Regulatory Submissions, Information, and Document Management Forum

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Technical Rejection Criteria for Study Data

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Agenda

- Study Data Technical Rejection Criteria Conformance Statistics from Previous Analysis
- Revised Technical Rejection Criteria for Study Data
 - IND Submissions
 - NDA/BLA/ANDA Submissions
- New Tools for Industry
- Implementation Timeline
- Summary



Study Data Technical Rejection Criteria Conformance Statistics from Previous Analysis



Study Data Conformance of Previous Analysis

- Study Data was assessed for:
 - □ NDA, BLA, and ANDA Submissions received by CDER between 12/18/2016 and 3/31/2018
 - ☐ Commercial IND Submissions received by CDER between 12/18/2017 and 3/31/2018
 - No duplicates
- Conformance was checked against the existing two high-level validation rules as described in the Technical Rejection Criteria for Study Data
 - ☐ 1734 TS Dataset & Correct Study Start Date must be present
 - ☐ 1736 DM Dataset, ADSL Dataset and define.xml must be present



Overall Conformance Statistics from Previous Analysis

	NDA	ANDA	BLA	Comm. IND	All
Total Number of Submissions with Study Data	1,126	1,446	473	176	3,221
Total Number Submissions with Critical Errors	302	551	138	41	1,032
Error 1734	290	506	137	35	968
Error 1736	14	63	1	6	84
Failure Rate (% among submissions with Study Data)	26.8%	38.1%	29.2%	23.3%	32.0%

Notes:

- (1) One drug application could contain multiple submissions throughout its review life-cycle, such as original, supplements, and amendments
- (2) Analysis includes NDA, BLA, and ANDA submissions received by CDER between 12/18/2016 and 3/31/2018, and commercial IND submissions received by CDER between 12/18/2017 and 3/31/2018
- (3) Validation of error 1736 of a study is not performed if a study has Error 1734
- (4) A submission with multiple studies can report both Errors 1734 and 1736. In this instance, the submission is counted only once at the submission level when calculating failure rate

Revised Study Data Technical Rejection Criteria



CY2018 Conformance Analysis for Validation Errors 1734 & 1736

❖ ANDA, NDA, BLA, and commercial IND Submissions received by CDER between 1/1/2018 and 12/31/2018, were assessed for conformance to the two high-level errors as revised in the Technical Rejection Criteria for Study Data (Revised Jan. 2019)

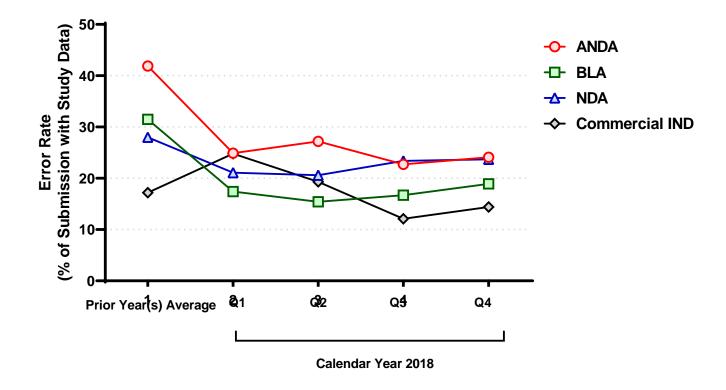
	NDA	ANDA	BLA	Comm. IND	All
Total Number of Submissions with Study Data	877	1078	291	649	2895
Total Number Submissions with Critical Errors	195	266	50	113	624
Error 1734	185	186	48	96	515
Error 1736	16	88	2	18	124
Failure Rate (% among submissions with Study Data)	22.2%	24.7%	17.2%	17.4%	21.6%

Notes:

- (1) One drug application could contain multiple submissions throughout its review life-cycle, such as original, supplements, and amendments:
- (2) Analysis includes NDA, BLA, ANDA and Commercial IND submissions received by CDER between 1/1/2018 and 12/31/2018
- (3) Validation of error 1736 is not performed if a study has Error 1734
- (4) A submission with multiple studies can report both Errors 1734 and 1736. In this instance, the submission is counted only once at the submission level when calculating failure rate
- (5) Analysis is conducted according to the revised TRC (Revised Jan. 2019)

