

# Accessing AGNIS Metadata Using the caDSR



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## Agenda

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- Metadata
- caDSR
- Structure of a Form Builder Report
- Accessing metadata common to all module types
- Accessing metadata specific to a particular module type
- Downloading metadata from Form Builder
- Obtaining module public ID and version numbers

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## Goal

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- To provide the skills necessary to access the basic metadata required to submit data via AGNIS 2.x

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## Topics

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- ▣ What is metadata?
- ▣ Data element fundamentals

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## What is Metadata?

- Metadata is data about data
- Metadata describes the content, quality, and other characteristics of data
- Example: If a question on a form reads: "Enter the Patient's Age"
  - What is the data?
  - What is the metadata?

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This slide is used with permission from the NCI. It is from a caDSR training presentation.

The data is the actual patient's age: 32

The metadata defines what you mean by patient age (a measurement in years of the duration of a person's life from birth to current year), how you want to represent that information – as a positive integer, between 0 and 150.

# Metadata Example: Patient Age in Years

## Data

What is your age? **32**

stored in



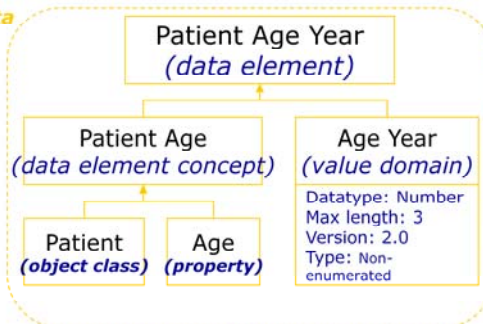
## Metadata

*Describes data*

*Describes the data in*



stored in



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### EXAMPLE:

Data (the piece of data you store)

A question on a form reads: "Patient Race" with a list of selections

You enter "Asian" into a table in a database

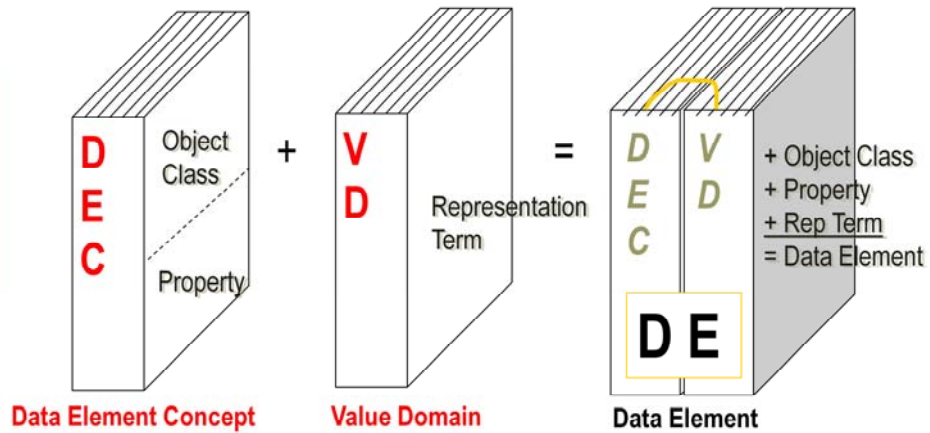
Metadata (information about that data)

Object: Patient

Property: Race

Representation: Category

## Data Element Fundamentals

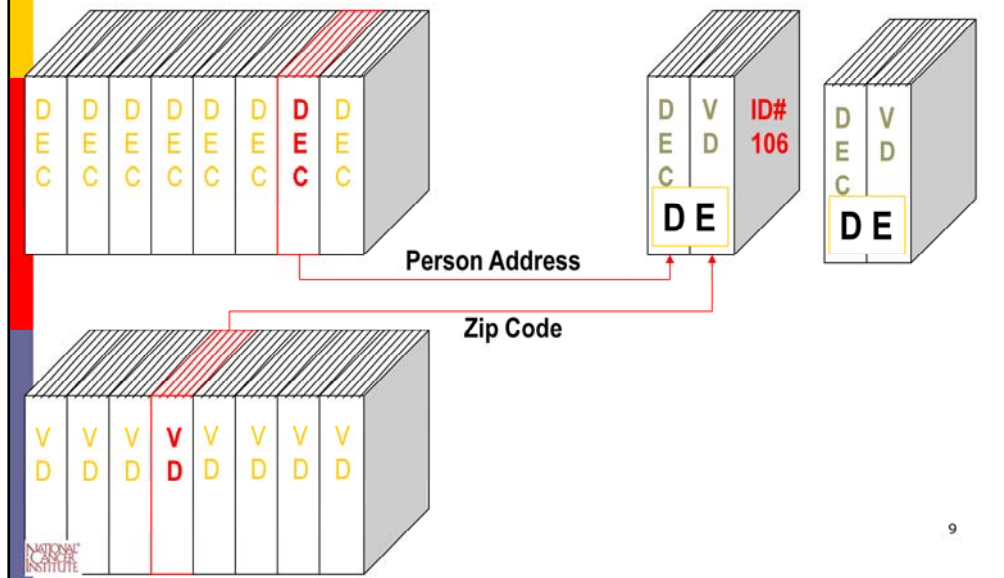


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As you should recall, at the high level, Data Element is made up of a Data Element Concept and Value Domain. The Data Element Concept is composed from an Object Class and Property. The Value Domain has a Representation Term. These components together form a Data Element.

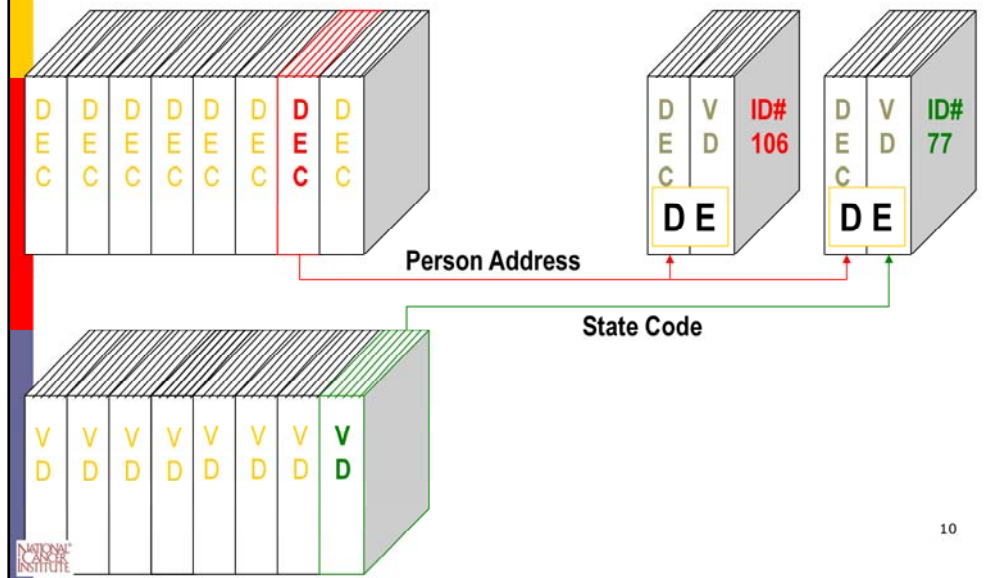
## Libraries of Re-usable Components



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Using the Person Address Zip Code example from the last slide, this slide again show how the Data Element was made. It is important to remember that these components (DEC and VD) can be used to make other Data Elements with unique Public IDs.

