



Electronic Nonclinical Protocol Design for Sharing Between Systems



Webinar Agenda

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Introduction

2

Protocol Automation Needs

3

Solutions

4

Nonclinical Study Design vs Clinical Study Design

5

Collaboration

6

Questions & Answers



Introduction

Meet The Presenters

Presenter



Bob Friedman
Chief Technologist & Chief
Solution Architect



Experience

- Over 30 years of experience in life sciences
- Former employee of the New York State Department of Health, Synthes USA, NYU Medical Center

Membership

- Active member of CDISC SEND standards consortium
- Active member of PhUSE / FDA Industry Collaboration

Education

- Master of Engineering, Biomedical Engineering, Rensselaer Polytechnic Institute
- Bachelor of Engineering, Biomedical Engineering, Rensselaer Polytechnic Institute

Meet The Presenters

Presenter



Nicolas de Saint Jorre

Product Architect
OpenStudyBuilder



Experience

- Over 27 years of experience in Clinical Research, with 23 years in Computer Sciences (with EDC systems)
- Expert in CDISC Models (with specialisation around CDASH, SDTM, ODM, Define and CT)

Membership

- Active member of CDISC Protocol CT team / ODM reviewer
- Active member of DMB
- Active member of the French CDISC User Group

Education

- Computer Engineer Diploma (CNAM)

If you have any question re: OpenStudyBuilder
ndjz@novonordisk.com

Meet the Presenter

Presenter



Paul Auspitz

Director of
Preclinical Solutions and SEND
services
Xybion Digital
Pauspitz@xybion.com

• Experience

- Graduate of Thomas Jefferson University with a BS degree in Finance and IT Systems Management. 25-year track record of success as a trusted digital solution expert and advisor to business leaders in highly regulated research driven organizations.
- Currently serving as Director of Preclinical Solutions and SEND services for Xybion Digital. Before his current role at Xybion Paul spent 5 years in a similar role with Instem, Plc. Additional noteworthy experience includes SAP EWM, SCM, and serialization consulting, MS 365 Business and Operations solution sales
- years of successfully helping organizations address and manage SEND across preclinical R&D business's with Instem and Xybion.

• Education

- BS Finance and Management Information Systems



Xybion Corporation: Value Creator for 40+ Years



Established worldwide

- Founded in 1977
- 170+ Customers
- Clients in 25 countries
- Work with almost all top 25 pharma companies worldwide
- Headquartered in Princeton, NJ
- US Patent in 2021 on predicting compliance risks
- Xybion Digital Inc., Listed in 2021 at Toronto Venture Exchange

Stock: XYBN Exchange: TSXV Sector: Healthcare Industry: Healthcare Providers & Services

Xybion Digital Inc.



European Operations

- Incorporating Xybion GmbH
 - European Business from Germany
 - Clients: Germany, Switzerland, France, Italy, Denmark, UK, Croatia,....
 - Services and Consulting (SEND, CSV, Tx) , Work visa for Germany
- Localization
 - Language support
 - Hosting / Cloud
- Partnerships
 - R&D Institutes and Universities
 - System Integrators (TCS, Atos, Cognizant, WEGA...)



Clients



Boehringer Ingelheim, Bayer, Novo Nordisk, ERBC,....

#Digitization

#Cloud Platform

#Artificial Intelligence & Prediction

#SaaS

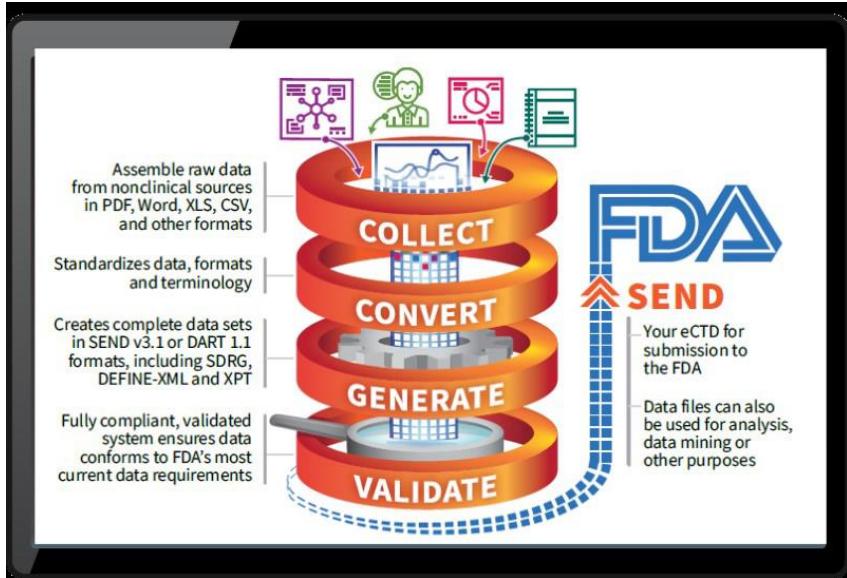
Business Segments & Products

Preclinical business	Digital Lab business	CQRM business	WPH business
			
<ul style="list-style-type: none">• Gold standard pre-clinical lab operation• SEND Intelligence Service• Lab Data Lake• Instrument Management	<ul style="list-style-type: none">• LIMS (CAR-T, Diagnostic, Sample & Inventory Management , Stability Studies)• ELN• Methods/Protocol Management• Clinical supply management	<ul style="list-style-type: none">• Predictive compliance• Regulatory audit• Quality management• Content management• Third party assessment and credentialing	<ul style="list-style-type: none">• Employee Health & Safety• OSHA reporting• Incident /Case management• Billing• Bill review
XDP Low code BPM platform			
Xybion Advisory Services			

- PMO/PM
- Digital strategy
- Quality management and computer system validation
 - Business analysis
 - DesignThinking

Pristima XD- Savante and SEND Intelligence Services

2



- Data conversion into CDISC-SEND format
- SEND data package QC/verification + Correction
- SEND data package QC/verification only

The screenshot displays the Savante SEND Output Generator interface. At the top, it shows the study identifier (GLP003) and various output configuration options. Below this, the "SEND - Output Generator" window lists validation datasets for Study GLP003, including:

Dataset	Description	Element	Value	Location	Documentation
TG	Total Groups	TRIAL_DESIGN	One record per planned Element per Arm	STUDYID, USUBID, EXTRT, EXSTDTC	
TR	Total Elements	TRIAL_ELEMENT	One record per planned Element	STUDYID, USUBID	
TS	Total Summary	TRIAL_SUMMARY	One record per Trial Summary parameter value	STUDYID, TRIMMED, TSRSQ	
TR	Total Data	TRIAL_DESIGN	One record per Trial Set parameter per Trial Set	STUDYID, SEROS, TSRSQ	
DM	Demographics	SPECIAL_PARAMETER	One record per subject	STUDYID, USUBID	
SD	Subject Demographics	SPECIAL_PURPOSE	One record per element measured per subject	STUDYID, USUBID, EXTRT, SDSTC	
EV	Events	INTERVENTIONS	One record per event constant, display interval per treatment per subject or pool	STUDYID, USUBID, EXTRT, EXSTDTC	
EV	Events	INTERVENTION	One record per event	STUDYID, USUBID	
EV	Event Interventions	INTERVENTION	One record per event intervention per subject	STUDYID, USUBID, EXTRT, MTRTC, MTRSC	
EW	Event with outcome	FINDINGS	One record per event with outcome per subject	STUDYID, USUBID, EXTRT, EWOTC, EWOTC	
EW	Event with diagnosis and outcome	FINDINGS	One record per diagnosis per subject (for unstructured events only)	STUDYID, USUBID, EWOTC	
PW	Food and Water	FINDINGS	One record per food and water measurement per subject	STUDYID, USUBID, PWOTC, PWOTC	
LB	Lab	FINDINGS	One record per test one measured per subject or pool	STUDYID, USUBID, PWOTC, PWOTC, LBOTC	
PR	Pharmacokinetics	FINDINGS	One record per pharmacokinetic measurement per subject	STUDYID, USUBID, PROTC	
PR	Pharmacokinetics	RELATIONSHIP	One record per relationship between pharmacokinetic measurement and subject	STUDYID, USUBID, PROTC	
PR-ICV	Pharmacokinetic	RELATIONSHIP	One record per relationship between pharmacokinetic measurement and subject	STUDYID, USUBID, PROTC	
SVRPH	Measurement Definitions for Scale	RELATIONSHIP	One record per relationship between measurement definition and scale	STUDYID, USUBID, SVRPH	
SVRPH	Measurement Definitions for Scale	RELATIONSHIP	One record per relationship between measurement definition and scale	STUDYID, USUBID, SVRPH	

Xybion SEND Service Suite



2

2 b. SEND Services

S. NO	SEND Services	Data file formats	Timeline	Deliverables
1	Full Conversion	PDF, Scanned reports, images & word documents etc.,	3-4 wks for 14-28d tox study 4-6 wks for 90d tox study 6-8 wks for 180d tox study	Submission ready SEND datasets, define file & nSDRG
		Excel, CSV & XPT	1-2 wks reduced from the above timelines	
2	SEND Data Verification + Correction	SEND data in xpt or Excel or CSV formats	3-4 wks for 14-28d tox study 4-6 wks for 90d tox study 6-8 wks for 180d tox study	Error fixed, submission ready SEND datasets, define file & nSDRG
3	SEND Data Verification Only (No error fixes)	SEND data in xpt or Excel or CSV formats	3-4 wks for 14-28d tox study 4-6 wks for 90d tox study 6-8 wks for 180d tox study	QC issue log with the list of issues / findings identified.. The Sponsor will be taking care of the error fixes, not Xybion
4	Customized SEND services	Simplified TS preparation	To be determined based on the number of studies	Submission ready TS domain
		Creation of Trial domains	To be determined based on the number of studies	Submission ready trial domain
		Creation of SEND datasets for TK studies alone	To be determined based on the number of studies	Submission ready PC, PP domains with or without Trial domains, based on customer requirements
5	SEND Education	NA	5 - 10 days	Onsite / online training by Xybion SME - Xybion training certificate - Training (course) materials
6	SEND Consultancy	NA	TO be determined based on the customer needs	End-to-end SEND consultancy services



Protocol Design Automation needs

- Ensure a higher degree of end-to-end consistency
- Have built-in compliance with external and internal standards
- Facilitate more automation and content reuse
- Share electronically the nonclinical protocol / study
- Between Pharma's and CROs
- To regulatory bodies
- Do so in a manner that is
- Computer readable for system to system exchange
- Human readable to turn into approval formal protocol
- Amendments must be evident

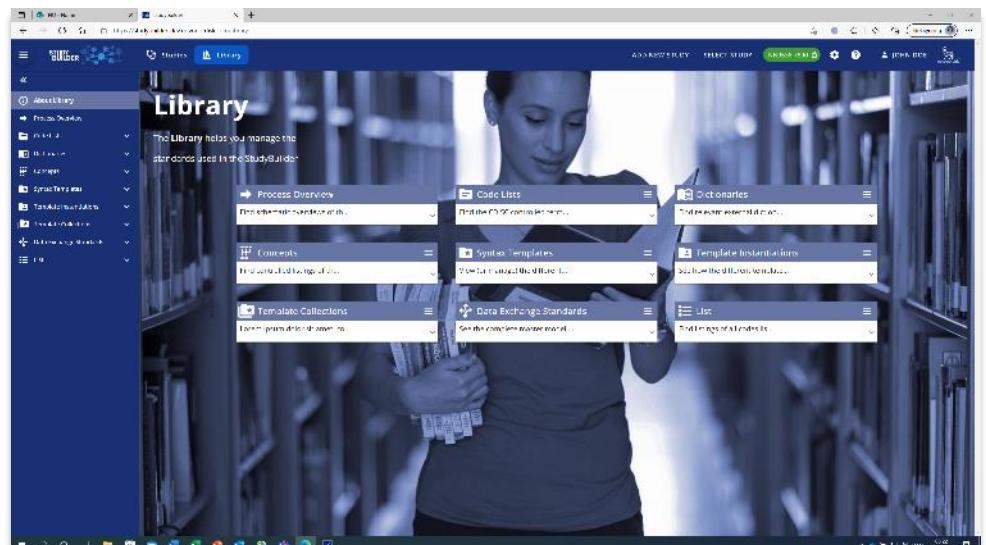
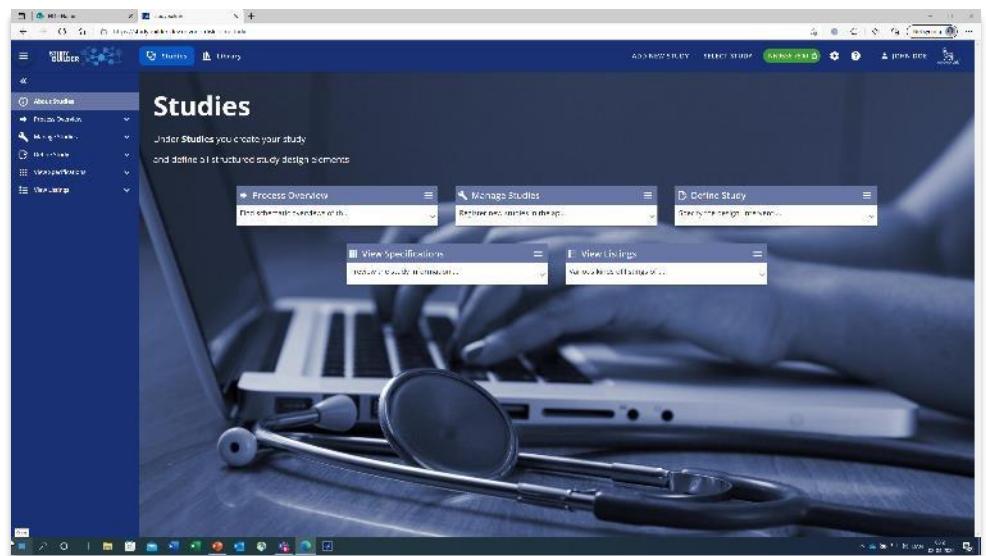
What is the OpenStudyBuilder