Overall Conformance Trend for Validation Errors 1734 & 1736

Submissions with study data received during CY2018 showed overall decreases in Validation Errors 1734 and 1736 compared to prior years' average error rate



Notes:

- (1) Prior year(s) average uses data from the previous analysis, but excludes any submissions received in 2018
- (2) CY2018 analysis is conducted according to the revised TRC (Revised Jan. 2019)



Summary of 1734 and 1736 Conformance Trend

- ❖ The failure rate for Errors 1734 and 1736 for all application types received in CY2018 is 21.6%
- Overall conformance for Errors 1734 and 1736 improved compared to the previous analysis (previous years' average of 68.0% vs. CY2018's average of 78.4%)
- FDA has identified the need to provide additional clarifications on TRC to help Industry meet study data requirements and continue to improve the conformance trend over time
 - Revision to TRC
 - ❖ Details on 1734 and 1736
 - ❖ Emphasis on Error 1735
 - ❖ Inclusion of Error 1789
 - ❖ Inclusion of Table 1 eCTD Technical Rejection Criteria for Study Data Expectation
 - ❖ Inclusion of Appendix 1 Examples of Validation Findings in Study Data
 - ❖ Inclusion of Appendix 2 Examples of ts.xpt datasets
 - ❖ Additional Tools: Self-Check Worksheet and Instructions for Study Data



Summary of Latest Revisions to the Technical Rejection Criteria for Study Data (Revised Jan. 2019)

Error	Description	Severity Level
1734	Trial Summary (TS) dataset (ts.xpt) with information on study start date must be present for required sections*	High
1735	Correct STF file-tags must be used for all standardized datasets and corresponding define.xml files in required sections*	High
1736	For SEND data, a DM dataset and define xml must be submitted in required sections* For SDTM data, a DM dataset and define.xml must be submitted in required sections* For ADaM data, an ADSL dataset and define.xml must be submitted in required sections*	High
1789**	STF Files must be submitted in a study section. STFs are not required for required sections*	High

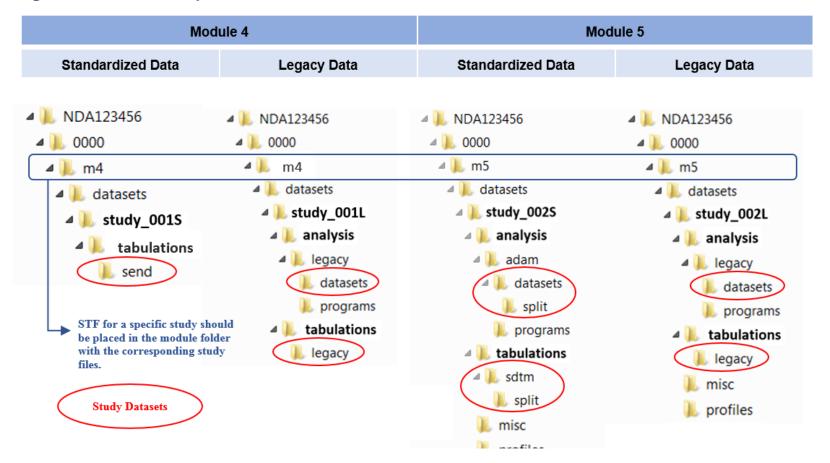
^{**} From Providing Regulatory Submissions in Electronic Format – Certain Human Pharmaceutical Product Applications and Related Submissions Using the eCTD Specification, Section J: Datasets must only be provided in modules 3, 4, or 5 and not in modules 1 or 2



^{*} Refer to the latest Technical Rejection Criteria for Study Data for details

Folder Structure for Module 4 and Module 5

STF files and their associated datasets should be organized into a specific file directory structure and a specific headings and hierarchy structure



References:



Additional Details for Error 1734

❖ Full ts.xpt

Sponsors should submit a dataset named 'ts.xpt' following published CDISC Standard and FDA Study Data Technical Conformance Guide

Simplified ts.xpt

Sponsors should submit a dataset named 'ts.xpt' with four variables: STUDYID, TSPARMCD, TSVAL, and TSVALNF

