

# TT05: Digital SAP Model

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VeraMed

# Problem Statement



5. DEFINITIONS

5.1. Efficacy

5.1.1. Primary Objective and Endpoint

5.1.1.1. Balance Measurements

5.1.1.1.1. Food and Fluid Collection for Copper and Molybdenum Concentrations

5.1.1.1.2. Urine Collection for Measurement of Copper and Molybdenum Content

5.1.1.1.3. Fecal Collection for Measurement of Copper and Molybdenum Content

The primary objective is to demonstrate a net negative copper balance with daily repeat-dose ALXN1840 treatment (15 mg and 30 mg) in participants with WD.

The primary endpoint is the mean daily copper balance where copper balance is measured by the calculated difference between copper intake (in food and drink) and copper output (in feces and urine) during ALXN1840 accumulation and steady-state periods for each dose.

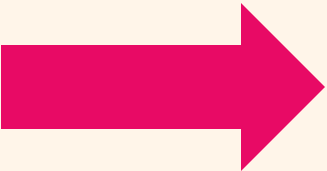
Copper balance measurements will be made on all intake (ie, study drug, food and fluids) and all output (urine and feces) from participants as indicated in the schedule of activities (SoA) in the [Protocol Table 1](#). The copper concentration of each sample will be determined by inductively coupled plasma mass spectrometry (ICP-MS). Copper content of all intake and output will be calculated based on the volume or weight of intake and output and the concentration of representative samples.

Samples of all meal and fluid batches will be collected and analyzed for measurement of copper content. A minimum of 3 complete portions/meals from each food and liquid batch will be sent for analysis. All participants will drink water from the same large water bottle dispenser. Samples of water from this dispenser will be collected and analyzed for copper content.

Samples will be collected, stored and shipped as detailed in the Laboratory Manual. All sample handling procedures will be documented in detail in the Laboratory Manual. Copper concentration of each food sample (ng/g) and each fluid sample (ng/mL) sample will be determined by ICP-MS.

Urine samples to measure copper content will be collected periodically as described in the SoA ([Protocol Table 1](#)). Samples will be collected, stored and shipped as detailed in the Laboratory Manual. For each 24-hour collection period, urine will be pooled for analysis and volumes will be recorded. All sample handling procedures will be documented in detail as described in the Laboratory Manual. Copper concentration (ng/mL) of each 24-hour urine sample will be determined by ICP-MS.

Fecal samples to measure copper content will be collected periodically as described in the SoA ([Protocol Table 1](#)). Samples will be collected, stored, and shipped as detailed in the Laboratory Manual. Fecal samples will be individually collected, weighed, and stored. The weight and time of each bowel movement will be recorded. All sample handling procedures will be documented



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# What's in a SAP?



## **Introductory Sections**

- Table of Contents
- Abbreviations and definitions
- Introduction
- Objectives, Endpoints and Estimands
- Study Methods
- Sample Size
- General Considerations

## **Analysis Sections**

- Summary of Study Data
- Efficacy Analyses
- Safety Analyses
- Pharmacokinetics
- Other Analyses

