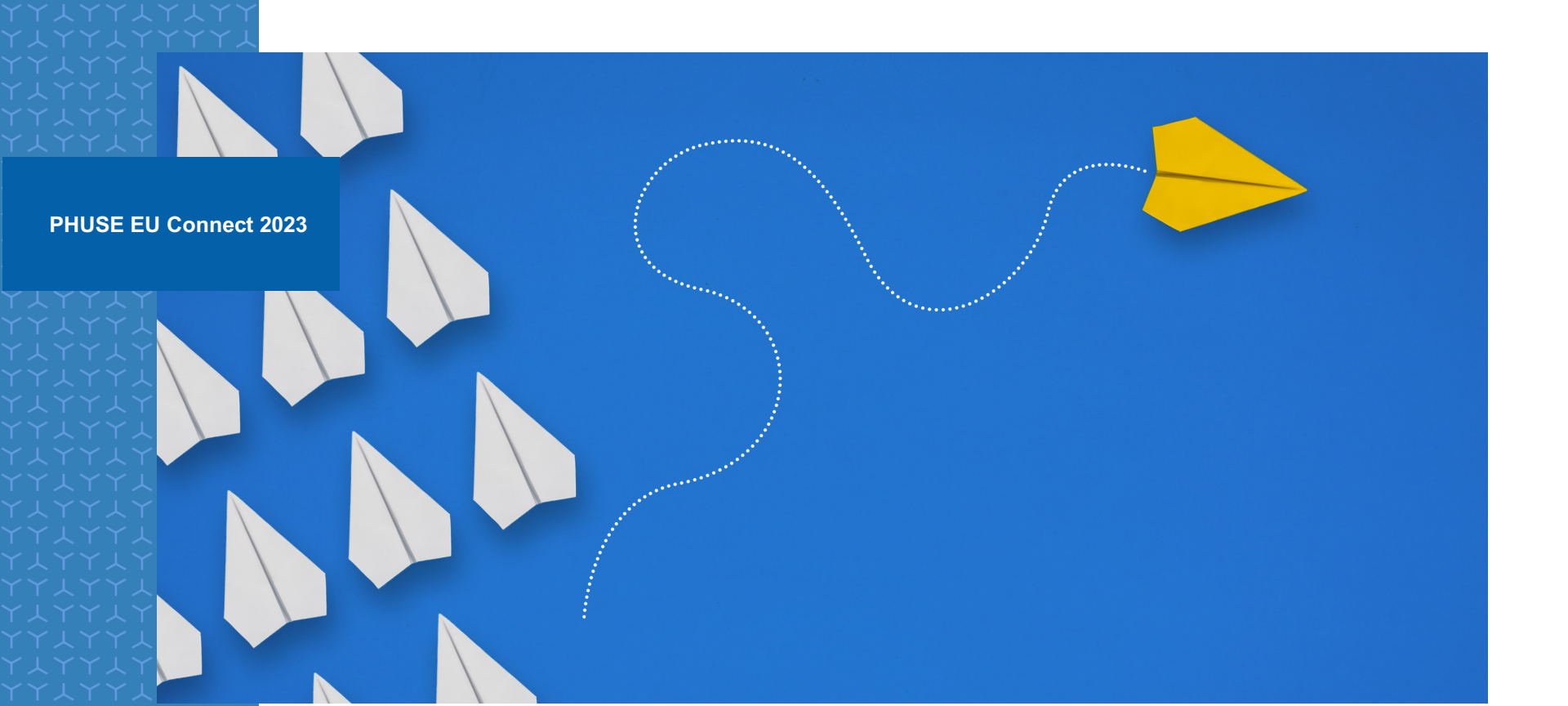




PHUSE EU Connect 2023

Unleashing the role of a statistical programmer in expediting a submission –SA12

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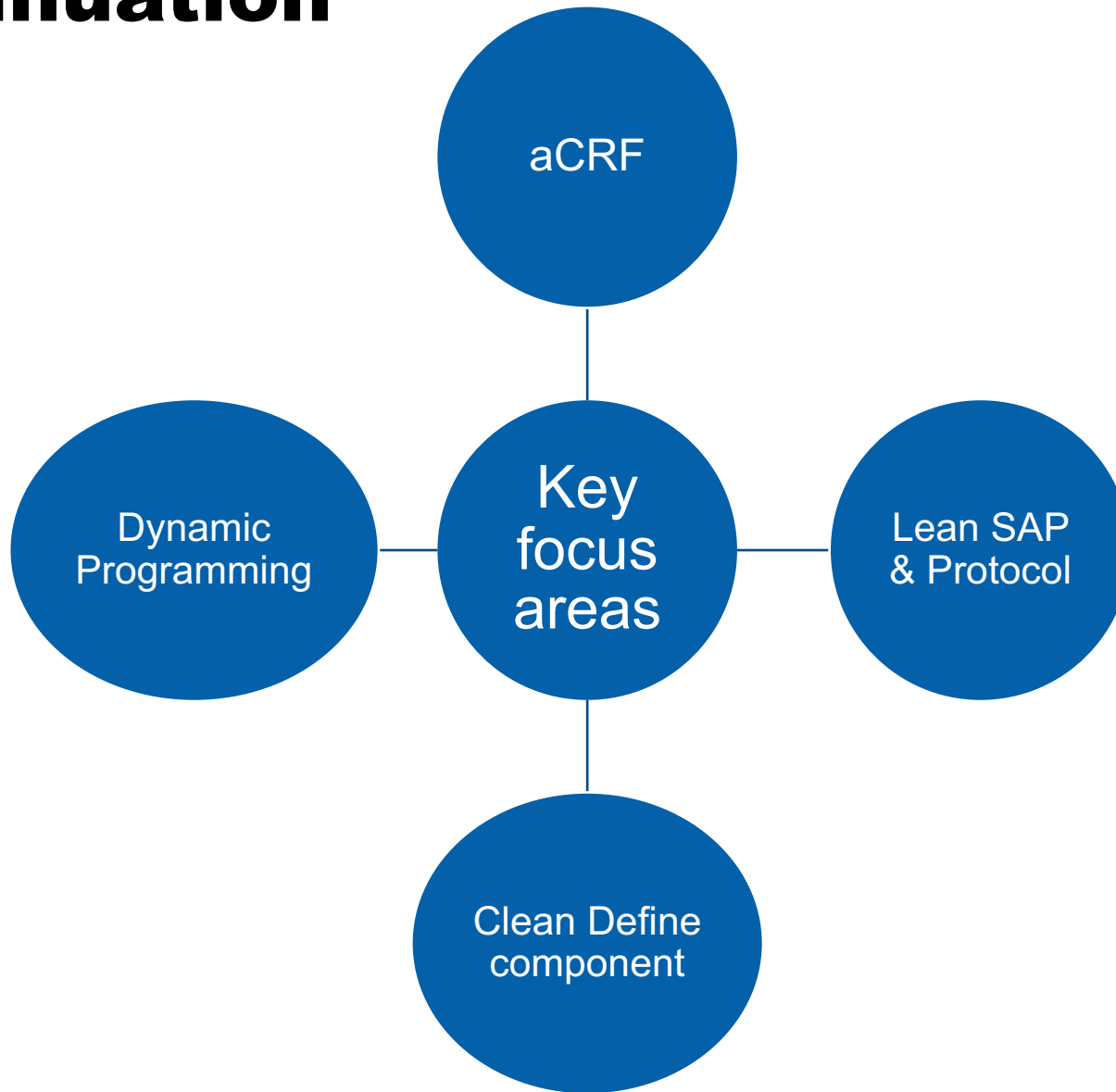
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Introduction

- Being an integral part of pharma world, we know the magnitude of impact created when the drug is made available to patients with critical ailments even by a day ahead.
- As statistical programmers, we strive hard in all possible ways to plan study activities and deliver the analysis reports well ahead of planned timelines.
- There are a few key areas to focus on as a statistical programmer in each phase of the study conduct which paves way to deliver the study package to health authority with high quality and double the speed.



