insurance Begin***	[0..*]	O	O	Not expected to be supported
IN1	Insurance	[1..1]	O	0	X
[IN2]	Insurance Additional Info.	[0..1]	O	O	X
[{IN3}]	Insurance Additional Info – Cert.	[0..*]	O	O	Not expected to be supported
[{ROL}]	Role	[0..*]	O	0	Not expected to be supported
}]	***Insurance End***				Not expected to be supported
[ACC]	Accident Information	[0..1]	O	O	Not expected to be supported

Segment in Standard	Name	Cardinality	Report Sender Usage	Report Receiver Usage	Description
[UB1]	Universal Bill Information	[0..1]	O	O	Not expected to be supported
[UB2]	Universal Bill 92 Information	[0..1]	O	0	Not expected to be supported
PDA	Patient Death and Autopsy	[1..1]	C	C	The segment carries information on a patient's death and possible autopsy. It is required for the provider and registry death reports, but not included within the coded cause of death and coded race/ethnicity messages.

4.3 ADT^A23

Within the context of this document, the ADT^A23 message is constrained for transmitting information record to Vital Records about the cancellation of a previously sent death record.

Table 40. Abstract Message - ADT^A23

Segment in Standard	Name	Cardinality	Report Sender Usage	Report Receiver Usage	Description
MSH	Message Header	[1..1]	R	R	The message header (MSH) segment contains information describing how to parse and process the message. This includes identification of message delimiters, sender, receiver, message type, timestamp, etc.
[{SFT}]	Software Segment	[0..*]	RE	RE	Each HL7 aware application that touches the message on the way to the destination application must add a SFT segment for its application. For instance, PHIN MS is not HL7 aware and would not be expected to add an SFT. On the other hand, an integration engine is HL7 aware and would be expected to add an SFT. The first repeat (i.e., the originator) is required. Any other application that transforms the message must add an SFT segment for that application. Other applications that route or act as a conduit may add an SFT but are not required to do so.
EVN	Event Type	[1..1]	R	R	The Event Type (EVN) segment is used within ADT messaging to transmit trigger event information.
PID	Patient Identification	[1..1]	R	R	The patient identification (PID) segment is used to provide basic demographics to allow identification of the person and matching of the record with information provided by the funeral director.

Segment in Standard	Name	Cardinality	Report Sender Usage	Report Receiver Usage	Description
[PD1]	Additional Demographics	[0..1]	O	O	Not expected to be supported
PV1	Patient Visit	[1..1]	R	R	Required within the HL7 specification.
[PV2]	Patient Visit – Additional Information	[0..1]	O	O	Not expected to be supported
[{DB1}]	Disability Information	[0..*]	O	O	Not expected to be supported
[{OBX]}	Observation/Result	[0..*]	O	O	The Observation segment can be used, as needed in particular circumstances, to provide additional relevant information.

4.4 ACK^A04^ACK, ACK^A08^ACK, ACK^A28^ACK

The acknowledgement message could be sent in response to any of the three transactions. Since the content of the message does not change even though it responds to a different trigger event, it is only shown once.

Table 41. Abstract Message: ACK

Segment in Standard	Name	Cardinality (All)	Report Sender Usage	Report Receiver Usage	Description
MSH	Message Header	[1..1]	R	R	The message header (MSH) segment contains information describing how to parse and process the message. This includes identification of message delimiters, sender, receiver, message type, timestamp, etc.
[{SFT}]	Software Segment	[0..*]	O	O	Each HL7 aware application that touches the message on the way to the destination application must add a SFT segment for its application. For instance, PHIN MS is not HL7 aware and would not be expected to add an SFT. On the other hand, an integration engine is HL7 aware and would be expected to add an SFT. The first repeat (i.e., the originator) is required. Any other application that transforms the message must add an SFT segment for that application. Other applications that route or act as a conduit may add an SFT but are not required to do so.
MSA	Message Acknowledgment	[1..1]	R	R	

Segment in Standard	Name	Cardinality (All)	Report Sender Usage	Report Receiver Usage	Description
[{ ERR }]	Error	[0..*]	CE	CE	Required when MSA-1 is not "AA" or "CA."

5.Segment and Field Descriptions

This messaging guide provides notes for supported fields. The following format is used in this document for listing and defining message segments and fields. First, the message segment use is defined and then a segment attribute table listing all fields defined in the segment is shown. See section 1.4.1 (Message Element Attributes) for a description of the columns in the Segment Attribute Tables.

5.1 MSH – MESSAGE HEADER SEGMENT

The Message Header Segment (MSH) contains information describing how to parse and process the message. This includes identification of message delimiters, sender, receiver, message type, timestamp, etc.

Table 42. Message Header Segment (MSH)

Seq	Len	DT	Cardinality	Usage	Profile	Value Set	Element Name	Description/Comments
1	1	ST	[1..1]	R	ALL		Field Separator	Character to be used as the field separator for the rest of the message. Literal value: '|' [ASCII (124)].
2	5	ST	[1..1]	R	ALL		Encoding Characters	Five characters, always appearing in the same order: |^~\&#|. Literal value: '^~\&#'.
3	227	HD	[1..1]	R	ALL		Sending Application	Field that may be used to identify the sending application uniquely for messaging purposes. For this field only, if all three components of the HD are valued, the first component defines a member in the set defined by the second and third components. Example: |Lab1 |
4	227	HD	[1..1]	R	ALL		Sending Facility	Field that uniquely identifies the facility that sends the message. This identifies the originator of the original message. If acknowledgments are in use, this facility will receive any related acknowledgment message

Seq	Len	DT	Cardinality	Usage	Profile	Value Set	Element Name	Description/Comments
5	227	HD	[1..1]	R	ALL		Receiving Application	Field that may be used to identify the receiving application uniquely for messaging purposes. For this field only, if all three components of the HD are valued, the first component defines a member in the set defined by the second and third components. Example: |Lab1 |
6	227	HD	[1..1]	R	ALL		Receiving Facility	Field that uniquely identifies the facility that is to receive the message. This identifies the receiver of the original message. If acknowledgments are in use, this facility originates any related acknowledgment message.
7	26	DTM	[1..1]	R	ALL		Date/Time Of Message	Field containing the date/time the message was created by the sending system. Format: YYYYMMDDHHMMSS[.S[S[S[S]]]] +/-ZZZZ. Note that the time zone offset is required, and the minimum granularity is to the second, although more precise time stamps are allowed. The time zone that is specified should be considered as the default for other date/times within the message.
8	40	ST	[0..1]	RE	ALL		Security	This field can be used to implement security features.
9	15	MSG	[1..1]	R	ALL		Message Type	For the death report messages, the value will vary. It will indicate the trigger event and the abstract message type. For the acknowledgement message Literal Value: 'ACK^R01^ACK'.

Seq	Len	DT	Cardinality	Usage	Profile	Value Set	Element Name	Description/Comments
10	20	ST	[1..1]	R	ALL		Message Control ID	String that uniquely identifies the message instance from the sending application. Example formats for message control IDs include GUID, timestamp plus sequence number, OID plus sequence number or sequence number. The important point is that care must be taken to insure that the message control id is unique. The sending application (MSH-3) plus MSH-10 (message control id) needs to be globally unique.
11	3	PT	[1..1]	R	ALL		Processing ID	Field that may be used to indicate the intent for processing the message, such as "T" (training,) "D" (debug,) or "P" (production.)
12	60	VID	[1..1]	R	ALL		Version ID	HL7 version number used to interpret format and content of the message. For this message, the version ID will always be Literal Value: *2.6.*
13				O			Sequence Number	Not expected to be supported
14				O			Continuation Pointer	Not expected to be supported
15	2	ID	[1..1]	R	ALL	HL70155	Accept Acknowledgment Type	
16	2	ID	[1..1]	R	ALL	HL70155	Application Acknowledgment Type	
17	3	ID	[0..1]	O	ALL	Country Value Set	Country Code	The expected value is 'USA', and may be assumed if no value is passed in the field.
18				O			Character Set	Not expected to be supported
19	250	CE	[0..1]	O	ALL		Principal Language Of Message	The expected value is "English" , and may be assumed if no value is passed in the field.
20				O		HL70356	Alternate Character Set Handling Scheme	Not expected to be supported

Seq	Len	DT	Cardinality	Usage	Profile	Value Set	Element Name	Description/Comments
21	427	EI	[1..*]	R	ALL	Death Reporting Profiles (NCHS)	Message Profile Identifier	The field is used, to indicate a particular set of fields as supported within the context of a particular jurisdiction.
22				O			Sending Responsible Organization	Not expected to be supported
23				O			Receiving Responsible Organization	Not expected to be supported
24				O			Sending Network Address	Not expected to be supported
25				O			Receiving Network Address	Not expected to be supported

Example: MSH|^~\&|OurEHR^89898989^AppID|Good Health Hospital^5799000^HPID|STATE^14^StateAppID|VRDept|20110403091330-6||ADT^A04^ADT_A04|1223334487|P|2.6|NE|NE|USA||English||DR01.03

5.2 SFT – SOFTWARE SEGMENT

The software segment provides information about the sending application, or other applications that manipulate the message before the receiving application processes the message.

Table 43. Software Segment (SFT)

Seq	Len	DT	Cardinality	Usage	Profile	Value Set	Element Name	Description/Comments
1	567	XON	[1..1]	R	ALL		Software Vendor Organization	
2	15	ST	[1..1]	R	ALL		Software Certified Version or Release Number	
3	20	ST	[1..1]	R	ALL		Software Product Name	
4	20	ST	[1..1]	R	ALL		Software Binary ID	

Seq	Len	DT	Cardinality	Usage	Profile	Value Set	Element Name	Description/Comments
5	1024	TX	[0..1]	RE	ALL		Software Product Information	
6	26	TS	[0..1]	RE	ALL		Software Install Date	

Example:
SFT|1|Level Seven Healthcare Software, Inc.^L^^^^&2.16.840.1.113883.19.4.6^ISO^XX^^^1234|1.2|Our EHR System|56734||20080817

5.3 MSA – ACKNOWLEDGEMENT SEGMENT

The Message Response Segment (MSA) contains the information sent to acknowledge the information sent in one of the death reporting messages.

Table 44. Acknowledgement Segment (MSA)

Seq	Len	DT	Cardinality	Usage	Profile	Value Set	Element Name	Description/Comments
1	2	ID	[1..1]	R	ALL	HL70008	Acknowledgment Code	Acknowledgment code indicating receipt of message. (Refer to *HL7 Table 0008 - Acknowledgment Code* for valid values.)
2	20	ST	[1..1]	R	ALL		Message Control ID	Identifier that enables the sending system to associate this response with the message for which it is intended. This value will be the MSH.10 message control ID from the message being acknowledged.
3				X			Text Message	Deprecated as of *HL7 Version 2.4*. See ERR segment.
4	15	NM	[0..1]	O	ALL		Expected Sequence Number	
5				X			Delayed Acknowledgment Type	Deprecated as of *HL7 Version 2.2* and the detail was withdrawn and removed from the standard as of *HL7 Version 2.5*.
6				X			Error Condition	Deprecated as of *HL7 Version 2.4*. See ERR segment.
7				O			Message Waiting Number	Not expected to be supported
8				O			Message Waiting Priority	Not expected to be supported

Example:
MSA|CA|20070701132554000008

5.4 ERR – ERROR SEGMENT

The ERR segment is used to add error comments to acknowledgment messages.

Table 45. Error Segment (ERR)

Seq	Len	DT	Cardinality	Usage	Profile	Value Set	Element Name	Description/Comments
1				X			Error Code and Location	Deprecated as of *HL7 Version 2.5*. See ERR-2 Error Location and ERR-3 HL7 Error Code fields.
2	18	ERL	[0..*]	RE	ALL		Error Location	
3	705	CWE	[1..1]	R	ALL	HL70357	HL7 Error Code	Identifies the HL7 (communications) error code.
4	2	ID	[1..*]	R	ALL	HL70516	Severity	Identifies the severity of an application error. Knowing if something is Error, Warning, or Information is intrinsic to how an application handles the content.
5	705	CWE	[0..1]	RE	ALL	HL70533	Application Error Code	Note that HI7 table 0533 has no suggested values. It is always a user defined table, and will generally contain locally defined codes.
6	80	ST	[0..10]	RE	ALL		Application Error Parameter	
7	2048	TX	[0..1]	RE	ALL		Diagnostic Information	Information that may be used by help desk or other support personnel to diagnose a problem.
8	250	TX	[0..1]	RE	ALL		User Message	
9				O			Inform Person Indicator	Not expected to be supported
10				O			Override Type	Not expected to be supported
11				O			Override Reason Code	Not expected to be supported
12	652	XTN	[0..*]	RE	ALL		Help Desk Contact Point	

Example:
ERR||PV1^1|100^Segment sequence error^HL70357|E|||Missing required PV1 segment|Email help desk for further information on this error||||^NET^Internet^helpdesk@hl7.org

5.5 EVN – EVENT TYPE SEGMENT

The EVN segment is used to communicate necessary trigger event information to receiving applications.

Table 46. Event Type Segment (EVN)

Seq	Len	DT	Cardinality	Usage	Profile	Value Set	Element Name	Description/Comments
1				B			Event Type Code	Not supported, since the needed content is carried in MSH.9.
2	26	DTM	[1..1]	R	ALL		Recorded Date/Time	
3				O			Date/Time Planned Event	Not expected to be supported
4	3	IS		C	RDI	0062	Event Reason Code	Indicates whether the transmission includes valid information or not.
5				O			Operator ID	Not expected to be supported
6				O			Event Occurred	Not expected to be supported
7				O			Event Facility	Not expected to be supported

Example: EVN| |201103141705|

5.6 PID – PATIENT IDENTIFICATION SEGMENT

The Patient Identification Segment (PID includes basic demographics regarding the person who has died. For death reporting it used to match death related clinical data with the information provided by the funeral director. That is to say that the demographic data to be included on the death certificate will be provided by the funeral director. Demographic data within this message is used purely for matching purposes.

Table 47. Patient Identification Segment (PID)

Seq	Len	DT	Cardinality	Usage	Profile	Value Set	Element Name	Description/ Comments
1	4	SI	[1..1]	R	All		Set ID – PID	Literal Value: '1'.
2				X			Patient ID	Deprecated as of *HL7 Version 2.3.1*. See PID-3 Patient Identifier List.

