

Setting the Global Standard for Clinical Data

# Réunion du Groupe des Utilisateurs Francophones des standards CDISC

CLINICAL DATA INTERCHANGE STANDARDS CONSORTIUM

#### **Pierre-Yves Lastic**

Chairman, CDISC E3C & French User Network Senior Director, Data Privacy & Healthcare Interoperability Standards, Sanofi-Aventis R&D

Chilly-Mazarin, 10 février 2011

# Programme de la journée

#### 10h-13h

- Introduction, le point sur les activités de CDISC (Pierre-Yves LASTIC, sanofi-aventis)
- Standards CDISC développés dans l'Alzheimer pour le projet CAMD (Marie-Rose VAN KEER, sanofi-aventis)
- Comment s'assurer de la compliance des données au format SDTM en un simple click? (Xavier GOBERT et Nick DE DONDER, BDLS)

#### 13h-14h30

 Déjeuner au restaurant d'entreprise sanofi-aventis (gratuit pour les participants externes uniquement)

#### 14h30-17h

- CDASH en pratique (Wafaa JABERT, Pierre Fabre)
- Clinical Data Integration, création de DataWarehouse clinique au format CDISC (Francis DESTIN, SAS)
- Conversions de données vers SDTM (Thierry LAMBERT, AdClin)
- Conclusion de la journée, calendrier des activités 2011 du groupe (Pierre-Yves LASTIC, sanofi-aventis)



## Où sommes-nous?

#### sanofi-aventis recherche & développement

1, avenue Pierre Brossolette

91385 CHILLY-MAZARIN Cedex

Phone :+33 (0)1 69 79 77 77



5, rue Georges Bizet





sanofi aventis

L'essentiel c'est la santé.

**Auditorium** 

## Le point sur les activités de CDISC

- CDISC Interchange Europe and other FU activities
  - Just Published in the Members Only Area
     North American Interchange Round Table Discussion Groups' Report.
  - Identification of Medicinal Products ISO Draft International Standard available for CDISC Closes: Wednesday 23 February 2011
- <u>Joint CDISC & C-Path Press Release</u>
   Critical Path Institute and Clinical Data Interchange Standards Consortium announce innovative partnership to address major diseases.
  - Alzheimer's disease / Mild Cognitive Impairment Data Standard
     Public Review Period Now Open Closes Friday 18 February 2011
- FDA CDER Data Standards Plan & PDUFA IV Update
  Dr. Rebecca Kush highlights the important points in the latest FDA documentation.
- BRIDG Release 3.0.3 Now Available
  BRIDG Release 3.0.3, which contains new semantics from CDASH V1.1, SDTM V3.1.2 and ICSR is now available.
- CDASH Standard Version 1.1 Released
- <u>Terminology Public Review Period Open</u>
   Closes Friday 4 February 2011
- SEND IG V3 Now Open for Public Review!
   Comments due 4 February 2011
- In Members Only Area: ADaM Validation Checks!
   ADaM Validation Checks Documentation available now!





## CDISC Interchange Europe

**BRUSSELS, BELGIUM** 11 - 15 April 2011







#### **BRUSSELS CROWNE PLAZA**

- 4 star-hotel
- Traditional hotel in modern art-deco style
- situated the middle of the city
- 5 minutes to the train station
- 15 minutes from train station to the airport
- 300 rooms
- 15 workshop rooms
- trendy restaurant and Art deco style-bar
- free high speed WIFI internet throughout the hotel
- permanent fresh coffee, tea, juices in meeting facilities from 8 o'clock
- CDISC Rate: 149 Euro including VAT, breakfast and free WLAN
- More information: <u>www.crowneplazabrussels.be</u>



# European Interchange Innovations

### Break-Out Sessions

- More Interactivity for Participants
- Better Feedback for CDISC
- Summary of break-out sessions discussions are available in the member only area of the CDISC Website and are also available for the conference participants!

### Posters

More space to share experience



# Round Table Discussion Reports





#### Round Table Discussions (RTD) EU Interchange Apr 2010

**Full Report** 

Prepared by the

Jason Housley / Niels Both – E<sub>3</sub>C

Round Table Discussions (RTD) US Interchange November 2010

**Full Report** 

Prepared by the
Chris Decker – CDISC Interchange Committee

#### Session Chairs and Notes Takers:

Chris Tolk, Chris Decker, Frank Newby, Becky Kush, Julie Evans, Phillip Verplancke, Jozef Aerts, Rhonda Facile, Elke Sennewald, Monica Kawohl, Jason Housley, Niels Both,

#### Session Chairs and Notes Takers:

Terminology: Chris Tolk, Bron Kisler
Protocol: Dave Gemzik
XML Technologies: Sam Hume
CDASH: Rhonda Facile, Kit Howard, Melissa Binz, Melissa Cook,
ADaM: Jan Wruck, Niels Both, John Troxell, Dana Soloff
SDTM: Barrie Nelson, Gail Stoner, Robert Stemplinger, Pat Wozniak



# European CDISC Coordinating Committee (E3C): Current Members

#### Chair

Pierre-Yves Lastic, sanofi-aventis, France

#### Vice-Chair

Herbert Noack, Boehringer Ingelheim, Germany

#### Full Members

- Ann-Sofie Bergström, SAS, Sweden
- Niels Both, S-Cubed, Denmark
- Jörg Dillert, PhaseForward, Germany
- Jason Housley, Shire, UK
- Dave Iberson-Hurst, Assero, UK
- Peter van Reusel, BDLS, Belgium
- Wolfgang Summa, Omnicom, Germany
- Philippe Verplancke, Xclinical, Germany

#### Ex-officio Members

- Tim Jäger, Roche, Germany (past chair)
- Isabelle de Zegher, PAREXEL, Belgium (past Board member)

#### CDISC funded Support

- Barry Burnstead, UK, E3C Secretary & EMA liaison
- Amanda de Montjoie, UK, Conferences, Website & Communication support
- Dominik Ruisinger, Germany, EuroInterchange Organization & Meetings logistics



## **Key initiatives in Europe**

### Think globally – act locally

#### Awareness and Training

- Annual European CDISC Interchange
- CDISC Roadshows
- Support European User Groups



- Collaboration with European Medicines Agency (EMA)
- Collaboration with European Federation of Pharmaceuticals Industries and Associations (EFPIA) and European Commission on Electronic Health Record use for clinical research and pharmacovigilance within the Innovative Medicine Initiative (IMI) and the EFPIA eHealth Task Force
- Engage with national *ISO* committees
- Liaise with HL7 Europe and European HL7 Affiliates

