Business & Decision Life Sciences

What's new in ADaM

Gavin Winpenny

23rd June 2015

CDISC Strength Through Collaboration

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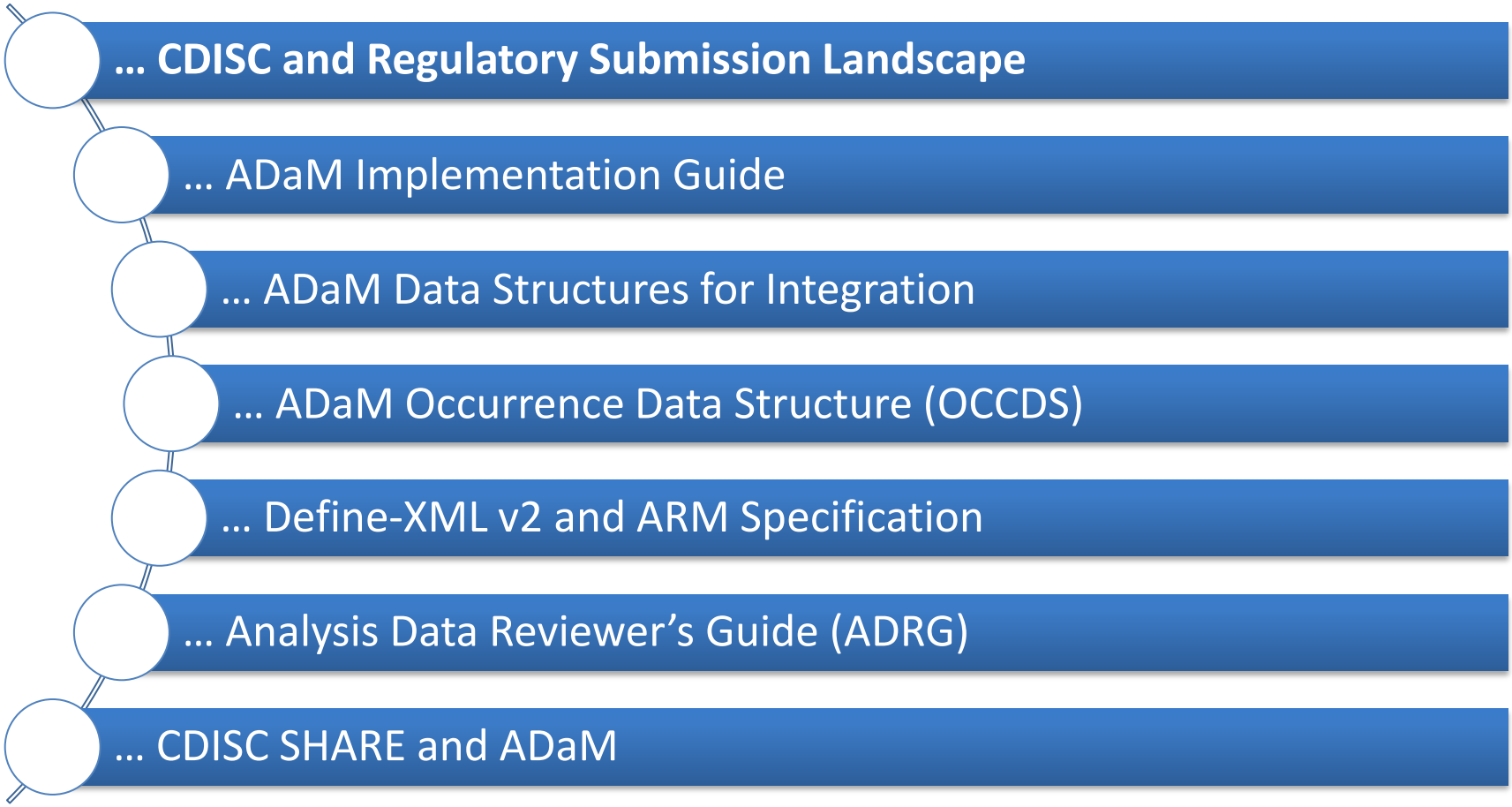
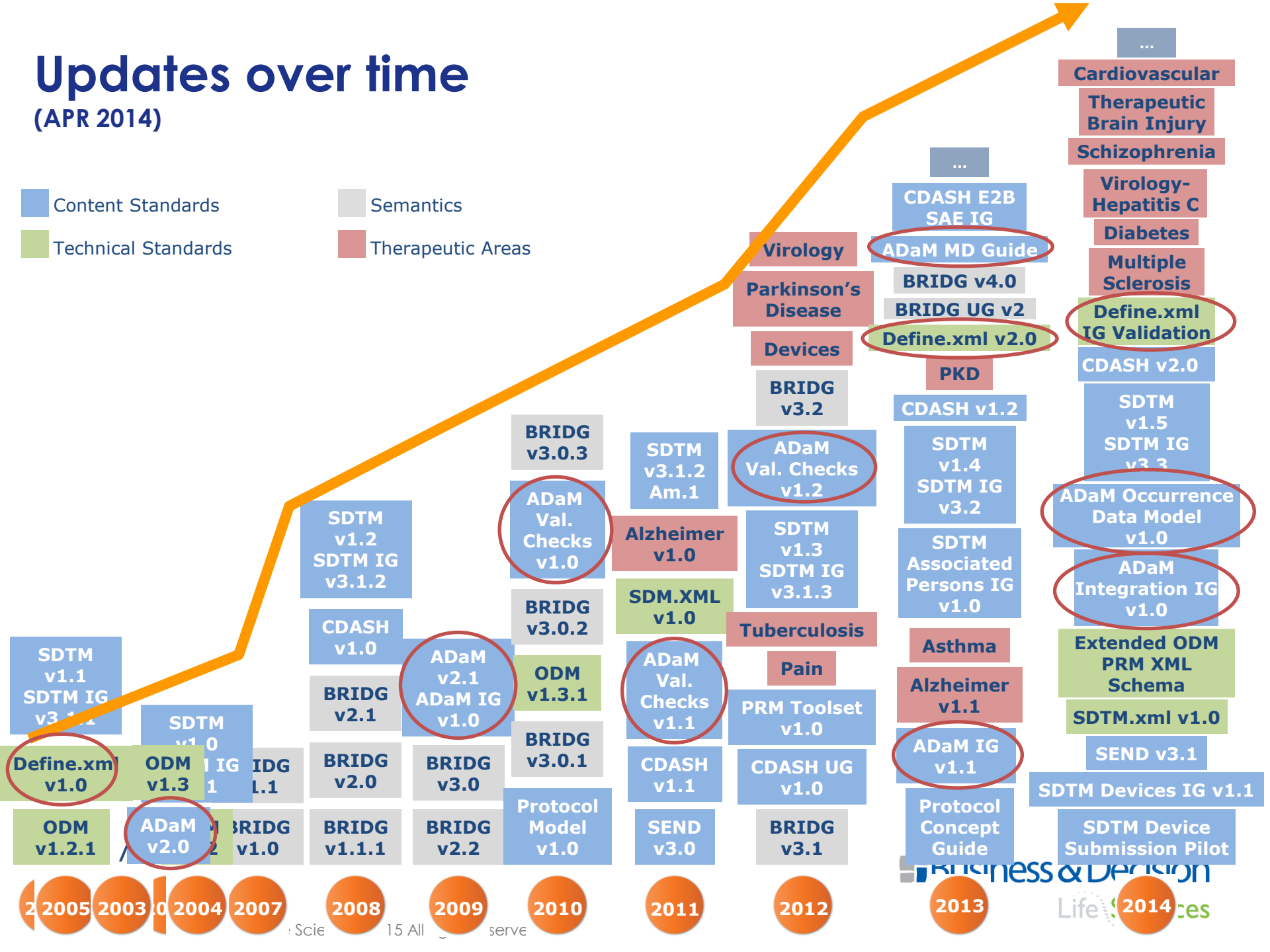
Agenda
What's happening…



