Implementing the SDTM

Setting the
Global Standard
for Clinical Data

CLINICAL DATA INTERCHANGE
STANDARDS CONSORTIUM

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Implementing the SDTM

- Each company has its own unique situation
  - Number of Standards
  - Functional areas & distribution of responsibilities
  - Platforms and systems
- Awareness and sense of urgency vary
- Who drives it?
  - Regulatory, Clinical Data Experts, or ?

Implementing the SDTM

- Identify key Stakeholders
  - Data Management
  - Programming
  - Biostatistics
  - Regulatory Affairs
  - Clinical Operations
  - Clinical Publishing (Regulatory Operations)
  - Project Management
- Create Functional Steering Committee

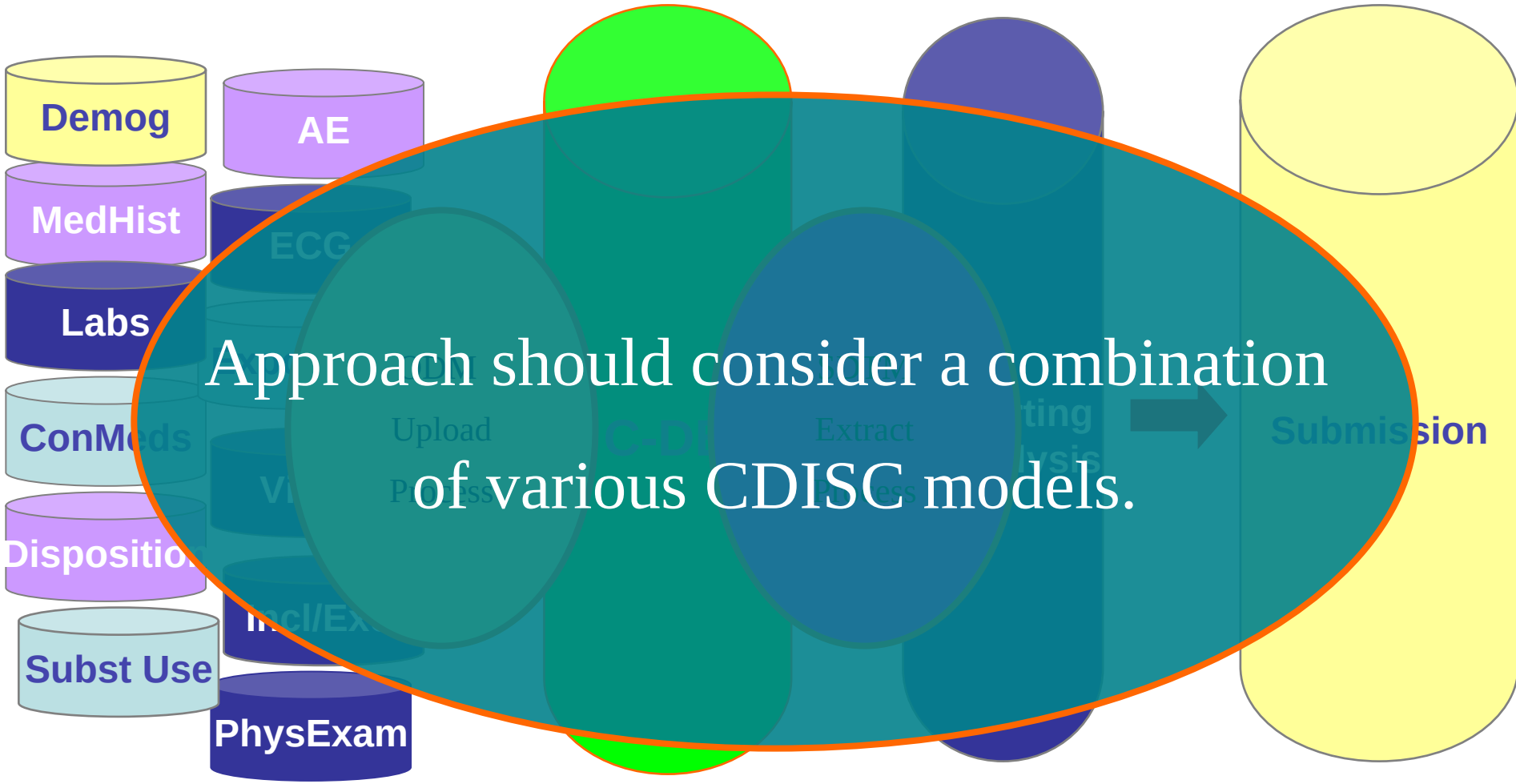
Implementing the SDTM

- Create training/awareness program
  - General overview
  - Customized for each functional area (i.e., “how does it affect me”)
  - Customized for all countries in which your company operates (where applicable)
- Define scope
  - Is Europe required to do it?
  - Is it just a US thing?

