

# Master Data Element Specifications (MDES)

*History and use for the NCS*

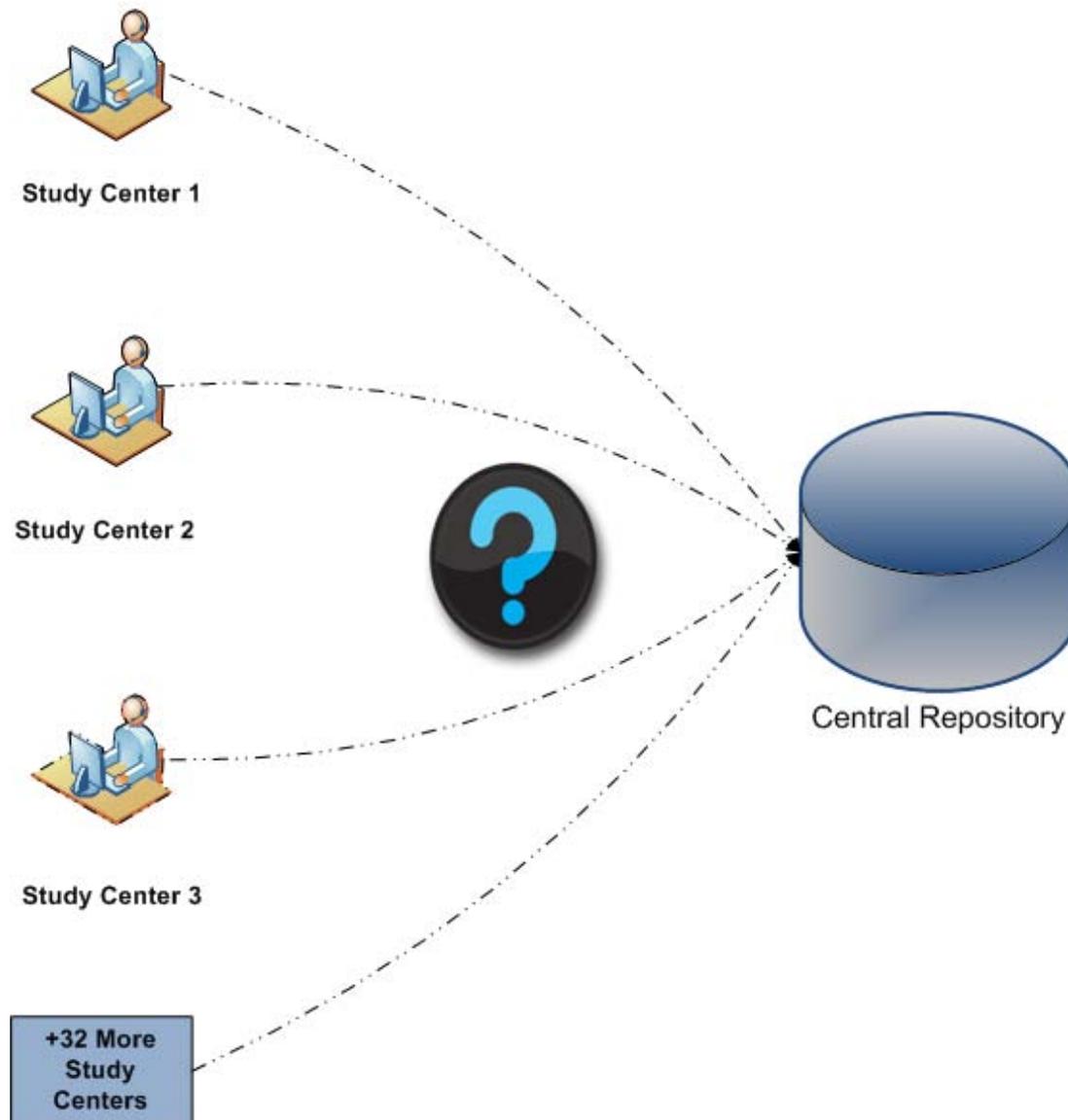
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Social & Scientific Systems  
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# Agenda