Updates over time

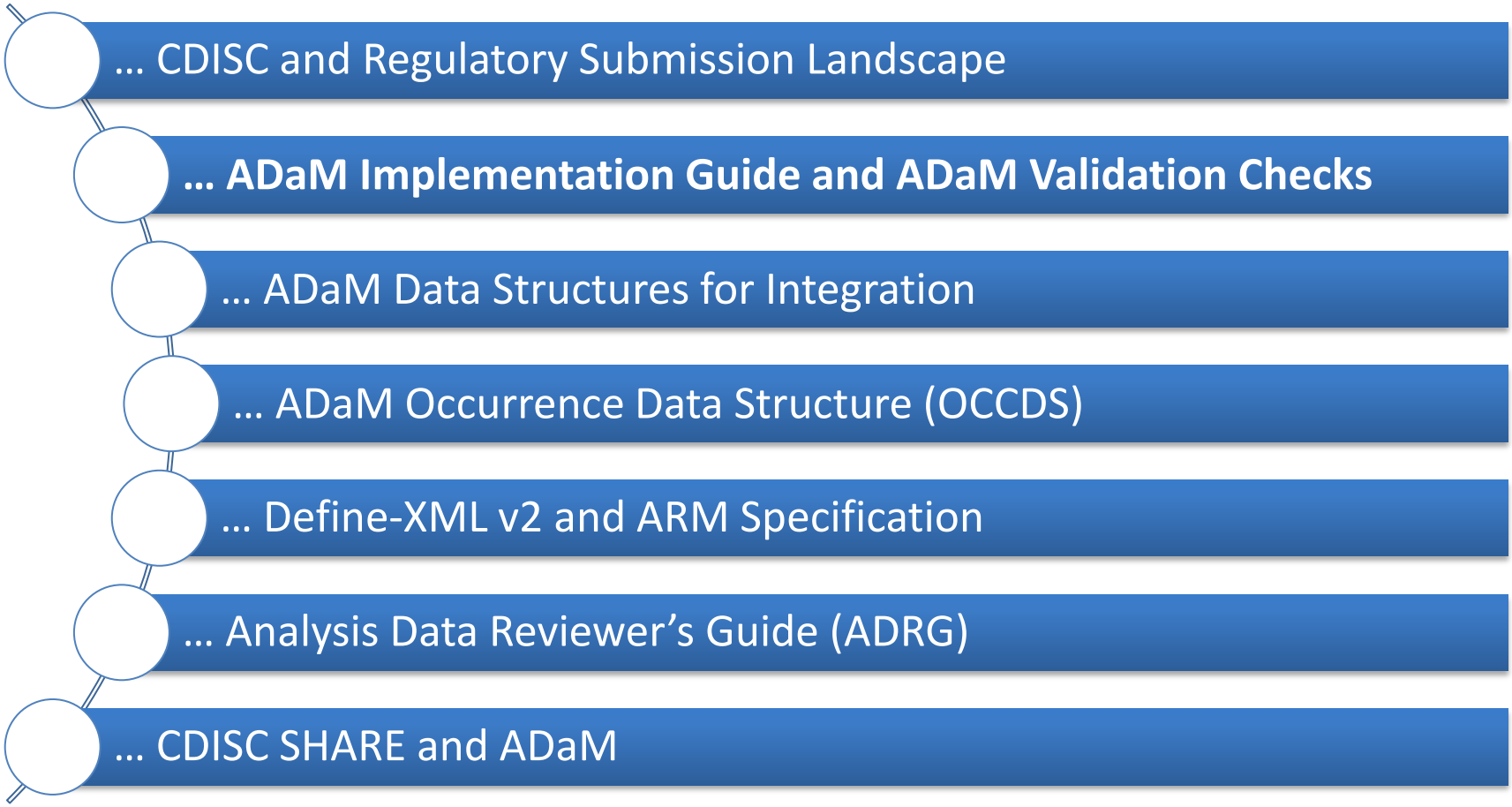
(APR 2014)



Regulatory Position

- FDA CDER draft guidance for Study Data Technical Conformation Guide contains the statement:
  - *4.1.7.2. General Considerations (page 12)*:
    "One of the expected benefits of analysis datasets that conform to ADaM is that they simplify the programming steps necessary for performing an analysis. ADaM datasets should be derived from the data contained in the SDTM datasets. **There are features built into the ADaM standard that promote traceability from analysis results to ADaM datasets and from ADaM datasets to SDTM. Sponsors who provide the software programs used to create ADaM datasets help reviewers to better understand how the datasets were created** (see section 4.1.7.8). Each analysis dataset that is shown in the define.xml file should be described."

Agenda
What's happening…



CDISC ADaM Implementation Guide (Version 1.1 Draft)

- Appendix B of the document details the changes made - generally fairly minor, with some additions, clarifications, tidying up.
- Announced retirement of PARAMTYP variable
  - Indicates whether parameter is derived as a function of one or more other parameters.
  - Retired from the ADaM IG in next update as it is confused with the concept of DTYPE.
- Increased padding of 'x' to "xx" in a variable names (e.g., TRTxxP, APxxSDT) where "xx" is replaced with a zero-padded two-digit [01-99].
- Increased padding of 'z' to 'zz' in a variable name (e.g., ANLzzFL) where "zz" is replaced with a zero-padded two-digit integer [01-99].
  - Note that the 'zz' convention represents a simple counter, while the 'xx' convention represents a specific period

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CDISC ADaM Implementation Guide (Version 1.1 Draft)

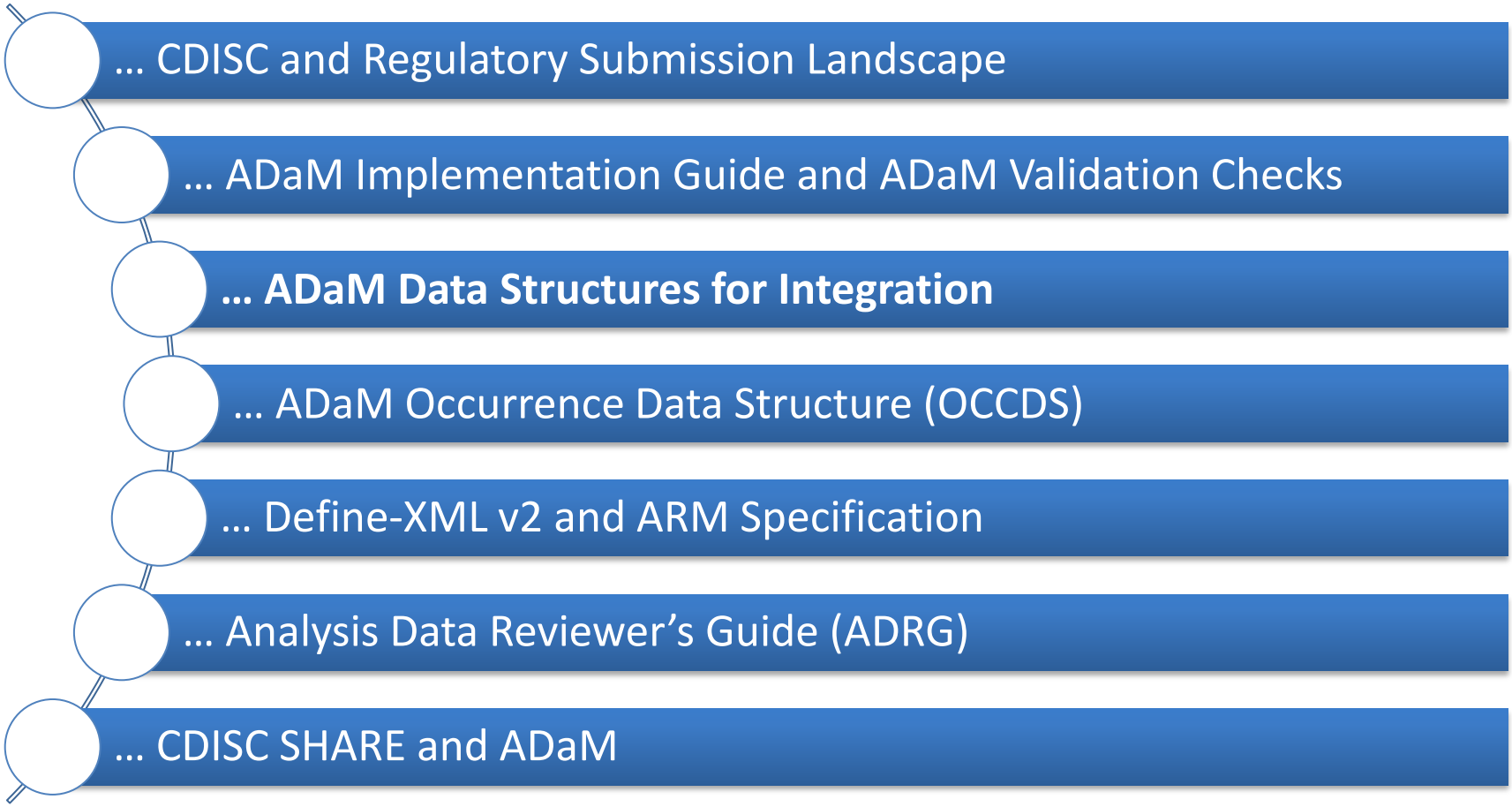
- Noted that length can vary between SDTM and ADaM variable
- Added variables for ADSL:
  - AGEGRy ACTARM, TSEQPGy, DOSE
- Added variables for BDS datasets:
  - ASEQ, dose variables, MCRITy and corresponding flags
- Made record-level Population flags (RFL) and parameter-level Population flags (PFL)variables permissible instead of conditional
- Clarification regarding when certain timing variables should be included in ADSL vs. BDS
- Clarifications regarding use of DTYPE, PARAM

CDISC ADaM v1.3 Validation Checks

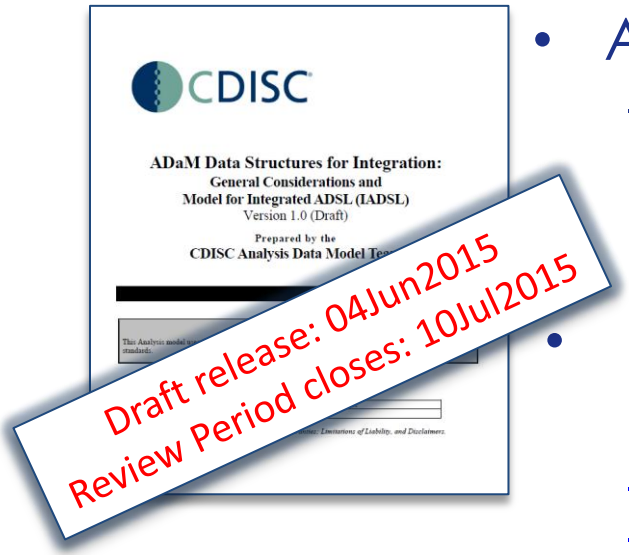
- Version 1.3 (*Released 16-Mar-2015*) of the ADaM validation checks correspond to:
  - the ADaMIG v1.0
  - ADAE, and
  - BDS-TTE.
- All changes and updates are described in Appendix A

- http://cdisc.org/system/files/members/standard/ADaMv1_3ValChecks.zip

Agenda
What's happening…



ADaM Data Structures for Integration: General Considerations and Model for Integrated ADSL (IADSL) (Version 1.0 Draft for comment)



- ADaM Data Structures for Integration
  - Provides standard structures and examples of datasets used for clinical data integration
- Document package can be downloaded from: http://portal.cdisc.org/CT/Review%20Documents/2015_06_04_ADaM_Integration_IADSL.pdf
- Comments can be uploaded to: http://portal.cdisc.org/CT/Review%20Documents/2015_06_04_ADaM_Integration_IADSL.pdf

ADaM Data Structures for Integration: (Version 1.0 Draft for comment)

- Provides an introduction to data integration, including definitions and uses of integrated data.