#### Colead global CDISC projects

CDISC SHARE





# European Medicines Agency (EMA)

- CDISC participates in the Joint Operations Group of the EMA Telematics Implementation Group
- Since October 1st, 2010, the E3C Chair is member of the EudraVigilance Expert Working Group
- Contributes together with HL7 in creating and maintaining standards for
  - Clinical Trials Protocols (EudraCT Database) => BRIDG,
     Protocol, CTR&R
  - Adverse Events Reporting (EudraVigilance) => ICSR
  - Drug Terminology (EudraPharm) => IDMP
- CDISC published the eSDI document that is the basis for the new EU Guidance on Electronic Source Documents used in Clinical Trials



# Identification of Medicinal Products ISO Draft International Standard

- The five IDMP standards were developed in response to a worldwide demand for internationally harmonized specifications for medicinal products. Together they provide the basis for the unique identification of medicinal products. The group of standards comprises (click to download the pdfs):
  - ISO/DIS 11615 Health Informatics Identification of Medicinal Products Data elements and structures for the unique identification and exchange of regulated medicinal product information
  - ISO/DIS 11616 Health Informatics Identification of Medicinal Products Data elements and structures for the unique identification and exchange of regulated pharmaceutical product information
  - ISO/DIS 11238 Health Informatics Identification of Medicinal Products Data elements and structures for the unique identification and exchange of regulated information on substances
  - ISO/DIS 11239 Health Informatics Identification of Medicinal Products Data elements and structures for the unique identification and exchange of regulated information on pharmaceutical dose forms, units of presentation, routes of administration and packaging
  - ISO/DIS 11240 Health Informatics Identification of Medicinal Products Data elements and structures for the unique identification and exchange of units of measurement



## **IDMP**



#### **DRAFT INTERNATIONAL STANDARD ISO/DIS 11615**

ISO/TC 215 Secretariat: ANSI

Voting begins on: Voting terminates on:

2010-09-23 2011-02-23

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Health informatics — Identification of medicinal products — Data elements and structures for unique identification and exchange of regulated medicinal product information

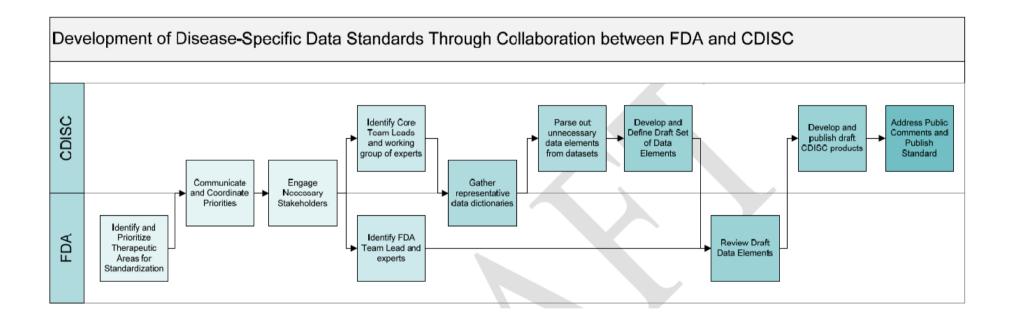


## C-Path and CDISC

- C-Path and CDISC are both non-profit organizations committed to forming precompetitive collaborations to address process gaps responsible for delays and inefficiencies in medical product development.
- After working together to build the landmark Alzheimer's disease clinical database launched publicly by C-Path's Coalition Against Major Diseases (CAMD) in June 2010, C-Path/CDISC will now take on other brain diseases (Huntington's disease, ALS, multiple sclerosis), as well as lung cancer, diabetes mellitus, and other diseases identified by the U.S. Food and Drug Administration (FDA) as high priority public health challenges.

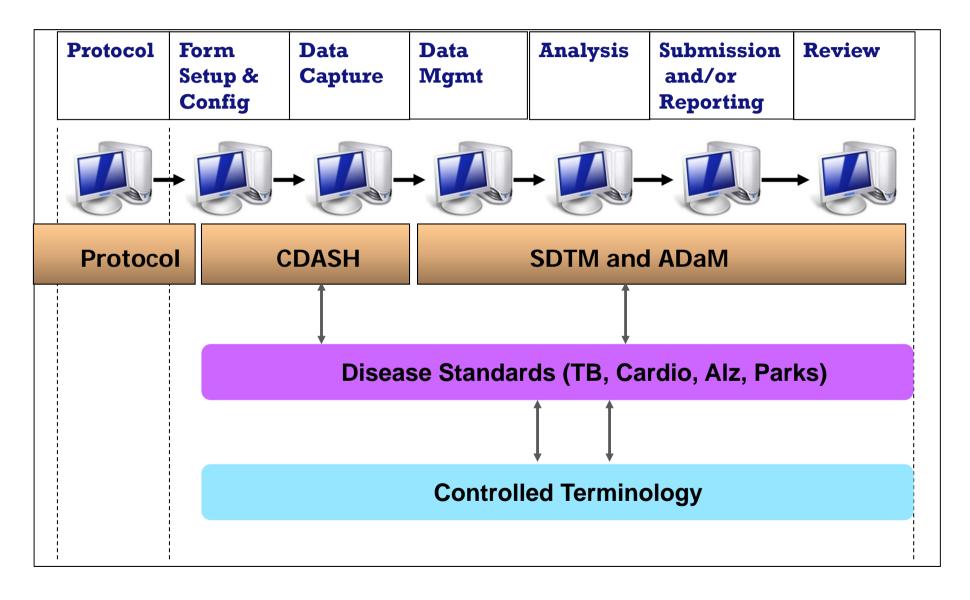


## FDA Data Standards Plan





# Disease Specific Standards



# SDTM – Study Data Tabulation Model

Interventions	Events	Find	lings	Special Purpose
Con Meds	Adverse Events	EC	CG	Demographics
Exposure	Disposition	Incl/Excl E	exceptions	Comments
Substance Use	Medical History	La	bs	Subject Elements
	Deviations	Physica	l Exam	Subject Visits
	Clinical Events	Questic	onnaire	Deletienshine
Trial Design		Subject Cha	aracteristics	Relationships
Trial Elements		Vital 9	Signs	SUPPQUAL
Trial Arms		Drug Acco	ountability	RELREC
	Microbio	logy Spec.	PK Conce	entrations
Trial Visits	Microbiolo	Microbiology Suscept.		imeters
Trial Incl/Excl	111101001010			
Trial Summary		Finding	s About	