Seq	Len	DT	Cardinality	Usage	Profile	Value Set	Element Name	Description/ Comments
3	250	CX	[1..*]	R	All		Patient Identifier List	Field used to convey all types of patient/person identifiers. It is expected that Social Security Number will be provided if it is available. . The value "99999999" should be used for persons who do not have a social security number. Also used to support identifiers for the death certificate
4				X			Alternate Patient ID – PID	Deprecated as of *HL7 Version 2.3.1*. See PID-3.
5	250	XPN	[1..1]	R	All		Patient Name	Patient name. When the name of the patient is not known, a value must still be placed in this field since the field is required. In that case, HL7 recommends the following: |~^^^^^^U|. The "U" for the name type code in the second name indicates that it is unspecified. Since there may be no name components populated, this means there is no legal name, nor is there an alias. This guide will interpret this sequence to mean there is no patient name.
6				O			Mother's Maiden Name	Not expected to be supported
7	26	DTM	[0..1]	CE	PSDI RDI		Date/Time of Birth	Patient's date of birth. The time zone component is optional. Note that the granularity of the birth date may be important. For a newborn, birth date may be known down to the minute, while for adults it may be known only to the date. Format: YYYY[MM[DD[HH[MM[SS[.S[S[S]]]]]]]][+/-ZZZZ] If the birth information is not known, leave the field empty.

Seq	Len	DT	Cardinality	Usage	Profile	Value Set	Element Name	Description/ Comments
8	1	IS	[0..1]	CE	PSDI RDI	HL70001	Administrative Sex	Patient's gender.
9				X			Patient Alias	Deprecated as of *HL7 Version 2.4*. See PID-5 Patient Name.
10	250	CWE	[0..1]	CWE	RDI	HL70005	Race	Race information for the decedent.
11	250	XAD	[0..*]	CE	PSDI RDI		Patient Address	Street address, city, state and zip code are expected.
12				X			County Code	Deprecated as of *HL7 Version 2.3*. See PID-11 - Patient Address, component 9 County/Parish Code.
13				O			Phone Number – Home	Not expected to be supported
14				O			Phone Number – Business	Not expected to be supported
15				O			Primary Language	Not expected to be supported
16	250	CWE	[0..1]	CE	RDI	HL70002	Marital Status	Marital (civil) status of the decedent.
17				O			Religion	Not expected to be supported
18				O			Patient Account Number	Not expected to be supported
19				X			SSN Number – Patient	Deprecated as of *HL7 Version 2.3.1*. See PID-3 Patient Identifier List.
20				X			Driver's License Number – Patient	Deprecated as of *HL7 Version 2.5*. See PID-3 Patient Identifier List.
21				O			Mother's Identifier	Not expected to be supported
22	250	CWE	[0..*]	CE	RDI	HL70189	Ethnic Group	Information regarding the Hispanic origin of the decedent.
23				O			Birth Place	Not expected to be supported
24				O			Multiple Birth Indicator	Not expected to be supported
25				O			Birth Order	Not expected to be supported
26				O			Citizenship	Not expected to be supported

Seq	Len	DT	Cardinality	Usage	Profile	Value Set	Element Name	Description/ Comments
27				O			Veterans Military Status	Not expected to be supported
28				X			Nationality	Deprecated as of *HL7 Version 2.4*. See PID-10 Race, PID-22 Ethnic Group, and PID-26 Citizenship.
29	26	DTM	[0..1]	R	ALL		Patient Death Date and Time	Format: YYYY[MM[DD[HH[MM[SS[.S[S[S]]]]]]]][+/-ZZZZ] At least a year must be provided, even if the date is not known with certainty.
30	1	ID	[0..1]	R	ALL	HL70136	Patient Death Indicator	The field is populated with "Y" since the patient is known to be dead.
31				O			Identity Unknown Indicator	Not expected to be supported
32				O			Identity Reliability Code	Not expected to be supported
33				O			Last Update Date/Time	Not expected to be supported
34				O			Last Update Facility	Not expected to be supported
35				O			Species Code	Not expected to be supported
36				O			Breed Code	Not expected to be supported
37				O			Strain	Not expected to be supported
38				O			Production Class Code	Not expected to be supported
39				O			Tribal Citizenship	Not expected to be supported

Example:
PID|1||222334567^^^SS ||Everyman^Adam^A| |20050602|M|||2222 Home Street^^Ann Arbor^MI^99999||1| | |||||| |||||||201103131145|Y

5.7 PV1 – PATIENT VISIT SEGMENT

The Patient Visit (PV1) is a required segment for the ADT messages. It conveys information regarding a patient visit. In this case, it is not needed. However, it is included, since required, even though none of its elements are except PV1.2 are used. That element, the required one, has a fixed value.

Table 48. Patient Visit Segment (PV1)

Seq	Len	DT	Cardinality	Usage	Profile	Value Set	Element Name	Description/ Comments
1				O			Set ID - PV1	Not expected to be supported
2	1	IS	[1..1]	R	All	0004	Patient Class	"N" – Not Applicable should be used.
3				O			Assigned Patient Location	Not expected to be supported
4				O			Admission Type	Not expected to be supported
5				O			Preadmit Number	Not expected to be supported
6				O			Prior Patient Location	Not expected to be supported
7				O			Attending Doctor	Not expected to be supported
8				O			Referring Doctor	Not expected to be supported
9				O			Consulting Doctor	Not expected to be supported
10				O			Hospital Service	Not expected to be supported
11				O			Temporary Location	Not expected to be supported
12				O			Preadmit Test Indicator	Not expected to be supported
13				O			Re-admission Indicator	Not expected to be supported
14				O			Admit Source	Not expected to be supported
15				O			Ambulatory Status	Not expected to be supported
16				O			VIP Indicator	Not expected to be supported
17				O			Admitting Doctor	Not expected to be supported
18				O			Patient Type	Not expected to be supported
19				O			Visit Number	Not expected to be supported
20				O			Financial Class	Not expected to be supported
21				O			Charge Price Indicator	Not expected to be supported
22				O			Courtesy Code	Not expected to be supported
23				O			Credit Rating	Not expected to be supported
24				O			Contract Code	Not expected to be supported
25				O			Contract Effective Date	Not expected to be supported
26				O			Contract Amount	Not expected to be supported
27				O			Contract Period	Not expected to be supported

Seq	Len	DT	Cardinality	Usage	Profile	Value Set	Element Name	Description/ Comments
28				O			Interest Code	Not expected to be supported
29				O			Transfer to Bad Debt Code	Not expected to be supported
30				O			Transfer to Bad Debt Date	Not expected to be supported
31				O			Bad Debt Agency Code	Not expected to be supported
32				O			Bad Debt Transfer Amount	Not expected to be supported
33				O			Bad Debt Recovery Amount	Not expected to be supported
34				O			Delete Account Indicator	Not expected to be supported
35				O			Delete Account Date	Not expected to be supported
36				O			Discharge Disposition	Not expected to be supported
37				O			Discharged to Location	Not expected to be supported
38				O			Diet Type	Not expected to be supported
39				O			Servicing Facility	Not expected to be supported
40				O			Bed Status	Not expected to be supported
41				O			Account Status	Not expected to be supported
42				O			Pending Location	Not expected to be supported
43				O			Prior Temporary Location	Not expected to be supported
44				O			Admit Date/Time	Not expected to be supported
45				O			Discharge Date/Time	Not expected to be supported
46				O			Current Patient Balance	Not expected to be supported
47				O			Total Charges	Not expected to be supported
48				O			Total Adjustments	Not expected to be supported
49				O			Total Payments	Not expected to be supported
50				O			Alternate Visit ID	Not expected to be supported
51				O			Visit Indicator	Not expected to be supported
52				O			Other Healthcare Provider	Not expected to be supported

Example: PV1||N|

5.8 OBX – OBSERVATION/RESULT SEGMENT

The Observation/Result Segment (OBX) contains information regarding a single observation related to the person. It will be used to convey information related to the person, or to the person's death, that is not defined within the PDA segment. A list of the observation codes that are expected to be supported is provided.

Table 49. Observation/Result Segment (OBX)

Seq	Len	DT	Cardinality	Usage	Profile	Value Set	Element Name	Description/ Comments
1	1..4	SI	[1..1]	R	All		Set ID – OBX	For the first repeat of the OBX segment, the sequence number shall be one (1), for the second repeat, the sequence number shall be two (2), etc.
2	2..3	ID	[0..1]	R	All	HL70125	Value Type	This field identifies the data type used for OBX-5.
3	250	CWE	[1..1]	R	All	Death Report Observation Identifier Value Set	Observation Identifier	Unique identifier for the type of observation. This field provides a code for the type of observation.
4	20	ST	[0..1]	CE	PSDI RDI CCOD		Observation Sub-ID	Must be valued if, and only if OBX.3 ="69453-9" or "69440-6". The element is used to identify the sequence of death causes, and to link death cause with the time interval between death and onset of the causal condition. The immediate cause of death is listed as 1. Causes leading to the immediate cause are listed sequentially in order to show the chain of events that led directly and inevitably to death. The underlying cause of death – the disease or injury that initiated the chain of events – is given the highest valued sub-id. Each cause of death observation is linked to the associated observation showing the time interval from onset to death using dot separated values, e.g., 1.1, 1.2, 2.1, 2.2, …
5		Var	[1..1]	R	All	Various, based on OBX.03	Observation Value	The content of the observation. The data type will vary depending on observation ID.

Seq	Len	DT	Cardinality	Usage	Profile	Value Set	Element Name	Description/ Comments
6	250	CWE	[0..1]	CE	All	Unified Code for Units of Measure (UCUM)	Units	UCUM® is an HL7-approved code system and shall be used for units as described in the appropriate HITSP Interoperability Specification. The UCUM unit of measure for values without a unit of measure is “1”. Harmonized Conditional statement: If the data type in OBX 2 is "NM" or "SN" and the OBX-11 observation result status is not ‘X’ then this field is required.
7				O			References Range	Not expected to be supported
8				O			Abnormal Flags	Not expected to be supported
9				O			Probability	Not expected to be supported
10				O			Nature of Abnormal Test	Not expected to be supported
11	1	ID	[1..1]	R	All	HL70085	Observation Result Status	
12				O			Effective Date of Reference Range	Not expected to be supported
13				O			User-Defined Access Checks	Not expected to be supported
14				O			Date/Time of the Observation	Not expected to be supported
15				O			Producer’s Reference	Not expected to be supported
16				O			Responsible Observer	Not expected to be supported
17				O			Observation Method	Not expected to be supported
18				O			Equipment Instance Identifier	Not expected to be supported
19				O			Date/Time of the Analysis	Not expected to be supported

Seq	Len	DT	Cardinality	Usage	Profile	Value Set	Element Name	Description/ Comments
20				O			Reserved for harmonization with *Version 2.6.*	Not expected to be supported
21				O			Reserved for harmonization with *Version 2.6.*	Not expected to be supported
22				O			Reserved for harmonization with *Version 2.6.*	Not expected to be supported
23				O			Performing Organization Name	Not expected to be supported
24				O			Performing Organization Address	Not expected to be supported
25				O			Performing Organization Medical Director	Not expected to be supported

Example: OBX|1|XAD|1|69435-6^Street address where death occurred if not facility^LN|1|4444 Healthcare Drive^Suite 123^Ann Arbor^MI^99999^USA|||||C.

5.8.1 Death Reporting Observation Types

The following table shows the set of observation types that is currently supported for death reporting. These are items that will be needed for death reporting in at least some jurisdictions. Those items listed as required are to be used in all cases, while those listed as optional are for use only where relevant.

The list of valid observation types is maintained within the PHIN VADs repository as Death Report Observation Identifer (NCHS). The value set OID is 2.16.840.1.114222.4.11.7267.

Table 50. Death Reporting Observation Types

Name	Code	Data Type	Usage	Profile	Value Set	Description/Comments
Activity at time of death	LOINC TBD	CE	C	RDI CCOD	Activity Type	A coded value that indicates the activity in which the decedent was involved at the time of death.
Age at Death	LOINC or Local	NM	C	RDO	NA	A record of the decedent's age at the time of death.

Name	Code	Data Type	Usage	Profile	Value Set	Description/Comments
Age Edit Flag	PHC1421	CE	C	RDI	Edit Flags	A coded value that indicates whether the age data originally provided passed validation checks.
Autopsy Results Available	69436-4	CE	CE	PSDI RDI	HL70136	Coded representation of a Boolean indicator (Yes/No) that tells whether an autopsy report is available for the deceased.
Birth certificate data year	LOINC or Local	DTM	C	RDI		A record of the year in which the decedent's birth report was filed.
Birth certificate ID	LOINC or Local	ST	C	RDI		A record of the state identifier assigned to the birth certificate of the decedent.
Birth Place	LOINC or Local	XAD	C	RDI	NA	Information on the place of the decedent's birth
Cause of death	LOINC TBD	ST	CE	PSDI RDI CCOD		Information to indicate one or more diseases, injuries, or complications that were implicated as a cause of the person's death. Healthcare providers and state vital registries provide this information as text using the original text component of the CWE data type. In order to comply with NCHS edit specifications, the maximum length is 120 characters. For initial submission of this information, the immediate cause of death and the underlying cause of death must be reported. Additional causes of death – up to two – may be recorded. Death causes are ordered sequentially with the immediate cause of death given the sequence number "1", and the underlying cause of death being given the highest sequence number among the set of cited causes. Each cause of death is associated with a numeric observation – Death Cause Interval – which captures the approximate interval between the onset of the death cause (condition) and death. This linkage is implemented through the use of observation sub-id.
Conversion flag	PHC1422	CE	C	CCOD	Transax Conversion Flag	A record of whether duplicate or conflicting entries were discovered during the process of assigning cause of death codes based on the recorded entries.

Name	Code	Data Type	Usage	Profile	Value Set	Description/Comments
Coroner-medical examiner case number	69452-1	ST	CE	PSDI	NA	The identifier assigned to a case by the coroner or medical examiner.
Date of death registration	LOINC or Local	DTM	C	RDI		The date on which death was registered with the jurisdictional vital records registry.
Date/time pronounced dead	LOINC or Local	DTM	C	PSDI		The date and time the decedent was pronounced dead.
Death Cause Other Significant Conditions	69441-4	ST	CE	PSDI RDI	NA	Descriptive text that provides information on a significant condition or conditions that contributed to death, but did not result in the underlying cause that is elsewhere described. In order to comply with NCHS edit specifications, the maximum length is 240 characters.
Death certifier (address)	69439-8	XAD	CE	PSDI	NA	The postal address used to locate the clinician or coroner at the time of death certification. The element is required if the death has been certified.
Death certifier (type)	69437-2	CWE	CE	PSDI	Certifier Types	A coded value that indicates the role played by the person certifying the death. E.g., coroner, physician
Death date comment	69454-7	ST	CE	PSDI	NA	This observation allows the entry of information relevant to the date/time of death in those cases where the point in time can in no way be established. Example values include "unknown", "partial", "remains". Estimates may be provided with "Approx-" placed before the date or time.
Death pronouncer details	74499-5	XCN	C	PSDI		Information about the death pronouncer (full name, state license number or provider NPI)
Did death result from injury at work	69444-8	CE	CE	PSDI RDI CCOD	HL70136	Coded representation of a Boolean indicator (Yes/No) that tells whether or not the injury occurred while the person was at work. Required if the decedent suffered an injury leading to death.
Did the death of this person involve injury of any kind	71481-6	CE	R	PSDI RDI CCOD	HL70136	Coded representation of a Boolean indicator (Yes/No) that tells whether the death resulted from an injury.

