CDASH Conformance Rules for Using Controlled Terminologies

LPO Webinar Series: CDASH Conformance Session 3



CDASH Conformance Rules Webinar Series

- CDASH Conformance Rules describe how to "conform" to the CDASH standard in such a way that the "harmonization" with SDTM is maintained
- This Webinar Series will cover each conformance rule, with examples of which rules are "built in" to the NCI GLIB ALS and how they have been addressed

Sessio n	Topic Covered
1	Introduction to how CDASH is harmonized with SDTM at the Model and IG level
2	Conformance Rule: Use Variable Naming Conventions that make it easy to create SDTM datasets
3	Conformance Rule: Use the required SDTM controlled terminology to collect data
4	Conformance Rule: Use the published Question Text or Prompt to ask the questions on the CRF
5	Conformance Rule: Follow the Core Designations Conformance Rule: Follow CDASH Best Practices

CDASH Alignment to SDTM

Special Purpose Interventions

Same overall structure

Same domain topics and

naming conventions (DM =

DM, AE=AE)

- Same general observation classes
- Same special purpose domains

Findings Events

Covered in Session 1

er, CDASH does not put restrictions on how to organize questions

- Multiple domain questions can be on the same data collection form (DM, VS)
- Multiple data collection forms can all be about the same topic (VS at each visit)

Mostly the same variables

Covered in Session 2

- Same meaning (definitions are important) ensured through QText/Prompt
- A few differences to meet data collection needs DAT/TIM vs DTC, Findings class with multiple TESTs)
- Additional variables (e.g., common non-standard concepts, edit checks)

Same terminology

- Same meaning (definitions)
- Can display synonyms (user friendly) but should store the CDISC Submission Value to avoid transformations
- Use --TESTCD terminology to construct EDC variable names / --TEST for prompts

CDASH Conformance

CDASH Conformance Rule	Rationale	How This is Reflected in NCI GLIB ALS
Use Variable Naming Conventions that make it easy to create SDTM datasets	Foundational purpose of CDASH is to implement SDTM before we collect the data. CDASH also has to accommodate data entry needs (like splitting date and time into two fields) using standard collection variables	 FieldOIDs are linked to SDTM Directly link the collected value to the associated SDTM dataset and variable Standard syntax (pattern) allows us to write standard SDTM programs
 Use the required SDTM controlled terminology to Collect data (DataDictionary values) Create prompts (PreText, User values) Create denormalized variables 	Collect values that mean the same thing as the value "as represented" in SDTM	DataDictionary and DataDictionaryEntries match required SDTM Controlled Terminology CodedData uses value required for submission data UserDataString uses same or synonymous value
Follow the Core Designations	Reflects the minimum set of questions needed to get a meaningful record	Requirements not indicated in ALS. Must reference CDASHIG for this information
Use the published Question Text or Prompt to ask the questions on the CRF	Ensure the question means the same thing as the target SDTM variable	PreText uses the flexible Question Text published in CDASHIG. Apply flexibility rules as needed
Follow CDASH Best Practices	Widely vetted clinical data management practices	Not indicated in ALS. Must reference CDASHIG for this information

SDTM Controlled Terminology

10,000s of defined concepts

• each with a *single representation* that *must be used* for FDA review: *CDISC Submission Value*

Published Quarterly (with DIFF files)

- Terms may be added, removed or modified
- Tip: Published on <u>NCI EVS website first</u> (multiple formats)

Maintained by NCI Enterprise Vocabulary Services (EVS)

- Expert staff
- Existing processes
- Technologies

Controlled Terminology Conformance

Use as published

- For data collection, synonyms (including NCI Preferred terms) may be used to display values on the CRF
- For SDTM, use only the CDISC Submission Value and use the exact spelling and case **Store in EDC Variable**

Extensibility

- If No, no other values may be added to this codelist
- If Yes, other values may be added
 - First, confirm that the value you need is not already there - look at synonyms and definitions

CT Documentation Content

- SDTM Controlled Terminology (CT) Published in multiple file formats (e.g., .xls, .pdf, .odm, .csv)
- No matter which file format you use, the <u>content</u> for each version is the <u>same</u> in all of them
- Review the structure and content of Excel and PDF files:

4	A B C D		D	E	F	
1	Code	Codelist Code	Codelist Extensible (Yes/No)	Codelist Name ▽	CDISC Submission Value	CDISC Sync
50	C66767		No	Action Taken with Study Treatment	ACN	Action Taken with Study
51	C49503	C66767		Action Taken with Study Treatment	DOSE INCREASED	
52	C49504	C66767		Action Taken with Study Treatment	DOSE NOT CHANGED	
53	C150826	C66767		Action Taken with Study Treatment	DOSE RATE REDUCED	
54	C49505	C66767		Action Taken with Study Treatment	DOSE REDUCED	
55	C49501	C66767		Action Taken with Study Treatment	DRUG INTERRUPTED	
56	C49502	C66767		Action Taken with Study Treatment	DRUG WITHDRAWN	
57	C48660	C66767		Action Taken with Study Treatment	NOT APPLICABLE	NA; Not Applicable
58	C17998	C66767		Action Taken with Study Treatment	UNKNOWN	U; UNK; Unknown
59	C101865		No	Acute Coronary Syndrome Presentation Category	ACSPCAT	Acute Coronary Syndrol Category
60	C80383	C101865		Acute Coronary Syndrome Presentation Category	NON-ST ELEVATION MYOCARDIAL INFARCTION	NON-STEMI; NSTEMI
61	C17649	C101865		Acute Coronary Syndrome Presentation Category	OTHER	Other
62	C101888	C101865		Acute Coronary Syndrome Presentation Category	ST ELEVATION MYOCARDIAL INFARCTION	STEMI
	C66914	C101865		Acute Coronary Syndrome Presentation Category	STABLE ANGINA	
63						