## SDTM General Observation Classes

## What kinds of observations are these?

**Interventions** 

**Events** 

**Findings** 

Other

**Blood Pressure** 

**Drug Administration** 

Physical Exam

Medical History

Age

Lymphocytes

**Adverse Event** 

**Study Discontinuation** 

**Concomitant Medication** 

Comments



## SDTM General Observation Classes

## What kinds of observations are these?

**Interventions** 

Concomitant
Medication
Drug Administration

**Events** 

Adverse Event
Study
Discontinuation
Medical History

**Findings** 

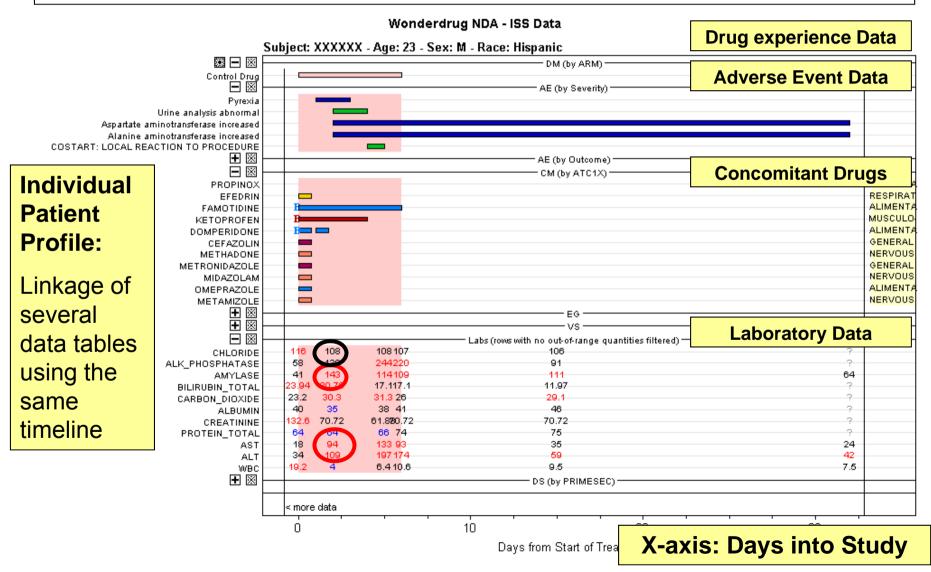
Physical Exam
Blood Pressure
Lymphocytes

Other

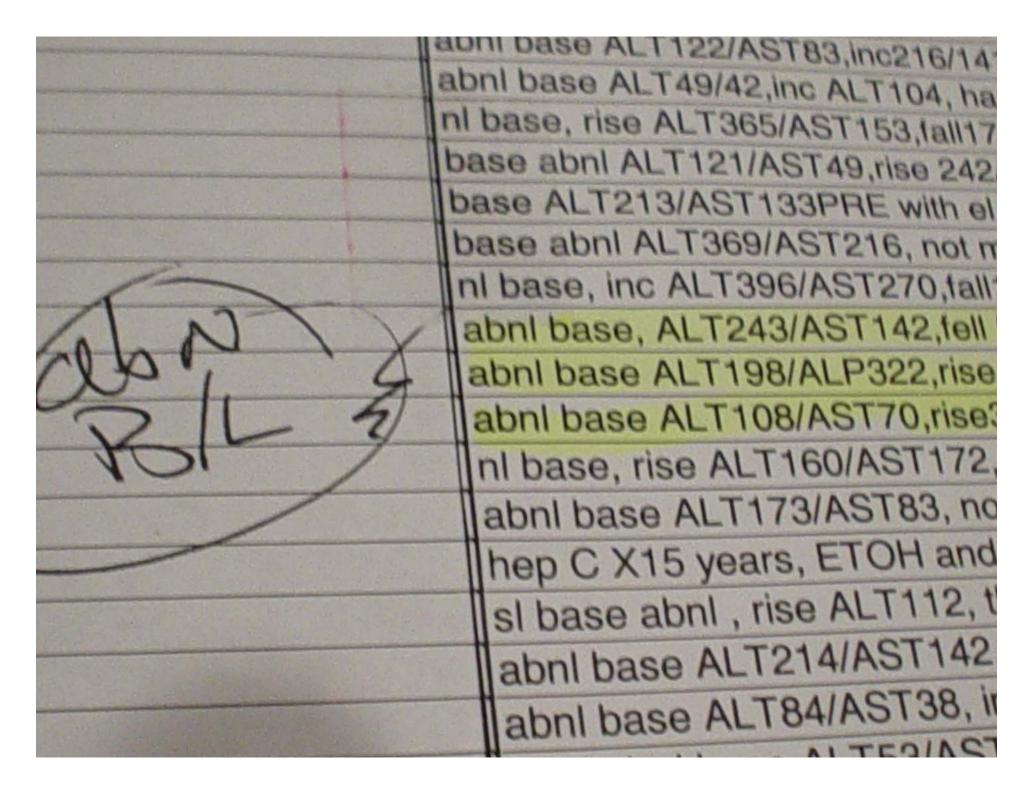
Comments Age



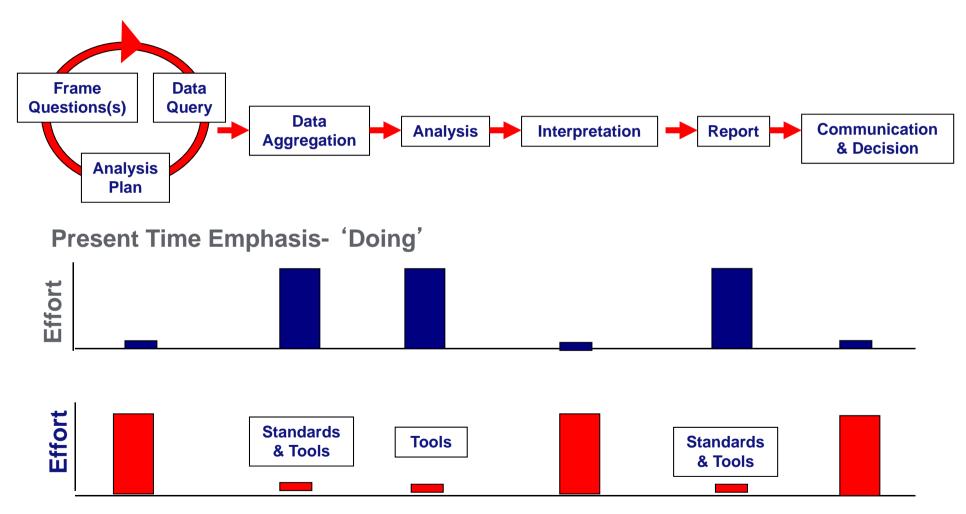
# IN ONE STEP with SDTM: Assessing Potential Liver Injury by Analyzing Increases in Serum Alanine Aminotransferase (ALT) and Total Serum Bilirubin (TBILI)