Name	Code	Data Type	Usage	Profile	Value Set	Description/Comments
Did tobacco use contribute to death	69443-0	CE	CE	PSDI RDI CCOD	Contributory Tobacco Use (NCHS)	A coded indication of the extent of the person's use of tobacco. The data is captured if tobacco use may have contributed to their death.
Disease onset to death interval	69440-6	ST	C	PSDI RDI	NA	A measure of the time interval between the onset of the disease, injury or complication, and the person's death. The data to be included will vary from statements of time intervals to text statements such as “many months”, “days”, “unknown”. Each death cause interval value is associated with a cause of death observation – Cause of Death - that identifies the condition associated with the time interval. This linkage is implemented through the use of observation sub-id.
E-code indicator	PHC1423	CE	C	CCOD	HL70136	Coded representation of a Boolean indicator (Yes/No) indicator to show whether or not a cause of death code is an e-code; that is a special diagnosis code used to report external causes of injury and poisoning.
Education edit flag	PHC1424	CE	C	RDI	Education Level Edit Flags	A coded value that indicates whether the education level data originally provided passed validation checks and potential follow=up.
Education level	LOINC or Local	CE	C	RDI	Decedent Education Level	A coded value that records the highest education level reached by the decedent.
Entity Axis Cause of Death	LOINC TBD	CE	CE	CCOD	Cause of Death (ICD10)	Cause of death codes assigned directly to the death cause text provided by the healthcare practitioner assigning cause of death.
Ethnicity post edits	PHC1425	CE	C	CREI	NCHS Ethnicity Group	A record of the ethnicity assigned to the decedent after edits that resolves reported ethnicity detail to a record of Hispanic/non-Hispanic ethnicity.
Father’s surname	LOINC or Local	ST	C	RDI		The surname of the decedent’s father.
Industry	LOINC or Local	CWE	C	RDI	Industry	A coded value that indicates the industry which served as the primary employer for the decedent.
Injury date	69445-5	DTM	C	PSDI RDI CCOD	NA	The date/time at which the injury occurred. Required if the decedent suffered an injury leading to death.

Name	Code	Data Type	Usage	Profile	Value Set	Description/Comments
Injury incident description	11374-6	TX	CE	PSDI	NA	A text description of how the injury occurred.
Injury leading to death associated with transportation event	69448-9	CE	C	PSDI RDI CCOD	HL70136	Coded representation of a Boolean indicator (Yes/No) that tells whether the injury leading to death was associated with a transportation event. Required if the decedent suffered an injury leading to death.
Injury location	11376-1	CE	C	PSDI RDI CCOD	Place of Injury	A description of the type of place where the injury occurred. Possible entries are “at home”, “farm”, “factory”, “office building”, “restaurant”. Required if the decedent suffered an injury leading to death.
Injury location Narrative	69447-1	XAD	C	PSDI	NA	The street address for the place where the injury occurred. Required if the decedent suffered an injury leading to death.
Manner of Death	69449-7	CE	CR	PSDI RDI CCOD	Manner Of Death	A coded indication of the manner in which the person died.
Marital Status Edit Flag	PHC1426	CE	C	RDI	Marital Status Edit Flags	A coded value that indicates whether the marital status data originally provided passed validation checks and potential follow=up.
Method of Disposition	LOINC or Local	CE	C	RDI	Methods of Disposition	A coded value that states the method by which the decedent’s body was disposed.
Occupation	LOINC or Local	CWE	C	RDI	Occupation (Census)	A coded value that indicates the primary occupation of the decedent
Part\line number	PHC1428	CE	C	PSDI RDI CCOD		A record of which part of the cause of death information section a death cause appeared in, and – if it was within Part 1 – which line it was in.
Pregnancy edit flag	PHC1429	CE	C	RDI CCOD	Pregnancy Edit Flags	A coded value that indicates whether the pregnancy data originally provided passed validation checks and potential follow=up. The observation only applies to female decedents.
Race post edits	PHC1430	CE	C	CREI	NCHS Bridged Race	A record of the race assigned to the decedent after records in which multiple races are recorded are assigned to a single race using an NCHS defined algorithm.
Record Axis Cause of Death	LOINC TBD	CE	CE	CCOD	Cause of Death (ICD10)	Cause of death codes assigned after removing duplicates and combining values from the entity axis set of codes.

Name	Code	Data Type	Usage	Profile	Value Set	Description/Comments
Referral Note	69438-0	FT	CE	PSDI	NA	A note that is intended to record the reason the case was forwarded to a coroner or medical examiner.
Reserved position	PHC1431 1	ST	C	CCOD		Reserved to be potentially used for NCHS "created" codes; blank for all other codes. NOTE: created codes should be converted to actual ICD-10 code if the provided cause of death code is moved to the final mortality data record
Sequence within line	PHC1427	NM	C	PSDI RDI CCOD		An indication of the sequence in which a code appears within one of the four lines used for recording death cause on the certificate.
Sex Edit Flag	PHC1432	CE	C	RDI	Edit Flags	A coded value that indicates whether the sex data originally provided passed validation checks.
Source Flag	PHC1433	CE	C	RDI	Source Flags	A coded value that states the medium by which data was originally submitted.
State/Province of birth	LOINC or Local	ST	C	RDI		A record of the state or province in which the decedent's birth report was recorded.
Street address where death occurred if not facility	69435-6	XAD	RE	PSDI RDI	NA	The mailing address for the place where the person died. This attribute is collected if the person died at a home, a health facility, or other location with a postal address.
Surgery date	LOINC or Local	DTM	C	RDI		The date of a surgery associated with the death of the decedent.
Timing of Recent Pregnancy Related to Death	69442-2	CE	C	PSDI RDI CCOD	Pregnancy Status (NCHS)	A code that provides information regarding whether or not the person was pregnant at the time of her death, or whether she was pregnant around the time of death. Required if the person is female and in the age range 5 to 75 years.
Transportation Role of Decedent	69451-3	CWE	C	PSDI	Transportation Relationships	A coded value that states, if the injury was related to transportation, the specific role played by the decedent, e.g. driver, passenger. Required if the decedent suffered an injury leading to death.
Underlying cause of death – original entry	LOINC or Local		C	CCOD	Cause of Death (ICD10)	
Underlying cause of death – recoded	LOINC or Local		C	CCOD	Cause of Death (ICD10)	

Name	Code	Data Type	Usage	Profile	Value Set	Description/Comments
Year of death for matching	LOINC or Local	DTM	C	RDI		The year of death that appears on the death certification. Used for matching with the birth certificate.

5.9 PDA – PATIENT DEATH AND AUTOPSY SEGMENT

The Patient Death and Autopsy Segment (PDA) is used to convey additional comments regarding the associated segment

Table 51. Patient Death and Autopsy Segment (PDA)

Seq	Len	DT	Cardinality	Usage	Profile	Value Set	Element Name	Description/ Comments
1				X			Death Cause Code	Not supported. The cause or causes of death are supported as observations.
2	80	PL	[1..1]	C	PSDI RDI		Death Location	This field is valued with the place the death occurred.
3				X			Death Certified Indicator	Certification of death is inferred if values have been provided for PDA.04 and PDA.05.
4	26	DTM	[0..1]	C	PSDI		Death Certificate Signed Date/Time	This field is valued with the date and time the death certificate was signed. Must be valued if PDA.9 not equal to "Y".
5	250	XCN	[0..1]	C	PSDI RDI		Death Certified By	This field is valued with the person who signed the death certificate. The full name of the certifier is required. The professional status of the certifier – the "Certifier Title" is recorded as the name prefix within the XCN data type. A value is required if the case has not been assigned to a coroner/medical examiner.
6	1	ID	[0..1]	RE	PSDI RDI	0136	Autopsy Indicator	This field indicates whether an autopsy was performed
7	53	DR	[0..1]	CE	PSDI		Autopsy Start and End Date/Time	If an autopsy is performed, this field is valued with the date and time the autopsy was begun and completed

Seq	Len	DT	Cardinality	Usage	Profile	Value Set	Element Name	Description/ Comments
8	250	XCN	[0..1]	CE	PSDI		Autopsy Performed By	This field is valued with the authority who performed the autopsy.
9	1	ID	[0..1]	RE	PSDI	0136	Coroner Indicator	This flag indicates whether the case/death has been assigned to the coroner/medical examiner for investigative purposes.

Example:
PDA||^^^^^4^^Decedent's Home||""|201101282212|^Healthprovider^John^^Dr.|N|""|""|N

6.Code Systems and Value Sets

Successful message implementation requires that transmitted messages (message instances) contain valid values for coded fields. It is important to note that code sets are relatively dynamic and subject to change between publications of these implementation guides.

Every code value passed in a message instance is drawn from a code system that has a globally unique identifier, such as an OID. In general, the coded values allowed in a field (a) may be drawn from more than one code system, and (b) may be a subset of the codes from a given coding system. Combining (a) and (b) makes it possible for the allowed code value to be a combination of multiple subsets drawn from multiple coding systems. In most cases, only a subset of the codes defined in a code system are legal for use in a particular message.

The subsets of the codes that are legal for a particular field is identified by an HL7 construct known as a "value set." A value set is a collection of coded values drawn from code systems. Value sets serve to identify the specific set of coded values for the message from the universe of coded values across all coding systems.

The segment tables in previous sections identify the value set or coding system used for each supported field containing a coded value. Fields that use the data type CWE require that messages include the code, drawn from *HL7 0396*, that uniquely defines the coding system, as well as the coded value itself. Some of these pre-coordinated value sets must be updated, or new ones created, as new needs are identified.

Value sets are identified by a unique identifier also, but this identifier is not transmitted in the message. The identifier or code for the coding system from which the value is derived is sent in the message. However, the value set identifier is useful and important when vocabulary items are modified or replaced.

Vocabulary Distribution

PHIN Vocabulary Access and Distribution System (VADS) is a web-based enterprise vocabulary system that allows implementers to browse, search, and download the value sets associated with the HL7 messaging implementation guide. PHIN VADS is based upon Whitehouse E-Gov Consolidated Health Informatics (CHI) domain recommendations and its main purpose is to distribute the vocabulary subsets that are needed for public health. PHIN VADS has the capability to host multiple versions of value sets and implementation guide vocabulary.

PHIN VADS provides vocabulary metadata that are needed for HL7 messaging or CDA implementation. The latest version of any value set referenced in this implementation guide can be obtained from the CDC PHIN VADS [http://phinvads.cdc.gov].

Vocabulary Distribution

PHIN Vocabulary Access and Distribution System (VADS) is a web-based enterprise vocabulary system that allows implementers to browse, search, and download the value sets associated with the HL7 messaging implementation guide. PHIN VADS is based upon Whitehouse E-Gov Consolidated Health Informatics (CHI) domain recommendations and its main purpose is to distribute the vocabulary subsets that are needed for public health. PHIN VADS has the capability to host multiple versions of value sets and implementation guide vocabulary.

PHIN VADS provides vocabulary metadata that are needed for HL7 messaging or CDA implementation. The latest version of any value set referenced in this implementation guide can be obtained from the CDC PHIN VADS [http://phinvads.cdc.gov].

6.1 VOCABULARY SUMMARY

The section shows the various value sets/code systems used in this implementation guide. It also provides information about the source of the vocabulary and an identifier for the vocabulary. The name found in the Value Set/Code System Name column corresponds with the value set identified in the Value Set column of the data type and segment attribute tables found above.

Table 52. Value Set/Code System Summary

Value Set Name	Value Set OID	Code System Identifier	Description
Accept Application Acknowledgment Conditions (HL70155)	2.16.840.1.114222.4.11.3344	2.16.840.1.113883.12.155	Accept/application acknowledgment condition
Acknowledgment Code (HL70008)	2.16.840.1.114222.4.11.958	2.16.840.1.113883.12.8	Acknowledgment code Available from PHIN VADS as PHVS_AcknowledgmentCode_HL7_2x
Activity Type	2.16.840.1.114222.4.11.7370	2.16.840.1.114222.4.5.274	To reflect the possible activities in which the decedent was engaged at the time of death.
Administrative Sex (HL70001)	2.16.840.1.114222.4.11.1038	2.16.840.1.113883.12.1	Administrative Sex. Available from PHIN VADS as: PHVS_Sex_MFU
Application Error Code (HL70533)	HL7 Version 2.5.1	2.16.840.1.113883.12.533	Application error code Note that HI7 table 0533 has no suggested values. It is always a user defined table, and will generally contain locally defined codes.
Cause of Death (ICD-10)	2.16.840.1.11422.4.11.3593	2.16.840.1.113883.6.3	To allow coding of death cause information.