## **Useful Information Sections**

- Reporting Conventions
- Technical Details
- Summary of Changes to the Protocol
- References
- Amendments to the SAP
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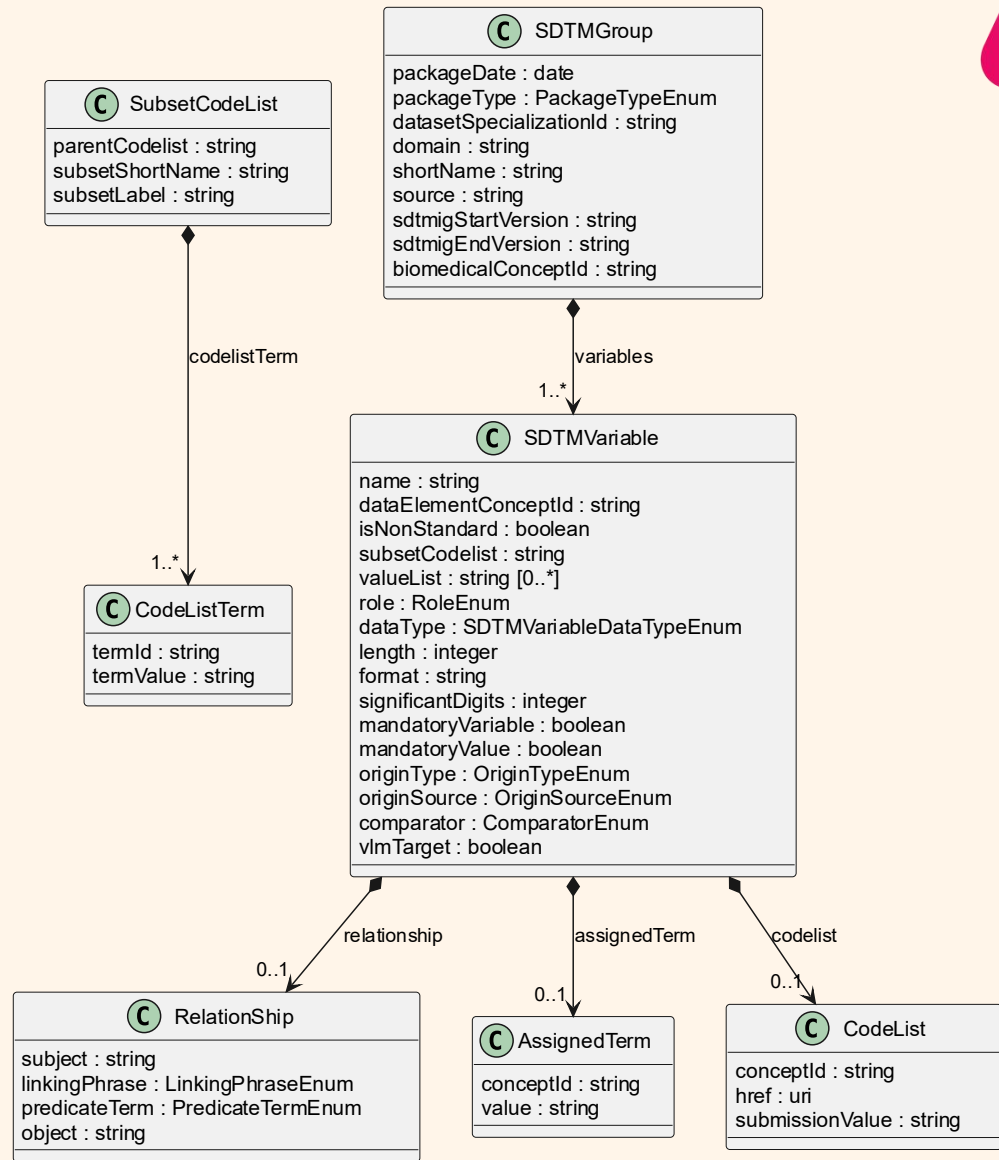
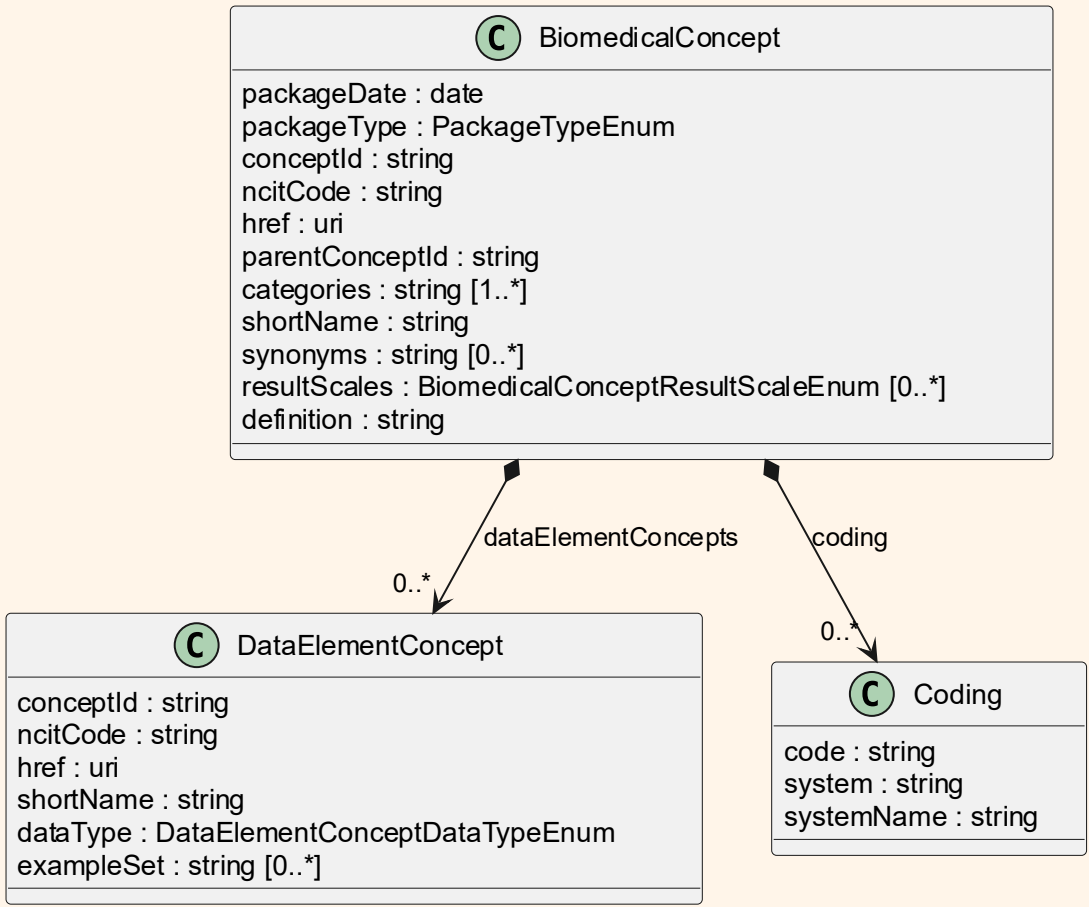
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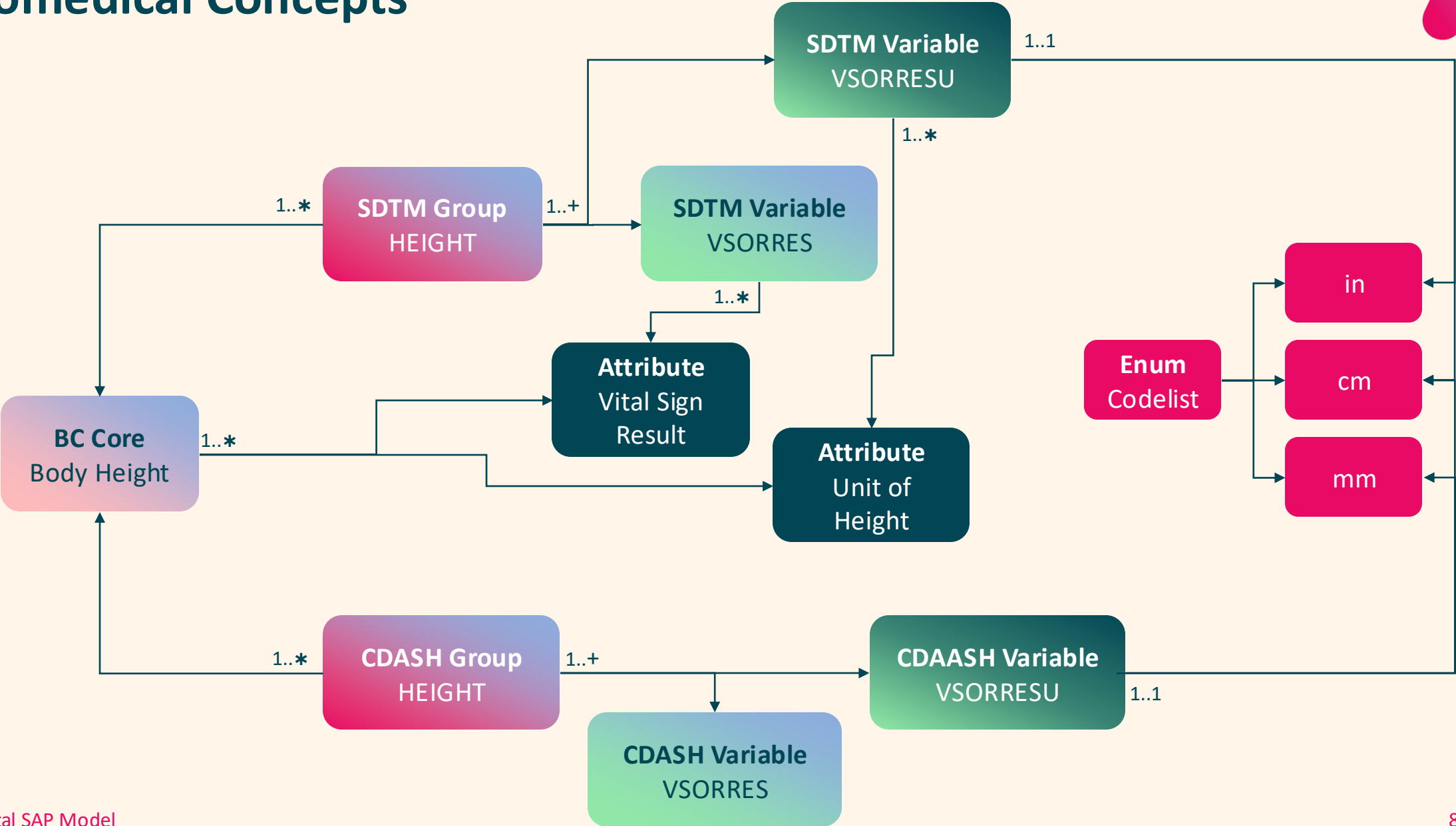