Notice Ad TWT Topped: Al Y rise to 1284, propiosed to 1884 and the second of the second and the second of the seco there were ART wALT and the properties ALT white dring therefore I through request reason by comments and the properties of the properties The first party of a first pool, from an foot, a foot court round, motive actor percent processes of rough the first party percent per green, trains improve thirty study, but oon and por ASSAA. because ALT140/AST71, progressive inc. hep-sero neg, recommend FAJ, poss-respai 789/AST73, ALT16535(10X),AST232, eIALP342, hep-sero ned, probable green, later FAJ back at base, uticlogy?, did the with drug. gree, invitoncom med, but none listed, chokestatis picture Describe Linuvill, but fl/2000 ALT 1/39, levels stable, unrelated gree, soft case for CEC empoint, Tarry late FRU, rd ALP, bebaseALTSO, V2ALT154, ax diarrhea, rash, lever, refused f/u, possible LESIA TEN GENERAL base nl. Al.T rise to 222, bit 10 to 32, dark urine, decel, probable gree, at trans and bit, ALP, ses TATEL SERVICE abril base ALT216.AST142, gradual imp trans, liver bx chronic hep, unrelated tree, biopsy chronic active hepatitis c/w hep C of el Al. 7 base 35, rise to 188, then back to 37, ni bili, viral sero neg groe, Uu (V2) LFT done after bevaquin tol trans with eos agree, although study drug X2 tlay, then tiends, carenassis is take the agree, absolute eas inc although ALT improved at at V2 ol base, ALT to 113, then 153, neg sero, probable drug base abol ALTIBS, ABTOO, hep C pos, no change, unrelated PARK TOTAL agree, abni prior without major change, pos AHA base ALT abril 137, no major change, ANA as high as 1:640, unrelated agree, also could have been due to increased alcohol base ALT st abn/ 30, increase to 113 and then fall, possible ITTING TERM agree, trans up, still up at late F/U, ? Contrib of alcohol? mi abril base ALT 62, with rise to 129, then 152, possible, need F/U agree, may have had underlying liver dz with former by ETCA1, also concur serrestees. agree, assoc winc ALP, not bill, no eos count done, neg viral semiogies, ves sines early COTTON DES time frame of el consis, possible 551563.51 ni base, ALT increase to 159, normalized, possible agree, levels still rising at t/u, any tata t/u?, losartan can el Lh mild inc base ALT3.AST46, rise to 137/80 w el ALP152, poss agree, there is no F/U roorded or data sheet prepared, any late F/U?? of base ALT78, AST137, rise to 203/233, nt bill and ALP, only 1 f/U, possible death secondary to MI, no F/U beyond V2, disagree, carn rio drug base abril Al. T68, AST94, inc 143, 200, severe underlying cardiac disease, unrel 1980 TO ALTARAJAST 222, rise occurred, trin nex sure you can separ agree, can't separate out hep C, U/S lat liver, christinasis abril base ALT254,AST139, increased, but refused t/u abni base ALT122/AST83,inc216/141,dec116/92, poss inc trans in hep C hep C pos, abril base with <3X base rise, still carr, RIO drug agree, assoc inc ALP, no eos, needs F/U (May near ni ALTAS/AST34) abni base ALT49/42,inc ALT104, hap C pos, ANA1:80,likely hep C,unrelated drug ni base, rise ALT365/AST153,fall172/100,autoimm and sero neg.possible agree, F/U needs check, trans still rise base abril ALT121/AST49,rise 242/120, no decel, hep sero neg, possible pt baseALT404, no neg impact by study drug on LFT, but concom hep C subgroup nl ALT45/AST30 when hosp with stroke, rise noted 1 week after admission, possible, hosp more base ALT213/AST133PRE with el ALP, only 2days rx, improved, unrelated hospitalized for pneumonia/?hepatitis.took.only 1 day study med.LFT decined, rise late hep-see base abnl ALT369/AST216, not much change, nibili, unrelated abril base with worsening, ni LFT tollowing month, pos eos as LFT improve, hep sero neg ni base, inc ALT396/AST270,fall178/56,CVA(valve thrombus) prior to el LFT,poss course shortened due to syncope, dx hep C,transam still inc.?any late FN abril base, ALT243/AST142,fell 59/46, unrelated abril base ALT198/ALP322,riseALT350with decline, possible rise after treatment, resolution off, agree possiprob agree likely unrelated, but incomplete F/U with ALT down from 4 to 3XULN, no V3 lab abni base ALT108/AST70,rise329/195, hep C+,etoh, possible disagree, had rise with rx, hep C vs drug, also pos DNA?so nl base, rise ALT160/AST172, resolve, possible agree?, ALT declined after treatment, hx hep C, tests ordered, not recorded, confirm to abni base ALT173/AST83, no change, unrelated agree, also noted + ASMA, sig ? hep C X15 years, ETOH and tylenol, unrelated agree, V2 lab still w el, but less than base sl base abnl , rise ALT112, then fall, possible abni base ALT214/AST142, "no major change" unrelated, pt refused V3 lab ?disagree, abni base with further inc, still inc at last lab, hep and auto rug. ?am agree, F/U back to base, still mild abni abni base ALT84/AST38, inc159?168, dec near ni, hep sero neg, poss agree, possible, but pravachol also concom new med? mild abril base ALT53/AST48, inc 145/85, found hep C, poss agree, needs t/u into - any late F/U?, looks like lost to I/u, no CBC, hep sero base ALT122/AST103, peak ALT175, hep sero neg, unrelated agree,still abnl 2/02,3/02 but baseline,no eos ni base, inc ALT236, then ni, rash 2 weekspost rx, poss, U/S-, prior chole agree, despite early I/u, lab time OK and trans nl, hep sero neg abril base, ALT84/AST93, inc ALT/AST/bill during rx, poss drug abril pre, nl 2 weeks, inc 1 month out, dec ALT113/AST61, remote dx hep i paren, bil did rise to 19 (0.9 from 10-0.48) and late bill slover ULN, ? and nl base, inc ALT266,AST142, no F/U, possible Those rise ALT to 109, hep sero neg, poss to hon C+ unrelated



# US FDA Goal: Reduce Time to Access / Analyze Data to Increase Time for Review



Source: Theresa Mullen, PhD, FDA CDER Associate Director



# **CDISC Controlled Terminology**

- Primary Objective: to define and support the terminology needs of CDISC standards across the clinical trial continuum (CDASH → SDTM)
- Focus on "standard" terminology codelist development and publication, beginning with SDTM v3.1.1 & CDASH v1.0 (for "safety data")
- Key partnership with US National Cancer Institute Enterprise Vocabulary Services (NCI EVS) with terms coded in NCI Thesaurus
- Key harmonization activities with FDA, EMA, NCI, ISO, NCI, HL7 RCRIM etc.