Value Set Name	Value Set OID	Code System Identifier	Description
Certifier Titles (NCHS)	2.16.840.1.114222.4.11.7212	2.16.840.1.114222.4.5.274	To reflect the title used by death certifier to denote professional role.
Certifier Types (NCHS)	2.16.840.1.114222.4.11.6001	2.16.840.1.113883.6.96	To reflect the type of certifier for the death certificate.
City	2.16.840.1.114222.4.11.9733	2.16.840.1.113883.6.245	US Geological Survey Names Information System – location codes
Coding System HL7 2x (HL70396)	2.16.840.1.114222.4.11.3338	2.16.840.1.113883.12.396	HL7 now maintains HL7 table 0396 "real time". This means that values may be added to the table at any time so that implementers can have an up-to-date source of truth for the codes to be used to identify coding systems in any 2.x message. Users of this IG should acquire the latest version of HL7 table 0396. The latest version of HL7 table 0396 (independent of HL7 version) is available for download from HL7 at: http://www.hl7.org/special/committees/vocab/table_0396/index.cfm.
Contributory Tobacco Use (NCHS)	2.16.840.1.114222.4.11.6004	2.16.840.1.113883.6.96	To reflect the extent to which tobacco use contributed to the person's death.
Country (GEC)	2.16.840.1.114222.4.11.7162	2.16.840.1.113883.13.250	A Country value set includes current countries as well as historical countries based on Geopolitical Entities and Codes (GEC). This list will be used for coding of birth, fetal death, and death certificates from 2014 onwards. A few codes appear more than once in the list alphabetized under commonly use variants of the official name. Note that codes are not available for countries that ceased to exist prior to June 15, 1970. list of country codes to be used within addresses PHIN VADS Reference: PHVS_Country_ISO_3166-1
County	2.16.840.1.114222.4.11.8289	2.16.840.1.113883.6.93	Codes representing county of origin, address county, reporting county
Death Report Observation Identifier (NCHS)	2.16.840.1.114222.4.11.7267	2.16.840.1.113883.6.1, 2.16.840.1.114222.4.5.274	To record the list of observation types that may be collected for a V2.5.1 Death Report message. The value set content is included within the OBX section of this guide.
Death Reporting Event Reason (HL70062)	2.16.840.1.114222.4.11.7383	2.16.840.1.114222.4.5.274	Indicates whether or not a void record is being sent. (The supported values are listed below.
Death Reporting Event Type (HL70003)	2.16.840.1.114222.4.11.3337	2.16.840.1.113883.12.3	Event type
Death Reporting Message Type (HL70076)	2.16.840.1.114222.4.11.3341	2.16.840.1.113883.12.76	Message type

Value Set Name	Value Set OID	Code System Identifier	Description
Death Reporting Name Type Code (HL70200)	2.16.840.1.114222.4.11.7378		Distinguishes between legal and alias name for the decedent.
Death Reporting Profiles	2.16.840.1.114222.4.11.7386	2.16.840.1.114222.4.5.274	To indicate the use case supported by the message instance.
Decedent Education Level			To reflect the possible highest level of education received by the decedent.
Edit Flags	2.16.840.1.114222.4.11.7387	2.16.840.1.114222.4.5.274	To reflect whether the content of a related field have been subject to edit.
Education Level Edit Flags	2.16.840.1.114222.4.11.7388	2.16.840.1.114222.4.5.274	To reflect the relevant edit possibilities for education level.
Error Severity (HL70516)	2.16.840.1.114222.4.11.993	2.16.840.1.113883.12.516 (code system)	Error severity Available from PHIN VADS as: PHVS_ErrorSeverity_HL7_2x
Identifier Type (HL70203)	2.16.840.1.114222.4.11.999	2.16.840.1.113883.12.203	Identifier type. Also available from PHIN VADS as: PH_IdentifierType_HL7_2x
Industry	2.16.840.1.114222.4.11.7381		To reflect the industry in which the decedent worked.
Manner Of Death (NCHS)	2.16.840.1.114222.4.11.6002	2.16.840.1.113883.6.96	To reflect the manner that a person died.
Marital Status (HL70002)	2.16.840.1.114222.4.11.7380	2.16.840.1.113883.12.2	To reflect the possible marital statuses for the decedent.
Marital Status (HL70002)	2.16.840.1.114222.4.11.7380		Defines possible marital statuses.
Marital Status Edit Flags	2.16.840.1.114222.4.11.7390	2.16.840.1.114222.4.5.274	To reflect the relevant edit possibilities for marital status.
Message Error Condition Codes (HL70357)	2.16.840.1.114222.4.11.974	2.16.840.1.113883.12.357	Message Error Condition Codes Available from PHIN VADS as: PHVS_MessageErrorConditionCodes_HL7_2x.
Message Structure (HL70354)	2.16.840.1.114222.4.11.3349	2.16.840.1.113883.12.354	Message structure
Method of Disposition			To reflect the possible ways of interring the decedent's body.
NCHS Bridged Race	2.16.840.1.114222.4.11.7377	2.16.840.1.113883.6.238, 2.16.840.1.114222.4.5.274	To reflect the possible race categories for a decedent after processing race code and race literal choices.
NCHS Ethnicity Detail	2.16.840.1.114222.4.11.7384	2.16.840.1.113883.6.238, 2.16.840.1.113883.5.1008	The possible ethnic group categories defined for NCHS reporting. Available from PHIN VADS as NCHS Ethnicity Detail.
NCHS Ethnicity Group	2.16.840.1.114222.4.11.7384	2.16.840.1.113883.6.238, 2.16.840.1.113883.5.1008	To allow ethnicity assignment as Hispanic, non-Hispanic, unknown.

Value Set Name	Value Set OID	Code System Identifier	Description
NCHS Race (NCHS)	2.16.840.1.114222.4.11.7373	2.16.840.1.113883.6.238	The possible race categories defined for NCHS reporting. Available from PHIN VADS as NCHS Race
Observation Result Status Codes Interpretation (HL70085)	2.16.840.1.114222.4.11.811	2.16.840.1.113883.12.85	Observation Result Status Also available from PHIN VADS as: PHVS_ObservationResultStatus_HL7_2x
Occupation (Census)	2.16.840.1.114222.4.11.6036		To reflect possible occupations for the decedent
Part\Line Number	2.16.840.1.114222.4.11.7354	2.16.840.1.114222.4.5.274	To indicate where in the death report structure an individual item of death cause information appeared.
Place of Death (NCHS)	2.16.840.1.114222.4.11.7216	2.16.840.1.114222.4.5.274	To reflect the death location of the decedent.
Place of Injury	2.16.840.1.114222.4.11.7374	2.16.840.1.114222.4.5.320	To indicate the kind of place where an injury leading to death occurred.
Pregnancy Edit Flags	2.16.840.1.114222.4.11.7391	2.16.840.1.114222.4.5.274	To reflect the relevant edit possibilities for pregnancy status.
Pregnancy Status (NCHS)	2.16.840.1.114222.4.11.6003	2.16.840.1.114222.4.5.274	To reflect whether the decedent was pregnant at or around the time of death.
Processing ID (HL70103)	2.16.840.1.114222.4.11.1028	2.16.840.1.113883.12.103 (code system)	Processing ID. Available from PHIN VADS as: PHVS_ProcessingID_HL7_2x
Processing Mode (HL70207)	2.16.840.1.114222.4.11.1029	2.16.840.1.113883.12.207	Processing mode. Available from PHIN VADS as: PHVS_ProcessingMode_HL7_2x
Source Flags	2.16.840.1.114222.4.11.7393	2.16.840.1.114222.4.5.274	To reflect the form in which data has been received.
Telecommunication Equipment Type (HL70202)	2.16.840.1.114222.4.11.817	2.16.840.1.113883.12.202 (code system)	Telecommunication Equipment Type
Telecommunication Use Code (HL70201)	2.16.840.1.114222.4.11.818	2.16.840.1.113883.12.201	Telecommunication Use Code
Transportation Relationships (NCHS)	2.16.840.1.114222.4.11.6005	2.16.840.1.113883.6.96	To reflect the specific role played by the decedent, e.g. driver, passenger in a death related to transportation.

Value Set Name	Value Set OID	Code System Identifier	Description
Unified Code for Units of Measure (UCUM)	2.16.840.1.114222.4.11.838	2.16.840.1.113883.3.88.12.80.29	Units of measure are relevant for time intervals. Regenstrief Institute, Inc. http://www.regenstrief.org/medinformatics/ucum
Universal ID Type (HL70301)	HL7 Version 2.7	2.16.840.1.113883.12.	Universal ID type See Table 6.6. HL7 Table 0301 Universal ID Type below for details.
Value Type (HL70125)	2.16.840.1.114222.4.11.1059	2.16.840.1.113883.12.125	Value Type (The supported values are listed below)
Version ID (HL70104)	2.16.840.1.114222.4.11.3342	2.16.840.1.113883.12.104	Version ID
Yes No Unknown	2.16.840.1.114222.4.11.819	2.16.840.1.113883.12.136	Yes/No Available from PHIN VADS as: PHVS_YesNoUnknown_CDC

6.2 VOCABULARY REFERENCES &TABLES

This section provides greater detail for the vocabulary tables that are unique to this implementation guide. HL 7 tables for which only a subset of the possible values are used are provided here. The implementation guide includes a PHIN VADS reference for tables that are dynamically managed.

6.2.1 Acknowledgement Code (HL7)

Value Set	Acknowledgement Code (HL7) - 2.16.840.1.114222.4.11.958
Code System	Acknowledgement Code (HL7)
Version	1
Source	PHIN Vocabulary Access and Distribution System
Source URL	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.958
Description	Acknowledgment code indicating receipt of message. (See message processing rules. Refer to HL7 Table 0008 - Acknowledgment code for valid values.) Null flavors are not allowed.

6.2.2 Activity Type (NCHS)

Value Set	Activity Type (NCHS) - 2.16.840.1.114222.4.11.7370
Code System	PHIN VS
Version	1
Source	PHIN Vocabulary Access and Distribution System
Source URL	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7370
Description	To reflect the possible activities in which the decedent was engaged at the time of death.

6.2.3 Certifier Titles (NCHS)

Value Set	Certifier Titles (NCHS) - 2.16.840.1.114222.4.11.7212
Code System	PHIN VS (CDC Local Coding System) - 2.16.840.1.114222.4.5.274
Version	2
Source	PHIN Vocabulary Access and Distribution System
Source URL	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7212
Description	To reflect the title used by death certifier to denote professional role.

6.2.4 Certifier Types (NCHS)

Value Set	Certifier Types (NCHS) - 2.16.840.1.114222.4.11.6001
Code System	
Version	1
Source	PHIN Vocabulary Access and Distribution System
Source URL	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.6001
Description	To reflect the type of certifier for the death certificate.

6.2.5 City

Value Set	City - 2.16.840.1.114222.4.11.973
Code System	U.S. Board on Geographic Names (USGS - GNIS)
Version	3
Source	PHIN Vocabulary Access and Distribution System
Source URL	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11973
Description	US Geological Survey Names Information System – location codes

6.2.6 Coding System HL7 2x (HL70396)

Value Set	Coding System HL7 2x - 2.16.840.1.114222.4.11.3338
Code System	Code System
Version	
Source	HL7.org
Source URL	http://www.hl7.org/special/committees/vocab/table_0396/index.cfm
Description	HL7 Table 0396 defines the standard coding systems recognized by HL7. The table defines a mechanism by which locally defined codes can be transmitted. Any code/coding system not defined in HL7 Table 0396 is considered a "local" coding system from the HL7 perspective. Coding systems that are identified in this implementation guide will be identified according to the recommended HL7 nomenclature from table 0396 as "99ELR-zzz" where "zzz" represents a string identifying the specific non-standard coding system. It is strongly suggested that implementers instead adopt the use of "99zzz" approach to identifying local coding systems since HL7 has indicated that use of the "L" for local coding systems is retained only for backwards compatibility, and its use may be withdrawn in a subsequent 2.x version. Note that the local use of "99zzz" should not collide with any of the "locally" defined coding systems identified in this implementation guide.

6.2.7 Contributory Tobacco Use (NCHS)

Value Set	Contributory Tobacco Use (NCHS) - 2.16.840.1.114222.4.11.6004
Code System	
Version	2
Source	PHIN Vocabulary Access and Distribution System
Source URL	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.6004
Description	To reflect the extent to which tobacco use contributed to the person's death.

6.2.8 County

Value Set	County - 2.16.840.1.114222.4.11.829
Code System	FIPS 6-4 (County)
Version	3
Source	PHIN Vocabulary Access and Distribution System
Source URL	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.829
Description	Codes representing county of origin, address county, reporting county

6.2.9 Country (GEC)

Value Set	Country (GEC) - 2.16.840.1.114222.4.11.7162
Code System	GEC Country Codes – 2.16.840.1.113883.13.250
Version	1
Source	PHIN Vocabulary Access and Distribution System
Source URL	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7162
Description	Country value set includes current countries as well as historical countries based on Geopolitical Entities and Codes (GEC). This list will be used for coding of birth, fetal death, and death certificates from 2014 onwards. A few codes appear more than once in the list alphabetized under commonly use variants of the official name. Note that codes are not available for countries that ceased to exist prior to June 15, 1970.

6.2.10 Death Report Observation Identifier (NCHS)

Due to the importance of this value set, its contents are also included in the OBX section above.

Value Set	Death Report Observation Identifier (NCHS) - 2.16.840.1.114222.4.11.7267
Code System	LOINC
Version	2
Source	PHIN Vocabulary Access and Distribution System
Source URL	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7267
Description	The value set contains the list of values used to report observations on the death certificate..

6.2.11 Death Reporting Event Reason (HL70062) (NCHS)

Value Set	Death Reporting Event Reason (HL70052) (NCHS) - 2.16.840.1.114222.4.11.7383
Code System	PHIN VS
Version	1
Source	PHIN Vocabulary Access and Distribution System
Source URL	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7383
Description	Indicates transmission of death report with valid information or a void death report.

6.2.12 Death Reporting Event Type (HL70003) (NCHS)

Value Set	Death Reporting Event Type (HL70003) (NCHS) - 2.16.840.1.114222.4.11.7442
Code System	Event Type (HL7)
Version	1
Source	PHIN Vocabulary Access and Distribution System
Source URL	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7442
Description	Used within ADT messaging to transmit trigger event information for death reporting.

6.2.13 Death Reporting Message Structure (NCHS)

Value Set	Death Reporting Message Structure (NCHS) - 2.16.840.1.114222.4.11.7443
Code System	Message Structure (HL7)
Version	1
Source	PHIN Vocabulary Access and Distribution System
Source URL	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7443
Description	To identify the segments used in messages for death reporting.

6.2.14 Death Reporting Message Type (NCHS)

Value Set	Death Reporting Message Type (NCHS) - 2.16.840.1.114222.4.11.7444
Code System	Message Type (HL7)
Version	1
Source	PHIN Vocabulary Access and Distribution System
Source URL	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7444
Description	To express, in the message header (MSH) segment, the type of message that is relevant for death reporting.

6.2.15 Death Reporting Profiles (NCHS)

Value Set	Death Reporting Profiles (NCHS) - 2.16.840.1.114222.4.11.7386
Code System	PHIN VS
Version	1
Source	PHIN Vocabulary Access and Distribution System
Source URL	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7386
Description	To indicate the use case supported by the message instance.

6.2.16 Decedent Education Level

The proposed list of values is included for information. It will be removed when the value set is captured within PHIN VADS.