- Alternate Recruitment Study (ARS) Challenge
- Master Data Element Specifications (MDES)
- Data submission and data quality checks
- Vanguard Workbench
- Summary
- Questions and Answers

# National Children's Study (NCS) Challenge



# Master Data Element Specifications (MDES)

- Supports local study center informatics and central data transmission
- Specifications include standards for:
  - Operational data elements
  - Instrument data elements
  - Code lists
  - Disposition codes

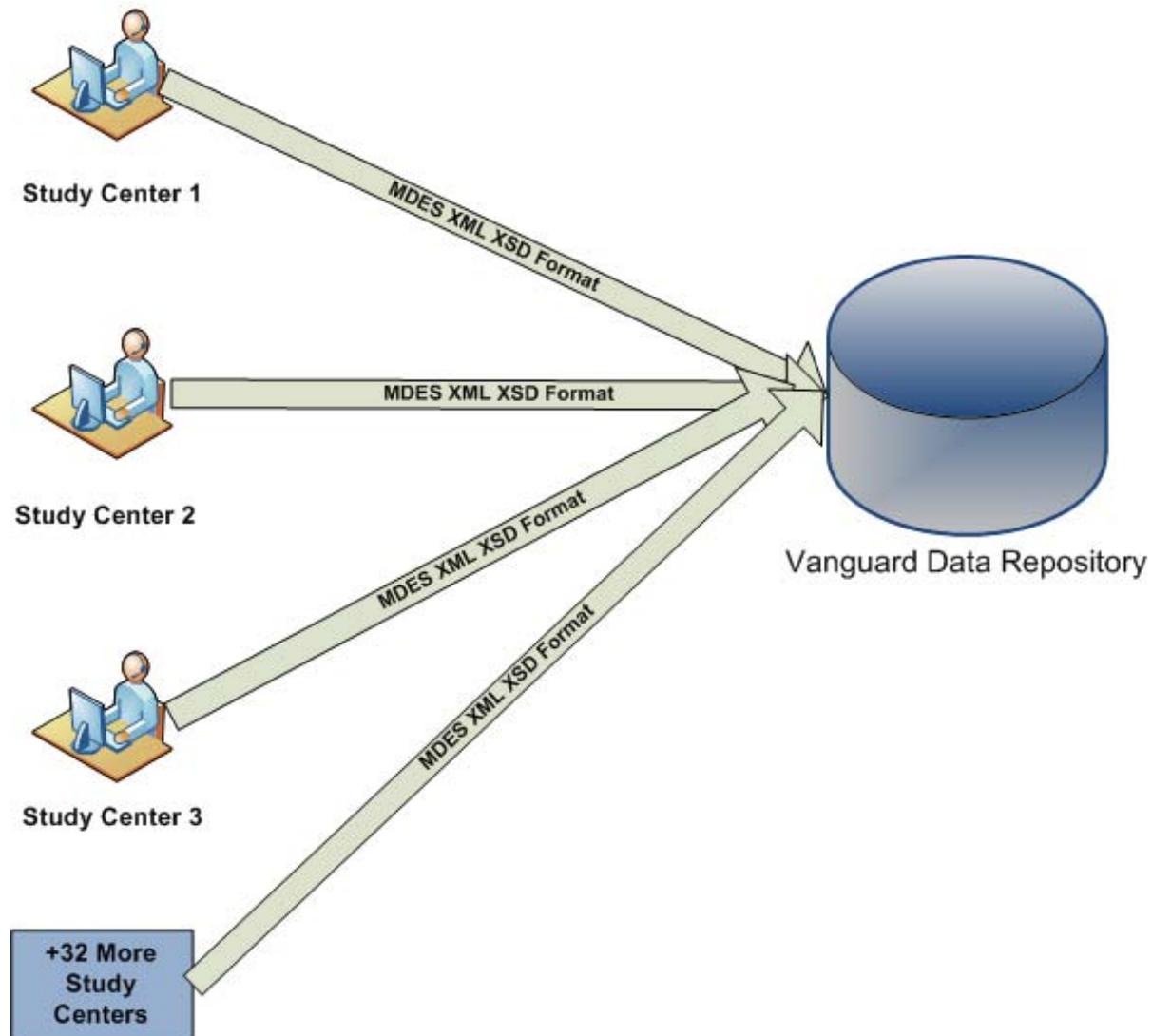
## Current MDES Data Elements

Table Type	Data Elements	Distinct Data Elements
Operational	858	563
Instrument	6,575	1,542
Total	7,433	2,104

