

Benefits, Challenges, and Myths of SEND

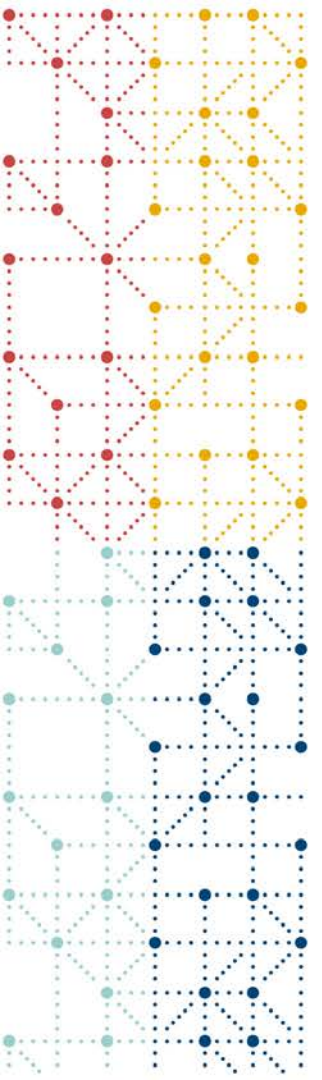
Paper SA07

William Houser, Bristol-Myers Squibb

Lou Ann Kramer, CDISC

02.26.2019





Agenda

1. Benefits of Highly Regulated Industry
2. Current Activities and Delivery Schedule
 1. Delivery Schedule
 2. Standards Development Life Cycle
 3. Best Cadence
 4. Quality Gains – Example Datasets and Usability Pilots
3. Myths and Misconceptions of SEND
4. How to Get Your SEND Questions Answered

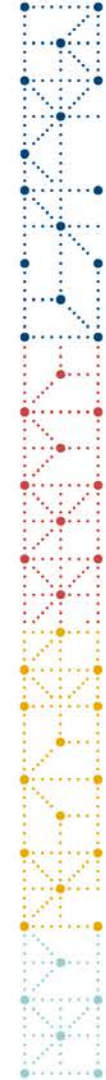


Benefits of a Highly Regulated Industry

Presented by

02.26.2019





Early Beginnings

- Early 2000's: Industry consortium focused on FDA study level submission
- 2005: SENDIG v2.3
- 2005 – 2007:
 - SEND efforts stalled, companies in “wait and see” mode
 - Unwillingness to commit resources without a formal statement from the FDA
- 2007: Resurgence
 - Handful of pharma companies need for study data standards operationally (Sponsor to CRO)
 - FDA renewed commitment, broader support, broader vision for standardized nonclinical data
 - Week long Face-to-Face meetings hosted at FDA site 4 times each year
 - Realignment of SEND with SDTM model
 - Very committed team of approximately 30 active members collaborating with FDA
 - SEND team consisted 30 active member companies and FDA

Collaboration = Hallmark of SEND going forward

More Recent History

- **2014: FDA guidance to require SEND datasets in submissions**

- SEND team membership had jumped to over 100, over 19 active sub-teams, more than 70 attendees at the week-long F2F
- Actual experience submitting SEND data jumped from 5% (2015) to 28% (2017) based on survey* respondents
- 43 studies (NDAs from 18 Dec 2016 to 31 August 2018) and 134 studies (INDs from 18 December 2017 to 31 August 2018) have been submitted to the FDA**
- Industry consortiums
- Multiple vendors offer tools
- Data analytics not focused purely on regulatory submission

- **FDA guidance drives adoption, broad adoption enables serious efforts for efficient processes and tools**

- **Authors believe SEND efforts are leading towards epic change across nonclinical research activities**

