

A Dive Into the Therapeutic Area User Guides

Phuse Single Day Event Copenhagen 2015-06-10

Johannes Ulander & Niels Both

Standardisation and Harmonisation Specialists



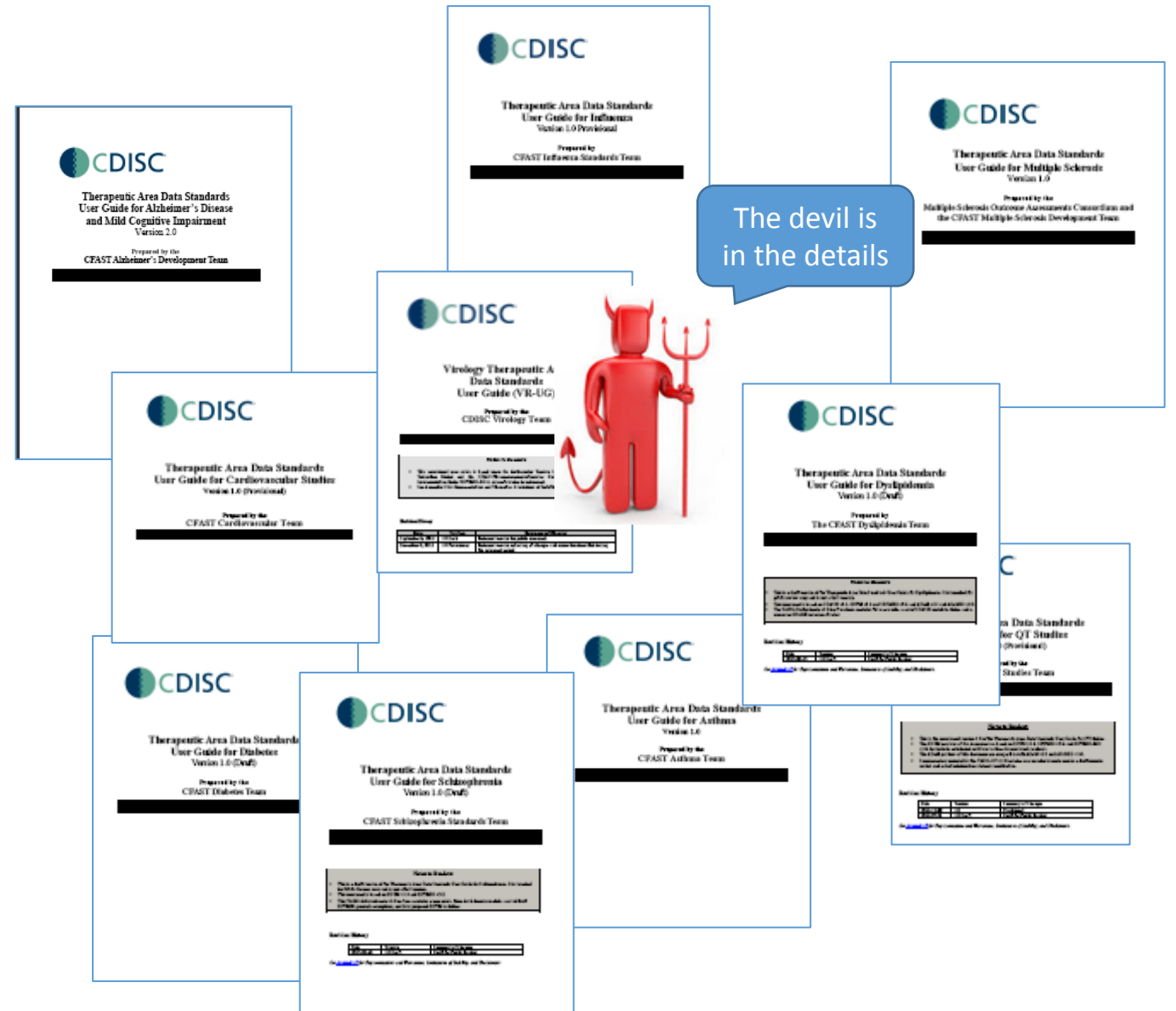
Agenda

- Quick walkthrough of the TAUG's
- MH implementation
 - Diagnosis
 - Symptoms
- Summary



TAUG's

- Alzheimer's
- Asthma
- Cardiovascular
- Diabetes
- Dyslipidemia (Draft)
- Multiple Sclerosis
- Pain
- Parkinson's Disease
- Polycystic Kidney Disease
- Schizophrenia (Draft)
- Tuberculosis
- Virology



What is in a TAUG?