## Libraries of Reusable Components



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Here is an example of reusing Person Address with a different Value Domain of State Code to form a new DE of Person Address State Code with a Public ID of 77.

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- Structure of a Form Builder Report
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- Accessing metadata specific to a particular module type
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- Obtaining module public ID and version numbers

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## Topics

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- What is the caDSR?
- Benefits
- Ways to access metadata in the caDSR

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## What is the caDSR?

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- Cancer Data Standards Registry and Repository
- Metadata repository
- Uses ISO 11179 model
- Uses a standard vocabulary: Enterprise Vocabulary Services (EVS)

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## Benefits of the caDSR

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- Standard vocabulary
- Standard method of representing metadata
- Existing software and resources

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## Ways to Access Form Metadata Using the caDSR

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### □ Form Builder

- contains detailed information about each form
- <https://formbuilder.nci.nih.gov/FormBuilder/>

### □ CDE Browser

- contains detailed information about each CDE (Common Data Element)
- <https://cdebrowser.nci.nih.gov/CDEBrowser/>

### □ caDSR API

- Provides interactive browsing of the caDSR
- <http://cadsrapi.nci.nih.gov/cadsrapi40/Home.action>

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This presentation does not show how to access form metadata using the CDE Browser. The CDE Browser returns information about the CDE that is not available in Form Builder, but does not contain form specific information. For the following reasons, using the CDE Browser to retrieve form information is not recommended:

- CDEs are not displayed in the order in which they appear on the form
- Form instructions and other form specific information is not available
- For choice list CDEs, there may be permissible values displayed that are not allowed on a specific form
- The preferred question text may not match the question text on a specific form

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- caDSR
- **Structure of a Form Builder Report**
- Accessing metadata common to all module types
- Accessing metadata specific to a particular module type
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## Topics

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- ▣ Structure of a Form Builder report
- ▣ Types of modules
- ▣ Types of CDEs

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## Structure of a Form Builder Report

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- Contains two main sections:
  - General form information
    - Equivalent to form header on the PDF version of the form
  - Form contents
    - Equivalent to questions on the PDF version of the form
    - Consists of modules that contain groups of CDEs

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## Types of Modules

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- Non-repeating modules
  - Used to group related CDEs that can occur only once on a form.
  - Most frequently used type of module
- Non-normalized repeating modules
  - Used to group CDEs that can occur more than once on a form.
- Normalized repeating modules
  - Used to group a list or table of questions

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Module types will be discussed in detail later in the presentation

## Types of CDEs

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### □ Free text

- Does not have a list of permissible values
- The CDE contains detailed information about
  - Data type
    - Character
    - Number
    - Date
  - Display format
  - Unit of measure

### □ Choice list

- Answers are restricted to a list of permissible values

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## Topics

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- Finding a form
- Metadata required for all forms
- Accessing form information
- Accessing question information
  - Free-Text CDEs
  - Choice list CDEs

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## How to Find a Form

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- The easiest way to find a form is to use the navigation tree within the Form Builder application.
- The following slides will show you how to login to the Form Builder application and navigate to a form using the navigation tree.

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ncicb@pop.nci.nih.gov'. There are two input fields for 'Username:' and 'Password:', followed by three buttons: 'Logon', 'Clear', and 'Return to CDE Browser'. At the bottom, a blue bar contains the text 'User: Public User', 'Version 4.0.1 Build 1', and 'Please send comments and suggestions to: [ncicb@pop.nci.nih.gov](mailto:ncicb@pop.nci.nih.gov)'. The page number '24' is in the bottom right corner."/>

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Form Builder

Please Login

Guest users can login using username "guest" and password "guest".

If you require an account with curator privileges to a specific context other than Test, please contact NCICB Application Support Email: [ncicb@pop.nci.nih.gov](mailto:ncicb@pop.nci.nih.gov)

Username:

Password:

Logon Clear Return to CDE Browser

User: Public User Version 4.0.1 Build 1 Please send comments and suggestions to: [ncicb@pop.nci.nih.gov](mailto:ncicb@pop.nci.nih.gov)

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Access a Form Builder Report

- Go to URL <https://formbuilder.nci.nih.gov/FormBuilder/>
- Login using the instructions for a guest user

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**Form Builder**

CDE Browser | Admin Tool | Curation Tool | Sentinel Tool | UML Model Browser | NCI Metathesaurus | NCI Terminology Server | What's new

You are logged in as: GUEST

**Form Search**

Note: Enter/select search criteria and click search button to initiate search. The wildcard character is \*. For additional information on how to use Form Builder, click the Help button above.

**Search for Forms** [Search preferences](#)

Form Long Name			
Public ID		Version	<input checked="" type="radio"/> Latest Version <input type="radio"/> All Versions
Protocol Long Name	<input type="text"/>	<input type="button" value="Clear"/>	Workflow <input type="text" value="ALL"/>
Classification	<input type="text"/>	<input type="button" value="Clear"/>	Context <input type="text" value="ALL"/>
Module	<input type="text"/>		Category <input type="text" value="ALL"/>
CDE Public ID	<input type="text"/>		Type <input type="text" value="ALL"/>

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Form Builder - main page

Navigate to a form using the navigation tree on the left-hand side of the screen  
 NHLBI (National Heart, Lung, and Blood Institute) -> Protocol Forms -> Desired form

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Form Builder

CDE Cart
 Help
 Logout

[CDE Browser](#) | [Admin Tool](#) | [Curation Tool](#) | [Sentinel Tool](#) | [UML Model Browser](#) | [NCI Metathesaurus](#) | [NCI Terminology Server](#) | [What's new](#)

You are logged in as: GUEST

Form Search

Note: Enter/select search criteria and click search button to initiate search. The wildcard character is \*. For additional information on how to use Form Builder, click the Help button above.

Search for Forms

Search preferences

Form Long Name			
Public ID		Version	<input checked="" type="radio"/> Latest Version <input type="radio"/> All Versions
Protocol Long Name			Workflow ALL
Classification			Context ALL
Module			Category ALL
CDE Public ID			Type ALL

Search

Reset

Create New Form/Template

caDSR Contexts

- BRIDG (BRIDG Collaboration)
- caBIG (NCI cancer Biomedical In
- caBIG Data Standards (Shortcut)
- caCOBE (NCI Core Infrastructure)
- CCR (NCI Center for Cancer Res
- CDISC (Clinical Data Interchange
- CIP (NCI Cancer Imaging Progra
- CTEP (NCI Cancer Therapy Eval
- DCP (NCI Division of Cancer Pre
- EDRN (NCI Early Research Detec
- HITS (Health Information Techn
- NCRI (National Cancer Research
- NHLBI (National Heart, Lung, and
- Classifications
- Protocol Forms
  - 2004 Infectious Disease I
  - 2005 Confirmation of HL
  - 2005 Hematopoietic Ste
  - 2400- Pre-Transplant Es
  - 2450- Post-Transplant Es
  - 2800- Recipient Death Da
  - Acute Myelogenous Leu
- NCI (National Institute of Child
- NIDCR (National Institute of Dent
- PS&CC (NCI Population Science

Click on the link for the form that you desire

**Search for Forms** 1 Matches Search preferences

Form Long Name:

Public ID:  Version: ☒ Latest Version ☐ All Versions

Protocol Long Name: 2900- Recipient Death Data

Classification:

Module:

CDE Public ID:

Workflow: ALL

Context: NHLBI

Category: ALL

Type: ALL

**Search Results**

Sort order: Long Name [Ascending]

Action	Long Name	Context	Type	Protocol Long Name(s)	Workflow Status	Public ID	Version
<input checked="" type="checkbox"/>	2900 - RECIPIENT DEATH DATA ISO DATE FORMAT VERSION 1	NHLBI	CRF	2900- Recipient Death Data	RELEASED	2892254	1.0

User: GUEST Version: 4.0.1 Build 1 Please send comments and suggestions to: [caDSR@nih.gov](mailto:caDSR@nih.gov)

- The search results will be displayed on the right-hand side of the screen.
- The search results contain the following information:
  - Long name: The name and number of the form
  - Context: The organization associated with the form. All NMDP forms are in the NHLBI (National Heart, Lung, and Blood Institute) context.
  - Protocol Long Name: The name and number of the form
  - Workflow status:
    - Released: Form version is available for use. Only use those form versions that have a released status
    - Retired: Form version is no longer being used
    - Draft New: Form version is being developed and should not be used.
  - Public ID
    - Identifier associated with a particular form
  - Version number
    - Identifies a particular instance of a form
- A form is uniquely identified by the combination of its public ID and version number
- To view a form, click on the long name of the specific form that you want to view.
- It can take a long time for the Form Builder report to appear

## Required metadata for All Module Types

- Form public ID and version number
- CDE public ID and version number
- Permissible values (if applicable)
- Module public ID and version number
  - This information is not available in Form Builder
  - Instructions on how to obtain this information is given later in this presentation

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Module public ID and version number can be found

## Accessing Form Level Information

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- Required metadata (noted in red box)
  - Form public ID
  - Form version number
- Additional metadata (noted in blue boxes)
  - Long name
  - Definition
  - Context
  - Workflow status
  - Category
  - Instructions

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Form Builder

Help

Logout

You are logged in as: GUEST
View Form

Note: View the form. Click Edit to make changes. Click Done to return to the main Search page.

Reference Documents

Done

[Printer Friendly Version](#)
[Excel Download](#)

Long Name	2900 - RECIPIENT DEATH DATA ISO DATE FORMAT VERSION 1
Definition	To define the primary and contributing causes of death for HSCT recipients reported as dead on follow up forms uses the ISO date format Version 1
Context	NHLBI
Protocol Long Name(s)	2900- Recipient Death Data
Workflow	RELEASED
Category	Follow-Up
Type	CRF
Public ID	2892254
Version	1.0
Header Instruction	To be completed in conjunction with 100 Days Post-HSCT Data, Six Months to Two Years Post-HSCT Data, or Greater Than Two Years Post-HSCT Data.
Footer Instruction	CIBMTR Form 2900 v1.0 (1-2) July 2007

Form Details

Show Module Repetitions

## Reference Documents

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- Contain additional information associated with the Form Builder report
- Examples of reference documents
  - PDF version of the form
  - Change notes associated with the form

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**Form Builder** Help Logout

You are logged in as: GUEST [View Form](#)

Note: View the form. Click Edit to make changes. Click Done to return to the main Search page.


[Reference Documents](#) [Done](#) [Printer Friendly Version](#) [Excel Download](#)

Long Name	2900 - RECIPIENT DEATH DATA ISO DATE FORMAT VERSION 1
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Version	1.0
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Footer Instruction	CIBMTR Form 2900 v1.0 (1-2) July 2007


[Form Details](#) [Show Module Repetitions](#)

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- A Form Builder report may be associated with reference documents
- To access the reference documents, click on the “Reference Documents” button at the top of the page



**Form Builder**




You are logged in as: GUEST

Reference Documents

Done

Form Long Name	2900 - RECIPIENT DEATH DATA ISO DATE FORMAT VERSION 1
Context	NHLBI
Version	1.0
Workflow	RELEASED
Type	CRF
Protocol Long Name(s)	2900- Recipient Death Data
Category	Follow-Up
Definition	To define the primary and contributing causes of death for HSCT recipients reported as dead on follow up forms uses the ISO date format Version 1

Reference Documents

PDF version Form 2900	
PDF version Form 2900	
Type	PDF
Context	NHLBI
URL	
Description	
Attachments	PDF_2900_Deat_1972067200.pdf (Can be downloaded from CDE Browser using "Download Template" link)

Notes detailing all changes made to the Form Builder report.

Change Notes	
Type	PDF
Context	NHLBI
URL	
Description	
Attachments	2900 Change Note -2058908425.pdf

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- The most common types of reference documents that the NMDP uses are
  - PDF version of the form
  - PDF document describing the changes made in each version of the Form Builder report

# Form Change Notes

## Change Notes

### Form 2900 – RECIPIENT DEATH DATA ISO DATE FORMAT VERSION 1

Public ID: 2892254 Version: 1.0

Form	Change Note
2900 – RECIPIENT DEATH DATA (Public ID 2481311 Version 3.0) – US date format	Replaced by 2900 – RECIPIENT DEATH DATA ISO DATE FORMAT VERSION 1(Public ID 2892254 Version 1.0)
2900 – RECIPIENT DEATH DATA ISO DATE FORMAT VERSION 1 (Public ID 2892254 Version 1.0)	<p>Protocol Long Name added: “2900 – Recipient Death Data”</p> <p>Footer Instruction added: “CIBMTR Form 2900 v1.0 (1-2) July 2007”</p> <p>Header instruction changed to: “To be completed in conjunction with 100 Days Post-HSCT Data, Six Months to Two Years Post-HSCT Data, or Greater Than Two Years Post-HSCT Data.”</p> <p>Module “Registry Use Only” CDE 2527891 – Changed to CDE 2866943</p>

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Sample form change notes.

## Accessing Metadata for Free Text CDEs

- Required metadata (noted in red box)
  - CDE public ID
  - CDE version number
- Additional metadata (noted in blue box)
  - Data type
  - Display format
  - Unit of measure

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- Required metadata
  - CDE public ID: number that identifies a particular CDE
  - CDE version number: number that identifies a version of a CDE
  - A CDE is uniquely identified by the combination of its public ID and version number
- Additional metadata
  - Data type: Character, number, or date
  - Display format: the way in which an answer is displayed such as “999.9” to indicate that an answer has 1 decimal place
  - Unit of measure: the specified unit of measure such as “mg”

Copy to module cart

Identification Data

Number of Repetitions 0

CIBMTR Center Number: 2527895 1.0

Answer is Mandatory ☐

Value Domain Details

Long Name Institution::Center for International Blood and Marrow Transplant Research Facility Number

Data Type NUMBER

Unit of Measure

Display Format

Concepts

CIBMTR Recipient ID: 2527897 1.0

Answer is Mandatory ☐

Value Domain Details

Long Name Identification Number

Data Type NUMBER

Unit of Measure

Display Format

Concepts

Today's date: 2866737 1.0

Answer is Mandatory ☐

Value Domain Details

Long Name Today Date

Data Type DATE

Unit of Measure

Display Format YYYY-MM-DD

Concepts

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## Accessing Metadata for Choice List CDEs

### ■ Required metadata (noted in red box)

- CDE public ID
- CDE version number
- Permissible values
  - Text or
  - Value meaning public ID and version number

### ■ Additional metadata (noted in blue box)

- Data type
- Display format
- Unit of measure
- Value meaning text
- Value meaning description