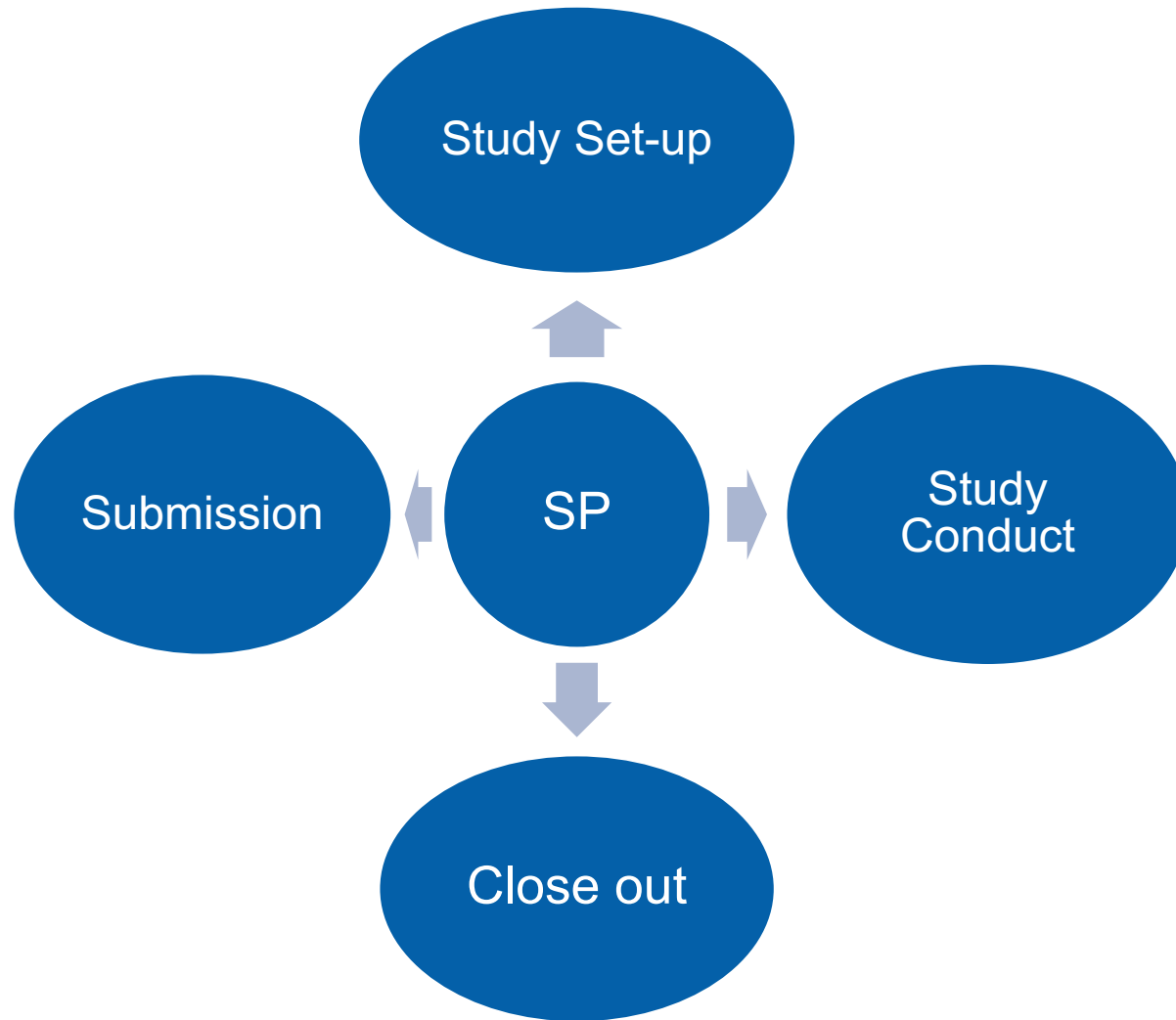
Continuation



Continuation

- Many often think that statistical programmers just implement the analysis methods on collected data and create tables, figures and listings and share it with their stakeholders like statisticians, clinicians and medical writers for writing the clinical study report.
- But, there is more we do than just creating TFLs. A statistical programmer plays a key role from drafting a protocol until submission of data package to health authorities.
- To have a more precise discussion throughout the paper I have classified clinical trial process into below categories and would be discussing what a programmer can contribute to expedite the final goal of submission.

