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

Standard for Trial Use

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

Standard for Trial Use

ADT^A04, ADT^A08, ADT^A11

HL7 Version 2.6

HL7Draft Standard for Trial Use

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1.Introduction

This document provides an Implementation Guide for transmitting death related information from a clinical setting to the jurisdictional vital records office that sends information to the national statistical agency, the Centers for Disease Control and Prevention/National Center for Health Statistics (CDC/NCHS). Additionally, the document provides support for the return of coded cause of death, and race and ethnicity information back to the jurisdictional vital records office.

The use cases describe the transmission of the data collected using ADT messages to address a specific public health purpose. The death reporting information represented in this IG is consistent with requirements from the 2003 Revision of the U.S. Standard Certificate of Death that is available from the Centers for Disease Control and Prevention (CDC)/National Center for Health Statistics website at: http://www.cdc.gov/nchs/nvss/vital_certificate_revisions.htm.

PURPOSE

Our goal is to address the requirements for reporting death information from jurisdictional vital records offices to the NCHS, and to provide additional content for coded cause of death and coded race & ethnicity information reported back to the jurisdictional vital records offices.

1.1 AUDIENCE

This guide is designed for use by analysts and developers who require guidance relative to the specialized use of the HL7 Version 2.6 ADT Update Patient Information for providing death reporting information. The IG will be informative to health care provider organizations, jurisdictional vital records offices, the National Center for Health Statistics, health information exchange organizations and other vital records death reporting stakeholders. 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.

1.2 BACKGROUND

Health data standards serve as the foundation for electronic health records (EHR) systems and support interoperability with public health programs and health data systems. Vital records can benefit from utilizing a nationally standardized approach to data collection and transmission that is consistent with health information systems including electronic health records. Such integration of information can potentially improve public health's ability to monitor the health of the nation and the health care system and link data in multiple ways for a healthier population.

1.3 SCOPE

The scope of the HL7 Version 2.6 Implementation Guide: Vital Records Death Reporting, Release 1 includes the data elements that are included in the 2003 Revision of the United States Standard Certificate of Death. Additionally, the scope includes select state and jurisdictional requirements that have been identified for inclusion. Future versions of this implementation guide may be published to include additional state and jurisdictional reporting requirements as identified.

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 variety of message profiles for reporting death information to jurisdictional vital records offices and to the national statistical agency. It also supports the return of relevant coded information to the jurisdictional vital records office.

The document includes five use cases:

- Electronic Health Record Death Report – message profiles for an Electronic Health Record to provide

relevant death reporting information to a jurisdictional vital records office.

- Jurisdiction Death Report – message profiles for a jurisdictional vital records office to provide relevant death reporting information to a national statistics agency.
- Jurisdiction Void Certificate Report – message profiles for a jurisdictional vital records office to provide information regarding voided certificates to a national statistics agency.
- Coded Cause of Death Report – message profiles for the national statistics agency to provide coded cause of death information to a jurisdictional vital records office.
- Coded Race & Ethnicity Report - message profiles for the national statistics agency to provide coded race and ethnicity information to a jurisdictional vital records office.

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 number of characters that one occurrence of the data field may occupy.
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

Attribute	Definition
	conditional in the corresponding message element. (See the descriptions in Table 2 below.) Usage applies to the message attribute table, data type attribute table and the segment attribute table.
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.

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.

Usage	Recommendation
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.
B- Backwards Compatibility	Obsolete, retained for backwards compatibility only.
X – Not used for this profile	Testing this usage code usually involves looking at both fully populated and minimally populated messages. 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.

2. Messaging Infrastructure

2.1 MESSAGING FRAMEWORK

2.1.1 Delimiters

This profile supports the use of the normal HL7 delimiters. It is required, that implementers be able to send messages using the standard HL7 delimiters. Receivers must be capable of receiving these standard delimiters.

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 in the message. Best practice is always to include this character.

Delimiter	Required Value	Encoding Character Position	Description
			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.

2.1.2 Null Values

In HL7 2.5.1, a null value for a field is indicated by paired double quotes (|""|). However, this implementation guide does not require and will not use null values. The elements defined within this guide all resolve to the usages of "R" (Required), or "RE" (Required but can be empty).

If a field is required, a non-null value must be provided. There are cases within this guide in which there is no functionally meaningful value for a required field within a message segment. In such cases, the document provides instructions for providing a "dummy value" to fulfil the usage requirement. Null values are not to be used in such cases to provide a value.

If a field is required but can be empty, null values are not needed. If the sender is unable to provide a value, then the content of the field or component is omitted.

In addition, this implementation guide provides no support for the concept of "null flavors." There are cases, for coded fields, in which it is relevant to indicate why an expected value is not available. In such cases, the needed concept, drawn from the Null Flavor code system, is added to the value set for the field.

2.1.3 Lengths

The maximum length is not of conceptual importance in the abstract message or the HL7 coding rules. The length of a field is normative. Changes to the field length may be negotiated by a site agreement such as a conformance profile. The receiver must be able to receive up to the maximum field length, and the sender can send up to the maximum field length.

Field length is determined based on the data type lengths, and should fall between the lower and the upper bounds for the corresponding data types. It is calculated to include the component and subcomponent separators. Because the maximum length is that of a single occurrence, the repetition separator is not included in calculating the maximum length.

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 Character*). 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

Table 4 documents the list of HL7 base data types used within the included profiles. Where needed, base data types have been extended to indicate constraints that are applicable in particular cases.

Table 4. Supported Base Data Types

Data type	Data Type Name
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
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
VID	Version Identifier

Data type	Data Type Name
XAD	Extended Address
XCN	Extended Composite ID Number and Name
XPN	Extended Person Name

2.3.1 CWE – Coded with Exceptions

Table 5. Coded with Exceptions (CWE)

SEQ	LEN	DT	Usage	Value Set	Component Name	Comments
1	20	ST	RE		Identifier	
2	199	ST	C		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. **Condition Predicate:** **Usage**: Usage: C(RE/X) **Predicate**: Predicate: If CWE.1 (Identifier) is valued.
3	20	ID	C	Coding System HL7 2x Table 0396	Name of Coding System	Required if an identifier is provided in component 1. See section 7 for description of the use of coding systems in this implementation guide. **Condition Predicate:** **Usage:** C(R/X) **Predicate:** If CWE.1 (Identifier) is valued.
4			O		Alternate Identifier	
5			O		Alternate Text	
6			O		Name of Alternate Coding System	

SEQ	LEN	DT	Usage	Value Set	Component Name	Comments
7			O		Coding System Version ID	
8			O		Alternate Coding System Version ID	
9	199	ST	C		Original Text	Original Text is used to convey the text that was the basis for coding. It is also used when there is no code to be sent, only free text. If no identifier and alternate identifier are present, then this component is required. **Condition Predicate:** **Usage:** C(O/R) **Predicate:** If CWE.1 (Identifier) is valued.

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. The receiver is expected to examine the coding system names in component 3 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:  |373067005^No^SCT^^^^^^Patient has never smoked|
```

2.3.2 CX – Extended Composite ID with Check Digit

Table 6. Extended Composite ID with check digit (CX)

SEQ	LEN	DT	Usage	Value Set	Component Name	Comments
1	15	ST	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		Check Digit	
3			O		Check Digit Scheme	
4	227	HD_AA	R		Assigning Authority	The assigning authority is a unique name for the system (or organization, agency or department) that created the ID number in Sequence 1 (CX.1).

SEQ	LEN	DT	Usage	Value Set	Component Name	Comments
5	5	ID	R	Death Reporting Identifier Type (NCHS)	Identifier Type Code	The value indicates the type for the identifier. HL7 has provided a list of suggested values.
6			O		Assigning Facility	
7			O		Effective Date	
8			O		Expiration Date	
9			O		Assigning Jurisdiction	
10			O		Assigning Agency or Department	

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.

```
Example:  |363636367^^^&2.16.840.1.113883.19.3.1.2&ISO^ESN|
```

2.3.3 DR – Date/Time Range

Table 7. Date/Time Range (DR)

SEQ	LEN	DT	Usage	Value Set	Component Name	Comments
1	26	DTM	R		Range Start Date/Time	
2	26	DTM	RE		Range End Date/Time	

```
Example:  |20080602132858.0001-0005^20090602132830.0001-0005|
```

2.3.4 DTM – Date/Time

The DTM data type has been specialized so as to illustrate the specific constraints on date and time that are relevant to death reporting.

2.3.5 DTM_S – Date/Time Second

Table 8. Date/Time (DTM_S)

SEQ	LEN	DT	Usage	Value Set	Component Name	Comments
1	24	-	R		Date/Time	Format: YYYYMMDDHHMMSS[.S[S[S[S]]]][+/-ZZZZ]

Usage: Precision to the second. It is recommended that the time zone offset be included.

```
Example:   |20080602132823-0005|
```

2.3.6 DTM_M – Date/Time Minute

Table 9. Date/Time (DTM_M)

SEQ	LEN	DT	Usage	Value Set	Component Name	Comments
1	24	-	R		Date/Time	Format: YYYYMMDDHHMM[+/-ZZZZ]

Usage: Precision to the minute. It is recommended that the time zone offset be included.

```
Example:   |20080602132855-0005|
```

2.3.7 DTM_D – Date/Time Day

Table 10. Date/Time (DTM_D)

SEQ	LEN	DT	Usage	Value Set	Component Name	Comments
1	24	-	R		Date/Time	Format: YYYYMMDD

Usage: Precision to the day.

Example: |20080602|

2.3.8 DTM_Y – Date/Time Year

Table 11. Date/Time (DTM_Y)

SEQ	LEN	DT	Usage	Value Set	Component Name	Comments
1	24	-	R		Date/Time	Format: YYYY

Usage: Precision to the year.

Example: |2008|

2.3.9 DTM_YDR - Date/Time Year Required, Month & Day Recommended

Table 12. Date/Time (DTM_YDR)

SEQ	LEN	DT	Usage	Value Set	Component Name	Comments
1	24	-	R		Date/Time	Format: YYYY[MM[DD]]

Usage: Precision to the year at least. However, it is strongly recommended that month and day information be provided if at all possible.

Example: |200806021|

2.3.10 EI– Entity Identifier

Table 13. Entity Identifier (EI)

SEQ	LEN	DT	Usage	Value Set	Component Name	Comments
1	199	ST	R		Entity Identifier	

SEQ	LEN	DT	Usage	Value Set	Component Name	Comments
2	20	IS	C	Local	Namespace ID	The coding system for this component is locally managed Condition Predicate: **Usage:** C(O.R) **Predicate:** If EI.3 (Universal ID) is valued
3	199	ST	C		Universal ID	Condition Predicate: **Usage:** C(O.R) **Predicate:** If EI.2 (Namespace ID) is valued
4	6	ID	C	HL70301	Universal ID Type	**Conformance Statement**: EI.4 (Universal ID Type) **SHALL** contain the constant value 'ISO' Condition Predicate: **Usage:**.C(R.X) **Predicate:** If EI.3 (Universal ID) is valued

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|
```

2.3.11 ERL – Error Location

Table 14. Error Location (ERL)

SEQ	LEN	DT	Usage	Value Set	Component Name	Comments
1	3	ST	R		Segment ID	The 3-character name for the segment (i.e., PID).
2	2	NM	R		Segment Sequence	

SEQ	LEN	DT	Usage	Value Set	Component Name	Comments
3	2	NM	C		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. Condition Predicate: **Usage:** C(R/RE) **Predicate:** If ERL.4 or ERL.5 are populated.
4	2	NM	RE		Field Repetition	The first field repetition is counted as 1. Business Rule: This component is required if the field identified in components 1, 2, and 3 is a repeating field.
5	2	NM	C		Component Number	Condition Predicate: **Usage:** C(R/RE) **Predicate:** If ERL.6 is populated.
6	2	NM	RE		Sub-component Number	

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

2.3.12 FN – Family Name

Table 15. Family Name (FN)

SEQ	LEN	DT	Usage	Value Set	Component Name	Comments
1	50	ST	R		Surname	
2			O		Own Surname Prefix	
3			O		Own Surname	
4			O		Surname Prefix From Partner/Spouse	
5			O		Surname From Partner/Spouse	

```
Example:  |Smith|
```

2.3.13 HD – Hierarchic Designator

Table 16. Hierarchic Designator (HD)

SEQ	LEN	DT	Usage	Value Set	Component Name	Comments
1	20	IS	C		Namespace ID	The coding system for this component is locally managed. Condition Predicate: **Usage**: C (O/R) **Predicate:** If HD.2 (Universal ID) is valued.
2	999	ST	C		Universal ID	Condition Predicate: **Usage**: C (O/R) **Predicate:** If HD.1 (Namespace ID) is valued.
3	6	ID	C	HL70301	Universal ID Type	Condition Predicate: **Usage**: C (R/X) **Predicate:** If HD.2 (Universal ID) is valued.

.

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:  |Best Care LLC^897000761^DUNS|
```

2.3.14 HD_AA – Hierarchic Designator Assigning Authority

Table 17. Hierarchic Designator (HD_AA)

SEQ	LEN	DT	Usage	Value Set	Component Name	Comments
1			O		Namespace ID	

SEQ	LEN	DT	Usage	Value Set	Component Name	Comments
2	999	ST	C		Universal ID	**Conformance Statement:** If valued, must be an OID. **Condition Predicate**: **Usage**: C (O/R) **Predicate:** If HD.1 (Namespace ID) is valued.
3	6	ID	C		Universal ID Type	**Conformance Statement:** If valued, must take the value 'ISO'. **Condition Predicate**: **Usage**: C (R/X) **Predicate:** If HD.2 (Universal ID) is valued.

.

Usage: The Assigning Authority data type flavor is used in cases in which an OID is assigned to designate an assigning authority. If the implementer does not have the needed OID already assigned, HL7 should be contacted for guidance.

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

2.3.15 ID – Coded Value for HL7-Defined Tables

Table 18. Coded Value - HL7 Defined Table (ID)

SEQ	LEN	DT	Usage	Value Set	Component Name	Comments
1		-	R		Coded Value for HL7-Defined Tables	

```
Example:  |ABC|
```

2.3.16 IS – Coded Value for User-Defined Tables

Table 19. Coded Value - User Defined Table (IS)

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

```
Example:  |XYZ|
```

2.3.17 MSG – Message Type

Table 20. Message Type (MSG)

SEQ	LEN	DT	Usage	Value Set	Component Name	Comments
1	3	ID	R	Death Reporting Message Type (NCHS)	Message Code	
2	3	ID	R	Death Reporting Event Type (NCHS)	Trigger Event	
3	7	ID	R	Death Reporting Message Structure (NCHS)	Message Structure	

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

2.3.18 NM – Numeric

Table 21. Numeric (NM)

SEQ	LEN	DT	Usage	Value Set	Component Name	Comments
1	16	-	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|
```

2.3.19 PL – Person Location

Table 22. Person Location (PL)

SEQ	LEN	DT	Usage	Value Set	Component Name	Comments
1			O		Point of Care	
2			O		Room	
3			O		Bed	
4			O		Facility	
5			O		Location Status	

SEQ	LEN	DT	Usage	Value Set	Component Name	Comments
6	20	IS	R	Place of Death (NCHS)	Person Location Type	A code to indicate the type of place where the person died.
7			O		Building	
8			O		Floor	
9	199	ST	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		Comprehensive Location Identifier	
11			O		Assigning Authority for Location	

```
Example:  |^^^^^16983000^^^Best Care Hospice|
```

2.3.20 PT – Processing Type

Table 23. Processing Type (PT)

SEQ	LEN	DT	Usage	Value Set	Component Name	Comments
1	1	ID	R	Processing ID (HL7)	Processing ID	
2			O		Processing Mode	

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

2.3.21 SAD – Street Address

Table 24. Street Address (SAD)

SEQ	LEN	DT	Usage	Value Set	Component Name	Comments
1	120	ST	R		Street or Mailing Address	
2			O		Street Name	
3			O		Dwelling Number	

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

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

2.3.22 SI – Sequence ID

Table 25. Sequence ID (SI)

SEQ	LEN	DT	Usage	Value Set	Component Name	Comments
1	4	-	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|
```

2.3.23 ST – String Data

Table 26. String Data (ST)

SEQ	LEN	DT	Usage	Value Set	Component Name	Comments
1	999	-	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 Implementation Guide, the only allowed escape sequences are those allowed in *HL7 Version 2.6, Chapter 2, Section 2.7.4 - Special Character*. These are the escape sequences for the message delimiters (i.e., |^&~\).

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

2.3.24 TX – Text Data

Table 27. Text Data (TX)

SEQ	LEN	DT	Usage	Value Set	Component Name	Comments
1		-	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.|
```

2.3.25 VID – Version Identifier

Table 28. Version Identifier (VID)

SEQ	LEN	DT	Usage	Value Set	Component Name	Comments
1	5	ID	R		Version ID	**Conformance Statement**: VID.1 (Version ID) **SHALL** contain the constant value '2.6'.
2			O		Internationalization Code	
3			O		International Version ID	

```
Example:  |2.6|
```

2.3.26 XAD – Extended Address

The XAD data type has been specialized so as to illustrate the specific constraints on address location that are relevant to death reporting.