Example of ts.xpt Datasets

STUDYID	TSPARMCD	TSVAL	TSVALNF
•Study ID in STF File	•SSTDTC for a clinical study •STSTDTC for a nonclinical study	Format: yyyy-mm-ddLeft blank when study start date is not available	 Left blank when study start date is provided in TSVAL Exception code as specified in the ISO 21090 Standard when study start date is not available

References:



Emphasis on Errors 1735 and Inclusion of 1789

- ❖ Each submission typically contains many studies, an STF file is necessary to process study files into their corresponding studies; Accepting a submission where CDER cannot process the study tagging file will result in the reviewer seeing a list of files for which they do no not know the study they belong to
- ❖ If a study data file (e.g. define.xml) is not properly tagged in the STF file, it cannot be identified and located, resulting in Error 1736 being reported

Error	Description	Severity Level
1735	Correct STF file-tags must be used for all standardized datasets and corresponding define.xml files in required sections*	High
1789	STF Files must be submitted in a required study section*	High

^{*}Refer to the latest Technical Rejection Criteria for details



Commercial IND Submissions



Study Data Requirements for Commercial IND Submissions

❖ A ts.xpt File (full or simplified) is required for all studies whether or not the study contains an xpt dataset

Study Start	Application True	Data T.m.	Otroba Opptions	Expectation	by Center	
Date	Application Type	Data Type	Study Sections	CDER	CBER	
Prior to or on 17-Dec-2017	Commercial INDs	Nonclinical	4.2.3.1, 4.2.3.2, 4.2.3.4	Rejection criteria will be applied; submit a simplified TS whether or not the study contains an xpt dataset (other than the ts.xpt)	Rejection criteria will not be applied	
			5.3.1.1, 5.3.1.2, 5.3.3.1z, 5.3.3.2, 5.3.3.3, 5.3.3.4, 5.3.4, 5.3.5.1, 5.3.5.2	Rejection criteria w	rill not be applied	
After		Nonclinical	4.2.3.1, 4.2.3.2, 4.2.3.4	Rejection criteria will be applied; submit a full TS	Rejection criteria will not be applied	
17-Dec-2017	Commercial INDs	Commercial INDs Clinical		5.3.1.1, 5.3.1.2, 5.3.3.1, 5.3.3.2, 5.3.3.3, 5.3.3.4, 5.3.4, 5.3.5.1, 5.3.5.2	Rejection criteria w	rill not be applied



CY2018 Conformance Analysis of Commercial IND Submission Studies: Errors 1734, 1735 & 1736

	Submission Type		
	Original	Other	
Total Number of Studies	718	631	
Total Number Studies with Critical Errors	77	126	
Error 1734	44	106	
Error 1735	27	11	
Error 1736	9	15	
Error Rate (% among Total Number of Studies)	10.7%	20.0%	

	Total		
Nonclinical (m4)	Clinical (m5)	Other	Total
883	288	178	1,349
105	98	0	203
65	85	0	150
36	2	0	38
11	13	0	24
11.9%	34.0%	0%	15.0%

Note:

- (1) One drug application could contain multiple submissions throughout its review life-cycle, such as original, supplements, and amendments
- (2) Analysis includes Commercial IND submissions received by CDER between 1/1/2018 and 12/31/2018
- (3) Validation of errors 1735 and 1736 is not performed if a study has Error 1734
- (4) A submission with multiple studies can report Errors 1734, 1735 and/or 1736. In this instance, the submission is counted only once at the submission level when calculating failure rate
- (5) Analysis is conducted according to the revised TRC (Revised Jan. 2019)
- (6) Study Type "Other" includes datasets identified in module 4 and 5 sections not specifically mentioned as required section in the TRC

CY2018 Conformance Analysis of Commercial IND Submissions: Error 1789

	Submis	Total	
	Original	Other	Total
Total Number of Submissions	1293	78180	79473
Error 1789	25	168	193
Failure Rate (% among Total Number of Studies)	1.93%	0.21%	0.24%

Notes:

- (1) One drug application could contain multiple submissions throughout its review life-cycle, such as original, supplements, and amendments
- (2) Each submission may contain more than one study
- (3) Analysis includes Commercial IND submissions received by CDER between 1/1/2018 and 12/31/2018
- (4) Analysis is conducted according to the revised TRC (Revised Jan. 2019)