- Presents considerations for integrating ADaM data, such as
  - The data source;
  - Traceability;
  - Maintaining a unique subject identifier; and
  - How to incorporate integrated datasets into the eCTD folder hierarchy.

- Focuses specifically on integrated ADSL.

ADaM Data Structures for Integration: (Version 1.0 Draft for comment)

- **New, Required** variables

STUDIES

- Source: study DM.STUDYID or pooled/stacked SDTM datasets, or individual study ADSL.STUDYID or derived for records combining multiple studies (e.g., STUDY A+B)

ANLCAT

- Describes the categorization of the **study, period, or phase** for analysis. For example, DB, OLE, DB+OLE, EXT, or DB+EXT.
- * Extensible codelist for ANLCAT will be submitted to NCI's Enterprise Vocabulary Services (NCI EVS)

  http://www.cancer.gov/cancertopics/cancerlibrary/terminologyresources/cdisc

NUMSTUDY

- The number of studies the subject was enrolled in. This variable should be populated for all records of a given subject.

Table 4.3.1.1 Identifier Variables

Variable Name	Variable Label	Type	Code List/ Controlled Terms	Core
STUDIES	Study or Studies Identifier	Char		Req
ANLCAT	Analysis Category	Char	(ANLCAT)*	Req
NUMSTUDY	Number of Studies	Num		Req
UADSLFL	Unique ADSL Flag	Char	Y	Req

UADSLFL

- Must flag a single record for each USUBJID that includes all studies the subject participated in.
- For example, if a subject participated in a double-blind study and then an open-label study there must be one record including both treatment periods (e.g., ANLCAT=DB+OLE) that will be flagged Y. When ADSL is only one record per USUBJID, the value for this variable will always be Y.

ADaM Data Structures for Integration: (Version 1.0 Draft for comment)

- **Amended Source/Core Attributes**

➢ **STUDYID**

- ❖ Source: study DM.STUDYID or pooled/stacked SDTM datasets, or individual study ADSL.STUDYID.
- ❖ Variable is Perm in the integrated ADSL (as STUDIES is required).

➢ **USUBJID**

- ❖ Source: study DM.USUBJID or pooled/stacked SDTM datasets or individual study ADSL.USUBJID.
- ❖ Must be the same for each individual subject across an entire submission.

➢ Inclusion traceability to from integrated datasets to the original studies

➢ **SUBJID**

- ❖ Source: study DM.STUDYID or pooled/ stacked SDTM datasets, or individual study ADSL.STUDYID.
- ❖ Perm in integrated ADSL, as SUBJID may change for a given USUBJID in different studies and how to populate this variable in combined rows is not straightforward.

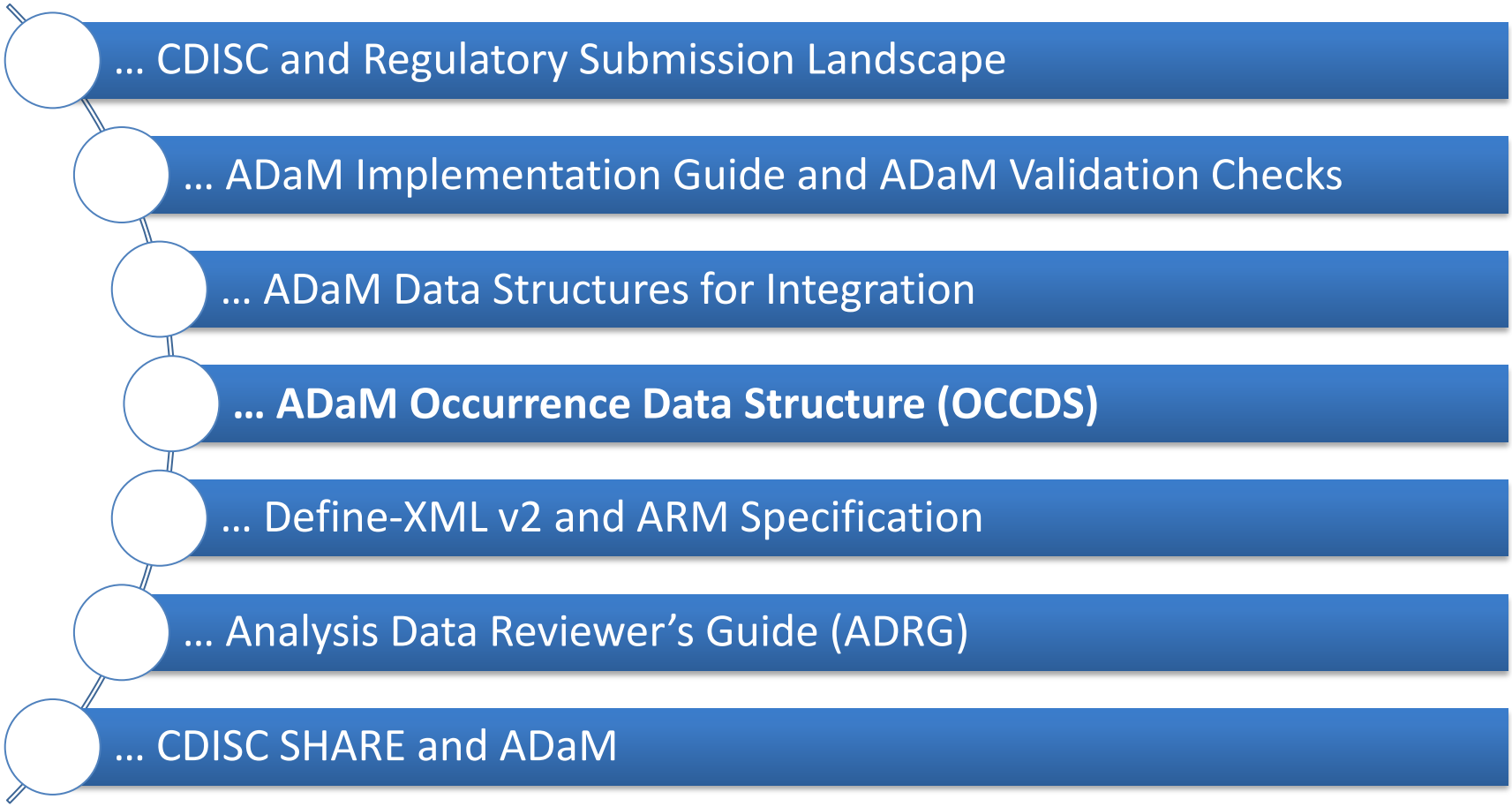
Table 4.3.1.1 Identifier Variables

Variable Name	Variable Label	Type	Code List/ Controlled Terms	Core
STUDYID	Study Identifier	Char		Perm
USUBJID	Unique Subject Identifier	Char		Req
SUBJID	Subject Identifier for the Study	Char		Perm
SITEID	Study Site Identifier	Char		Perm

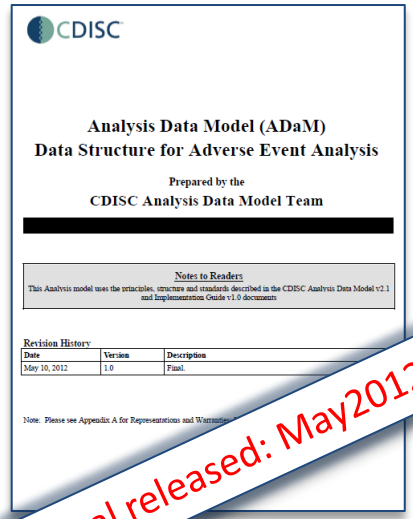
➢ **SITEID**

- ❖ Source: study DM.SITEID or pooled/ stacked SDTM datasets, or individual study ADSL.STUDYID.
- ❖ Perm in integrated ADSL, as SITEID may change for a given USUBJID in different studies and how to populate this variable in combined rows is not straightforward.

Agenda
What's happening…



CDISC ADaM OCCDS v1.0 (provisional)


CDISC

Analysis Data Model (ADaM)
Data Structure for Adverse Event Analysis

Prepared by the
CDISC Analysis Data Model Team

Notes to Readers
This Analysis model uses the principles, structure and standards described in the CDISC Analysis Data Model v2.1 and Implementation Guide v1.0 documents

Revision History

Date	Version	Description
May 10, 2012	1.0	Final.

Note: Please see Appendix A for Representations and Warranties

Final released: May2012

- ADAE structure document released May 2012
- Intended to support analysis of AEs, and structurally similar to SDTM's AE.
- **Issue:**

  Other occurrence event data and analysis needs are very similar to AEs, and the AE data structure is being applied outside its original remit to support these through creation of custom domains.

