MPI RESEARCH

Template to Facilitate Creating Pharmacokinetics Concentrations SEND Datasets (PC Domain)

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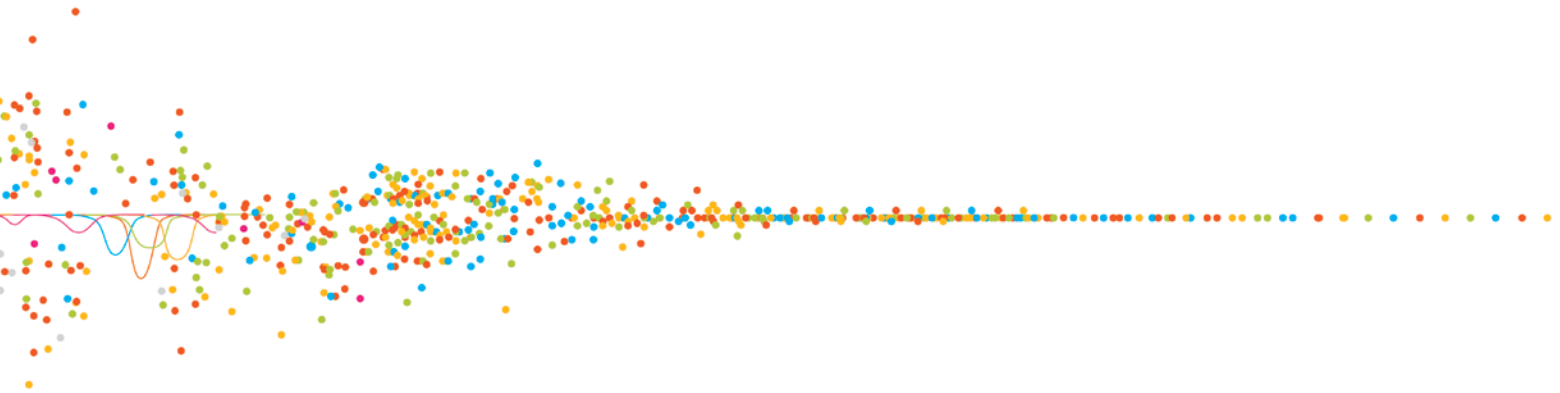

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INTRODUCTION

With the release of the final FDA guidance regarding SEND, it is crucial that companies have a comprehensive plan for the creation of SEND datasets. Pharmacokinetic data, which are often generated outside of the main toxicology data collection systems, pose a particular challenge. Pharmacokinetic data are routinely transferred from the laboratory that collects the samples to the laboratory that conducts the concentration analysis and then to another laboratory for pharmacokinetic characterization. For data that are transferred between multiple stakeholders, it is essential to have a framework for the exchange of the data that will facilitate the creation of SEND datasets. Utilizing existing Excel functionality, formulas can be used to apply SEND Controlled Terminology when entering data and can transform data entry into the SEND format. This allows those that are not familiar with SEND to easily collect and transfer these data in a format that facilitates the creation of SEND datasets.

PHARMACOKINETIC DATA

Pharmacokinetic data collection is unique because the data are collected by different laboratories often using data collection systems outside of the main toxicology data collection system. The pharmacokinetic data collection systems can be anything from paper data collection to LIMS systems.

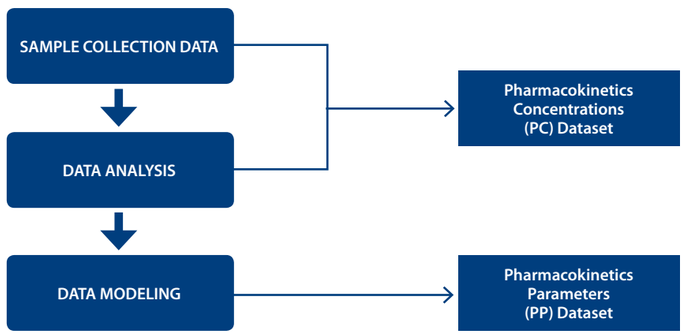
Besides the differences in data collection systems, the number of laboratories involved in collecting and analyzing the data presented in the dataset can be a challenge. Even if the samples are collected and analyzed within the same organization, different internal laboratories are responsible for collecting the data from the samples and the analysis. When the sample collection and sample analysis occur at different organizations, the situation becomes more complex.

Sponsor Example
The In-Life department collects samples and records the data in the toxicology data collection system. The Analytical department analyzes the samples and collects the data in a LIMS system. The Regulatory department creates the PC SEND dataset.

