DATA DOCUMENTATION INITIATIVE

DDI Lifecycle

INTRODUCTION AND OVERVIEW

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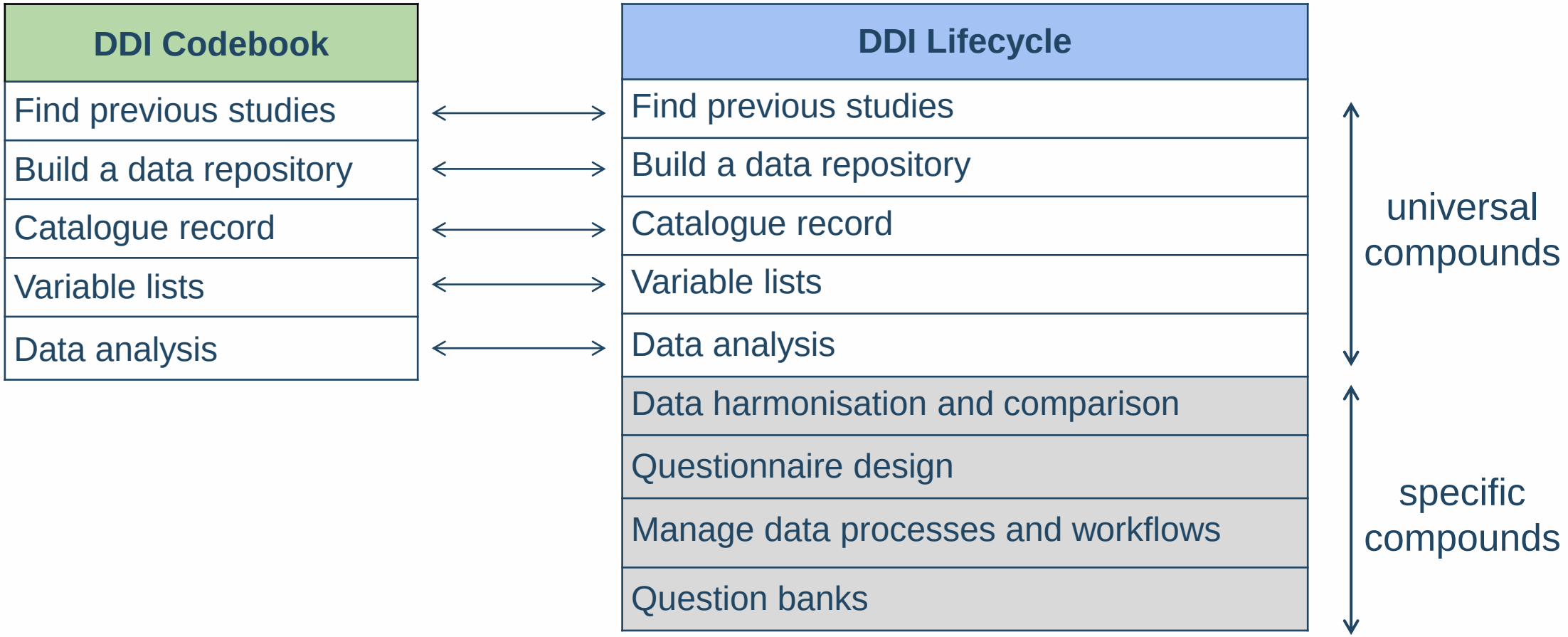
Contents

- Difference between DDI Codebook and DDI Lifecycle
- Features of DDI Lifecycle
- Activities DDI Lifecycle supports
- Summary

Difference between DDI Codebook and DDI Lifecycle



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DDI Codebook

Unstructured un-standardised metadata

Lost metadata manager

Structured DDI-C metadata

- Basic descriptive content for variables, files, source material, and study level information.
- Supports discovery, preservation, and the informed use of data.
- Documentation of a simple study data.