## Version control and Change Management in MDES

- MDES Specifications are updated quarterly
- MDES must support multiple versions of instruments, as well as the data collection needs of all three arms of the Alternate Recruitment Substudy
- Sites must update their local IMS systems and data submission processed to reflect changes to MDES versions.
- Metadata to support version control and change managements is critically important and is incorporated into the MDES XML submission file.
- Tools to leverage the change management metadata drive site efficiency and overall data quality for submitted data.

# Alternate Recruitment Strategy (ARS) Framework



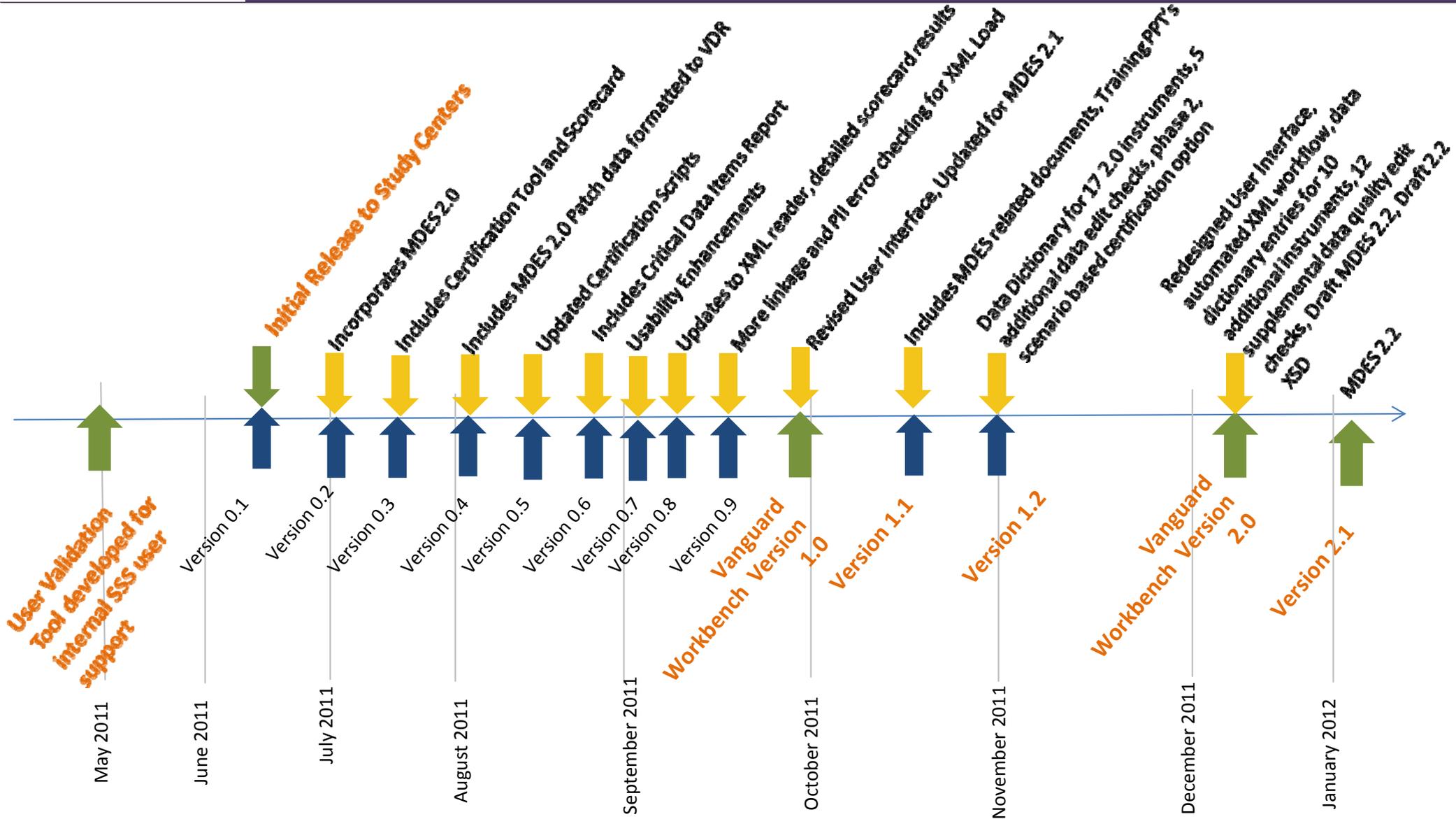
## Data Quality checks for submitted data

