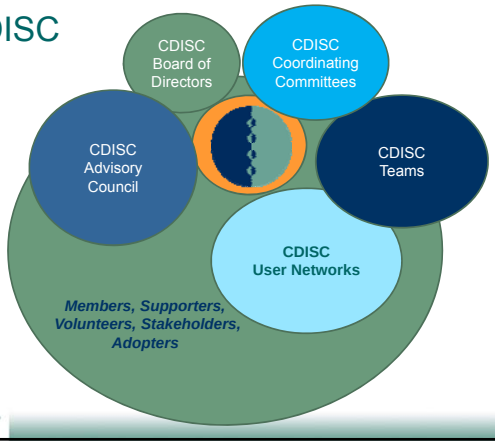
CDISC In 2014

Pierre-Yves Lastic
Chairman of the Board

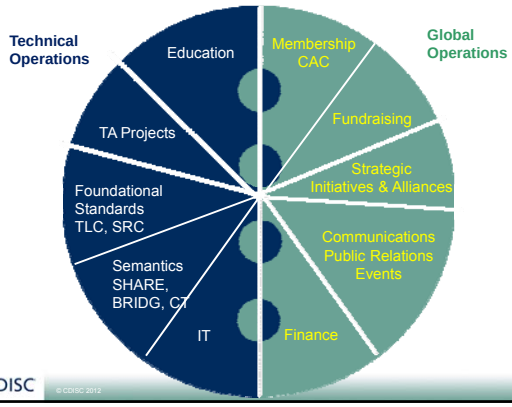
Groupe des Utilisateurs Francophones des standards CDISC
Suresnes, 8th December 2014

Strength *through Collaboration*

CDISC



CDISC Operations



CDISC

CDISC Communications

- **Website Upgrade** (www.cdisc.org)
- **Business Case** (Stage V)
- YouTube Videos (e.g. SHARING)
- Press Releases and Announcements
- eNewsletter-New Format!

CDISC 2013 Annual Report Published in May

Sign up online to our e-mail list!

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CDISC Strategic Goals 2013-2015

- Refine, support and provide education on existing foundational CDISC standards
- Expedite development and rollout of new therapeutic area standards
- Achieve significant progress in enabling interoperability between clinical research and healthcare
- Develop CDISC SHARE
- Forge productive global collaborations

CDISC

CRITICAL PATH INSTITUTE

Coalition Against Major Diseases

PUBLIC RELEASE OF ALZHEIMER'S CLINICAL TRIAL DATA BY PHARMACEUTICAL RESEARCHERS
First Combined Pharmaceutical Trial Data on Neuro-degenerative Diseases;
Shared Resource from Unique Public-Private Partnership Will Help Accelerate Alzheimer's, Parkinson's, and Other Brain Disease Research

Washington, DC – A new database of more than 4,000 Alzheimer's disease patients who have participated in 11 industry-sponsored clinical trials will be released today by the Coalition Against Major Diseases (CAMD). This is the first database of combined clinical trials to be openly shared by pharmaceutical companies and made available to qualified researchers around the world.

Data were mapped into CDISC standards for this database, which now has data from >> 6,000 patients and is freely available to researchers.

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What was learned? ADAS-Cog Variability

CRITICAL PATH INSTITUTE

	ADNI	J&J	Wyeth	Sanofi	Pfizer	AstraZeneca	Abbott
Item 1	Word Recall	Word Recall	Word Recall	Word Recall	Word Recall	Word Recall	Word Recall
Item 2	Commands	Name Obj/fing.	Name Obj/fing.	Commands	Name Obj/fing.	Name Obj/fing.	Name Obj/fing.
Item 3	Constr. Praxis	Delayed recall	Commands	Constr. Praxis	Commands	Commands	Commands
Item 4	Delayed recall	Commands	Constr. Praxis	Delayed recall	Delayed recall	Constr. Praxis	Constr. Praxis
Item 5	Naming Obj/fing.	Constr. Praxis	Idea Praxis	Name Obj/fing.	Constr. Praxis	Idea. Praxis	Idea. Praxis
Item 6	Idea. Praxis	Idea Praxis	Orientation	Idea. Praxis	Idea. Praxis	Orientation	Orientation
Item 7	Orientation	Orientation	Word Recog	Orientation	Orientation	Word Recog	Word Recog
Item 8	Word Recog.	Word Recog.	Remem. Instr.	Word Recog	Word Recog	Remem. Instr.	Spoken Lang Abil.
Item 9	Remem Instr.	Remem Instr.	Spoken Lang. Abil.	Remem. Instr.	Remem. Instr.	Spoken Lang. Abil.	Comprehension
Item 10	Comprehension	Spoken Lang. Abil.	Word Finding Dif.	Spoken Lang Abil.	Spoken Lang Abil.	Word Finding Dif.	Word Finding Dif.
Item 11	Word Finding Dif.	Word Finding Dif.	Comprehension	Diff. Spont. Speech	Word Finding Dif.	Comprehension	Remem. Instr.
Item 12	Spoken Lang. Abil.	Comprehension	Concentration	Comprehension	Comprehension	Concentration	
Item 13	Number cancel.	Concentration		Concentration	Concentration		