Sponsor and CRO Example
The CRO collects samples and records the data in the toxicology data collection system. The CRO sends samples to the Sponsor for analysis along with a paper copy of the sample collection data. The Sponsor analyses the samples and creates the PC SEND dataset.

Multiple CROs Example
CRO 1 collects samples and records the data in their data collection system. CRO 2 analyses the samples, collects the concentration data in their data collection system, and send a report to CRO 1. CRO 1 sends the pharmacokinetic concentration data to CRO 3 for pharmacokinetic modeling. CRO 3 sends the report to CRO 1. CRO 1 creates the PC and PP SEND datasets.

The involvement of different stakeholders with different data collection methodologies makes the data in the PC domain complex and makes it essential that a tool be employed to standardize data transfer between the stakeholders and to ultimately facilitate the creation of the SEND Dataset for the PC domain.



PHARMACOKINETIC CONCENTRATIONS (PC) TEMPLATE

Template Purpose
This template was created to provide a suggested framework for the exchange of PC/PP data between subcontractors and Sponsors/CROs to facilitate the creation of SEND datasets.

Template Considerations
- Organizations have different levels of SEND readiness and the individuals using the template may not be familiar with the SEND format.
- Excel is readily available at most organizations and most personnel are already familiar with the basic functionality so additional training is not required.
- Existing Excel functionality was used to create the desired spreadsheet functionality.

Template Sections (each section is a separate tab)
1. ***Introduction:*** This includes an explanation of how to utilize the template, as wells as points to consider when using the template.

   The tab that conducted the in-life portion of the study provides the following information (highlighted in grey):

SEND TERMINOLOGY	TEMPLATE VERBIAGE
STUDY ID	STUDY ID
USUBJID or (POOLID if applicable)	STUDY ANIMAL ID
PCTEST – provide desired test name	TEST NAME
PCSPEC	SPECIMAN TYPE
PCBLFL	BASELINE
PCFAST (if applicable)	FASTING STATUS
PCDTC	DATE/TIME OF SPECIMEN COLLECTION
PCTPT	TIMEPOINT

   The subcontractor determining the pharmacokinetics concentrations provides the following information (highlighted in yellow):

SEND TERMINOLOGY	TEMPLATE VERBIAGE
PCORRES	VALUE
PCORRESU – PROVIDE CT UNITS	UNIT
PCSPCCND	SPECIMEN CONDITION
PCMETHOD	METHOD

   Recommendations
   - The Sponsor should assess the subcontractor's level of familiarity and experience with SEND.
   - The Sponsor should ensure that the subcontractor understands how to use the template and knows whom to contact with questions.
   - The Sponsor should ensure that the subcontractor understand what format to use when entering data into the template.
   - If the Sponsor contracted a CRO to conduct the in-life portion of the study it should be made clear whose responsibility it is to provide the PC subcontractor with the template information highlighted in grey in the template.
     * including this information in the study plan or service level agreement is recommended.

2. ***PC Data:*** Provides an example of concentration data in template.

3. ***PC in SEND format:*** Provides an example of how concentration data appear in SEND format.

PHARMACOKINETIC CONCENTRATIONS (PC) TEMPLATE CONTINUED

4. ***Basic Study Set-up:*** The first day of dosing is entered here so that the Excel macros can populate VISITDY and DY

This page contains basic information regarding a study that is required in order to properly create a SEND extract.					
	ENTER DATE				
First Day of Dosing	2014-06-14				

5. ***Pharmacokinetics Concentrations:*** This is where the data are entered. There are drop downs for controlled terminology.

Study ID	Study Animal ID	Test Name	Value	Unit	Specimen Type	Specimen Condition	Method	Baseline	Fasting Status	Lloq	Exclusion Flag	Date/Time of Specimen Collection	Timpoint
STUDYID	USUBJID	PCTEST	PCORRES	PCORRESU	PCSPEC	PCSPCCND	PCMETHOD	PCBLFL	PCFAST	PCLLOQ	PCECLFL	PCDTC	PCTPT
123-456	101	Concentration	<0.250	Mg/L	SERUM	HEMOLYZED	HPLC	Y	Y	0.250		2014-06-14	Predose
123-456	101	Concentration	<0.250	Mg/L	SERUM		HPLC			0.250		2014-06-14	1 hour postdose

6. ***PC SEND Format:*** This is the data converted to SEND format that was entered into the Pharmacokinetics Concentrations tab.