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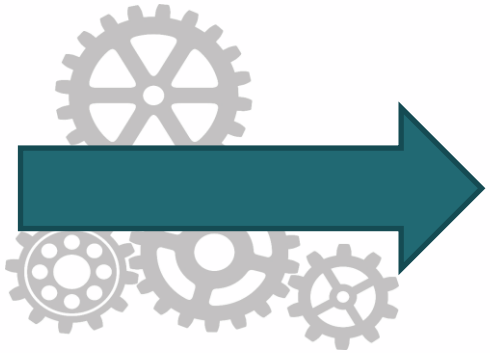
DDI Lifecycle - Broken down into different functions

Unstructured un-standardised metadata

Lost metadata manager



- Information is broken up into more discreet content.
- DDI-Lifecycle is modular and extensible.
- Metadata reuse.

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DDI Lifecycle - Reuse

Structured DDI-L metadata

Metadata specified by DDI Lifecycle standard

- Document and *manage* data across the entire data life cycle.
- Supports preservation, discovery, access and analysis in a much easier way.
- Documentation of repeated studies/surveys

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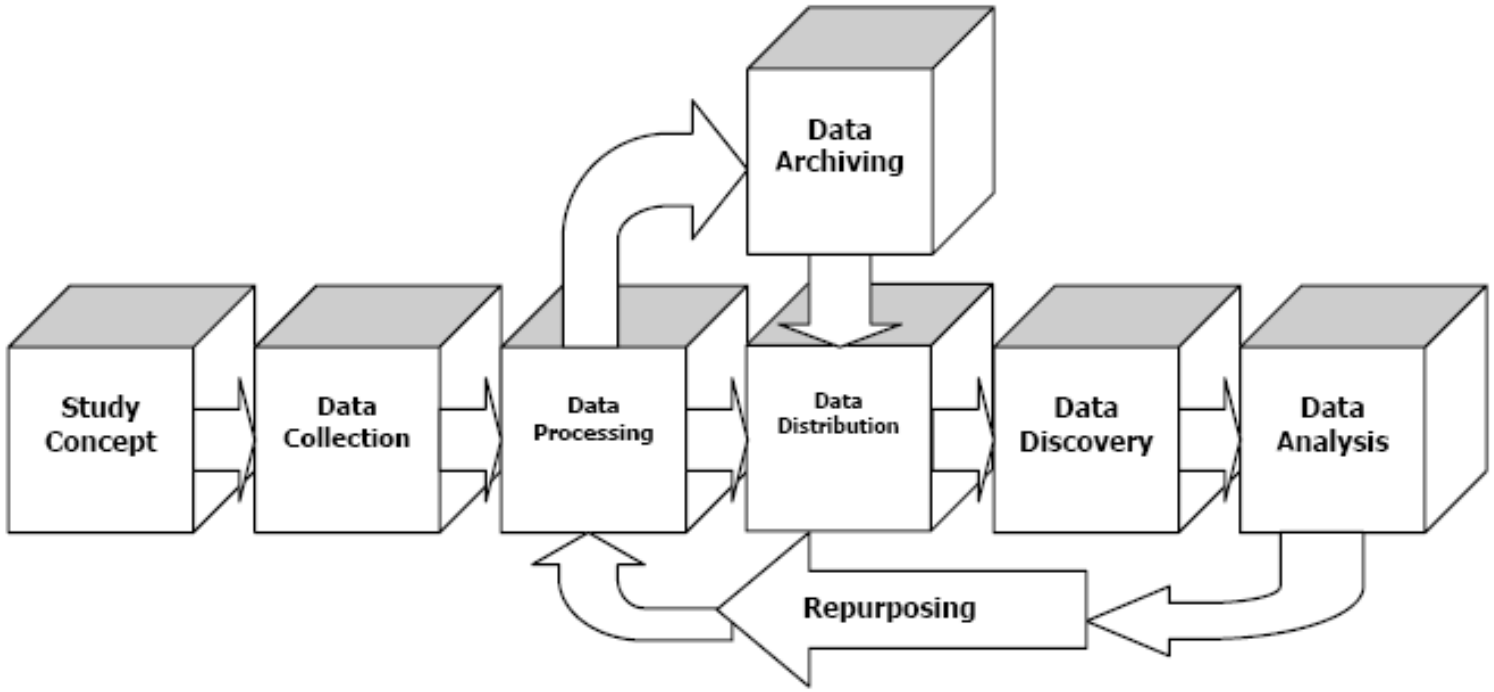
Features of DDI Lifecycle