Continuation



Study Set-up



UNDERSTANDING
CLINICAL
DEVELOPMENT
PLAN



PROTOCOL
REVIEW



SAP REVIEW



ANNOTATED
CRF



TFL REVIEW

Continuation: aCRF

DS=Disposition	
CDISC	
Study CDISC01	
RANDOMIZATION	
DSTERM / DSDECOD = RANDOMIZED	
DM=Demographics	RANDNO in SUPPDM
Will the patient be randomized? ☐ Yes	Enter Randomization Number
RAND in SUPPDM	Randomization Date MM DD YYYY
☐ No	DSSTDTC
Complete Termination	

Example:

DM = Demographics	DS = Disposition
Date of Informed Consent (DD/MM/YYYY): __/__/__	DSSTDTC where DSTERM/DSDECOD = "INFORMED CONSENT OBTAINED"
RFICDTC	

Continuation: TFL

1. Clear with SAP.
2. Sub-groups?
3. Exploratory analysis.
4. R shiny tools
5. Collaboration is key

Example:

In one of my studies during the SAP discussion, we were able to make team understand and remove few duplication of analysis which were a replica based on different population sets like shown below and also quite a few listings. This was not as easy as said but took many negotiations with regulatory, clinical and writing colleagues.

- Adverse events by preferred term: X analysis
- Adverse events by preferred term: Y analysis
- Adverse events by preferred term: Z analysis

Study Conduct

- Regular p21 checks on SDTMs
- Through PDS review by statisticians to avoid addendums after data base lock and also having a define ready PDS.
- Defining project level macros for project standard analysis concepts.
- Dynamic programming

```
NOTE: Remote submit to SERVER commencing.  
NOTE: Table WORK.LB created, with 4234560 rows and 70 columns.  
  
NOTE: PROCEDURE SQL used (Total process time):  
      real time          2:28.07  
      cpu time           36.55 seconds
```

```
NOTE: There were 4234560 observations read from the data set PAR.ADLB.  
NOTE: The data set WORK.QS has 4234560 observations and 70 variables.  
NOTE: DATA statement used (Total process time):  
      real time          4:06.10  
      cpu time           35.77 seconds
```

Study Closeout

- Watching out for proper source usage in final codes.
- As CSR writing is initiated at this point statistical programmer must ensure no major changes are being requested to the already programmed outputs which may be time consuming.
- To leave no stone unturned to have a proper clean data from data management so that no data related issues will be handled by programming team at the time of data base lock.

Define Package

- Well aware of define components.
- Having the define components ready so that post data base lock lead programmer can cater time for through review of defines and also to avoid any changes to database based on any pinnacle errors or warnings which is again time consuming.
- Having prior discussion about ARM component and pointers.
- Proper plan in place if non SAS programs are to be submitted to health authority.

SDTM define:

- Pages must be rightly hyperlinked in define xml and all the variables annotated in CRF must have their origin as CRF in derivation section of define.
- Checking the key variables specified in the dataset definition section if uniqueness in data after using those key variables exists or not.
- If legacy studies are part of submission a clear planning at what level conversions are planned? SDTM or ADaM. Thorough traceability checks performed on converted data versus the old format data.
- Example: If the CSR for that legacy study is previously submitted to health authority the converted data should be in line with that analysis reports otherwise programmer must discuss with all relevant line functions as to how this must be explained in reviewers guide.