Table 53. Decedent Education Level

Value	Description	Usage	Comments
1	8th grade or less	R	
2	9th through 12th grade; no diploma	R	
3	High School Graduate or GED Completed	R	
4	Some college credit, but no degree	R	
5	Associate Degree	R	
6	Bachelor's Degree	R	
7	Master's Degree	R	
8	Doctorate Degree or Professional Degree		
9	Unknown		

6.2.17 Education Level Edit Flags (NCHS)

Value Set	Education Level Edit Flags (NCHS) - 2.16.840.1.114222.4.11.7388
Code System	PHIN VS
Version	1
Source	PHIN Vocabulary Access and Distribution System
Source URL	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7388
Description	To reflect the relevant edit possibilities for education level.

6.2.18 HL7 Name Type Code (NCHS)

Value Set	HL7 Name Type Code (CHS) - 2.16.840.1.114222.4.11.7378
Code System	Name Type (HL7)
Version	1
Source	PHIN Vocabulary Access and Distribution System
Source URL	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7378
Description	Used to differentiate between legal name and alias name of the decedent.

6.2.19 HL7 Table 0155 – Accept/Application Acknowledgment Conditions (Constrained from the Full HL7 Table)

Table 54. Acknowledgement Conditions - HL7 0155 Constrained

Value	Description	Comment
AL	Always	
NE	Never	
ER	Error/reject conditions only	
SU	Successful completion only	

6.2.20 HL7 Table 0203 - Identifier Type

Table 55. Universal ID Type - HL70203 Constrained

Value	Description	Usage	Comments
LN	License Number	R	Used to identify persons involved in pronouncing and certifying death
SS	Social Security Number	R	Use of social security number in death reporting is strongly recommended.
XX	Organization ID	R	Used to identify organizations managing software

Value	Description	Usage	Comments
			implementations.
DC	Death Certificate		Used to support the death certificate identifier.
DCFN	Death Certificate File Number		Used to support the death report auxiliary file number.

6.2.21 HL7 Table 0301 - Universal ID Type

Table 56. Universal ID Type - HL70301 Constrained

Value	Description	Usage	Comments
ISO	An International Standards Organization Object Identifier	R	Used as the Universal ID Type in the CNN, EI and HD data types.

6.2.22 Industry

Note, we have not determined which of several possible value sets to use. However, the list is too long to include here.

Value Set	Industry - 2.16.840.1.114222.4.11.????
Code System	TBD
Version	TBD
Source	PHIN Vocabulary Access and Distribution System
Source URL	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.????
Description	TBD.

6.2.23 Manner of Death (NCHS)

Value Set	Manner Of Death (NCHS) - 2.16.840.1.114222.4.11.6002
Code System	SNOMEDCT - 2.16.840.1.113883.6.96
Version	1
Source	PHIN Vocabulary Access and Distribution System
Source URL	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.6002
Description	To reflect the manner that a person died.

6.2.24 Marital Status (HL70002) (NCHS)

Value Set	Marital Status (NCHS) - 2.16.840.1.114222.4.11.7380
Code System	Marital Status (HL7)
Version	1
Source	PHIN Vocabulary Access and Distribution System
Source URL	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7380
Description	To reflect the possible marital statuses for the decedent

6.2.25 Marital Status Edit Flags (NCHS)

Value Set	Marital Status Edit Flags (NCHS) - 2.16.840.1.114222.4.11.7390
Code System	PHIN VS
Version	1
Source	PHIN Vocabulary Access and Distribution System
Source URL	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7390
Description	To reflect the relevant edit possibilities for marital status.

6.2.26 Message Error Condition Codes (HL7)

Value Set	Message Error Condition Codes (HL7) - 2.16.840.1.114222.4.11.974
Code System	Message Error Condition Codes (HL7)
Version	1
Source	PHIN Vocabulary Access and Distribution System
Source URL	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.974
Description	Type of error that occurred while processing the message identified in MSA.2.

6.2.27 Method of Disposition

The proposed list of values is included for information. It will be removed when the value set is captured within PHIN VADS.

Table 57. Methods of Disposition

Value	Description	Usage	Comments
B	Burial	R	
C	Cremation	R	
D	Donation	R	
E	Entombment	R	
R	Removal from state	R	
O	Other	R	
U	Unknown	R	

6.2.28 NCHS Bridged Race (NCHS)

Value Set	NCHS Bridged Race (NCHS) - 2.16.840.1.114222.4.11.7377
Code System	PHIN VS
Version	1
Source	PHIN Vocabulary Access and Distribution System
Source URL	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7377
Description	The set of race codes used by NCHS for Vital Statistics reporting enhanced by “bridged race” codes. These codes are assigned to persons who assert multiple races using an algorithm defined by NCHS. The goal is to provide race statistics that are comparable with those used historically in order to facilitate time series analysis.

6.2.29 NCHS Ethnicity Detail (NCHS)

Value Set	NCHS Ethnicity Detail (NCHS) - 2.16.840.1.114222.4.11.7376
Code System	Race & Ethnicity - CDC
Version	1
Source	PHIN Vocabulary Access and Distribution System
Source URL	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7376
Description	The possible ethnic group categories defined for NCHS reporting.

6.2.30 NCHS Ethnicity Group (NCHS)

Value Set	NCHS Ethnicity Group (NCHS) - 2.16.840.1.114222.4.11.7375
Code System	Race & Ethnicity – CDC, NullFlavor
Version	1
Source	PHIN Vocabulary Access and Distribution System
Source URL	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7375
Description	To reflect ethnicity assignment as Hispanic, non-Hispanic, unknown.

6.2.31 NCHS Race (NCHS)

Value Set	NCHS Race (NCHS) - 2.16.840.1.114222.4.11.7373
Code System	Race & Ethnicity - CDC
Version	1
Source	PHIN Vocabulary Access and Distribution System
Source URL	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7373
Description	To reflect race information for the decedent.

6.2.32 Observation Result Status (HL7)

Value Set	Observation Result Status (HL7) - 2.16.840.1.114222.4.11.811
Code System	Observation result status (HL7)
Version	1
Source	PHIN Vocabulary Access and Distribution System
Source URL	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.811
Description	The status of the observation. This field is required when the OBX segment is contained within a message. Uses HL7 2.5 Table 0085-Observation Result Status.

6.2.33 Occupation (Census)

Value Set	Occupation (Census) - 2.16.840.1.114222.4.11.6036
Code System	U.S. Census Occupation Code (2012)
Version	3
Source	PHIN Vocabulary Access and Distribution System
Source URL	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.6036
Description	Coding system of United States Census Occupation Codes, published by the US Government Bureau of the Census. Documentation and Crosswalk mapping between the COC and the SOC and NAICS code systems available at http://www.census.gov/hhes/www/ioindex/view.html.

6.2.34 Part\Line Number (NCHS)

Value Set	Part/Line Number (NCHS) - 2.16.840.1.114222.4.11.7354
Code System	PHIN VS
Version	1
Source	PHIN Vocabulary Access and Distribution System
Source URL	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7354
Description	To indicate where in the death report structure an individual item of death cause information appeared.

6.2.35 Pregnancy Edit Flags (NCHS)

Value Set	Pregnancy Edit Flags (NCHS) - 2.16.840.1.114222.4.11.7391
Code System	PHIN VS
Version	1
Source	PHIN Vocabulary Access and Distribution System
Source URL	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7391
Description	To reflect the relevant edit possibilities for pregnancy status.

6.2.36 Pregnancy Status (NCHS)

Value Set	Pregnancy Status (NCHS) - 2.16.840.1.114222.4.11.6003
Code System	PHIN VS (CDC Local Coding System) - 2.16.840.1.114222.4.5.274
Version	2
Source	PHIN Vocabulary Access and Distribution System
Source URL	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.6003
Description	To reflect whether the decedent was pregnant at or around the time of death.

6.2.37 Processing Mode (HL7)

Value Set	Processing Mode (HL7) - 2.16.840.1.114222.4.11.1029
Code System	Processing Mode (HL7)
Version	1
Source	PHIN Vocabulary Access and Distribution System
Source URL	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.10299
Description	HL7 table 0207 contains values that define whether the message is part of an archival process or an initial load.

6.2.38 Place of Death (NCHS)

Value Set	Place of Death (NCHS) - 2.16.840.1.114222.4.11.7216
Code System	PHIN VS (CDC Local Coding System) - 2.16.840.1.114222.4.5.274
Version	2
Source	PHIN Vocabulary Access and Distribution System
Source URL	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7216
Description	To reflect the death location of the decedent.

6.2.39 Place of Injury (NCHS)

Value Set	Place of Injury (NCHS) - 2.16.840.1.114222.4.11.7374
Code System	ICD-10 Place of Occurance
Version	1
Source	PHIN Vocabulary Access and Distribution System
Source URL	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.73774
Description	WHO location type extensions defined for ICD

6.2.40 Processing ID (HL7)

Value Set	Processing ID (HL7) - 2.16.840.1.114222.4.11.1028
Code System	Processing ID (HL7)
Version	1
Source	PHIN Vocabulary Access and Distribution System
Source URL	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.1028
Description	HL7 table 0103 contains values that define whether the message is part of a production, training or debugging system.

6.2.41 Sex (MFU)

Value Set	Sex (MFU) - 2.16.840.1.114222.4.11.1038
Code System	Administrative Sex (HL7)
Version	1
Source	PHIN Vocabulary Access and Distribution System
Source URL	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.1038
Description	Constrained list of sex codes in use by public health. Keyword: Administrative Sex

6.2.42 Source Flags (NCHS)

Value Set	Source Flags (NCHS) - 2.16.840.1.114222.4.11.7393
Code System	PHIN VS
Version	1
Source	PHIN Vocabulary Access and Distribution System
Source URL	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7393
Description	To reflect the form in which data has been received.

6.2.43 Telecommunication Use Code (HL7)

Value Set	Telecommunication Use Code (HL7) - 2.16.840.1.114222.4.11.818
Code System	Telecommunication Use code (HL7)
Version	1
Source	PHIN Vocabulary Access and Distribution System
Source URL	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.818
Description	HL7 table 0201 contains a list that represents a specific use of a telecommunication number.

6.2.44 Telecommunication Equipment Type (HL7)

Value Set	Telecommunication Equipment Type (HL7) - 2.16.840.1.114222.4.11.819
Code System	Telecommunication Equipment Type (HL7)
Version	1
Source	PHIN Vocabulary Access and Distribution System
Source URL	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.819
Description	HL7 table 0202 contains a list of types of telecommunication equipment.

6.2.45 Transportation Relationships (NCHS)

Value Set	Transportation Relationships (NCHS) - 2.16.840.1.114222.4.11.6005
Code System	SNOMEDCT - 2.16.840.1.113883.6.96
Version	2
Source	PHIN Vocabulary Access and Distribution System
Source URL	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.6005
Description	To reflect the specific role played by the decedent, e.g. driver, passenger in a death related to transportation.

6.2.46 Value Type (Constrained from the Full HL7 Table)

Table 58. Observation Value Types - HL7 0125 Constrained

Value	Description	Comment
CE	Coded Entry	
CWE	Coded with Exceptions	Allows the addition of text entries to a coded element.
FT	Formatted Text	Field using the FT data type to carry a text report which potentially will include formatting to improve readability.
NM	Numeric	Field using the NM data type to carry information about the time since the onset of a condition listed the cause of death or as a contributing cause.
ST	String Data	Field using the ST data type to carry a short text result value. Numeric results and numeric results with units of measure should not be reported as text. These shall be reported as NM or SN numeric results, with the units of measure in OBX-6.
TS	Time Stamp (Date & Time)	

Value	Description	Comment
TX	Text Data (Display)	Field using the TX data type to carry a text result value this is intended for display. Numeric results and numeric results with units of measure should not be reported as text. These should be reported as NM or SN numeric results, with the units of measure in OBX-6.
XAD	Extended Address	Used to record the location where death occurred, and injury locations.

6.2.47 Yes No Unknown

Value Set	Yes No Unknown (YNU) - 2.16.840.1.114222.4.11.888
Code System	Yes No Indicator (HL7), NullFlavor
Version	1
Source	PHIN Vocabulary Access and Distribution System
Source URL	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.819
Description	Value set used to respond to any question that can be answered Yes or No, or Unknown.

7.Conformance Information

Compliance to the HL7 Standard has historically been impossible to define and measure in a meaningful way. To compensate for this shortcoming, vendors and sites have used various methods of specifying boundary conditions such as optionality and cardinality. This section provides conformance specifications and predicate statements to make it easier for implementers to consistently use the implementation guide.

7.1 CONFORMANCE STATEMENTS

"DR-XX:" is the identifier by convention.