Collaboration = Hallmark of SEND with FDA and PhUSE

*Annual Industry SEND Progress Survey, PhUSE Nonclinical Topics Team

** Per the "SEND Data Support from OBI Perspective.", Public Webcast, 208



Current Activities and Delivery Schedule

Presented by William Houser

Principal Scientist I, Bristol-Myers Squibb

02.26.2019



Delivery Schedule

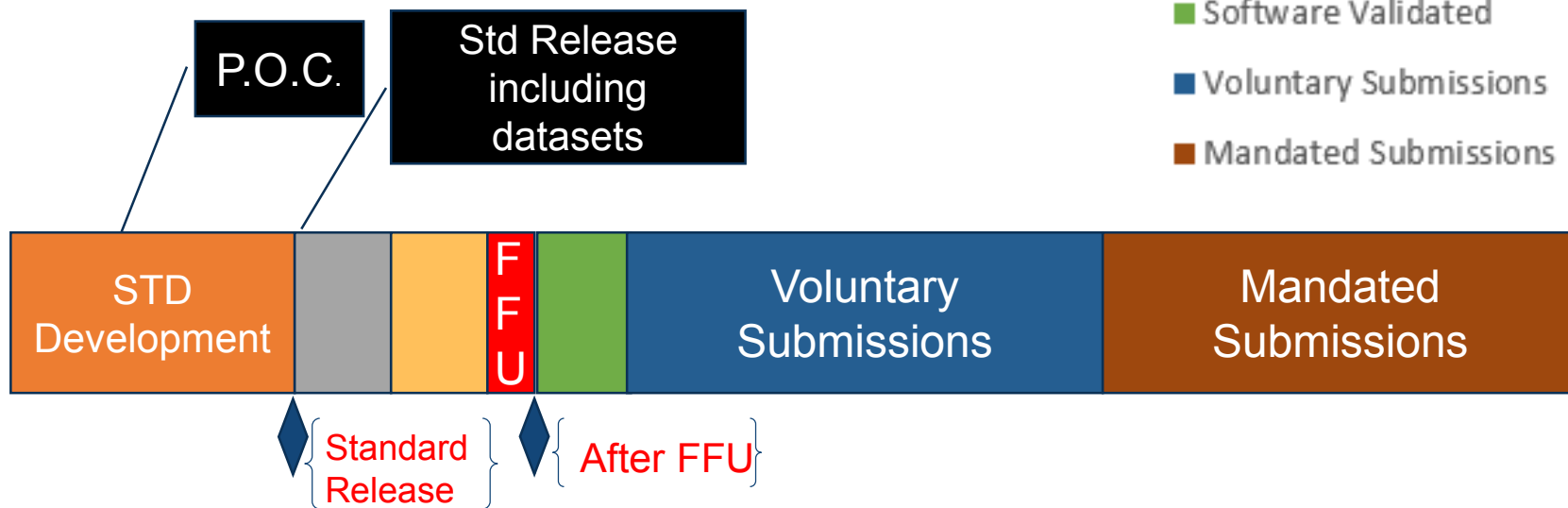
Completed

Projected ---->

Standard	2018	2019	2020	2021	2022	2023
Latin Square POC		★				
DART v1.1 POC		★				
Controlled Terminology	★ ★ ★ ★	★ ★ ★ ★	★ ★ ★ ★	★ ★ ★ ★	★ ★ ★ ★	★ ★ ★ ★
SENDIG-AR v 1.0		★				
SENDIG v3.1.1 (PC, PP)			★			
TCG feedback	★ ★	★ ★	★ ★	★ ★	★ ★	★ ★
CoDEx for SENDIG v3.1		★				
SENDIG v3.0 Conformance Rules		★				
SENDIG v3.1 Conformance Rules			★			
Genotoxicity IG with POC			★			
Dermal/Ocular IG with POC			★			
SENDIG V3.1 FFU		★	★			
SENDIG V3.2						★

SEND Standards Development Life Cycle

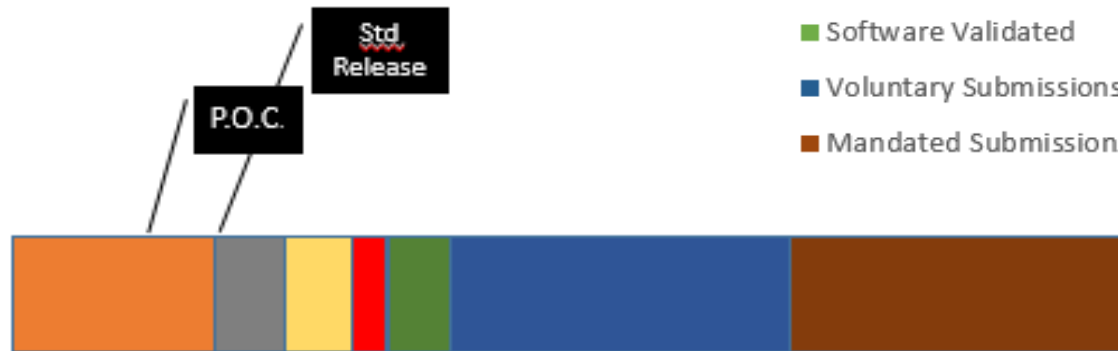
- Standard Development
- Software Dev
- Deploy Software
- FFU
- Software Validated
- Voluntary Submissions
- Mandated Submissions