ACN (Action Taken with Study Treatment)

NCI Code: C66767, Codelist extensible: No

)	C66767	ACN			
l	NCI Code	CDISC Submission Value	CDISC Synonym	CDISC Definition	NCI Preferred Term
	C49503	DOSE INCREASED		An indication that a medication schedule was modified by addition; either by changing the frequency, strength or amount. (NCI) $$	Dose Increased
l	C49504	DOSE NOT CHANGED		An indication that a medication schedule was maintained. (\ensuremath{NCI})	Dose Not Changed
	C150826	DOSE RATE REDUCED		An indication that the administration of a medication was modified by reducing the rate at which the dose was given, without reducing the total dose administered.	Dose Rate Reduced
	C49505	DOSE REDUCED		An indication that a medication schedule was modified by subtraction, either by changing the frequency, strength or amount. (${\sf NCI}$)	Dose Reduced
	C49501	DRUG INTERRUPTED		An indication that a medication schedule was modified by temporarily terminating a prescribed regimen of medication. (NCI) $$	Drug Interrupted
1	C49502	DRUG WITHDRAWN		An indication that a medication schedule was modified through termination of a prescribed regimen of medication. (NCI)	Drug Withdrawn
	C48660	NOT APPLICABLE	NA;Not Applicable	Determination of a value is not relevant in the current context. (NCI) $$	Not Applicable
	C17998	UNKNOWN	U;UNK;Unknown	Not known, not observed, not recorded, or refused. (NCI) $$	Unknown

Hint: If you don't know the Codelist (long)
Name, you can search for the codelist short
name (the one that is specified for the variable
in SDTMIG or CDASHIG) in the **PDF** file.

ACN (Action Taken with Study Treatment)

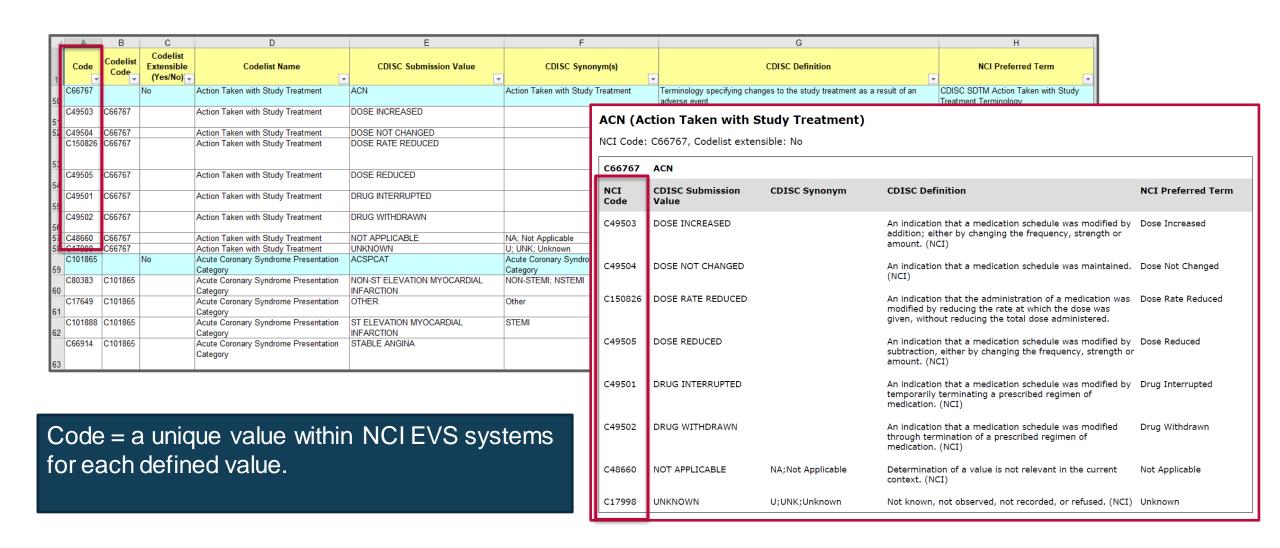
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1	Code	Codelist	C Codelist Extensible (Yes/No)	Codelist Name	CDISC Submission Value	CDISC Syno
50	C66767		No	Action Taken with Study Treatment	ACN	Action Taken with Study
51	C49503	C66767	•	Action Taken with Study Treatment	DOSE INCREASED	
52	C49504	C66767		Action Taken with Study Treatment	DOSE NOT CHANGED	
	C150826	C66767		Action Taken with Study Treatment	DOSE RATE REDUCED	
53	C49505	C66767		Action Taken with Study Treatment	DOSE REDUCED	
54 55	C49501	C66767		Action Taken with Study Treatment	DRUG INTERRUPTED	
56	C49502	C66767		Action Taken with Study Treatment	DRUG WITHDRAWN	
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	C66914	C101865		Acute Coronary Syndrome Presentation Category	STABLE ANGINA	
63						

codelist Short Name and Long Name CDISC Submission Value = Short Name Codelist Name = Long Name