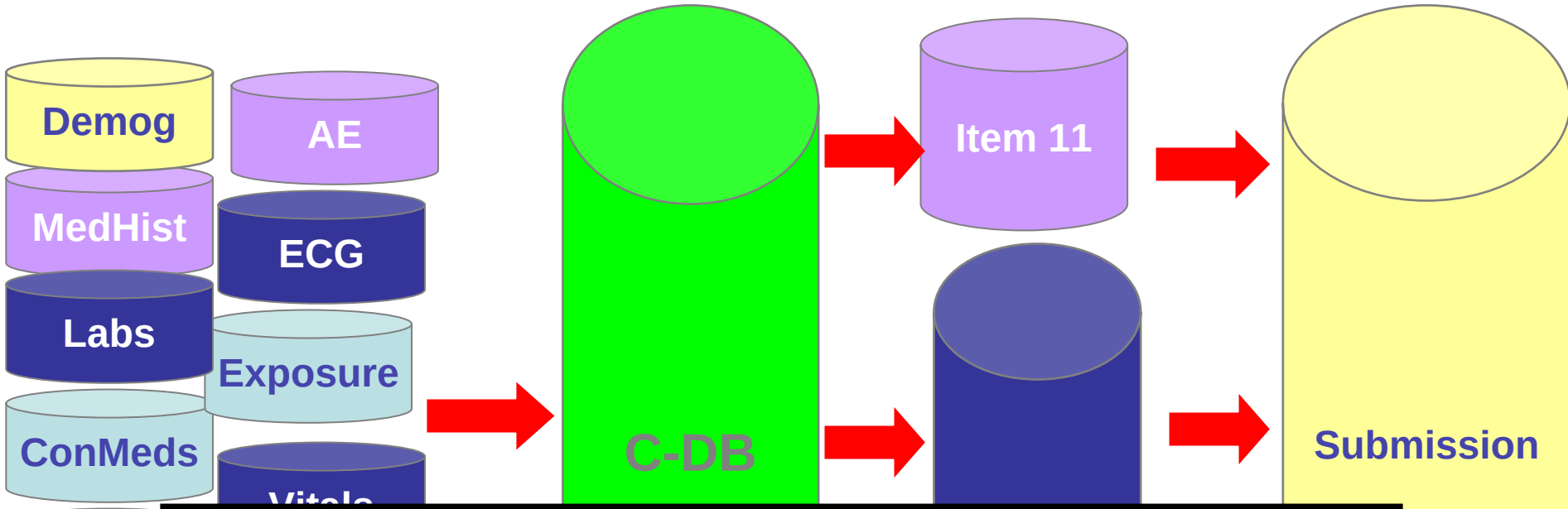
Implementing the SDTM

- Evaluate best place to implement SDTM
  - In CDMS
  - At extraction and prior to analysis
  - After analysis
- Link CDISC to internal CTD/eCTD implementation efforts
- Include Non-Clinical data in your discussions
- Seek functional agreement