2.3.27 XAD_D – Extended Address Decedent

Address information for the decedent includes identification of the country of residence as well as an indication of whether or not the person lives within city limits.

Table 29. Extended Address (XAD_D)

SEQ	LEN	DT	Usage	Value Set	Component Name	Comments
1	184	SAD	RE		Street Address	
2	120	ST	RE		Other Designation	Example: Suite 555
3	50	ST	RE	City Places (NCHS)	City	
4	50	ST	RE	States Territories Provinces (NCHS)	State or Province	

SEQ	LEN	DT	Usage	Value Set	Component Name	Comments
5	12	ST	RE		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	R	Country (GEC)	Country	**Business Rule**: "US" is the default since most reports will relate to events taking place in the United State.
7			O		Address Type	
8	50	ST	RE	Yes No Unknown (YNU)	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
9	20	IS	RE	County	County/Parish Code	
10			O		Census Tract	
11			O		Address Representation Code	
12			B		Address Validity Range	Deprecated as of *HL7 Version 2.5*. See XAD-13 Effective Date and XAD-14 Expiration Date components.
13			O		Effective Date	
14			O		Expiration Date	
15			O		Expiration Reason	
16			O		Temporary Indicator	
17			O		Bad Address Indicator	
18			O		Address Usage	
19			O		Addressee	
20			O		Comment	
21			O		Preference Order	
22			O		Protection Code	
23			O		Address Identifier	

```
Example:  |143 Taylor Street^Apt. 2B^Annapolis^MD^21401^US^^Yes^Anne Arundel|
```

2.3.28 XAD_BP – Extended Address Birth Place

Address information for the birth place records either city and state, or (for persons not born in the United States) country.

Table 30. Extended Address (XAD_BP)

SEQ	LEN	DT	Usage	Value Set	Component Name	Comments
1			O		Street Address	
2			O		Other Designation	
3	50	ST	C	City Places (NCHS)	City	**Business Rule**: City is valued for birth places within the United States. **Condition Predicate:** **Usage**: Usage: C(O/R) **Predicate**: Predicate: If XAD.6 (Country) is valued.
4	50	ST	C	States Territories Provinces (NCHS)	State or Province	**Business Rule**: City is valued for birth places within the United States. **Condition Predicate:** **Usage**: Usage: C(O/R) **Predicate**: Predicate: If XAD.6 (Country) is valued.
5			O		Zip or Postal Code	
6	3	ID	R	Country (GEC)	Country	**Business Rule**: "US" is the default since most reports will relate to events taking place in the United State.
7			O		Address Type	
8			O		Other Geographic Designation	
9			RE		County/Parish Code	
10			O		Census Tract	
11			O		Address Representation Code	
12			B		Address Validity Range	Deprecated as of *HL7 Version 2.5*. See XAD-13 Effective Date and XAD-14 Expiration Date components.
13			O		Effective Date	

SEQ	LEN	DT	Usage	Value Set	Component Name	Comments
14			O		Expiration Date	
15			O		Expiration Reason	
16			O		Temporary Indicator	
17			O		Bad Address Indicator	
18			O		Address Usage	
19			O		Addressee	
20			O		Comment	
21			O		Preference Order	
22			O		Protection Code	
23			O		Address Identifier	

```
Example:  |^^Annapolis^MD|,
          |^^^^^FR|
```

2.3.29 XAD_OL – Extended Address Other Locations

Other locations include address locations in which none of the following are used: county code, country code, designation of inside or outside of city limits.

Table 31. Extended Address (XAD_OL)

SEQ	LEN	DT	Usage	Value Set	Component Name	Comments
1	184	SAD	RE		Street Address	
2	120	ST	RE		Other Designation	Example: Suite 555
3	50	ST	RE	City Places (NCHS)	City	
4	50	ST	RE	States Territories Provinces (NCHS)	State or Province	
5	12	ST	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.

SEQ	LEN	DT	Usage	Value Set	Component Name	Comments
6			O		Country	
7			O		Address Type	
8			O		Other Geographic Designation	
9			O		County/Parish Code	
10			O		Census Tract	
11			O		Address Representation Code	
12			B		Address Validity Range	Deprecated as of *HL7 Version 2.5*. See XAD-13 Effective Date and XAD-14 Expiration Date components.
13			O		Effective Date	
14			O		Expiration Date	
15			O		Expiration Reason	
16			O		Temporary Indicator	
17			O		Bad Address Indicator	
18			O		Address Usage	
19			O		Addressee	
20			O		Comment	
21			O		Preference Order	
22			O		Protection Code	
23			O		Address Identifier	

```
Example:  |143 Taylor Street^Apt. 2B^Annapolis^MD^21401|
```

2.3.30 XAD_PD – Extended Address Place of Death

Other locations include address locations in which the following are not used: country code, designation of inside or outside of city limits.

Table 32. Extended Address (XAD_PD)

SEQ	LEN	DT	Usage	Value Set	Component Name	Comments
1	184	SAD	RE		Street Address	
2	120	ST	RE		Other Designation	Example: Suite 555
3	50	ST	RE	City Places (NCHS)	City	
4	50	ST	RE	States Territories Provinces (NCHS)	State or Province	
5	12	ST	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			O		Country	
7			O		Address Type	
8			O		Other Geographic Designation	
9	20	IS	RE	County	County/Parish Code	
10			O		Census Tract	
11			O		Address Representation Code	
12			B		Address Validity Range	Deprecated as of *HL7 Version 2.5*. See XAD-13 Effective Date and XAD-14 Expiration Date components.
13			O		Effective Date	
14			O		Expiration Date	
15			O		Expiration Reason	
16			O		Temporary Indicator	
17			O		Bad Address Indicator	
18			O		Address Usage	
19			O		Addressee	

SEQ	LEN	DT	Usage	Value Set	Component Name	Comments
20			O		Comment	
21			O		Preference Order	
22			O		Protection Code	
23			O		Address Identifier	

Example: |143 Taylor Street^Apt. 2B^Annapolis^MD^21401|

2.3.31 XCN – Extended Composite ID Number and Name for Persons

Table 33. Extended Composite ID Number and Name (XCN)

SEQ	LEN	DT	Usage	Value Set	Component Name	Comments
1	15	ST	RE		ID Number	The ID Number component combined with the Assigning Authority component (component 9) and ID Type component (component 13) 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		Family Name	
3	30	ST	RE		Given Name	I.e., first name.
4	30	ST	RE		Second and Further Given Names or Initials Thereof	I.e., middle name.
5	20	ST	RE		Suffix (e.g., JR or III)	
6	20	ST	RE		Prefix (e.g., DR)	
7			B		Degree (e.g., MD)	Not supported. (Deprecated as of *HL7 Version 2.4*.) Use XCN-21 Professional Suffix.
8			O		Source Table	

SEQ	LEN	DT	Usage	Value Set	Component Name	Comments
9	227	HD_AA	C		Assigning Authority	The Assigning Authority component is used to identify the system, application, organization, etc. that assigned the ID Number in component 1. Condition Predicate: **Usage**: C(R/X) **Predicate**: If XCN.1 (ID Number) is valued.
10			O		Name Type Code	
11			O		Identifier Check Digit	
12			O		Check Digit Scheme	
13	5	ID	C	Death Reporting Identifier Type (NCHS)	Identifier Type Code	Condition Predicate: **Usage**: C(R/X) **Predicate**: If XCN.1 (ID Number) is valued.
14	227	HD	RE		Assigning Facility	
15			O		Name Representation Code	
16			O		Name Context	
17			B		Name Validity Range	Deprecated as of *HL7 Version 2.5*. See XCN-19 Effective Date and XCN-20 Expiration Date components.
18			O		Name Assembly Order	
19			O		Effective Date	
20			O		Expiration Date	
21			O		Professional Suffix	
22			O		Assigning Jurisdiction	
23			O		Assigning Agency or Department	

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

2.3.32 XCN_PS – Extended Composite ID Number and Name for Persons with Professional Suffix

The extension to the data type includes additional information for the certifying clinician.

Table 34. Extended Composite ID Number and Name (XCN_PS)

SEQ	LEN	DT	Usage	Value Set	Component Name	Comments
1	15	ST	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		Family Name	
3	30	ST	RE		Given Name	I.e., first name.
4	30	ST	RE		Second and Further Given Names or Initials Thereof	I.e., middle name.
5	20	ST	RE		Suffix (e.g., JR or III)	
6	20	ST	RE		Prefix (e.g., DR)	
7			B		Degree (e.g., MD)	Not supported. (Deprecated as of *HL7 Version 2.4*.) Use XCN-21 Professional Suffix.
8			O		Source Table	
9	227	HD_AA	C		Assigning Authority	The Assigning Authority component is used to identify the system, application, organization, etc. that assigned the ID Number in component 1. Condition Predicate: **Usage**: C(R/X) **Predicate**: If XCN.1 (ID Number) is valued.
10			O		Name Type Code	
11			O		Identifier Check Digit	
12			O		Check Digit Scheme	

SEQ	LEN	DT	Usage	Value Set	Component Name	Comments
13	5	ID	C	Death Reporting Identifier Type (NCHS)	Identifier Type Code	Condition Predicate: **Usage**: C(R/X) **Predicate**: If XCN.1 (ID Number) is valued.
14	227	HD	RE		Assigning Facility	
15			O		Name Representation Code	
16			O		Name Context	
17			B		Name Validity Range	Deprecated as of *HL7 Version 2.5*. See XCN-19 Effective Date and XCN-20 Expiration Date components.
18			O		Name Assembly Order	
19			O		Effective Date	
20			O		Expiration Date	
21	199	ST	RE	Certifier Titles (NCHS)	Professional Suffix	Records the title provided for the certifying clinician.
22			O		Assigning Jurisdiction	
23			O		Assigning Agency or Department	

```
Example:  |1234^Admit^Alan^A^III^Dr^^^&2.16.840.1.113883.19.4.6&ISO^^^^EI^General
Hospital^^^^^^^309343006|
```

2.3.33 XPN – Extended Person Name (XPN)

Table 35. Extended Person Name

SEQ	LEN	DT	Usage	Value Set	Component Name	Comments
1	194	FN	C		Family Name	I.e., last name. Condition Predicate: **Usage**: C (R/O) **Predicate**: If component 7, name type code, is anything but "S" (Pseudo name) or "U" (unknown name).
2	30	ST	RE		Given Name	I.e., first name. Condition Predicate: **Usage**: C (R/O) **Predicate**: If component 7, name type code, is anything but "S" (Pseudo name) or "U" (unknown name).
3	30	ST	RE		Second and Further Given Names or Initials Thereof	AKA Middle Name
4	20	ST	RE		Suffix (e.g., JR or III)	
5			O		Prefix (e.g., DR)	
6			O		Degree (e.g., MD)	
7	1	ID	RE	Death Reporting Name Type Code (NCHS)	Name Type Code	Used to differentiate between legal name and alias name of the decedent.
8			O		Name Representation Code	
9			O		Name Context	
10			B		Name Validity Range	Deprecated as of *HL7 Version 2.5*. See XPN-12 Effective Date and XPN-13 Expiration Date components.
11			O		Name Assembly Order	
12			O		Effective Date	
13			O		Expiration Date	
14			O		Professional Suffix	

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


3.Message Profiles

The implementers of death reporting will need to support one or more of the death reporting use cases, and to support one or more of the possible acknowledgement behaviors. Within an individual message, MSH.21 (Message Profile Identifier) is used to convey the set of profiles to which an individual message conforms.

3.1 MESSAGE PROFILE USE CASES

Death reporting includes the transmission of data from health care providers to jurisdictional vital records offices, and onward to the national statistical agency, the Centers for Disease Control and Prevention/National Center for Health Statistics (CDC/NCHS). In addition, data is returned from the national statistical agency to the jurisdictional vital records office. Supporting these requirements requires implementing five use cases. These use cases support the relevant flows of death information between the included parties. The use cases are:

- Provider Supplied Death Information Messaging
- Jurisdiction Death Information Messaging
- Void Certificate Reporting Messaging
- Coded Cause of Death Messaging
- Coded Race/Ethnicity Messaging

The death reporting information flow diagram (Figure 1) gives a high level view of the information exchanges that are involved.

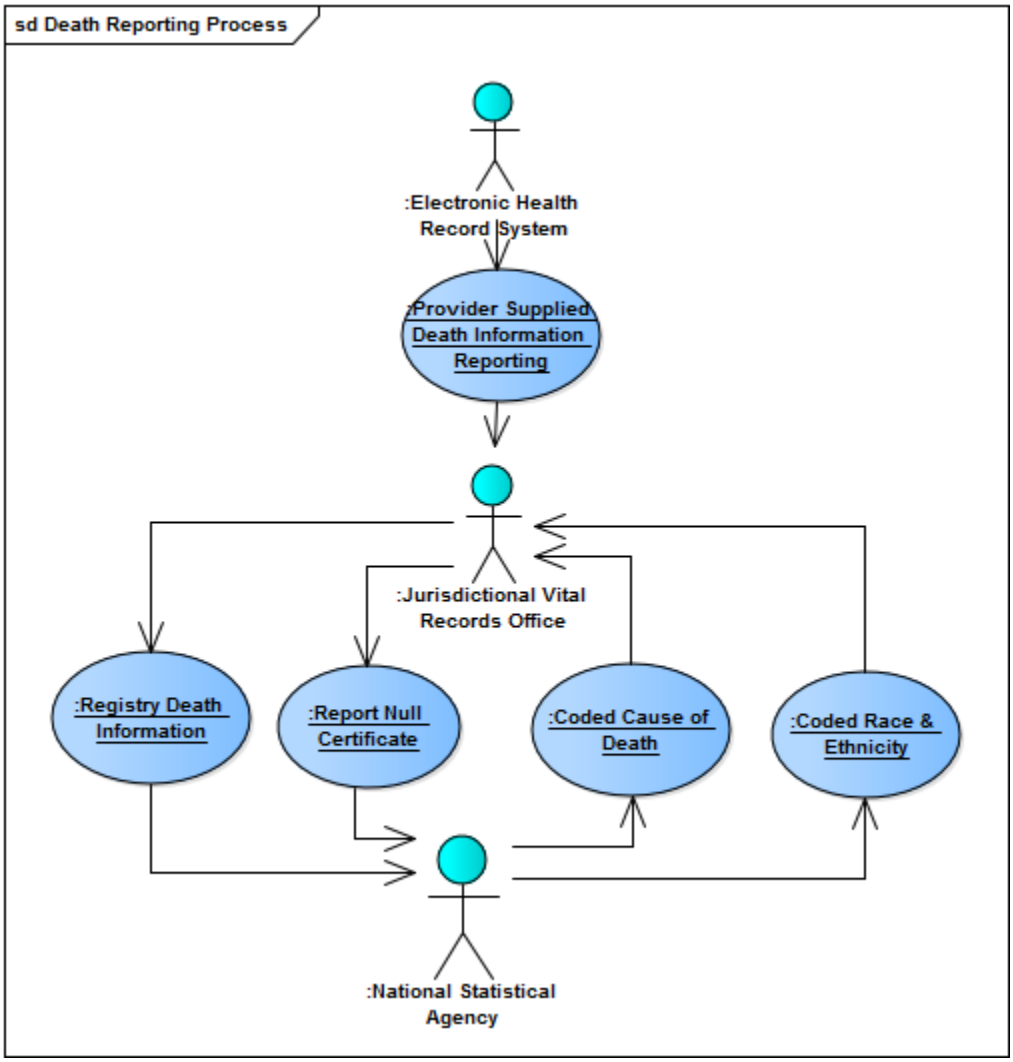

Figure 1. Death Reporting Information Flow

The implementation guide makes use of three trigger events from Chapter 3 – Patient Administration – of HL7 Version 2.6 to support these use cases. The support of each use case is described in the sections that follow. In addition, use case dependent variation in usage – of segments, fields, and observation types – is defined in the relevant tables below.