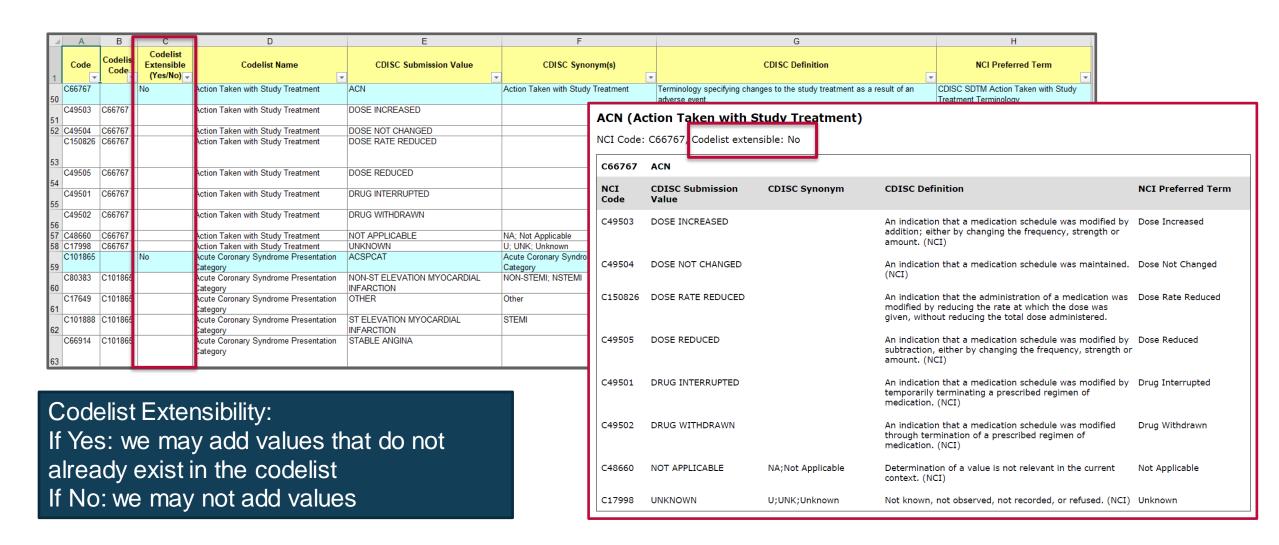
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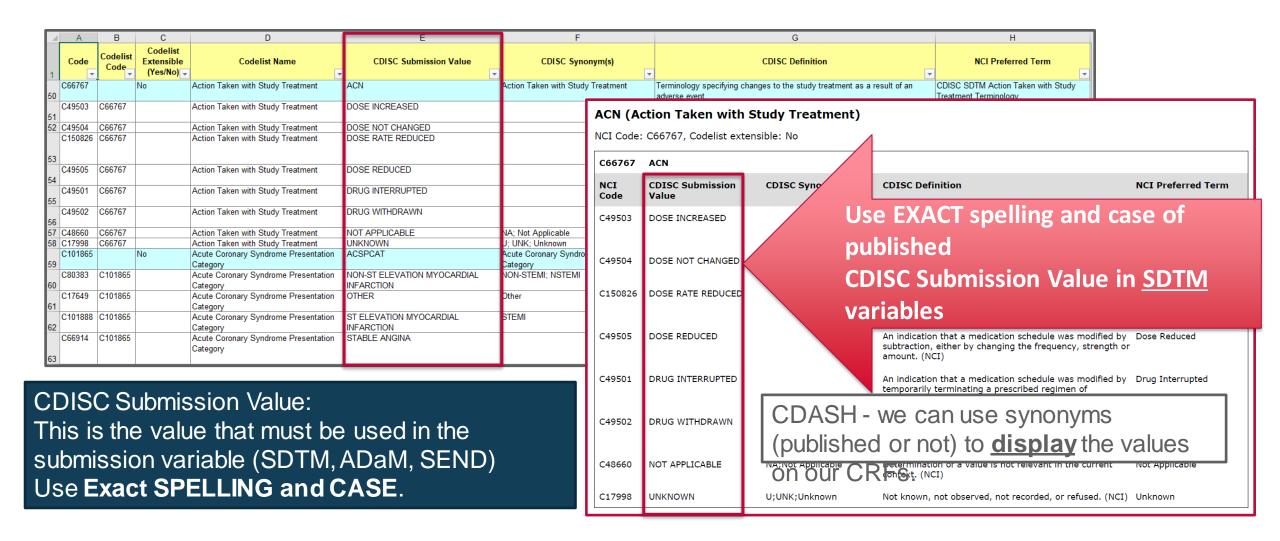
-	ACN (A	Action Taken with Study Treatment)										
1	NCI Code:	C66767, Codelist exten	sible: No									
-	C66767	ACN										
	NCI Code	CDISC Submission Value	CDISC Synonym	CDISC Definition	NCI Preferred Term							
	C49503	DOSE INCREASED		An indication that a medication schedule was modified by addition; either by changing the frequency, strength or amount. (NCI)	Dose Increased							
ro I	C49504	DOSE NOT CHANGED		An indication that a medication schedule was maintained. (NCI) $$	Dose Not Changed							
	C150826	DOSE RATE REDUCED		An indication that the administration of a medication was modified by reducing the rate at which the dose was given, without reducing the total dose administered.	Dose Rate Reduced							
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	C49502	DRUG WITHDRAWN		An indication that a medication schedule was modified through termination of a prescribed regimen of medication. (NCI)	Drug Withdrawn							
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NCI Preferred Term