- Lifecycle expands on the idea of Codebook in terms of:
  - Content coverage and depth
  - Allows grouping and comparing related studies or series of studies
  - Metadata management over time
  - Reusable metadata
  - Manage questions and questionnaires
  - Support for the planning, capture, processing, storage, discovery and dissemination of data (allows for active management of metadata)

Data lifecycle model



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Content coverage and depth

- **Conceptual objects**: concept, unit, unit type, universe, population, geographic structures, and representation
- **Methodological objects:** approaches to sample selection, data capture, weighting, quality control, and process management
- **Quantitative and qualitative data objects:** concept, universe, representation, usage, data type, record, record relationships, storage, access, and descriptive statistics
- **Data management:** ownership, access, rights management, restrictions, quality standards, organization, agent management, relationship between products, versioning, and provenance
- **Processing:** data capture, data processing, analysis, and data management

Metadata management over time

NACDA-ICPSR Portal

Name reascano7

Label CG1D SP CANT ANS SP TOO ILL

Statistics | Code Comparison | Correspondence Tree

	National Health and Aging Trends Study (NHATS)							
	Round 1	Round 2	Round 3	Round 4	Round 5	Round 6	Round 7	Round 8
	R1 SP cg1reascano7	R2 SP cg2reascano7	R3 SP cg3reascano7	R4 SP cg4reascano7	R5 SP cg5reascano7	R6 SP cg6reascano7	R7 SP cg7reascano7	R8 SP cg8reascano7
-9 Missing	-9	-9	-9	-9	-9	-9	-9	-9
-8 DK	-8	-8	-8	-8	-8	-8	-8	-8
-7 RF	-7	-7	-7	-7	-7	-7	-7	-7
-1 Inapplicable	-1	-1	-1	-1	-1	-1	-1	-1
1 Yes	1		1	1	1	1	1	1
1 SP HAS DEMENTIA/ALZHEIMER'S/ NOT ABLE		1						
2 No	2		2	2	2	2	2	2
2 SP IS UNABLE TO SPEAK		2						
3 SP IS UNABLE TO HEAR		3						
4 SP REFUSED		4						
5 PROXY REFUSED		5						
6 SP NOT PRESENT		6						
7 SP TOO ILL		7						
8 SP LANGUAGE BARRIER		8						
91 OTHER (SPECIFY)		91						