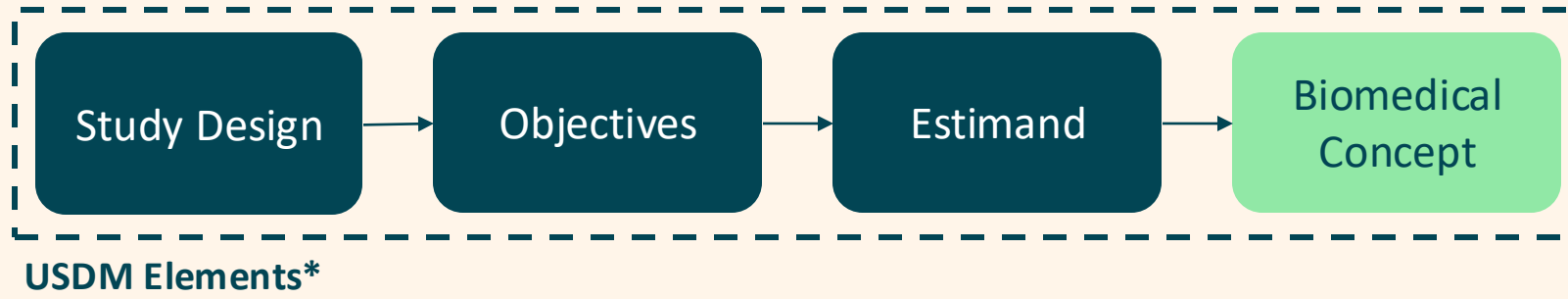
Reusing existing  
structures

# Biomedical Concepts

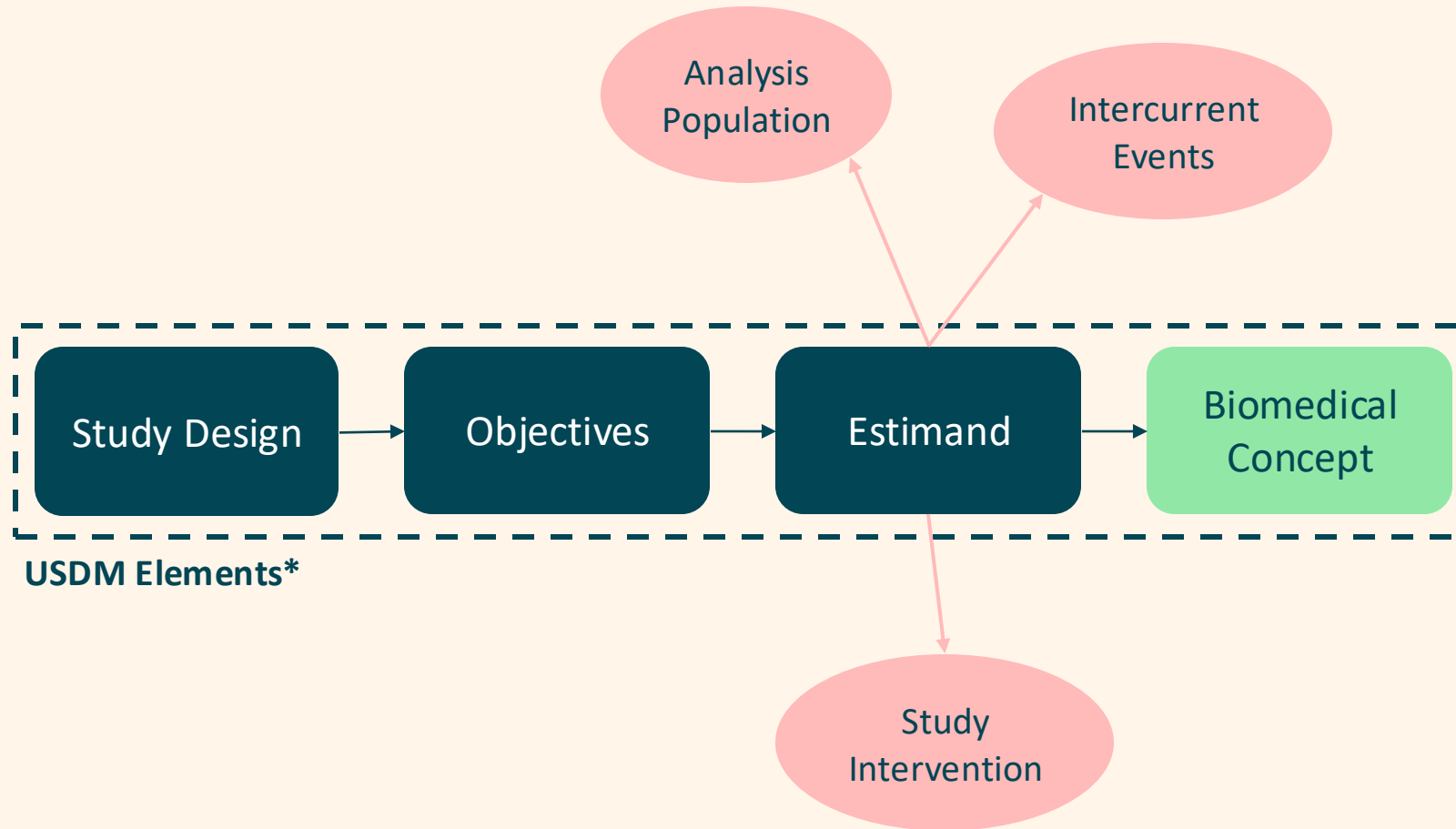


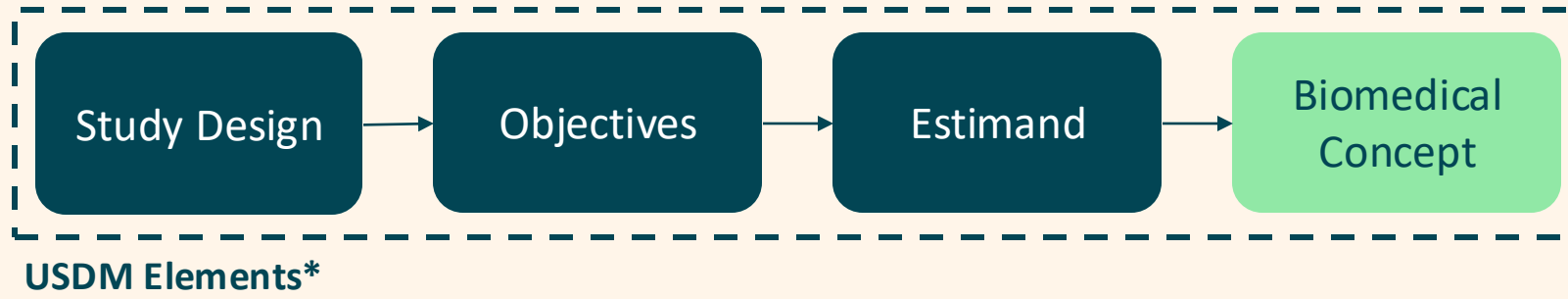
# Biomedical Concepts



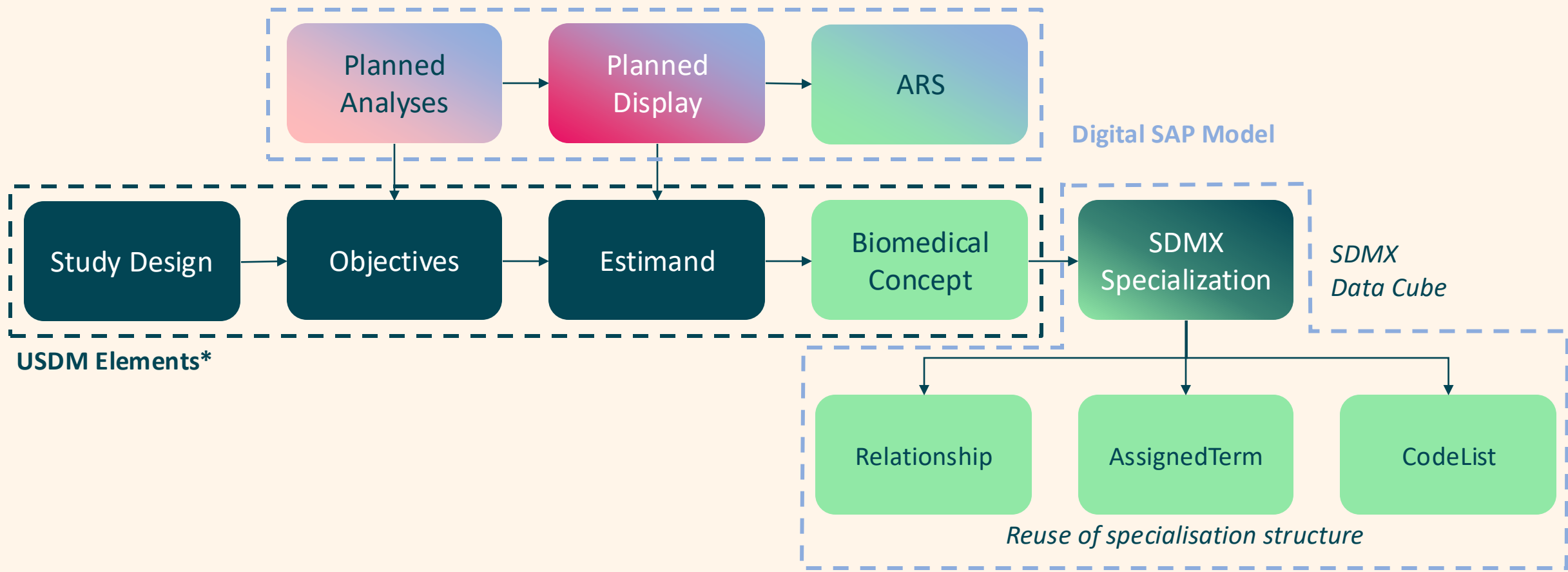


# USDM





# Digital SAP Model Linkage





# SDMX

Statistical Data and Metadata eXchange

# SDMX “What you need to know”



| USUBJID | PARAMCD | PARAM       | AVISITN | AVISIT | TRT01PN | TRT01P  | AVAL | CHG |
|---------|---------|-------------|---------|--------|---------|---------|------|-----|
| 101     | SYSBP   | Systolic BP | 4       | Week 4 | 1       | Active  | 120  | -5  |
| 102     | SYSBP   | Systolic BP | 4       | Week 4 | 0       | Control | 118  | -7  |
| 103     | SYSBP   | Systolic BP | 4       | Week 4 | 1       | Active  | 130  | +2  |

# SDMX “What you need to know”



## *Dimensions*

| USUBJID | PARAMCD | PARAM       | AVISITN | AVISIT | TRT01PN | TRT01P  | AVAL | CHG |
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# SDMX “What you need to know”



## *Dimensions*

## *Measures*

| USUBJID | PARAMCD | PARAM       | AVISITN | AVISIT | TRT01PN | TRT01P  | AVAL | CHG |
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# SDMX “What you need to know”