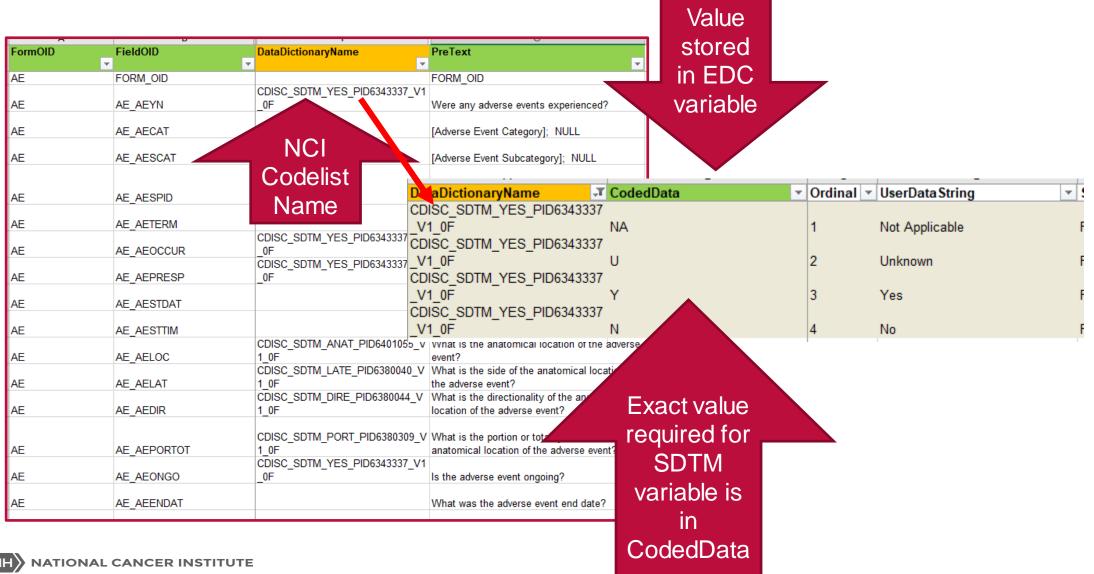


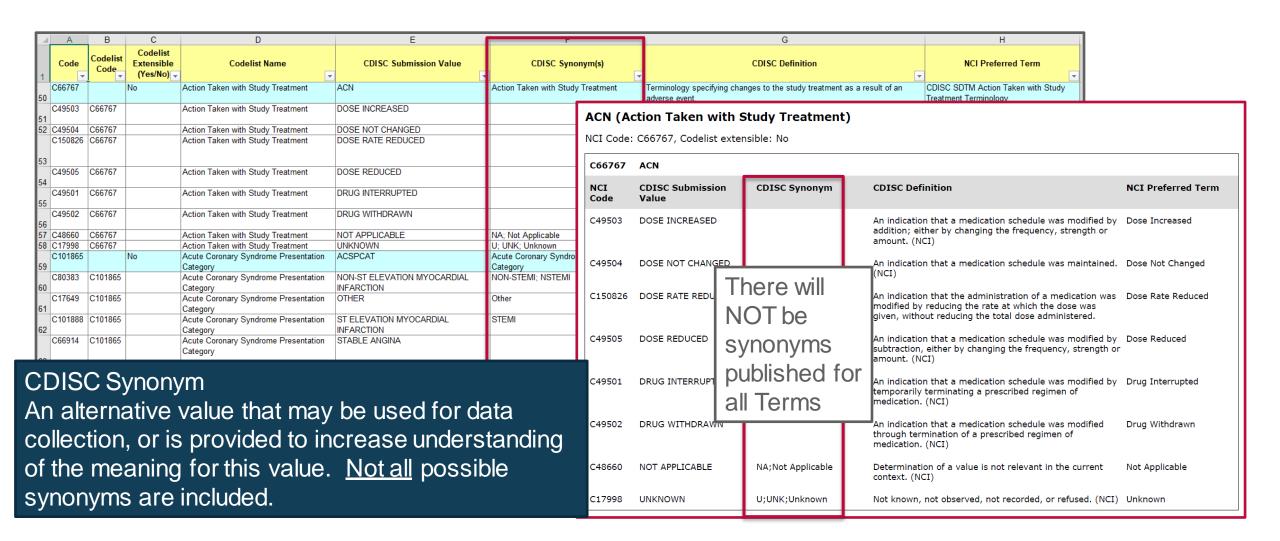
			-	_								
1	A Code	Codelist	C Codelist Extensible (Yes/No)	D Codelist Name	CDISC Submission Value	CDISC Synd	onym(s)	v	G CDISC Definition	V	H NCI Preferred Term	
50 C6	6767		No	Action Taken with Study Treatment	ACN	Action Taken with Stud	y Treatment	Terminology specifying char adverse event.	nges to the study treatment as a i		DISC SDTM Action Taken with Study eatment Terminology	
51 C4	C49503 C66/67 Action Taken with Study Treatment DOSE INCREASED ACN (Action Taken with Study Treatment) ACN (Action Taken with Study Treatment)											
52 C4 C1		C66767 C66767		Action Taken with Study Treatment Action Taken with Study Treatment	DOSE NOT CHANGED DOSE RATE REDUCED		NCI Code:	C66767, Codelist exten	sible: No			
53 C4	9505	C66767		Action Taken with Study Treatment	DOSE REDUCED		C66767	ACN				
54 C4 55	9501	C66767		Action Taken with Study Treatment	DRUG INTERRUPTED		NCI Code	CDISC Submission Value	CDISC Synonym	CDISC Definit	tion	NCI Preferred Term
56		C66767		Action Taken with Study Treatment	DRUG WITHDRAWN	NA. Nat Assissable	C49503	DOSE INCREASED			hat a medication schedule was modified l r by changing the frequency, strength or	by Dose Increased
57 C4 58 C1	7998	C66767		Action Taken with Study Treatment Action Taken with Study Treatment	NOT APPLICABLE UNKNOWN	NA; Not Applicable U; UNK; Unknown				amount. (NCI)		
59	01865 0383	C101865	No	Acute Coronary Syndrome Presentation Category Acute Coronary Syndrome Presentation	ACSPCAT NON-ST ELEVATION MYOCARDIAL	Acute Coronary Syndro Category NON-STEMI: NSTEMI	C49504	DOSE NOT CHANGED		An indication th	hat a medication schedule was maintaine	d. Dose Not Changed
60		C101865		Category Acute Coronary Syndrome Presentation Category	INFARCTION OTHER	Other	C150826	DOSE RATE REDUCED		modified by red	hat the administration of a medication wa ducing the rate at which the dose was	as Dose Rate Reduced
62		C101865		Acute Coronary Syndrome Presentation Category Acute Coronary Syndrome Presentation	INFARCTION	STEMI	C49505	DOSE REDUCED			reducing the total dose administered. hat a medication schedule was modified l	ny Dose Reduced
63	0314	C101003		Category	STABLE ANGINA		C 13303	DOSE REDUCED			ther by changing the frequency, strength	
C_{α}	طما	liat (20 do		lue for this and	laliat	C49501	DRUG INTERRUPTED			hat a medication schedule was modified l minating a prescribed regimen of CI)	by Drug Interrupted
with	Codelist Code = a unique value for this codelist within NCI EVS systems.			C49502	DRUG WITHDRAWN			hat a medication schedule was modified nation of a prescribed regimen of CI)	Drug Withdrawn			
	n Excel, appears on each value within that					C48660	NOT APPLICABLE	NA;Not Applicable	Determination context. (NCI)	of a value is not relevant in the current	Not Applicable	
COC	deli	ist, t	oo. li	n PDF, appear	s at top of code	elist.	C17998	UNKNOWN	U;UNK;Unknown	Not known, no	t observed, not recorded, or refused. (NO	I) Unknown