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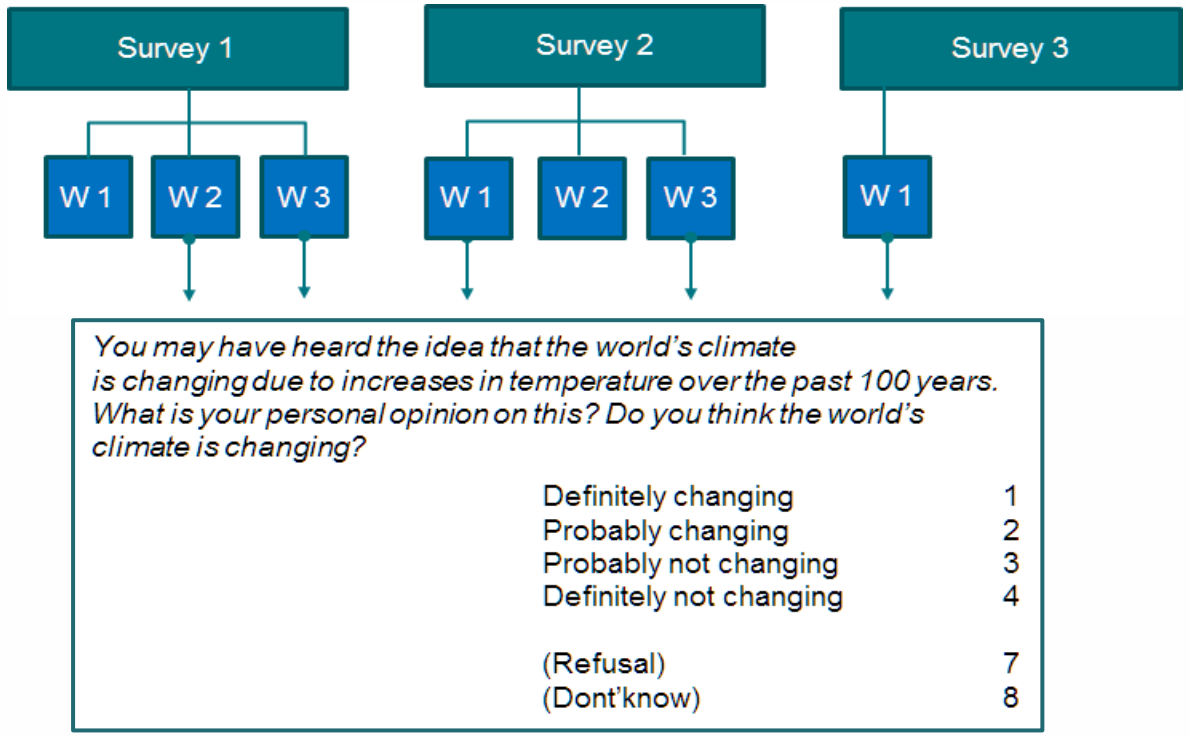
https://harmonize.icpsr.umich.edu/

Reusable metadata

- Reuse of a question in different waves/rounds/sweeps of a survey and across surveys.



Manage questions and questionnaires

Topic	DDI Codebook	DDI Lifecycle
Question	qstn	QuestionItem, QuestionGrid, QuestionBlock
Non-question measures		MeasurementItem
Questionnaire		Instrument
Questionnaire routing		Sequence, IfThenElse, Loop, RepeatUntil, RepeatWhile
Questionnaire content usage		QuestionConstruct, MeasurementConstruct, ComputationItem, StatementItem