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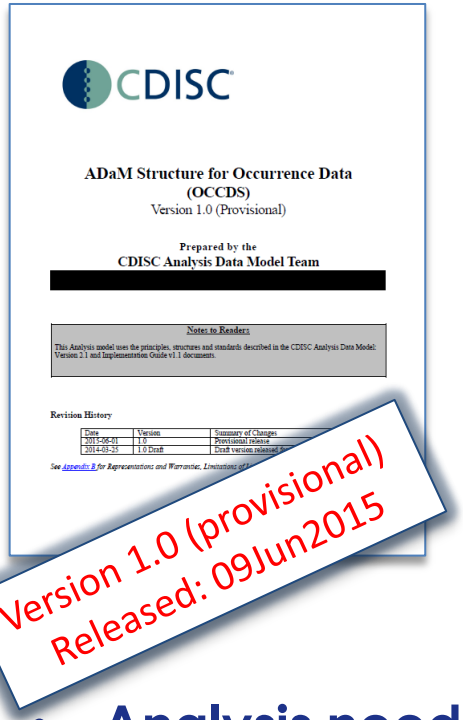
CDISC ADaM OCCDS v1.0 (provisional)



- **Solution:**
  Expanded ADAE structure to be more generic, and **support Occurrence Data Models such as Medical History and Concomitant Medications**.
- **Input data:**
  Usually events and interventions
- **Document Status:**
  OCCDS v1.0 document **replaces** ADAE structure document.
- **Analysis need:**
  Subject count analysis, where a subject may be represented multiple times in a category => **AVAL or AVALC are not required**.

CDISC ADaM OCCDS: AE

- ADAE under OCCDS structure – mapped, and backwards compatible. Examples from ADAE Structure document are copied into new ODS structure document
- Minor label changes and amendments to make them general rather than specific to AE.
- Differences between 'old' AE structure and AEs in OCCDS…

Table 1.1.1: Differences between Data Structures

	Data Structure for Adverse Events Analysis	Data Structure for Occurrence Data
Applications	Only adverse events	Adverse events plus other types of data
ADaM version	ADaM v 2.1, ADaMIG v1.0	ADaM v 2.1, ADaMIG v1.1
SDTM version	SDTM v1.2, SDTMIG v3.1.2	SDTM v 1.4, SDTMIG v3.2
Dataset metadata class	ADAE	OCCURRENCE DATA STRUCTURE
AOCCFL label	"1st Occurrence of Any AE Flag"	"1st Occurrence within Subject Flag"
Study Drug Dose at Onset	Variable name "DOSEAEON" and label "Study Drug at AE Onset"	Variable name "DOSEON" and label "Treatment Dose at Record Start"
Treatment Dose Units	Separate variables named "DOSAEONU" and "DOSECUMU"	Variable name "DOSEU" and label "Treatment Dose Units"
Cumulative Actual Treatment Dose	Variable name "DOSECUM" and label "Cumulative Study Drug Dose"	Variable name "DOSCUMA" and label "Cumulative Actual Treatment Dose"
Original or Prior Coding Variables	Use of "y" suffix to represent prior version	Use of "w" suffix to represent prior version

CDISC ADaM OCCDS: ConMeds

- Most variables are from
  - CM + SUPPCM + ADSL
    - Include any variables needed for analysis

Table 9.2.1 Example of ADCM Variable Metadata

Dataset Name	Variable Name	Variable Label	Variable Type	Display Format	Codelist / Controlled Terms	Source / Derivation
ADCM	STUDYID	Study Identifier	text	$3		CM.STUDYID
ADCM	USUBJID	Unique Subject Identifier	text	$11		CM.USUBJID
ADCM	CMSEQ	Sequence Number	integer	3.0		CM.CMSEQ
ADCM	CMTRT	Reported Name of Drug, Med or Therapy	text	$200		CM.CMTRT
ADCM	CMMODIFY	Modified Reported Name	text	$200		CM.CMMODIFY
ADCM	CMDECOD	Standardized Medication Name	text	$200	WHODRUG	CM.CMDECOD WHO Drug Dictionary March 2012
ADCM	PREFCODE	Preferred Term Code	text	$200	WHODRUG	CM.PREFCODE WHO Drug Dictionary March 2012
ADCM	ATC1C	ATC Level 1 Code	text	$200	WHODRUG	ATC Level 1 Code WHO Drug Dictionary March 2012
ADCM	ATC2C	ATC Level 2 Code	text	$200	WHODRUG	ATC Level 2 Code WHO Drug Dictionary March 2012
ADCM	ATC3C	ATC Level 3 Code	text	$200	WHODRUG	ATC Level 3 Code WHO Drug Dictionary March 2012
ADCM	ATC1T	ATC Level 1 Text	text	$200	WHODRUG	ATC Level 1 Text WHO Drug Dictionary March 2012
ADCM	ATC2T	ATC Level 2 Text	text	$200	WHODRUG	ATC Level 2 Text WHO Drug Dictionary March 2012
ADCM	ATC3T	ATC Level 3 Text	text	$200	WHODRUG	ATC Level 3 Text WHO Drug Dictionary March 2012
ADCM	AOCCFL	1st Occurrence of Any AE Flag	text	$1	Y	<Sponsor will insert derivation here>
ADCM	ATC1FL	ATC Level 1 – First Occurrence Flag	text	$1	Y	<Sponsor will insert derivation here>
ADCM	ATC2FL	ATC Level 2 – First Occurrence Flag	text	$1	Y	<Sponsor will insert derivation here>
ADCM	ATC3FL	ATC Level 3 – First Occurrence Flag	text	$1	Y	<Sponsor will insert derivation here>
ADCM	AOCCPFL	1st Occurrence of Preferred Term Flag	text	$1	Y	<Sponsor will insert derivation here>

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CDISC ADaM OCCDS: ConMeds

- Additional derived variables
  - **Indicator** and Occurrence flags needed for analysis have been provided.

Table 3.2.5.4 Concomitant Medications Indicator Variables

Variable Name	Variable Label	Type	Code List / Controlled Terms	Core	CDISC Notes
ONTRTFL	On Treatment Record Flag	Char	Y	Cond	Character indicator of whether the observation occurred while the subject was on treatment. Example derivation: If ADSL.TRTSDT <= ASTDT <= ADSL.TRTEDT then ONTRTFL = 'Y' This variable is conditional on whether the concept of on-treatment is a feature of the study and used in analysis.

Table 3.2.5.5 Adverse Events and Concomitant Medications Indicator Variables

Variable Name	Variable Label	Type	Code List / Controlled Terms	Core	CDISC Notes
PREFL	Pre-treatment Flag	Char	Y	Cond	Character indicator of whether the observation occurred before the subject started treatment. Example derivation: If ASTDT < ADSL.TRTSDT then PREFL='Y' This variable is conditional on whether the concept of pre-treatment is a feature of the study and used in analysis.
FUPFL	Follow-up Flag	Char	Y	Cond	Character indicator of whether the observation occurred while the subject was on follow-up. Example derivation: If ASTDT > ADSL.TRTEDT then FUPFL='Y' This variable is conditional on whether the concept of follow-up is a feature of the study and used in analysis.

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CDISC ADaM ODS: ConMeds

Table 9.3.1 Sample ADCM Data

Row	STUDYID	USUBJID	CMSEQ	CMTRT	CMMODIFY	CMDECOD	ATC1CD	ATC1
1	ABC	ABC-001	1	TYLENOL	TYLENOL	PARACETAMOL	N	NERVOUS SYSTEM
2	ABC	ABC-001	2	TYLENOL	TYLENOL	PARACETAMOL	N	NERVOUS SYSTEM
3	ABC	ABC-001	3	TYLENOL	TYLENOL	PARACETAMOL	N	NERVOUS SYSTEM
4	ABC	ABC-001	4	TYLENOL	TYLENOL	PARACETAMOL	N	NERVOUS SYSTEM
5	ABC	ABC-001	5	CONTAC MS	CONTAC MS	CONTAC MS	N	NERVOUS SYSTEM
6	ABC	ABC-001	6	FLONASE	FLONASE	FLUTICASONE PROPIONATE	R	RESPIRATORY SYSTEM
7	ABC	ABC-002	1	ROBITUSSIN COUGH	ROBITUSSIN	NOVAHISTINE DMX	R	RESPIRATORY SYSTEM
8	ABC	ABC-002	2	MOTRIN	MOTRIN	IBUPROFEN	M	MUSCULO-SKELETAL SYSTEM
9	ABC	ABC-002	3	IBUPROFEN	IBUPROFEN	IBUPROFEN	M	MUSCULO-SKELETAL SYSTEM
10								

Row	ATC2CD	ATC2	ATC3CD	ATC3
1 (cont)	N02	ANALGESICS	N02B	OTHER ANALGESICS AND ANTIPYRETICS
2 (cont)	N02	ANALGESICS	N02B	OTHER ANALGESICS AND ANTIPYRETICS
3 (cont)	N02	ANALGESICS	N02B	OTHER ANALGESICS AND ANTIPYRETICS
4 (cont)	N02	ANALGESICS	N02B	OTHER ANALGESICS AND ANTIPYRETICS
5 (cont)	N02	ANALGESICS	N02B	OTHER ANALGESICS AND ANTIPYRETICS
6 (cont)	R01	NASAL PREPARATIONS	R01A	DECONGESTANTS AND OTHER NASAL PREPARATIONS FOR TOP
7 (cont)	R05	COUGH AND COLD PREPARATIONS	R05FA	COUGH SUPPRESSANTS AND EXPECTORANTS, COMBINATIONS
8 (cont)	M01	ANTIINFLAMMATORY AND ANTIRHEUMATIC PRODUCTS	M01A	ANTIINFLAMMATORY AND ANTIRHEUMATIC PRODUCTS, NON-S
9 (cont)	M01	ANTIINFLAMMATORY AND ANTIRHEUMATIC PRODUCTS	M	-S
10 (cont)	N06	PSYCHOANALEPTICS	N	

Row	AOCCFL	AOCCPFL	AOCC01FL	AOCC02FL	AOCC03FL
1 (cont)	Y	Y	Y	Y	Y
2 (cont)					
3 (cont)					
4 (cont)					
5 (cont)		Y			
6 (cont)		Y	Y	Y	Y
7 (cont)		Y		Y	Y
8 (cont)		Y	Y	Y	Y
9 (cont)					
10 (cont)		Y	Y	Y	Y

- The **Occurrence** Flags (AOCCzzFL) are permissible, and not required.