NDA, BLA & ANDA Submissions



Study Data Requirements for NDA, BLA & ANDA Submissions

❖ A ts.xpt File (full or simplfied) is required for all studies whether or not the study contains an xpt dataset. However, a study started prior to or on 17-Dec-2016 for clinical data, a simplified ts.xpt is required only if the study contains other xpt dataset

Study Start	Application True	Doto Timo	Cturdu Continuo	Expectation	by Center
Date	Application Type	Data Type	Study Sections	CDER	CBER
Prior to or on 17-Dec-2016	NDA, BLA, ANDA	Nonclinical	4.2.3.1, 4.2.3.2, 4.2.3.4	Rejection criteria will be applied; submit a simplified TS whether or not the study contains an xpt dataset (other than the ts.xpt)	Rejection criteria will not be applied
			5.3.1.1, 5.3.1.2, 5.3.3.1, 5.3.3.2, 5.3.3.3, 5.3.3.4, 5.3.4, 5.3.5.1, 5.3.5.2	Rejection criteria will be applied study contains an xpt datas	
After		Nonclinical	4.2.3.1, 4.2.3.2, 4.2.3.4	Rejection criteria will be applied; submit a full TS	Rejection criteria will not be applied
17-Dec-2016 NDA, BL	NDA, BLA, ANDA	IDA, BLA, ANDA Clinical	5.3.1.1, 5.3.1.2, 5.3.3.1, 5.3.3.2, 5.3.3.3, 5.3.3.4, 5.3.4, 5.3.5.1, 5.3.5.2	Rejection criteria will be a	applied; subn i it a full TS



CY2018 Conformance Analysis of NDA Submission Studies: Errors 1734, 1735 & 1736

	Submission Type				
	Original	Efficacy	Rolling	Other	
Total Number of Studies	1201	194	128	904	
Total Number Studies with Critical Errors	172	42	14	201	
Error 1734	122	37	10	185	
Error 1735	42	5	1	11	
Error 1736	23	0	4	9	
Error Rate (% among Total Number of Studies)	14.3%	21.7%	10.9%	22.2%	

Study Type						
Nonclinical (m4)	Clinical (m5)	Other				
403	1810	214				
38	390	0				
33	321	0				
6	53	0				
1	35	0				
9.7%	21.6%	0				

	Total
	2427
	354
	354
	59
	36
(17.7%

CY2018 Conformance Analysis of NDA Submissions: Error 1789

		Submission Type			
	Original	Efficacy	Rolling	Other	Total
Total Number of Submissions	160	136	83	40,698	41077
Error 1789	8	3	1	31	43
Failure Rate (% among Total Number of Studies)	5.00%	2.21%	1.20%	0.08%	0.10%

Notes:

- (1) One drug application could contain multiple submissions throughout its review life-cycle, such as original, supplements, and amendments
- (2) Each submissions may contain more than one study
- (3) Analysis includes NDA submissions received by CDER between 1/1/2018 and 12/31/2018
- (4) Analysis is conducted according to the revised TRC (Revised Jan. 2019)



CY2018 Conformance Analysis of BLA Submission Studies: Errors 1734, 1735 & 1736

	Submission Type				
	Original	Efficacy	Rolling	Other	
Total Number of Studies	17	55	2	217	
Total Number Studies with Critical Errors	6	11	1	36	
Error 1734	5	9	1	33	
Error 1735	1	2	0	2	
Error 1736	1	0	0	1	
Error Rate (% among Total Number of Studies)	35.3%	20.0%	50.0%	16.6%	

Study Type				
Nonclinical (m4)	Clinical (m5)	Other		
12	206	73		
3	51	0		
2	46	0		
0	5	0		
1	1	0		
25.0%	24.8%	0%		

Total	
291	
54	
48	
5	
2	
18.6%)

CY2018 Conformance Analysis of BLA Submissions: Error 1789

	Submission Type				Total
	Original	Efficacy	Rolling	Other	TOTAL
Total Number of Submissions	18	83	7	10944	11042
Error 1789	0	0	0	1	1
Failure Rate (% among Total Number of Studies)	0	0	0	<0.01%	<0.01%

Notes:

- (1) One drug application could contain multiple submissions throughout its review life-cycle, such as original, supplements, and amendments
- (2) Each submissions may contain more than one study
- (3) Analysis includes BLA submissions received by CDER between 1/1/2018 to 12/31/2018
- (4) Analysis is conducted according to the revised TRC (Revised Jan. 2019)