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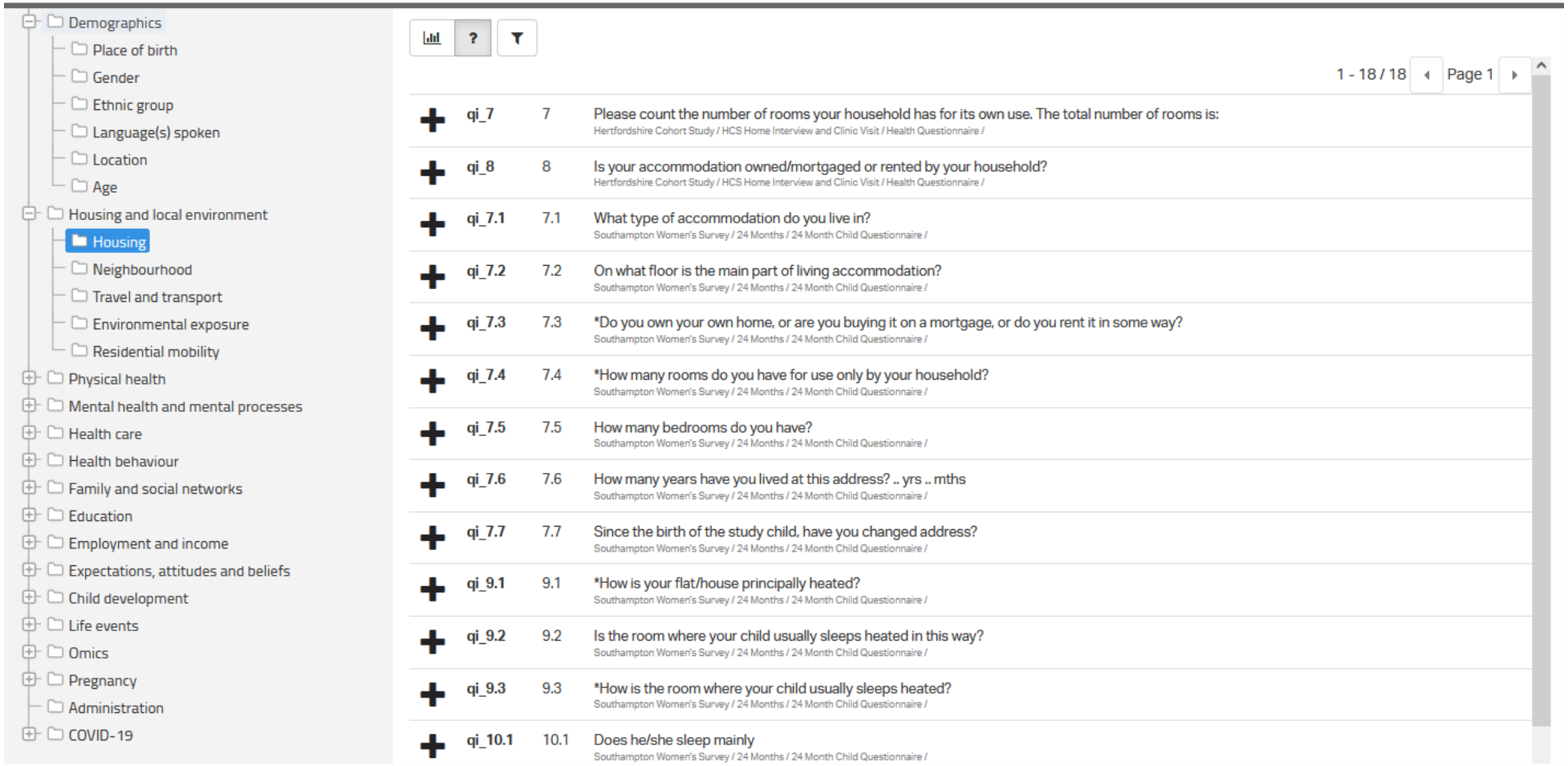
Allows grouping and comparing related studies or series of studies