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10-Year Disease Progression by Severity at Entry

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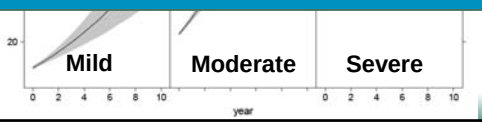
CDISC Alzheimer's Disease Standard Now Available!

"It is all about the data and how you can gain maximum utility and insight from data. In a world where many data are being shared, but in differing formats, CDISC standards provide a faster path to gaining those insights."

Enrique Aviles, CTO, C-Path

AD



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CEO Life Sciences Consortium

Project Data Sphere, LLC is an independent initiative of the CEO Roundtable on Cancer's Life Sciences Consortium

The CDISC Vision is to Inform Patient Care & Safety Through Higher Quality Medical Research

Project Data Sphere

Strength *through Collaboration*

The *Project Data Sphere* Initiative

www.projectdatasphere.org

- Independent, voluntary, not-for-profit initiative
- **One place to broadly share, integrate, and analyze cancer trial data**
  - from academic and industry
  - Phase III clinical trials
  - historical, comparator arm data
  - raw patient level data, data dictionary, protocols and CRFs
- State of the art analytic tools provided by SAS
- Community tools

CDISC

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The *Project Data Sphere* initiative

www.projectdatasphere.org

- **Our Goal is 25,000 Patient Lives by April 2015**
- C… da…
- A…
- A… (a… m…

"Analyzing the non-standard format data we have received has been challenging.

It is much easier to work with the more recent data, which had made use of CDISC SDTM.

Having a TA standard specific to prostate cancer will be extremely useful."

Liz Zhou, MD, Sanofi DataSphere Data Analyst

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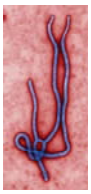
ONE MIND

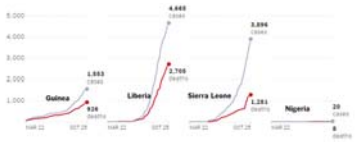
"One Mind is building on the efforts of the [international] TBI Research Community, NIH and the DoD to develop data standards, called Common Data Elements (TBI-CDEs). **Your support funded conversion of the TBI-CDEs to an internationally accepted set of Clinical Data Interchange Standards (CDISC),** a format approved by the FDA. Efforts have also led to creating standards that will reduce the time required for FDA acceptance of research findings and **accelerate the pace at which new diagnostics and treatments reach the patient**."

TBI = Traumatic Brain Injury

CDISC

Ebola in West Africa and Now the World





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- The **Oxford University Clinical Research Unit (OUCRU)** is a large-scale clinical and public health research unit based in Viet Nam. (Funded through the Wellcome Trust…)

"We work with organizations and consortia around the world and need to share data. We have to believe that CDISC is the language for that." *Laura Merson, Clinical Trialist, OUCRU*

https://ebolaclinicaltrials.tghn.org/data-management/ cites CDISC.

CDISC

CDISC Teams Developing New Data Standards for Ebola and Malaria!

"The World-Wide AntiMalarial Resistance Network (WWARN) and the Global Health Network work closely together and are keen to promote the use of the international data standards to ensure data integrity, validity and that the data collected are suitable for sharing, especially in low-resource settings.

The CDISC training (Paris 2014) has equipped me with the skills needed to implement the first steps for both groups to align with CDISC standards."