# **Guiding Principles**

- Adopt...Adapt...Develop Philosophy
- Evaluate and/or utilize existing terminology 1st
- Extend existing vocabularies where incomplete, working with vocabulary developer / owner
- Harmonize across CDISC standards and with other pre-existing vocabulary initiatives
- Address international needs for global projects and organizations
- Ensure an open, free and viable environment and infrastructure for production terminology that supports terminology evolution



## CDISC-NCI EVS Partnership

- Dedicated terminology experts and resources to CDISC global terminology activities
- Controlled terminology <u>development</u>, <u>harmonization</u>, <u>publication</u> and <u>maintenance</u>
- Established terminology infrastructure and standard operating procedures
- CDISC terms are coded and tagged in NCI Thesaurus



# NCI EVS Terminology Services

Subject Matter Expertise

- Enterprise Vocabulary Services
- Definition writing and analysis
- Terminology tagging, sub-setting and value set management
- Terminology coding that ensures crossharmonization with key partner organizations
- Terminology requests and maintenance
- Links to other controlled terminologies as needed (e.g. FDA, MedDRA, ISO, UCUM etc.)
- Extending into new disease areas



# Controlled Terminology example

## Position Codelist Example

- Sitting
- Prone
- Standing
- Supine
- Fowlers
- Semi-Fowlers
- Trendelenburg
- Reverse Trendelenburg
- Right Lateral Decubitus
- **Left Lateral Decubitus**



Codelist = Value Set = Permissible Values

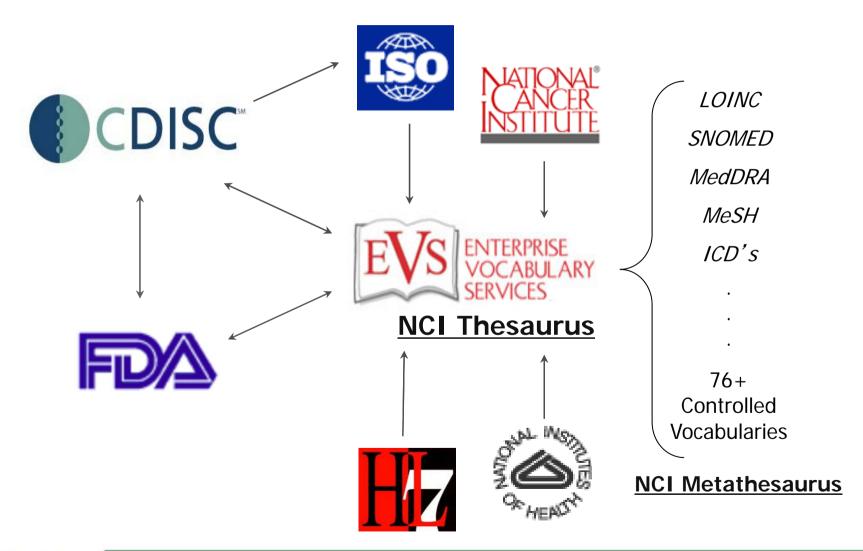


**CDISC** 

**Controlled** 

**Terminology** 

# **Terminology Alignment**





# Terminology Subsets in NCIt

to access and download CDISC terminology go to http://www.cancer.gov/cancertopics/terminologyresources/CDISC

	<b>Production Total</b>	Novel Terms	Codelists
SDTM	4736	3745	63
SEND	3952	1800	62/*40
CDASH	135	-	16
ADaM	29	29	4

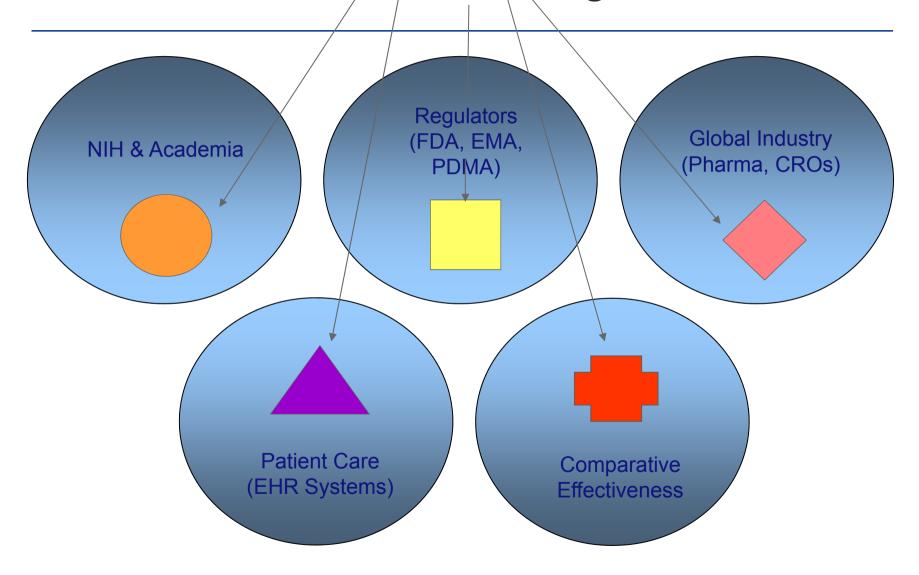
<sup>\*</sup>Indicates SEND-only codelists

	Term Numbers
CDISC	5627
NCPDP	511
FDA UNII Codes	11578
FDA CDRH	1978
FDA SPL	753
FDA ICSR	202
NICHD	598
CTCAE	6361