- OpenStudyBuilder is an open source solution provided by Novo Nordisk® which is looking for collaborations.
- The OpenStudyBuilder comprises three elements:
- Clinical Metadata Repository (MDR) and Study Definition Repository (SDR)
(central repository for all study specification data)
- OpenStudyBuilder application
(web-based user interface)
- API layer
(allowing interoperability with other applications)
(DDF API Adaptor – enabling DDF SDR Compatibility)



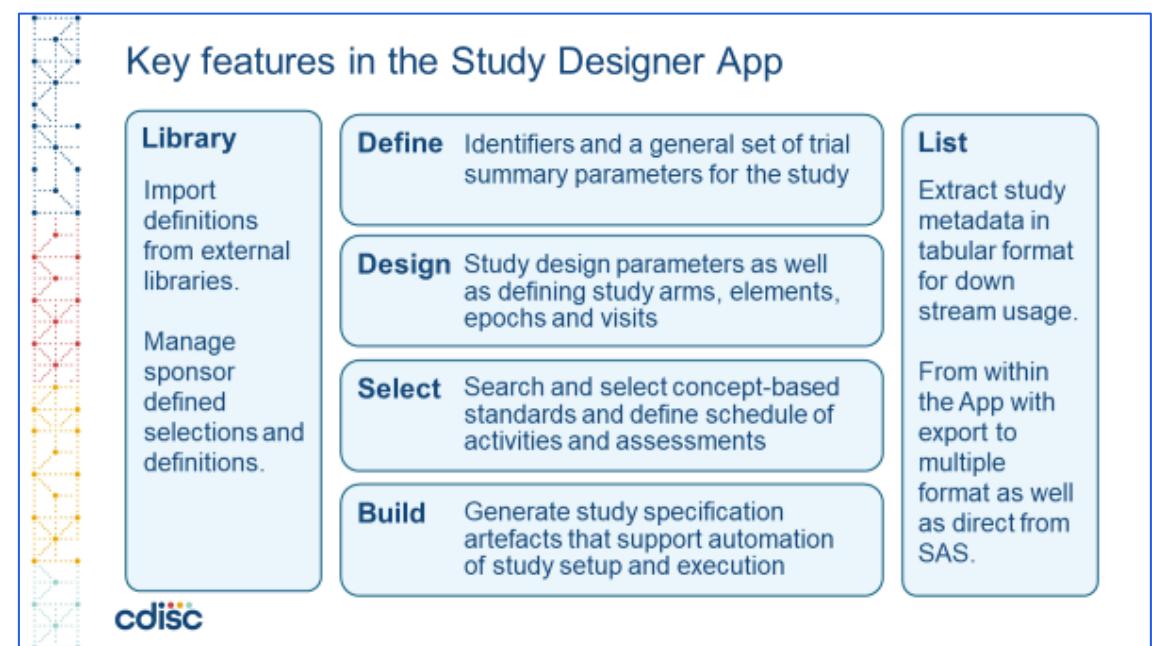
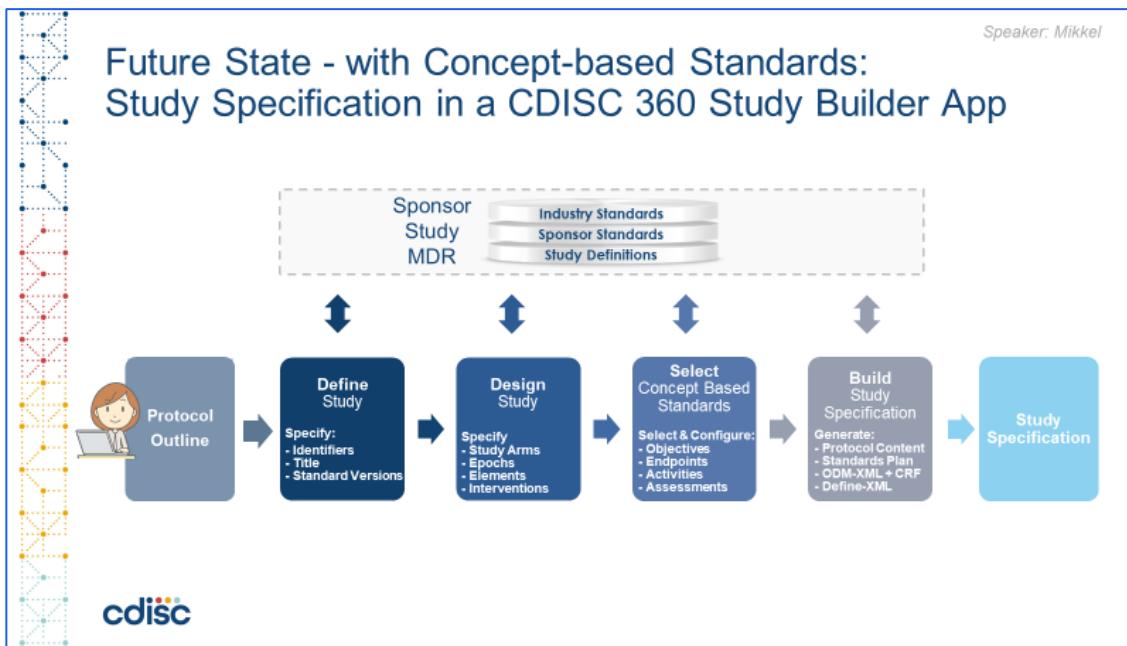
The OpenStudyBuilder includes:

- A **Studies** part for specification of studies
(incl. disease area and study type, objectives and endpoints, population and eligibility criteria, study compounds and other interventions, study design, arms and visits, schedule of activities and associated procedure and assessment instructions)
- A **Library** part for maintenance of terminology standards (incl. CDISC controlled terminology, relevant parts of external dictionaries for medical terms, pharmacological classes, units, a detailed compound library, a granulated library of activity terms) as well as syntax templates for cross-study and cross-project harmonisation)
- An underlying **knowledge database**
(enabling complex queries and visualisations for aggregation of information and showing how things are connected end-to-end)



