%xusupp - SDTM Supplemental Qualifier Domain Creation Utility

Overview

The %xusupp macro creates and manages SDTM supplemental qualifier (SUPP--) domains by adding variables that don't fit into the parent domain's standard structure. It handles the creation and appending of supplemental records while maintaining SDTM standards and managing variable relationships between parent and supplemental domains.

Version Information

- **Version**: 1.0
- **Last Updated**: 18JUL2022
- **Author(s)**: Atorus Research

Dependencies

- SAS version: SAS 9.4 V9
- Required global variable:
    - domain: Parent domain identifier (e.g., 'DM' for Demographics)
- Required datasets:
    - EMPTY_SUPP[domain]: Empty supplemental qualifier template
    - Parent domain dataset

Parameters

Parameter	Required	Default	Description
inds	Yes	-	Name of the input dataset
invar	Yes	-	Name of the variable to add to SUPP-- domain
idvar	No	[domain]seq*	Name of the identifier variable (*except for DM domain)
qlabel	No	Variable label	Text to display in QLABEL variable
qorig	No	-	Text to display in QORIG variable
qeval	No	-	Text to display in QEVAL variable
debug	No	N	Whether to retain temporary datasets (Y/N)

Return Values/Output

Creates or updates SUPP[domain] dataset containing:

- Standard SDTM supplemental qualifier structure
- Required variables:

- STUDYID, RDOMAIN, USUBJID
- IDVAR/IDVARVAL (when applicable)
- QNAM, QLABEL, QVAL
- QORIG, QEVAL
- Sorted and de-duplicated records

Processing Details

1. Input Validation:

   - Verifies required parameters
   - Validates domain variable existence
   - Handles special DM domain case
   - Determines appropriate identifier variable

2. Data Processing:

   - Sorts input data by key variables
   - Transposes supplemental data
   - Determines variable types
   - Handles labels appropriately

3. Output Generation:

   - Creates SUPP-- records
   - Appends to existing SUPP-- domain
   - Removes duplicates
   - Maintains SDTM standards

Examples

Basic Usage for Demographics

```
%let domain = DM;
%xusupp(
    inds=dm,
    invar=RACEOTH,
    qlabel=%str(Race, Other),
    qorig=CRF
);
```

Custom Identifier Variable

```
%let domain = AE;
%xusupp(
    inds=ae,
    invar=AEACNOTH,
    idvar=AESEQ,
```

```
    qlabel=Other Action Taken
);
```

Debug Mode

```
%let domain = VS;
%xusupp(
    inds=vs,
    invar=VSPOS,
    qorig=CRF,
    qeval=INVESTIGATOR,
    debug=Y
);
```

Common Issues and Solutions

Issue	Solution
Missing domain variable	Set global domain variable before call
Duplicate records	Check input data uniqueness
Missing labels	Specify qlabel or add variable labels
ERROR: Required operator not found in expression: &qlabel. ^= even though it is provided	Make sure "(", ")" are "escaped" with escapechar; see example below

```
/* For example this will trigger error */
%xusupp(&domain., mlcho, idvar=mlseq, qlabel=%str(Carbohydrates (g)), qorig=CRF);

/* Use this instead */
%xusupp(&domain., mlcho, idvar=mlseq, qlabel=%str(Carbohydrates %(g%)),
qorig=CRF); |
```

Notes and Limitations

- Requires pre-existing empty SUPP domain template
- DM domain ignores idvar parameter
- Non-DM domains use [domain]seq by default
- Automatically handles numeric/character IDs
- Appends to existing SUPP-- datasets
- De-duplicates final dataset
- Variable labels used for QLABEL if not specified
- Debug mode retains intermediate datasets

See Also

- %xumrgcs: Merge SUPP and CO datasets
- %xusplit: Text variable splitting utility
- %xuload: Dataset loading utility

Change Log

Version	Date	Author	Changes
1.0	18JUL2022	Atorus Research	Initial version