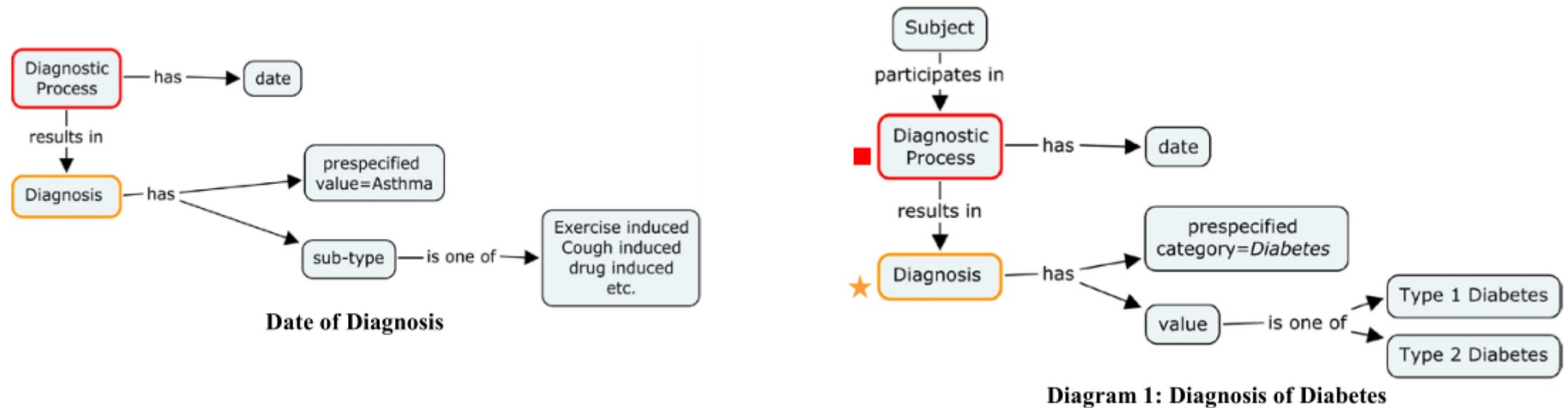
1	INTRODUCTION	4
1.1	PURPOSE.....	4
1.2	ORGANIZATION OF THIS DOCUMENT	5
1.3	CONCEPT MAPS	6
1.4	CONTROLLED TERMINOLOGY	6
1.5	RELATIONSHIPS TO OTHER STANDARDS.....	6
1.5.1	Summary of Changes from Previous Version	7
1.6	KNOWN ISSUES.....	8
2	SUBJECT AND DISEASE CHARACTERISTICS	9
2.1	GENETICS OF ALZHEIMER’S DISEASE	9
2.1.1	Examples for the Genetics of Alzheimer’s Disease	9
2.2	MEDICAL HISTORY	10
2.2.1	Examples for Medical History	10
2.3	FAMILY HISTORY	11
2.3.1	Examples for Family History	11
3	DISEASE ASSESSMENTS	12
3.1	CEREBROSPINAL FLUID SAMPLING.....	12
3.1.1	Relating Records in CSF Sampling.....	13
3.1.2	Examples for CSF Sampling	15
3.2	IMAGING.....	19
3.2.1	Magnetic Resonance Imaging	19
3.2.1.1	Relating Records in MRI Imaging	20
3.2.1.2	Examples for MRI Imaging.....	21
3.2.2	Positron Emission Tomography Imaging.....	25
3.2.2.1	Relating Records in PET Imaging.....	27
3.2.2.2	Examples for PET Imaging	27
3.3	SCALES OF COGNITIVE FUNCTION	32

What is in a TAUG?

