

Presenting Additional Study Treatments in SEND

Erin Tibbs-Slone (Charles River Laboratories), Christy Kubin (Charles River Laboratories), Wenxian Wang (Bristol Myers Squibb), Henrik Soeborg (Data Standards Decisions)

Abstract

Modelling records for administrations of study treatments such as positive controls and adjuvants can be challenging in SEND because there is very little mention of these types of study designs in SENDIG v3.1/v3.1.1. This poster explores methods for the presentation of these data in EX, TS/TX, and provides best practice recommendations for SENDIG v3.1/v3.1.1 datasets. Considerations for future SENDIG enhancements to better model these data are also discussed.

Introduction

Most of the examples in SENDIG v3.1 focus on vehicle controls; however, nonclinical study designs can contain administrations other than test article and vehicle controls such as positive controls, negative controls, and adjuvants. Representation of these study treatments in EX will vary based on how the experimental design is presented in the protocol and study report as well as how the data are collected. This poster will use a positive control administration example to demonstrate how such an administration can be successfully modelled in SEND; the concepts discussed can be applied to all study treatments that are not vehicle control or test article.

Positive Control Case Study 1

In this example, a positive control article of Amoxicillin was administered and according to the experimental design presentation in the protocol and report each animal received 2 capsules twice daily. However, the administration records in the data collection system do not contain information regarding the amount of positive control administered but do contain records in relation to the amount of test article administered.

Study Design:

Case Study 1 Experimental Design

Group	Test Material	Dose Level ^a (mg/kg) BID	Dose Volume (mL/kg)	Dose Concentration mg/mL	Main Study M/F
1	Vehicle Control	0	1	0	4/4
2	Test Article	50	1	1.5	4/4
3	Test Article	150	1	3	4/4
4	Amoxicillin	2 capsules	NA	NA	4/4
NA = Not applicable BID – Twice per day ^a Based on the most recent body weight.					

EX Domain:

In this example the EX records for the actual doses administered for four animals on Day 1 are presented. The positive control records are populated in reference to the amount of test article administered (USUBJID = 104).

Case Study 1 EX Domain

STUDYID	DOMAIN	USUBJID	EXSEQ	EXTRT	EXDOSE	EXDOSU	EXDOSFRM	EXDOSFRQ	EXROUTE	EXLOT	EXTRTV	EXSTDTC	EXSTDY
123456	EX	101	1	Test Article	0	mg/kg	SOLUTION	ONCE	ORAL GAVAGE		Saline	2021-07-30T08:07:02	1
123456	EX	101	2	Test Article	0	mg/kg	SOLUTION	ONCE	ORAL GAVAGE		Saline	2021-07-30T14:07:02	1
123456	EX	102	1	Test Article	50	mg/kg	SOLUTION	ONCE	ORAL GAVAGE	ABC01	Saline	2021-07-30T08:08:17	1
123456	EX	102	2	Test Article	50	mg/kg	SOLUTION	ONCE	ORAL GAVAGE	ABC01	Saline	2021-07-30T14:08:20	1
123456	EX	103	1	Test Article	150	mg/kg	SOLUTION	ONCE	ORAL GAVAGE	ABC01	Saline	2021-07-30T08:10:08	1
123456	EX	103	2	Test Article	150	mg/kg	SOLUTION	ONCE	ORAL GAVAGE	ABC01	Saline	2021-07-30T14:11:20	1
123456	EX	104	1	Test Article	0	mg/kg	SOLUTION	ONCE	ORAL GAVAGE		Saline	2021-07-30T08:15:08	1
123456	EX	104	2	Test Article	0	mg/kg	SOLUTION	ONCE	ORAL GAVAGE		Saline	2021-07-30T14:16:25	1

Positive Control Case Study 2

In this example, a positive control article was administered and the experimental design presentation in the protocol and report clearly states how much of the positive control article each animal should receive. In addition, the administration records in the data collection system contain the amount of positive control article administered.

Study Design:

Case Study 2 Experimental Design

Group	Test Material	Dose Level ^a (mg/kg) BID	Dose Volume (mL/kg)	Dose Concentration (mg/mL)	Dose Concentration (mg/capsule)	Main Study M/F
1	Vehicle Control	0	1	0	NA	4/4
2	Test Article	50	1	1.5	NA	4/4
3	Test Article	150	1	3	NA	4/4
4	Amoxicillin	2 capsules	NA	NA	10	4/4
NA = Not applicable BID – Twice per day ^a Based on the most recent body weight.						

EX Domain:

In this example the EX records for the actual doses administered for four animals on Day 1 for are presented. The positive control records are populated in reference to the amount of positive control administered.

Case Study 2 EX Domain

STUDYID	DOMAIN	USUBJID	EXSEQ	EXTRT	EXDOSE	EXDOSU	EXDOSFRM	EXDOSFRQ	EXROUTE	EXLOT	EXTRTV	EXSTDTC	EXSTDY
123456	EX	101	1	Test Article	0	mg/kg	SOLUTION	ONCE	ORAL GAVAGE		Saline	2021-07-30T08:07:02	1
123456	EX	101	2	Test Article	0	mg/kg	SOLUTION	ONCE	ORAL GAVAGE		Saline	2021-07-30T14:07:02	1
123456	EX	102	1	Test Article	50	mg/kg	SOLUTION	ONCE	ORAL GAVAGE	ABC01	Saline	2021-07-30T08:08:17	1
123456	EX	102	2	Test Article	50	mg/kg	SOLUTION	ONCE	ORAL GAVAGE	ABC01	Saline	2021-07-30T14:08:20	1
123456	EX	103	1	Test Article	150	mg/kg	SOLUTION	ONCE	ORAL GAVAGE	ABC01	Saline	2021-07-30T08:10:08	1
123456	EX	103	2	Test Article	150	mg/kg	SOLUTION	ONCE	ORAL GAVAGE	ABC01	Saline	2021-07-30T14:11:20	1
123456	EX	104	1	Amoxicillin	10	mg	CAPSULE	ONCE	ORAL	XXC01	Capsule	2021-07-30T08:15:08	1
123456	EX	104	2	Amoxicillin	10	mg	CAPSULE	ONCE	ORAL	XXC01	Capsule	2021-07-30T14:16:25	1

Conclusions

Presentation of administrations other than test article and vehicle controls such as positive controls, negative controls, and adjuvants in EX will be dependent on the amount of information available when generating the SEND dataset. The method of population of records in EX should drive the presentation of information in TS and TX. For example, if a treatment is presented in EX as an EXTRT, a best practice would be to list that treatment in TS and TX. Case Study 2 is the preferred presentation of a positive control administration; however, this presentation is only possible if adequate information is available to support this data presentation.