Lesley Workman, WWARN Pharmacology Scientific Coordinator, University of Capetown, South Africa

TransCelerate BIOPHARMA INC.

ACCELERATING THE DEVELOPMENT OF NEW MEDICINES

CFAST

Working through the TA Process of CFAST (a partnership of CDISC and C-Path) and collaborating with TransCelerate BioPharma, NCI, FDA, ACRO, IMI and NIH, TA standards have been developed for Asthma, Diabetes and many other therapeutic areas….

"This project was personal and meaningful for most of us from the beginning. Some of us are persons with Diabetes, have family members or friends with Diabetes, treat patients with Diabetes, or we work on Diabetes clinical trials during our day job."

Rachael Zirkle, CFAST Diabetes TA Standards Project Manager and Data Scientist for Eli Lilly

eTRIKS European Translational Information and Knowledge Management Services

efpia imi

Innovative Medicines Initiative (IMI)
European Translational Information & Knowledge Management Services (eTRIKS)

CDISC is co-leading the data standards work.

Building upon the open source tranSMART system, eTRIKS will provide a sustainable Knowledge Management Platform and Services to support Private/Public Translational Research across IMI, bringing curated data together from key IMI project consortia.

Curated data to be in CDISC format……

Innovative Medicines Initiative and CDISC

Published 5 June 2014

The NEW ENGLAND JOURNAL of MEDICINE

Fostering Responsible Data Sharing through Standards

Rebecca Kush, Ph.D., and Michel Goldman, M.D., Ph.D.

Children with muscular dystrophy and their families make sacrifices to engage in clinical research studies, providing valuable data they expect will contribute to the discovery of a cure, although they know it may not be found in time to help them. This message was emphasized at a recent meeting organized by the Institute of Medi- treatment of Alzheimer's disease have led several companies to begin collaboratively developing innovative study designs requiring extensive data sharing.

Unfortunately, the diverse ways in which data are collected and reported in clinical studies make it difficult or impossible to query across data sets, pool and share data, or integrate data for metadata, such confusion is inevitable. Units and other metadata are critical in medical research as well. Standard data and metadata formats are required for efficient aggregation of patient-level data, trustworthy statistical analyses, and accurately informed clinical decisions. When such standards are not implemented by all parties at the

CDISC

IMI Projects engaging eTRIKS

Oncology
- Colon
- Prostate
- Breast
- Lung

Safety
- Multiple Sclerosis
- Vaccine Preventable Diseases e.g. flu

Inflammation
- Severe Asthma
- Rheumatoid Arthritis

RA-Map

Infection
- Tuberculosis

ND4BB

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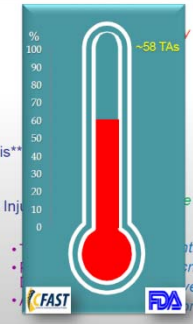
Dr. Fitzmartin's TA Development Status* to Date

FDA U.S. Food and Drug Administration Protecting and Promoting Public Health www.fda.gov

- Schizophrenia
- Influenza
- COPD
- Pain**
- Alzheimer's**
- COPD
- Multiple Sclerosis**
- *Diabetes***
- QT Studies
- Traumatic Brain Inj
- Parkinson's**
- Virology**
- Major Depressive Disorder



- *Rheumatoid Arthritis*
- *Prevention of Pregnancy*
- *Irritable Bowel Disorder*
- *ADHD*
- *Anticonvulsants*
- *Comp Urinary Tract Infection*
- *Muscular Dystrophy*
- *...ticoagulants - Atrial Fibrillation*
- *...cne*
- *...eractive Bladder*
- *...mplicated Skin Structure Infections*

*Approved, Ongoing, in Planning or Published as of November 2014; **Published by CDISC

A Changing Landscape in Japan

PMDA conducting pilots with CDISC standards and writing Guidance requiring CDISC standards for submissions by 2016 (while encouraging the use of CDASH for data collection).

CDISC authorized Education increasing in Japan…. now with Japanese instructors authorized by CDISC.

CDISC

FDA & PMDA are now CDISC Platinum Members.

Danone is joining this month (and working on nutrition standard).

We welcomed Our 350th Organizational Member in September: Hitachi Inspharma Ltd.