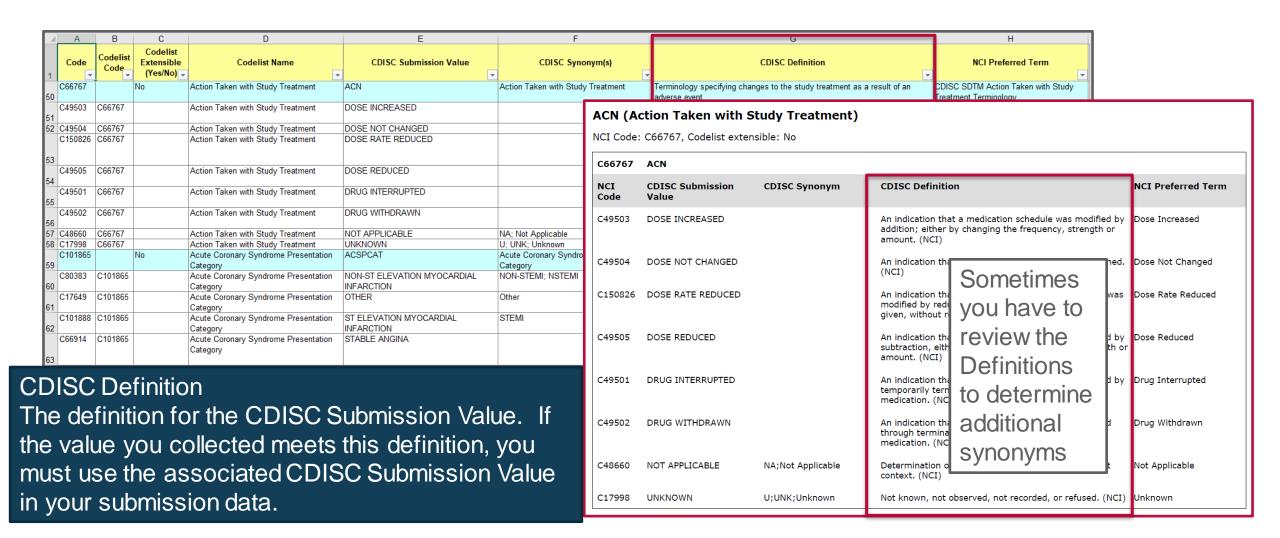




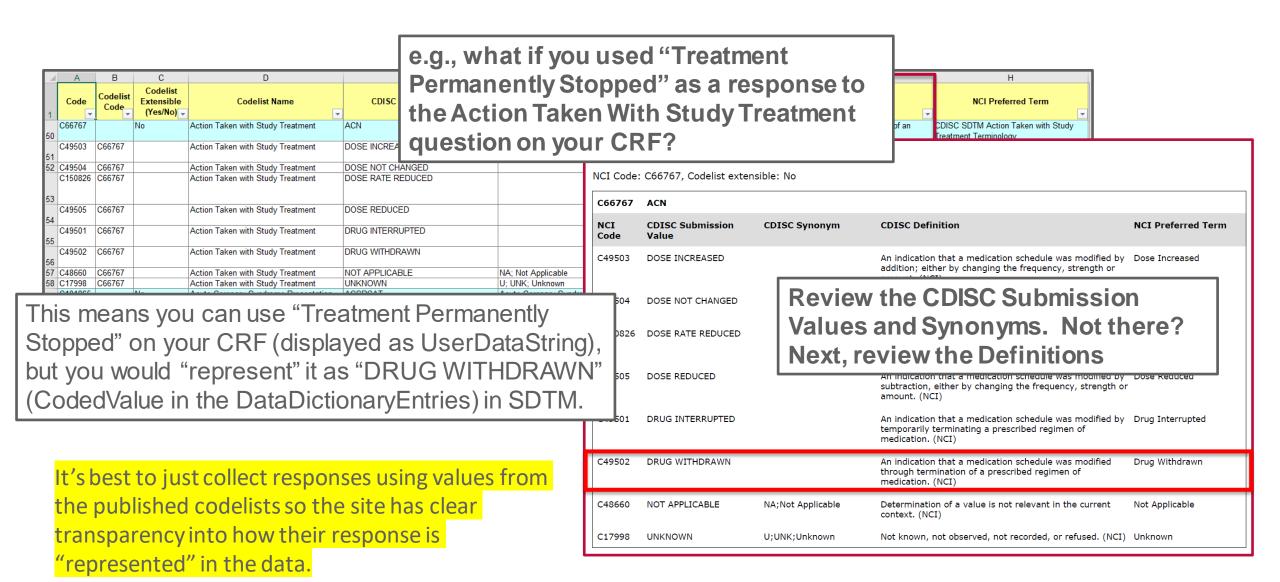
How this is implemented in the NCI GLIB ALS