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 Vital Records Office.

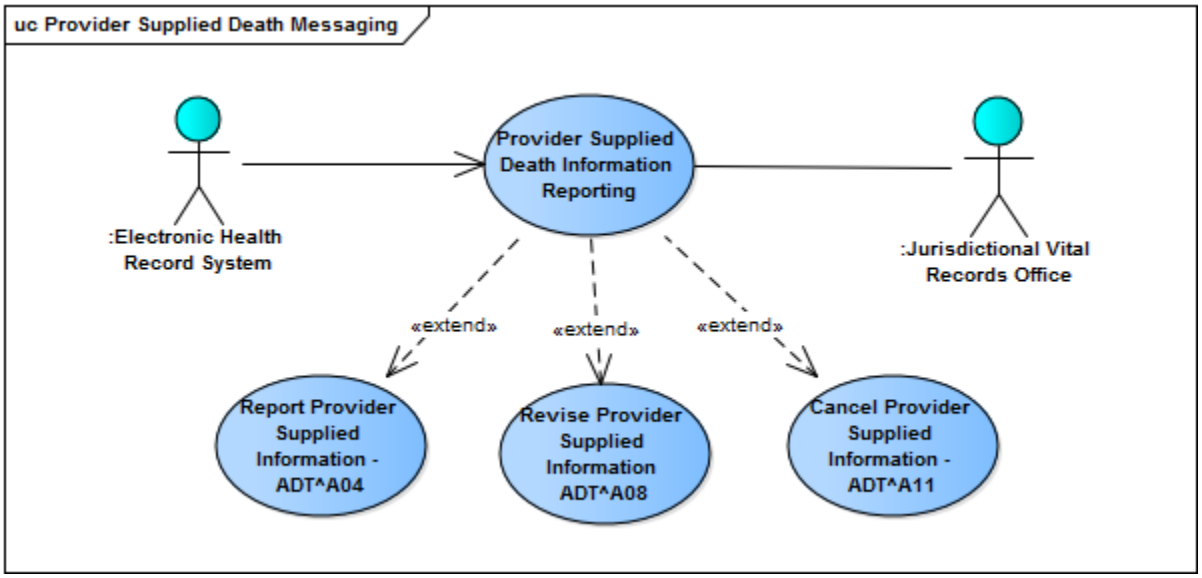

Figure 2. Provider Supplied Death Information Messaging

Table 36. Provider Supplied Death Reporting Use Case Details

Item	Detail
Description	The *Provider Supplied Death Information Messaging Use Case* focuses on the communication of that portion of the death record collected by clinicians that is appropriate for use by local, state, and territorial vital statistics agencies using *HL7 2.6* trigger events and messages. The goal of the use case is to provide safe, reliable delivery of relevant clinical information to vital records. 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 Vital Records Office – The jurisdictional vital records office receiver 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 are to be completed by the medical certifier must conform 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 using trading partner agreements.

3.1.2 Jurisdiction Death Information Messaging

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

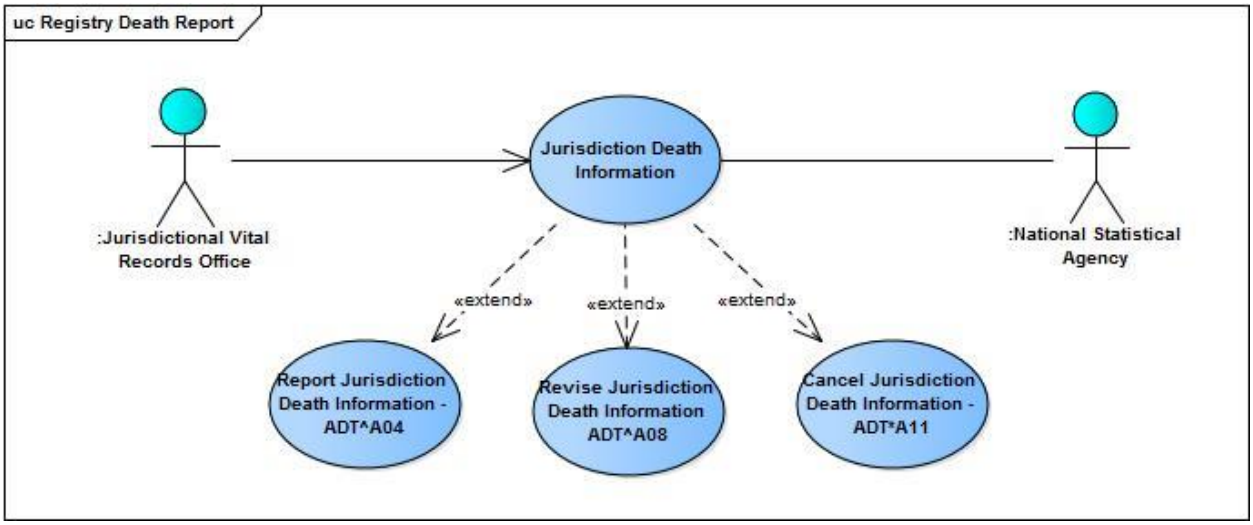

Figure 3. Jurisdiction Death Information Messaging

Table 37. Jurisdiction Death Reporting Use Case Details

Item	Detail
Description	The *Jurisdiction Death Information Use Case* focuses on 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* trigger events and messages. The goal of the use case is to provide safe, reliable delivery of death related information to the national statistical agency.
Actors	Jurisdictional Vital Records Office – The jurisdictional vital records office 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 receiver 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 Void Certificate Reporting Messaging

The *Void Certificate Reporting Use Case* Model has two participating actors, the Jurisdictional Vital Records Office – the initiator of the use case - and the National Statistics Agency.

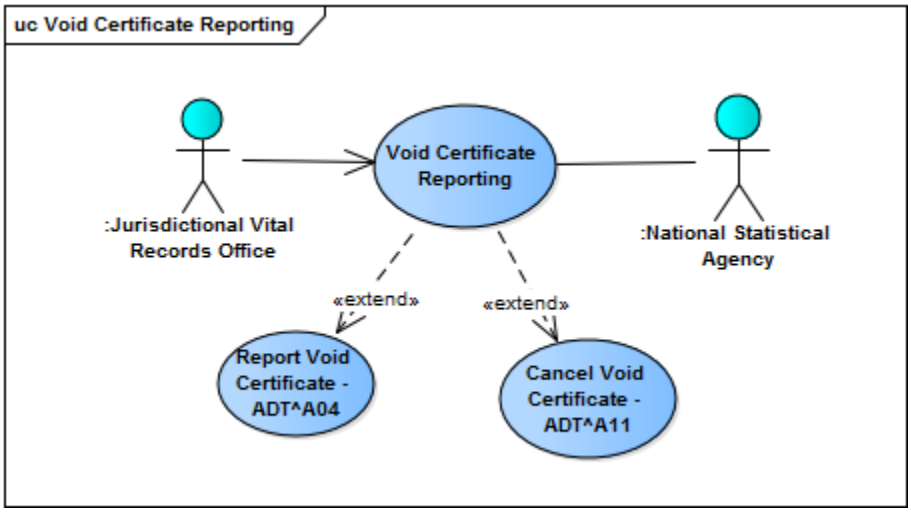

Figure 4. Void Certificate Reporting Messaging

Table 38. Void Certificate Reporting Use Case Details

Item	Detail
Description	The *Void Certificate Reporting Use Case* focuses on the communication of information for void death certificates from appropriate local, state, and territorial vital statistics agencies to the national center using the *HL7 2.6* trigger events and messages. In many jurisdictions, death certificate identifiers (certificate number) are directly linked to the printed certificate. As a result, in some cases it becomes relevant to indicate that a particular certificate number is not to be used, that the certificate is to be "voided". 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
Actors	Jurisdictional Vital Records Office – The jurisdictional vital records office 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 receiver 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: Senders and receivers are clear regarding the association of the certificate identifier with a printed or potentially printed death certificate.

3.1.4 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 Vital Records Office.

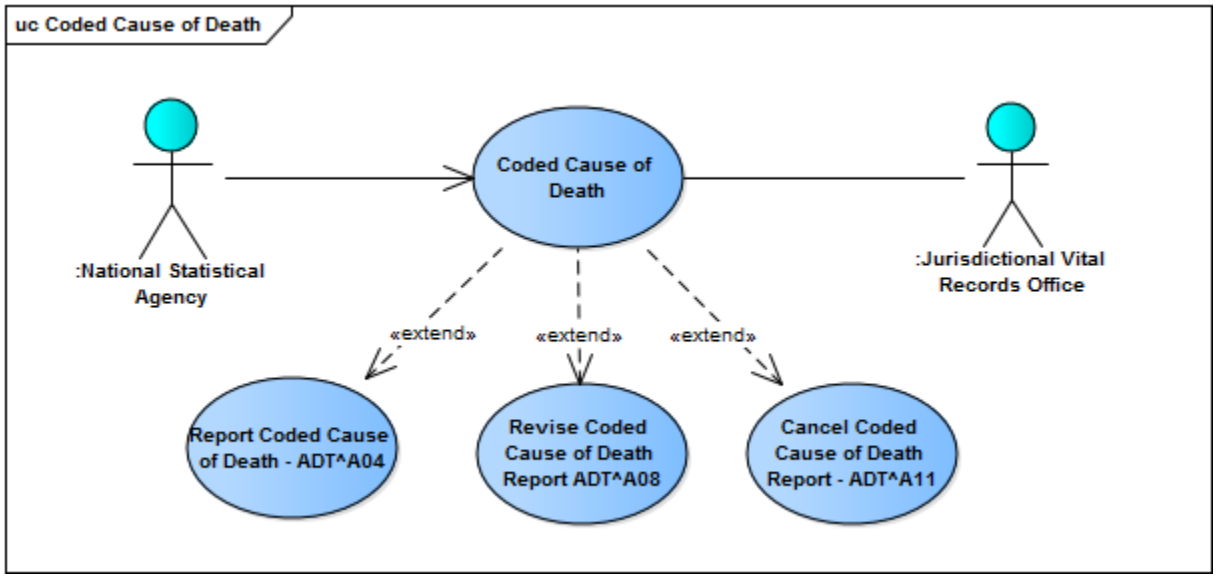

Figure 5. Cause of Death Code Messaging

Table 39. 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* trigger events and messages. The coded cause of death information is based on the text literals provided as part of the provider supplied death information. It includes the set of codes that is created as a direct transformation of the text phrases supplied, as well as a set of codes that have been processed to eliminate duplicate concepts. The goal of the use case is to provide safe, reliable delivery of coded cause of death information to vital records.
Actors	National Statistical Agency – The national statistical agency sender 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 Vital Records Office – The jurisdictional Vital Records Office receiver 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.

3.1.5 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 Vital Records Office.

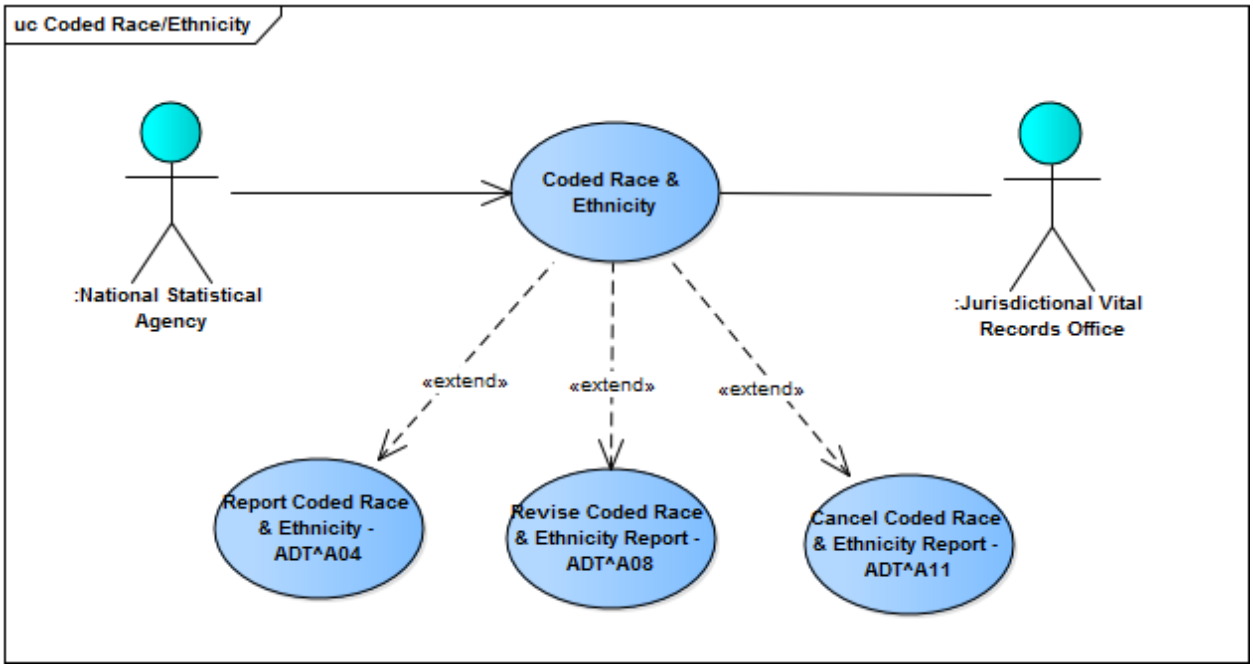

Figure 6. Coded Race/Ethnicity Messaging

Table 40. Coded Race/Ethnicity Messaging 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* trigger events and messages. The message will take the race and ethnicity data that has been submitted to the national statistical agency, and return this information in a coded form to the jurisdictional vital records office. Two sets of codes will be returned to address two objectives. These are: a) to generate codes for race or ethnicity data provided as text entries, and b) to generate a single race code in cases where multiple races have been reported. In addition, when the coding process has led to duplication of data, the duplicates will be eliminated. The goal of the use case is to provide safe, reliable delivery of coded race and ethnicity information to vital records.
Actors	National Statistical Agency – The national statistical agency sender 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 Vital Records Office – The jurisdictional vital records office receiver 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: Race and ethnicity codes will be assigned to provide a firm basis for time series compatibility for prior year's data.

3.2 USE CASE BASED INTERACTION PROFILES

Table 42 lists the several interactions that are needed to fully support the identified use cases and trigger events. Each interaction is identified as a base message profile, and assigned a Base Profile ID. The tables for abstract messages, segments, and supported observation type, define the usage constraints for the different use cases. It is expected a system implementing one of the identified roles will support each interaction associated with that role, both as sender and as receiver.