closer Discovery — Explore the content of UK longitudinal studies

UKRI Economic and Social Research Council



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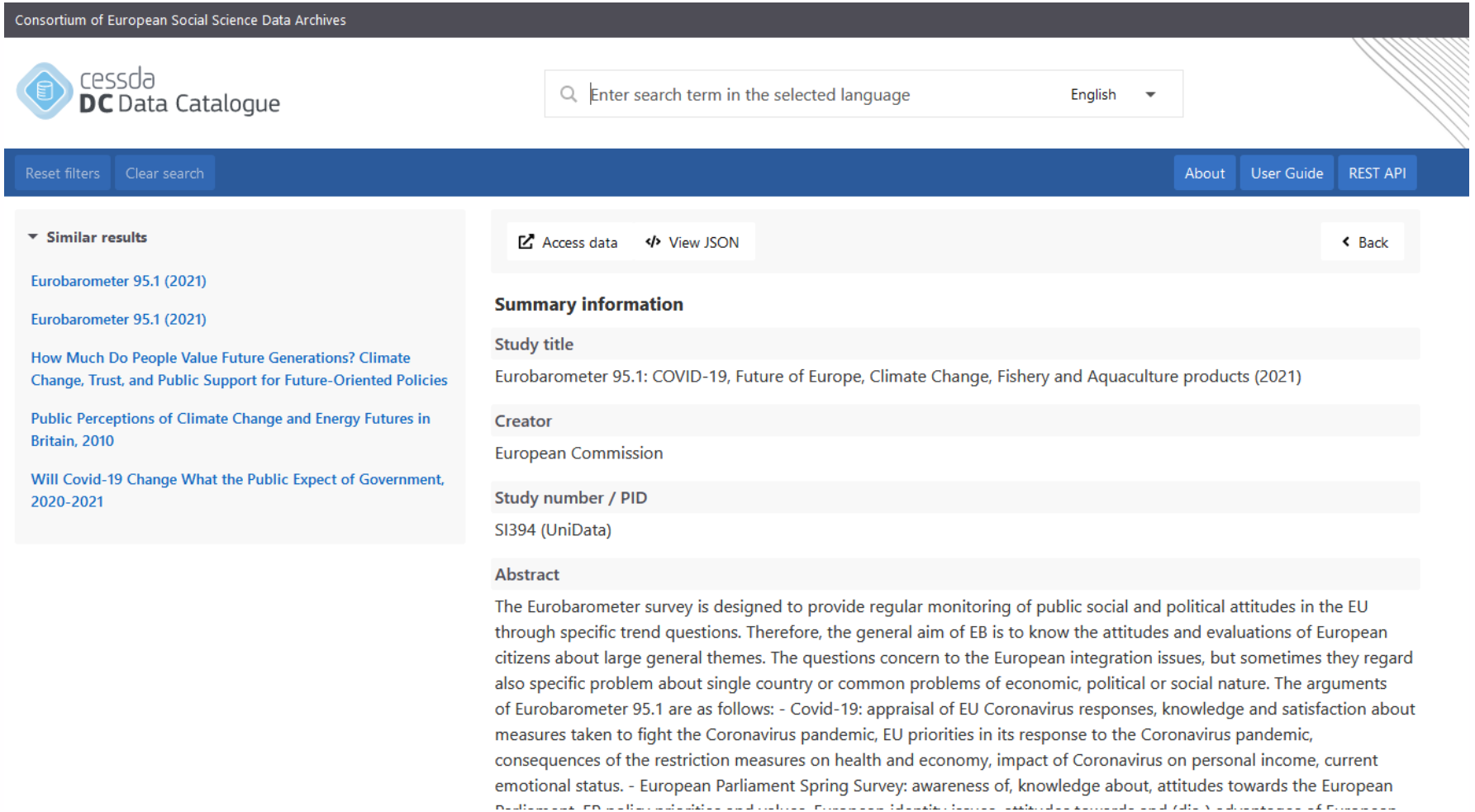
https://discovery.closer.ac.uk/explore/

Activities DDI Lifecycle supports

- Data catalogue - Archival preservation of descriptive and production content
- Structured human-readable data dictionary
- Metadata driven statistical systems
- Descriptive documentation of the content, meaning, provenance, and access
- Discovery and exchange of data at the study, data file, variable, and question level
- Question banks

Example - Create a Data catalogue



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https://datacatalogue.cessda.eu/

Example- Create a data dictionary

PDF basket download from Colectica portal

own89 - Ownership of house 1989

Type	Code
qi_12	Who owns it?
Study	National Survey of Health and Development
Sweep	1989 (Age 43)
Dataset	1989 Main Questionnaire Dataset
Variable Group	1989 Main Questionnaire Dataset
Variable Group	102 - Housing and local environment
Variable Group	10201 - Housing

			Frequency
Valid	0	Owns it or is buying it	2,687
	1	Renting it from the Council	294
	2	Renting it from a relative	21
	3	Renting it from a private landlord	104
	4	Renting it from a housing association	14
	5	Other, specify	137
	9	Unknown	5