- XML validation
- Site certification
- Database validation checks
- Data quality metrics
- Critical issues

# Vanguard Workbench Background

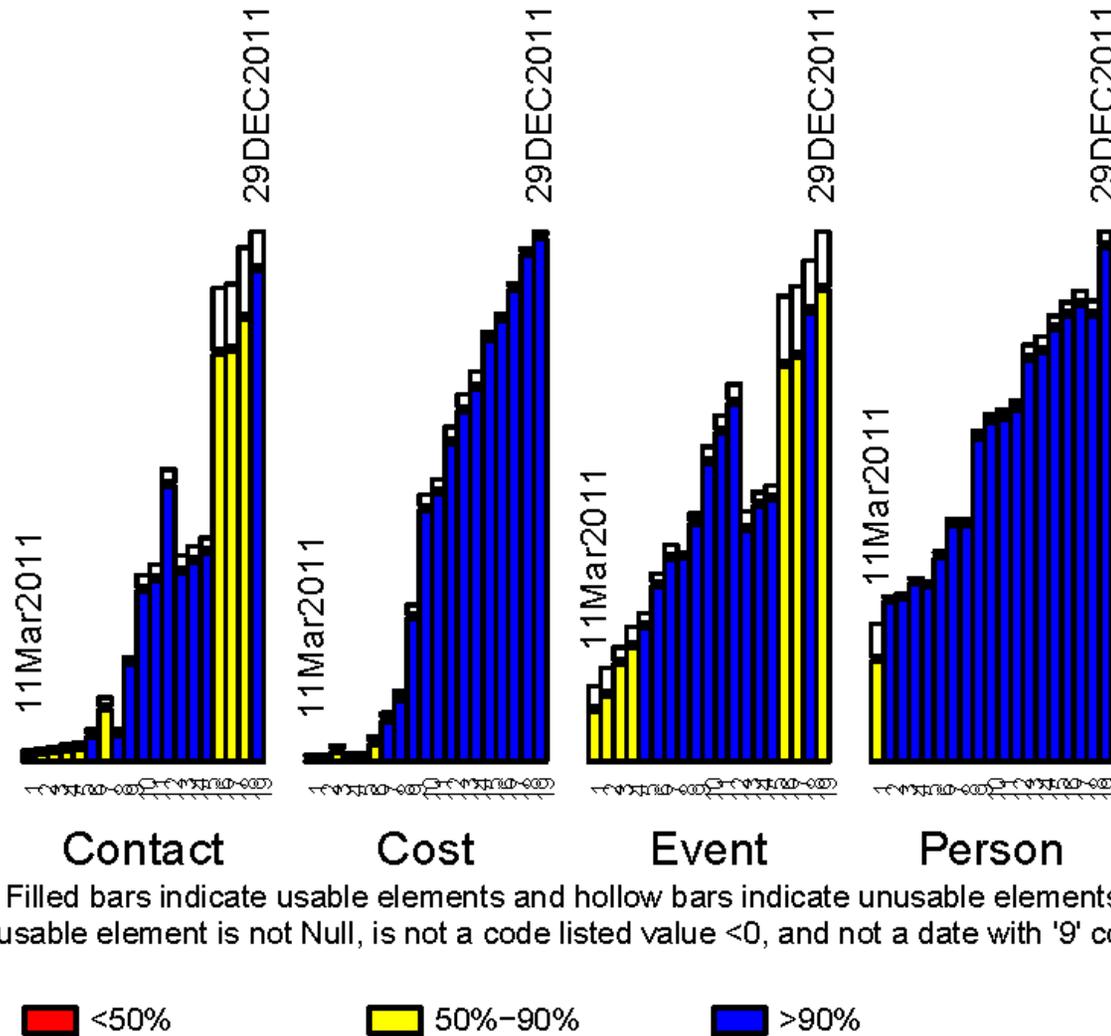
- Developed and implemented beginning June 2011
- Initially internal for Social and Scientific Systems as “User Support Tool” to assist with XML file validation, troubleshooting and conformance to the standard.
- Provided to requesting Study Centers as “User Validation Tool” to support troubleshooting and mapping of MDES 2.0 data submissions.
- Distributed to all Study Centers to support local testing of submission files driven by Program Office mandate to improve submission rates.
- Enhanced to provide additional features to support improved Study Center data quality.
- Monthly updates enhance features and functions of the MDES.