Table 41. Death Reporting Interactions

Event	Description	Base Profile ID	Msg. Type	Sender Role	Receiver Role
Report Provider Supplied Death Information	Information about a patient death is transmitted to Vital Records.	PSDIA04_V1.0	ADT^A04	Electronic Health Record Sender	Jurisdictional Vital Records Office
Revise Provider Supplied Death Information	A revision to information about a patient death is transmitted to Vital Records.	PSDIA08_V1.0	ADT^A08	Electronic Health Record Sender	Jurisdictional Vital Records Office
Cancel Provider Supplied Death Information	Cancellation of information about a patient death is transmitted to Vital Records.	PSDIA11_V1.0	ADT^A11	Electronic Health Record Sender	Jurisdictional Vital Records Office
Report Jurisdiction Death Information	Information about a patient death is transmitted to the National Statistical Agency.	JDIA04_V1.0	ADT^A04	Jurisdictional Vital Records Office	National Statistical Agency
Revise Jurisdiction Death Information	A revision to information about a patient death is transmitted to the National Statistical Agency.	JDIA08_V1.0	ADT^A08	Jurisdictional Vital Records Office	National Statistical Agency
Cancel Jurisdiction Death Information	Cancellation of information about a patient death is transmitted to the National Statistical Agency.	JDIA11_V1.0	ADT^A11	Jurisdictional Vital Records Office	National Statistical Agency
Report Void Certificate	Information about a void certificate is transmitted to the National Statistical Agency.	RVCA04_V1.0	ADT^A04	Jurisdictional Vital Records Office	National Statistical Agency
Cancel Void Certificate	Cancellation of information about a void certificate is transmitted to the National Statistical Agency.	RVCA11_V1.0	ADT^A11	Jurisdictional Vital Records Office	National Statistical Agency
Report Coded Cause of Death	Information containing coded cause of death information is transmitted to the Jurisdictional Vital Records Office	CCODA04_V1.0	ADT^A04	National Statistical Agency	Jurisdictional Vital Records Office

Event	Description	Base Profile ID	Msg. Type	Sender Role	Receiver Role
Revise Coded Cause of Death Report	A revision to information containing coded cause of death information is transmitted to the Jurisdictional Vital Records Office	CCODA08_V1.0	ADT^A08	National Statistical Agency	Jurisdictional Vital Records Office
Cancel Coded Cause of Death Report	Cancellation of information containing coded race & ethnicity information is transmitted to the Jurisdictional Vital Records Office	CCODA11_V1.0	ADT^A11	National Statistical Agency	Jurisdictional Vital Records Office
Report Coded Race & Ethnicity	Information containing coded race & ethnicity information is transmitted to the Jurisdictional Vital Records Office	CREIA04_V1.0	ADT^A04	National Statistical Agency	Jurisdictional Vital Records Office
Revise Coded Race & Ethnicity Report	A revision to information containing coded race & ethnicity information is transmitted to the Jurisdictional Vital Records Office	CREIA08_V1.0	ADT^A08	National Statistical Agency	Jurisdictional Vital Records Office
Cancel Coded Race & Ethnicity Report	Cancellation of information containing coded cause of death information is transmitted to the Jurisdictional Vital Records Office	CREIA11_V1.0	ADT^A11	National Statistical Agency	Jurisdictional Vital Records Office
Accept Acknowledgement	Information regarding the acceptance of an HL7 message is transmitted to the message sender.	ACK_V1.0	ACK^A04, ACK^A08, ACK^A11	Jurisdictional Vital Records Office, National Statistical Agency	Electronic Health Record Sender, Jurisdictional Vital Records Office, National Statistical Agency
Application Acknowledgement	Information regarding the processing of an HL7 message is transmitted to the message sender.	ACK_V1.0	ACK^A04, ACK^A08, ACK^A11	Jurisdictional Vital Records Office, National Statistical Agency	Electronic Health Record Sender, Jurisdictional Vital Records Office, National Statistical Agency

3.3 DYNAMIC MESSAGE BEHAVIOR MODEL

HL7 has defined two sets of rules by which a message receiver may respond to a message it has received. These are known as the "original processing" rules, and the "enhanced acknowledgement" rules. This guide makes use of the enhanced acknowledgement rules. Enhanced acknowledgement rules define two points within a message receiver's work flow at which an acknowledgement may be sent, based on the parameters defined within the message being processed. The standard notes:

a) the responding system receives the message and commits it to safe storage. This means that the responding system accepts the responsibility for the message in a manner that releases the sending system from any obligation to resend the message. The responding system now checks the message header record to determine whether or not the initiating system requires an accept acknowledgment message indicating successful receipt and secure storage of the message. If it does, the accept acknowledgment message is constructed and returned to the initiator.

b) at this point, the requirements of the applications involved in the interface determine whether or not more information needs to be exchanged. This exchange is referred to as an application acknowledgment and includes information ranging from simple validation to a complex application-dependent response. If the receiving system is expected to return application-dependent information, it initiates another exchange when this information is available. This time, the roles of initiator and responder are reversed.[2]

Within this set of rules for responding to a message, the receiving system needs to be aware of the sender's need for acknowledgement as defined by two fields within the MSH segment: MSH.15 Accept Acknowledgement Type, and MSH.16 Application Acknowledgement Type. These two fields – both drawing on the same value set – indicate whether an acknowledgment is always expected, never expected or conditionally expected. It should be noted that, since messages from HL7 Chapter 3 are being used, the same abstract message (segment pattern) is used for the accept acknowledgment and the application acknowledgement.

The general premise of death reporting messaging is the importance of providing safe, reliable delivery of relevant clinical information to vital records. However, it is also possible that the sending system will find it useful to receive acknowledgement that the receiver of a message was able to process it effectively. As result, this implementation guide allows implementers to make use of both types of acknowledgement. However, if Public Health Information Network Messaging System (PHIN MS)is used for transport, then use of the HL7 Accept Acknowledgments may be unnecessary. PHIN MS does not ensure that the payload conforms to HL7 formatting rules, however it does provide safe and reliable transport.

This implementation guide does not enforce acknowledgement behavior for the systems that exchange death reporting messages. The guide will allow senders and receivers to either support or not support Accept and Application Acknowledgements for the original message using profiles.

- For the Accept Acknowledgement, we will create two component profiles: (1) required support for generating/receiving Accept Acknowledgments by requiring support for the value of AL in MSH-15 and (2) required support for not generating/receiving Accept Acknowledgments by requiring support for the value of NE in MSH-15. Profile (1) is expected to be useful in a point-to-point communication scenario. Profile (2) is expected to be useful in a scenario where the communication process ensures delivery (such as PHIN-MS)
- For the Application Acknowledgement, we will create two component profiles: (3) required support for generating/receiving Application Acknowledgments by requiring support for the value of AL in MSH-16 and (4) required support for not generating/receiving Application Acknowledgments by requiring support for the value of NE in MSH-16. Profile (3) results in a simpler exchange but requires manual error correction workflows to be established. Profile (4) helps automate error management but is a more complex integration.

This guide does not expect that an acknowledgement – of either type – would be sent on receipt of an acknowledgement.

Figure 7 outlines the acknowledgement behaviors:

[2] Page 25, Chapter 2 Control, HL7 Version 2.6

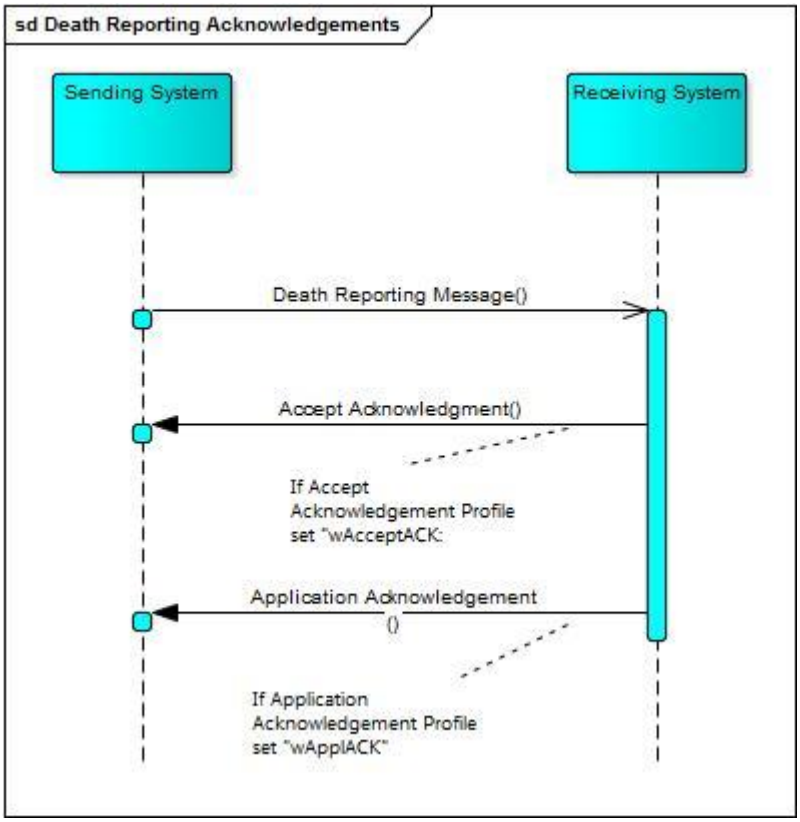

Figure 7. Death Reporting Acknowledgements

A conformant system will have to support at least one of the two Accept ACK profiles, and at least one of the two Application ACK profiles. Implementers are encouraged, given the variety of possible architectures, to support multiple profiles. Implementers are required, within each message instance, to declare which Accept ACK profile and which Application ACK profile has been chosen. In the message, MSH-21 will be expected to declare at least 3 profiles: the base profile, one MSH-15 profile, and one MSH-16 profile. It is expected that systems exchanging messages will agree on the acknowledgement behavior that both sending and receiving systems will need to support.

3.4 ACKNOWLEDGEMENT PROFILES

The accept acknowledgement profile is used to indicate whether or not the receiver of a death reporting message is expected to provide an accept acknowledgement.

Table 42. Accept Acknowledgement Profiles

Behavior	Description	Accept ACK Profile ID	Msg. Type	Data Requirement
wAcceptACK	Receipt and storage of a message is to be acknowledged with an acknowledgement message.	WACPTACK_V1.0	ADT^A04, ADT^A08, ADT^A11	MSH.15 = “AL”
woAcceptACK	Receipt and storage of a message is not to be acknowledged.	WOACPTACK_V1.0	ADT^A04, ADT^A08, ADT^A11	MSH.15 = “NE”

The application acknowledgement profile is used to indicate whether or not the receiver of a death reporting message is expected to provide an application acknowledgement.

Table 43. Application Acknowledgement Profiles

Behavior	Description	Application ACK Profile ID	Msg. Type	Data Requirement
wApplACK	Application processing of a message is to be acknowledged with an acknowledgement message.	WAPPLACK_V1.0	ADT^A04, ADT^A08, ADT^A11	MSH.16=”AL”
woApplACK	Application processing of a message is not to be acknowledged.	WOAPPLACK_V1.0	ADT^A04, ADT^A08, ADT^A11	MSH.16=”NE”

4.References

This section includes 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.

5.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.

5.1 ADT^A04, ADT^A08

Within the context of this document, the ADT^A04 (Register a Patient) message is constrained for the first transmission of information about a person's death within the context of a particular use case. The ADT^A08 (Update Patient Information) message is constrained for updating previously transmitted information. Since the segment pattern of the message does not change even though it responds to a different trigger event, it is only shown once.

Table 44. Abstract Message - ADT^A04, ADT^A08

Segment	Name	Card.	Usage					Description
			PSDI	JDI	JDI – VOID	CCOD	CREI	
MSH	Message Header	[1..1]	R	R	R	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		O	O	O	O	O	
[{UAC}]	User Authentication Credential		O	O	O	O	O	
EVN	Event Type	[1..1]	R	R	R	R	R	The Event Type (EVN) segment is used within ADT messaging to transmit trigger event information.
PID	Patient Identification	[1..1]	R	R	R	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		O	O	O	O	O	
{ROL}]	Role		O	O	O	O	O	

Segment	Name	Card.	Usage					Description
			PSDI	JDI	JDI – VOID	CCOD	CREI	
[{NK1}]	Next of Kin/Associated Parties		O	O	O	O	O	
PV1	Patient Visit	[1..1]	R	R	R	R	R	Required within the HL7 specification.
[PV2]	Patient Visit – Additional Information		O	O	O	O	O	
[{ROL}]	Role		O	O	O	O	O	
[{DB1}]	Disability Information		O	O	O	O	O	
{OBX}	Observation/Result	[1..*]	R	R	O	R	R	The Observation segment is used to provide additional relevant information.
[{AL1}]	Allergy Information		O	O	O	O	O	
[{DG1}]	Diagnosis Information		O	O	O	O	O	
[DRG]	Diagnosis Related Group		O	O	O	O	O	
[{	***Procedure Begin***		O	O	O	O	O	
PR1	Procedure		O	O	O	O	O	
[{ROL}]	Role		O	O	O	O	O	
}]	***Procedure End***							
[{GT1}]	Guarantor		O	O	O	O	O	
[{	***Insurance Begin***		O	O	O	O	O	
IN1	Insurance		O	O	O	O	O	
[IN2]	Insurance Additional Info.		O	O	O	O	O	

Segment	Name	Card.	Usage					Description
			PSDI	JDI	JDI – VOID	CCOD	CREI	
[{IN3}]	Insurance Additional Info – Cert.		O	O	O	O	O	
[{ROL}]	Role		O	O	O	O	O	
}]	***Insurance End***							
[ACC]	Accident Information		O	O	O	O	O	
[UB1]	Universal Bill Information		O	O	O	O	O	
[UB2]	Universal Bill 92 Information		O	O	O	O	O	
[PDA]	Patient Death and Autopsy	[1..1]	R	R	O	O	O	The segment carries information on a patient's death and possible autopsy. It is required for the provider and jurisdiction death reports, but not included within the coded cause of death and coded race/ethnicity messages.

5.2 ADT^A11

Within the context of this document, the ADT^A11 (Cancel Admit/Visit Notification) message is used for transmitting information about the cancellation of a previously sent transaction within the context of a particular use case.

Table 45. Abstract Message - ADT^A11

ent in dard	Name	Card.	Usage					Description
			PSDI	JDI	JDI-VOID	CCOD	CREI	
	Message Header	[1..1]	R	R	R	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.
	Software Segment		O	O	O	O	O	

ent in dard	Name	Card.	Usage					Description
			PSDI	JDI	JDI-VOID	CCOD	CREI	
	User Authentication Credential		O	O	O	O	O	
	Event Type	[1..1]	R	R	R	R	R	The Event Type (EVN) segment is used within ADT messaging to transmit trigger event information.
	Patient Identification	[1..1]	R	R	R	R	R	The patient identification (PID) segment is used to provide basic demographics to allow identification of the pers and matching of the record with information provided by the funeral director.
	Additional Demographics		O	O	O	O	O	
	Patient Visit	[1..1]	R	R	R	R	R	Required within the HL7 specification.
	Patient Visit – Additional Information		O	O	O	O	O	
	Disability Information		O	O	O	O	O	
	Observation/Result		O	O	O	O	O	
	Diagnosis Information		O	O	O	O	O	

5.3 ACK^A04^ACK, ACK^A08^ACK, ACK^A11^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 46. Abstract Message: ACK

Segment in Standard	Name	Card. (All)	Usage	Description
MSH	Message Header	[1..1]	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		O	
[{UAC}]	User Authentication Credential		O	

Segment in Standard	Name	Card. (All)	Usage	Description
MSA	Message Acknowledgment	[1..1]	R	
[{ ERR }]	Error	[0..*]	C	The ERR segment is used to add error comments to acknowledgment messages. **Condition Predicate**: **Usage**: Usage: C(X/**R**) **Predicate**: If MSA.1 (Acknowledgment Code) is valued 'AA' or 'CA'.

6.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.

6.1 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 47. Message Header Segment (MSH)

Seq	Len	DT	Card.	Usage						Value Set	Element Name	Description/Comments
				PSDI	JDI	JDI - VOID	CCOD	CREI	ACK			
1	1	ST	[1..1]	R	R	R	R	R	R		Field Separator	Character to be used as the field separator for the rest of the message. **Conformance Statement**: MSH-1 (Field Separator) **SHALL** contain the constant value '|'.
2	4	ST	[1..1]	R	R	R	R	R	R		Encoding Characters	Four characters, always appearing in the same order: |^~\&|. **Conformance Statement**: MSH-2 (Encoding Characters) **SHALL** contain the constant value '^~\&'
3	227	HD	[1..1]	R	R	R	R	R	R		Sending Application	Field is used to identify the sending application uniquely for messaging purposes. Example: |StateAppID |
4	227	HD	[1..1]	R	R	R	R	R	R		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	Card.	Usage						Value Set	Element Name	Description/Comments
				PSDI	JDI	JDI - VOID	CCOD	CREI	ACK			
5	227	HD	[1..1]	R	R	R	R	R	R		Receiving Application	Field is used to identify the receiving application uniquely for messaging purposes. Example: |Lab1 |
6	227	HD	[1..1]	R	R	R	R	R	R		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	24	DTM_S	[1..1]	R	R	R	R	R	R		Date/Time Of Message	Field containing the date/time the message was created by the sending system. 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. **Conformance Statement**: MSH.7 SHALL match YYYYMMDDHHMMSS[.S[S[S[S]]]]+/-ZZZZ
8			[0..1]	O	O	O	O	O	O		Security	
9	15	MSG	[1..1]	R	R	R	R	R	R	Death Reporting Message Type (HL70076)	Message Type	For the death report messages, the value will vary. It will indicate the trigger event and the abstract message type.
10	199	ST	[1..1]	R	R	R	R	R	R		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.