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#### • Required metadata

- CDE public ID: number that identifies a particular CDE
- CDE version number: number that identifies a version of a CDE
- Permissible values: the valid answers associated with a CDE
- A CDE is uniquely identified by the combination of its public ID and version number

#### • Additional metadata

- Data type: Character, number, or date
- Display format: the way in which an answer is displayed such as “999.9” to indicate that an answer has 1 decimal place
- Unit of measure: the specified unit of measure such as “mg”
- Value meaning text: a string of concept names that describes the permissible value
- Value meaning public ID version: the public ID and version number that uniquely identify a value meaning
- Value meaning description: the definition of each concept in the value meaning text

Copy to module cart

Death Date

Number of Repetitions 0

Date of death:	2066512	1.0
Answer is Mandatory	<input type="checkbox"/>	
Value Domain Details		
Long Name	Date	
Data Type	DATE	
Unit of Measure		
Display Format	YYYY-MM-DD	
Concepts		

Date of death is estimated:	2768794	1.0
Answer is Mandatory	<input type="checkbox"/>	
Value Domain Details		
Long Name	Date Validation Indicator	
Data Type	CHARACTER	
Unit of Measure		
Display Format		
Concepts		

Date estimated	
Form Value Meaning Text	Date Estimate
Form Value Meaning Public ID Version	2775116v1.0
Form Value Meaning Desc.	a particular day specified as the time something has, or will, happen.: Estimated; calculated approximately.

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## Topics

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- Non-repeating modules
- Non-normalized repeating modules
- Normalized repeating modules

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## Non-Repeating Modules

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- ▣ Used to group related CDEs that can occur only once on a form.
- ▣ Most frequently used type of module
- ▣ Please refer to the AGNIS Data Submission Procedures document for additional information and example XML

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# Non-Repeating Modules

PDF Version of Form

Form 2900 Question 2

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2. Was cause of death confirmed by autopsy?

- 1 ☐ yes
- 2 ☐ autopsy pending
- 3 ☐ no
- 4 ☐ unknown

3. Is an autopsy report attached?

- 1 ☐ yes
- 2 ☐ no

Attach a copy to this form, and reference question 2 on the report.

## Non-Repeating Modules

Accessing the metadata

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- Non-repeating modules do not require additional metadata

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# Non-Repeating Modules

## Form Builder

Autopsy report	
Number of Repetitions	0
Was cause of death confirmed by autopsy?	2768960 1.0
Answer is Mandatory	<input type="checkbox"/>
Value Domain Details	
Long Name	Confirmed Autopsy Indicator
Data Type	CHARACTER
Unit of Measure	
Display Format	
Concepts	
Yes	
Form Value Meaning Text	Yes
Form Value Meaning Public ID Version	2567168v1.0
Form Value Meaning Desc.	The affirmative response to a question or activity.
Autopsy pending	
Form Value Meaning Text	Autopsy Pending
Form Value Meaning Public ID Version	2768958v1.0
Form Value Meaning Desc.	Autopsy; an examination and dissection of a dead body to determine cause of death or the changes produced by disease.: Not yet decided or settled; awaiting conclusion or confirmation.
No	
Form Value Meaning Text	No
Form Value Meaning Public ID Version	2567170v1.0
Form Value Meaning Desc.	The non-affirmative response to a question.
Unknown	

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# Non-Repeating Modules

## Illustration of the mapping

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### caDSR

### Example Local Database

Death Occurrence Date



death\_dte

Death Occurrence Date Validation Indicator



death\_dte\_est\_ind

# Non-Repeating Modules

Translation of sample data

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## caDSR

## Example Local Database

Death Occurrence Date = 12/31/2008

death\_dte = 12/31/2008

Death Occurrence Date Validation Indicator = Yes

death\_dte\_est\_ind = Yes

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## Non-Normalized Repeating Modules

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- Used to group CDEs that can occur more than once on a form.
- Corresponds to questions on the paper form that can have more than one answer.
- Repeat sequence number used in AGNIS XML to identify instances.
- Please refer to the AGNIS Data Submission Procedures document for additional information and example XML

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# Non-Normalized Repeating Modules

PDF Version of Form

Form 2900 Question 4.2

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4. Cause of death: ☐

*Codes for cause of death are listed on the following page. If a code for "other, specify" (29, 39, 89, 109, 129, or 900) is entered, specify the cause in the space provided.*

Primary:    Specify: \_\_\_\_\_

Contributing:    Specify: \_\_\_\_\_

Specify: \_\_\_\_\_

Specify: \_\_\_\_\_

Specify: \_\_\_\_\_

Specify: \_\_\_\_\_

## Non-Normalized Repeating Modules

### Accessing the metadata

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- Non-normalized repeating modules in Form Builder will have the following
  - Module level instructions that state that the module may be repeated as needed
  - Number of repetitions equal to one less than the total number of instances allowed
    - For example, if you can have a maximum of 10 contributing causes of death on form 2900, the number of repetitions will be 9.

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## Non-Normalized Repeating Modules Form Builder

Contributing Cause of Death	
Instruction	Codes for cause of death are listed on the following page. If a code for 'other, specify' (20, 30, 80, 100, 120, or 900) is entered, specify the cause in the space provided. Module may be repeated as necessary. Equivalent to question numbers 4.2 & 4.2.1 on the PDF version of the form.
Number of Repetitions	9
Contributing cause of death:	2769114 1.0
Answer is Mandatory	<input type="checkbox"/>
Value Domain Details	
Long Name	Death Reason Type
Data Type	CHARACTER
Unit of Measure	
Display Format	
Concepts	
Graft rejection or failure	
Form Value Meaning Text	Graft Rejection
Form Value Meaning Public ID Version	2779293v1.0
Form Value Meaning Desc.	Failure of transplanted tissue to become functional or operational, often as a result of destruction by the host's immune system.
Instruction	10
Infection, organism not identified	
Form Value Meaning Text	Infection Organism Not Identified
Form Value Meaning Public ID Version	2768993v1.0
Form Value Meaning Desc.	A disorder resulting from the presence and activity of a microbial, viral, or parasitic agent. It can be transmitted by direct or indirect contact. -- 2003: A living thing, such as an animal, a plant, a bacterium, or a fungus. The finding is not present, but a value of 'none' cannot be unequivocally established absence in the current context.
Instruction	20

- Modules may also contain CDEs that can occur more than once on a form.
- For example, on form 2900 – Recipient Death Data, a patient may have more than one contributing cause of death.
- Repeating modules will have the following
  - Module level instructions that state that the module may be repeated as needed
  - Number of repetitions equal to one less than the total number of instances allowed

# Non-Normalized Repeating Modules

## Illustration of the mapping

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### caDSR

### Example Local Database

Contributing Cause of Death Type



cod\_contrib

Contributing Cause of Death Death Specify



cod\_specify

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# Non-Normalized Repeating Modules

Translation of sample data

## caDSR

## Example Local Database

Repeat sequence #			Repeat sequence #
1	{ Contributing Cause of Death Type = accidental death	cod_contrib = accidental death	1
2	{ Contributing Cause of Death Type = other infection Contributing Cause of Death Specify = viral infection	cod_contrib = other infection cod_specify = viral infection	2
3	{ Contributing Cause of Death Type = other organ failure Contributing Cause of Death Specify = renal failure	cod_contrib = other organ failure cod_specify = renal failure	3

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## Normalized Repeating Modules

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- Used to group a list or table of questions.
- One CDE is used for each column
- Value of one CDE (the mapping CDE) is used to identify the row (or question number).
- Please refer to the AGNIS Data Submission Procedures document for additional information and example XML

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# Normalized Repeating Modules

## PDF Version of Form

### Form 2006-HSCT Infusion questions 47-53

44. Was the product manipulated prior to infusion?

- 1 ☐ yes  
2 ☐ no

If autologous product, continue with question 92;  
if allogeneic product, continue with question 141.