STUDYID	DOMAIN	USUBJID	PCSEQ	PCTESTCD	PCTEST	PCCAT	PCORRES	PCORRESU	PCSTRESC	PCSTRESN	PCSTRESU	PCSTAT	PCSPEC
123-456	PC	101	1	Conc	Concentration		<0.250	mg/L	<0.250		mg/L		SERUM
123-456	PC	101	2	Conc	Concentration		<0.250	mg/L	<0.250		mg/L		SERUM

PCSPCCND	PCMETHOD	PCBLFL	PCFAST	PCLLOQ	PCEXCLFL	VISITDY	PCDTC	PCDY	PCTPT	PCTPTNUM	PCELTM	PCTPTREF	PCRFTDTC
HEMOLYZED	HPLC	Y	Y	0.250		1	2014-06-14	1	Predose				2014-06-14 T00:00:00
	HPLC			0.250		1	2014-06-14	1	1 hour postdose				2014-06-14 T00:00:00

7. ***Standard Terminology List:*** This tab contains the controlled terminology applicable to the PC domain utilized in the spreadsheet.

DISCUSSION

Working with multiple stakeholders and data collection systems to create Pharmacokinetic Concentrations (PC) SEND datasets can be a complex process. The PC template provides an essential framework for the exchange of data that will facilitate the creation of SEND datasets and make the process of creating SEND Datasets for the PC Domain more efficient. In the future, this template may be expanded to include the Pharmacokinetics Parameters (PP) domain which poses similar challenges and depends upon the data presented in the PC domain.

If you would like more information about SEND and the PC Template please visit the iSEND wiki page: https://www.phusewiki.org/wiki/index.php?title-Interorganizational_SEND

CONTACT

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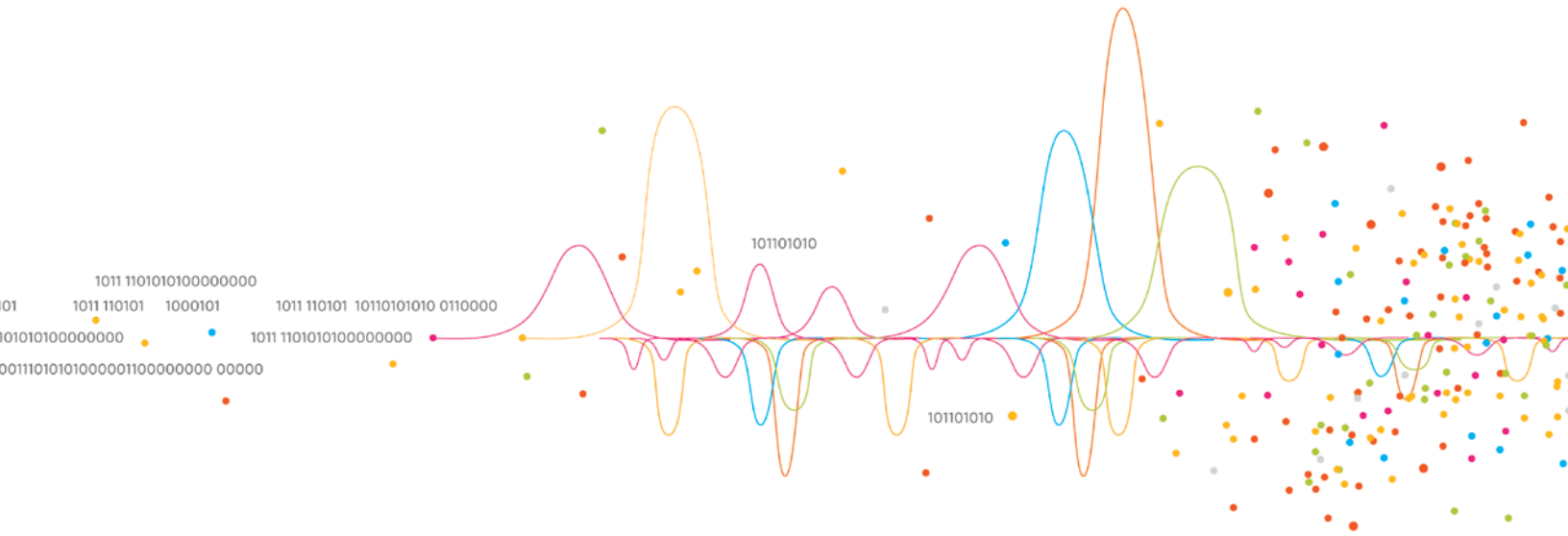

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