7.1.1 Data Type Conformance: All Trigger Events

ID	Location	Conformance Statement	Comments
DR-01	CWE.14	The value of CWE.14 (Coding System OID) SHALL BE a valid OID.	
DR-xx	CX.5	The value of CX.5 (Identifier Type Code) SAHLL BE drawn from the value set HL7 Table 0153 - Identifier Type	
DR-02	EI.3	The value of EI.3 (Universal ID) SHALL BE a valid OID.	
DR-03	EI.4	The value of EI.4 (Universal ID Type) SHALL BE 'ISO'	
DR-04	HD.2	The value of HD.2 (Universal ID) SHALL BE a valid OID.	
DR-05	HD.3	The value of HD.3 (Universal ID Type) SHALL BE 'ISO'	
DR-06	VID.1	The value of VID.1 (Version ID) SHALL BE '2.5.1'	
DR-45	XAD.8	The value of XAD.8 (Other Geographic Designation) will be drawn from the value set Yes No Unknown.	
DR-xx	XCN-13	The value of CX.13 (Identifier Type Code) SAHLL BE drawn from the value set HL7 Table 0153 - Identifier Type	

7.1.2 Segment Level

ID	Location	Conformance Statement	Comments
DR-07	MSH.1	MSH-1 (Field Separator) **SHALL** contain the constant value '|'.	
DR-08	MSH.2	MSH-2 (Encoding Characters) **SHALL** contain the constant value '^~\&#'	
DR-09	MSH.7	MSH.7 SHALL match YYYYMMDDHHMMSS[.S[S[S[S]]]]+/-ZZZZ	
DR-10	MSH.9	MSH-9 (Message Type) **SHALL** contain the constant value 'ADT^A04^ADT_A01'.	For ADT A04 message only
DR-11	MSH.9	MSH-9 (Message Type) **SHALL** contain the constant value 'ADT^A08^ADT_A01'.	For ADT A08 message only
DR-12	MSH.9	MSH-9 (Message Type) **SHALL** contain the constant value 'ADT^A23^ADT_A21'.	For ADT A21 message only

ID	Location	Conformance Statement	Comments
DR-13	MSH.9	MSH-9 (Message Type) **SHALL** contain the constant value 'ACK^A04^ACK'.	For ACK A04 message only
DR-14	MSH.9	MSH-9 (Message Type) **SHALL** contain the constant value 'ACK^A08^ACK'.	For ACK A08 message only
DR-15	MSH.9	MSH-9 (Message Type) **SHALL** contain the constant value 'ACK^A23^ACK'.	For ACK A23 message only
DR-16	MSH.15	MSH-15 (Accept Acknowledgement Type) **SHALL** contain the constant value 'AL'.	Dynamic Definition: DeathReport-ACK Messages: ADT A04, ADT A08, ADT A23
DR-17	MSH.15	MSH-15 (Accept Acknowledgement Type) **SHALL** contain the constant value 'NE'.	Dynamic Definition: DeathReport-NoACK Messages: ADT A04, ADT A08, ADT A23
DR-18	MSH.16	MSH-16 (Application Acknowledgement Type) **SHALL** contain the constant value 'NE'.	Dynamic Definition: DeathReport-NoACK Messages: ADT A04, ADT A08, ADT A23.
DR-19	MSH.15	MSH-15 (Accept Acknowledgement Type) **SHALL** contain the constant value 'NE'.	ACK Messages
DR-20	MSH.16	MSH-16 (Application Acknowledgement Type) **SHALL** contain the constant value 'NE'.	ACK Messages
DR-XX	MSH-21	MSH-21^1 SHALL contain a value drawn from the value set Death Reporting Profiles (NCHS)	
DR-21	PID.1	PID-1 (Set ID - PID) **SHALL** be valued with the constant value '1'.	
DR-22	PID.30	PID.30 (Patient Death Indicator) SHALL BE valued 'Y'	
DR-23	PV1.2	PV1.2 (Patient Class) SHALL BE valued 'N'	
DR-XX	NK1.1	NK1-1 (Set ID – NK1) SHALL be valued with the constant value '1'.	NK1 Segment is not used. Usage =X—Not implemented in tool.
DR-XX	ROL.2	ROL-2 (Action Code) SHALL be valued with the constant value 'LI'.	ROL is not used. Usage = X—Not implemented in the tool.

7.1.3 Observation Code Based Conformance Statements

ID	Location	Conformance Statement	Comments
			We are waiting on the assignment of LOINC codes to 3 different expressions of cause of death. Appropriate conformance statements will be created with code values in hand.

ID	Location	Conformance Statement	Comments
DR-25	OBX.2	[Coroner - Medical Examiner Case Number] If OBX.3.1 or OBX.3.4 is valued '69452-1' then OBX.2 SHALL be valued 'ST'.	
DR-26	OBX.2	[Date of Death] If OBX.3.1 or OBX.3.4 is valued '31211-6' then OBX.2 SHALL be valued 'TS'	
DR-27	OBX.2	[Death Certifier (Address)] If OBX.3.1 or OBX.3.4 is valued '69439-8' then OBX.2 SHALL be valued 'XAD'	
DR-28	OBX.2	[Death Date Comment] If OBX.3.1 or OBX.3.4 is valued '69454-7' then OBX.2 SHALL be valued 'ST'.	
DR-29	OBX.2	[Disease Onset to Death Interval] If OBX.3.1 or OBX.3.4 is valued '69440-6' then OBX.2 SHALL be valued 'ST'	
DR-30	OBX.2	[Injury Incident Description] If OBX.3.1 or OBX.3.4 is valued '11374-6' then OBX.2 SHALL be valued 'TX.	
DR-31	OBX.2	[Injury Leading to Death Associated with Transportation Event] If OBX.3.1 or OBX.3.4 is valued '69448-9' then OBX.2 SHALL be valued 'ST'	
DR-32	OBX.2	[Street address where death occurred if not facility] If OBX.3.1 or OBX.3.4 is valued '69435-6' then OBX.2 SHALL be valued 'XAD'.	
DR-33	OBX.2	[Autopsy Results Available] If OBX.3.1 or OBX.3.4 is valued '69436-4' then OBX.2 SHALL be valued 'CE' and OBX.5.1 or OBX.5.4 SHALL be valued with a code from the HL70136 value set ['Y' 'N' → HL70136 (OBX.5.3 or OBX.5.6)]	
DR-34	OBX.5	[Death Certifier (Type)] If OBX.3.1 or OBX.3.4 is valued '69437-2' then OBX.2 SHALL be valued 'CWE' and OBX.5.1 or OBX.5.4 SHALL be valued with a code from the Certifier Types value set ['434641000124105' '434651000124107' 'J-0053E' '310193003' '440051000124108' → SCT (OBX.5.3 or OBX.5.6) , 'OTH' → NULLFL (OBX.5.3 or OBX.5.6)	
DR-35	OBX.5	[Did Death Result from Injury at Work] If OBX.3.1 or OBX.3.4 is valued '69444-8' then OBX.2 SHALL be valued 'CE' and OBX.5.1 or OBX.5.4 SHALL be valued with a code from the HL70136 value set ['Y' 'N' → HL70136 (OBX.5.3 or OBX.5.6)]	

ID	Location	Conformance Statement	Comments
DR-36	OBX.5	[Did Tobacco Use Contribute to Death] If OBX.3.1 or OBX.3.4 is valued '69443-0' then OBX.2 SHALL be valued 'CE' and OBX.5.1 or OBX.5.4 SHALL be valued with a code from the Contributory Tobacco Uses value set ['R-0038D' '373066001' 'R-00339' '373067005' 'G-2002' '2931005' → SCT (OBX.5.3 or OBX.5.6) , 'UNK' → NULLFL (OBX.5.3 or OBX.5.6)]	
DR-37	OBX.5	[Did the death of this person involve injury of any kind] If OBX.3.1 or OBX.3.4 is valued '71481-6' then OBX.2 SHALL be valued 'CE' and OBX.5.1 or OBX.5.4 SHALL be valued with a code from the HL70136 value set ['Y' 'N' → HL70136 (OBX.5.3 or OBX.5.6)]	
DR-38	OBX.5	[Manner of Death] If OBX.3.1 or OBX.3.4 is valued '69449-7' then OBX.2 SHALL be valued 'CE' and OBX.5.1 or OBX.5.4 SHALL be valued with a code from the Manner Of Death value set ['DF-D0100' '38605008' 'DF-D0300' '7878000' 'DF-D0600' '44301001' 'DF-D0500' '27935005' 'F-0016D' '185973002' 'DF-D0900' '65037004' → SCT (OBX.5.3 or OBX.5.6)]	
DR-39	OBX.5	[Transportation Role of Decedent] If OBX.3.1 or OBX.3.4 is valued '69451-3' then OBX.2 SHALL be valued 'CWE' and OBX.5.1 or OBX.5.4 SHALL be valued with a code from the Transportation Relationships value set ['J-00041' '236320001' 'R-416E5' '257500003' 'R-416F8' '257518000' → SCT (OBX.5.3 or OBX.5.6) , 'OTH' → NULLFL (OBX.5.3 or OBX.5.6)]	
DR-40	OBX.2	[Injury Date] or [Injury Date Comment] If OBX.3.1 or OBX.3.4 is valued '69445-5' then OBX.2 SHALL be valued 'TS' or 'ST'.	
DR-41	OBX.2	[Injury Location] or [Injury Location (Address)] If OBX.3.1 or OBX.3.4 is valued '69447-1' then OBX.2 SHALL be valued 'ST' or 'XAD'.	
DR-42	OBX.2	[Death Cause Other Significant Conditions] or [Timing of Recent Pregnancy Related to Death] If OBX.3.1 or OBX.3.4 is valued 699442-2' then OBX.2 SHALL be valued 'ST' or 'CE'	
DR-43	OBX.5	[Timing of Recent Pregnancy Related to Death] If OBX.3.1 or OBX.3.4 is valued 69442-2 and OBX.2 is valued 'CE' then OBX.5.1 or OBX.5.4 SHALL be valued with a code from the Pregnancy Statuses value set ['PHC1260' 'PHC1261' 'PHC1262' 'PHC1263' 'PHC1264' → CDCPHINVS (OBX.5.3 or OBX.5.6) , 'NA' → NULLFL (OBX.5.3 or OBX.5.6)]	
DR-46	OBX.2	[Source Flag] If OBX.3.1 or OBX3.4 is valued PHC1433 then OBX.2 shall be valued CE	

ID	Location	Conformance Statement	Comments
DR-47	OBX.5	[Source Flag] If OBX.3.1 or OBX3.4 is valued PHC1433 then OBX5.1 or OBX5.4 shall be valued with a code from the Source Flags value set [‘PHC1359’ ‘PHC1360’ ‘PHC1361’ CDCPHINVS]	
DR-48	OBX.2	[Sex Edit Flag, Age Edit Flag,] If OBX.3.1 or OBX3.4 is valued PHC1433 or PHC1421 then OBX.2 shall be valued CE	
DR.49	OBX.5	[Sex Edit Flag, Age Edit Flag,] [Sex Edit Flag, Age Edit Flag,] If OBX.3.1 or OBX3.4 is valued PHC1433 or PHC1421 then OBX.2 shall be valued with a code from the Edit Flags value set [‘PHC1362’ PHC’1363’ CDCPHINVS]	
DR-50	OBX.3	[Age at Death] If OBX.3.1 or OBX3.4 is valued xxxxxx then OBX.2 shall be valued NM	
DR-51	OBX.3	[Birth Place] If OBX.3.1 or OBX3.4 is valued xxxx then OBX.2 shall be valued XAD.	
DR-52	OBX.3	[Marital Status Edit Flag] If OBX.3.1 or OBX3.4 is valued PHC1426 then OBX.2 shall be valued CE.	
DR-53	OBX.5	[Marital Status Edit Flag] If OBX.3.1 or OBX3.4 is valued PHC1426 then OBX5.1 or OBX5.4 shall be valued from the Marital Status Edit Flags value set [‘PHC1362’ ‘PHC1363’ ‘PHC1364’ ‘PHC1365’ CDCPHINVS]	
DR-54	OBX.3	[Method of Disposition] If OBX.3.1 or OBX3.4 is valued xxxxx then OBX.2 shall be valued CE	
DR-55	OBX.5	[Method of Disposition] If OBX.3.1 or OBX3.4 is valued xxxxx than OBX5.1 or OBX5.4 shall be valued from the Methods of Disposition value set []	
DR-56	OBX.3	[Education Level] If OBX.3.1 or OBX3.4 is valued xxxxx then OBX.2 shall be valued CE	
DR-57	OBX.5	[Education Level] If OBX.3.1 or OBX3.4 is valued xxxxx than OBX5.1 or OBX5.4 shall be valued from the Decedent Education Level value set []	
DR-58	OBX.3	[Education Edit Flag] If OBX.3.1 or OBX3.4 is valued PHC1424 then OBX.2 shall be valued CE.	
DR-59	OBX.5	[Education Edit Flag] If OBX.3.1 or OBX3.4 is valued PHC1424 then OBX5.1 or OBX5.4 shall be valued from the Education Level Edit Flags value set [‘PHC1362’ ‘PHC1363’ ‘PHC1364’ ‘PHC1365’ ‘PHC1366’ CDCPHINVS]	
DR-60	OBX.3	[Occupation]] If OBX.3.1 or OBX3.4 is valued xxx then OBX.2 shall be valued CE	
DR-61	OBX.5	[Occupation] If OBX.3.1 or OBX3.4 is valued xxx then OBX.5.1 or OBX5.4 shall be valued from the Occupation (Census) value set.	

ID	Location	Conformance Statement	Comments
DR-62	OBX.3	[Industry] If OBX.3.1 or OBX3.4 is valued xxx then OBX.2 shall be valued CE	
DR-63	OBX.5	[Industry] If OBX.3.1 or OBX3.4 is valued xxx then OBX.5.1 or OBX5.4 shall be valued from the Industry value set.	
DR-64	OBX.3	[Birth Certificate Data Year]] If OBX.3.1 or OBX3.4 is valued xxxxx then OBX.2 shall be valued TS.	
DR-65	OBX.3	[State/Province of Birth]] If OBX.3.1 or OBX3.4 is valued xxxxxx then OBX.2 shall be valued CE	
DR-66	OBX.5	[State/Province of Birth] If OBX.3.1 or OBX3.4 is valued xxx then OBX.5.1 or OBX5.4 shall be valued from the ???? value set.	
DR-67	OBX.3	[Pregnancy Edit Flag]] If OBX.3.1 or OBX3.4 is valued PHC1429 then OBX.2 shall be valued CE.	
DR-68	OBX.5	[Pregnancy Edit Flag]] If OBX.3.1 or OBX3.4 is valued PHC1429 then OBX5.1 or OBX5.4 shall be valued from the Pregnancy Edit Flags value set [‘PNC1380’ ‘PNC1381’ ‘PNC1382’ CDCPHINVS]	
DR-69	OBX.3	[Activity at time of death] If OBX.3.1 or OBX3.4 is valued xxx then OBX.2 shall be valued CE	
DR-70	OBX.5	[Activity at time of death] If OBX.3.1 or OBX.3.4 is valued 'xxxx-y' then OBX.5.1 or OBX5.4 shall be valued from the Activity Type value set. [‘PHC1350’ ‘PHC1351’ ‘PHC1352’ ‘PHC1353’ ‘PHC1354’ ‘PHC1355’ ‘PHC1356’ CDCPHINVS]	

7.2 CONDITION PREDICATES

7.2.1 Data type level

Location	Source	Suggestion	Comments
CE.3	Required if an identifier is provided in component 1.	Usage: C(R/X) Predicate: If CE.1 (Identifier) is valued.	
CWE.2	It is strongly recommended that text be sent to accompany any identifier. When a coded value is not known, the original text attribute is used to carry the text, not the text component. If the Identifier component is empty, then this component must be empty.	Usage: C(X/**O**) Predicate: If CWE.1 (Identifier) is not valued.	
CWE.3	Required if an identifier is provided in component 1.	Usage: C(R/X) Predicate: If CWE.1 (Identifier) is valued.	