Note: Terms for TB, Cardiology, Polycystic Kidney Disease also coded

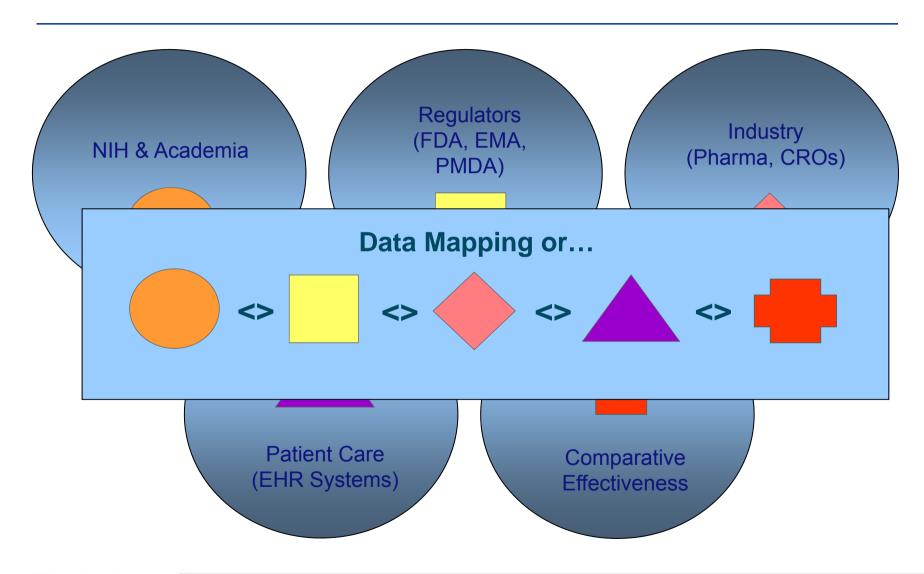


# Clinical Data Element: Angina



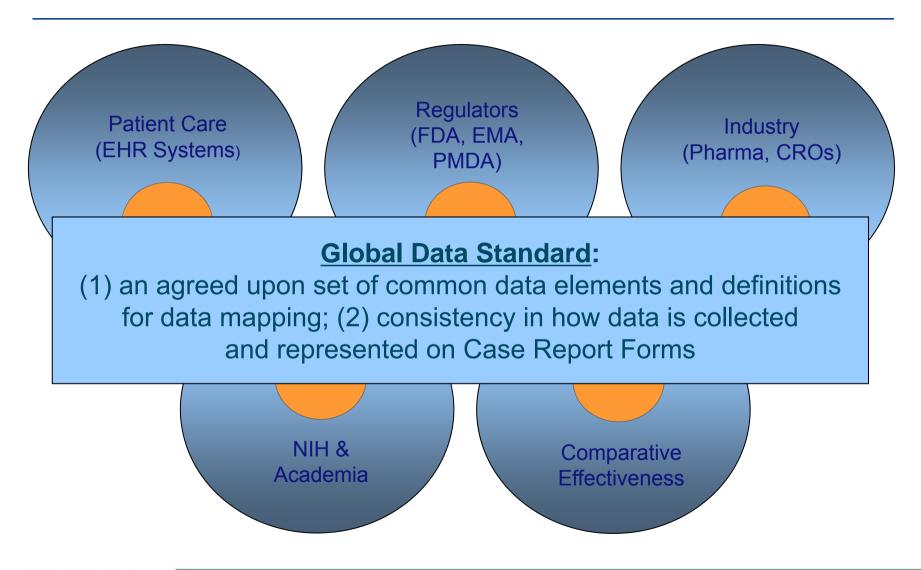


# Clinical Data Element: Angina





# Standard Data Element: Angina





# **CDISC** Disease Projects

DISC

- Pulmonary Tuberculosis (TB); joint CDISC-HL7 standard released fall 2008; 139 TB data elements and definitions
- Acute Coronary Syndrome (ACS); joint CDISC-HL7 standard released fall 2008
- Cardiovascular Disease; CV Endpoint definitions available for public review; clinical data elements being developed to standardize data collection in Cardiovascular trials
- Alzheimer's Disease with Coalition Against Major Diseases (CAMD) and Nat'l Institute of Neurological Disorders & Stroke (NINDS); Implementation Guide available for public review
- Parkinson's Disease with NINDS; clinical data elements and definitions developed
- Other Projects: Polycystic Kidney Disease, Oncology, Diabetes, Pain & Analgesics, Hepatitis C, Pediatrics

## **ACS Standard Data Element**

Data Element Name: History of peripheral vascular disease

**Clinical Definition:** Indicate if the patient has a history of peripheral vascular disease. This can include:

- 1. Claudication either with exertion or at rest.
- 2. Amputation for arterial vascular insufficiency.
- 3. Aorto-iliac occlusive disease reconstruction, peripheral vascular bypass surgery, angioplasty or stent; or percutaneous intervention to the extremities.
- 4. Documented abdominal aortic aneurysm (AAA) repair or stent.
- 5. Positive non-invasive/invasive test.

This does not include procedures such as vein stripping, carotid disease, or procedures originating above the diaphragm.

Valid Values: Yes, No



## **ACS Data Collection Module**

#### **Acute Coronary Syndrome**

Common Data Elements

### **History and Risk Factors**

History and Risk Factors	
Angina pectoris:  Previous or current symptoms described as chest pain or pressure, jaw pain, arm pain, or other equivalent discomfort suggestive of cardiac ischemia.	No Yes
Unstable angina pectoris:  Angina pectoris (or equivalent type of ischemic discomfort) with any 1 of the 3 following features:  a) Angina occurring at rest and prolonged, usually greater than 20 minutes; b) New onset angina of at least Canadian Cardiovascular Society Grading Scale (or CCS classification system) classification severity III or greater; c) Recent acceleration in angina accentuated by an increase in severity of at least 1 CCS class to at least CCS class III. The biomarkers of necrosis are below the threshold of myocardial infarction.	□ No □ Yes
Stable angina pectoris: Angina without a recent change in frequency or pattern. Angina is relieved by rest and/or sublingual/oral/transdermal medications.	□ No □ Yes

# Cardiovascular Program

Completed

In progress

Consider for this project scope

Future

### Cardiovascular Data

Odialovasoulai Bata									1 dtale									
Non-specialty data Common cardiovascular clinical observations - Sub-specialty domains																		
CDISC				CTN BP	ACC / AHA		FDA			NCRI Grant* ACC/AHA/STS Registries				Cardiac Imaging				
Demographics	Concomitant Medications	Adverse Events	Vital Signs	18 total domains and growing	ACS History & Symptoms	Top 100 EHR data elements	CV Outcomes	Womens' Presentation Sx	Stroke	STEMI/NSTEMI (ACTION)	Corotid Artery Stenting and Endarterectomy (CARE)	Cardiac Cath and PCI (CathPCI	Cardioverter defib procedures (ICD Registry)	Congenital Heart Conditions (IMPACT)	Echocardiography	Coronary CTA	Exercise Electrocardiography a	SPECT MPI

\*National Cardiovascular Research Infrastructure

#### **CV** Clinical

- Data Elements
- Event definitions
- Clinical terminology and data definitions

#### CDISC

- SDTM standard for FDA submission
- Controlled Terminology alignment
- CRF templates
- Stds adoption by researchers

#### HL7

- Mappings to HL7 standards
- Adoption support for EHR'sCCHIT EHR Certification (future)