APPENDICES	33
APPENDIX A: WORK GROUP.....	33
APPENDIX B: GLOSSARY AND ABBREVIATIONS	34
Appendix B1: Supplemental Qualifiers Name Codes	34
APPENDIX C: ADDITIONAL ASSUMPTIONS FOR DOMAINS	34
Appendix C1: General Assumptions for AD/MCI.....	34
Appendix C2: Additional Assumptions for Procedure Agents Domain Model	35
Appendix C3: Additional Assumptions for Procedures Domain Model.....	35
Appendix C4: Additional Assumptions for Medical History Domain Model.....	35
Appendix C5: Additional Assumptions for Laboratory Test Results Domain Model	35
Appendix C6: Additional Assumptions for Morphology Domain Model.....	35
Appendix C7: Additional Assumptions for Nervous System Findings Domain Model	36
Appendix C8: Additional Assumptions for Pharmacogenomic/Genetics Domains.....	36
Appendix C9: Additional Assumptions for Medical Device Domains	36
Appendix C10: Additional Assumptions for Associated Persons Domains	36
APPENDIX D: REPRESENTATIONS AND WARRANTIES, LIMITATIONS OF LIABILITY, AND DISCLAIMERS	37

Concept maps

- Similar concept maps in Asthma and Diabetes



Why focus on Medical History?

A word cloud of medical abbreviations. The largest and most central term is 'MH' (Medical History) in blue. Other prominent terms include 'FA' (Family History) in purple, 'DI' (Diagnosis) in brown, 'CM' (Comorbidity) in purple, 'LB' (Laboratory) in green, 'DU' (Differential) in blue, 'CE' (Chief Complaint) in brown, 'VS' (Vital Signs) in green, 'HO' (History of) in purple, 'PR' (Physical Examination) in blue, 'SC' (Social History) in green, 'QS' (Quality of Sleep) in purple, 'TU' (Tuberculosis) in purple, 'PB' (Pain) in green, 'APBS' (Anterior Posterior) in purple, 'BS' (Blood Sugar) in brown, 'SU' (Surgical) in brown, 'SR' (Sedimentation Rate) in green, 'EX' (Examination) in brown, 'TR' (Traction) in brown, 'DD' (Differential Diagnosis) in green, 'TS' (Tension) in purple, 'TE' (Temperature) in green, 'PG' (Pain) in green, 'VR' (Vital Signs) in brown, 'TA' (Tachycardia) in green, 'UR' (Urinary) in brown, 'QT' (QT Interval) in brown, 'DM' (Diabetes Mellitus) in brown, 'DS' (Dysphagia) in green, 'MB' (Myocardial) in brown, 'APMH' (Anterior Posterior Medical History) in brown, 'PF' (Pain) in brown, and 'AG' (Age) in green. The abbreviations are arranged in a circular pattern around the central 'MH'.

LB NV APDM
DU CE
APDD OE VS ML
RE ED DR HO MI
MS AE
FA MH PR EG
SC DE SB RP QS TU PB APBS
BS SU SR EX TR CM
DD TS TE PG VR TA
DI UR DM MO PF
QT DS MB APMH AG

Domains sorted by level of use

[illegible]

What is Medical History?

- Diagnosis
- Symptoms
- Method of diagnosis
- Family History

Medical History is mapped to ...

- Diagnosis → Medical History - MH
- Symptoms → MH or Findings About - FAMH
- Method of diagnosis → DI (Device In-Use)
- Family History → APMH (or FAMH)



TAUG MH Implementation Overview

	MH	FAMH	APMH	APFAMH?	None
Alzheimer	x		x		
Asthma	x	x			
Cardiovascular	x				
Diabetes	x				
Dyslipidemia	x	x	x	x	
Multiple Sclerosis	x	x			
Pain	x	x			
Parkinson's Disease	x	x	x		
Polycystic Kidney Disease	x	x	x		
Schizophrenia	x	x	x		
Tuberculosis	x	x			
<i>Influenza</i>					x
<i>Virology</i>					x
<i>QT Studies</i>					x