45. Specify portion manipulated:

- 1 ☐ entire product  
2 ☐ portion of product

Specify all methods used to manipulate the product:

46. ABO incompatibility (RBC depletion)

- 1 ☐ yes  
2 ☐ no

Specify method:

47. 1 ☐ yes 2 ☐ no Buffy coat preparation  
48. 1 ☐ yes 2 ☐ no Cell separator (i.e., COBE Spectra)  
49. 1 ☐ yes 2 ☐ no Density gradient separation (i.e., Ficoll)  
50. 1 ☐ yes 2 ☐ no Plasma removal  
51. 1 ☐ yes 2 ☐ no Sedimentation (i.e., hetastarch)  
52. 1 ☐ yes 2 ☐ no Other → 53. Specify: \_\_\_\_\_

## Normalized Repeating Modules

### Accessing the metadata

---

- Each normalized module will have the following
  - Module level instructions that clearly identifies it as being normalized.
  - Number of repetitions equal to one less than the total number of rows
    - For example, if the table contains 6 rows, the number of repetitions will be 5

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# Normalized Repeating Modules

## Form Builder

Product Infusion - Part 2 / 5

**Instruction** Normalized curation. Equivalent to questions 192-198 on PDF version of the form. Please repeat this module for each added agents type listed in CDE 2740356.

**Number of Repetitions** 5

What kind of additives are included in volume of infused product? 2740356 1.0

**Answer is Mandatory** ☐

**Value Domain Details**

**Long Name**

Additive Type

**Data Type**

CHARACTER

**Unit of Measure**

**Display Format**

**Concepts**

Acid-Citrate-Dextrose (ACD)

**Form Value Meaning Text**

Acid-Citrate-Dextrose

**Form Value Meaning Public ID Version**

2739612v1.0

**Form Value Meaning Desc.**

A citrate anticoagulant used for the collection and preservation of whole blood.

Albumin

**Form Value Meaning Text**

ALBUMIN

**Form Value Meaning Public ID Version**

2561870v1.0

**Form Value Meaning Desc.**

ALBUMIN

Antibiotic

**Form Value Meaning Text**

Antibiotic

**Form Value Meaning Public ID Version**

2574589v1.0

**Form Value Meaning Desc.**

(an-tih-by-AH-tik) A drug used to treat infections caused by bacteria and other microorganisms.

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- A module may be used to contain normalized CDEs.
- Each normalized module will have the following
  - Module level instructions that clearly identifies it as being normalized.
  - Number of repetitions equal to one less than the total number of instances allowed

# Normalized Repeating Modules

## Illustration of the mapping

### caDSR

Infusion Agent Type  
Infusion Agent  
Administered



### Example Local Database

→ inf\_prod\_add\_agt\_heprn\_yn  
→ inf\_prod\_add\_agt\_dextr\_yn  
→ inf\_prod\_add\_agt\_othr\_yn  
→ Etc.

Infusion Agent Type  
Infusion Agent Specify



→ inf\_prod\_add\_agt\_oth\_spec

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# Normalized Repeating Modules

Translation of sample data

caDSR		Example Local Database	
Repeat sequence #			Repeat sequence
1	{ Infusion Agent Type = heparin Infusion Agent Administered = yes	inf_prod_add_agt_heprn_yn = yes	1
2	{ Infusion Agent Type = dextran Infusion Agent Administered = no	inf_prod_add_agt_dextr_yn = no	2
3	{ Infusion Agent Type = other Infusion Agent Administered = yes Infusion Agent Specify= drug A	inf_prod_add_agt_othr_yn = yes inf_prod_add_agt_oth_spec = drug A	3

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## Agenda

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- Metadata
- caDSR
- Structure of a Form Builder Report
- Accessing metadata common to all module types
- Accessing metadata specific to a particular module type
- **Downloading metadata from Form Builder**
- Obtaining module public ID and version numbers

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## Topics

---

- Download formats
- Ways to download
  - From within the Form Builder report
  - From search results
- Example Excel spreadsheet

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## Download Formats

---

- Excel
- Printer friendly
  - not technically a download
  - contains all repetitions of a module
  - may be very long
- XML format is not available

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## Ways to Download CDEs using Form Builder

---

- From within the Form Builder report
  - Excel download
  - Printer friendly web page
    - not recommended because it displays each instance of a module and creates a much longer version of the form
- From the search results
  - Excel download only

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## Downloading CDEs From Within A Form Builder Report

---

- Click on the hyperlinks for either:
  - Printer Friendly Version
  - Excel Downloads

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National Cancer Institute  
U.S. National Institutes of Health | www.cancer.gov

Form Builder

You are logged in as: GUEST

Note: View the form. Click Edit to make changes. Click Done to return to the main Search page.

Reference Documents

Done

Printer Friendly Version Excel Download

Long Name	2900 - RECIPIENT DEATH DATA ISO DATE FORMAT VERSION 1
Definition	To define the primary and contributing causes of death for HSCT recipients reported as dead on follow up forms uses the ISO date format Version 1
Context	NHLBI
Protocol Long Name(s)	2900- Recipient Death Data
Workflow	RELEASED
Category	Follow-Up
Type	CRF
Public ID	2892254
Version	1.0
Header Instruction	To be completed in conjunction with 100 Days Post-HSCT Data, Six Months to Two Years Post-HSCT Data, or Greater Than Two Years Post-HSCT Data.
Footer Instruction	CIBMTR Form 2900 v1.0 (1-2) July 2007

Form Details

Show Module Repetitions

Copy to module cart

Registry Use Only

Number of Repetitions 0

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## 2 ways to download CDEs using Form Builder

- From within the Form Builder report
  - Excel download
  - Printer friendly web page – not recommended because it displays each instance of a module and creates a much longer version of the form
- From the search results
  - Excel download only

## Downloading CDEs From the Search Results

---

- ▣ Click on the Excel icon

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**National Cancer Institute**

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**Form Search**

Note: Enter/select search criteria and click search button to initiate search. The wildcard character is \*. For additional information on how to use Form Builder, click the Help button above.