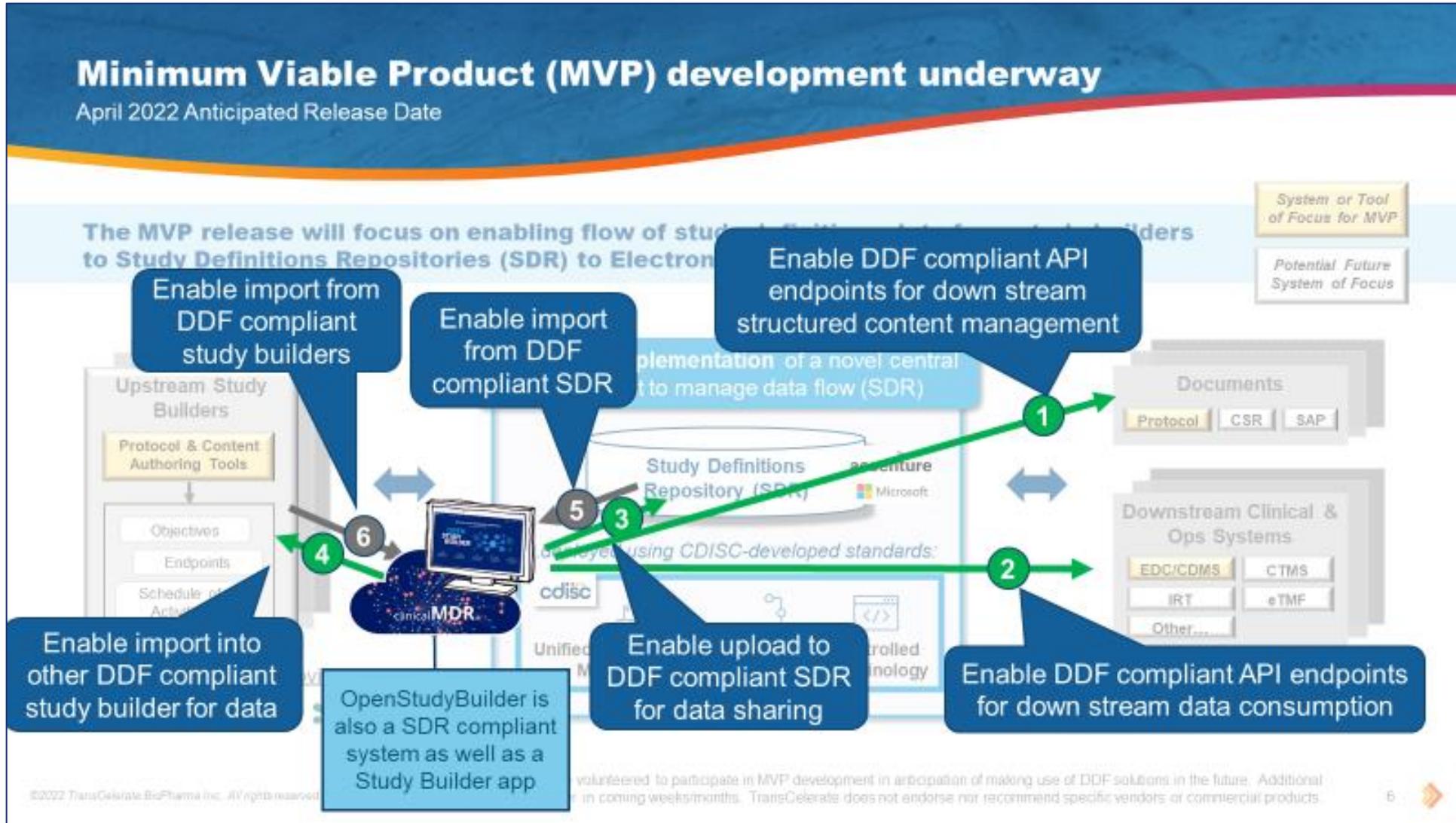
OpenStudyBuilder is being built as an open-source MDR and SDR solution based on the CDISC 360 POC

