

Data Standards Conformance Checks for Vaccine Trials

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Introduction

A primary objective in many Vaccine trials is to evaluate the reactogenicity of the study vaccine. Occurrence of reactogenicity events is used as a safety endpoint. How the reactogenicity data is to be represented in SDTM is described in the CDISC Vaccines Therapeutic Area User Guide v1.1. In addition, the FDA guidance "Submitting Study Datasets for Vaccines to CBER OVRR Technical Specifications Document V2.1" contains several recommendations on how reactogenicity data should be stored in SDTM. GSK also received additional recommendations from FDA CBER OVRR at project level.

Suite of Vaccine Standards Conformance Checks

At GSK, a suite of SAS conformance checks has been developed to assess if study SDTM data is aligned with FDA CBER OVRR recommendations. These checks are designed to detect any misalignment with the referenced guidance.

Submitting Study Date Vaccines to the Office of **Research and Rev**

Guidance for Indu

Technical Specifications

	Rule Category main(s) Variable(s)	Condition	Rule				
	Reactogenicity da	FATPT	When FACAT=REACTOGENICITY	All planned FATPT in the diary obs	oservation period should be pre	esent for each FAOBJ, for each vaccination (there should	be no FATPT missing)	
	Reactogenicity data	FATESTCD,	When FACAT=REACTOGENICITY and FAOBJ is ERYTHEMA, SWELLING or INDURATION	There should be 3 records for each	ch FATPT value per FAEVAL:			
sets for		FATEST		- A record with FATESTCD=OCCUR /	R and FATEST=Occurrence Indica	ator		The checke are
19019 101				- A record with FATESTCD=LDIAM a	- A record with FATESTCD=LDIAM and FATEST=Longest Diameter			The checks are
				- A record with FATESTCD=SEV and	nd FATEST=Severity/Intensity OF	R with FATESTCD=TOXGR and FATEST=Toxicity Grade		
Vaccines	Reactogenicity data FAC	TESTCD,	When FACAT=REACTOGENICITY and FAOBJ is not ERYTHEMA, SWELLING or INDURATI	10N There should be 2 records for each	ch FATPT value per FAEVAL:			focused on
vacunts	TT			- A record with FATESTCD=OCCUR /	- A record with FATESTCD=OCCUR and FATEST=Occurrence Indicator			
				- A record with FATESTCD=SEV and	nd FATEST=Severity/Intensity OF	R with FATESTCD=TOXGR and FATEST=Toxicity Grade		
iow	Reactogenicity data FACE	JRRES	When FACAT=REACTOGENICITY - for each combination of FAOBJ, FAEVAL, FATPT, FA	ATPTREF IF FAORRES=Y for the record with F	FATESTCD=OCCUR, then FAORF	RES should be greater than 0 for the record with FATEST	CD=LDIAM	reactonenicity data
			(i.e. records pertaining to a reaction/solicited event at a specific time point)		e	-		reactogenicity uata
	Reactogenicity data FACE	FAORRES	When FACAT=REACTOGENICITY - for each combination of FAOBJ, FAEVAL, FATPT, FA	ATPTREF IF FAORRES=N for the record with f	FATESTCD=OCCUR, then FAOR	RES should be 0 for the record with FATESTCD=LDIAM		
			(i.e. records pertaining to a reaction/solicited event at a specific time point)					IN $(E \vdash E \land E \vdash E \land E \vdash E \land E \vdash E \land E \vdash E \vdash $
	Reactogenicity data FACE	FAORRES	When FACAT=REACTOGENICITY - for each combination of FAOBJ, FAEVAL, FATPT, FA	ATPTREF IF FAORRES=N for the record with /	FATESTCD=OCCUR, then FAOR	RES should be NONE for the record with FATESTCD=SEV		
			(i.e. records pertaining to a reaction/solicited event at a specific time point)					
	Reactogenicity data FACE FAORRES		When FACAT=REACTOGENICITY - for each combination of FAOBJ, FAEVAL, FATPT, FA	TREF IF FAORRES=N for the record with FATESTCD=OCCUR, then FAORRES should be 0 for the record with FATESTCD=TOXGR				and VS domains
SULV			(i.e. records pertaining to a reaction/solicited event at a specific time point)					
J	Reactogenicity data FACE FASTAT		When FACAT=REACTOGENICITY - for each combination of FAOBJ, FAEVAL, FATPT, FA	ATPTREF IF FASTAT=NOT DONE for the recor	ord with FATESTCD=OCCUR, the	n FASTAT should also be NOT DONE for the records with	h FATESTCD=SEV,	
			(i.e. records pertaining to a reaction/solicited event at a specific time point)	FATESTCD=TOXGR and FATESTCD=/	=LDIAM (if applicable)			
	Reactogenicity data FACE	FAORRES	When FACAT=REACTOGENICITY and FATESTCD=OCCUR and FAORRES is not null	FAORRES should be Y or N				
o cum ont	Reactogenicity data FACE	FAORRES	When FACAT=REACTOGENICITY and FATESTCD=SEV and FAORRES is not null	FAORRES should be NONE, MILD, №	, MODERATE, or SEVERE			
Jocument	Reactogenicity data FACE	FAORRES	When FACAT=REACTOGENICITY and FATESTCD=TOXGR and FAORRES is not null	FAORRES should be 0, 1, 2, 3, 4 or 5	r5			
	Reactogenicity data FACE	FAORRES	When FACAT=REACTOGENICITY and FATESTCD=LDIAM and FAORRES is not null	ould be a number				Containa >200 abaaka
	Reactogenicity data FACE	FAORRESU	When FACAT=REACTOGENICITY and FATESTCD=LDIAM and FAORRES is not null	should be mm		Check Specific	cation	V COMAINS ZUU CHECKS
	Reactogenicity data FACE	FACAT	When FAOBJ is a planned solicited event	Id be REACTOGENICITY	ΤΥ			
						Sulle OI		Structure is as expected
		/						
	CDTM	/				SAS chocks		
		/		Suite of		SAS LIEUKS		
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				JAJ		executed		
						CACCULCU		
				Chaoka		on study		Values are populated
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						CDTM dete		nroporly
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								records in the dataset
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0.	30010	VJLINKID	VISITIN					Consistens, hot voor roomde