**Search for Forms** 1 Matches [Search preferences](#)

Form Long Name			
Public ID		Version	<input checked="" type="radio"/> Latest Version <input type="radio"/> All Versions
Protocol Long Name	2900- Recipient Death Data	<a href="#">Clear</a>	Workflow ALL
Classification		<a href="#">Clear</a>	Context NHLBI
Module			Category ALL
CDE Public ID			Type ALL

[Search](#)
[Reset](#)
[New Search](#)
[Create New Form/Template](#)

**Search Results** [Module Cart](#)

Sort order: Long Name [Ascending]

Action	Long Name	Context	Type	Protocol Long Name(s)	Workflow Status	Public ID	Version
	2900 - RECIPIENT DEATH DATA ISO DATE FORMAT VERSION 1	NHLBI	CRF	2900- Recipient Death Data	RELEASED	2892254	1.0

1 - 1 of 1

To download an Excel version of the form from the search results, click on the Excel icon

## Example Excel Spreadsheet

---

- The column headers for required metadata are in a red box

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	A	B	C	D	E	F	G
1	Long Name	2900 - RECIPIENT DEATH DATA ISO DATE FORMAT VERSION 1					
2	Definition	To define the primary and contributing causes of death for HSCT recipients reported as dead on follow up forms uses the ISO date format					
3	Context	NHLBI					
4	Protocol Long Name	2900- Recipient Death Data					
5	Workflow	RELEASED					
6	Type	CRF					
7	Public ID	2892254					
8	Version	1.0					
9	Header Instruction	To be completed in conjunction with 100 Days Post-HSCT Data, Six Months to Two Years Post-HSCT Data, or Greater Than Two Years					
10	Footer Instruction	CIBMTR Form 2900 v1.0 (1-2) July 2007					
11							
12	Module	Module Instructions	Number of Repetitions	Question	CDE	CDE Public ID	CDE Version
13	Registry Use Only		0				
14				Sequence number:	Clinical Data Form Sequence Number	2527889	1.0
15				Date received:	Clinical Data Form Received Date	2866943	1.0
16	Identification Data		0		Hematopoietic Stem Cell Transplantation Recipient Institution: Center for International Blood and Marrow Transplant Research Facility Number		
17				CIBMTR Center Number:		2527895	1.0

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The Excel spreadsheet downloaded from the Form Builder contains information about the CDEs in the order in which they appear in the form. Only form specific information is displayed.

	H	I	J	K	L	M	N
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12	Question Instructions	Answer is Mandatory	Question Default Value	Value Domain Long Name	Value Domain Data Type	Value Domain Unit of Measure	Display Format
13							
14		No		Sequence Number	NUMBER		
15		No		Received Date	DATE		YYYY-MM-DD
16							
17		No		Institution: Center for International Blood and Marrow Transplant Research Facility Number	NUMBER		

	O	P	Q	R	S	T
11						
12	Concepts	Valid Value	Form Value Meaning Text	Form Value Meaning Public ID Version	Form Value Meaning Desc.	Valid Value Instructions
25		Allogeneic, related Syngeneic (identical twin)	Related Allogenic	2730899v1.0	Related, connected or associated.: Taken from different individuals of the same species. Also called allogeneic.	
26			syngeneic	2568338v1.0	syngeneic	
27						
28		Yes	YES	2560453v1.0	YES	
29		No	NO	2559515v1.0	NO	

Note that this example of a Form Builder Excel download is not a continuation of the example used in the previous two slides

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## Agenda

---

- Metadata
- caDSR
- Structure of a Form Builder Report
- Accessing metadata common to all module types
- Accessing metadata specific to a particular module type
- Downloading metadata from Form Builder
- Obtaining module public ID and version numbers

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## Topics

---

- ▣ Ways of obtaining module public ID and version numbers
- ▣ Using the metadata tool
- ▣ Using the caDSR API

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## Ways of Obtaining Module Public ID and Version Numbers

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- AGNIS metadata tool

- Download beta version from:  
<http://www.agnis.net>

- caDSR API

- <http://cadsrapi.nci.nih.gov/cadsrapi40/Home.action>

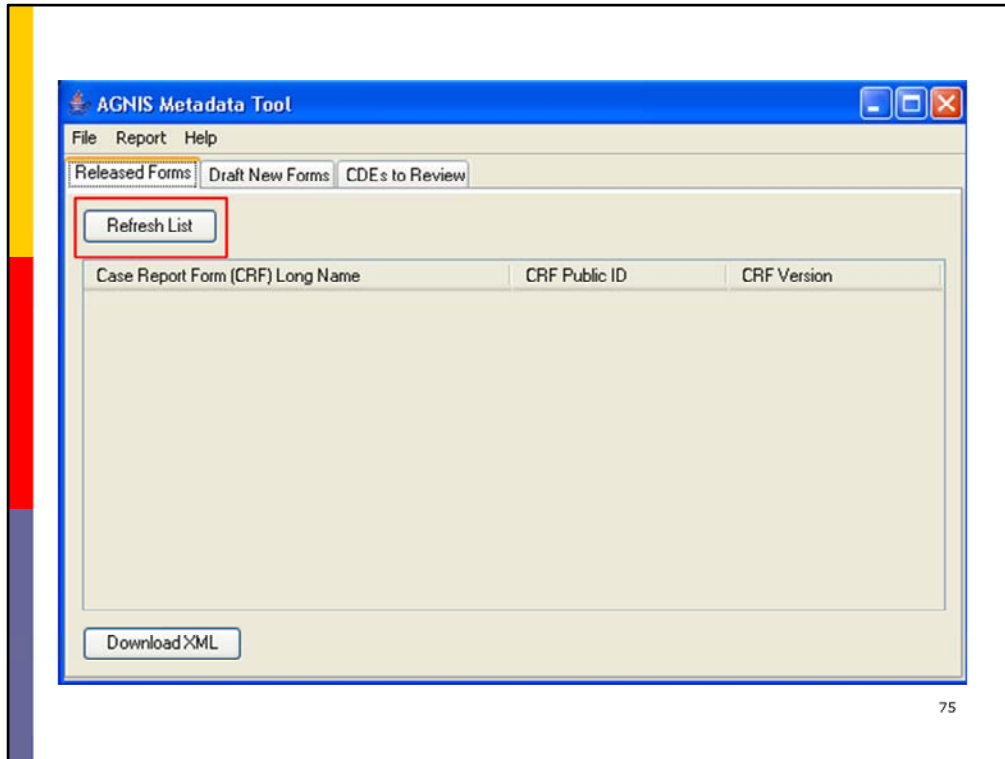
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## AGNIS Metadata Tool

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- Recommended method for obtaining module public ID and version numbers
  - Can download data in either Excel or XML formats
  - Metadata presented in a user-friendly manner

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**AGNIS Metadata Tool**

File Report Help

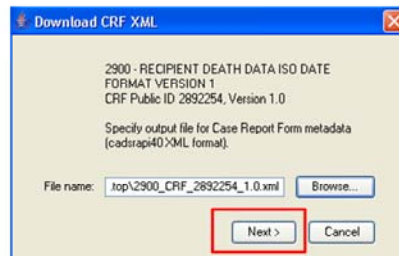
Released Forms Draft New Forms CDEs to Review

Refresh List

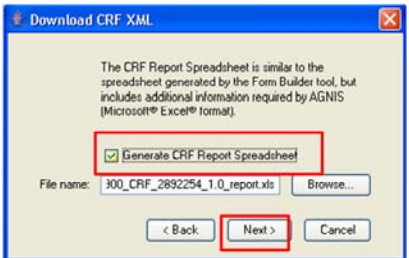
Case Report Form (CRF) Long Name	CRF Public ID	CRF Version
2004 - Infectious Disease Markers ISO Date Format Ve...	2884169	1.0
2005 - Confirmation of HLA typing	2626421	4.0
2005 - Confirmation of HLA typing ISO Date Format Ve...	2884460	1.0
2006 - Hematopoietic Stem Cell Transplant (HSCT) Infu...	2798767	1.0
2006 - Hematopoietic Stem Cell Transplant (HSCT) Infu...	2894050	1.0
2110 - Acute Myelogenous Leukemia Post-HSCT Data	2763719	3.0
2111 - Acute Lymphoblastic Leukemia Post-HSCT Data	2627437	3.0
2400 - Pre-Transplant Essential Data (TED)	2492857	5.0
2400 - Pre-Transplant Essential Data (TED) ISO Date F...	2892485	1.0
2450 - Post-Transplant Essential Data (TED)	2792764	3.0
2450 - Post-Transplant Essential Data (TED) ISO Date ...	2888418	1.0
2900 - RECIPIENT DEATH DATA	2481311	3.0
2900 - RECIPIENT DEATH DATA ISO DATE FORMA...	2892254	1.0