Location	Source	Suggestion	Comments
CWE.9	Either original Text is used to convey the text that was the basis for coding, or when there is no code to be sent, only free text. If no identifier and alternate identifier are present, then this component is required.	Usage: C(R/O) Predicate: If CWE.1 (Identifier) is not valued.	
EI.3	The Universal ID component is needed if no Namespace ID is provided.	Usage: C(R/X) Predicate: If EI.2 is not valued.	
EI.4	The Universal ID Type component is needed if a Universal ID is provided.	Usage: C(R/X) Predicate: If EI.3 is valued.	
ERL.3	This component is required if components 4, 5 and/or 6 are populated.	Usage: C(R/O) Predicate: If ERL.4 or ERL.5 are populated.	
ERL.4	The first field repetition is counted a 1. This component is required if the field identified in components 1, 2, and 3 is a repeating field.		Predicate defined based on particular data value.
ERL.5	This component is required if component 6 is populated.	Usage: C(R/O) Predicate: If ERL.6 is populated.	
HD.2	The Universal ID component is needed if no Namespace ID is provided.	Usage: C(R/X) Predicate: If HD.3 is valued.	
HD.3	The Universal ID Type component is needed if a Universal ID is provided.	Usage: C(R/X) Predicate: If HD.2 is valued.	
XAD.6	Country code is required for addresses outside of the United States.		Predicate defined based on particular data value.
XCN.9	The Assigning Authority component is used to identify the system, application, organization, etc. that assigned the ID Number in component 1. Harmonized condition predicate: Required if component 1 (ID Number) is populated.	Usage: C(R/X) Predicate: If XCN.1 (ID Number) is valued	
XCN.13	Required if component 1 (ID Number) is populated.	Usage: C(R/X) Predicate: If XCN.1 (ID Number) is valued.	
XON.1	Must be present if there is no Organization Identifier in component 10.	Usage: C(O/R) Predicate: If XON.10 (Organization Identifier) is valued.	

Location	Source	Suggestion	Comments
XON.6	The Assigning Authority component is used to identify the system, application, organization, etc. that assigned the ID in component 10.	Usage: C(O/X) Predicate: If XON.10 (Organization Identifier) is valued	
XON.7	Required if component 10 (Organization Identifier) is populated.	Usage: C(R/X) Predicate: If XON.10 (Organization Identifier) is valued	
XTN.4	Required if component 7 (local number) is not present. Component 4 (Email Address) must be empty if component 7 (Local Number) is present.	Usage: C(X/R) Predicate: If XTN.07 (Local Number) is valued.	
XTN.5	This component is required or empty (RE) if component 7 (Local Number) is present otherwise it must be empty.	Usage: C(R/X) Predicate: If XTN.07 (Local Number) is valued.	
XTN.6	This component is required or empty (RE) if component 7 (Local Number) is present otherwise it must be empty.	Usage: C(R/X) Predicate: If XTN.07 (Local Number) is valued.	
XTN.7	Required if component 4 (Email Address) is not present. Component 7 (Local Number) must be empty if component 4 (Email Address) is present.	Usage: C(X/R) Predicate: If XTN.04 (Email Address) is valued.	
XTN.8	This component is required or empty (RE) if component 7 (Local Number) is present otherwise it must be empty.	Usage: C(O/X) Predicate: If XTN.07 (Local Number) is valued.	

7.2.2 Message Level

Location	Source	Suggestion	Comments
ACK.ERR	Required when MSA-1 is not "AA" or "CA."	Usage: C(R/**X**) Predicate: If MSA.1 (Acknowledgment Code) is not valued 'AA' or 'CA'.	

7.2.3 Segment Level

Location	Source	Suggestion	Comments
EVN.2	Use for Registry death information only	Usage: C(R/X) Predicate: If MSH.21.1 = “RDI”	
PID.7	Use for Provider death report, Registry death information	Usage: C(RE/X) Predicate: If MSH.21.1 = “PSDI” or “RDI”	
PID.8	Use for Provider death report, Registry death information	Usage: C(RE/X) Predicate: If MSH.21.1 = “PSDI” or “RDI”	

PID.10	Only use this field for Registry Death Information, Coded Race/Ethnicity	Usage: (RE/X) Predicate: IF MSH.21.1 = “RDI”	
PID.11	Use for Provider death report, Registry death information	Usage: C(RE/X) Predicate: If MSH.21.1 = “PSDI” or “RDI”	
PID.16	Only use this field for a Registry Death Information message	Usage: (RE/X) Predicate: IF MSH.21.1 = “RDI”	
PID.22	Only use this field for a Registry Death Information, Coded Race/Ethnicity messages	Usage: (RE/X) Predicate: IF MSH.21.1 = “RDI”	
OBX.4	Used for observations containing cause of death information.	Usage: C(R/X) Predicate: If OBX3.1 or OBX3.4 = [cause of death text] or [cause of death entity axis] or [cause of death record axis]	
OBX.6	Harmonized Conditional statement: If the data type in OBX 2 is "NM" or "SN" and the OBX-11 observation result status is not ‘X’ then this field is required.	Usage: C(R/X) Predicate: If OBX.2 (Value Type) is valued 'NM' or 'SN' and OBX.11 (Observation Result Status) is not valued 'X'.	
PDA.7	Only value the field if an autopsy has been performed.	Usage: C(RE/X) Predicate: PDA.6 = “Y”	
PDA.8	Only value the field if an autopsy has been performed.	Usage: C(RE/X) Predicate: PDA.6 = “Y”	

7.2.4 Observation Type Level

Observation code	Source	Suggestion	Comments
69436-4	Autopsy Results Available information is provided for Provider and Registry reporting.	Usage: C(RE/X) Predicate: If MSH.21.1 = “PSDI” or “RDI”	
69453-9	Original Text used for Provider and Registry Reporting.	Usage: C(RE/X) Predicate: If MSH.21.1 = “PSDI” or “RDI”	
69453-9	Coded added for Coded Cause of death reporting.	Usage: C(RE/X) Predicate: If MSH.21.1 = “CCOD”	Depending on how we aagree to cause of death coding,t this could change.
6945201	Coroner information is provided for provider reporting.	Usage: C(RE/X) Predicate: If MSH.21.1 = “PSDI”	
69454-7	Death date text information is provided for provider reporting.	Usage: C(RE/X) Predicate: If MSH.21.1 = “PSDI”	
69437-2	Certifier address information is provided for Provider reporting.	Usage: C(RE/X) Predicate: If MSH.21.1 = “PSDI”	

Observation code	Source	Suggestion	Comments
69454-7	Certifier type information is provided for Provider reporting.	Usage: C(RE/X) Predicate: If MSH.21.1 = "PSDI"	
69444-8	Injury at work information is used for provider and registry reporting, in cases where an injury has occurred.	Usage: C(RE/X) Predicate: If (MSH.21.1 = "PSDI" or "RDI) and if exists OBX where OBX3.1 or OBX3.4 ="71481-6"	
69443-0	Tobacco use information is used for provider and registry reporting.	Usage: C(RE/X) Predicate: If MSH.21.1 = "PSDI" or "RDI"	
69440-6	Disease onset information is used for provider and registry reporting.	Usage: C(RE/X) Predicate: If MSH.21.1 = "PSDI" or "RDI"	
69445-5	Injury date information is used for provider and registry reporting, in cases where an injury has occurred.	Usage: C(RE/X) Predicate: If (MSH.21.1 = "PSDI" or "RDI) and if exists OBX where OBX3.1 or OBX3.4 ="71481-6"	
11374-6	Injury description information is used for provider reporting, in cases where an injury has occurred.	Usage: C(RE/X) Predicate: If (MSH.21.1 = "PSDI") and if exists OBX where OBX3.1 or OBX3.4 ="71481-6"	
71481-6	The fact of whether an injury has occurred is used for provider reporting.	Usage: C(RE/X) Predicate: If MSH.21.1 = "PSDI"	
69448-9	Whether an injury is associated with a transportation event is used for provider reporting, in cases where an injury has occurred.	Usage: C(RE/X) Predicate: If (MSH.21.1 = "PSDI") and if exists OBX where OBX3.1 or OBX3.4 ="71481-6"	
11376-1	Injury location information is provided in text form in provider and registry reporting, in cases where an injury has occurred.	Usage: C(RE/X) Predicate: If (MSH.21.1 = "PSDI" or "RDI) and if exists OBX where OBX3.1 or OBX3.4 ="71481-6"	
11376-1	Injury location is provided in coded form in coded cause of death reporting, in cases where an injury has occurred.	Usage: C(RE/X) Predicate: If (MSH.21.1 = "RDI) and if exists OBX where OBX3.1 or OBX3.4 ="71481-6"	
69447-1	Injury location address is used for provider reporting, in cases where an injury has occurred.	Usage: C(RE/X) Predicate: If (MSH.21.1 = "PSDI") and if exists OBX where OBX3.1 or OBX3.4 ="71481-6"	

Observation code	Source	Suggestion	Comments
69449-7	Manner of death information is used for provider and registry reporting.	Usage: C(RE/X) Predicate: If MSH.21.1 = "PSDI" or "RDI"	
69438-0	Coroner case referral note information is used for provider reporting.	Usage: C(RE/X) Predicate: If MSH.21.1 = "PSDI"	
69435-6	Death location address information is used for provider reporting.	Usage: C(RE/X) Predicate: If MSH.21.1 = "PSDI"	
69442-2	Timing of pregnancy information is used for provider and registry reporting.	Usage: C(RE/X) Predicate: If MSH.21.1 = "PSDI" or "RDI"	
69451-3	Transportation role of decedent information is used for provider reporting, in cases where an injury has occurred.	Usage: C(RE/X) Predicate: If (MSH.21.1 = "PSDI") and if exists OBX where OBX3.1 or OBX3.4 ="71481-6"	
PHC1433	Source Flag information is used for registry reporting.	Usage: C(RE/X) Predicate: If MSH.21.1 = "RDI"	
PHC1432	Sex Edit Flag information is used for registry reporting.	Usage: C(RE/X) Predicate: If MSH.21.1 = "RDI"	
xxxxxxx	Age at Death information is used for provider and registry reporting.	Usage: C(RE/X) Predicate: If MSH.21.1 = "PSDI" or "RDI"	
PHC1421	Age Edit Flag information is used for registry reporting.	Usage: C(RE/X) Predicate: If MSH.21.1 = "RDI"	
xxxxxx	Birth Place information is used for provider and registry reporting.	Usage: C(RE/X) Predicate: If MSH.21.1 = "PSDI" or "RDI"	
PHC1426	Marital Status Edit Flag information is used for registry reporting.	Usage: C(RE/X) Predicate: If MSH.21.1 = "RDI"	
xxxxxx	Method of Disposition information is used for registry reporting.	Usage: C(RE/X) Predicate: If MSH.21.1 = "RDI"	
xxxxxx	Education level information is used for registry reporting.	Usage: C(RE/X) Predicate: If MSH.21.1 = "RDI"	
PHC1424	Education edit flag information is used for registry reporting.	Usage: C(RE/X) Predicate: If MSH.21.1 = "RDI"	

Observation code	Source	Suggestion	Comments
xxxxxx	Occupation information is used for registry reporting.	Usage: C(RE/X) Predicate: If MSH.21.1 = "RDI"	
xxxxxxxxx	Industry information is used for registry reporting.	Usage: C(RE/X) Predicate: If MSH.21.1 = "RDI"	
xxxxxxxx	Birth certificate data year information is used for registry reporting.	Usage: C(RE/X) Predicate: If MSH.21.1 = "RDI"	
xxxxxxxxx	Birth certificate ID information is used for registry reporting.	Usage: C(RE/X) Predicate: If MSH.21.1 = "RDI"	
xxxxxxxxxx	State/Province of birth	Usage: C(RE/X) Predicate: If MSH.21.1 = "RDI"	
PHC1429	Pregnancy edit flag information is used for registry reporting.	Usage: C(RE/X) Predicate: If MSH.21.1 = "RDI"	
xxxxxxx	Activity at time of death	Usage: C(RE/X) Predicate: If MSH.21.1 = "RDI" or ""CCOD"	
PHC1422	Conversion flag is used for coded cause of death reporting.	Usage: C(RE/X) Predicate: If MSH.21.1 = "CCOD"	
PHC1423	E-code indicator is used for coded cause of death reporting.	Usage: C(RE/X) Predicate: If MSH.21.1 = "CCOD"	
PHC1425	Ethnicity post edits is used for Coded Race/Ethnicity reporting.	Usage: C(RE/X) Predicate: If MSH.21.1 = "CREI"	
xxxxx	Father's surname information is used for registry reporting.	Usage: C(RE/X) Predicate: If MSH.21.1 = "CCOD"	
PHC1427	Sequence within line is used for coded cause of death reporting.	Usage: C(RE/X) Predicate: If MSH.21.1 = "CCOD"	
PHC1428	Part\line number is used for provider reporting, registry reporting and coded cause of death reporting.	Usage: C(RE/X) Predicate: If MSH.21.1 = "PSDI" or "RDI" or "CCOD"	
PHC1430	Race post edits is used for Coded Race/Ethnicity reporting.	Usage: C(RE/X) Predicate: If MSH.21.1 = "CREI"	
PHC1431	Reserved position is used for coded cause of death reporting.	Usage: C(RE/X) Predicate: If MSH.21.1 = "CCOD"	

Observation code	Source	Suggestion	Comments
xxxxx	Surgery date is used for registry reporting.	Usage: C(RE/X) Predicate: If MSH.21.1 = "PDI"	
Xxxxx	Underlying cause of death – original entry	Usage: C(RE/X) Predicate: If MSH.21.1 = "CCOD"	
Xxxxxx	Underlying cause of death – recoded	Usage: C(RE/X) Predicate: If MSH.21.1 = "CCOD"	
Xxxxxx	Year of death for matching information is used for registry reporting.	Usage: C(RE/X) Predicate: If MSH.21.1 = "PDI"	
xxxxxxx	Date of death registration information is used for registry reporting.	Usage: C(RE/X) Predicate: If MSH.21.1 = "PDI"	

8.Example Death Information Messages

This implementation guide describes the use of HL7 for Death Reporting. It includes 3 HL7 trigger events (A04, A08, A23) and supports four use cases: provider death registration, registry death report, coded cause of death report, and coded Race & Ethnicity Report. Each message can be sent with or without acknowledgement required, and example acknowledgements are relevant for those cases in which an acknowledgement is indicated. In other words, it would be relevant to create 36 sample messages; 24 notification messages and 12 acknowledgements. However, many of these are very similar. It is relevant to provide examples of each of the four use cases since the data requirements vary considerably. There is no real need to distinguish between messages which provide a new report, and those that update a previous report, since the two share the same structure. In the same vein, messages that require an acknowledgement and those with no acknowledgement differ only in a single field. Therefore, the document includes examples of a death report message for each of the four documented use cases. In addition, a single example for a report retraction, and for an acknowledgement are included.

The examples provided in this section are handcrafted and as such are subject to human error. **Examples should not be used as the basis for implementing the messages in the implementation guide.** The example is provided to illustrate the use of the messages.