SEND Standards Development Life Cycle

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SENDIG
v3.2



SENDIG
v3.1





Myths and Misconceptions of SEND

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Myths and Misconceptions

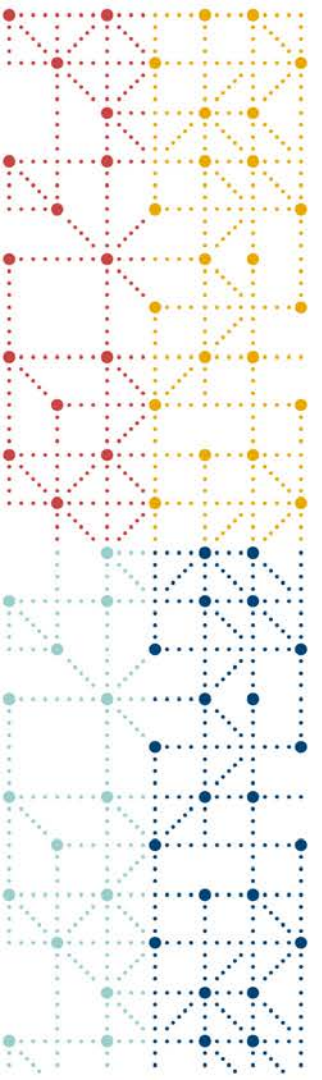
- “All I need from the IG are the examples!”
 - Examples are NOT the literal definition of the standard
 - Informative, not Normative
 - Normative: paragraph explanations, domain specifications, CDISC notes, assumptions, and core values
 - RECOMMEND:
 - Read the SDTM model - principles and concepts that apply to all SENDIGs
 - Read the SENDIG in order by section:
 - Sections 1-3 (key concepts)
 - 4 (assumptions)
 - 5-6 (domain models)
 - 7 (trial design datasets)
 - 8 (relationships between datasets and records, adding variables not specifically defined in the models, and pooled data)
 - Review SEND Controlled Terminology
 - It is best to read the SDTM model and SENDIGs online for hyperlinks
- “No need to look up CT, it’s in the examples and cdisc notes”
 - CT is updated much more frequently than examples
 - CDISC notes may not be the complete list of CT

Myths and Misconceptions (cont.)

- “The SEND standard and the base model are aligned and so, always agree!”
 - Some differences are intended based on use case for that particular IG
 - E.g. Due to timing and reproductive events in Developmental and Reproductive Toxicity (DART) studies the Core value for most –NOMDY (Nominal Study Day for Tabulations) variables is Expected in SENDIGv3.0 but is Permissible in SENDIG-DARTv1.1. The Core value for RFXSTDTC (Date/Time of First Study Treatment) and RFXENDTC (Date/Time of Last Study Treatment) is Expected in DART
 - Inadvertent errors (actual errors: misspelled variable names, variables not in the correct order)*
 - Errata, Fixed in a future IG
- “SEND prepares all my data for analytics”
 - SEND standard is expected to be used along analysis tools
 - SEND is an exchange standard

Myths and Misconceptions (cont.)

- “SEND is only needed for GLP studies in submissions”
 - SEND is expected for any study, regardless of GLP status, that falls within the FDA requirements, as described in guidance
 - Scope of studies relative to eCTD sections is described in the Technical Rejection Criteria, (not yet been announced as effective)
- “SEND is only for submission purposes”
 - SEND was never meant to be JUST for submissions
 - Vision (or attainable goal!): Truly sharable nonclinical data within companies and across the industry
 - E.g. internal data warehousing and data-driven decisions; industry consortia
- SEND is only useful in the U.S.
 - SEND was never meant to be JUST for U.S. submissions
 - The only country today that mandates SEND is U.S.