Seq	Len	DT	Card.	Usage						Value Set	Element Name	Description/Comments
				PSDI	JDI	JDI - VOID	CCOD	CREI	ACK			
11	3	PT	[1..1]	R	R	R	R	R	R		Processing ID	Field is used to indicate the intent for processing the message, such as "T" (training,) "D" (debug,) or "P" (production.)
12	60	VID	[1..1]	R	R	R	R	R	R		Version ID	HL7 version number used to interpret format and content of the message. **Conformance Statement**: The version ID will always be Literal Value: *2.6*.
13				O	O	O	O	O	O		Sequence Number	
14				O	O	O	O	O	O		Continuation Pointer	
15	2	ID	[1..1]	R	R	R	R	R	R	Accept Application Acknowledgement Conditions (HL7)	Accept Acknowledgment Type	
16	2	ID	[1..1]	R	R	R	R	R	R	Accept Application Acknowledgement Conditions (HL7)	Application Acknowledgment Type	
17	3	ID	[0..1]	RE	RE	RE	RE	RE	RE	Country (GEC)	Country Code	The expected value is 'US', and may be assumed if no value is passed in the field.
18				O	O	O	O	O	O		Character Set	
19				O	O	O	O	O	O		Principal Language Of Message	
20				O	O	O	O	O	O		Alternate Character Set Handling Scheme	

Seq	Len	DT	Card.	Usage						Value Set	Element Name	Description/Comments
				PSDI	JDI	JDI - VOID	CCOD	CREI	ACK			
21	427	EI	[1..1]	1	R	R	R	R	R	Death Reporting Profiles (NCHS), Accept Acknowledgment Profiles, Application Acknowledgement Profiles	Message Profile Identifier	The field is used to indicate the Interaction Profile, and Acknowledgement profiles that should be referred to when parsing the message.
22				O	O	O	O	O	O		Sending Responsible Organization	
23				O	O	O	O	O	O		Receiving Responsible Organization	
24				O	O	O	O	O	O		Sending Network Address	
25				O	O	O	O	O	O		Receiving Network Address	

MSH|^~\&|89898989|Best Care LLC|StateAppID|VRDept|20151018183312-0400||ADT^A04^ADT_A01|1223334499|P|2.6|||AL|NE|US||EN^English^ISO639||PSDI_v1.0^PHIN VS 0

6.2 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 48. Acknowledgement Segment (MSA)

Seq	Len	DT	Card.	Usage ACK	Value Set	Element Name	Description/Comments
1	2	ID	[1..1]	R	Acknowledgement Code (HL7)	Acknowledgment Code	Acknowledgment code indicating receipt of message.
2	199	ST	[1..1]	R		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				B		Text Message	Deprecated as of *HL7 Version 2.4*. See ERR segment.
4				O		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				B		Error Condition	Deprecated as of *HL7 Version 2.4*. See ERR segment.
7				O		Message Waiting Number	
8				O		Message Waiting Priority	

Example:
MSA|CA|20070701132554000008

6.3 ERR – ERROR SEGMENT

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

Table 49. Error Segment (ERR)

Seq	Len	DT	Card.	Usage ASK	Value Set	Element Name	Description/Comments
1				B		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		Error Location	
3	705	CWE	[1..1]	R	Message Error Condition Codes	HL7 Error Code	Identifies the HL7 error code.
4	2	ID	[1..*]	R	Error Severity (HL7)	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	Application Error Code (NCHS)	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				O		Application Error Parameter	
7	2048	TX	[0..1]	RE		Diagnostic Information	Information that may be used by help desk or other support personnel to diagnose a problem.
8	250	TX	[0..1]	RE		User Message	
9				O		Inform Person Indicator	
10				O		Override Type	
11				O		Override Reason Code	
12				O		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

6.4 EVN – EVENT TYPE SEGMENT

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

Table 50. Event Type Segment (EVN)

Seq	Len	DT	Card.	Usage					Value Set	Element Name	Description/Comments
				PSDI	JDI	JDI-VOID	CCOD	CREI			
1				B	B	B	B	B		Event Type Code	Not supported, since the needed content is carried in MSH.9.
2	24	DTM_S	[1..1]	R	R	R	R	R		Recorded Date/Time	
3				O	O	O	O	O		Date/Time Planned Event	
4	3	IS	[0..1]	O	R	R	O	O	Death Reporting Event Reason (NCHS)	Event Reason Code	Indicates whether the transmission includes valid information or not.
5				O	O	O	O	O		Operator ID	
6				O	O	O	O	O		Event Occurred	
7				O	O	O	O	O		Event Facility	

Example: EVN| |201103141705|

6.5 PID – PATIENT IDENTIFICATION SEGMENT

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 or data from previously submitted messages. 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 51. Patient Identification Segment (PID)

Seq	Len	DT	Card.	Usage					Value Set	Element Name	Description/ Comments
				PSDI	JDI	JDI – VOID	CCOD	CREI			
1	4	SI	[1..1]	R	R	R	R	R		Set ID – PID	A number which identifies the occurrence of the PID segment within the transaction. **Conformance Statement**: PID.1 (Set ID - PID) **SHALL** be valued with the constant value '1'.
2				B	B	B	B	B		Patient ID	Deprecated as of *HL7 Version 2.3.1*. See PID.3 Patient Identifier List.
3	250	CX	[1..*]	R	R	R	R	R		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. This field is also used to support identifiers for the death certificate. **Business Rule**: If SSN cannot be included, one of the following null flavor values should be used: "NA" should be used when there is no SSN, as in non-US citizens, and newborns. ""UNK" should be used when the SSN is unknown and the informant cannot provide it, as in reporting the death of an unidentified person. "OTH" should be used when a social security number was provided and later determined to be not valid The value "99999999" may continue to be used for persons who do not have a social security number. **Conformance Statement:** PID.3.5 (Identifier Type Code) shall be valued with one of the following values from the Death Reporting Identifier Type (NCHS) value set: SS, DC, or DCFN.

Seq	Len	DT	Card.	Usage					Value Set	Element Name	Description/ Comments
				PSDI	JDI	JDI – VOID	CCOD	CREI			
4				B	B	B	B	B		Alternate Patient ID – PID	Deprecated as of *HL7 Version 2.3.1*. See PID-3.
5	250	XPN	[1..*]	R	R	R	R	R		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				B	B	B	B	B		Mother's Maiden Name	
7	24	DTM_D	[0..1]	RE	RE	O	O	O		Date/Time of Birth	Patient's date of birth. If the birth information is not known, leave the field empty.
8	1	IS	[0..1]	R	R	O	O	O	Sex (MFU)	Administrative Sex	Patient's sex.
9				B	B	B	B	B		Patient Alias	Deprecated as of *HL7 Version 2.4*. See PID-5 Patient Name.
10	705	CWE	[0..*]	O	R	O	O	R	Race (NCHS)	Race	Race information for the decedent.
11	250	XAD_D	[0..1]	R	R	O	O	O		Patient Address	Street address, city, state and zip code are expected.
12				B	B	B	B	B		County Code	Deprecated as of *HL7 Version 2.3*. See PID-11 - Patient Address, component 9 County/Parish Code.
13				O	O	O	O	O		Phone Number – Home	
14				O	O	O	O	O		Phone Number – Business	

Seq	Len	DT	Card.	Usage					Value Set	Element Name	Description/ Comments
				PSDI	JDI	JDI – VOID	CCOD	CREI			
15				O	O	O	O	O		Primary Language	
16	705	CWE	[0..1]	O	RE	O	O	O	Marital Status (NCHS)	Marital Status	Marital (civil) status of the decedent.
17				O	O	O	O	O		Religion	
18				B	B	B	B	B		Patient Account Number	
19				B	B	B	B	B		SSN Number – Patient	Deprecated as of *HL7 Version 2.3.1*. See PID-3 Patient Identifier List.
20				B	B	B	B	B		Driver's License Number – Patient	Deprecated as of *HL7 Version 2.5*. See PID-3 Patient Identifier List.
21				O	O	O	O	O		Mother's Identifier	
22	705	CWE	[0..*]	O	R	O	O	R	Ethnicity Group (NCHS), Ethnicity Detail (NCHS)	Ethnic Group	Information regardIng the Hispanic origin of the decedent.
23				O	O	O	O	O		Birth Place	
24				O	O	O	O	O		Multiple Birth Indicator	
25				O	O	O	O	O		Birth Order	
26				O	O	O	O	O		Citizenship	
27				O	O	O	O	O		Veterans Military Status	
28				B	B	B	B	B		Nationality	Deprecated as of *HL7 Version 2.4*. See PID-10 Race, PID-22 Ethnic Group, and PID-26 Citizenship.
29	24	DTM_YDR	[1..1]	R	R	O	R	R		Patient Death Date and Time	**Business Rule**: At least a year must be provided, even if the date is not known with certainty.

Seq	Len	DT	Card.	Usage					Value Set	Element Name	Description/ Comments
				PSDI	JDI	JDI – VOID	CCOD	CREI			
30	1	ID	[1..1]	R	R	O	R	R	Yes No Indicator (HL7)	Patient Death Indicator	The patient is known to be dead. **Conformance Statement**: PID.30 (Patient Death Indicator) SHALL BE valued 'Y'
31				O	O	O	O	O		Identity Unknown Indicator	
32				O	O	O	O	O		Identity Reliability Code	
33				O	O	O	O	O		Last Update Date/Time	
34				O	O	O	O	O		Last Update Facility	
35				O	O	O	O	O		Species Code	
36				O	O	O	O	O		Breed Code	
37				O	O	O	O	O		Strain	
38				O	O	O	O	O		Production Class Code	
39				O	O	O	O	O		Tribal Citizenship	

Example:
PID|1||222334567^^^&2.16.840.1.113883.4.1&ISO^SS||Everyman^Adam^A^^^^L ~Everyman^Ace^^^^^A||20050602|M|| 2106-3^White^CDCREC~2054-6^Black or African American^CDCREC| 2222 Home Street^^03000^MI^^US^^Yes^161|||||M^Married^HL70002||||||2182-4^Cuban^CDCREC|||||||201103131145|Y

6.6 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 52. Patient Visit Segment (PV1)

Seq	Len	DT	Car.	Usage				Value Set	Element Name	Description/ Comments
				PSDI	JDI	CCOD	CREI			
1				O	O	O	O		Set ID - PV1	
2	1	IS	[1..1]	R	R	R	R		Patient Class	Patient class information is not relevant for this Implementation Guide. **Conformance Statement**: PV1.2 (Patient Class) SHALL BE valued 'N'
3				O	O	O	O		Assigned Patient Location	
4				O	O	O	O		Admission Type	
5				O	O	O	O		Preadmit Number	
6				O	O	O	O		Prior Patient Location	
7				O	O	O	O		Attending Doctor	
8				O	O	O	O		Referring Doctor	
9				O	O	O	O		Consulting Doctor	
10				O	O	O	O		Hospital Service	
11				O	O	O	O		Temporary Location	
12				O	O	O	O		Preadmit Test Indicator	
13				O	O	O	O		Re-admission Indicator	
14				O	O	O	O		Admit Source	
15				O	O	O	O		Ambulatory Status	
16				O	O	O	O		VIP Indicator	
17				O	O	O	O		Admitting Doctor	
18				O	O	O	O		Patient Type	
19				O	O	O	O		Visit Number	
20				O	O	O	O		Financial Class	

Seq	Len	DT	Car.	Usage				Value Set	Element Name	Description/ Comments
				PSDI	JDI	CCOD	CREI			
21				O	O	O	O		Charge Price Indicator	
22				O	O	O	O		Courtesy Code	
23				O	O	O	O		Credit Rating	
24				O	O	O	O		Contract Code	
25				O	O	O	O		Contract Effective Date	
26				O	O	O	O		Contract Amount	
27				O	O	O	O		Contract Period	
28				O	O	O	O		Interest Code	
29				O	O	O	O		Transfer to Bad Debt Code	
30				O	O	O	O		Transfer to Bad Debt Date	
31				O	O	O	O		Bad Debt Agency Code	
32				O	O	O	O		Bad Debt Transfer Amount	
33				O	O	O	O		Bad Debt Recovery Amount	
34				O	O	O	O		Delete Account Indicator	
35				O	O	O	O		Delete Account Date	
36				O	O	O	O		Discharge Disposition	
37				O	O	O	O		Discharged to Location	
38				O	O	O	O		Diet Type	
39				O	O	O	O		Servicing Facility	
40				O	O	O	O		Bed Status	
41				O	O	O	O		Account Status	
42				O	O	O	O		Pending Location	
43				O	O	O	O		Prior Temporary Location	

Seq	Len	DT	Car.	Usage				Value Set	Element Name	Description/ Comments
				PSDI	JDI	CCOD	CREI			
44				O	O	O	O		Admit Date/Time	
45				O	O	O	O		Discharge Date/Time	
46				O	O	O	O		Current Patient Balance	
47				O	O	O	O		Total Charges	
48				O	O	O	O		Total Adjustments	
49				O	O	O	O		Total Payments	
50				O	O	O	O		Alternate Visit ID	
51				O	O	O	O		Visit Indicator	
52				O	O	O	O		Other Healthcare Provider	

Example: PV1||N|

6.7 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. .

Table 53. Observation/Result Segment (OBX)

Seq	Len	DT	Card.	Usage				Value Set	Element Name	Description/ Comments
				PSDI	JDI	CCOD	CREI			
1	4	SI	[1..1]	R	R	R	R		Set ID – OBX	**Conformance Statement:** For the first occurrence of the OBX segment, the sequence number shall be one (1), for the second occurrence, the sequence number shall be two (2), etc.
2	3	ID	[1..1]	R	R	R	R	Death Reporting Value Type (NCHS)	Value Type	This field identifies the data type used for OBX.5.

Seq	Len	DT	Card.	Usage				Value Set	Element Name	Description/ Comments
				PSDI	JDI	CCOD	CREI			
3	705	CWE	[1..1]	R	R	R	R	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. See this list of observation identifiers following within this document.
4	20	ST	[0..1]	C	C	C	O		Observation Sub-ID	This field is used to distinguish between multiple OBX segments with the same observation ID within an ADT message or organized under one OBR. It is also used to group related components in reports. In death reporting, the element is used to differentiate multiple causes of death, to identify the sequence of death causes, and to link death cause with the time interval between death and onset of the causal condition. On a provider supplied report the immediate cause of death is assigned a subID value of 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. On a coded cause of death report, each cause of death code is associated with the line and sequence within line that it was drawn from. It is also associated with indicators for eCodes as well as error flags. [See the Cause of Death Observations Section that provides an example of OBX.4 in use.] If there are multiple record axis causes recorded, the sub-ID is used to distinguish between them. Condition Predicate: **Usage**: C(R/O) **Predicate**: If OBX3.1 = “69453-9” or “80358-5” or “80357-7” or “69440-6” or “PHC1423” or “PHC1428” or “PHC1431” or “PHC1427”
5	99999	Var	[1..1]	RE	RE	RE	RE	Various, based on OBX.3	Observation Value	The content of the observation. The data type will vary depending on observation ID.