MHCAT

	MHCAT	MHSCAT	SUPPMH.MHSSCAT	Related categories
Alzheimer	PRIMARY DIAGNOSIS			
	GENERAL			
Asthma	Asthma Related			
Diabetes	DIABETES	COMPLICATIONS OF DIABETES		
Dyslipidemia	Hypercholesterolemia			
	Cardiovascular Risk Factors			
Multiple Sclerosis	PRIMARY DIAGNOSIS	ONSET COURSE		
	GENERAL	INITIAL SYMPTOMS		
Pain	PRIMARY DIAGNOSIS			
Parkinson's Disease	NULL	DIAGNOSTIC CRITERIA	Ambulatory/Axial Difficulties	Family History of PD (APMH)
	PRIMARY DIAGNOSIS	INITIAL MOTOR SYMPTOMS		MEDICAL HISTORY (FACAT)
	PARKINSON'S DISEASE (for symptoms)	DEVELOPING MOTOR SYMPTOMS		
	INFECTION HISTORY			
Polycystic Kidney Disease	PRIMARY DIAGNOSIS			PRIMARY DIAGNOSIS (APMH)
	PKD (for symptoms)			ADPKD Manifestation (APMH)
Schizophrenia	GENERAL			FAMILY MEDICAL HISTORY (APMH)
	SCHIZOPHRENIA			
Tuberculosis	STUDY INDICATION			
	RISK FACTORS			
	COMORBID CONDITION			
	GENERAL			
	TB SYMPTOMS			
Cardiovascular				
Influenza				
QT Studies				
Virology				

MHCAT

	MHCAT	MHSCAT	SUPPMH.MHSSCAT	Related categories
Alzheimer	PRIMARY DIAGNOSIS			
	GENERAL			
Asthma	Asthma Related			
Diabetes	DIABETES	COMPLICATIONS OF DIABETES		
Dyslipidemia	Hypercholesterolemia			
	Cardiovascular Risk Factors			
Multiple Sclerosis	PRIMARY DIAGNOSIS	ONSET COURSE		
	GENERAL	INITIAL SYMPTOMS		
Pain	PRIMARY DIAGNOSIS			
Parkinson's Disease	NULL	DIAGNOSTIC CRITERIA	Ambulatory/Axial Difficulties	Family History of PD (APMH)
	PRIMARY DIAGNOSIS	INITIAL MOTOR SYMPTOMS		MEDICAL HISTORY (FACAT)
	PARKINSON'S DISEASE (for symptoms)	DEVELOPING MOTOR SYMPTOMS		
	INFECTION HISTORY			
Polycystic Kidney Disease	PRIMARY DIAGNOSIS			PRIMARY DIAGNOSIS (APMH)
	PKD (for symptoms)			ADPKD Manifestation (APMH)
Schizophrenia	GENERAL			FAMILY MEDICAL HISTORY (APMH)
	SCHIZOPHRENIA			
Tuberculosis	STUDY INDICATION			
	RISK FACTORS			
	COMORBID CONDITION			
	GENERAL			
	TB SYMPTOMS			
Cardiovascular				
Influenza				
QT Studies				
Virology				

MHCAT for Diagnosis - Summary

- Three variants
 - MHCAT = PRIMARY DIAGNOSIS
 - MHCAT = *Disease*
 - FA approach, FAOBJ = MHCAT/MHTERM

Diagnosis information - 1

- MHCAT = PRIMARY DIAGNOSIS
- MHTERM = *Disease*

mh.xpt

Row	STUDYID	DOMAIN	USUBJID	MHSEQ	MHTERM	MHDECOD	MHCAT	MHSTDTC
1	ABC123	MH	AD01-101	1	Mild Cognitive Impairment		PRIMARY DIAGNOSIS	2001-05
2	ABC123	MH	AD01-101	2	Blind Left Eye	Blindness unilateral	GENERAL	1999-07-07
3	ABC123	MH	AD01-101	3	Traumatic Brain Injury	Traumatic brain injury	GENERAL	2005-03-28
4	ABC123	MH	AD01-102	1	Alzheimer's Disease		PRIMARY DIAGNOSIS	2003-05