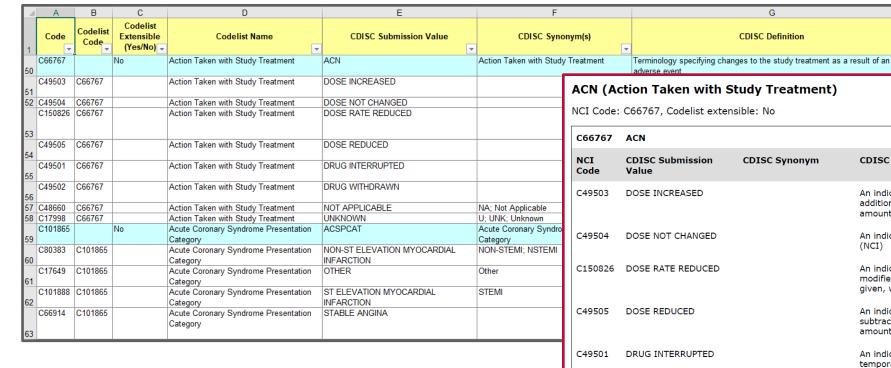




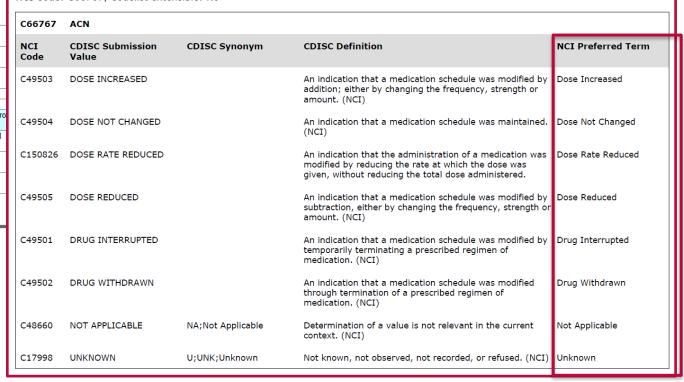


Example: Allowed Synonym Based on Definition





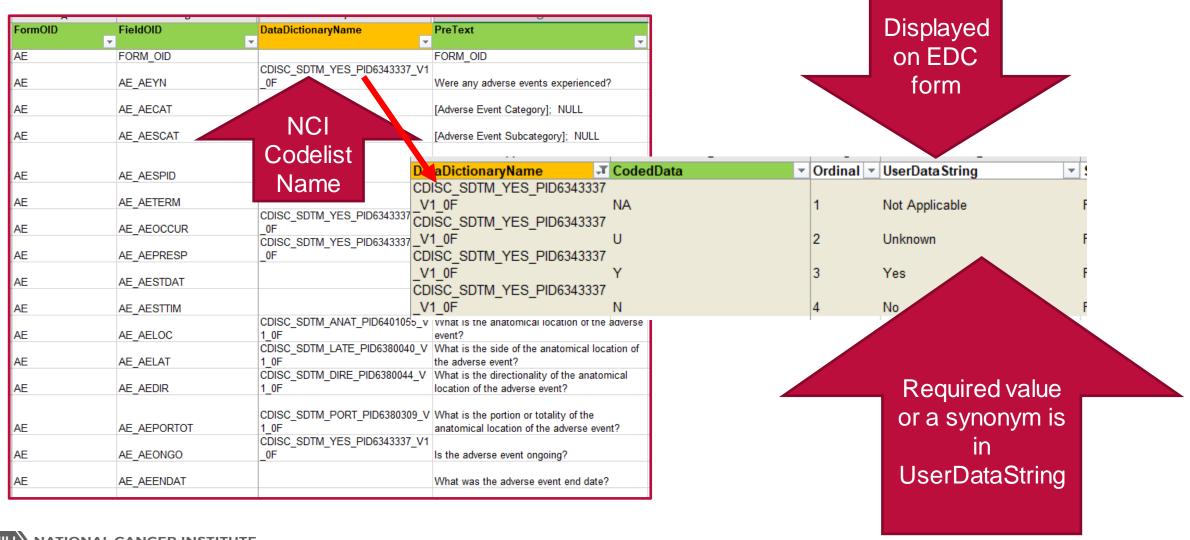
NCI Preferred Term
The standard NCI term that is synonymous with this CDISC term.