CY2018 Conformance Analysis of ANDA Submission Studies: Errors 1734, 1735 & 1736

	Submission Type		Study Type			
	Original	Other	Nonclinical (m4)	Clinical (m5)	Other	Total
Total Number of Studies	591	497	N/A	1004	74	1078
Total Number Studies with Critical Errors	392	281	N/A	673	0	673
Error 1734	77	109	N/A	186	0	186
Error 1735	327	170	N/A	497	0	497
Error 1736	55	33	N/A	88	0	88
Error Rate (% among Total Number of Studies)	67.5%	56.5%	N/A	67.0%	0	62.4%



CY2018 Conformance Analysis of ANDA Submissions: Error 1789

	Submission Type		Total
	Original	Other	Total
Total Number of Submission	1099	61596	62695
Error 1789	40	185	225
Failure Rate (% among Total Number of Studies)	3.64%	0.30%	0.36%

Notes:

- (1) One drug application could contain multiple submissions throughout its review life-cycle, such as original, supplements, and amendments
- (2) Each submissions may contain more than one study
- (3) Analysis includes ANDA submissions received by CDER between 1/1/2018 and 12/31/2018
- (4) Analysis is conducted according to the revised TRC (Revised Jan. 2019)

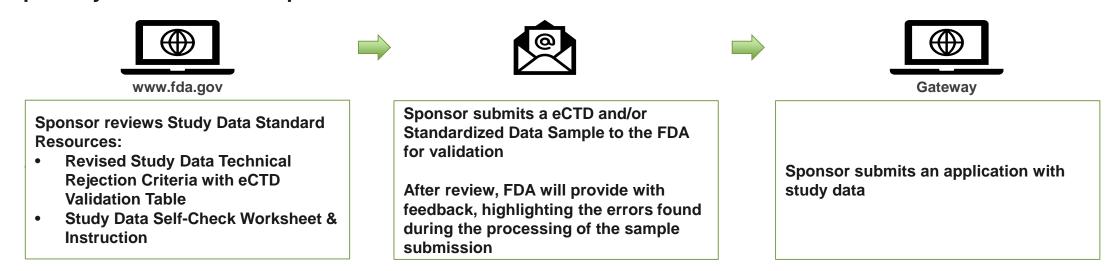


New Tools for Industry



Tools for Industry

FDA has developed tools to help sponsors meet updated study data standard requirements and provide more transparency on the validation process



1. Revised Study Data Technical Rejection Criteria (Revised Jan. 2019)

Purpose: To clarify the requirements for eCTD Validation of submissions with study data and to provided examples (**Appendix 1 and 2**) to illustrate the requirements

2. TRC Self-Check Worksheet & Instruction

Purpose: To help sponsors understand criteria for submissions with study data to pass the updated TRC

3. eCTD and/or Standardized Data Sample Validation

Purpose: To help sponsors validate their sample submissions and receive feedback with identified errors



Selected Examples of Validation Findings in Study Data

- A study prior to December 17, 2016 for NDAs, BLAs, and ANDAs (or December 17, 2017 for Commercial INDs), is submitted to FDA and the study files are referenced in a Study Tagging File (STF), a ts.xpt dataset is not included in the study. The Study Data Start Date cannot be determined, the study fails validation 1734.
- 2. A study in standardized format is submitted to FDA and the study files are referenced in a Study Tagging File (STF), a ts.xpt dataset is included in the study. The study id in the ts.xpt dataset matches the study id in the STF. The Study Start Date in the ts.xpt is in SDTM or SEND format and the study begins after the specified validation start date. The study passes validation 1734.
- 3. A study in standardized format is submitted to FDA and the study files are referenced in a Study Tagging File (STF). The ADaM study in Module 5 contains a define.xml file and a adsl.xpt file and they are appropriately file tagged. The study passes validation 1736.