Diagnosis information - 2

- MHCAT = *Disease*
- MHTERM = *Specific type*

mh.xpt

Row	STUDYID	DOMAIN	USUBJID	MHSEQ	MHTERM	MHCAT	MHDTC	MHSTDTC
1	XYZ	MH	XYZ-001-001	1	TYPE 1 DIABETES	DIABETES	2010-09-26	2010-03-25
2	XYZ	MH	XYZ-001-002	1	TYPE 2 DIABETES	DIABETES	2010-10-26	2010-04-25

suppmh.xpt

Row	STUDYID	RDOMAIN	USUBJID	IDVAR	IDVARVAL	QNAM	QLABEL	QVAL	QORIG	QEVAL
1	XYZ	MH	XYZ-001-001	MHSEQ	1	MHDXDTC	Date of Diagnosis	2010-03-25	CRF	INVESTIGATOR
2	XYZ	MH	XYZ-001-002	MHSEQ	1	MHDXDTC	Date of Diagnosis	2010-04-25	CRF	INVESTIGATOR

Diagnosis information - 3

- Since MH is too general, put specifics in FA

famh.xpt

Row	STUDYID	DOMAIN	USUBJID	FASEQ	FATESTCD	FATEST	FAOBJ	FACAT	FAORRES	FAORRESC	FATPT	FADTC
1	ABC123	FA	456	1	SEV	Severity	Asthma	Asthma History	MODERATE PERSISTENT	MODERATE PERSISTENT	Diagnosis	2013-05-24

famh.xpt

Row	STUDYID	DOMAIN	USUBJID	FASEQ	FATESTCD	FATEST	FAOBJ	FACAT	FAORRES	FAORRESC	FADTC
1	ABC123	FA	456	1	DIAGDTC	Date of Diagnosis	Asthma	Asthma History	1992	1992	2013-05-24
2	ABC123	FA	456	2	SUBTYPE	Subtype	Asthma	Asthma History	Exercise induced	Exercise induced	2013-05-24

Date of Diagnosis vs. Onset of Symptoms

- Different approaches in all TAUG

1.6 Known Issues

- **Date of Diagnosis:** The SDTMIG does not provide advice on how to represent date of diagnosis of an event. Various solutions have been proposed, but this document treats the date of diagnosis of a medical history event as the value a supplemental qualifier with QNAM=MHDXDTC. Some users have simply mapped a collected “date of diagnosis” to MHSTDTC. Although date of diagnosis can reasonably be treated as the start of an event, this mapping alone does not provide the information that this particular start date is specifically the date of diagnosis.

| MHOSDTC | Onset of Symptoms Date | MH

Row	STUDYID	RDOMAIN	USUBJID	IDVAR	IDVARVAL	QNAM	QLABEL	QVAL	QORIG	QEVAL
1	XYZ	MH	XYZ-001-001	MHSEQ	1	MHDXDTC	Date of Diagnosis	2010-03-25	CRF	INVESTIGATOR

Row	STUDYID	DOMAIN	USUBJID	FASEQ	FATESTCD	FATEST	FAOBJ	FACAT	FAORRES	FASTRESC	FADTC
1	ABC123	FA	456	1	DIAGDTC	Date of Diagnosis	Asthma	Asthma History	1992	1992	2013-05-24

Schizophrenia TAUG has the final answer?

- Peeked at next SDTM version
 - MHEVTYP is a draft variable in SDTM v1.5 used to specify the aspect of the medical condition or event by which its start date is defined, such as the diagnosis and/or onset of symptoms. This variable is expected to be included in SDTM v1.5.
- SDTM v1.5 introduces MHEVTYP

mh.xpt

Row	STUDYID	DOMAIN	USUBJID	MHSEQ	MHGRPID	MHTERM	MHDECOD	MHCAT	MHEVTYP	MHSTDTC	MHENDTC
1	ABC123	MH	001-001	1		APPENDICITIS	Appendicitis	GENERAL		2006-05-04	2006-05-04
2	ABC123	MH	001-001	2	1	ANXIETY	Anxiety	SCHIZOPHRENIA	SYMPTOMS	2003	