- The main purpose of these flags is to facilitate data point traceability between records in the dataset and unique counts in the summary displays.

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CDISC ADaM ODS: Medical History

- Most variables are from MH + ADSL
  - Include any variables needed for analysis (e.g. could add severity of the History event).

Table 10.2.1 Example of ADMH Variable Metadata

Dataset Name	Variable Name	Variable Label	Variable Type	Display Format	Codelist / Controlled Terms	Source / Derivation
ADMH	USUBJID	Unique Subject Identifier	text	$11.		MH.USUBJID
ADMH	MHSEQ	Sequence Number	integer	3.		MH.MHSEQ
ADMH	MHCAT	Category for Medical History	text	$200.		MH.MHCAT
ADMH	MHSCAT	Sub Category for Medical History	text	$200.		MH.MHSCAT
ADMH	MHDECOD	Dictionary-Derived Term	text	$200.		MH.MHDECOD
ADMH	MHBODSYS	Body System or Organ Class	text	$200.		MH.MHBODSYS
ADMH	MHTERM	Reported Term for the Medical History	text	$200.		MH.MHTERM
ADMH	MHSTDTC	Start Date/Time of Medication	datetime	$16.	ISO 8601	MH.MHSTDTC
ADMH	ASTDT	Analysis Start Date	integer	date9.		From MHSTDTC, converted to SAS Date. Any derivations to derive partial start dates are applied here and listed in comments.
ADMH	ASTTM	Analysis Start Time	integer	time5.		From MH.MHSTDTC, converted to SAS Time.
ADMH	ASTDTM	Analysis Start Date/Time	integer	datetime16.		From MH.MHSTDTC, converted to SAS Datetime.
ADMH	MHENDTC	End Date/Time of Medication	datetime	$16.	ISO 8601	MH.MHENDTC
ADMH	AENDT	Analysis End Date	integer	date9.		From MHENDTC, converted to SAS Date. Any derivations to derive partial start dates are applied here and listed in comments.
ADMH	AENTM	Analysis End Time	integer	time5.		From MHENDTC, converted to SAS Time.
ADMH	AENDTM	Analysis End Date/Time	integer	datetime16.		From MHENDTC, converter to SAS Datetime.
ADMH	MHENRF	Continuation Flag	text	$20.		MH.MHENRF

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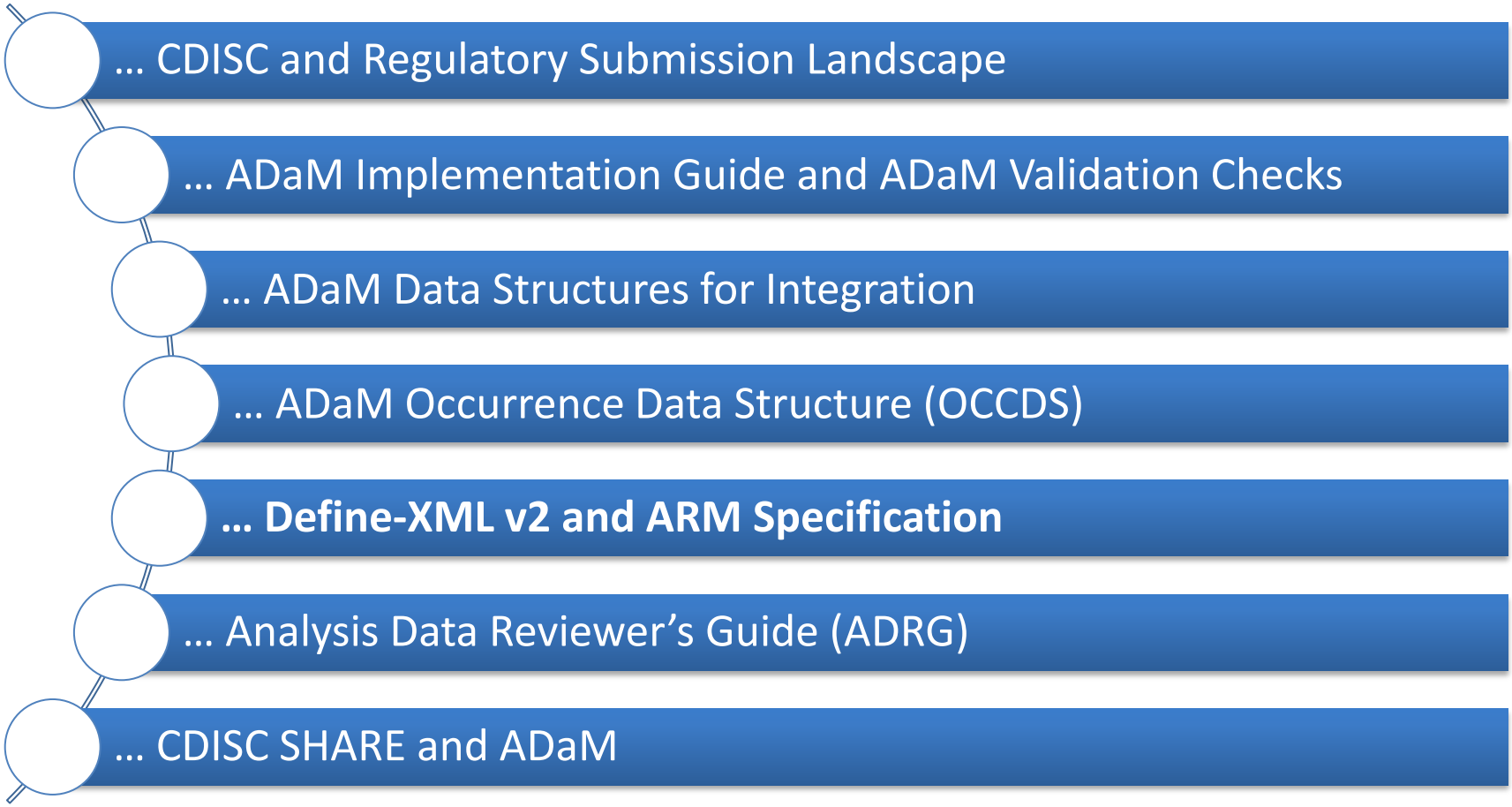
Agenda
What's happening…



CDISC Define-XML v2

- Specification describes an updated Define-XML 2.0.0 model that is used to describe CDISC SDTM, SEND and ADaM datasets for the purpose of submissions to the FDA, as well as any proprietary (non-CDISC) dataset structure.

- Define-XML version 2.0.0 can be used to transmit metadata for the following CDISC standards:
  - SDTM Implementation Guide Versions 3.1.2 and higher
  - ADaM Implementation Guide Versions 1.0 and higher
  - SEND Implementation Guide Versions 3.0 and higher

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CDISC Define-XML v2 features

- Value ("parameter" in ADaM) level metadata improved.
  - Instead of just pointing at AVAL the value level metadata can point at any variable if needed.
- Provides where clause machine metadata and "slices" (collection of where clauses) for parameter level metadata definitions
- Old ADaM "source/derivation" metadata can be broken into smaller and more useful chunks.
  - New machine readable "Formal Expression" element as part of Method Definitions.
  - Define.xml 2.0 says, "Comments are not intended to replace a properly defined computational algorithm, which is expected for derived variables."

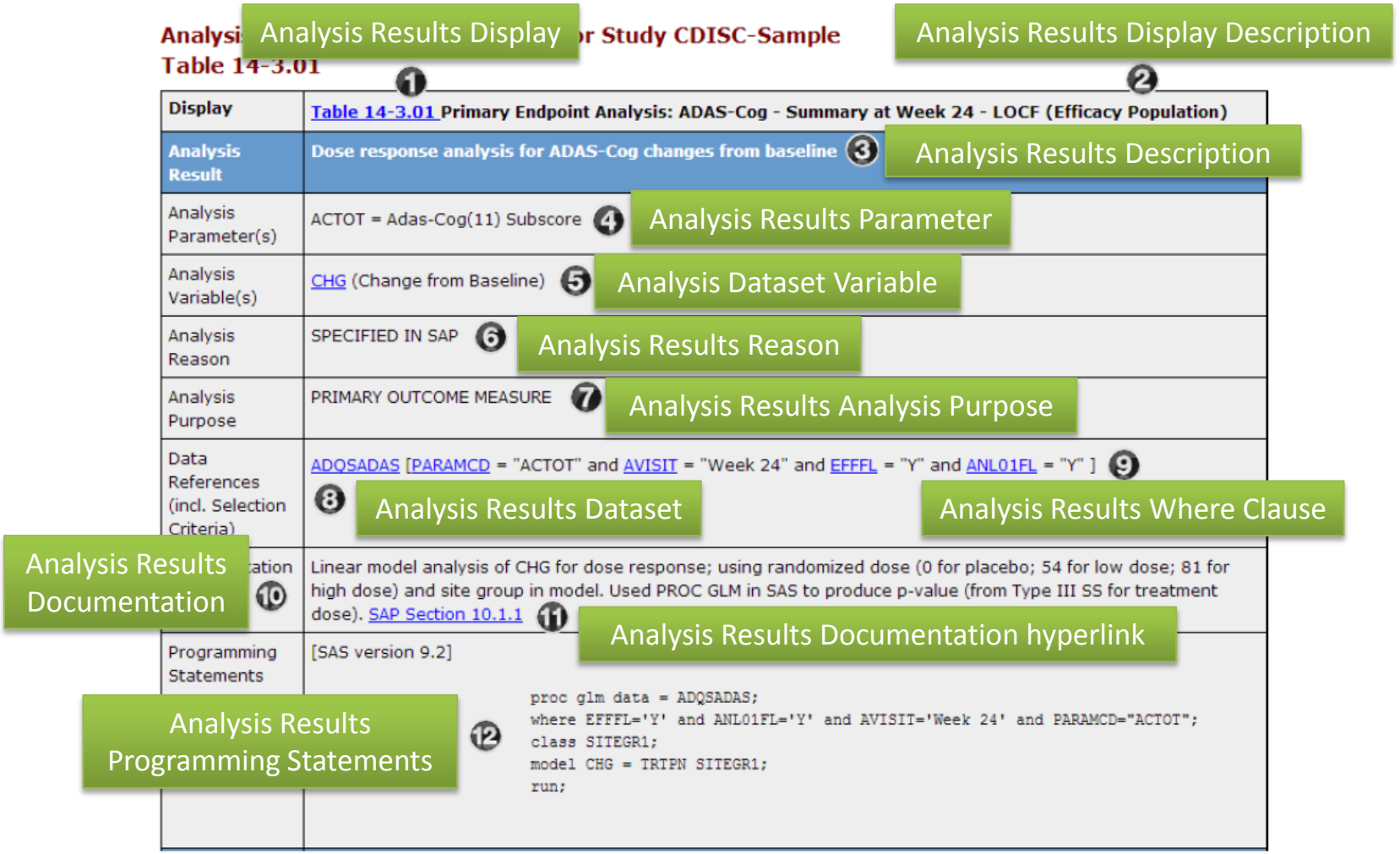
CDISC Analysis Results Metadata Specification Version 1.0 for Define-XML (Version 2)