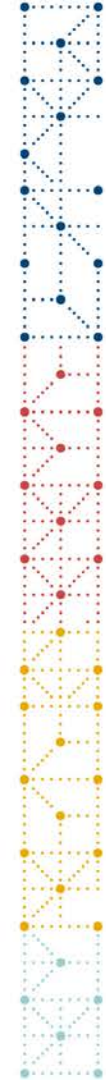


How to Get Your SEND Questions Answered

PhUSE

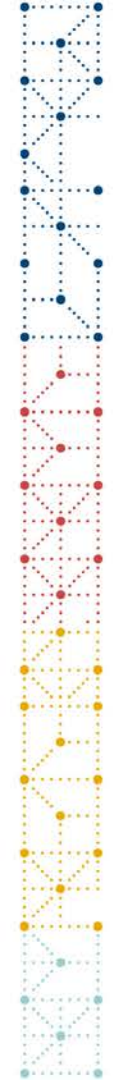
CDISC

FDA



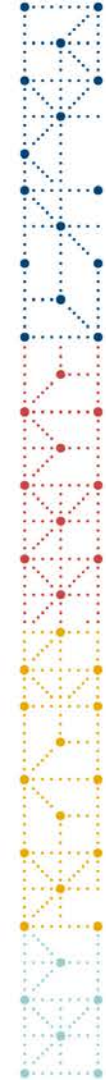
PhUSE

- Implementation Focus (vs. developing standards)
- Close collaboration with standards development team
- Nonclinical Topics Working Group
- SEND Implementation User Group
 - Frequently Asked Questions
 - SEND Implementation Forum – technical implementation questions answered quickly
 - Dedicated team with significant experience in SEND implementation who meet regularly to respond
 - SEND Implementation News that you can subscribe to here:
https://www.phusewiki.org/wiki/index.php?title=SEND_Implementation_News



CDISC SEND Team

- Focused on continuous development of standards
- Concerned with implementation needs and impact, but the focus is priority development efforts
- Close collaboration with PhUSE nonclinical topics project teams
- CDISC SEND team leaders can be contacted using the contact form on the CDISC home page, www.cdisc.org
- The SEND Team is currently interested in any experience or feedback on SENDIG v3.1. Your feedback can be shared with the developers through the CDISC JIRA comment tracker: <https://wiki.cdisc.org/pages/viewpage.action?pageId=68949529>



Questions about regulatory submissions

- The answer for anything related to FDA regulatory submissions must come from the FDA themselves
- Study Data Standards Resources page
 - Great resource, information on requirements and guidance
 - Includes email addresses for asking questions of CDER or CBER

Come join us!

- We invite you to influence the development of SEND
- We need and value input from all perspectives and roles
- Work and network with a great group of passionate volunteers
- How do I get involved?
 - Reach out to the SEND Team Leader and CDISC SEND Team Liaison, per the information at the end of the paper, #RG01
 - You can join automatically using the “Volunteer” button at the bottom of the CDISC home page (www.cdisc.org)

You will find the SEND team to be a very dedicated and also enjoyable group of varied personalities who are making their mark on the future of nonclinical research and submissions.

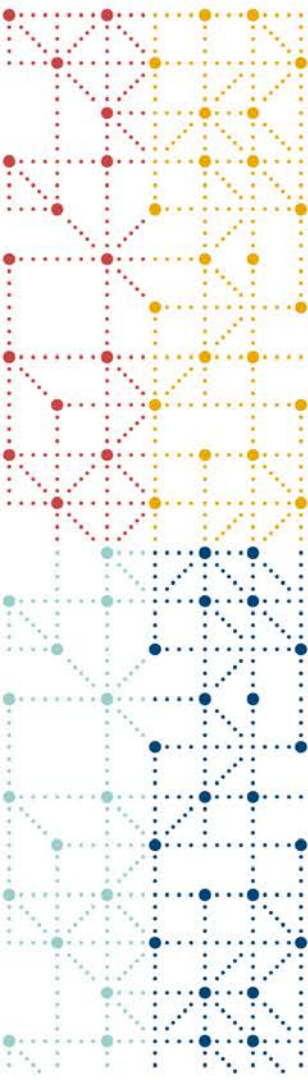


Volunteer

CDISC relies on the subject matter expertise of thousands of volunteers to create vendor-neutral, platform-independent data standards that enable information system interoperability to improve medical research.

Volunteer





Thank You!

Mr. William Houser

Principal Scientist I
Bristol-Myers Squibb

william.houser@bms.com

Ms. Lou Ann Kramer

Senior Director, Standards Development
CDISC

lkramer@cdisc.org

www.cdisc.org/send