# Vanguard Workbench Development Timeline



# Data Quality Improvement

Change in The Volume and Quality of Key Elements By Date



Data quality edits provided in the Vanguard Workbench have facilitated improved data quality

# Vanguard Workbench



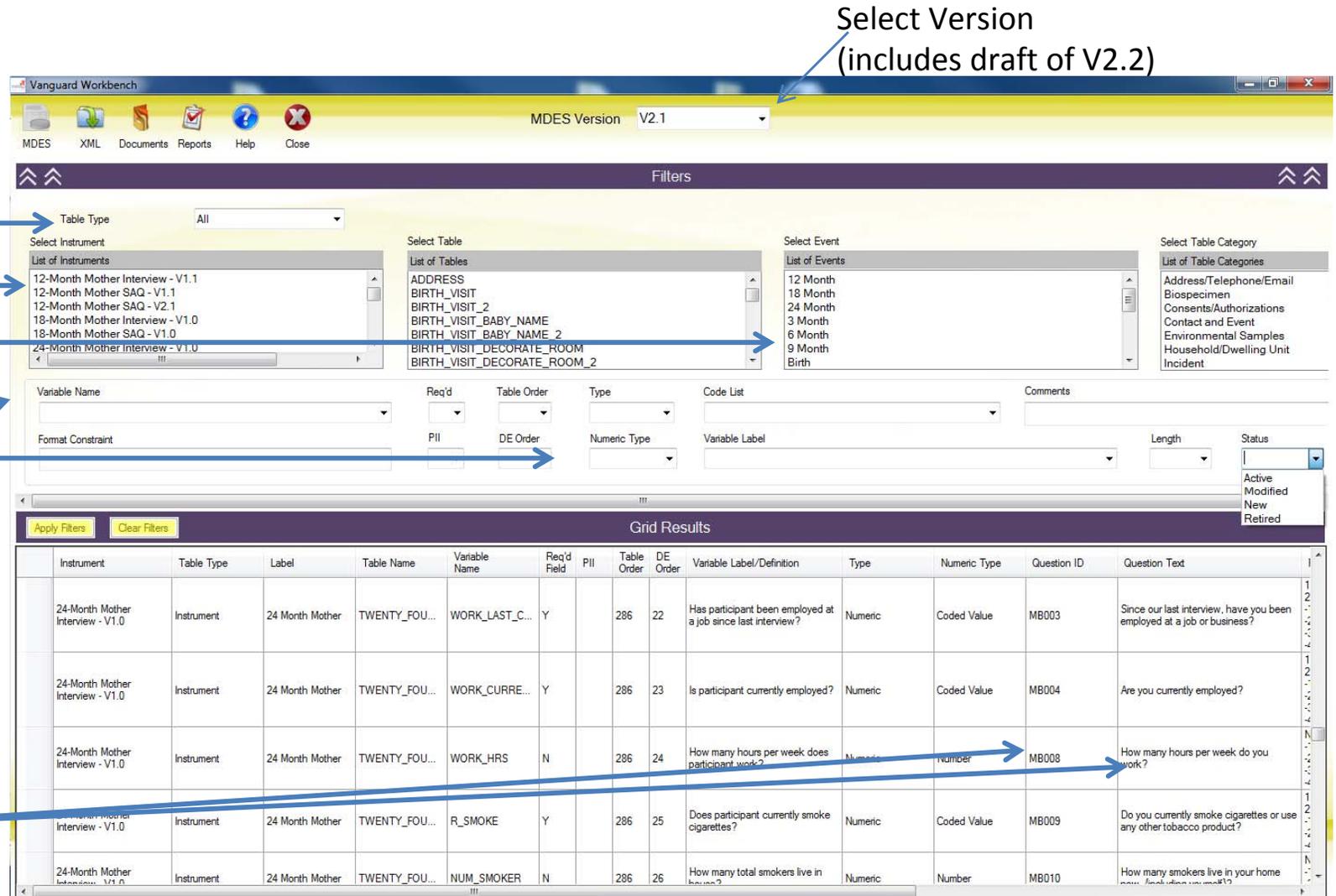
# Vanguard Workbench Functionality

- Operates in a secure, offline environment
- Provides MDES as a database
  - Machine readable capability
  - Data Dictionary
  - Question text and question ID for instruments
  - MDES Viewer extensive filtering available