- ADaM Results Metadata
  - Unique to ADaM and not formalized in define.xml 2.0
  - Purpose is to support the interchange of CDISC ADaM key Analysis Results Metadata in a **machine-readable format**
  - The inclusion of Analysis Results Metadata in an ADaM define.xml file is optional. When it is provided, it is grouped by analysis display metadata.

CDISC Analysis Results Metadata: key components

- Analysis Display metadata definitions
  - Analysis Result metadata definitions
    - Analysis parameter(s)
    - Analysis dataset(s)
      - Analysis variable(s)
      - Selection criteria
  - Documentation
  - Programming statements

CDISC ADaM Results Metadata



Display	Table 14-3.01 Primary Endpoint Analysis: ADAS-Cog - Summary at Week 24 - LOCF (Efficacy Population)
Analysis Result	Dose response analysis for ADAS-Cog changes from baseline
Analysis Parameter(s)	ACTOT = Adas-Cog(11) Subscore
Analysis Variable(s)	CHG (Change from Baseline)
Analysis Reason	SPECIFIED IN SAP
Analysis Purpose	PRIMARY OUTCOME MEASURE
Data References (incl. Selection Criteria)	ADQSADAS [PARAMCD = "ACTOT" and AVISIT = "Week 24" and EFFFL = "Y" and ANL01FL = "Y"]
ation	Linear model analysis of CHG for dose response; using randomized dose (0 for placebo; 54 for low dose; 81 for high dose) and site group in model. Used PROC GLM in SAS to produce p-value (from Type III SS for treatment dose). SAP Section 10.1.1
Programming Statements	[SAS version 9.2]

```
proc glm data = ADQSADAS;
where EFFFL='Y' and ANL01FL='Y' and AVISIT='Week 24' and PARAMCD="ACTOT";
class SITEGR1;
model CHG = TRTPN SITEGR1;
run;
```

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CDISC Analysis Results Metadata: Example of Analysis Display Metadata in Define-XML

Study report PDF document and its relative path compared to the location of the define.xml file is stored as the value of attribute *xlink:href* of the *def:leaf* element with the same ID value as the *leafID* value in the *def:DocumentRef* child element.

```
<def:leaf ID="LF.Table-14-3.01"
  xlink:href="../../../../../53-clin-stud-rep/535-rep-effic-safety-stud/5351-stud-
ep-contr /cdiscpilot01/cdiscpilot01.pdf">
  <def:title>Table 14-3.01</def:title>
</def:leaf>

<arm:AnalysisResultDisplays>
  <arm:ResultDisplay OID="RD.Table_14-3.01" Name="Table 14-3.01"> 1
    <Description>
      <TranslatedText xml:lang="en">Primary Endpoint Analysis: ADAS-Cog - Summary at
Week 24 - LOCF (Efficacy Population) 2
      </TranslatedText>
    </Description>
    <def:DocumentRef leafID="LF.Table-14-3.01">
      <def:PDFPageRef PageRefs="49" Type="PhysicalRef"/> 11
    </def:DocumentRef>
    <arm:AnalysisResult>
    …
    </arm:AnalysisResult>
    <arm:AnalysisResult>
    …
    </arm:AnalysisResult>
  </arm:ResultDisplay>
…
</arm:AnalysisResultDisplays>
```

A reference to the location of that display in the clinical study report is provided (*def:DocumentRef*). This table is located at page 49 (see child element *def:PDFPageRef*). The name of the clinical

Two results of interest within this display are presented (see the two occurrences of child element *arm:AnalysisResult*).

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CDISC Analysis Results Metadata: Example of Analysis Display Metadata in Define-XML

```
<arm:ResultDisplay OID="RD.Table_14-3.01" Name="Table 14-3.01">
  …
  <arm:AnalysisResult OID="AR.Table_14-3.01.R.1"
4 ParameterOID="IT.ADQSADAS.PARAMCD"
6 AnalysisReason="SPECIFIED IN SAP"
7 AnalysisPurpose="PRIMARY OUTCOME MEASURE">
    <Description>
3     <TranslatedText xml:lang="en">Dose response analysis for ADAS-Cog changes from
baseline
      </TranslatedText>
```

```
    <arm:AnalysisDatasets def:CommentOID="COM.JOIN-ADSL-ADAE">
      <arm:AnalysisDataset ItemGroupOID="IG.ADAE">
        <def:WhereClauseRef WhereClauseOID="WC.Table_14-5.02.R.1.ADAE" />
5       <arm:AnalysisVariable ItemOID="IT.ADAE.AEBODSYS"/>
        <arm:AnalysisVariable ItemOID="IT.ADAE.AEDECOD"/>
      </arm:AnalysisDataset>
```

```
  <arm:AnalysisResult OID="AR.Table_14-3.01.R.1"
    ParameterOID="IT.ADQSADAS.PARAMCD">
    …
8   <arm:AnalysisDataset ItemGroupOID="IG.ADQSADAS">
9     <def:WhereClauseRef WhereClauseOID="WC.Table_14-3.01.R.1.ADQSADAS" />
      …
    </arm:AnalysisDataset>
    …
  </arm:AnalysisResult>
```

CDISC Analysis Results Metadata: Example of Analysis Display Metadata in Define-XML

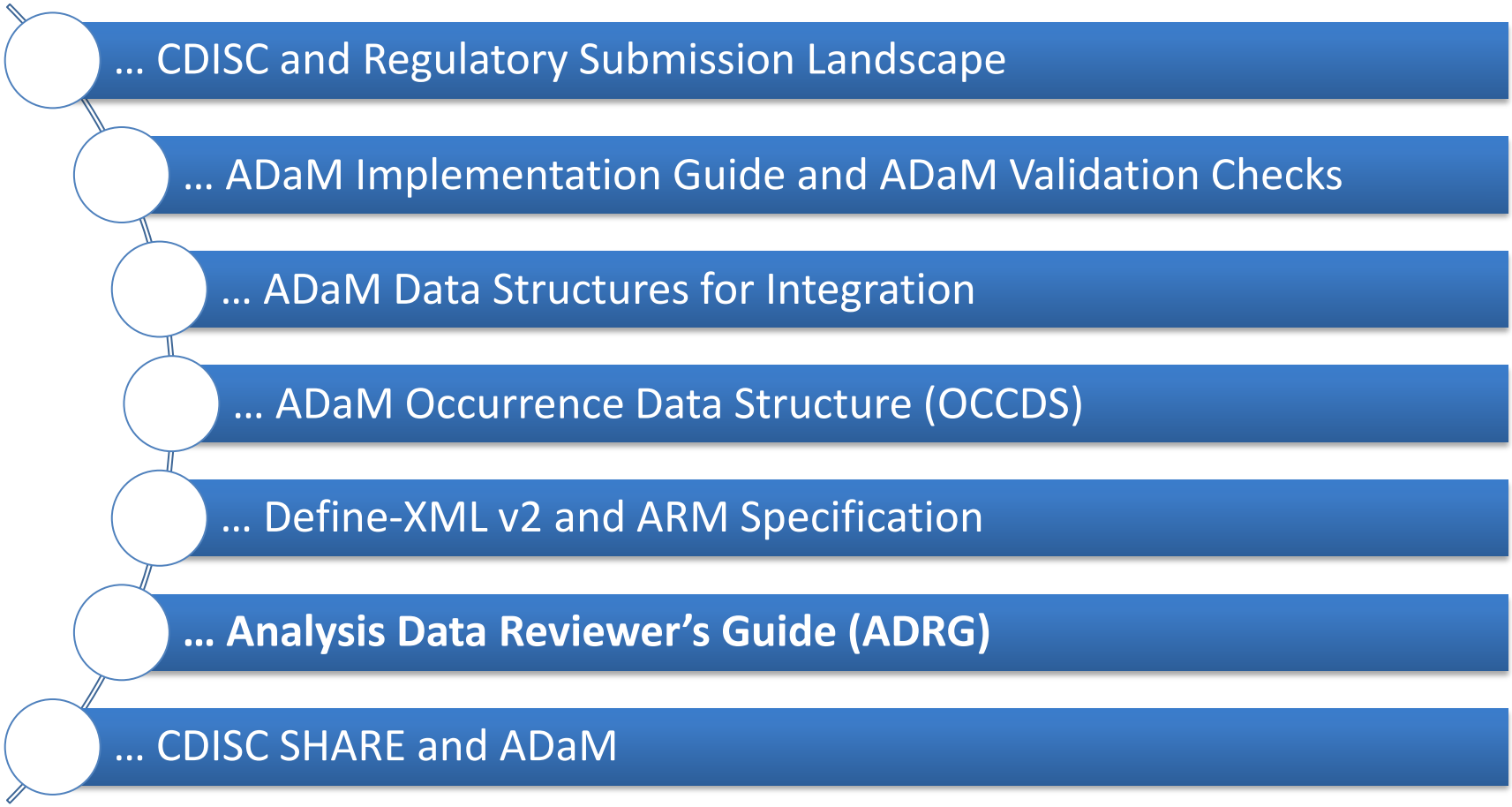
```
<Description>
<TranslatedText xml:lang="en">Linear model analysis of CHG for dose response; using randomized dose (0 for placebo;
54 for low dose; 81 for high dose) and site group in model. Used PROC GLM in SAS to produce p-value
(from Type III SS for treatment dose).
</TranslatedText>
</Description>
```