## *Dimensions*

## *Attributes*

## *Measures*

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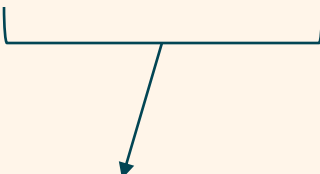


## Dimensions

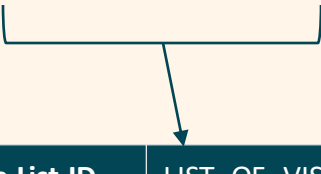
## Attributes

## Measures

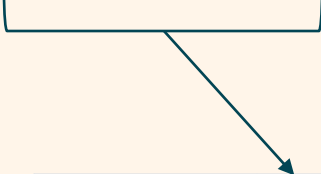
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|---------|---------|--|---------|--|---------|--|------|-----|
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| 102     | SYSBP   |  | 4       |  | 0       |  | 118  | -7  |
| 103     | SYSBP   |  | 4       |  | 1       |  | 130  | +2  |



| Code List ID | ADVS_PARAMCD |
|--------------|--------------|
| Code ID      | Code name    |
| SYSBP        | Systolic BP  |
| DIABP        | Diastolic BP |



| Code List ID | LIST_OF_VISITS |
|--------------|----------------|
| Code ID      | Code name      |
| -1           | Screening      |
| 1            | Baseline       |
| 4            | Week 4         |



| Code List ID | TREATMENTS |
|--------------|------------|
| Code ID      | Code name  |
| 0            | Control    |
| 1            | Active     |

# SDMX “What you need to know”



## *Dimensions*

## *Attributes*

## *Measures*

| USUBJID | PARAMCD | AVISITN | TRT01PN | AVAL | CHG |
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| Code List ID | TREATMENTS |
|--------------|------------|
| Code ID      | Code name  |
| 0            | Control    |
| 1            | Active     |