# Why Cardiology Data Standards

- To improve the quality and efficiency of cardiovascular trials
- To provide end point definitions so that events are clearly characterized by objective criteria and reported uniformly
- To standardize data collection to capture key data elements
- To simplify analysis of events in drug development programs or among different clinical trials and to more easily identify trends and other safety signals

Source: Dr. Karen Hicks, FDA Medical Officer



### TB Standard Data Element

Data Element Name: Reason subject first came to medical attention

**Clinical Definition:** The reason the subject was first medically evaluated for possible TB disease or Latent TB infection

Note: clinical data elements are the "currency of exchange"

**Valid Values:** Symptoms, Contact Investigation, Source Case Investigation, Screening of High Risk Population, Unknown, Other (specify)



# TB Data Form with SDTM Annotation

### TBTN Standards Modules

### **Active TB Diagnosis: Clinical Evidence**

Patient Number: \_\_\_\_\_\_

Clinical Signs and Symptoms										
	Date patient first came to medical attention for TB concerns:	day month year eeTERM=FIR	ST CAME TO MEDICAL ATTENTION							
1	Reason patient first came to medical attention for TB (check all that apply): [FTEST]	Symptoms Scre	erce case investigation ening of high risk population er (specify):  SUPPff							
2	Tuberculosis site (check all that apply):  ffTEST	Unknown/undetermined Lung parenchyma Skin ffORRES Other subcutaneous and dermal Muscle Tendon Ligament	Liver Stomach, small intestine, appendix, colon, rectum, anus Gastrointestinal contents (feces) Omentum, peritoneum, peritoneal fluid Renal tissue Urine							
		Disseminated (bone marrow, blood, miliary)  Spleen  Superficial lymph node (œrvical, occipital, supraclavicular, axillary, inguinal, or other superficial)  Intrathoracic lymph node  GI tract  Throat, upper airway (nose, sinus, nasopharynx, epiglottis)  Larynx  Pleural tissue or fluid  Pericardial tissue or fluid  Mouth, lip, tongue, dental structures,	Male reproductive tract Female reproductive tract Meningeal (cerebrospinal fluid, meningeal tissue, dural sinus, choroid plexus) Brain (tuberculoma) Spinal cord, cranial, spinal and peripheral nerve Ocular (eye) Pus Other site (specify): SUPPff							

# Sample TB Codelist: CXR Image Parenchymal Result

### **Standard Terminology Codelist**

CDISC Controlled Terminology

- Cavity
- Fibrosis
- Infiltrates
- Mass calcified
- Nodule not calcified
- Volume loss
- Volume collapse
- Miliary Tuberculosis
- Unable to determine



Codelist = Value Set = Permissible Values



# Parkinson's Data Element (NINDS)

**Standard Data Element** (Neuropathology): Density of "Lewy Related Pathology" by regions: Temporal Cortex

**Clinical Definition:** Indicates the density of "Lewy related pathology" in temporal cortex, if present

Valid Values: 0 = Absent

1 = Mild

2 = Moderate

3 = Severe

4 = Very severe

5 = Not assessed

9 = Missing/unknown

**Another Example** (Cognitive Instrument): Alzheimer's Disease Assessment Scale – Cognitive (ADAS-COG)

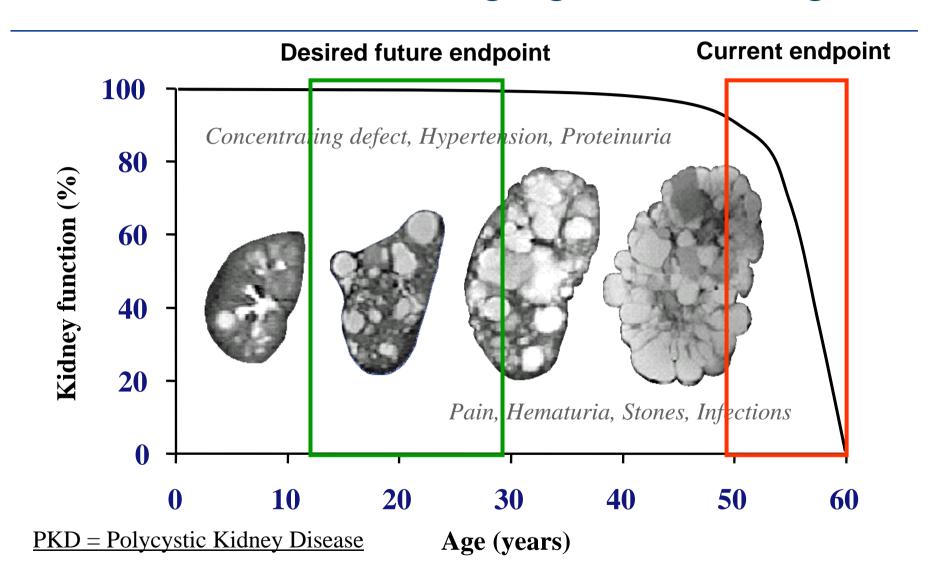


# Aligning Alzheimer's Data with SDTM

Interventions	<b>Events</b>	Find	lings	Special Purpose			
Con Meds	Adverse Events	EC	CG	Demographics			
Exposure	Disposition	Incl/Excl E	exceptions	Comments			
Substance Use	Medical History	La	bs	Subject Elements			
	Deviations	Physica	l Exam	Subject Visits			
	Clinical Events	Questic	onnaire	Relationships			
Trial Design		Subject Cha	aracteristics				
Trial Elements		Vital S	Signs	SUPPQUAL			
That Elements		Drug Acco	yuntahility	RELREC			
Trial Arms							
Trial Visits	Microbio	logy Spec.	PK Conc	entrations			
Trial Incl/Excl	Microbiolo	gy Suscept.	PK Para	ameters			
Trial Summary	Findings About						



# PKD Use Case: Changing the Paradigm



Source: Dr. Ron Perrone PKD Foundation & Tufts Univ.

# PKD Opportunity for Intervention

- The ideal therapeutic agent would block formation and/or growth of cysts at an early stage of life, thereby preventing the *inexorable* expansion, irreversible scarring, and structural distortion of kidneys, which are associated with all of the kidney complications of PKD
- Adoption of total kidney volume (TKV) as a target endpoint for regulatory approval will greatly accelerate the pace of clinical research and introduction of new therapies, thereby benefiting all PKD patients

Source: Dr. Ron Perrone PKD Foundation & Tufts Univ.