NCI Preferred Term

CDISC SDTM Action Taken with Study

How this is implemented in the NCI GLIB ALS



Other CDASH Conformance Rules that reference CT:

Use Published CT to Create Denormalized Metadata

- Denormalized Questions/Prompts (CDASHIG V2.0 Section 5.1 #4.a)
 - In cases where the data collection is done in a denormalized presentation on the CRF, the relevant CDISC controlled terminology should be used in the Question Text or Prompt
- Denormalized Variables (CDASHIG V2.0 Section 5.1 #5.b)
 - In cases where the data collection is done in a denormalized way, appropriate CDISC controlled terminology must be used when it is available. For example, when collecting Vital Signs results in a denormalized eCRF, the variable names can be created by using terms from the Vital Signs Test Code codelist.

Use Controlled Terminology to create Questions/Prompts (e.g., Vital Signs Data Collection Fields using CDASHIG and Controlled Terminology)

Identify the required VSTEST and VSORRESU Controlled Terminology from the CDASHIG Domain

Domain	CDASHIG Variable	Question Text	Prompt	Data Type	CDASHIG Core	SDTMIG Target	Controlled Terminology	Codeli	et .	
		_		_			Codelist Name			CDISC Submission Value
-	·	<u> </u>	_	▼	~	▼	,	~	Vital Signs Test Name	VSTEST
VS	VSTEST	What is the vital	Vital Sign Test	Char	HR	VSTEST; VSTESTC	(VSTEST)	C67153	Vital Signs Test Name	Body Mass Index
		sign test name?	Name					C67153	Vital Signs Test Name	Diastolic Blood Pressure
								C67153	Vital Signs Test Name	Heart Rate
								C67153	Vital Signs Test Name	Respiratory Rate
								C67153	Vital Signs Test Name	Systolic Blood Pressure
								C67153	Vital Signs Test Name	Temperature
							_			
								Codelist Code	Codelist Name	CDISC Submission Value
								Ur	its for Vital Signs Results	VSRESU
VS	VSORRESU	What was the unit	Unit	Char	R/C	VSORRESU	(VSRESU) C	66770 Ur	its for Vital Signs Results	beats/min
		of the					C		its for Vital Signs Results	breaths/min
		measurement?					С	66770 Ur	its for Vital Signs Results	С
		measurement:					C	66770 Ur	its for Vital Signs Results	F
							c	66770 Ur	its for Vital Signs Results	mmHg

Use Controlled Terminology to create Questions/Prompts

(e.g., Vital Signs Data Collection Fields using CDASHIG and Controlled

Terminology)

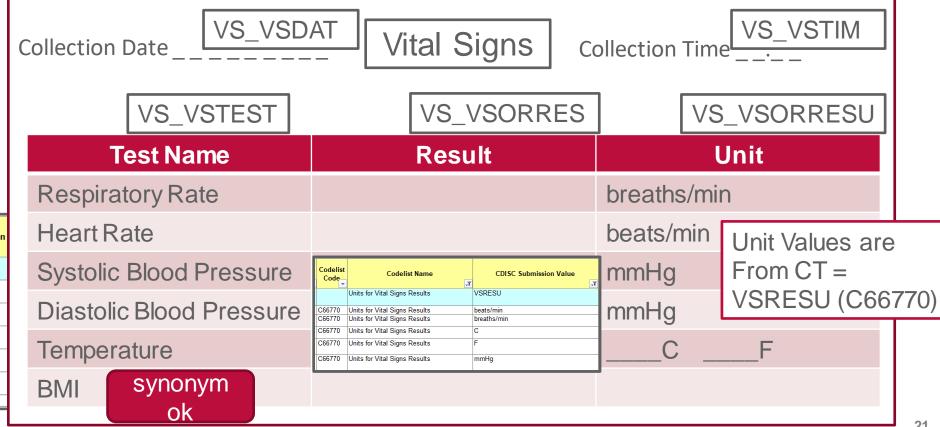
Identify the required VSTEST **VSORRESU Controlled** Terminology from the **CDASHIG Domain**

Use that terminology to create a conformant Prompt (and Unit) for the test in each log line

Prompts: FIND the VS measurements you need from the **VSTEST Terminology**

PreText uses CT = VSTEST (C67153)

Codelist Code	Codelist Name	CDISC Submission
	Vital Signs Test Name	VSTEST
C67153	Vital Signs Test Name	Body Mass Index
C67153	Vital Signs Test Name	Diastolic Blood Pressure
C67153	Vital Signs Test Name	Heart Rate
C67153	Vital Signs Test Name	Respiratory Rate
C67153	Vital Signs Test Name	Systolic Blood Pressure
C67153	Vital Signs Test Name	Temperature



Use Controlled Terminology to create Variable Names (i.e., FieldOIDs) (e.g., Vital Signs Data Collection Fields using CDASHIG and Controlled Terminology)

- Variable Pattern:
 - targetDataset_targetVariable_[--TESTCD]
- Example
 - Denormalized PreText using VSTEST Controlled Terminology
 - Denormalized FieldOIDs add VSTESTCD
 Controlled Terminology to normalized FieldOID

PreText	FieldOID
Temperature	VS_VSORRES_TEMP
Temperature Unit	VS_VSORRESU_TEMP
Systolic Blood Pressure	VS_VSORRES_SYSBP
Systolic Blood Pressure Unit	VS_VSORRESU_SYSBP
Diastolic Blood Pressure	VS_VSORRES_DIABP
Diastolic Blood Pressure Unit	VS_VSORRESU_DIABP
Heart Rate	VS_VSORRES_HR
Heart Rate Unit	VS_VSORRES_HR