# SDMX Specialization Relationships



**PARAMCD is a dimension of ADVS**

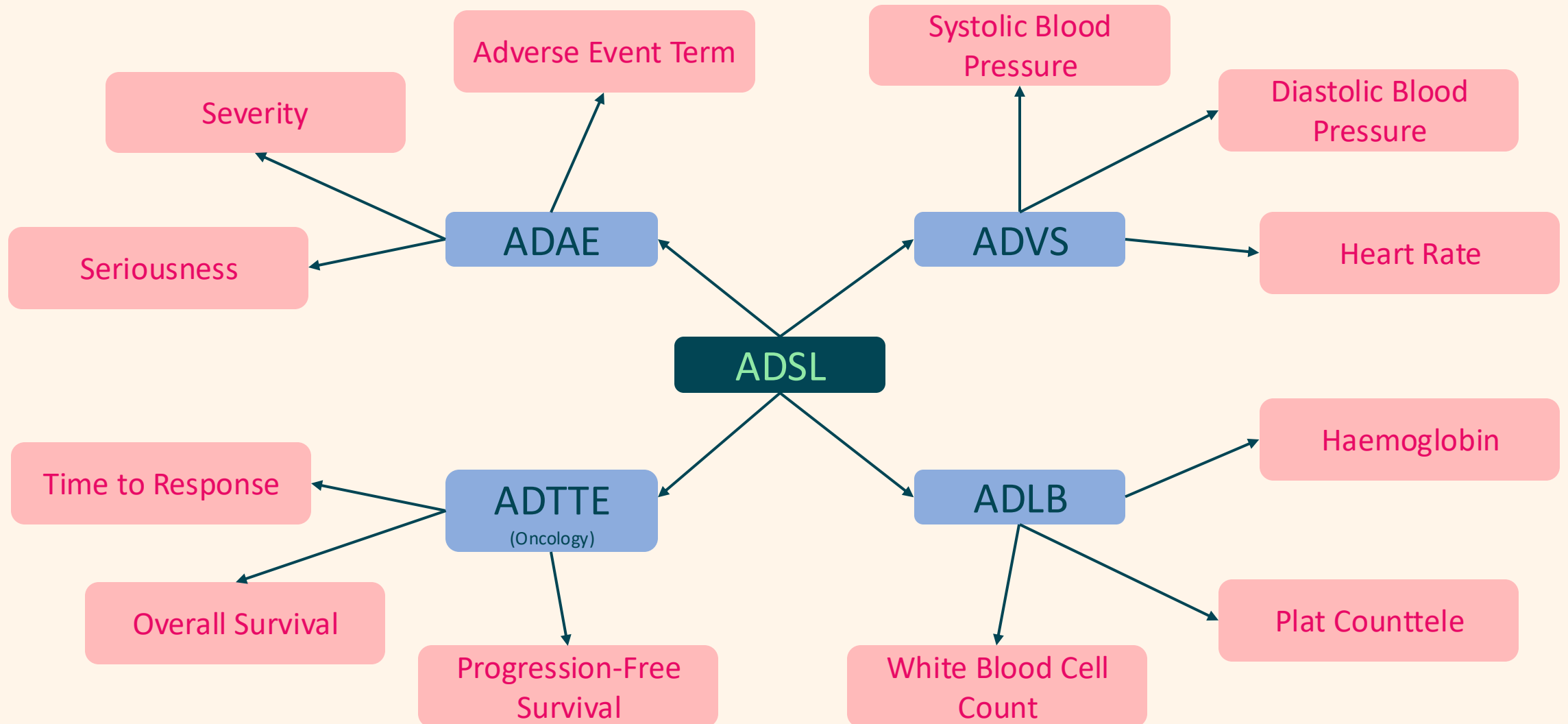
**AVAL is a measure of ADVS**

**ADVS\_PARAMCD is the code list for PARAMCD**

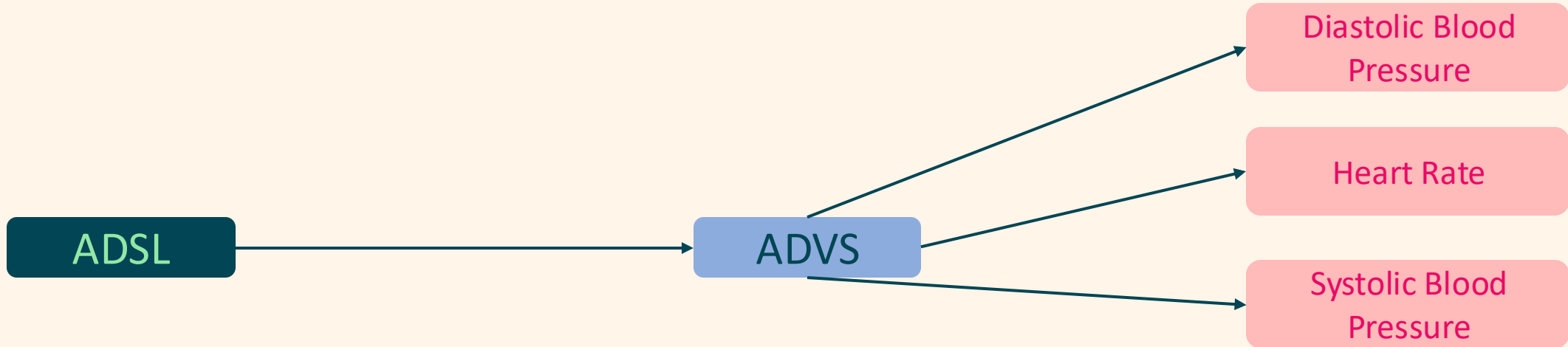
**SYSBP is a code ID of ADVS\_PARAMCD**

**Systolic BP is the code name of ADVS\_PARAMCD.SYSBP**

# ADaM Snowflake Schema

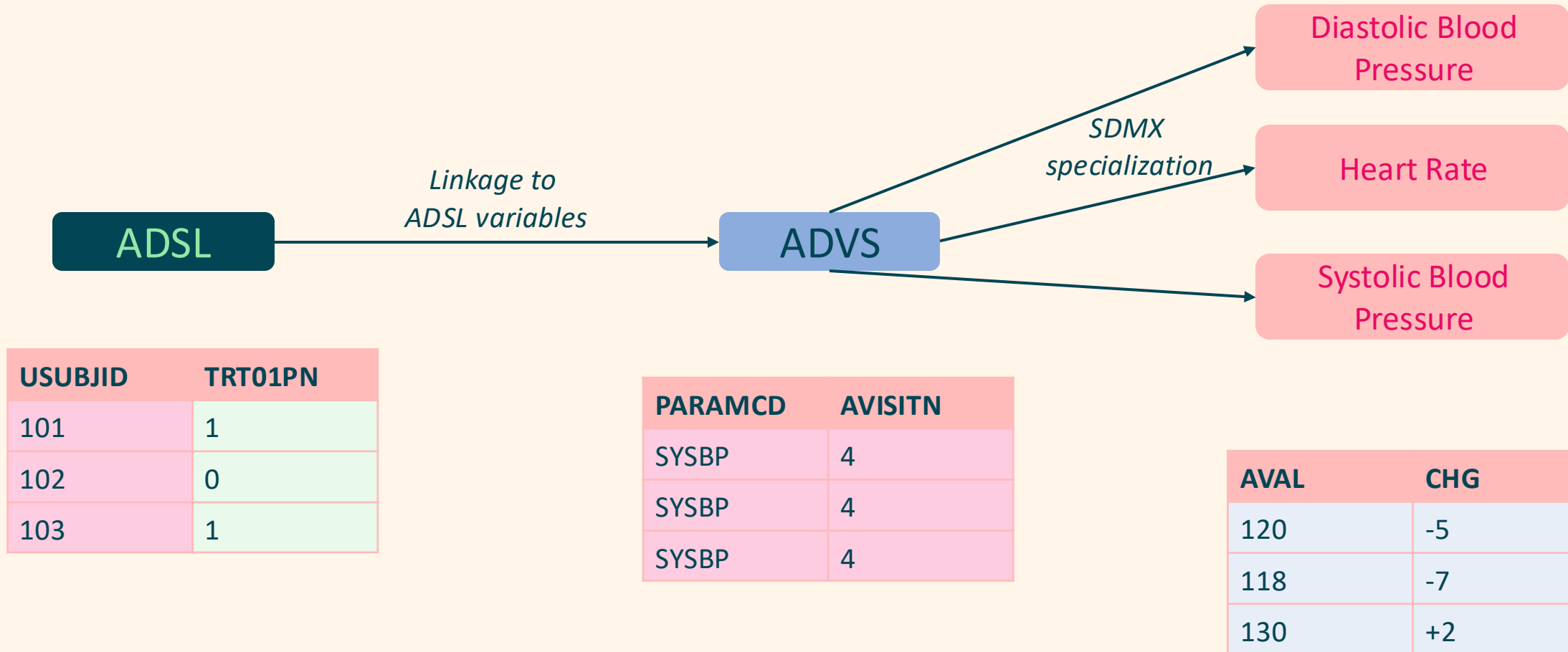


# ADaM Snowflake Schema

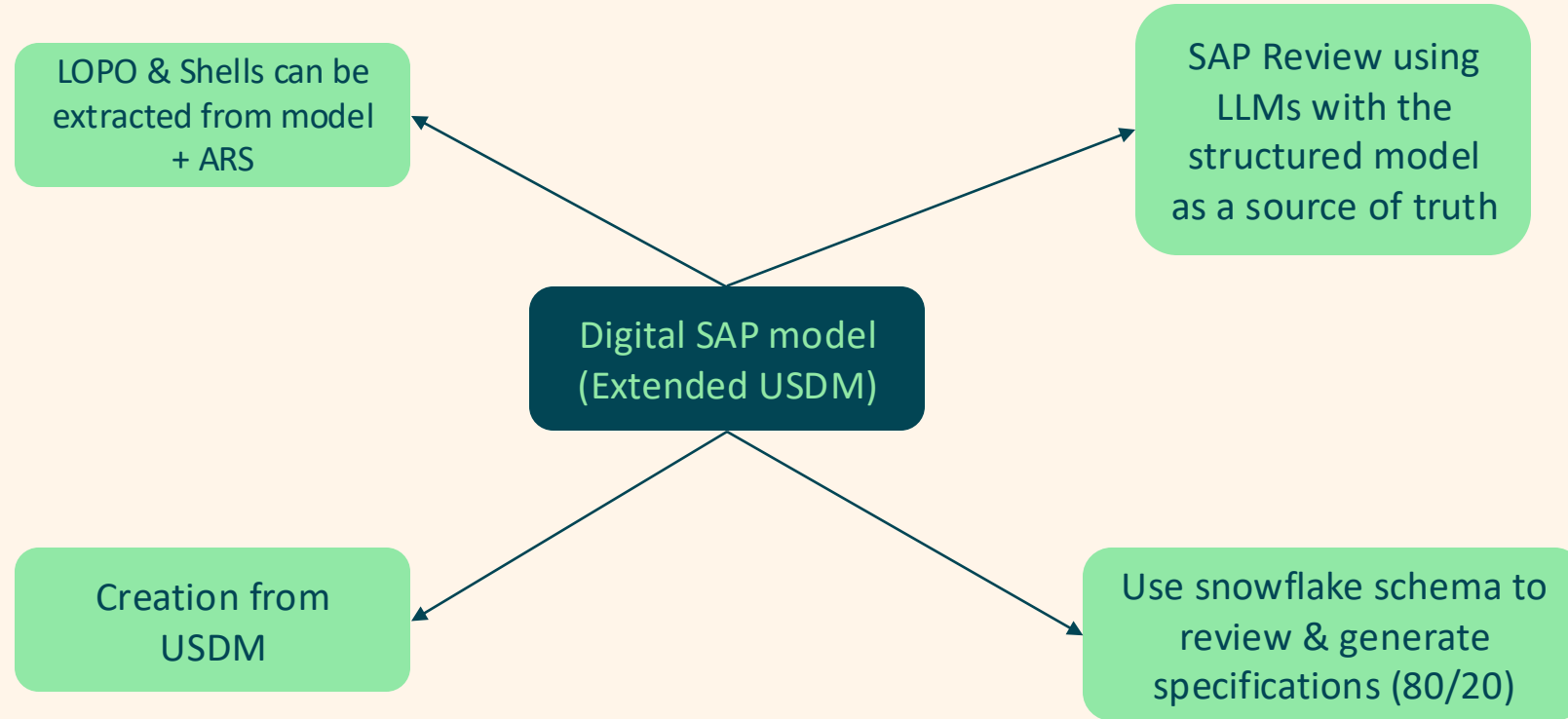


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|---------|---------|---------|---------|------|-----|
| 101     | SYSBP   | 4       | 1       | 120  | -5  |
| 102     | SYSBP   | 4       | 0       | 118  | -7  |
| 103     | SYSBP   | 4       | 1       | 130  | +2  |

# ADaM Snowflake Schema



# Automation Potential





# Questions?

[tom.ratford@veramed.co.uk](mailto:tom.ratford@veramed.co.uk)