Consistency between records in different datasets

FDA CBER OVRR recommendations are followed

Any discrepancies found in the study SDTM data are listed in an Excel output file. A separate tab is generated for each check.

101

102

103

DAY 1, POST-VACCINATION 10

VSCAT is POST-VACCINATION TEMPERATURE however VSEVAL is null 999999-999-100001 V10-FEVER POST-VACCINATION TEMPERATURE

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VSTPTNUM VSELTM VSTPTREF

P1D

P2D

P3D

Output file is used to verify if study SDTM data is generated as per FDA CBER OVRR recommendations and to determine if any update to the study SDTM mapping is required. Potential data issues may also be highlighted in the output.

the tool, a few

required to be

parameters are

provided as per

study protocol.

Conclusion

Check Output

VSDTC VSDY VSTPT

DAY 2

DAY 3

DAY 4

CHECK_ID Message

CBER 103

CBER 103

CBER 103

CBER 103

TREATMENT 1

TREATMENT 1

TREATMENT 1

TREATMENT 1

EPOCH

The conformance checks are designed to support the review of reactogenicity data in the study SDTM datasets.

VSEVINTX

VACCINATION - VISITNUM 10 DAY 1, POST-VACCINATION TO DAY 2

VACCINATION - VISITNUM 10 DAY 2 TO DAY 3

VACCINATION - VISITNUM 10 DAY 3 TO DAY 4

VACCINATION - VISITNUM 10 VACCINATION TO DAY 1, POST-VACCINATION

- The suite of SAS checks can be executed at different time points during the trial, which is very beneficial for the study.
- Inconsistencies in the SDTM mapping can already be detected at study set-up and a final run may be performed before database lock to ensure the study SDTM data is adequate to be submitted to FDA CBER OVRR.

VSEVAL

• At this moment, the conformance checks are focused on reactogenicity data. Checks for other type of data described in the FDA guidance may be included in future enhancement.

Abbreviations	References
FDA CBER OVRR: FDA's Center for Biologics Evaluation and Research – Office of Vaccine Research and Review	FDA guidance "Submitting Study Datasets for Vaccines to CBER OVRR Technical Specifications Document V2.1": <u>https://www.fda.gov/media/112581/download</u> CDISC Vaccines Therapeutic Area User Guide v1.1: <u>https://www.cdisc.org/standards/therapeutic-areas/vaccines/vaccines-therapeutic-area-user-guide-v11/html</u>

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