Project collaborates with CDISC, TransCelerate DDF and suppliers



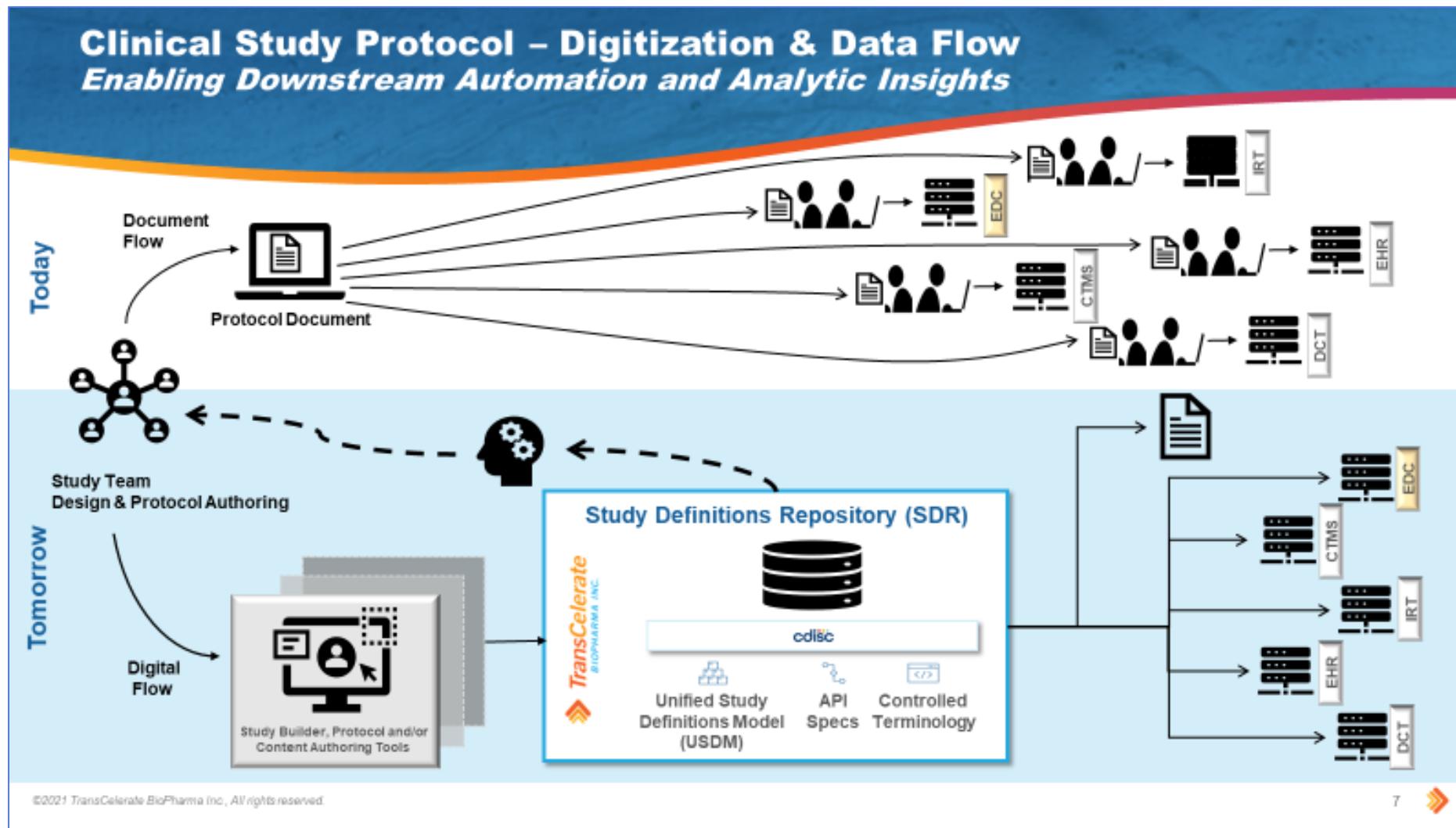
<https://www.cdisc.org/cdisc-360>

OpenStudyBuilder will also be DDF Compatible



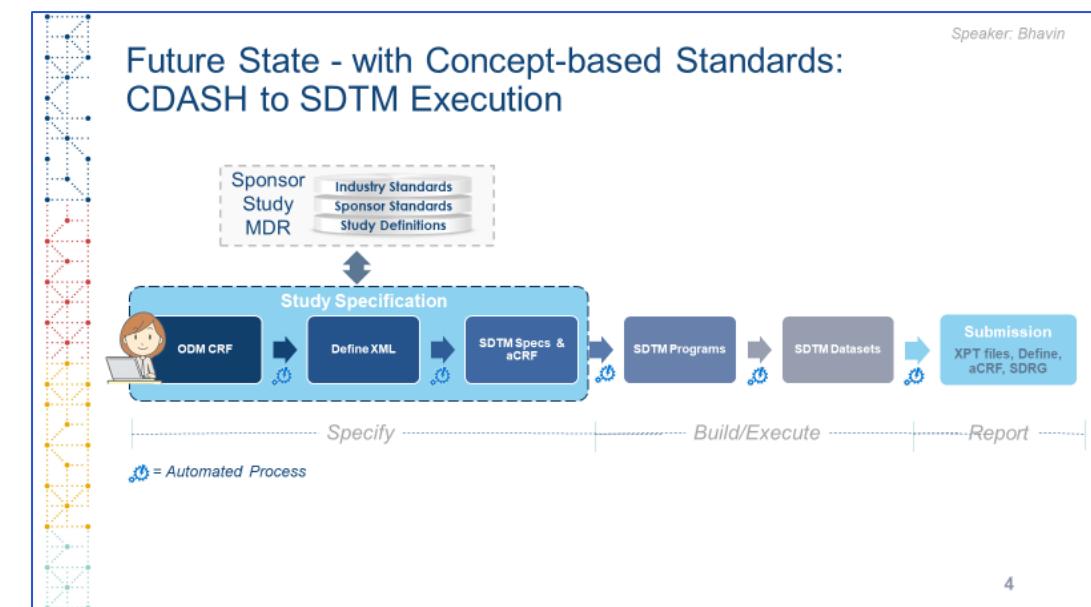
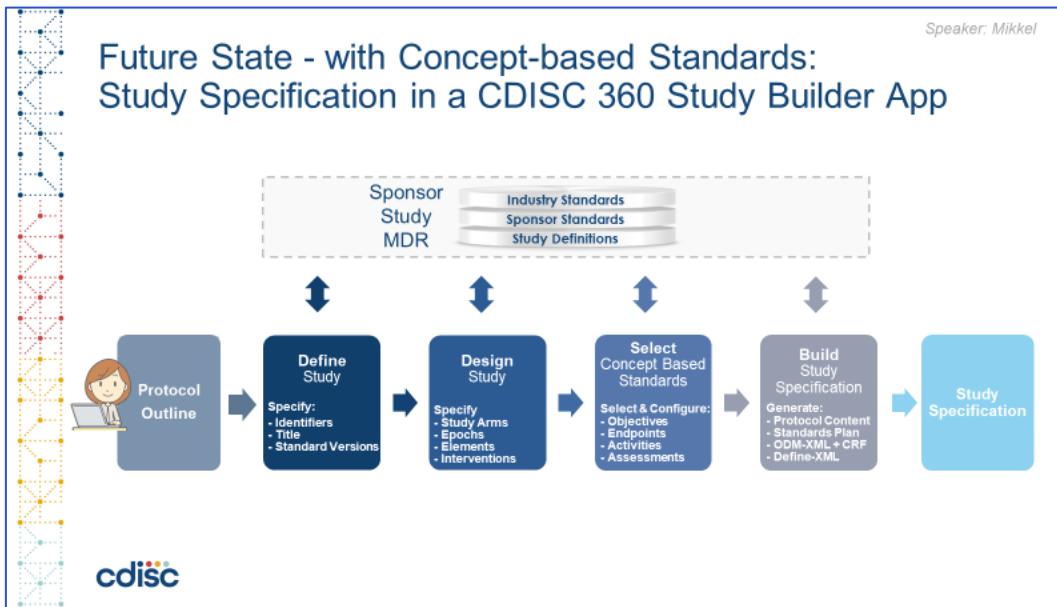
<https://transcelerate.github.io/ddf-home/>

DDF is moving away from Document focused processes to Connected Data Driven processes



To apply concept-based data standards end-to-end

From protocol preparation through study conduct to reporting and submission of applications to health authorities and with reference to externally-compliant concept-based data standards and terminology



Shared as open source project in Q3 2022

<https://novo-nordisk.gitlab.io/nn-public/openstudybuilder/project-description/>

Listed in COSA (CDISC Open Source Alliance)

<https://cosa.cdisc.org/directory/openStudyBuilder>

Seek to actively collaborate with CDISC, TransCelerate DDF, peers and vendors



OpenStudyBuilder for Non clinical usage

studybuilder

localhost:5005/studies

OPEN STUDY BUILDER

Studies Library ADD NEW STUDY SELECT STUDY CDISC DEV-1234 🔒 ⚙️ 🎪 JOHN DOE

About Nonclinical Studies

Process Overview

Manage Studies

Define Study

View Specifications

View Listings

Studies

Under **Studies** you create your study
and define all structured study design elements

Process Overview

Find schematic overviews of th...

Manage Studies

Register new studies in the ap...

Define Study

Specify the design, interventi...

View Specifications

Preview the study information ...

View Listings

Various kinds of listings of t...

34°F Cloudy 17:32

studybuilder

localhost:5005/studies/select_or_add_study

OPEN STUDY BUILDER

Studies Library ADD NEW STUDY SELECT STUDY CDISC DEV-1234 🔒 ⚙️ 🎪 JOHN DOE

>About Nonclinical Studies
Process Overview
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Study List

Study Status

Project Standards

Define Study

View Specifications

View Listings

Studies / Manage Studies / Study List

Study List ?