10

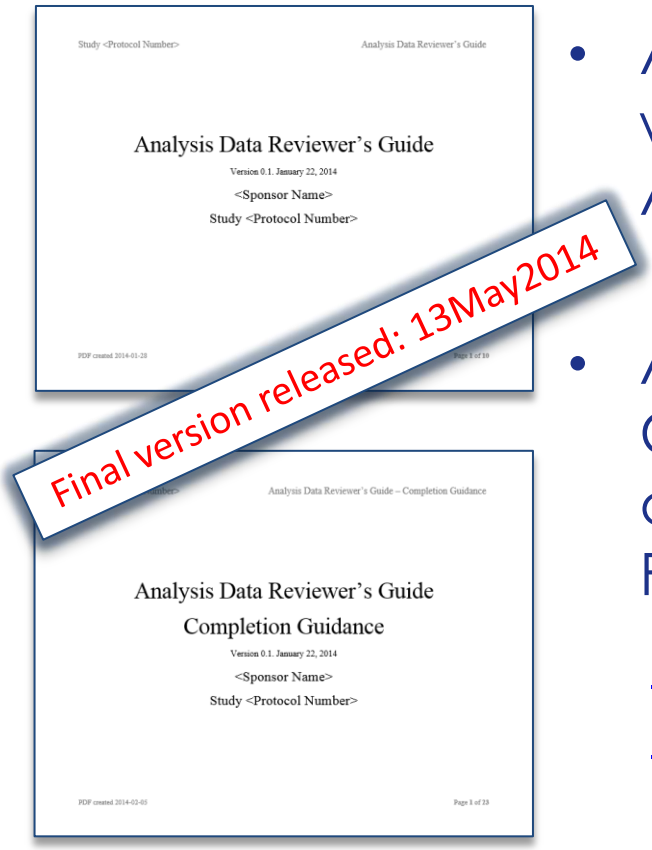
```
<arm:ProgrammingCode Context="SAS version 9.2">
  <arm:Code >
    proc glm data = ADQSADAS;
      where EFFFL='Y' and ANL01FL='Y' and AVISIT='Week 24' and PARAMCD="ACTOT";
      class TRTPN SITEGR1;
      model CHG = TRTPN SITEGR1 BASE;
      means TRTPN;
      lsmeans TRTPN / OM STDERR PDIFF CL;
    run;
  </arm:Code>
</arm:ProgrammingCode>
```

12

Agenda
What's happening…



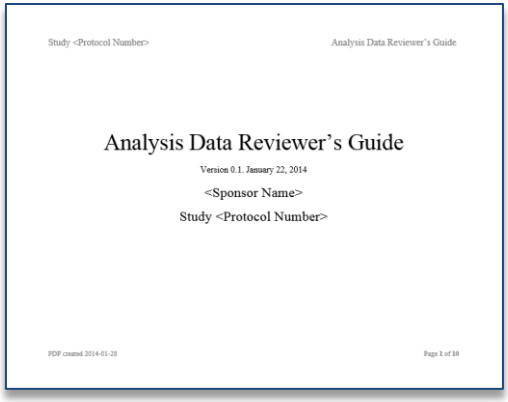
Analysis Data Reviewer's Guide



- At PhUSE CSS symposium in 2013, PhUSE working group formed to create an Analysis Data Reviewer's Guide (ADRG)
- Analysis Data Reviewer's Guide plus Completion Guidance documents drafted during 2013, and released as Final on PhUSE Wiki Website:

  http://www.phusewiki.org/wiki/images/0/0d/ADRG_V1.0_2014-05-13.zip

Analysis Data Reviewer's Guide


Study <Protocol Number> Analysis Data Reviewer's Guide

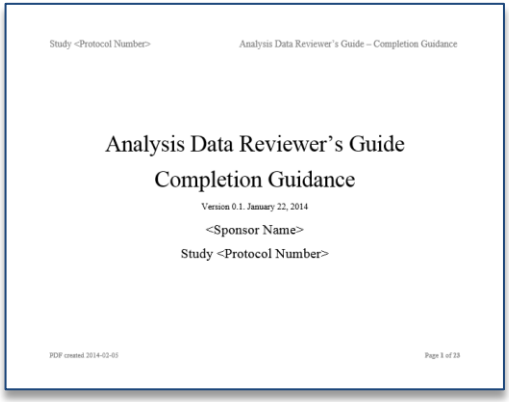
Analysis Data Reviewer's Guide

Version 0.1. January 22, 2014

<Sponsor Name>

Study <Protocol Number>

PDF created 2014-01-28 Page 1 of 10


Study <Protocol Number> Analysis Data Reviewer's Guide – Completion Guidance

Analysis Data Reviewer's Guide

Completion Guidance

Version 0.1. January 22, 2014

<Sponsor Name>

Study <Protocol Number>

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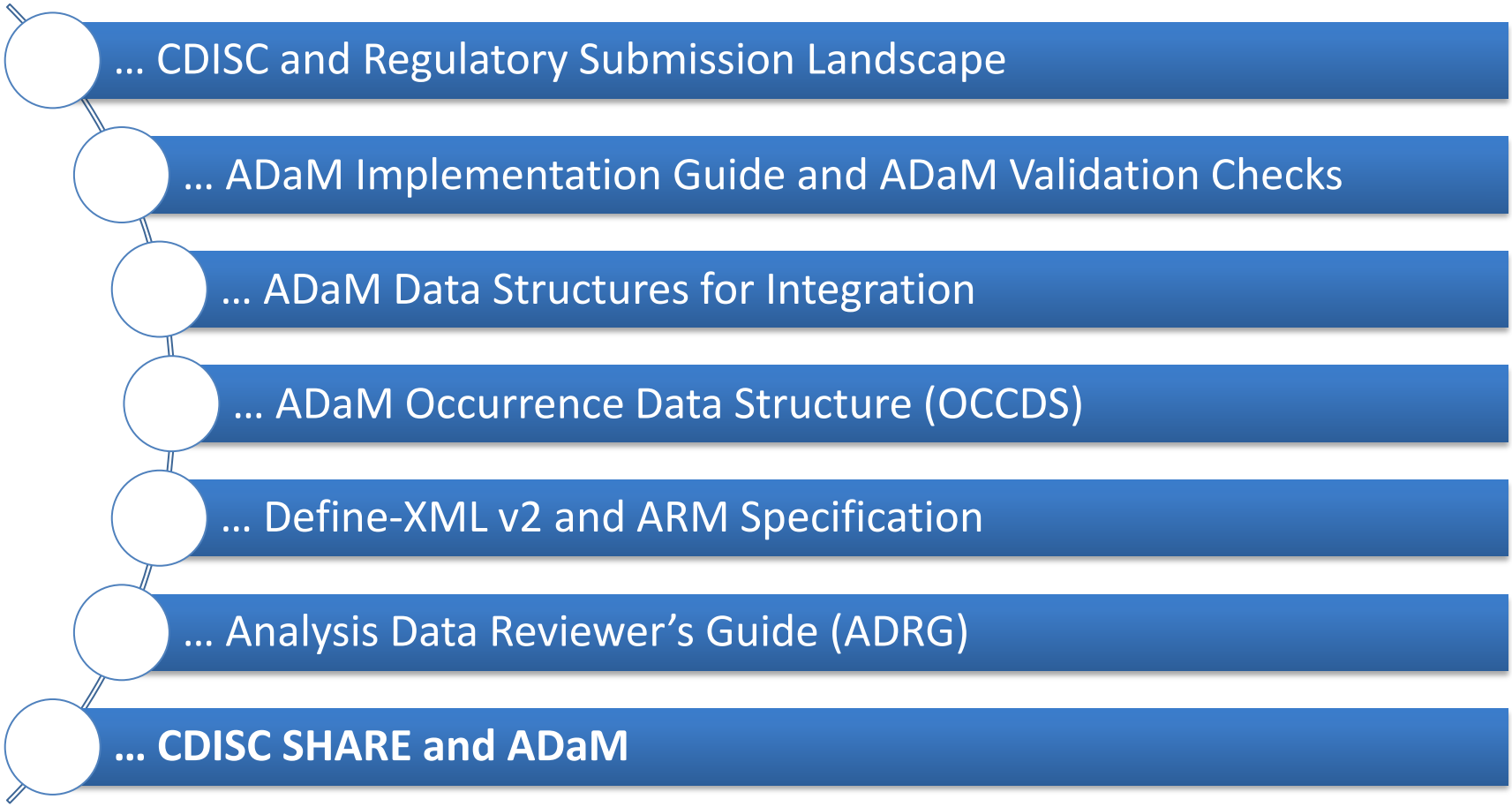
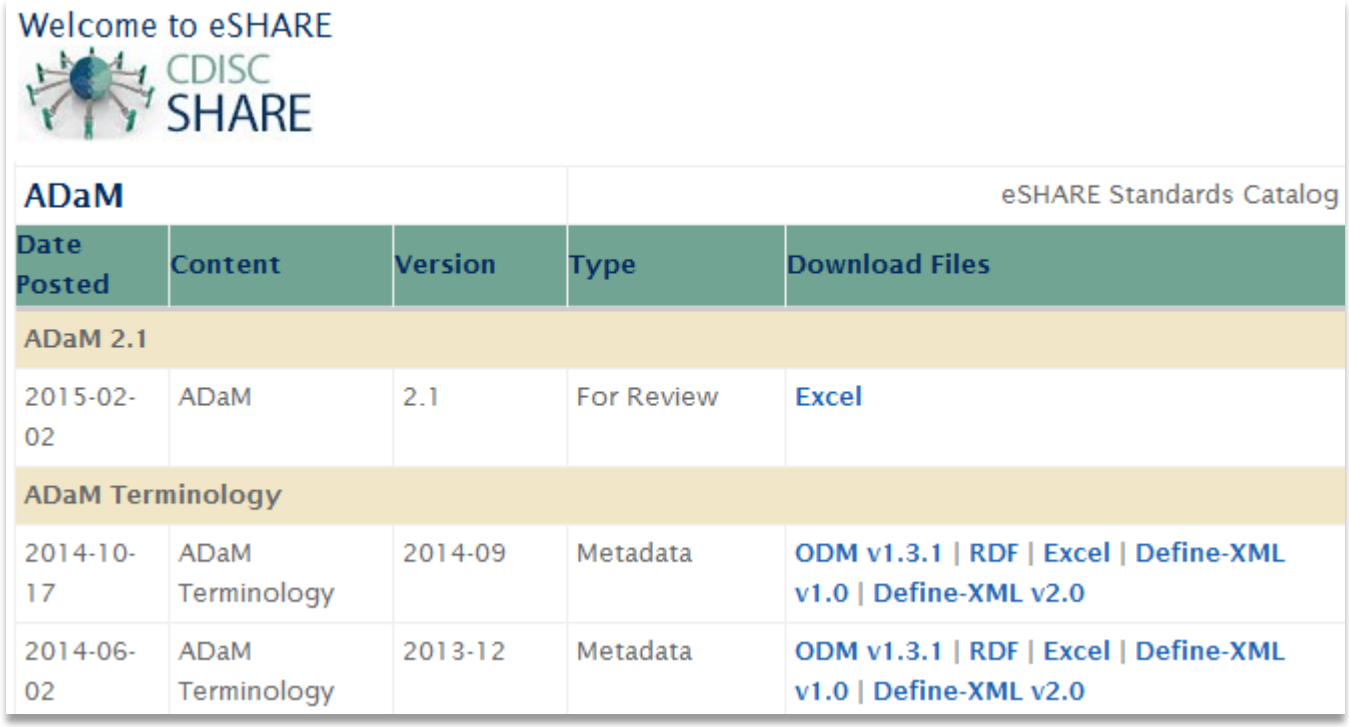
- ADaM "provides a framework that enables analysis of the data, while at the same time allowing reviewers to have a clear understanding of the data's lineage."
- FDA Reviewers benefit from additional, human-readable, documentation of analysis methods, datasets, and programs.
- The development of an Analysis Data Reviewer's Guide (ADRG) template will ensure this documentation is provided to the agency in consistent and usable format.

Agenda
What's happening…



CDISC eSHARE Downloads - ADaM



Welcome to eSHARE

CDISC SHARE

ADaM eSHARE Standards Catalog

Date Posted	Content	Version	Type	Download Files
ADaM 2.1				
2015-02-02	ADaM	2.1	For Review	Excel
ADaM Terminology				
2014-10-17	ADaM Terminology	2014-09	Metadata	ODM v1.3.1 | RDF | Excel | Define-XML v1.0 | Define-XML v2.0
2014-06-02	ADaM Terminology	2013-12	Metadata	ODM v1.3.1 | RDF | Excel | Define-XML v1.0 | Define-XML v2.0

http://cdisc.org/eshare-downloads

Business & Decision Life Sciences

CDISC eSHARE Downloads – ADaM 2.1 (Draft) specification

	C	D	E	F	G	H	I	J
1	**Dataset Name**	**Variable Group**	**Variable Name**	**Variable Label**	**Type**	**Codelist**	**Core**	**CDISC Notes**
2	ADAE	Identifier Variables	STUDYID	Study Identifier	Char		Req	AE.STUDYID
3	ADAE	Identifier Variables	USUBJID	Unique Subject Identifier	Char		Req	AE.USUBJID
4	ADAE	Identifier Variables	SUBJID	Subject Identifier for the Study	Char		Perm	ADSL.SUBJID
5	ADAE	Identifier Variables	SITEID	Study Site Identifier	Char		Perm	ADSL.SITEID
6	ADAE	Identifier Variables	AESEQ	Sequence Number	Num		Req	AE.AESEQ Required for traceability back to SDTM AE.
7	ADAE	Dictionary Coding Variables for MedDRA	AETERM	Reported Term for the Adverse Event	Char		Req	AE.AETERM
8	ADAE	Dictionary Coding Variables for MedDRA	AEDECOD	Dictionary-Derived Term	Char	MedDRA	Req	AE.AEDECOD This is typically one of the primary variables used in an AE analysis and would be brought in from the SDTM AE domain. Equivalent to the Preferred Term (PT in MedDRA). As mentioned above, all other SDTM AE and SUPPAE domain variables needed for analysis or traceability should also be included. Include the dictionary version in the variable metadata.

http://cdisc.org/system/files/platinum/eshare/adam-2-1-draft.xls

CDISC eSHARE Downloads – ADaM Terminology

	A	B
1	**The controlled terminology in this spreadsheet supports Analysis Data Model Implementation Guide Version 1.0 (ADaMIG v1.0).**	
2	**Column**	**Description**
3	**Code** *(Column A)*	Unique numeric code randomly generated by NCI Thesaurus (NCIt) and assigned to individual CDISC controlled terms.
4	**Codelist Code** *(Column B)*	Unique numeric code assigned to the ADaM parent codelist names. This code is repeated for each controlled term (aka permissible value) belonging to a codelist. **NOTE - light blue highlighting is used to identify the beginning of a new ADaM codelist and its applicable term set.
	Codelist Extensible (Yes/No) *(Column C)*	Defines if controlled terms may be added to the codelist. New terms may be added to existing codelist values as long as they are not duplicates or synonyms of existing terms. The expectation is that sponsors will use the published

	A	B	C	D	E	F	G	H
1	**Code**	**Codelist Code**	**Codelist Extensible (Yes/No)**	**Codelist Name**	**CDISC Submission Value**	**CDISC Synonym(s)**	**CDISC Definition**	**NCI Preferred Term**
2	C117745		Yes	Analysis Purpose	ANLPURP	Analysis Purpose	Purpose of a specific analysis result described in ADaM	CDISC ADaM Analysis Purpose Terminology
3	C98724	C117745		Analysis Purpose	EXPLORATORY OUTCOME MEASURE	Exploratory Outcome Measure	Exploratory measures that will be used to evaluate the intervention(s) or, for observational studies, that are	Exploratory Outcome Measure
4	C98772	C117745		Analysis Purpose	PRIMARY OUTCOME MEASURE	Primary Outcome Measure	The primary measurement(s) or observation(s) used to measure the effect of experimental variables in a study,	Primary Outcome Measure
5	C98781	C117745		Analysis Purpose	SECONDARY OUTCOME MEASURE	Secondary Outcome Measure	Other key measures that will be used to evaluate the intervention(s) or, for observational studies, that are a	Secondary Outcome Measure
6	C117744		Yes	Analysis Reason	ANLREAS	Analysis Reason	Reason for reporting a specific analysis result described	CDISC ADaM Analysis Reason Terminology
7	C117750	C117744		Analysis Reason	DATA DRIVEN		The analysis was triggered by findings in the data.	Data Driven Analysis
8	C117751	C117744		Analysis Reason	REQUESTED BY REGULATORY AGENCY		The analysis has been requested by a regulatory agency.	Analysis Requested by Regulatory Agency
9	C117752	C117744		Analysis Reason	SPECIFIED IN PROTOCOL		The analysis is specified in a protocol.	Analysis Specified in Protocol
10	C117753	C117744		Analysis Reason	SPECIFIED IN SAP		The analysis is specified in a statistical analysis plan.	Analysis Specified in Statistical Analysis Plan
11	C81223		No	Date Imputation Flag	DATEFL	Date Imputation Flag	Date Imputation Flag: Indicates the level of imputation ref	CDISC ADaM Date Imputation Flag Terminology

http://cdisc.org/system/files/platinum/eshare/ct-adam-ncievs-2014-09-26.xls

Thank you for your attention.

Reading, UK, 23 JUNE 2015

CDISC Strength Through Collaboration

Business & Decision Life Sciences

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Gavin Winpenny | Project Manager, Statistical Projects | +32 (0)2 774 11 52 | gavin.winpenny@businessdecision.com

Business & Decision Life Sciences
Sint-Lambertusstraat 141 rue Saint-Lambert
B-1200 Brussels
T: +32 2 774 11 00
F: +32 2 774 11 99
lifesciences@businessdecision.com
http://www.businessdecision-lifesciences.com/