Implementing the SDTM



Implementing the SDTM

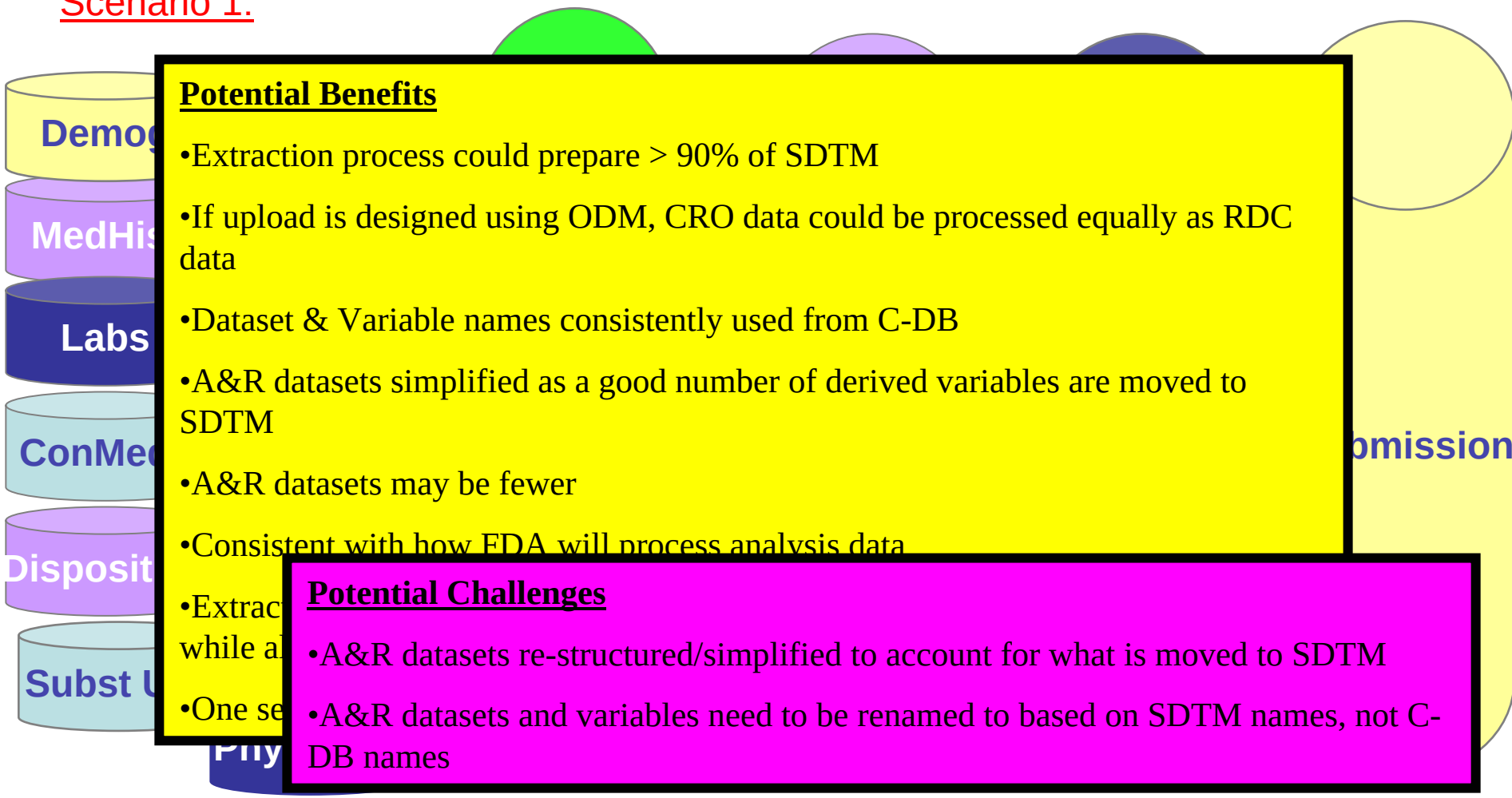


Current Most Common Scenario:

- Submission data prepared as an after-thought.
- Data always retro-fitted to meet requirements, no proactive design
- Analysis datasets not always permanently saved
- No consistent way of splitting files that are bigger than requirement allows

Implementing the SDTM

Scenario 1:



Potential Benefits

- Extraction process could prepare > 90% of SDTM
- If upload is designed using ODM, CRO data could be processed equally as RDC data
- Dataset & Variable names consistently used from C-DB
- A&R datasets simplified as a good number of derived variables are moved to SDTM
- A&R datasets may be fewer
- Consistent with how FDA will process analysis data
- Extrac
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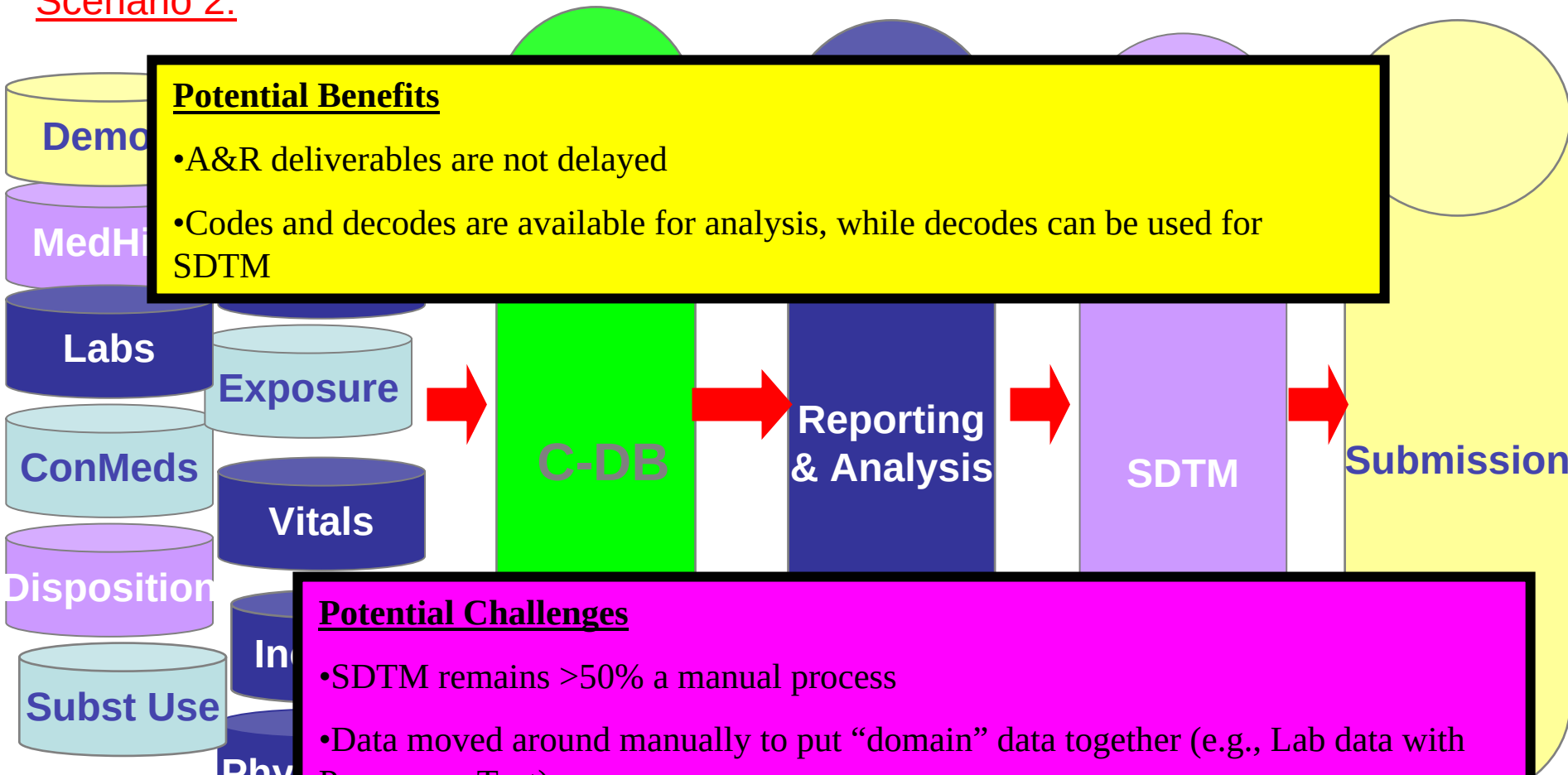
Potential Challenges

- A&R datasets re-structured/simplified to account for what is moved to SDTM
- A&R datasets and variables need to be renamed to based on SDTM names, not C-DB names

Implementing the SDTM

Scenario 2:



Potential Benefits

- A&R deliverables are not delayed
- Codes and decodes are available for analysis, while decodes can be used for SDTM

Potential Challenges

- SDTM remains >50% a manual process
- Data moved around manually to put "domain" data together (e.g., Lab data with Pregnancy Test)
- Continues to separate CRO and RDC data by using separate processes
- Potential delay in submission deliverables