Select rows

Search

Clinical Programme	Project ID	Project name	Brand name	Study number	⋮	Study ID	Study acronym
CDISC Development programme	CDISC DEV	CDISC Dev		0	⋮	CDISC DEV-0	CDISC360-2
CDISC Development programme	CDISC DEV	CDISC Dev		1234	⋮	CDISC DEV-1234	Study-1

Rows per page: 10 1-2 of 2

34°F Cloudy 17:33

The screenshot shows the 'Study List' page of the studybuilder application. The left sidebar contains links for 'About Nonclinical Studies', 'Process Overview', 'Manage Studies' (selected), 'Study List' (selected), 'Study Status', 'Project Standards', 'Define Study', 'View Specifications', and 'View Listings'. The main content area shows a table with two rows of study data. The table columns are: Clinical Programme, Project ID, Project name, Brand name, Study number, a more options menu, Study ID, and Study acronym. The first row has a 'Clinical Programme' of 'CDISC Development programme', a 'Project ID' of 'CDISC DEV', a 'Project name' of 'CDISC Dev', a 'Brand name' of '' (empty), a 'Study number' of '0', a more options menu, a 'Study ID' of 'CDISC DEV-0', and a 'Study acronym' of 'CDISC360-2'. The second row has a 'Clinical Programme' of 'CDISC Development programme', a 'Project ID' of 'CDISC DEV', a 'Project name' of 'CDISC Dev', a 'Brand name' of '' (empty), a 'Study number' of '1234', a more options menu, a 'Study ID' of 'CDISC DEV-1234', and a 'Study acronym' of 'Study-1'. At the bottom of the table, there are navigation links for 'Rows per page' (set to 10) and '1-2 of 2'. The top navigation bar includes tabs for 'Studies' (selected), 'Library', 'ADD NEW STUDY', and 'SELECT STUDY'. It also features a user profile for 'JOHN DOE' and a session identifier 'CDISC DEV-1234 🔒'. The top right corner shows standard browser controls and system status icons.

studybuilder

localhost:5005/studies/select_or_add_study

ADD NEW STUDY SELECT STUDY CDISC DEV-1234 🔒 ⚙️ 🎪 JOHN DOE

OPEN STUDY BUILDER

Studies Library

Process Overview

Manage Studies

Study List

Study Status

Project Standards

Define Study

Specification Overview

Study Title

Registry Identifiers

Study Properties

Study Structure

Study Population

Study Criteria

Study Interventions

Study Purpose

Study Activities

Terminology

Studies / Manage Studies / Study List

Study List ?

Select rows

+

Filter

Table

Download

Clinical Programme Project ID Project name Brand name Study number ⋮ Study ID Study acronym

Clinical Programme	Project ID	Project name	Brand name	Study number	⋮	Study ID	Study acronym
CDISC Development programme	CDISC DEV	CDISC Dev		0		CDISC DEV-0	CDISC360-2
CDISC Development programme	CDISC DEV	CDISC Dev		1234		CDISC DEV-1234	Study-1

Rows per page: 10 1-2 of 2

34°F Cloudy 17:33

localhost:5005/studies/study_interventions

OPEN STUDY BUILDER

Studies Library ADD NEW STUDY SELECT STUDY CDISC DEV-1234 🔒 ⚙️ 🎪 JOHN DOE

« About Nonclinical Studies Process Overview Manage Studies Define Study Specification Overview Study Title Registry Identifiers Study Properties Study Structure Study Population Study Criteria Study Interventions Study Purpose Study Activities Terminology View Specifications View Listings

Studies / Define Study / Study Population

Study Population (CDISC DEV-1234) ?

Select rows

Study population information Selected values Reason for missing

Species		
Strain		
Age range of animals		
Number of Males		
Number of Females		

Rows per page: 15 1-5 of 5 < >

studybuilder

localhost:5005/studies/population

ADD NEW STUDY SELECT STUDY CDISC DEV-1234 🔒 ⚙️ ? JOHN DOE

OPEN STUDY BUILDER

About Nonclinical Studies

Process Overview

Manage Studies

Define Study

Specification Overview

Study Title

Registry Identifiers

Study Properties

Study Structure

Study Population

Study Criteria

Study Interventions

Study Purpose

Study Activities

Terminology

View Specifications

View Listings

Studies / Define Study / Study Population

Add or edit study animal information

Species

- Cat
- Chicken
- Chimpanzee
- Chinchilla
- Cow
- Dog
- Fish

CANCEL SAVE

Rows per page: 15 1-5 of 5

34°F Cloudy 17:34

The screenshot shows a web-based application for study management. At the top, there's a navigation bar with links for 'ADD NEW STUDY', 'SELECT STUDY', 'CDISC DEV-1234 🔒', '⚙️', '❓', and a user profile for 'JOHN DOE'. Below the navigation is a sidebar with various study-related sections like 'About Nonclinical Studies', 'Process Overview', 'Manage Studies', and 'Define Study' (which is currently selected). The main content area shows a breadcrumb path: 'Studies / Define Study / Study Population'. A modal dialog box is open in the center, titled 'Add or edit study animal information'. It has a dropdown menu labeled 'Species' containing a list of animal names: Cat, Chicken, Chimpanzee, Chinchilla, Cow, Dog, and Fish. At the bottom of the modal are two buttons: 'CANCEL' and 'SAVE'. In the background, there's a faint view of the 'Study Population' table with columns like 'Species', 'Strain', 'Age', 'Number', and 'Unit'. The bottom of the screen features a Windows taskbar with icons for various applications and a system tray showing the date and time.



About Library

Process Overview

Code Lists

Dashboard

CT Catalogues

CT Packages

CDISC

Sponsor

Dictionaries

Concepts

Syntax Templates

Template Instantiations

Template Collections

Data Exchange Standards

List

Library / Code Lists / CT Catalogues / SEND CT

CT Catalogues

All ADAM CT CDASH CT DEFINE-XML CT SDTM CT SEND CT

Select rows



Search



	Library	Sponsor preferred name	Template parameter	Code list status	Name modified	Concept ID
⋮	CDISC	SEND Domain Abbreviation	No	Final	Mar 3, 2023, 11:10 AM	C111113
⋮	CDISC	Chronicity	No	Final	Mar 3, 2023, 11:11 AM	C120529
⋮	CDISC	Distribution	No	Final	Mar 3, 2023, 11:12 AM	C120530
⋮	CDISC	Non-Neoplastic Finding Type	No	Final	Mar 3, 2023, 11:11 AM	C120531
⋮	CDISC	SEND Cardiovascular Test Code	No	Final	Mar 3, 2023, 11:10 AM	C120532

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[About Studies](#)
[Process Overview](#)
[Manage Studies](#)
[Define Study](#)
Specification Overview
[Study Title](#)
[Registry Identifiers](#)
[Study Properties](#)
[Study Structure](#)
[Study Population](#)
[Study Criteria](#)
[Study Interventions](#)
[Study Purpose](#)
[Study Activities](#)
[Terminology](#)
[View Specifications](#)
[View Listings](#)

Studies / Define Study / Study Activities

Study Activities (Ep1-1001)

[List of Study Activities](#)
[Detailed Flowchart](#)
[Protocol Flowchart](#)
[Activity Instructions](#)

Protocol Flowchart

[DOWNLOAD DOCX](#)

	Screening	Treatment	Elimination
Study epoch			
Visit short name	V1	V2	V3
Study day	-10	1	29
Visit window (days)	±0	±0	±0
INLIFE			
Inlife measurements			
Body weights	X	X	X
Clinical Observations	X	X	X
Blood collection	X	X	X
Direct dosing	X	X	
Food consumption	X	X	X
Laboratory Assessments			
Haematology	X	X	X
NECROPSY			
Necropsy measurements			
Organ weights	X	X	
Gross observations	X	X	
Tissue collection	X	X	
PATHOLOGY			
Pathology measurements			
Histopathology Slide reading		X	X