Download XML

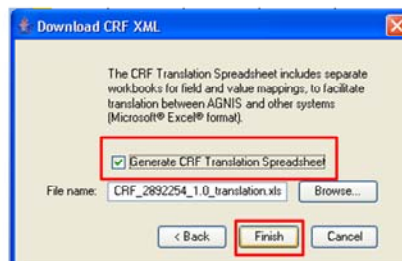
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# AGNIS Metadata Tool

## Output

---

- caDSR XML
- Microsoft Excel
  - CRF Report Spreadsheet
    - Mimics Form Builder output
    - Includes information not in Form Builder
  - CRF Translation Spreadsheet

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# AGNIS Metadata Tool

## CRF Report Spreadsheet

	A	B	C	D	E	F
1	Long Name	2900 - RECIPIENT DEATH DATA ISO DATE FORMAT VERSION 1				
2	Definition	To define the primary and contributing causes of death for HSCT recipients reported as dead on follow up forms uses the I				
3	Context					
4	Protocol Long Name					
5	Workflow	RELEASED				
6	Type	CRF				
7	Public ID	2892254				
8	Version	1.0				
9	Header Instruction	To be completed in conjunction with 100 Days Post-HSCT Data, Six Months to Two Years Post-HSCT Data, or Greater Th				
10						
11	Module Display Order	Question Display Order	Valid Value Display Order	Module Long Name	Module Public ID	Module Version
12	0			Registry Use Only	2892372	1.0
13	0	0				
14	0	1				
15	1			Identification Data	2892358	1.0
16	1	0				
17	1	1				
18	1	2				
19	1	3				
20	2			HSCT Type	2892348	1.0
21	2	0				
22	2	0	0			
23	2	0	1			
24	2	0	2			
25	2	0	3			
26	2	1				
27	2	1	0			
28	2	1	1			
29	3			Product Type	2892375	1.0
30	3	0				

## AGNIS Metadata Tool

### CRF Translation Spreadsheet / Field Mapping

	A	B	C	D	E	F	G
	Paper Form Number	Paper Form Version	caDSR Form Public ID	caDSR Form Version	Module Display Order	Module Public ID	Module Version
2	2900	1.0	2892254	1.0	0	2892372	1.0 F
3	2900	1.0	2892254	1.0	0	2892372	1.0 F
4	2900	1.0	2892254	1.0	1	2892358	1.0 I
5	2900	1.0	2892254	1.0	1	2892358	1.0 I
6	2900	1.0	2892254	1.0	1	2892358	1.0 I
7	2900	1.0	2892254	1.0	1	2892358	1.0 I
8	2900	1.0	2892254	1.0	2	2892348	1.0 I
9	2900	1.0	2892254	1.0	2	2892348	1.0 I
10	2900	1.0	2892254	1.0	3	2892375	1.0 F
11	2900	1.0	2892254	1.0	3	2892375	1.0 F
12	2900	1.0	2892254	1.0	3	2892375	1.0 F
13	2900	1.0	2892254	1.0	4	2892390	1.0 I
14	2900	1.0	2892254	1.0	4	2892390	1.0 I
15	2900	1.0	2892254	1.0	5	2892363	1.0 I
16	2900	1.0	2892254	1.0	5	2892363	1.0 I
17	2900	1.0	2892254	1.0	6	2892255	1.0 F
18	2900	1.0	2892254	1.0	6	2892255	1.0 F
19	2900	1.0	2892254	1.0	7	2892394	1.0 C
20	2900	1.0	2892254	1.0	7	2892394	1.0 C
21	2900	1.0	2892254	1.0	8	2892342	1.0 I
22	2900	1.0	2892254	1.0	8	2892342	1.0 I
23	2900	1.0	2892254	1.0	8	2892342	1.0 I
24	2900	1.0	2892254	1.0	8	2892342	1.0 I
25	2900	1.0	2892254	1.0	8	2892342	1.0 I
26							
27							
28							
29							
30							

Navigation: Overview | **Field Mapping** | Value Mapping | CDE Designation

This screenshot does not display all of the information available in the Field Mapping tab of the CRF Translation spreadsheet.

# AGNIS Metadata Tool

## CRF Translation Spreadsheet / Value Mapping

	A	B	C	D	E	F	G
1	Paper Form Number	Paper Form Version	caDSR Form Public ID	caDSR Form Version	Module Display Order	Module Public ID	Module Version
2	2900	1.0	2892254	1.0	2	2892348	1.0
3	2900	1.0	2892254	1.0	2	2892348	1.0
4	2900	1.0	2892254	1.0	2	2892348	1.0
5	2900	1.0	2892254	1.0	2	2892348	1.0
6	2900	1.0	2892254	1.0	2	2892348	1.0
7	2900	1.0	2892254	1.0	2	2892348	1.0
8	2900	1.0	2892254	1.0	3	2892375	1.0
9	2900	1.0	2892254	1.0	3	2892375	1.0
10	2900	1.0	2892254	1.0	3	2892375	1.0
11	2900	1.0	2892254	1.0	3	2892375	1.0
12	2900	1.0	2892254	1.0	3	2892375	1.0
13	2900	1.0	2892254	1.0	3	2892375	1.0
14	2900	1.0	2892254	1.0	3	2892375	1.0
15	2900	1.0	2892254	1.0	4	2892390	1.0
16	2900	1.0	2892254	1.0	5	2892363	1.0
17	2900	1.0	2892254	1.0	5	2892363	1.0
18	2900	1.0	2892254	1.0	5	2892363	1.0
19	2900	1.0	2892254	1.0	5	2892363	1.0
20	2900	1.0	2892254	1.0	5	2892363	1.0
21	2900	1.0	2892254	1.0	5	2892363	1.0
22	2900	1.0	2892254	1.0	6	2892255	1.0
23	2900	1.0	2892254	1.0	6	2892255	1.0
24	2900	1.0	2892254	1.0	6	2892255	1.0
25	2900	1.0	2892254	1.0	6	2892255	1.0
26	2900	1.0	2892254	1.0	6	2892255	1.0
27	2900	1.0	2892254	1.0	6	2892255	1.0
28	2900	1.0	2892254	1.0	6	2892255	1.0
29	2900	1.0	2892254	1.0	6	2892255	1.0
30	2900	1.0	2892254	1.0	6	2892255	1.0

This screen-shot does not display all of the information available in the Value Mapping tab of the CRF Translation spreadsheet.

## caDSR API

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- Not the recommended method for obtaining module public ID and version numbers
  - Numerous steps involved
  - Metadata not presented in a user-friendly manner
- The following slides show how to obtain the information

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[HOME](#)
[JAVA DOCS](#)



### Welcome to the caDSR API

caDSR is the Cancer Data Standards Repository of Common Data Elements (CDEs), a database managed at NCICB. CDEs are used as data descriptors (metadata) for NCI-sponsored research.