- Documents
  - Locally available MDES for VDR reference document, Field memos, User guides, SME trainings
- Reports
  - Enables comparison between MDES Versions
  - Critical data elements and supplemental data edits
- XML Submission file preparation
  - Automated re-run of edited/corrected XML for improved workflow

# MDES Database Viewer

- MDES database viewer

Select Version  
(includes draft of V2.2)



View by:

- Table Type
- Instrument
- Event

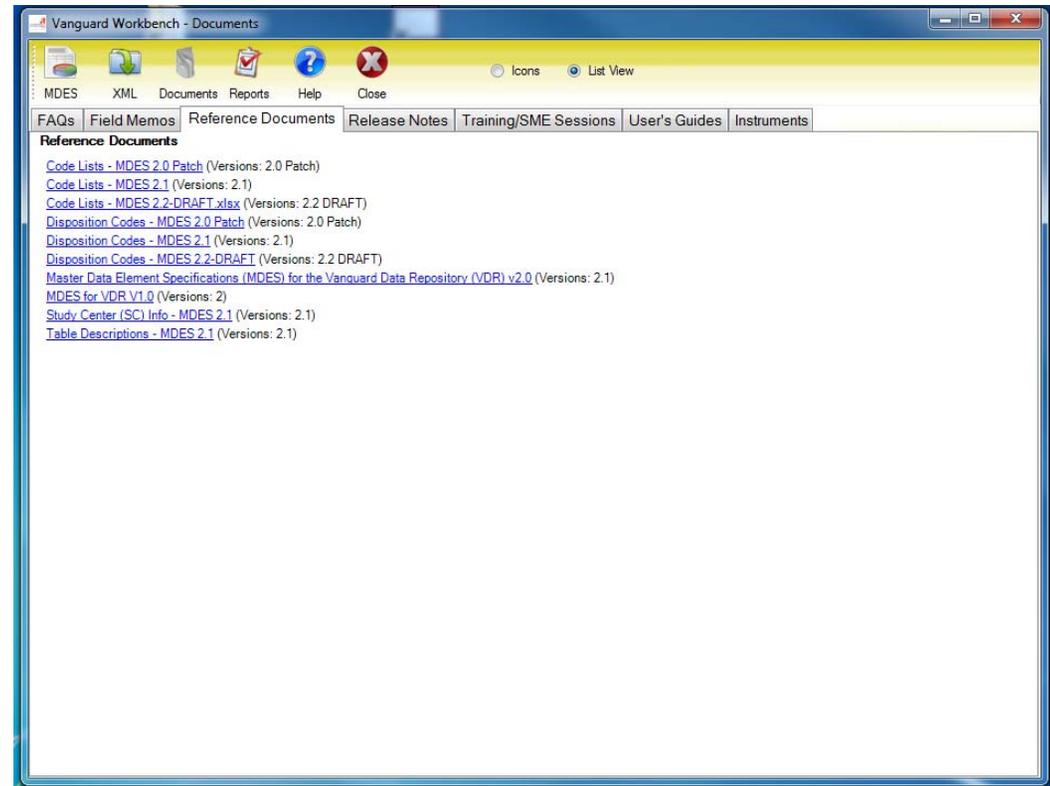
Filters:

Grid Results

Instrument	Table Type	Label	Table Name	Variable Name	Req'd Field	PII	Table Order	DE Order	Variable Label/Definition	Type	Numeric Type	Question ID	Question Text
24-Month Mother Interview - V1.0	Instrument	24 Month Mother	TWENTY_FOU...	WORK_LAST_C...	Y		286	22	Has participant been employed at a job since last interview?	Numeric	Coded Value	MB003	Since our last interview, have you been employed at a job or business?
24-Month Mother Interview - V1.0	Instrument	24 Month Mother	TWENTY_FOU...	WORK_CURRE...	Y		286	23	Is participant currently employed?	Numeric	Coded Value	MB004	Are you currently employed?
24-Month Mother Interview - V1.0	Instrument	24 Month Mother	TWENTY_FOU...	WORK_HRS	N		286	24	How many hours per week does participant work?	Numeric	Number	MB008	How many hours per week do you work?
24-Month Mother Interview - V1.0	Instrument	24 Month Mother	TWENTY_FOU...	R_SMOKE	Y		286	25	Does participant currently smoke cigarettes?	Numeric	Coded Value	MB009	Do you currently smoke cigarettes or use any other tobacco product?
24-Month Mother Interview - V1.0	Instrument	24 Month Mother	TWENTY_FOU...	NUM_SMOKER	N		286	26	How many total smokers live in house?	Numeric	Number	MB010	How many smokers live in your home now, including you, if you are a smoker?