# PKD Project Key Aims

- Develop standard clinical data elements and definitions that are specific to PKD to enable the remapping of retrospective data and collecting prospective data in a standards format
- Develop the PKD standard with clinical (and standards) experts and obtain broad consensus through CDISC public comment; ensure input from both FDA and EMA
- Create a new database of aggregated data from existing multiple, longitudinal, and well-characterized research registries maintained over decades by leading academic institutions in PKD clinical investigation
- The disease models will be used as evidence in a formal application to the FDA and the EMA for <u>qualification of Total Kidney Volume as</u> <u>a biomarker "fit for use"</u> in evaluating the efficacy of new therapies and treatments for PKD

Source: Dr. Ron Perrone PKD Foundation & Tufts Univ.



# Innovative Medicine Initiative (IMI)



Electronic Health Records for Clinical Research

HOME

CONSORTIUM

WORKPLAN

Website under construction

#### HOME

The EHR4CR (Electronic Health Records for Clinical Research) project aims to design and demonstrate a scalable and cost-effective approach to interoperability between Electronic Health Record systems (EHRs) and Clinical Research through multiple but unified initiatives across different therapeutic areas, with varying local and national stakeholders and across several countries under various legal frameworks. This unified approach will be made possible by both an EHR4CR business model and an EHR4CR platform.

Working closely with the EFPIA partners, the consortium will confirm priority clinical trials scenarios, such as patient recruitment, to be addressed and the requirements for these scenarios. The present gap between EHR systems and clinical research systems to deliver these scenarios will be analysed, which will direct the business model and the platform design.

The EHR4CR platform will:

- enable trial eligibility and recruitment criteria to be expressed in ways that permit searching for relevant patients across distributed EHR systems, and initiate participation requests confidentially via the patients' authorized clinicians;
- support the feasibility, exploration, design and execution of clinical studies and long-term surveillance of populations;
- provide harmonised access to multiple heterogeneous and distributed clinical (EHR) systems and

#### SUPPORTED BY

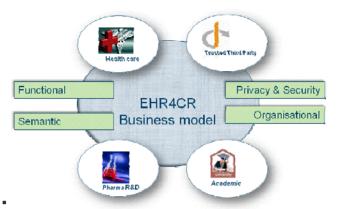
The EHR4CR project is funded by the IMI Programme.



The Innovative Medicines
Initiative (IMI) is a unique publicprivate partnership designed by the
European Commission and European
Federation of Pharmaceutical Industries
and Associations (EFPIA). It is a panEuropean collaboration that brings
together large biopharmaceutical
companies, small- and medium-sized
enterprises (SMEs), patient
organisations, academia, hospitals and
public authorities. The initaive aims to
accelerate the discovery and



### EHR4CR Business model

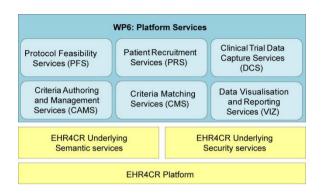


### EHR4CR business model will:

- Specify in detail the product and service offering;
- Include an impact analysis on multiple stakeholders;
- Deliver a self-sustaining economic model including sensitivity analysis;
- Define appropriate governance arrangements for the platform services and for pan-European EHR4CR networks;
- Define operating procedures and trusted third party service requirements;
- Identify the value proposition and incentives for each of the key players and stakeholders impacted by EHR4CR;
- Define accreditation and certification plans for EHR systems capable of interfacing with the platform;
- Provide a framework to define public and private sector roles in reusing EHRs for clinical research;
- Define a roadmap for pan-European adoption and for funding future developments.



## EHR4CR Technical Platform



### EHR4CR platform will:

- Support the feasibility, exploration, design and execution of clinical studies and long-term surveillance of patient populations;
- Enable trial eligibility and recruitment criteria to be expressed in ways that permit searching for relevant patients across distributed EHR systems, and initiate confidentially participation requests via the patients' authorised clinicians;
- Provide harmonised access to multiple heterogeneous and distributed clinical (EHR) systems and integration with existing clinical trials infrastructure products (e.g. EDC systems);
- Facilitate improvements of data quality to enable routine clinical data to contribute to clinical trials, and importantly vice versa, thereby reducing redundant data capture.



# The partners



- 10\* Pharmaceutical Companies (members of EFPIA)
- 22 Public Partners (Academia, Hospitals and SMEs)
- 5 Subcontractors (Advisory Board).



<sup>\*</sup> May increase up to 11 pharmaceutical companies

# The partners

































U NOVARTIS



































WESTFÄLISCHE WILHELMS-UNIVERSITÄT MÜNSTER





# Governance structure



Advisory Board

#### Steering Committee - All Consortium participants

For annual project review, approval/removal of participants, approval of resource shift across work packages/project participants

Executive Committee - 11 Participants
Coordinator (AZ), Deputy Coordinator (Roche)
IMI JU Managing Entity (EuroRec) + All WP leaders

for operational project-leadership, continuous project review, issue resolution, proposal of changes within projects

**Ethics Board** 

Work Package Group 1

"Engagement & Business Model"

Leaders: Public: UCL EFPIA: Roche Work Package Group 2

"Informatics Tools & Services"

Leaders: Public: Custodix EFPIA: Sanofi Aventis Work Package Group 3

"Pilots"

Leaders:

Public: Univ. Mûnster EFPIA: Amgen

Work Package Group 4: Project Management & Administration EFPIA (AZ, Lilly) & Public partners (EuroRec, UCL)

All participants - Contibutions to Work Package tasks



### **EHR4CR** Timeline

### Stage 1 (Consortia evaluation & selection) - completed in March

- Forming one EHR4CR consortia of 32 private and public partners to develop a full project proposal for 2009 IMI call topic 9
  - The project is coordinated by AZ
  - EuroRec acts as managing entity for public partners
  - Roche acts as deputy coordinator and E Lilly to cover Project Management

### Stage 2 (Full project proposal) – completed July

- June 28th: Full Project Proposal submitted
- July 16<sup>th</sup>: IMI Consensus Expert Panel Meeting
- July 20<sup>th</sup>: IMI Governing board decision on the list of full project proposals

### **Stage 3 Current status**

- September 19<sup>th</sup>: Novartis joins the EHR4CR project
- Preparations is now underway to finalise the final grant and project agreement during Q3.
- Kick-Off Meeting March 3-4, 2011.





# Suite du programme...

- Standards Alzheimer
- Validation SDTM
- CDASH en pratique
- DataWarehouse Clinique
- Conversion vers SDTM



### Conclusions

- Activités du groupe en 2011
- Prochaines Réunions
  - Mardi 12 avril 17-19h (EuroInterchange Bruxelles)
  - Juin à Genève
  - Automne à l'APHP



### Pierre-Yves Lastic (pierre-yves.lastic@sanofi-aventis.com)



# Strength through collaboration.