Overview of the Self-Check Worksheet

- Designed to walk sponsors through each step of TRC validation process
- Dynamically guides sponsors through study data requirements based on study information entered
- Designed to help the sponsors when they prepare study data to submit to the FDA for the first time

Reference: "Technical Rejection Criteria Self-Check Worksheet" https://www.fda.gov/downloads/ForIndustry/DataStandards/StudyDataStandards/UCM

https://www.fda.gov/downloads/ForIndustry/DataStandards/StudyDataStandards/UCM 630732.pdf

"Technical Rejection Criteria Self-Check Worksheet Instructions" https://www.fda.gov/downloads/ForIndustry/DataStandards/StudyDataStandards/UCM630733.pdf

	Self-Check Worksheet for Study Data Preparation					
	:: This Self-Check Workshee uired field	t is designed for new	ly submitted Study	Data.		
on &	1a. FDA Center*:	CDER	CBER			
Section 1: Application & Submission Information	1b. Application Type*:	NDA 🗌	BLA	ANDA Commercial IND		
ission I	1c. Application Number:		1d. eCTD Sequence	Number:		
Section	1e. eCTD Submission Type:		1f. eCTD Submission	Sub Type:		
Note	e: Repeat Sections 2 throug	h 5 for each study				
	i. Repeat Sections 2 an oug. uired field T					
	2a. Study ID*:					
	Study ID is the unique identifier being submitted for the same s	***		udy ID must be consistent across all the files		
Section 2: Study Information	2b. Is This the First Time Study Data is Being Submitted Yes No					
y Infor	for This Study as Part of This Application?* If you answered "No" in Field 2b, do not proceed. This self-check worksheet is designed for newly submitted study data.					
Stud	2c. Name of the Study:					
on 2:	2d. Study Section - eCTD Heading (Example: m4-2-1-1):					
Secti	2e. Module*:	Nonclinical (m4)	Clinical (m5)			
	2f. Study Dataset Type(s)*:	Tabulation	Analysis 🗌			
	2					
	3a. Are Files Included in a Stud Applicable to Sections 4.3, 5.2		Yes No			
Ē	If you answered "No" in Field 3a, and no files are included in a study section, excluding sections 4.3, 5.2, 5.3.6, and 5.4, then Validation Rules 1734, 1735, 1736, and 1789 do not apply. Do not proceed.					
3: STF File Information	3b. Is STF File Included?*		Yes No	Referenced Validation Error		
F File Ir	3c. Does STF File Reference all	Associated Study Files?*	Yes No	Number 1789		
n 3:ST	If you answered "No" in Fields	3b or 3c, Validation Rule 1	789 FAILS. Do not proc	eed.		
tion	3d. Study ID in STF File*:					

Sections of the Study Data Self-Check Worksheet

Section	Contents	Example(s)
1	 Application & Submission Information Provides high level information about the application and submission 	1a. FDA Center*: CDER CBER
2	 Study Information Provides more detailed information about the specific study 	2a. Study ID*: 2f. Study Dataset Type(s)*: Tabulation Analysis
3	STF File Information(1789 Validation Error)Provide information about STF file	3b. Is STF File Included?* Yes No Street S
4	TS File Information(1734 Validation Error)Provide information about ts.xpt file with study start date	4c. Study ID in TS File*: 4d. Does Study ID in STF & TS Files Match?* Yes No
5	 Standardized Dataset Information (1735 & 1736 Validation Error) Provide information about SEND or STDM and/or ADaM dataset and define.xml Provide information about STF File-tags 	5f. Is DM File Included?* Yes No Sg. Is Define File Included?* Yes No

Note: Sections 2 through 5 are repeated for each study.

Reference: "Technical Rejection Criteria Self-Check Worksheet"

https://www.fda.gov/downloads/ForIndustry/DataStandards/StudyDataStandards/UCM630732.pdf