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About Studies

Process Overview

Manage Studies

Define Study

View Specifications

Standardisation Plan

Protocol Elements

CRF Specifications

Study Disclosure

Trial Supplies Specifications

ODM Specification

CTR ODM XML

SDTM Specifications

SDTM Study Design Datasets

ADaM Specification

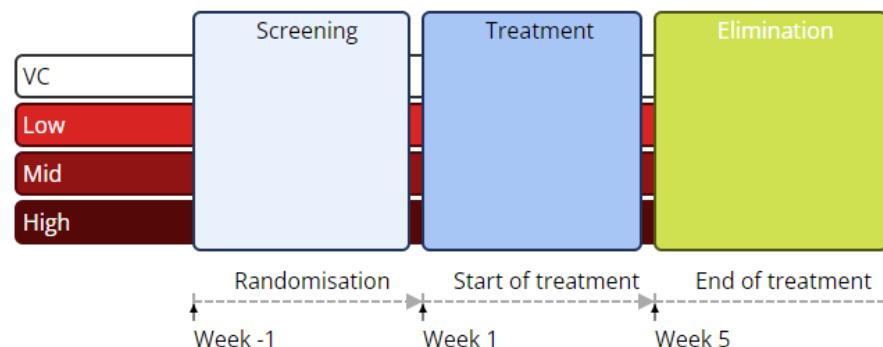
View Listings

Studies / View Specifications / Protocol Elements

Protocol Elements (Ep1-1001)

[Title Page](#) [Flowchart](#) [Objectives and Endpoints](#) [Study Design](#) [Study Population](#) [Study Interventions](#) [Study Activities](#)

Study Design

[DOWNLOAD](#)

OPEN STUDY BUILDER 

 Studies  Library ADD NEW STUDY SELECT STUDY Ep1-1001    JOHN DOE

« About Studies Process Overview Manage Studies Define Study View Specifications Standardisation Plan Protocol Elements CRF Specifications Study Disclosure Trial Supplies Specifications ODM Specification CTR ODM XML SDTM Specifications **SDTM Study Design Datasets** ADaM Specification View Listings

Studies / View Specifications / SDTM Study Design Datasets

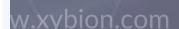
SDTM Study Design Datasets

Trial Arm Trial Elements Trial Visits Trial Inclusion/Exclusion Criteria Trial Disease Assessments Trial Summary

Select rows Column labels Column names 

Filtering currently not activated

Study Identifier	Domain Abbreviation	Sequence Number	Group ID	Trial Summary Parameter Short Name	Trial Summary Parameter	Parameter Value
Ep1-1001	TS			NARMS	Planned Number of Arms	1
Ep1-1001	TS			PCLAS	Pharmacologic Class	Insulin
Ep1-1001	TS			STOPRULE	Study Stop Rules	LD 50 achieved
Ep1-1001	TS			STYPE	Study Type	SINGLE DOSE TOXICITY
Ep1-1001	TS			TITLE	Trial Title	Rat toxicology study to test dose responses to treatment XybABC
Ep1-1001	TS			TPHASE	Trial Phase Classification	NOT APPLICABLE
Ep1-1001	TS			TRT	Investigational Therapy or Treatment	INSULIN HUMAN
Ep1-1001	TS			TTYPE	Trial Type	SAFETY

Rows per page: 10  1-8 of 8   



Automation Opportunities

Getting Data

- All data accessible through APIs
 - Tools can be automated

Studies

GET	/studies	Returns all studies in their latest/newest version.	▼
GET	/studies/{uid}	Returns the current state of a specific study definition identified by 'uid'.	▼
GET	/studies/{uid}/protocol-title	Retrieve all information related to Protocol Title	▼
GET	/studies/{study_uid}/design.svg	Builds and returns a Study Design visualization image in SVG format	▼
GET	/studies/{uid}/flowchart	Returns Study Protocol Flowchart table	▼
GET	/studies/{uid}/flowchart.html	Builds and returns an HTML document with Study Protocol Flowchart table	▼
GET	/studies/{uid}/flowchart.docx	Builds and returns a DOCX document with Study Protocol Flowchart table	▼
GET	/studies/{uid}/interventions	Returns Study Protocol Interventions table	▼
GET	/studies/{uid}/interventions.html	Builds and returns an HTML document of Study Protocol Interventions table	▼
GET	/studies/{uid}/interventions.docx	Builds and returns a DOCX document of Study Protocol Interventions table	▼

Protocol Automation

Example:

- Word-Programming in VBA
- Word-Programming in R
- Word-Programming in Python

Study Protocol

Study Title:	<study title>
Study Number:	<study number>



Study Protocol

Study Title:	A trial comparing cardiovascular safety of human insulin versus metformin in subjects with type 2 diabetes at high risk of cardiovascular events
Study Number:	<study number>



API to get

- Study Design as SVG
- Flowchart as HTML or DOCX
- Interventions as HTML or DOCX

Protocol Automation

```
library(httr)
library(officer)

# Switch to the corresponding working directory
setwd("../OpenStudyBuilderScripts/scripts")

api_url <- "http://localhost:5003"
response <- GET(paste(api_url,"studies", "Study_000001", "protocol-title", sep = "/"))
study_1_prot_title <- jsonlite::fromJSON(rawToChar(response$content))
study_title = toString(study_1_prot_title["study_title"])

print(study_title)

protocol_doc <- read_docx(path = "./files/protocol_example_input.docx")
body_replace_all_text(
  protocol_doc,
  "<study title>",
  study_title)
print(protocol_doc, target = "./files/protocol_example_output_r.docx")
```

Protocol filled in from underlying data

1. Objective

The author may choose to add more or less detail based on expectations of Sponsor/CRO or other local requirements (class of compound, potential disease area, etc.).

The purpose of this study is to evaluate the toxicity [and determine toxicokinetics] of the test item/article, [TRT], when administered [PDOSFRQ], [ROUTE], [SPECIES], [DOSDUR] (e.g. once daily by oral gavage to rats for at least 4 weeks)], and to provide data to support the use of [TRT] in humans.

2. Proposed Study Schedule

Schedule detail may vary based on study/sponsor/CRO needs. The black text in brackets may be included for studies requiring SEND.

Experimental Start Date (date of first data collection):

[EXPSTDTC]

Dosing Start Date:

[DOSSSTDTC]

Dosing End Date:

[DOSENDTC]

Experimental Completion Date (date of last data collected):

[EXPENDTC]

Audited Draft Report Date:

[DATE]



1. Objective

The author may choose to add more or less detail based on expectations of Sponsor/CRO or other local requirements (class of compound, potential disease area, etc.).

The purpose of this study is to evaluate the toxicity [and determine toxicokinetics] of the test item/article, MyDrug, when administered ONCE, INTRAVENOUS, RAT, P29D (e.g. once daily by oral gavage to rats for at least 4 weeks)], and to provide data to support the use of MyDrug in humans.