Seq	Len	DT	Card.	Usage				Value Set	Element Name	Description/ Comments
				PSDI	JDI	CCOD	CREI			
6	705	CWE	[0..1]	C	C	C	C	Time Units (NCHS)	Units	UCUM® is an HL7-approved code system and shall be used for units of measure where needed. Condition Predicate: **Usage**: C(R/O) **Predicate**: If OBX.3.1 is "39016-1".
7				O	O	O	O		References Range	
8				O	O	O	O		Abnormal Flags	
9				O	O	O	O		Probability	
10				O	O	O	O		Nature of Abnormal Test	
11	1	ID	[1..1]	R	R	R	R	Death Reporting Observation Result Status (NCHS)	Observation Result Status	Indicates the status of a result. If the sender cannot provide the content of an observation, the value "X" - "No results available" is used.
12				O	O	O	O		Effective Date of Reference Range	
13				O	O	O	O		User-Defined Access Checks	
14				O	O	O	O		Date/Time of the Observation	
15				O	O	O	O		Producer's Reference	
16				O	O	O	O		Responsible Observer	
17				O	O	O	O		Observation Method	

Seq	Len	DT	Card.	Usage				Value Set	Element Name	Description/ Comments
				PSDI	JDI	CCOD	CREI			
18				O	O	O	O		Equipment Instance Identifier	
19				O	O	O	O		Date/Time of the Analysis	
20				O	O	O	O		Observation Site	
21				O	O	O	O		Observation Instance Identifier	
22				O	O	O	O		Mood Code	
23				O	O	O	O		Performing Organization Name	
24				O	O	O	O		Performing Organization Address	
25				O	O	O	O		Performing Organization Medical Director	

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

6.7.1 Death Report Observation Identifier

The list of observation codes provided below includes those that are needed to support the data requirements defined by the 2003 Revision of the U.S. Standard Certificate of Death. The list of valid observation types is maintained within the Centers for Disease Control and Prevention – Public Health Information Network Vocabulary Access and Distribution System (PHIN VADS) repository as Death Report Observation Identifier (NCHS). The PHIN VADS value sets are available at: http://phinvads.cdc.gov. The value set OID is 2.16.840.1.114222.4.11.7267. Detailed value sets have been included in Chapter 6 to provide the answer sets that are required by the 2003 Revision of the U.S. Standard Certificate of Death. The value sets are defined by HL7 Version 3 or the CDC/PHIN VADS. The specific HL7 value sets that are applicable to this implementation are included. The PHIN VADS list will be updated as needed to address additional state and jurisdictional vital registration requirements.

There are no specific requirements for the order of the observations. There is no defined order for observations to appear. The receiving system should keep this in mind when processing the message.

There will be cases when the sender will not be able to provide the data content appropriate to an observation type. In such cases, the observation value (OBX.5) is to be left empty, while observation result status code (OBX.11) is given the value "X" – No results available.

Table 54. Death Report Observation Identifier

Name	Code	Data Type	Usage				Value Set	Description/Comments
			PSDI	JDI	CCOD	CREI		
Activity at time of death	80626-5	CWE	O	O	RE	O	Activity Type (NCHS)	A coded value that indicates the activity in which the decedent was involved at the time of death.
Age at Death	39016-1	NM	O	RE	O	O		A record of the decedent's age at the time of death. **Unit of Measure**: Refer to the value set Time Units (NCHS) for a list of value units.
Age Edit Flag	PHC1421	CWE	O	RE	O	O	Edit Flags (NCHS)	A coded value that indicates whether the age data originally provided passed validation checks.
Autopsy Results Available	69436-4	CWE	R	R	O	O	Yes Not Applicable (NCHS)	Coded representation of a Boolean indicator (Yes/No) that tells whether an autopsy report is available for the deceased.
Birth certificate data year	80904-6	DTM_Y	O	RE	O	O		A record of the decedent's birth year as recorded on the birth certificate for the decedent. This is an item that is used for matching birth and death information.
Birth certificate ID	80903-8	ST	O	RE	O	O		A record of the state identifier assigned to the birth certificate of the decedent.
Birth Place	21842-0	XAD-BP	O	RE	O	O		Information on the place of the decedent's birth as recorded on the death certificate.

Name	Code	Data Type	Usage				Value Set	Description/Comments
			PSDI	JDI	CCOD	CREI		
Cause of death	69453-9	ST	R	R	R	O		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, there is a limit on the amount of text that may be included. For initial submission of this information, the line for immediate cause of death and the line for underlying cause of death must be reported. Additional causes of death – up to two lines – may be recorded. Death causes are ordered sequentially with the immediate cause of death appearing first in the sequence, and the most remote in time cause of death appearing last among the set of cited causes. Each cause of death is associated with an observation – Disease onset to death 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. (See the example material provided in the Cause of Death Observation Grouping section below.) **Observation value maximum length**: 120 characters.
Cause of death entity axis code [Automated]	80356-9	CWE	O	O	RE	O	Cause of Death (ICD10)	Cause of death codes assigned directly to the death cause text provided by the healthcare practitioner assigning cause of death. Each entity axis code is associated with several observations that provide a linkage to the relevant portion of the death cause text, and that provide additional context. This linkage is implemented through the use of observation sub-id. (See the example material provided in the Cause of Death Observation Grouping section below.)
Cause of death record axis code [Automated]	80357-7	CWE	O	O	RE	O	Cause of Death (ICD10)	Cause of death codes assigned after removing duplicates and combining values from the entity axis set of codes.
Cause of death.underlying [Automated]	80358-5	CWE	O	O	RE	C	Cause of Death (ICD10)	The underlying cause assigned to a person’s death by a computer system interpreting the rules defined by WHO for selecting the underlying cause of death from among the various causes identified for the person’s death in the ICD.

Name	Code	Data Type	Usage				Value Set	Description/Comments
			PSDI	JDI	CCOD	CREI		
Cause of death.underlying [Manual]	80359-3	CWE	O	O	RE	O	Cause of Death (ICD10)	The underlying cause assigned to a person's death by a person interpreting the rules defined by WHO for selecting the underlying cause of death from among the various causes identified for the person's death in the ICD. Manual assignment takes place in those cases in which the system assignment process breaks down.
Conversion flag	PHC1422	CWE	O	O	RE	O	Transax Conversion Flag (NCHS)	A record of whether duplicate or conflicting entries were discovered during the process of assigning cause of death codes based on the recorded entries.
Coroner- medical examiner case number	69452-1	ST	RE	O	O	O		The identifier assigned to a case by the coroner or medical examiner.
Date of death registration	80907-9	DTM_D	O	RE	O	O		The date on which death was registered with the jurisdictional vital records office.
Date/time pronounced dead	80616-6	DTM_M	R	O	O	O		The date and time the decedent was pronounced dead.
Death Cause Other Significant Conditions	69441-4	ST	RE	RE	O	O		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, there is a limit on the amount of text that may be included. **Observation value maximum length**: 240 characters.
Death certifier (address)	69439-8	XAD_OL	RE	O	O	O		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	RE	O	O	O	Certifier Types (NCHS)	A coded value that indicates how the person certifying the death certificate participated in the death reporting process.
Death date comment	69454-7	ST	RE	O	O	O		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. Note however, that his is a free text field, and there is no expectation that particular values will be parsed by receiving systems.

Name	Code	Data Type	Usage				Value Set	Description/Comments
			PSDI	JDI	CCOD	CREI		
Death pronouncer details	74499-5	XCN	RE	O	O	O		Information about the death pronouncer (full name, state license number or provider NPI). **Business Rule**: If an identifier cannot be provided because the person is not licensed, the value "NA" should be used in place of the identifier. **Conformance Statement:** OBX.5.13 (Identifier Type Code) shall be valued with one of the following values from the Identifier Type value set (PHVS_IdentifierType_CDC): LN or NPI.
Decedent Education level	80913-7	CWE	O	RE	O	O	Decedent Education Level (NCHS)	A coded value that records the highest education level reached by the decedent.
Did death result from injury at work	69444-8	CWE	C	C	C	O	Yes No Unknown	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. Condition Predicate: **Usage**: C(RE/O) **Predicate:** If OBX.5.1 = "Y" WHERE OBX.3.1 = "71481-6".
Did the death of this person involve injury of any kind	71481-6	CWE	RE	RE	RE	O	Yes No Unknown	Coded representation of a Boolean indicator (Yes/No) that tells whether the death resulted from an injury.
Did tobacco use contribute to death	69443-0	CWE	RE	RE	RE	O	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	RE	RE	O	O		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 disease onset to death 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. (See the example material provided in the Cause of Death Observation Grouping section below.)

Name	Code	Data Type	Usage				Value Set	Description/Comments
			PSDI	JDI	CCOD	CREI		
E-code indicator	PHC1423	CWE	O	O	RE	O	Yes No Unknown	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. Each E-code indicator is associated with an entity axis code that it modifies. This linkage is implemented through the use of observation sub-id. (See the example material provided in the Cause of Death Observation Grouping section below.)
Education edit flag	PHC1424	CWE	O	RE	O	O	Education Level Edit Flags (NCHS)	A coded value that indicates whether the education level data originally provided passed validation checks and potential follow-up.
Ethnicity post edits	PHC1425	CWE	O	O	O	RE	Ethnicity Group (NCHS)	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	80909-5	ST	O	RE	O	O		The surname of the decedent's father.
Industry	21844-6	CWE	O	RE	O	O	Industry CDC Census (2010)	A coded value that indicates the industry which served as the primary employer for the decedent.
Injury date	69445-5	DTM_M	C	C	C	O		The date/time at which the injury occurred. Required if the decedent suffered an injury leading to death. Condition Predicate: **Usage**: C(RE/O) **Predicate:** If OBX.5.1 = "Y" WHERE OBX.3.1 = "71481-6".
Injury incident description	11374-6	ST	C	O	O	O		A text description of how the injury occurred. Condition Predicate: **Usage**: C(RE/O) **Predicate:** If OBX.5.1 = "Y" WHERE OBX.3.1 = "71481-6".
Injury leading to death associated with transportation event	69448-9	CWE	C	C	C	O	Yes No Unknown	Coded representation of a Boolean indicator (Yes/No) that tells whether the injury leading to death was associated with a transportation event. Condition Predicate: **Usage**: C(RE/O) **Predicate:** If OBX.5.1 = "Y" WHERE OBX.3.1 = "71481-6".

Name	Code	Data Type	Usage				Value Set	Description/Comments
			PSDI	JDI	CCOD	CREI		
Injury location	11376-1	CWE	C	C	C	O	Place of Injury (NCHS)	A description of the type of place where the injury occurred. Possible entries are “at home”, “farm”, “factory”, “office building”, “restaurant”. Condition Predicate: **Usage**: C(RE/O) **Predicate:** If OBX.5.1 = “Y” WHERE OBX.3.1 = “71481-6”.
Injury location Narrative	69447-1	XAD_OL	C	O	O	O		The street address for the place where the injury occurred. Condition Predicate: **Usage**: C(RE/O) **Predicate:** If OBX.5.1 = “Y” WHERE OBX.3.1 = “71481-6”.
Intentional Reject Edit Flag	PHC1461	CWE	O	O	RE	o	Intentional Reject Edit Flags (NCHS)	A coded indication of the reason that a submitted record containing cause of death information was rejected.
Manner of Death	69449-7	CWE	RE	RE	RE	O	Manner Of Death (NCHS)	A coded indication of the manner in which the person died.
Marital Status Edit Flag	PHC1426	CWE	O	RE	O	O	Marital Status Edit Flags (NCHS)	A coded value that indicates whether the marital status data originally provided passed validation checks and potential follow-up.
Method of Disposition	80905-3	CWE	O	RE	O	O	Methods of Disposition (NCHS)	A coded value that states the method by which the decedent’s body was disposed.
Occupation	21843-8	CWE	O	RE	O	O	Occupation (Census)	A coded value that indicates the primary occupation of the decedent
Part\line number	PHC1428	CWE	RE	RE	RE	O		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. Each Part/line number is associated with an entity axis code that it provides context for. This linkage is implemented through the use of observation sub-id. (See the example material provided in the Cause of Death Observation Grouping section below.)

Name	Code	Data Type	Usage				Value Set	Description/Comments
			PSDI	JDI	CCOD	CREI		
Pregnancy edit flag	PHC1429	CWE	O	RE	RE	O	Pregnancy Edit Flags (NCHS)	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	CWE	O	O	O	RE	Bridged Race (NCHS)	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.
Referral Note	69438-0	ST	RE	O	O	O		A note that is intended to record the reason the case was forwarded to a coroner or medical examiner.
Reserved position	PHC1431	ST	O	O	RE	O		The reserved position is used for NCHS "created codes." These are selected ICD-10 codes that have had an extra character appended in order to facilitate automated processing. The appended information does not appear in official tabulations. (For more information refer to the NCSHS Instruction Manual Part 2B, Pages 9-16.) Each Reserved position indicator is associated with an entity axis code that it modifies. This linkage is implemented through the use of observation sub-id. (See the example material provided in the Cause of Death Observation Grouping section below.)
Sequence within line	PHC1427	NM	O	O	RE	O		An indication of the sequence in which a code appears within one of the lines used for recording death cause on the certificate. This includes content provided under Part 1 and Part 2 - Other significant conditions contributing to death - of the Cause of Death section on the US standard Certificate. Each Sequence within line value is associated with an entity axis code that it provides context for. This linkage is implemented through the use of observation sub-id. (See the example material provided in the Cause of Death Observation Grouping section below.) **Unit of Measure**: No unit information is needed.
Sex Edit Flag	PHC1432	CWE	O	RE	O	O	Edit Flags (NCHS)	A coded value that indicates whether the sex data originally provided passed validation checks.
Source Flag	PHC1433	CWE	O	RE	O	O	Source Flags (NCHS)	A coded value that states the medium by which data was originally submitted.

Name	Code	Data Type	Usage				Value Set	Description/Comments
			PSDI	JDI	CCOD	CREI		
State/Province of birth	80910-3	ST	O	RE	O	O		The state or province in which the decedent's was born as recorded on the decedent's birth certificate. This value is used for matching birth and death information, and is only available if the relevant birth record has been located by the jurisdictional vital records office.
Street address where death occurred if not facility	69435-6	XAD_OL	RE	RE	O	O		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	67782-3	DTM_D	O	RE	O	O		The date of a surgery associated with the death of the decedent.
System Reject Code	PHC1462	CWE	O	O	RE	O	System Reject Codes (NCHS)	A code that indicates the reason the automated cause of death coding process rejected a record containing cause of death information.
Tabulated ethnicity	80978-0	CWE	O	O	O	RE	Detailed Ethnicity	A code that records ethnic affiliation information for a person. The observation will convey, as coded data, information that is provided in text form.
Tabulated race	80977-2	CWE	O	O	O	RE	Detailed Race	A code that records racial affiliation information for a person. The observation will convey, as coded data, information that is provided in text form.
Timing of Recent Pregnancy Related to Death	69442-2	CWE	C	C	C	O	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. Condition Predicate: **Usage**: C(RE/X) **Predicate:** If PID.8.1 = "F" AND OBX.5.1 > "5" and < "75" WHERE OBX.3.1 = "39016-1"
Transportation Role of Decedent	69451-3	CWE	C	C	O	O	Transportation Relationships (NCHS)	A coded value that states, if the injury was related to transportation, the specific role played by the decedent, e.g. driver, passenger. Condition Predicate: **Usage**: C(RE/X) **Predicate:** If OBX.5.1 = "Y" WHERE OBX.3.1 = "71481-6".

6.7.1 Cause of Death Observation Grouping

Cause of death information is recorded in several of the use cases. It is captured as multiple (up to four) blocks of structured text, and as a set of coded values accompanied by explanatory information. In both cases, there are repeating groups of information which need to be kept aligned. This is done through use of the observation sub-Id (OBX.4). The sub-Id values capture the sequence in which the information is provided, and link related observations.

For example, here is the way cause of death information is represented within the Provider Supplied Death Information and Jurisdiction Death Information use cases:

OBX|5|ST|69453-9^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|69453-9^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|ST69453-9^Cause of Death^LN|3|Epilepsy||||||F

Each line of cause of death information is associated with the appropriate disease onset value through use of the sub-ID. The sub-ID values show the sequence in which the lines are to be evaluated.

Here is the way cause of death information is represented within the Coded Cause of Death use case:

OBX|2|CWE|80356-9^Cause of death entity axis code [Automated]^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|CWE|80356-9^Cause of death entity axis code [Automated]^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|CWE|PHC1423^E-code indicator^CDCPHINVS|3|Y^Yes^HL70532||||||F
OBX|9|CWE|80356-9^Cause of death entity axis code [Automated]^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|CWE|80356-9^ Cause of death entity axis code [Automated]^^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|CWE|80357-7^Cause of death record axis code [Automated]^LN|1|S099^Unspecified injury of head^I10C||||||F
OBX|16|CWE|80357-7^Cause of death record axis code [Automated]^LN|2|G409^Epilepsy, unspecified^I10C||||||F

OBX|17|CWE|80357-7^Cause of death record axis code [Automated]^LN|3|I64^Stroke, not specified as haemorrhage or infarction^I10C|||||F

6.7.2 Coded Race and Ethnicity

Race and ethnicity data is provided jurisdictional record offices using the race and ethnic group fields within the PID segment. For race, the submitted data may include multiple races, and it may include additional detail provided as text. For ethnicity, the submitted detail allows indication of the person as being Hispanic or not, as well as allowing the selection of a few more detailed ethnic categories. As with race, additional detail may be provided as text. The coded response addresses several goals:

- It provides coded expression of data that is provided as text. This information is returned using the Tabulated Race, and Tabulated Ethnicity observations.'
- It assigns a single race in situations in which multiple races have been reported for a person. This information is returned using the Race post edits observation.
- In some cases, the coding process will generate duplicates. These are removed and the full set of code values is retunred using the Race and Ethnic Group fields within the PID segment.