CDEs are based on EVS thesauri and standard vocabularies and are developed by NCICB and partner organizations including participants in caBio(tm). The caDSR tools are used to create, edit and deploy CDEs. caCORE application web services provide programmatic access to caDSR content.

caCORE objects are represented by UML Models. A UML Model is used to facilitate a semi-automated load from caCORE UML into ISO/IEC 11179 Administered Components. This is discussed in more detail on the caCORE SDK/wiki page.

CDEs address a significant problem in biomedical data management-the many and varied ways that similar or identical concepts are described. CDEs provide consistent data descriptors (metadata), making it possible to aggregate and manage both modest-sized and large data sets in order to be able to ask and answer basic questions.


SELECT CRITERIA

Continue

WHAT'S NEW

- New User Interface
- New hierarchical package/class browsing
- New single-session authentication


DID YOU KNOW?



National Cancer Institute

U.S. National Institutes of Health

www.cancer.gov



caDSR

HOME

CRITERIA


Domain Class Browser

Please click on any of the tree nodes.

To view the search criteria for a class, expand a package listed below and select a class. To search for records, provide valid search criteria and click the Submit button. For any date attributes, please use the syntax: mm-dd-yyyy.


Domain Packages

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National Cancer Institute

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caDSR

HOME CRITERIA

Domain Class Browser

Please click on any of the tree nodes.

To view the search criteria for a class, expand a package listed below and select a class. To search for records, provide valid search criteria and click the Submit button. For any date attributes, please use the syntax: mm-dd-yyyy.

Domain Packages

gov.nih.nci.caDSR.domain

gov.nih.nci.caDSR.umlproject.domain

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CADSR

HOMECRITERIA

Domain Class Browser

Please click on any of the tree nodes.

To view the search criteria for a class, expand a package listed below and select a class. To search for records, provide valid search criteria and click the Submit button. For any date attributes, please use the syntax: mm-dd-yyyy.

ConditionMessage

ContactCommunication

Context

DataElement

DataElementConcept

DataElementConceptRelationship

DataElementDerivation

DataElementRelationship

Definition

DefinitionClassSchemeItem

DerivationType

DerivedDataElement

Designation

DesignationClassSchemeItem

EnumeratedValueDomain

Form

FormElement

Function

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- DataElementDerivation
- DataElementRelationship
- Definition
- DefinitionClassSchemeItem
- DerivationType
- DerivedDataElement
- Designation
- DesignationClassSchemeItem
- EnumeratedValueDomain
- Form**
- FormElement
- Function

dateCreated:	
dateModified:	
deletedIndicator:	
endDate:	
id:	
latestVersionIndicator:	
longName:	
modifiedBy:	
origin:	
preferredDefinition:	
preferredName:	
publicID:	2892254
registrationStatus:	
unresolvedIssue:	
version:	
workflowStatusDescription:	
workflowStatusName:	
displayName:	
type:	
Search Object:	Please choose

Submit

Reset

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Criteria: gov.nih.nci.cadsr.domain.Form[@publicID=2892254] Result Class: gov.nih.nci.cadsr.domain.Form									
gov.nih.nci.cadsr.domain.Form									
beginDate	changeNote	createdBy	dateCreated	dateModified	deletedIndicator	endDate	id	latestVersionIndicator	
05-29-2009	-	KUMMEROA	05-29-2009	08-19-2009	No	-	6B0D1B75-003A-E249-E040-BB69AD435FCF	Yes	2900 - RECIPIENT DEATH

[ 1-1 of 1 ]								
ClassSchemaItemCollection	referenceDocumentCollection	designationCollection	instruction	triggerActionCollection	displayName	type	moduleCollection	protocolCollection
ClassSchemaItemCollection	getReferenceDocumentCollection	getDesignationCollection	getInstruction	getTriggerActionCollection	Follow-Up	CRF	getModuleCollection	getProtocolCollection

Criteria: Form[id=6B0D1B75.003A.E249.E040.BB89AD435FCF]  
 Result Class: gov.nih.nci.cadsr.domain.Module

gov.nih.nci.cadsr.domain.Module

beginDate	changeNote	createdBy	dateCreated	dateModified	deletedIndicator	endDate	id	latestVersionIndicator	longName
05-29-2009	-	KUMMEROA	05-29-2009	05-29-2009	No	-	6B0D1B75-003C-E249-E040-BB89AD435FCF	Yes	Primary Cause of Death
05-29-2009	-	KUMMEROA	05-29-2009	05-29-2009	No	-	6B0D1B75-00EA-E249-E040-BB89AD435FCF	Yes	Author Information
05-29-2009	-	KUMMEROA	05-29-2009	05-29-2009	No	-	6B0D1B75-00F6-E249-E040-BB89AD435FCF	Yes	HSCT Type
05-29-2009	-	KUMMEROA	05-29-2009	05-29-2009	No	-	6B0D1B75-010A-E249-E040-BB89AD435FCF	Yes	Identification Data
05-29-2009	-	KUMMEROA	05-29-2009	05-29-2009	No	-	6B0D1B75-0114-E249-E040-BB89AD435FCF	Yes	Autopsy report
05-29-2009	-	KUMMEROA	05-29-2009	05-29-2009	No	-	6B0D1B75-0126-E249-E040-BB89AD435FCF	Yes	Registry Use Only
05-29-2009	-	KUMMEROA	05-29-2009	05-29-2009	No	-	6B0D1B75-012C-E249-E040-BB89AD435FCF	Yes	Product Type
05-29-2009	-	KUMMEROA	05-29-2009	05-29-2009	No	-	6B0D1B75-014A-E249-E040-BB89AD435FCF	Yes	Death Date
05-29-2009	-	KUMMEROA	05-29-2009	05-29-2009	No	-	6B0D1B75-0152-E249-E040-BB89AD435FCF	Yes	Contributing Cause of Death

	modifiedBy	origin	preferredDefinition	preferredName	publicID	registrationStatus	unresolvedIssue	version	workflowStatusDescription	workflowStatusName
n	KUMMEROA	-	Cause of Death	255973325893082637543	2892255	-	-	1.0	Newly created administered component	DRAFT NEW
	KUMMEROA	-	Author Information	254850125891722637630	2892342	-	-	1.0	Newly created administered component	DRAFT NEW
	KUMMEROA	-	HSCT Type	254844425891782637636	2892348	-	-	1.0	Newly created administered component	DRAFT NEW
	KUMMEROA	-	Identification Data	254845425891882637648	2892358	-	-	1.0	Newly created administered component	DRAFT NEW
	KUMMEROA	-	Autopsy report	254849125891932637651	2892363	-	-	1.0	Newly created administered component	DRAFT NEW
	KUMMEROA	-	Registry Use Only	254846625892022637660	2892372	-	-	1.0	Newly created administered component	DRAFT NEW
	KUMMEROA	-	Product Type	254847125892052637663	2892375	-	-	1.0	Newly created administered component	DRAFT NEW
	KUMMEROA	-	Death Date	254848525892182637678	2892390	-	-	1.0	Newly created administered component	DRAFT NEW
Death	KUMMEROA	-	Cause of Death	254888225892222637682	2892394	-	-	1.0	Newly created administered component	DRAFT NEW

## Sources of Additional Information

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- AGNIS website:  
<http://www.agnis.net/DOCUMENTATION/index.html>
  - Metadata Tool User Guide
  - AGNIS Data Submission Procedures
  - caCORE and caDSR

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