Valid	Invalid	Minimum	Maximum
3262	2100	0	9

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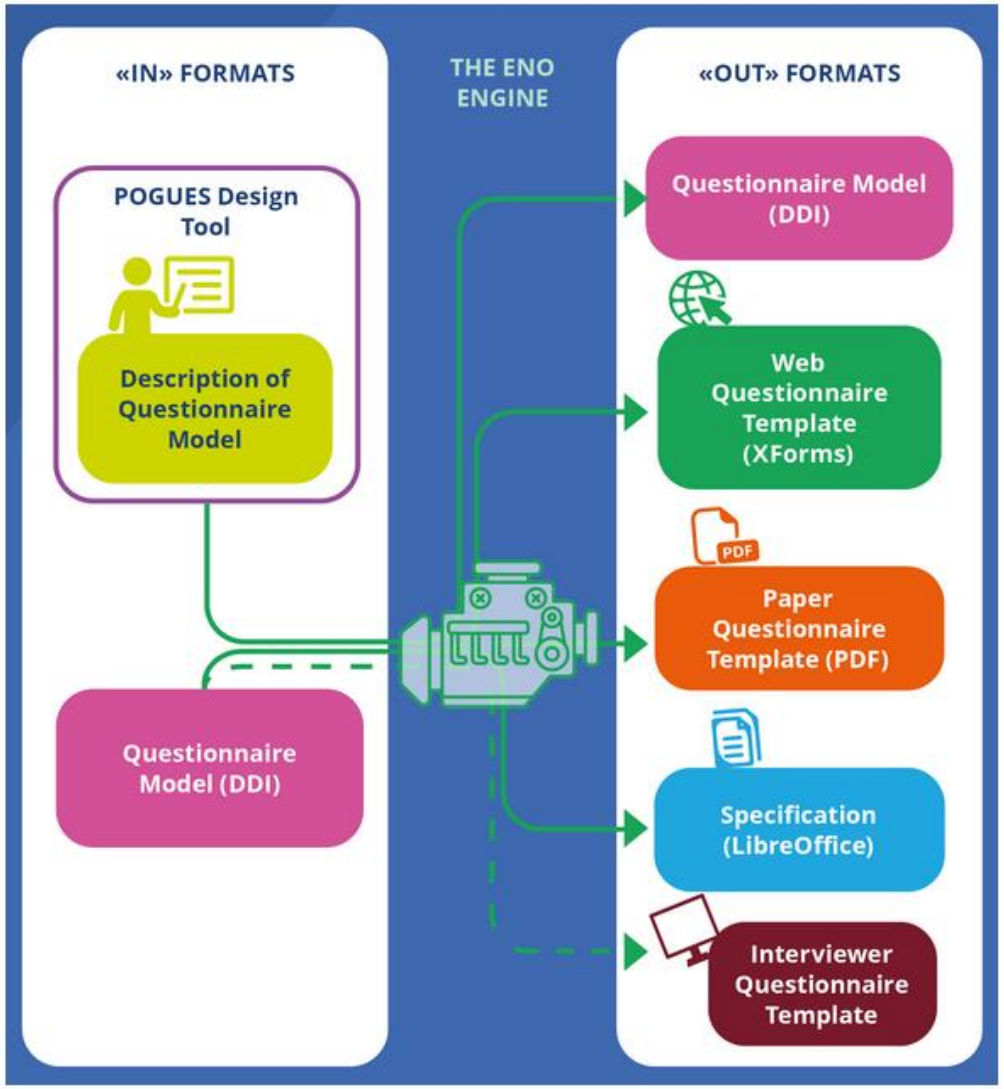
Example - Create a metadata driven statistical system