The example below shows an example PID segment submitted within a Jurisdiction Death Report message.

PID|1||NA^^^NULLFLAVOR^SS~010203^^^^DC~2014010203^^^&2.16.840.1.113883.888.12&ISO^DCFN||SMITH^SARAH^H^DR^^^L||19270312|F||2054-5^Black^CDCREC~2106-3^White^CDCREC~1002-5^American Indian and Alaskan Native^CDCREC^^^^^^Apache~2080-0^Samoan^CDCREC~2028-9^Other Asian^CDCREC^^^^^^Thai~2500-7^Other Pacific Islander^CDCREC^Tahitian|^^02795^ME^^US^^YES^019|||||M||||||2180-8^Puerto Rican^CDCREC~2135-2^Other Hispanic^CDCREC^^^^^^Colombian,Costa Rican,Guatemalan|||||||201101270102|Y

The following indicates what the Coded Race and Ethnicity message would return for race and ethnicity data.

PID|1||9000213^^^&2.16.840.1.113883.883.101&ISO^DC|||||||2106-3^White^CDCREC~2054-5^Black or African American^CDCREC~10002-5^American Indian or Alaska Native^CDCPHINVS ~2028-9^Other Asian^CDCPHINVS ~2500-7^Other Pacific Islander^CDCPHINVS ||||||||||2180-8^Puerto Rican^CDCREC~2135-2^Hispanic or Latino^CDCPHINVS |||||||201510051125-0400

PV1||N

OBX|1|CWE|80977-2^Tabulated Race^LN||1010-8^Apache^CDCPHINVS

OBX|2|CWE|80977-2^Tabulated Race^LN||2046-1^Thai^CDCPHINVS

OBX|3|CWE|80977-2^Tabulated Race^LN||2081-8^Tahitian^CDCPHINVS

OBX|4|CWE|80978-0^Tabulated Ethnicity^LN||2169-1^Columbian^CDCPHINVS

OBX|4|CWE|80978-0^Tabulated Ethnicity^LN||2156-8^Costa Rican^CDCPHINVS

OBX|4|CWE|80978-0^Tabulated Ethnicity^LN||2157-6^Guatamalen^CDCPHINVS

OBX|5|CWE|PHC1430^Race post edits^CDCPHINVS||PHC1410^Bridged Black^CDCPHINVS|||||F

6.8 PDA – PATIENT DEATH AND AUTOPSY SEGMENT

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

Table 55. Patient Death and Autopsy Segment (PDA)

Seq	Len	DT	Card.	Usage		Value Set	Element Name	Description/ Comments
				PSDI	JDI			
1				O	O		Death Cause Code	Not supported. The cause or causes of death are supported as observations.
2	80	PL	[0..1]	RE	RE		Death Location	This field is valued with the place the death occurred.
3				O	O		Death Certified Indicator	**Business Rule**: Certification of death is inferred if values have been provided for PDA.04 and PDA.05.
4	24	DTM_D	[0..1]	C	O		Death Certificate Signed Date/Time	This field is valued with the date and time the death certificate was signed. Must be valued if the case/death has not been assigned to the coroner/medical examiner for investigative purposes. Condition Predicate: **Usage**: C(RE/O) **Predicate**: PDA.9 NE "Y"

Seq	Len	DT	Card.	Usage		Value Set	Element Name	Description/ Comments
				PSDI	JDI			
5	250	XCN_PS	[0..1]	C	O		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 professional name prefix within the XCN data type. **Business Rule**: If the license number for the certifier is not available, since the person was not licensed, the value "NA" should be used in place of the identifier. Condition Predicate: **Usage**: C(RE/O) **Predicate**: PDA.9 NE "Y" **Conformance Statement:** PDA.5.13 (Identifier Type Code) shall be valued with one of the following values from the HL7 Identifier Type (PHVS_IdentifierType_CDC) value set: LN or NPI.
6	1	ID	[0..1]	RE	RE	Yes No Unknown	Autopsy Indicator	This field indicates whether an autopsy was performed.
7				O	O		Autopsy Start and End Date/Time	
8	250	XCN	[0..1]	C	O		Autopsy Performed By	This field is valued with the authority who performed the autopsy. **Business Rule**: If the license number for the autopsy performer is not available, since the person was not licensed, the value "NA" should be used in place of the identifier. Condition Predicate: **Usage**: C(RE/O) **Predicate**: PDA.6 = "Y" **Conformance Statement:** PDA.8.13 (Identifier Type Code) shall be valued with one of the following values from the Death Reporting Identifier Type (PHVS_IdentifierType_CDC): value set: LN or NPI.

Seq	Len	DT	Card.	Usage		Value Set	Element Name	Description/ Comments
				PSDI	JDI			
9	1	ID	[0..1]	RE	O	Yes No Unknown	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. ^^^^^^^^^^^^^^^^ 309343006|N|||N

7.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.

Implementers should not that, in order to claim support for a coded field – and for the value set it draws on – it is necessary to support all the published values defined for that value set.

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. It promotes the use of standards-based vocabulary to support the exchange of consistent information among public health partners. The main purpose of PHIN VADS is to distribute the value sets associated with HL7 message implementation guides. PHIN VADS has the capability to host multiple versions of value sets and implementation guide vocabulary. The latest version of any value set referenced in this implementation guide can be obtained from the CDC PHIN VADS [http://phinvads.cdc.gov].

7.1 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.

A number of the included value sets are based on HL7 defined tables. In some cases the entire table contents are included, in others only a subset is needed for death reporting. In either case, PHIN VADS acts only as a repository for codes that are defined by and controlled by HL7. All such tables are indicated by inclusion of a reference to Health Level 7 – (HL7) – in the name of the Code System that the value sets are drawn from.

Table 56. Value Set/Code System Summary

Value Set Name	Value Set OID	Code System	Description
Accept Application Acknowledgment Conditions (HL7)	2.16.840.1.114222.4.11.3344	Accept Application Acknowledgement Conditions (HL7)	Accept Application Acknowledgment Conditions (HL7) based on HL7 2.5 table 0155. **Vocabulary Repository URL:** https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.3344
Acknowledgment Code (HL7)	2.16.840.1.114222.4.11.958	Acknowledgement Code (HL7)	Acknowledgement code indicating receipt of message. (See message processing rules. Refer to HL7 Table 008 – Acknowledgement code for valid values.) **Vocabulary Repository URL:** https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.958
Activity Type (NCHS)	2.16.840.1.114222.4.11.7370	PHIN VS (CDC Local Coding System)	To reflect the possible activities in which the decedent was engaged at the time of death. **Vocabulary Repository URL:** https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7370
Application Error Code (NCHS)	2.16.840.1.114222.4.11.7438	Application Error Code	A list of the possible error types that may be recorded during processing of a received message and returned to the message sender in a response. **Vocabulary Repository URL:** https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7438

Value Set Name	Value Set OID	Code System	Description
Cause of Death (ICD-10)	2.16.840.1.114222.4.11.3593	International Classification of Diseases revision 10 (ICD 10-WHO)	The list provides ICD-10 codes and associated cause-of-death titles for the most detailed listing of causes of death. This list is maintained by CDC NCHS. **Vocabulary Repository URL:** https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.3593
Certifier Titles (NCHS)	2.16.840.1.114222.4.11.7212	PHIN VS (CDC Local Coding System)	To reflect the title used by death certifier to denote professional role. **Vocabulary Repository URL:** https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7212
Certifier Types (NCHS)	2.16.840.1.114222.4.11.6001	SNOMED-CT	To reflect the type of certifier for the death certificate. **Vocabulary Repository URL:** https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.6001
City Places (NCHS)	2.16.840.1.114222.4.11.7512		Codes for Named Populated Places, Primary County Divisions, and Other Locational Entities of the United States, Puerto Rico, and the Outlying Areas (without codes). The former FIPS 55-3 standard was superseded by ANSI standard INCITS 446-2008. Former FIPS 55 data have been incorporated into the GNIS. The GNIS Feature ID superseded the FIPS55 Place Code (now the Census Code) as the Federal and national standard geographic feature record identifier. The Census Bureau continues to assign five digit Census Codes for internal purposes. http://geonames.usgs.gov/domestic/download_data.htm. **Vocabulary Repository URL:** https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7512
Coding System HL7 2x (HL70396)	2.16.840.1.114222.4.11.3338	Coding System (HL7)	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 “99DR-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. **Vocabulary Repository URL:** https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.3338

Value Set Name	Value Set OID	Code System	Description
Contributory Tobacco Use (NCHS)	2.16.840.1.114222.4.11.6004	PHIN VS (CDC Local Coding System)	To reflect the extent to which tobacco use contributed to the person's death. **Vocabulary Repository URL:** https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.6004
Country (GEC)	2.16.840.1.114222.4.11.7162	GEC Country Codes	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 **Vocabulary Repository URL:** https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7162
County	2.16.840.1.114222.4.11.829	FIPS 6-4 (County)	Codes representing country of origin, address county, reporting county. **Vocabulary Repository URL:** https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.829
Death Report Observation Identifier (NCHS)	2.16.840.1.114222.4.11.7267	LOINC, PHIN VS)CDC Local Coding System	The value set contains the list of values used to report observations on the death certificate. The value set content is included within the OBX section of this guide. **Vocabulary Repository URL:** https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7267
Death Reporting Event Reason (NCHS)	2.16.840.1.114222.4.11.7383	PHIN VS)CDC Local Coding System	Indicates transmission of death report with valid information or a void death report. **Vocabulary Repository URL:** https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7383
Death Reporting Event Type (NSHS)	2.16.840.1.114222.4.11.7442	Event Type (HL7)	Used within ADT messaging to transmit trigger event information for death reporting. **Vocabulary Repository URL:** https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7442
Death Reporting Identifier Type (NCHS)	2.16.840.1.114222.4.11.7382	Identifier Type (HL7)	The value indicates the type for the identifier codes added to Identifier Type (HL7) Code system forHL7 v2.9: [DC, Death Certificate Id], [DCFN, Death Certificate File Number] **Vocabulary Repository URL:** https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7382
Death Reporting Message Structure (NCHS)	2.16.840.1.114222.4.11.7443	Message Structure (HL7)	To identify the segments used in messages for death reporting. **Vocabulary Repository URL:** https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7443

Value Set Name	Value Set OID	Code System	Description
Death Reporting Message Type (NCHS)	2.16.840.1.114222.4.11.7444	Message Type (HL7)	To express, in the message header (MSH) segment, the type of message that is relevant for death reporting. **Vocabulary Repository URL:** https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7444
Death Reporting Observation Identifier (NCHS)	2.16.840.1.114222.4.11.7267	LOINC, PHIN VS (CDC Local Coding System)	The value sets contains the list of values used to report observations on the Death Certificate. **Vocabulary Repository URL:** https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7276
Death Reporting Observation Result Status (NCHS)	2.16.840.1.114222.4.11.7496	Observation result status (HL7)	To reflect the status of an observation. **Vocabulary Repository URL**: https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7496
Death Reporting Profiles (NCHS)	2.16.840.1.114222.4.11.7386	PHIN VS (CDC Local Coding System)	To indicate the use case supported by the message instance. **Vocabulary Repository URL**: https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7386
Death Reporting Value Type (NCHS)	2.16.840.1.114222.4.11.7497	PHIN VS (CDC Local Coding System)	To reflect the list of possible data types that can appear as the data type for observations used within the Death Reporting Implementation Guide **Vocabulary Repository URL**: https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7497
Decedent Education Level (NCHS)	2.16.840.1.114222.4.11.7385	PHIN VS (CDC Local Coding System)	To reflect the possible highest level of education received by the decedent. **Vocabulary Repository URL**: https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7385
Detailed Ethnicity	2.16.840.1.114222.4.11.877	Race & Ethnicity (CDC)	List of detailed ethnicity codes reported on a limited basis. **Vocabulary Repository URL**: https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.877
Detailed Race	2.16.840.1.114222.4.11.876	Race & Ethnicity (CDC)	List of detailed ethnicity race reported on a limited basis **Vocabulary Repository URL**: https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.876
Edit Flags (NCHS)	2.16.840.1.114222.4.11.7387	PHIN VS (CDC Local Coding System)	To reflect whether the content of a related field have been subject to edit. **Vocabulary Repository URL**: https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7387

Value Set Name	Value Set OID	Code System	Description
Education Level Edit Flags (NCHS)	2.16.840.1.114222.4.11.7388	PHIN VS (CDC Local Coding System)	To reflect the relevant edit possibilities for education level. **Vocabulary Repository URL**: https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7388
Error Severity (HL7)	2.16.840.1.114222.4.11.993	Error Severity (HL7)	Identifies severity of an application error when messaging. Knowing if something is Error, Warning, or Information is intrinsic to how an application handles the content contained in the message. Uses HL7 table 0516. **Vocabulary Repository URL**: https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.993
Death Reporting Name Type Code (NCHS)	2.16.840.1.114222.4.11.7378	Name Type (HL7)	Used to differentiate between legal name and alias name of the decedent. **Vocabulary Repository URL**: https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7378
Industry CDC Census 2010	2.16.840.1.114222.4.11.7187	Industry CDC Census 2010	2010 Industry coding system used by CDC (NIOSH & NCHS) for coding industry text. Indus try describes an economic/business sector comprised of businesses/enterprises concerned with the output of a specified category of products or services (e.g., the construction industry or the agriculture industry). This industry code system includes 2007 U.S. Census Bureau industry codes and three additional codes developed by CDC for unpaid workers. The 2010 Census industry categories are based on the 2007 North American Industry Classification System (NAICS). The PH_Occupation_CDC_Census2010 code system should be used in conjunction with this industry code system when coding both industry and occupation. For more information and instructions on using this coding system, see the instruction manual for CDC-Census I&O coding at: http://www.cdc.gov/niosh/topics/coding/ **Vocabulary Repository URL**: https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7187
Intentional Reject Edit Flags (NCHS)	2.16.840.1.114222.4.11.7389	PHIN VS (CDC Local Coding System)	To reflect the relevant edit possibilities for intentional rejection **Vocabulary Repository URL**: https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7389
Manner Of Death (NCHS)	2.16.840.1.114222.4.11.6002	SNOMED-CT	To reflect the manner that a person died. **Vocabulary Repository URL**: https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.6002
Marital Status (NCHS)	2.16.840.1.114222.4.11.7380	Marital Status (HL7)	To reflect the possible marital statuses for the decedent. **Vocabulary Repository URL**: https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7380

Value Set Name	Value Set OID	Code System	Description
Marital Status Edit Flags	2.16.840.1.114222.4.11.7390	PHIN VS (CDC Local Coding System)	To reflect the relevant edit possibilities for marital status. **Vocabulary Repository URL**: https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7390
Message Error Condition Codes (HL7)	2.16.840.1.114222.4.11.974	Message Error Condition Codes (HL7)	Type of error that occurred while processing the message identified in MSA.2. **Vocabulary Repository URL**: https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.974
Methods of Disposition (NCHS)	2.16.840.1.114222.4.11.7379	SNOMED-CT, NullFlavor	To reflect the methods by which the decedent's body was disposed. **Vocabulary Repository URL**: https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7379
Bridged Race (NCHS)	2.16.840.1.114222.4.11.7377	Race & Ethnicity – CDC, PHIN VS (CDC Local Coding System)	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. **Vocabulary Repository URL**: https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7377
Ethnicity Detail (NCHS)	2.16.840.1.114222.4.11.7376	Race & Ethnicity – CDC, NullFlavor	The possible ethnic group categories defined for NCHS reporting. **Vocabulary Repository URL**: https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7376
Ethnicity Group (NCHS)	2.16.840.1.114222.4.11.7375	Race & Ethnicity – CDC, NullFlavor	To allow ethnicity assignment as Hispanic, non-Hispanic, unknown. **Vocabulary Repository URL**: https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7375
Race (NCHS)	2.16.840.1.114222.4.11.7373	Race & Ethnicity – CDC	The possible race categories defined for NCHS reporting. **Vocabulary Repository URL**: https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7373
Occupation CDC Census 2010	2.16.840.1.114222.4.11.7186	U.S. Census Occupation Code (2010)	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. **Vocabulary Repository URL**: https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7186