Implementing the SDTM

- Evaluating Central DB
  - Identifying all sponsor-specific domains
    - Map to CDISC domain codes
    - Create new domain codes as needed
      - Propose to CDISC any new, unique domain for future IG updates
  - Identify all variables, and usage within domains
    - Convert dates into ISO 8601

Implementing the SDTM

Mapping Variables:

In most instances CDISC variable names are simple renames from original variables

PATID	SITENO	RACECD	DOB	SEXCD
E0037874	001	C	10/20/2004	1
E0037874	002	A	10/20/2004	2

SUBJID	SITEID	RACE	BRTHDTC	SEX
E0037874	001	Caucasian	2004-10-20	M
E0037874	002	Asian	2004-10-20	F

Implementing the SDTM

In other cases CDISC variable names are derivations, or combination of two or more original variables:

STUDYNO	PATID	SITENO	RACECD	SEX
ABC	E0037874	001	1	1
ABC	E0037875	002	2	2

USUBJID	STUDYID	SUBJID	SITEID	RACE
ABC-E0037874	ABC	E0037874	001	Caucasian
ABC-E0037875	ABC	E0037875	002	Asian

Implementing the SDTM

Realize extent of work ahead:

Once classified, domains like Findings, require many more manipulations:

SUBJECT	VISIT	Temperature (C) [TEMP]	Weight (Lb) [WEIGHT]	Pulse (bpm) [PULSE]
E0037874	1	37.5	130	72
E0037874	2	39	125	69
E0037874	3	36.9	130	72

USUBJID	VISITNUM	VSTESTCD	VSTEST	VSORRES	VSORRESU
E0037874	1	TEMP	Temperature	37.5	C
E0037874	1	WEIGHT	Weight	130	LB
E0037874	1	PULSE	Pulse	72	bpm

Implementing the SDTM

- Standard sponsor-specific terminology
  - Develop CDISC terminology to use
  - Map existing terminology to CDISC
  - Develop standard units to report
  - Convert codes to CDISC-style codes
    - 03004=Hematocrit

      perhaps should be
    - HCT=Hematocrit

Implementing the SDTM

- Define strategy for codes and decodes
  - Codes: Collected into C-DB, and used in Analysis
  - Decodes: Most of CDISC values
- Reference Library?
  - A way of representing the same data
  - Driven by domain codes and variable names
  - Can facilitate creation of A&R and CDISC datasets

Implementing the SDTM

- Evaluate other internal systems which can provide data for specific variables, or Trial Design Datasets
  - Randomization Packages/Tools
    - Arms and Arm Codes
  - Clinical Trial Management
    - Site Information
    - Investigator Name
    - Trial Information
      - Name -- Arms
      - Phase -- Visit schedule

Implementing the SDTM

- Evaluate other internal systems which can provide complimentary data for other domains (perhaps not captured on CRFs):
  - Safety Surveillance Tools
    - All SAE flags
    - Relationship to Concomitant Meds
    - Relationship to other Events
- Define accountabilities for Annotated CRF

Implementing the SDTM

Change Annotations to CRF CDISC-like Annotations:

Vital Signs:

Temp: _____ **TEMP** **VSTESTCD=TEMP**

Weight: _____ **WEIGHT** **VSTESTCD=WEIGHT**

Pulse: _____ (KG or LB) **PULSE** **VSTESTCD=PULSE**

Implementing the SDTM

- Assess impact on each function
  - Is it increasing the work?
  - Does implementation mean re-writing of company/functional SOPs?
  - Does it introduce new roles/responsibilities?
  - Does it change responsibilities across functions?
- Work with the functions, get them involved
  - Develop joint plan/timelines

Implementing the SDTM

- Be realistic
  - CDISC will not be implemented without functional support
  - Implementation takes time
  - Best implementation plan requires phased-in approach
  - Implementation should complement, strengthen, update SOPs, not replace them (avoid that view and/or perception)

Implementing the SDTM

- Be assertive
  - SDTM is a reality, so sponsors must act/react
  - Early implementation better prepares, facilitates adherence to future initiatives:
    - Define.XML
    - Longer domain/variable names
  - Smart implementation can and should promote/strengthen cross-functional cooperation