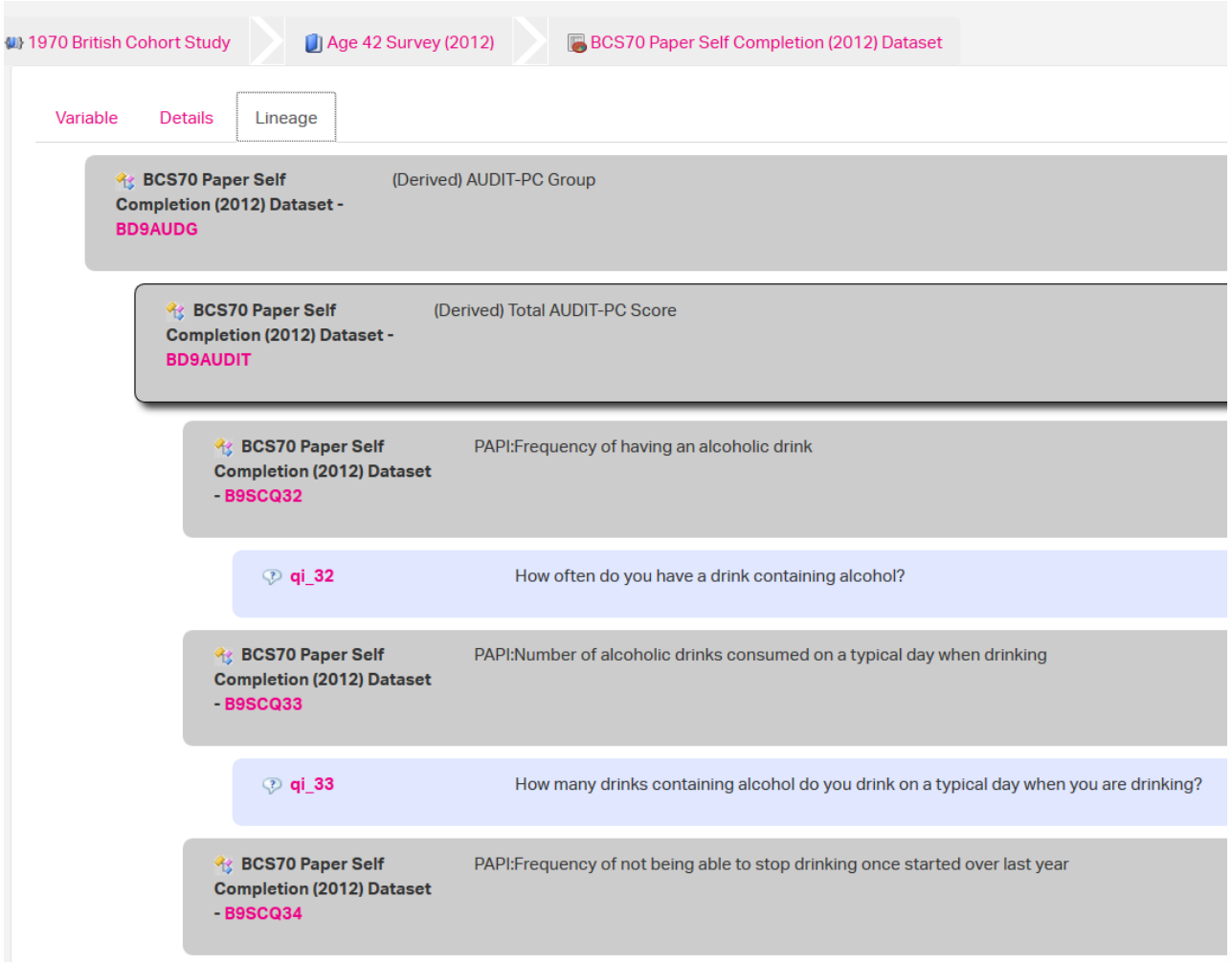
INSEE - Architecture of the Eno Engine



https://www.insee.fr/en/information/5014703?sommaire=5014796

Example - Provide descriptive documentation of the content, meaning, provenance, and access

CLOSER Discovery lineage



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Summary

- Supports the whole data lifecycle for the planning, capture, processing, storage, discovery and dissemination of data
- More suitable for:
  - multi-series/study
  - projects with surveys
  - larger projects
- Allows active management of metadata
  - Create products and processes for efficiency, consistency, quality, transparency and discovery

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Thank you

QUESTIONS?