Value Set Name	Value Set OID	Code System	Description
Part\Line Number	2.16.840.1.114222.4.11.7354	PHIN VS (CDC Local Coding System)	To indicate where in the death report structure an individual item of death cause information appeared. **Vocabulary Repository URL**: https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7354
Place of Death (NCHS)	2.16.840.1.114222.4.11.7216	PHIN VS (CDC Local Coding System)	To reflect the death location of the decedent. **Vocabulary Repository URL**: https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7216
Place of Injury (NCHS)	2.16.840.1.114222.4.11.7374	ICD-10 Place of Occurrence	WHO location type extensions defined for ICD.. **Vocabulary Repository URL**: https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7374
Pregnancy Edit Flags (NCHS)	2.16.840.1.114222.4.11.7391	PHIN VS (CDC Local Coding System)	To reflect the relevant edit possibilities for pregnancy status. **Vocabulary Repository URL**: https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7391
Pregnancy Status (NCHS)	2.16.840.1.114222.4.11.6003	PHIN VS (CDC Local Coding System)	To reflect whether the decedent was pregnant at or around the time of death. **Vocabulary Repository URL**: https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.6003
Processing ID (HL7)	2.16.840.1.114222.4.11.1028	Processing ID (HL7)	Processing ID. HL7 table 0103 contains values that define whether the message is part of a production, training, or debugging system. **Vocabulary Repository URL:** https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.1028
Sex (MFU)	2.16.840.1.114222.4.11.1038	Administrative Sex (HL7)	Constrained list of sex codes in use by public health. Keyword. Administrative Sex. **Vocabulary Repository URL:** https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.1038
Source Flags (NCHS)	2.16.840.1.114222.4.11.7393	PHIN VS (CDC Local Coding System)	To reflect the form in which data has been received. **Vocabulary Repository URL:** https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7393
States Territories Provinces (NCHS)	2.16.840.1.114222.4.11.7446	ISO 3166-2 Country Subdivision	The set of codes that represent the names of a principal subdivision (i.e., state, territory, or province) within the U.S. and Canada. **Vocabulary Repository URL**: https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7446

Value Set Name	Value Set OID	Code System	Description
System Reject Codes (NCHS)	2.16.840.1.114222.4.11.7395	PHIN VS (CDC Local Coding System)	**Vocabulary Repository URL:** https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7395
Time Units (NCHS)	2.16.840.1.114222.4.11.7372	UCUM – Unified Code for Units of Measure	Units for measuring time for death reporting based on UCUM std. **Vocabulary Repository URL**: https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7372
Transax Conversion Flag (NCHS)	2.16.840.1.114222.4.11.7396	PHIN VS (CDC Local Coding System)	To reflect the relevant edit possibilities for Transax conversion. **Vocabulary Repository URL**: https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7396
Transportation Relationships (NCHS)	2.16.840.1.114222.4.11.6005	SNOMED-CT	To reflect the specific role played by the decedent, e.g. driver, passenger in a death related to transportation. **Vocabulary Repository URL**: https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.6005
Yes No Indicator (HL7)	2.16.840.1.114222.4.11.819	Yes/NO Indicator (HL7)	Value set used to respond to any question that can be answered only Yes or No. **Vocabulary Repository URL**: https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.819
Yes No Unknown (YNU)	2.16.840.1.114222.4.11.888	Yes/No Indicator (HL7), NullFlavor	Value set used to respond to any question that can be answered Yes, No, or Unknown. **Vocabulary Repository URL**: https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.888
Yes No Not Applicable (NCHS)	2.16.840.1.114222.4.11.7486	Yes/NO Indicator (HL7), Null Flavor	Value set used to respond to any question that can be answered Yes, No, or Not Applicable. **Vocabulary Repository URL**: https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7486

8.Example Death Information Messages

This implementation guide describes the use of HL7 for Death Reporting. It includes 3 HL7 trigger events (A04, A08, A11) and supports four use cases: provider death registration, jurisdiction 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|^~\&#|89898989^2.16.840.1.113883.3.20091^ISO|BestCareLLC^2.16.840.1.113883.3.20091^ISO|DeathReportProcessing^2.16.840.1.113883.3.20091^ISO|VRDept^2.16.840.1.113883.3.20091^ISO|20151018183312-0400||ADT^A04^ADT_A01|1223334499|P|2.6|||AL|NE|US||||PSDIA04_V1.0
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^^2390562^MD^21401^US^^Yes^Anne Arundel||||||||||||||||201510051125-0400|Y|
PV1||N
OBX|1|XAD|21842-0^Birthplace^LN||^^Chicago^IL^^US|||||F
OBX|2|XAD|69435-6^Address of location where death occurred^LN||^^2390562^MD^21401^US^^^Anne Arundel|||||F
OBX|3|XCN|74499-5^Death pronouncer details^LN||9898989898^Spade^Samuel^^^Dr.^^^&2.16.840.1.113883.4.290.24&ISO^^^^LN|||||F
OBX|4|DTM|80616-6^Date/time pronouced dead^LN||201510051125-0400|||||F
OBX|5|ST|69453-9^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|PHC1428^Part\Line Number^CDCPHINVS|1|1|||||F
OBX|8|ST|69453-9^Cause of Death^LN|2|Automobile accident|||||F
OBX|9|ST|69440-6^Disease Onset to Death Interval^LN|2|15 hours|||||F
OBX|10|ST|PHC1428^Part\Line Number^CDCPHINVS|2|2|||||F
OBX|11|ST|69453-9^Cause of Death^LN|3|Epilepsy|||||F
OBX|12|ST|69440-6^Disease Onset to Death Interval ^LN|3|30 years|||||F
OBX|13|ST|PHC1428^Part\Line Number^CDCPHINVS|3|3|||||F
OBX|14|ST|69441-4^Death Cause Other Significant Conditions ^LN||Cerebrovascular Accident|||||F
OBX|15|CWE|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|16|CWE|69443-0^Tobacco^LN||373067005^No^SCT|||||F
OBX|17|CWE|69442-2^Timing of Recent Pregnancy Related to Death||NA^Not Applicable^NULLFL|||||F
OBX|18|CWE|69449-7^Manner of death^LN||7878000^Accident^SCT|||||F
OBX|19|CWE|71481-6^Did the death of this person involve injury of any kind^LN||Y^Yes^HL70532|||||F

OBX|20|CWE|69444-8^Did death result from injury at work^LN||N^No^HL70532|||||F
OBX|21|DTM|69445-5^Injury date^LN||201510040830-0400|||||F
OBX|22|ST|11374-6^Injury incident description^LN||Automobile collision with other vehicles while pulling into traffic on the street|||||F
OBX|23|CWE|69448-9^Injury leading to death associated with transportation event^LN||Y^Yes^HL70532|||||F
OBX|24|CWE|69451-3^Transportation role of decedent^LN||236320001^Driver/Operator^SCT|||||F
OBX|25|CWE|11376-1^Injury location^LN||4^Street/Highway^NCHS place of injury|||||F
OBX|26|XAD|69447-1^Injury location narrative^LN||921 Automobile Blvd^^Silver Spring^MD|||||F
OBX|27|CWE|69436-4^Autopsy results available^LN||N^No^HL70532|||||F
PDA||^^^^^16983000^^^Best Care Hospice Center||20140201|78457845^Certifier^Charles^^^Dr.^^^&2.16.840.1.113883.4.290.24&ISO^^^^LN^^^^^^^^M.D.|N|||N

8.2 JURISDICTION DEATH REPORT (A04 ACK REQUIRED)

MSH|^~\&#|DeathReportProcessing^2.16.840.1.113883.3.20091^ISO|VRDept^2.16.840.1.113883.3.20091^ISO|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|US||||JDIA04_V1.0
EVN||201511121200-0400|
PID|1||987-65-4321^^^^SS~900213^^^^DC~2015000213^^^^DCFN||Perez^Javier^Luis^^^^L||19510401|M||2106-3^White^CDCREC~2054-5^Black or African American^CDCREC|143 Taylor Street^^2390562^MD^21401^US^^Yes^003|||||M^Married^HL70002|||||2182-4^Cuban^CDCREC||||||201510051125-0400|Y|
PV1||N
OBX|1|XAD|21842-0^Birthplace^LN||^^Chicago^IL^^US|||||F
OBX|2|XAD|69435-6^Address of location where death occurred^LN||^^2390562^MD^21401^US^^^003|||||F
OBX|3|ST|69453-9^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|PHC1428^Part\Line Number^CDCPHINVS|1|1|||||F
OBX|6|ST|69453-9^Cause of Death^LN|2|Automobile accident|||||F
OBX|7|ST|69440-6^Disease Onset to Death Interval^LN|2|15 hours|||||F
OBX|8|ST|PHC1428^Part\Line Number^CDCPHINVS|2|2|||||F
OBX|9|ST|69453-9^Cause of Death^LN|3|Epilepsy|||||F
OBX|10|ST|69440-6^Disease Onset to Death Interval ^LN|3|30 years|||||F
OBX|11|ST|PHC1428^Part\Line Number^CDCPHINVS|3|3|||||F
OBX|12|ST|69441-4^Death Cause Other Significant Conditions ^LN||Cerebrovascular Accident|||||F
OBX|13|CE|69443-0^Tobacco^LN||373067005^No^SCT|||||F
OBX|14|CE|69442-2^Timing of Recent Pregnancy Related to Death^LN||NA^Not Applicable^NULLFL|||||F
OBX|15|CE|69449-7^Manner of death^LN||7878000^Accident^SCT|||||F
OBX|16|CE|69444-8^Did death result from injury at work^LN||N^No^HL70532|||||F
OBX|17|CE|LOINCtbd^Activity at time of death^LN||PHC1352^While engaged in other specified activities^CDCPHINVS|||||F
OBX|18|CE|71481-6^Did the death of this person involve injury of any kind^LN||Y^Yes^HL70532|||||F
OBX|19|DTM|69445-5^Injury date^LN||201510040830-0400|||||F
OBX|20|ST|11374-6^Injury incident description^LN||Automobile collision with other vehicles 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|LOINCtbd^Education level^LN||8^Doctorate Degree or Professional Degree^NCHSlocalCS|||||F
OBX|26|CE|PHC1424^Education Edit Flag^CDCPHINVS||PHC1362^Edit Passed^CDCPHINVS|||||F
OBX|27|CE|PHC1426^Marital Status Edit Flag^CDCPHINVS||PHC1362^Edit Passed^CDCPHINVS|||||F
OBX|28|CE|LOINCtbd^Method of disposition^LN||B^Burial^NCHSlocalCS|||||F
OBX|29|CWE|LOINCtbd^Occupation^LN||^^^^^^^^Psychologist|||||F
OBX|30|CWE|LOINCtbd^Industry^LN||^^^^^^^^Academic|||||F

OBX|31|ST|LOINCtbd^birth certificate ID^LN||""|||||F
OBX|32|DTM|LOINCtbd^year of birth for matching^LN||1951|||||F
OBX|33|CE|69436-4^Autopsy results available^LN||N^No^HL70532|||||F
OBX|34|CE|PHC1429^Pregnancy edit flag^CDCPHINVS||PHC1362^Edit Passed^CDCPHINVS|||||F
OBX|35|CE|PHC1433^Source Flag^CDCPHINVS||PHC1359^Electronic mode^CDCPHINVS|||||F
OBX|36|XPN|LOINCtbd^Father's surname^LN||Perez|||||F
OBX|37|CE|PHC1432^Sex edit flag^CDCPHINVS||PHC1362^Edit Passed^CDCPHINVS|||||F
OBX|38|NM|39016-1^Age at death^LN||64|a^year^UCUM||||F
OBX|39|CE|PHC1421^Age edit flag^CDCPHINVS||PHC1362^Edit Passed^CDCPHINVS|||||F
OBX|40|ST|LOINCtbd^state/province of birth^LN||IL|||||F
PDA||^^^^^16983000^^^Best Care Hospice
Center||20140201|78457845^Certifier^Charles^^^Dr.^^^&2.16.840.1.113883.4.290.24&ISO^^^^LN^^^^^^^^M.D.|
N|||N

8.3 VOID CERTIFICATE REPORT (A04 ACK REQUIRED)

MSH|^~\&#|DeathReportProcessing^2.16.840.1.113883.3.20091^ISO|VRDept^2.16.840.1.113883.3.20091^ISO|DR
rcv^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|US|||| RVCA04_V1.0
EVN||201511121200-0400|
PID|1||900213^^^^DC||~^^^^^^U
PV1||N

8.4 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|CauseOfDeathProcessi
ng^2.16.840.1.113883.3.20091^ISO|VRDept^2.16.840.1.113883.3.20091^ISO|20151220111500-
0400||ADT^A04^ADT_A01|1223334487|P|2.6|||AL|NE|US||||CCODA04_V1.0
EVN||201512201000-0400|
PID|1||900213^^^^DC~2015000213^^^^DCFN|||||||||||||||||||||201510051125-0400
PV1||N
OBX|1|XAD|69435-6^Address of location where death occurred^LN||^^^MD|||||F
OBX|2|CWE|80356-9^Cause of death entity axis code [Automated]^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|CWE|80356-9^Cause of death entity axis code [Automated]^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|CWE|PHC1423^E-code indicator^CDCPHINVS|3|Y^Yes^HL70532|||||F
OBX|9|CWE|80356-9^Cause of death entity axis code [Automated]^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|CWE|80356-9^Cause of death entity axis code [Automated]^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|CWE|80357-7^Cause of death record axis code [Automated]^LN|1|S099^Unspecified injury of
head^I10C|||||F
OBX|16|CWE|80357-7^Cause of death record axis code [Automated]^LN|2|G409^Epilepsy, unspecified^I10C|||||F
OBX|17|CWE|80357-7^Cause of death record axis code [Automated]^LN|3|I64^Stroke, not specified as
haemorrhage or infarction^I10C|||||F

OBX|18|CWE|80357-7^Cause of death record axis code [Automated]^LN|4|V890^Person injured in unspecified motor-vehicle accident, nontraffic Motor-vehicle accident NOS, nontraffic^I10C||||||F
OBX|19|CWE|80358-5^Cause of death.underlying [Automated]^LN||""||||||F
OBX|20|CWE|80359-3^Cause of death.underlying [Manual]^LN||S099^Unspecified injury of head^I10C||||||F
OBX|21|CWE|11376-1^Injury location^LN||4^Street/Highway^NCHS place of injury||||||F
OBX|22|CWE|80626-5^Activity at time of death^LN||PHC1352^While engaged in other specified activities^CDCPHINVS||||||F

8.5 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^2.16.840.1.113883.3.20091^ISO|VRDept^2.16.840.1.113883.3.20091^ISO|20151220111533-0400||ADT^A04^ADT_A01|1223334493|P|2.6|||AL|NE|US||||CREIA04_V1.0
EVN||201512201000-0400|
PID|1||900213^^^^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

8.6 CANCEL PROVIDER DEATH REGISTRATION (A11 NO ACK)

MSH|^~\&#|89898989^2.16.840.1.113883.3.20091^ISO|BestCareLLC^2.16.840.1.113883.3.20091^ISO|DeathReportProcessing^2.16.840.1.113883.3.20091^ISO|VRDept^2.16.840.1.113883.3.20091^ISO|20151018183312-0400||ADT^A11^ADT_A09|1223334502|P|2.6|||NE|NE|US||||PSDIA11_V1.0
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

8.7 ACKNOWLEDGE JURISDICTION DEATH REPORT (ACK)

MSH|^~\&#|DRrcv^2.16.840.1.113883.320091^ISO|NCHS^2.16.840.1.113883.3.8989^ISO|DeathReportProcessing^2.16.840.1.113883.3.20091^ISO|VRDept^2.16.840.1.113883.3.20091^ISO|20151112230100-0400||ACK^A11^ACK|1834aa21500|P|2.6|||NE|NE|US||||ACK_V1.0
MSA|CA|1223334509