Update on the Center of Drug Evaluations (CDE), China FDA (CFDA) and CDISC (C3C)

- 2012 -mid-2013 China CDISC Coordinating Committee 3C - CSTAR) validated translations of CDISC standards into Chinese and launched Traditional Chinese Medicine (TCM) Team
- June 2013 - Established **China Clinical Trial Data Standards Steering Committee**

(临床试验数据标准化工作指导组)

Co-led by C3C Chair with CFDA

- July and August: Issued **China Clinical Data Plan (CCDP)** and formed several working groups (**CTDS-WG**) around the CDISC Standards
- September through 2014: Pilot project (CDISC standards in Chinese)

Many thanks to Zibao Zhang, leader of C3C, and to the C3C teams.

More Light on the Horizon….

- **CFAST Acceleration**
- **SHARE**
- **Education**
  - **Online Courses**
  - **Fellows Program**
  - **CFAST Process**
- **CDISC Business Case**
  - **Value of Standards at Study Initiation**
  - **Value of SHARE and Healthcare Link**
- **Communications**

Strength *through Collaboration*

The Research Landscape: Data Sharing

- **U.S. National Academies of Science Institute of Medicine (IOM): Committee to Report on Sharing of Data for Clinical Trials**
- **New England Journal of Medicine (NEJM): Series of Articles on Data Sharing**

- *Only ~ 45% of researchers share their data; 143 of 351 randomly selected papers complied with their data sharing policy*
- *Of 53 landmark basic science studies in oncology, Amgen could only reproduce results from 6.*

- *Data transparency, liquidity, liberation*
- *Data privacy, security, confidentiality*
- *Meta-analysis, data pooling and mining, clean vs. 'scruffy data, 'rogue data'*
- *Incentives/disincentives, especially for researchers*

Data Sharing – Recent Attention

- In late 2012, EU informed European Medicines Agency: ***"Clinical trial data is not commercial confidential information."***
- Recent series of **New England Journal of Medicine** Articles on Data Sharing
  - *Nisen and Rockhold (GSK) – "Access to Patient Level Data from GSK Clinical Trials"*
  - *Eichler, Petavy, Pignatti, Rasi (EMA) – "Access to Patient Level Trial Data---A Boon to Drug Developers"*
  - *Mello et al (Harvard) – "Preparing for Responsible Sharing of Clinical Trial Data"*
  - *Zarin (NLM) – "Participant-Level Data and the New Frontier in Trial Transparency"*

The Research Landscape: Data Sharing

- European Medicines Agency informed by EU Committee: ***"Clinical trial data is not commercial confidential information."***

"Data are like children; you like your own best and you don't like strangers to play with them." Hans Joerg Eichler, EMA

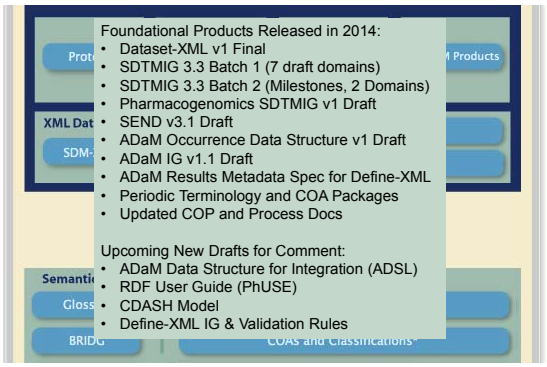
What about Data Standards? Formats?

- How are the data to be shared?
- Can the data be readily aggregated, analyzed and compared?

"Data are More Meaningful when SHARE'd… With Standards!"

We owe it to the patients who participate in research studies to use their data and to use it wisely.

Progress Update – Foundational Stds



2014 CDISC Technical Plan

Current CFAST Working Plan

CFAST Therapeutic Area Standards Project Pipeline as of May 2014

2012-2013				2016
Asthma v1				*Duchenne Muscular Dystrophy**
Alzheimer's v2				*Oncology v3**
Multiple Sclerosis v1				*Irritable Bowel Syndrome**
Diabetes				*Skin and Skin Structure Infections**
Cardiovascular Endpoints				*Complicated UTIs**
QT Studies				*HIV**
			der	*Cardiovascular v3**
			*	*Oncology v4**
			*BD**	*Maintenance Update TBD**