Row	STUDYID	DOMAIN	USUBJID	MHSEQ	MHGRPID	MHTERM	MHDECOD	MHCAT	MHEVTYP	MHSTDTC	MHENDTC
3	ABC123	MH	001-001	3	1	AGITATION	Agitation	SCHIZOPHRENIA	SYMPTOMS	2003-11	2004-02-14
4	ABC123	MH	001-001	4	1	DISORGANIZED SCHIZOPHRENIA	Disorganized schizophrenia	SCHIZOPHRENIA	DIAGNOSIS	2004-01	
5	ABC123	MH	123-456	1		CATATONIC SCHIZOPHRENIA	Catatonic schizophrenia	SCHIZOPHRENIA	DIAGNOSIS	2008-06-06	
6	ABC123	MH	9999-789	1		SCHIZOPHRENIA	Schizophrenia	SCHIZOPHRENIA	DIAGNOSIS	2014-08-05	

Symptoms

- Asthma*

mh.xpt

Row	STUDYID	DOMAIN	USUBJID	MHSEQ	MHTERM	MHDECOD	MHCAT	MHPRESP	MHOCCUR	MHDTC	MHEVINTX
1	ABC123	MH	456	1	Sinusitis	Sinusitis	Asthma Related	Y	Y	2013-05-24	Time before query
2	ABC123	MH	456	2	Atopic dermatitis	Dermatitis, atopic	Asthma Related	Y	N	2013-05-24	Time before query
3	ABC123	MH	456	3	Eczema	Eczema	Asthma Related	Y	N	2013-05-24	Time before query
4	ABC123	MH	456	4	Seasonal allergic rhinitis	Rhinitis, seasonal	Asthma Related	Y	Y	2013-05-24	Time before query
5	ABC123	MH	456	5	Allergic conjunctivitis	Conjunctivitis, allergic	Asthma Related	Y	N	2013-05-24	Time before query

- Alzheimers*

suppmh.xpt

Row	STUDYID	RDOMAIN	USUBJID	IDVAR	IDVARVAL	QNAM	QLABEL	QVAL	QORIG	QEVAL
1	ABC123	MH	AD01-101	MHSEQ	1	MHOSDTC	Onset of Symptoms Date	1999-05	CRF	MOTHER
2	ABC123	MH	AD01-102	MHSEQ	1	MHOSDTC	Onset of Symptoms Date	2000-02	CRF	FATHER
3	ABC123	MH	AD01-103	MHSEQ	1	MHOSDTC	Onset of Symptoms Date	1998	CRF	STUDY SUBJECT

- MS*

mh.xpt

Row	STUDYID	DOMAIN	USUBJID	MHSEQ	MHGRPID	MHTERM	MHDECOD	MHCAT	MHSCAT
1	ABC123	MH	MS01-101	1	1	RRMS	Relapsing Remitting Multiple Sclerosis	PRIMARY DIAGNOSIS	ONSET COURSE
2	ABC123	MH	MS01-101	2	1	Double Vision	Diplopia	PRIMARY DIAGNOSIS	INITIAL SYMPTOMS
3	ABC123	MH	MS01-101	3	1	Tingling	Paresthesia	PRIMARY DIAGNOSIS	INITIAL SYMPTOMS
4	ABC123	MH	MS01-101	4		SPMS	Secondary Progressive Multiple Sclerosis	PRIMARY DIAGNOSIS	CURRENT COURSE

- Pain*

fa.xpt

ROW	STUDYID	DOMAIN	USUBJID	FASEQ	FATESTCD	FSTEST	FAOBJ	FAORRES	FASTRESC
1	STUDY01	FA	2324-P0001	1	SYMPDTC	Onset of Symptom Date	FIBROMYALGIA	2000-05	2000-05
2	STUDY01	FA	2324-P0002	1	SYMPDTC	Onset of Symptom Date	FIBROMYALGIA	2001-10	2001-10
3	STUDY01	FA	2324-P0003	1	SYMPDTC	Onset of Symptom Date	FIBROMYALGIA	2010-07	2010-07