8.1 PROVIDER DEATH REGISTRATION (A04 ACK REQUIRED)

MSH|^~\&#|89898989|Best Care LLC|StateAppID|VRDept|20151018183312-0400||ADT^A04^ADT_A01|1223334499|P|2.6|||AL|NE|USA||EN^English^ISO639||PSDI_v1.0^PHIN VS SFT|Level Seven Healthcare Software, Inc.^L^^^^&2.16.840.1.113883.19.4.6&ISO^XX^^^1234|1.2|An EHealthReporting System|56734||20080817
EVN||201510141705-0400|
PID|1||987-65-4321^^^^SS||Perez^Javier^Luis||19510401|M|||143 Taylor Street^^Annapolis^MD^21401^US^^Yes^Anne Arundel||||||||||||||||201510051125-0400|Y|
PV1||N
OBX|1|XAD|LOINCtbd^Birthplace^LN||^^Chicago^IL^^US|||||F
OBX|2|XAD|69435-6^Address of location where death occurred^LN||^^Annapolis^MD^21401^US^^^Anne Arundel||||||F
OBX|3|XCN|74499-5^Death pronouncer details^LN||9898989898^Spade^Samuel^^^Dr.^^^Maryland^^^^SL|||||F
OBX|4|DTM|LOINCtbd^Date/time pronouced dead^LN||201510051125-0400|||||F
OBX|5|ST|LOINCtbd^Cause of Death^LN|1|Blunt Head Trauma|||||F
OBX|6|ST|69440-6^Disease Onset to Death Interval^LN|1|15 hours|||||F
OBX|7|ST|LOINCtbd^Cause of Death^LN|2|Automobile accident|||||F
OBX|8|ST|69440-6^Disease Onset to Death Interval^LN|2|15 hours|||||F
OBX|9|ST|LOINCtbd^Cause of Death^LN|2|Epilepsy|||||F
OBX|10|ST|69440-6^Disease Onset to Death Interval ^LN|3|30 years|||||F
OBX|11|ST|69441-4^Death Cause Other Significant Conditions ^LN||Cerebrovascular Accident|||||F
OBX|12|CE|69437-2 ^Certifier Type^LN||434641000124105^Certifying physician-To the best of my knowledge, death occurred due to the cause(s) and manner stated.^SCT|||||F
OBX|13|CE|69443-0^Tobacco^LN||373067005^No^SCT|||||F
OBX|14|CE|69441-4^Pregnancy Status Code^LN||NA^Not Applicable^NULLFL|||||F
OBX|15|CE|69449-7^Manner of death^LN||7878000^Accident^SCT|||||F
OBX|16|CE|LOINCtbd^Activity at time of death^LN||PHC1352^While engaged in other specified activities^CDCPHINVS|||||F
OBX|17|CE|71481-6^Did the death of this person involve injury of any kind^LN||Y^Yes^HL70532|||||F

OBX|18|CE|69444-8^Did death result from injury at work^LN||N^No^HL70532|||||F
OBX|19|DTM|69445-5^Injury date^LN||201510040830-0400|||||F
OBX|20|TX|11374-6^Injury incident description^LN||Automobile collision with other vehicales while pulling into traffic on the street|||||F
OBX|21|CE|69448-9^Injury leading to death associated with transportation event^LN||Y^Yes^HL70532|||||F
OBX|22|CE|69451-3^Transportation role of decedent^LN||236320001^Driver/Operator^SCT|||||F
OBX|23|CE|11376-1^Injury location^LN||4^Street/Highway^NCHS place of injury|||||F
OBX|24|XAD|69447-1^Injury location narrative^LN||921 Automobile Blvd^^Silver Spring^MD|||||F
OBX|25|CE|69436-4^Autopsy results available^LN||N^No^HL70532|||||F
PDA||^^^^^16983000^^^Best Care Hospice Center||20140201|78457845^Certifier^Charles^^^Dr.^^^Maryland^^^^SL^^^^^^^^M.D.|N|||N

8.2 REGISTRY DEATH REPORT (A04 ACK REQUIRED)

MSH|^~\&#|StateAppID|VRDept|DRrcv^2.16.840.1.113883.3.20091^ISO|NCHS^2.16.840.1.113883.3.8989^ISO|20151112234947-0400||ADT^A04^ADT_A01|1223334505|P|2.6|||AL|NE|USA||EN^English^ISO639||RDI_v1.0^PHIN VS
EVN||201511121200-0400|
PID|1||987-65-4321^^^^SS~9000213^^^^DC~2015000213^^^^DCFN||Perez^Javier^Luis^^^^L||19510401|M||2106-3^White^CDCREC~2054-5^Black or African American^CDCREC|143 Taylor Street^^01600^MD^21401^US^^Yes^003|||||M^Married^HL70002|||||2182-4^Cuban^CDCREC|||||||201510051125-0400|Y|
PV1||N
OBX|1|XAD|LOINCtbd^Birthplace^LN||^^Chicago^IL^^US|||||F
OBX|2|XAD|69435-6^Address of location where death occurred^LN||^^Annapolis^MD^21401^US^^^003|||||F
OBX|3|ST|LOINCtbd^Cause of Death^LN|1|Blunt Head Trauma|||||F
OBX|4|ST|69440-6^Disease Onset to Death Interval^LN|1|15 hours|||||F
OBX|5|ST|LOINCtbd^Cause of Death^LN|2|Automobile accident|||||F
OBX|6|ST|69440-6^Disease Onset to Death Interval^LN|2|15 hours|||||F
OBX|7|ST|LOINCtbd^Cause of Death^LN|2|Epilepsy|||||F
OBX|8|ST|69440-6^Disease Onset to Death Interval ^LN|3|30 years|||||F
OBX|9|ST|69441-4^Death Cause Other Significant Conditions ^LN||Cerebrovascular Accident|||||F
OBX|10|CE|69443-0^Tobacco^LN||373067005^No^SCT|||||F
OBX|11|CE|69441-4^Pregnancy Status Code^LN||NA^Not Applicable^NULLFL|||||F
OBX|12|CE|69449-7^Manner of death^LN||7878000^Accident^SCT|||||F
OBX|13|CE|69444-8^Did death result from injury at work^LN||N^No^HL70532|||||F
OBX|14|CE|LOINCtbd^Activity at time of death^LN||PHC1352^While engaged in other specified activities^CDCPHINVS|||||F
OBX|15|CE|71481-6^Did the death of this person involve injury of any kind^LN||Y^Yes^HL70532|||||F
OBX|16|DTM|69445-5^Injury date^LN||201510040830-0400|||||F
OBX|17|TX|11374-6^Injury incident description^LN||Automobile collision with other vehicales while pulling into traffic on the street|||||F
OBX|18|CE|69448-9^Injury leading to death associated with transportation event^LN||Y^Yes^HL70532|||||F
OBX|19|CE|69451-3^Transportation role of decedent^LN||236320001^Driver/Operator^SCT|||||F
OBX|20|CE|11376-1^Injury location^LN||4^Street/Highway^NCHS place of injury|||||F
OBX|21|XAD|69447-1^Injury location narrative^LN||921 Automobile Blvd^^Silver Spring^MD|||||F
OBX|22|CE|LOINCtbd^Education level^LN||8^Doctorate Degree or Professional Degree^NCHSlocalCS|||||F
OBX|23|CE|PHC1424^Education Edit Flag^CDCPHINVS||PHC1362^Edit Passed^CDCPHINVS|||||F
OBX|24|CE|PHC1426^Marital Status Edit Flag^CDCPHINVS||PHC1362^Edit Passed^CDCPHINVS|||||F
OBX|25|CE|LOINCtbd^Method of disposition^LN||B^Burial^NCHSlocalCS|||||F
OBX|26|CWE|LOINCtbd^Occupation^LN||^^^^^^^^Psychologist|||||F
OBX|27|CWE|LOINCtbd^Industry^LN||^^^^^^^^Academic|||||F

OBX|28|ST|LOINCtbd^birth certificate ID^LN||""|||||F
OBX|29|DTM|LOINCtbd^year of birth for matching^LN||1951|||||F
OBX|30|CE|69436-4^Autopsy results available^LN||N^No^HL70532|||||F
OBX|31|CE|PHC1429^Pregnancy edit flag^CDCPHINVS||PHC1362^Edit Passed^CDCPHINVS|||||F
OBX|32|CE|PHC1433^Source Flag^CDCPHINVS||PHC1359^Electronic mode^CDCPHINVS|||||F
OBX|33|XPN|LOINCtbd^Father's surname^LN||Perez|||||F
OBX|34|CE|PHC1432^Sex edit flag^CDCPHINVS||PHC1362^Edit Passed^CDCPHINVS|||||F
OBX|35|NM|39016-1^Age at death^LN||64|a^year^UCUM|||||F
OBX|36|CE|PHC1421^Age edit flag^CDCPHINVS||PHC1362^Edit Passed^CDCPHINVS|||||F
OBX|37|ST|LOINCtbd^state/province of birth^LN||IL|||||F
PDA||^^^^^16983000^^^Best Care Hospice
Center||20140201|78457845^Certifier^Charles^^^Dr.^^^Maryland^^^^SL^^^^^^^^M.D.|N|||N

8.3 CODED CAUSE OF DEATH REPORT (A04 ACK REQUIRED)

MSH|^~\&#|DRrcv^2.16.840.1.113883.3.20091^ISO|NCHS^2.16.840.1.113883.3.8989^ISO|CauseOfDeathProcessing|VRDept|20151220111500-0400||ADT^A04^ADT_A01|1223334487|P|2.6|||AL|NE|USA||EN^English^ISO639||CCOD_v1.0^PHIN VS EVN||201512201000-0400|
PID|1||9000213^^^^DC~2015000213^^^^DCFN||||||||||||||||||||||201510051125-0400
PV1||N
OBX|1|XAD|69435-6^Address of location where death occurred^LN||^^^MD|||||F
OBX|2|CE|LOINCtbd^Entity axis COD^LN|1|S099^Unspecified injury of head^I10C|||||F
OBX|3|ST|PHC1428^Part\Line Number^CDCPHINVS|1|1|||||F
OBX|4|ST|PHC1427^Sequence within Line^CDCPHINVS|1|1|||||F
OBX|5|CE|LOINCtbd^Entity axis COD^LN|2|V890^Person injured in unspecified motor-vehicle accident, nontraffic Motor-vehicle accident NOS, nontraffic^I10C|||||F
OBX|6|ST|PHC1428^Part\Line Number^CDCPHINVS|2|2|||||F
OBX|7|ST|PHC1427^Sequence within Line^CDCPHINVS|2|1|||||F
OBX|8|CE|PHC1423^E-code indicator^CDCPHINVS|3|Y^Yes^HL70532|||||F
OBX|9|CE|LOINCtbd^Entity axis COD^LN|3|G409^Epilepsy, unspecified^I10C|||||F
OBX|10|ST|PHC1428^Part\Line Number^CDCPHINVS|3|3|||||F
OBX|11|ST|PHC1427^Sequence within Line^CDCPHINVS|3|1|||||F
OBX|12|CE|LOINCtbd^Entity axis COD^LN|4|I64^Stroke, not specified as haemorrhage or infarction^I10C|||||F
OBX|13|ST|PHC1428^Part\Line Number^CDCPHINVS|4|6|||||F
OBX|14|ST|PHC1427^Sequence within Line^CDCPHINVS|4|1|||||F
OBX|15|CE|LOINCtbd^Record axis COD^LN||S099^Unspecified injury of head^I10C|||||F
OBX|16|CE|LOINCtbd^Record axis COD^LN||G409^Epilepsy, unspecified^I10C|||||F
OBX|17|CE|LOINCtbd^Record axis COD^LN||I64^Stroke, not specified as haemorrhage or infarction^I10C|||||F
OBX|18|CE|LOINCtbd^Record axis COD^LN||V890^Person injured in unspecified motor-vehicle accident, nontraffic Motor-vehicle accident NOS, nontraffic^I10C|||||F
OBX|19|CE|LOINCtbd^Underlying cause of death - original entry^LN||""|||||F
OBX|20|CE|LOINCtbd^Underlying cause of death - coded^LN||S099^Unspecified injury of head^I10C|||||F
OBX|21|CE|11376-1^Injury location^LN||4^Street/Highway^NCHS place of injury|||||F
OBX|22|CE|6944-8^Activity at time of death^LN||PHC1352^While engaged in other specified activities^CDCPHINVS|||||F

8.4 CODED RACE & ETHNICITY REPORT (A04 ACK REQUIRED)

MSH|^~\&#|DRrcv^2.16.840.1.113883.3.20091^ISO|NCHS^2.16.840.1.113883.3.8989^ISO|RaceEthnicityProcessing|VRDept|20151220111533-0400||ADT^A04^ADT_A01|1223334493|P|2.6|||AL|NE|USA||EN^English^ISO639||CREI_v1.0^PHIN VS EVN||201512201000-0400|

PID|1||9000213^^^^DC||||||2106-3^White^CDCREC~2054-5^Black or African American^CDCREC|||||||||||2182-4^Cuban^CDCREC|||||||201510051125-0400
PV1||N
OBX|1|CE|PHC1425^Ethnicity post edits^CDCPHINVS||2182-4^Cuban^CDCREC|||||F
OBX|2|CE|PHC1430^Race post edits^CDCPHINVS||PHC1410^Bridged Black^CDCPHINVS|||||F

8.5 RETRACT PROVIDER DEATH REGISTRATION (A23 NO ACK)

MSH|^~\&#|89898989|Best Care LLC|StateAppID|VRDept|20151018183312-0400||ADT^A23^ADT_A21|1223334502|P|2.6|||NE|NE|USA||EN^English^ISO639||PSDI_v1.0^PHIN VS

SFT|Level Seven Healthcare Software, Inc.^L^^^^&2.16.840.1.113883.19.4.6&ISO^XX^^^1234|1.2|An EHealthReporting System|56734||20080817

EVN||201510141705-0400|

PID|1||987-65-4321^^^^SS||Perez^Javier^Luis||19510401|M|||||||||||||||||201510051125-0400|Y

PV1||N

8.6 ACKNOWLEDGE REGISTRY DEATH REPORT (ACK)

MSH|^~\&#|DRrcv^2.16.840.1.113883.3.20091^ISO|NCHS^2.16.840.1.113883.3.8989^ISO|StateAppID|VRDept|20151205112123-0400||ACK^A04^ACK|1834aa21492|P|2.6|||NE|NE|USA||EN^English^ISO639

MSA|CA|1223334505