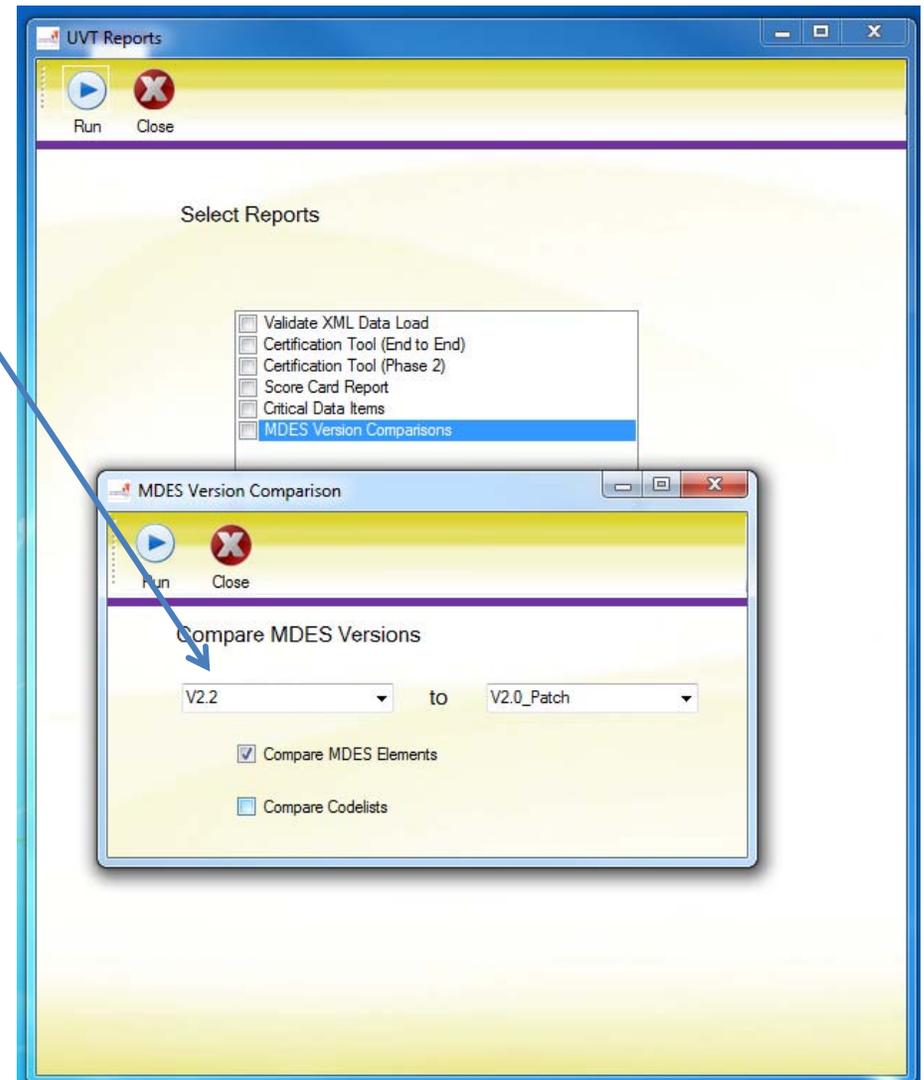
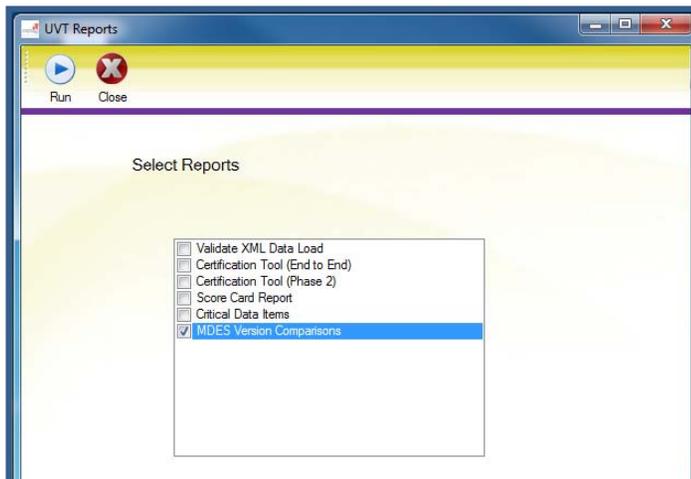
Data Dictionary  
QID/QText

- Included documents:
  - Reference Documents
  - Field Memos
  - Trainings/SME sessions
  - User Guides
  - Instrument Specifications with Track Changes



# Reports

- Reports – MDES “Diff” Tools
- Certification Tools
- Critical Data Items/Supplemental Edits





# Summary

- More people involved with the NCS are using Vanguard Workbench
  - Site Data submission staff
  - The Program Office
  - Data Analysts
  - Instrument team
- The Master Data Element Specification continues to evolve
  - Additional control and standardization
- Future enhancements
  - Leverage database functionality in the Vanguard Workbench
  - Increase instrument versioning capability
  - Enhance metadata management and tagging (i.e. DDI, developmental stages)
  - Provide additional data quality edits

# Questions and Answers