2. Proposed Study Schedule

Schedule detail may vary based on study/sponsor/CRO needs. The black text in brackets may be included for studies requiring SEND.

Experimental Start Date (date of first data collection):

2019-08-03

Dosing Start Date:

2019-08-03

Dosing End Date:

2019-09-01

Experimental Completion Date (date of last data collected):

2019-09-01

Audited Draft Report Date:

[DATE]

3. Sponsor/Test Facility/Test Site Information

Sponsor:

The sponsor

Sponsor: [SSPONSOR]

Test Facility:

Test facility B

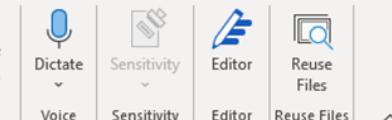
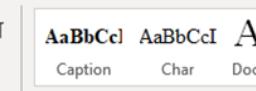
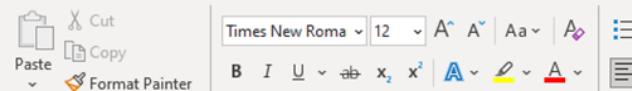
Test Facility: [TSTFNAM]

Test Site:

Test Site A

Test Site: [TSNAM]

Repeat as needed for additional test sites. The black text in brackets may be included for studies requiring SEND.



Study Protocol

[+] Study Title:

Study ID:

Study Acronym

Project

Program

|

□

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- | | |
|--------------------|---|
| 1. Objective | 2 |
|--------------------|---|

1. Objective

...

Get Study Title & ID

Study Protocol

Study Title: XYZ drug for Epilepsy, rat study

Study ID: CDISC DEV-1234

Study Acronym: Study-1

Project: CDISC Dev

Program: CDISC Development programme

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1. Objective 2

1. Objective

...

Get Study Title & ID

protocol_example_input.docm

File Home Insert Draw Design Layout References Mailings Review View Help Table Design Layout

Cut Copy Format Painter

Font Paragraph

AutoSave Off

Study Protocol

Study Title: XYZ drug for Epile

Study ID: CDISC DEV-1234

Study Acronym: Study-1

Project: CDISC Dev

Program: CDISC Develop

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1. Objective

1. Objective

Get Study Title & ID

Microsoft Visual Basic for Applications - [NewMacros (Code)]

File Edit View Insert Format Debug Run Tools Add-Ins Window Help

Ln 2, Col 1

(General)

```
Sub GetStudyTitle()
    ' GetStudyTitle Macro

    Dim xmlhttp As Object
    Dim url As String
    Dim jsonResponse As String
    Dim aString As String
    Dim MyRange As Object
    Set MyRange = ActiveDocument.Bookmarks("StudyTitle").Range
    Set xmlhttp = CreateObject("MSXML2.serverXMLHTTP")
    url = "http://localhost:5003/studies/Study_000002/protocol-title"
    xmlhttp.Open "GET", url, False
    xmlhttp.Send
    jsonResponse = xmlhttp.responseText
    aString = Split(jsonResponse, "")(7)
    'MsgBox (aString)
    Set MyRange = ActiveDocument.Bookmarks("StudyTitle").Range
    MyRange.InsertAfter (aString)
    ' Study number/id
    url = "http://localhost:5003/studies/Study_000002"
    xmlhttp.Open "GET", url, False
    xmlhttp.Send
    jsonResponse = xmlhttp.responseText
    aString = Split(jsonResponse, "")(11)
    Set MyRange = ActiveDocument.Bookmarks("StudyID").Range
    MyRange.InsertAfter (aString)
    'Acronym
    aString = Split(jsonResponse, "")(35)
    Set MyRange = ActiveDocument.Bookmarks("StudyAcronym").Range
    MyRange.InsertAfter (aString)
    'Project
    aString = Split(jsonResponse, "")(43)
    Set MyRange = ActiveDocument.Bookmarks("Project").Range
    MyRange.InsertAfter (aString)
    'Program
    aString = Split(jsonResponse, "")(47)
    Set MyRange = ActiveDocument.Bookmarks("Program").Range
    MyRange.InsertAfter (aString)
End Sub
```

Page 1 of 1 8 of 38 words English (United States) Text Predictions: On Accessibility: Investigate

34°F Cloudy 17:49



Getting Started

How do I get started on OpenStudyBuilder?

The screenshot shows a web browser displaying the project description for 'OpenStudyBuilder' on the Novo Nordisk GitLab instance. The URL in the address bar is <https://novo-nordisk.gitlab.io/nn-public/openstudybuilder/project-description/#overview>. The page has a blue header with the 'OpenStudyBuilder' logo, a search bar, and navigation links for 'Description', 'Info', and 'FAQ'. On the right side, there is a 'Table of contents' sidebar listing various sections: Overview, Problem, Solution, Open Source Considerations, Maintenance, Contributors, User Information, Pre-Requisites, Sponsors, Goal, Communications, and Background. The main content area features the 'OPEN STUDY BUILDER' logo and a network graph diagram. A descriptive text block explains that the tool is an open-source project for clinical study evaluations, providing end-to-end consistency and efficiency from protocol development to public disclosure.

The OpenStudyBuilder is an open-source project for clinical study evaluations. This tool is a new approach for working with studies that once fully implemented will drive end-to-end consistency and more efficient processes - all the way from protocol development and CRF design - to creation of datasets, analysis, reporting, submission to health authorities and public disclosure of study information.

<https://novo-nordisk.gitlab.io/nn-public/openstudybuilder/project-description/>

Neo4j Sandbox to play around

- Browse, test and investigate functionality
- Checkout Biomedical Concept (linked data browser)

Local installation (free) or Custom/dedicated environment

- API usage to upload/download custom data
 - Load trial domains
 - Browse “your” data

Collaboration Opportunities

- BioCelerate Protocol Template Project
- OpenStudyBuilder community
- PHUSE eProtocol project
- Metadata standards

Collaboration Opportunities

- Enhance OpenStudyBuilder for NonClinical usage
- Create common additional standards “templates”, e.g. for endpoints, scope
- Common tools, processes and guides
 - Protocol automation
 - CRF
 - What to do on distressed animals
 - How to describe statistical planning

Project Homepage

- <https://novo-nordisk.gitlab.io/nn-public/openstudybuilder/project-description/>

Source Repository

- <https://gitlab.com/Novo-Nordisk/nn-public/openstudybuilder/OpenStudyBuilder-Solution>

COSA Homepage

- <https://cosa.cdisc.org/>

Newsletter (LinkedIn)

- <https://www.linkedin.com/newsletters/openstudybuilder-6990328054849916928/>

Sandbox to request access

- Mail openstudybuilder@neotechnology.com – Subject “Request Sandbox access”

User Scripts & Experiences Documentation

- <https://github.com/KatjaGlassConsulting/OpenStudyBuilderScripts>

Q&A - Thank You!



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OpenStudyBuilder Project

[https://novo-nordisk.gitlab.io/
nn-public/openstudybuilder/project-description/](https://novo-nordisk.gitlab.io/nn-public/openstudybuilder/project-description/)



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Q&A - Thank You!



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