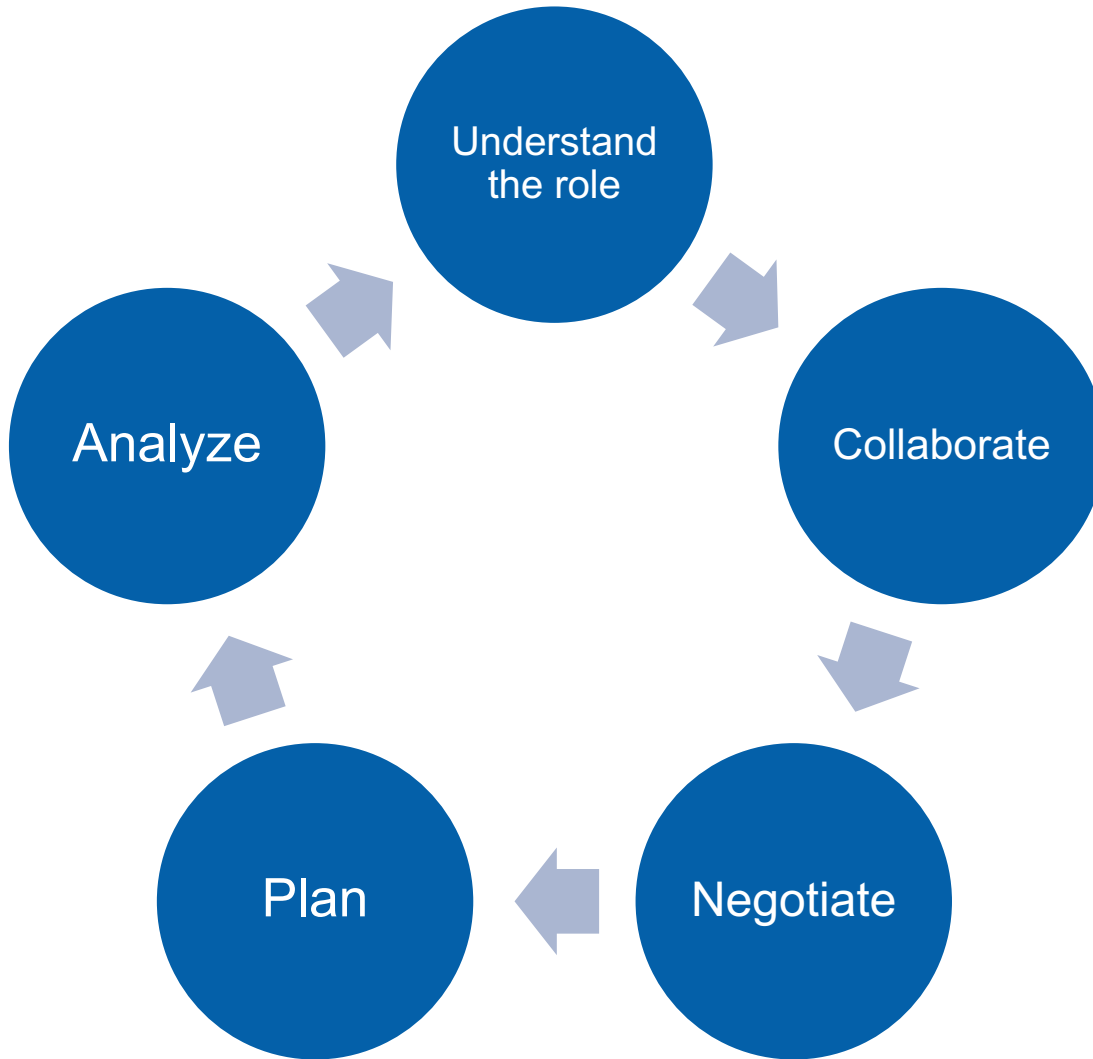
ADaM define

- Analysis reports metadata is one key part where we must know which reports derivations would be a part of it.
- Any complex derivations must be clearly drafted and must be a part of appendix in reviewers guide.
- It is advisable to have Conformance report section ready by the database lock, this means that each and every issue in p21 should be addressed and the entire clinical trial team must come to consensus on that so that there is no unforeseen updates to data post analysis.
- BIMO submission: Where does a programmer involve?

Pooling component

- Programmer must be in regular touch with the submission leads for the project and must be clearly aware if there is a pooling planned as a part of submission.
- SCS/SCE/CO
- ADR candidate selection
- RMP
- IB

Closing remarks





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