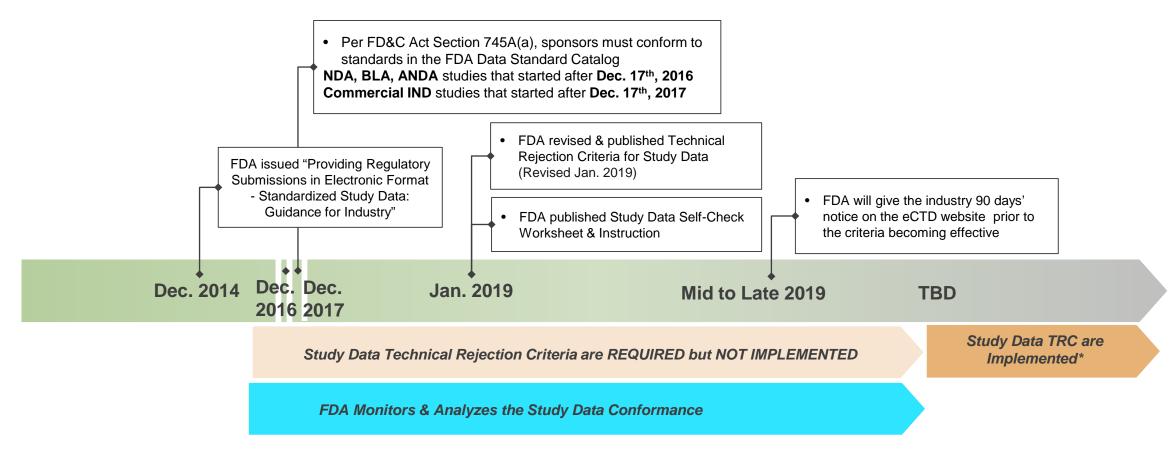
"Technical Rejection Criteria Self-Check Worksheet Instructions"

https://www.fda.gov/downloads/ForIndustry/DataStandards/StudyDataStandards/UCM630733.pdf



Implementation Timeline

FDA published Revised Study Data Technical Rejection Criteria (Revised Jan. 2019) and Study Data Self-Check Worksheet to assist sponsors with the TRC Conformance



^{*} Note: When a submission is technically-rejected, the submission sequence is not transferred into the FDA electronic document rooms



Summary

- **❖** Based on the revised TRC, about 21.6% all submissions were received with non-critical errors for 1734 and 1736.
- ❖ FDA published Study Data Self-Check Worksheet to help sponsors to follow the revised TRC
- ❖ FDA requires the submission of standardized Study Data as defined in the FDA Data Standard Catalog.
- **❖** FDA has not rejected any submission that contains errors as reflected in this analysis.
- ❖ FDA plans to use technical rejection criteria to identify applications that are not fulfilling this requirement.



References

- ❖ "Providing Regulatory Submissions In Electronic Format Standardized Study Data: Guidance For Industry"

 HTTPS://WWW.FDA.GOV/DOWNLOADS/DRUGS/GUIDANCECOMPLIANCEREGULATORYINFORMATION/GUIDANCES/UCM
 292334.PDF
- * "Providing Regulatory Submissions In Electronic Format Submissions Under Section 745a(a) Of The FD&C Act: Guidance For Industry" https://www.fda.gov/downloads/drugs/guidancecompliancesgulatoryinformation/guidances/ucm 384686.PDF
- * "Study Data Technical Conformance Guide" HTTPS://WWW.FDA.GOV/DOWNLOADS/FORINDUSTRY/DATASTANDARDS/STUDYDATASTANDARDS/UCM624939.PDF
- "FDA Data Standards Catalog"
 HTTPS://WWW.FDA.GOV/FORINDUSTRY/DATASTANDARDS/STUDYDATASTANDARDS/DEFAULT.HTM
- * "Technical Rejection Criteria Self-Check Worksheet" HTTPS://WWW.FDA.GOV/DOWNLOADS/FORINDUSTRY/DATASTANDARDS/STUDYDATASTANDARDS/UCM630732.PDF
 - "Technical Rejection Criteria Self-Check Worksheet Instructions" HTTPS://WWW.FDA.GOV/DOWNLOADS/FORINDUSTRY/DATASTANDARDS/STUDYDATASTANDARDS/UCM630733.PDF



Recommended Readings

- ❖ For FDA instruction of Study Data submission, see the FDA "Study Data for Submission to CDER and CBER" page at: HTTPS://WWW.FDA.GOV/DRUGS/DEVELOPMENTAPPROVALPROCESS/FORMSSUBMISSIONREQUIREMENTS/ELECTRONICS UBMISSIONS/UCM248635.HTM
- ❖ For the full list of Study Data standards, see the FDA "Study Data Standards Resources" page at: HTTP://WWW.FDA.GOV/FORINDUSTRY/DATASTANDARDS/STUDYDATASTANDARDS



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DIA

THANK YOU