Projects in Italics are candidates to
*Indicates Project Proposal Summa

CDISC Therapeutic Area Data

2011	
Alzheimer's v1	se

TAUGs released in 2014 *(Drafts in italics)*:

- MS
- Diabetes
- Cardiovascular
- *Influenza*

Upcoming 2014 releases:

- *Hep-C*
- Influenza
- QT Studies
- *Schizophrenia*

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© CDISC 2014
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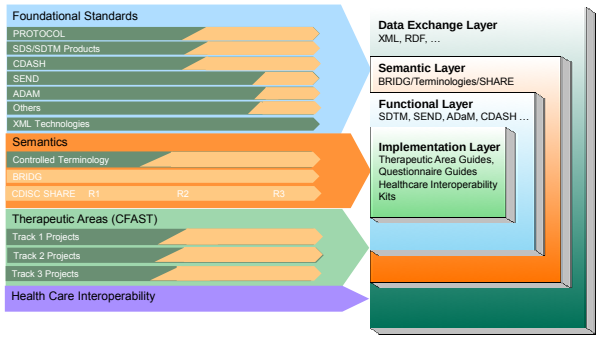
CDISC Technical Roadmap - 2014



The Roadmap depicts evolution from siloed standards to an integrated stack based on BRIDG and SHARE

CDISC

Shared Health and Research Electronic Library (SHARE)

A global electronic repository for developing, integrating and accessing CDISC standards metadata in electronic format.

SHARE should dramatically improve the quality, reusability and integration across CDISC standards and controlled terminologies, and improve interoperability with healthcare.

SHARE is a requirement for standards-based automation, which is key to ROI from standards implementation

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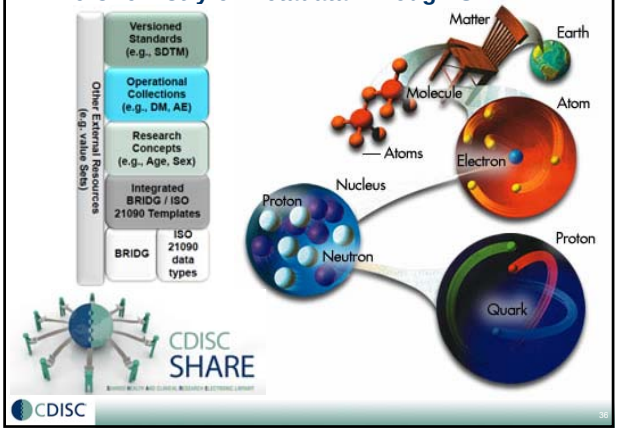
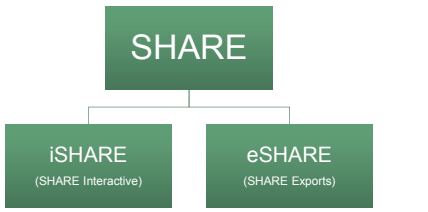
The Chemistry of Metadata Through SHARE



CDISC

User Perspectives of SHARE



Standards Development & Governance

Accessing Published Standards in a Machine-Readable Format

R1
Q1 2014

SHARE R1: Initial Capability

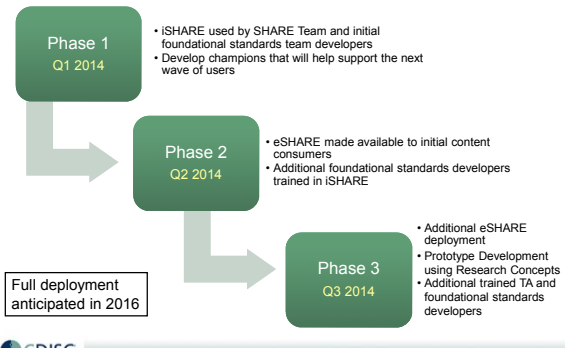
- First version of iSHARE
  - Implemented using SOA's Semantics Manager
  - Meta-model based on ISO11179, BRIDG and ISO21090/HL7 Datatypes
  - Cloud-based – hosted at Amazon
  - Exploring out-of-the-box functionality to develop, maintain and access CDISC standards.
- Load of Initial set of CDISC standards into SHARE
  - SDTM 1.2 (SDTMIG 3.1.2)
  - CDASH 1.1
  - BRIDG 3.2 and ISO21090
  - All CDISC Terminologies
  - New versions (e.g. SDTMIG 3.1.3, 3.2) now being added.