Symptoms

mh.xpt

ROW	STUDYID	DOMAIN	USUBJID	MHSEQ	MHTERM	MHDECOD	MHCAT	MHSCAT	MHPRESP	MHOCCUR	MHDTC	MHSTDTC
1	STUDY01	MH	2324-P0001	1	Parkinson's disease		PRIMARY DIAGNOSIS				2006-01-12	2001-05
2	STUDY01	MH	2324-P0001	2	Blind Left Eye	Blindness unilateral						1999-07-07
3	STUDY01	MH	2324-P0001	3	Traumatic Brain Injury	Traumatic brain injury						2005-03-28
4	STUDY01	MH	2324-P0001	4	4-6 Hz Rest Tremor		PARKINSON'S DISEASE	DIAGNOSTIC CRITERIA	Y	Y	2006-01-12	
5	STUDY01	MH	2324-P0001	5	Bradykinesia		PARKINSON'S DISEASE	DIAGNOSTIC CRITERIA	Y	Y	2006-01-12	
6	STUDY01	MH	2324-P0001	6	Rigidity		PARKINSON'S DISEASE	DIAGNOSTIC CRITERIA	Y	N	2006-01-12	
7	STUDY01	MH	2324-P0001	7	Asymmetric Onset		PARKINSON'S DISEASE	DIAGNOSTIC CRITERIA	Y	Y	2006-01-12	
8	STUDY01	MH	2324-P0001	8	Substantial Response to Dopaminergic Therapy		PARKINSON'S DISEASE	DIAGNOSTIC CRITERIA	Y	N	2006-01-12	
9	STUDY01	MH	2324-P0001	9	Tremor (including internal tremor)		PARKINSON'S DISEASE	INITIAL MOTOR SYMPTOMS	Y	N	2006-01-12	
10	STUDY01	MH	2324-P0001	10	Stiffness		PARKINSON'S DISEASE	INITIAL MOTOR SYMPTOMS	Y	Y	2006-01-12	
11	STUDY01	MH	2324-P0001	11	Change in facial expression		PARKINSON'S DISEASE	INITIAL MOTOR SYMPTOMS	Y	N	2006-01-12	
12	STUDY01	MH	2324-P0001	12	Disturbances of dexterity		PARKINSON'S DISEASE	INITIAL MOTOR SYMPTOMS	Y	Y	2006-01-12	

suppmh.xpt

STUDYID	RDOMAIN	USUBJID	IDVAR	IDVARVAL	QNAM	QLABEL	QVAL	QORIG	QEVAL
STUDY01	MH	2324-P0001	MHSEQ	1	MHOSDTC	Onset of Symptoms Date	1999-05	CRF	
STUDY01	MH	2324-P0001	MHSEQ	4	MHAGE1	Age at MH Event	5 YEARS	CRF	
STUDY01	MH	2324-P0001	MHSEQ	4	HOSPFL1	Hospitalized at MH Event	Y	CRF	
STUDY01	MH	2324-P0001	MHSEQ	16	MHSSCAT	MH 2nd Sub-Category	Ambulatory/Axial Difficulties	CRF	
STUDY01	MH	2324-P0001	MHSEQ	17	MHSSCAT	MH 2nd Sub-Category	Ambulatory/Axial Difficulties	CRF	
STUDY01	MH	2324-P0001	MHSEQ	18	MHSSCAT	MH 2nd Sub-Category	Ambulatory/Axial Difficulties	CRF	
STUDY01	MH	2324-P0001	MHSEQ	19	MHSSCAT	MH 2nd Sub-Category	Ambulatory/Axial Difficulties	CRF	
STUDY01	MH	2324-P0001	MHSEQ	20	MHSSCAT	MH 2nd Sub-Category	Ambulatory/Axial Difficulties	CRF	

Summary

- The TAUG's are similar, but there are some substantial differences
- Pre-specify what is important to know about the specific disease
- When to implement TAUG's, early or late?
 - In theory, TAUG should be obsolete when a newer version of SDTMIG is released
- What about software? (e.g. OpenCDISC, JMP Clinical)
- Draft domains in a TAUG, use with caution

The devil is
in the details



Thank you for listening



Johannes Ulander



Niels Both

Backup