Codelist Code	Codelist Name		SC Submission Value					
	Units for Vital Signs Results	VSRESU						
C66770	Units for Vital Signs Results	beats/min						
C66770	Units for Vital Signs Results	breaths/mir	You will find So					
C66770	Units for Vital Signs Results	С	Tou will title St	JIVIE				
C66770	Units for Vital Signs Results	cm	examples of de					
C66770	Units for Vital Signs Results	F		LIB ALS, but it				
C66770	Units for Vital Signs Results	mmHg	was not practical to include					
	Vital Signs Test Code	VSTESTCE	all possible VS	STESTs.				
C66741	Vital Signs Test Code	BMI						
C66741	Vital Signs Test Code	DIABP		e the additional				
C66741	Vital Signs Test Code	HR	ones you need	•				
C66741	Vital Signs Test Code	SYSBP	normalized Fie					
C66741	Vital Signs Test Code	TEMP	the relevant	TESTCD				
	Vital Signs Test Name	VSTEST	terminology					
C67153	Vital Signs Test Name	Body Mass						
C67153	Vital Signs Test Name	Diastolic B	lood Pressure					
C67153	Vital Signs Test Name	Heart Rate						
C67153	Vital Signs Test Name	Systolic Bl	ood Pressure					
C67153	Vital Signs Test Name	Temperatur	re	22				
		•						

Controlled Terminology in NCI GLIB ALS

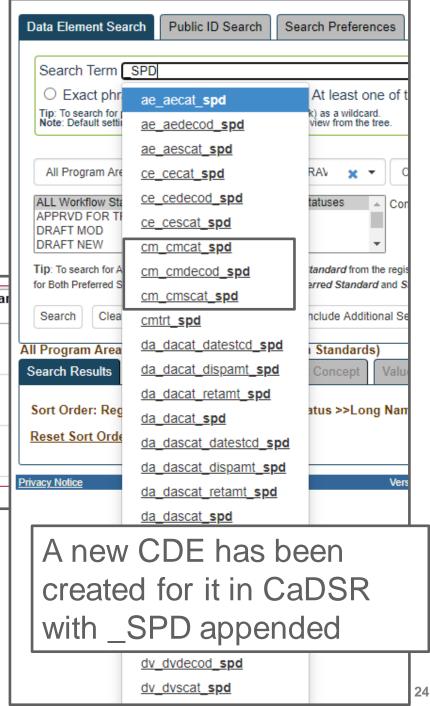
- Review NCI GLIB ALS DataDictionaries and DataDictionaryEntries
- Allowed to rename DataDictionary provided PID is still in the name
 - E.g., okay to shorten CDISC_SDTM_YES_PID6343337_V1_0F to NY_PID6343337_V1_0F
 - Recommended to either keep the short codelist name (e.g., "YES") or use CDISC Submission Value for the relevant codelist (e.g., "NY")
- NOTE: CDASH / SDTM allow you to add codelists to variables that do not already have a codelist specified
 - For NCI implementation, must follow CBIIT curation process and use non-enumerated CDEs without an enumerated value domain
 - In July 2019 version of NCI GLIB ALS: "LPO_TBD" is no longer valid new CDEs have been drafted using "domainCode_variable_SPD" will be published this way in CaDSR
 - If you need to add a DataDictionary to a non-enumerated CDE, you cannot use the existing variable name because enumerated / non-enumerated is an attribute of the CDE that cannot be changed. Instead, add _SPD to the FieldOID. Check the draft CDEs in CaDSR.

Updates to GLIB ALS for LPO_TBD Dictionaries

Note: New *enumerated* CDEs have been drafted in CaDSR with _SPD Short names

				_	
FormOID	FieldOID	DraftFieldName	VariableOID		DataDictiona
T,	₩	▼		¥	
		Category for Concomitant			
CM	CM_CMCAT	Medication PID6400575_V1_0	CM_CMCAT		LPO_TBD
		Subcategory for Concomitant			
CM	CM_CMSCAT	Medication PID6400576_V1_0	CM_CMSCAT		LPO_TBD
		Concomitant Meds Dictionary			
		or Standardized Term			
CM	CM_CMDECOD	PID6400966_V1_0	CM_CMDECOD		LPO_TBD
7				_	

If the DataDictionary for any Field looks like this in the NCI GLIB ALS



Example: MHCAT

New CDE New PID CDE 2 Public ID: 6413031 7199998 Version 1.0 1.0 Long Name: Category for Medical History Category for Medical History Short Name: MHCAT MH_MHCAT_SPD Preferred Question Text: What was the category of the medical history? What was the category of the medical history? Definition: A grouping of topic-variable values based on user defined A grouping of topic-variable values based on sponsor defined characteristics. characteristics. CDISC Variable Terminology Category Medical History Category Clinical Study Sponsor Defined Value Domain: Category Data Element Concept: Medical History Domain Medical History Category Medical History Domain Medical History Category Context: NCI Standards NRDS. Workflow Status: RELEASED DRAFT NEW Origin: CDISC:Clinical Data Interchange Standards Consortium CDISC: Clinical Data Interchange Standards Consortium Registration Status: Qualified Incomplete

Session 3 Summary

- CDASH Conformance Rule covered in this session is to use published SDTM Controlled Terminology in data collection
 - As the values in response lists (DataDictionaries)
 - To display standardized names of tests for Findings Class data (--TEST) on the CRF
 - To create denormalized variables (FieldOID)
- NCI GLIB ALS DataDictionaryEntries conform to this CDASH rule
 - CodedData (value stored in the variable) uses the SDTM CDISC Submission Values (except for case)
 - UserDataString (value displayed on the CRF) uses the same value, or a synonym

Questions?

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