R1
Q1 2014

R1: Machine-Readable Standards and Basic Functions

- Export machine-readable standards
  - ODM v1.3.2
  - Define-XML v1.0 & v2.0
  - CSV / Tab delimited / Excel
- Version control & impact analysis
- Workflows (e.g. new requests, metadata governance)
- Reporting (e.g. governance metrics)

SHARE Near-Term Deployment Plan



License required to use iSHARE

eSHARE: Accessing SHARE Content

- Website for easy, one-stop download of SHARE machine-readable content
  - Metadata and Terminologies
- Export formats include:
  - ODM v1.3.2
  - Define-XML v1.0 & v2.0
  - CSV / Tab delimited / Excel
  - RDF/OWL (R2)
- Website for easy download of SHARE machine-readable content
- Initial pilot rollout to Platinum members in Q2 2014.

Agile Incremental Development Approach

- Each release will include incremental improvements in:
  - Expanded breadth of standards content
  - Standards quality & completeness
  - Relationships between metadata
  - Use of concepts to define standards and standards models
  - Ease of use refinements
  - New reports and metrics
  - Standards development and governance workflows
  - SHARE training and documentation
  - Reducing the reliance on spreadsheets and other document formats for standards development and governance
  - Efficiency in standards development and governance

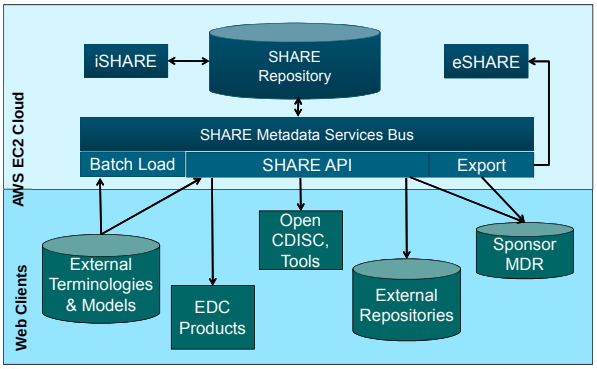
R2
Q4 2014

R2: SHARE Concept-based Standards

- Implementation of SHARE research concept model
  - Support for Therapeutic Area standards development
- Additional CDISC standards content (PRM, ADaM, SEND)
  - Single, trusted source for all CDISC data standards
- Expanded eSHARE content download site
  - Value Level Metadata content
- Improved Controlled Terminology process integration
- RDF/OWL export format
- Future releases will include:
  - Improved end-to-end standards integration
  - IG standards document generation
  - Support for other concept systems and increased interoperability.

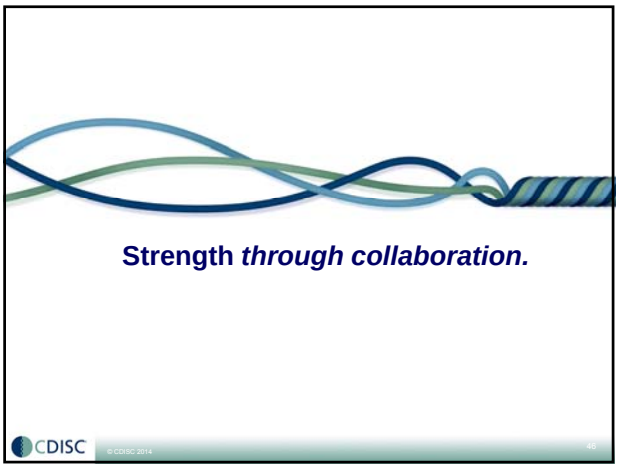
Rx
2015-2016

SHARE as a Knowledge Resource for Research



Standards on Internet Time

- Move from large pdf documents to electronic meta-data packages assemblies of small component objects
  - Research concepts separated from implementation format
  - Just-in-time modules: variables, domains, codelists, terms
  - Released for draft use individually when ready and later packaged into versioned assemblies
    - TAUGs create modules; teams publish versions
    - If later vetting requires changes – SHARE can track and support up-versioning changes
  - All new v1 domains & variables include validation rules
  - Example data files for testing, packaged for publication
- Requires an industry-wide, expert governance system
- A culture of change that can keep pace with science



Strength *through collaboration.*