PhenoQC Quality Control Report

Source file: quality_metrics_input.csv

Summary

Imputation Strategy	Mean
Schema Validation Score	33.33%
Missing Data Score	97.44%
Mapping Success Score	0.00%
Overall Quality Score	43.59%

Imputation Settings

Global Strategy	knn
Global Params	{'n_neighbors': 5, 'weights': 'uniform'}
Tuning Enabled	True
Best Params	{'n_neighbors': 3}
Tuning Score	90.0750 (MAE)

Data Quality Scores:

Schema Validation Score: 33.33%
Missing Data Score: 97.44%
Mapping Success Score: 0.00%
Overall Quality Score: 43.59%

Schema Validation Results

Format Validation: False
Duplicate Records: 2 issues found.
Conflicting Records: 2 issues found.
Integrity Issues: 2 issues found.
Referential Integrity Issues: No issues found.
Anomalies Detected: No issues found.

Invalid Mask: 3 issues found.
Accuracy Issues: 1 issues found.
Redundancy Issues: 4 issues found.
Traceability Issues: 3 issues found.
Timeliness Issues: 2 issues found.

Additional Quality Dimensions

Accuracy Issues: 1 issues found.

row	column	value	minimum	maximum
1	Height_cm	-5	0	None

Redundancy Issues: 4 issues found.

column_1	column_2	metric	value
Height_cm	Cholesterol_mgdl	correlation	1.0
Weight_kg	Creatinine_mgdl	correlation	0.9999999999999994
BP_systolic	BP_diastolic	correlation	1.0
Height_cm	Cholesterol_mgdl	identical	1.0

Traceability Issues: 3 issues found.

row	issue
0	duplicate_identifier
1	duplicate_identifier
2	missing_identifier

Timeliness Issues: 2 issues found.

SampleID	Height_cm	Weight_kg	Cholesterol_mgdl	BP_systolic	BP_diastolic	Glucose_mgdl	Creatinine_mgdl	PrimaryPhenotype	VisitDate	SchemaViolationFlag	issue
1.0	170	70	170	120	60	90	1.0	HP:0001250	2025-07-30	False	lag_exceeded
nan	180	75	180	140	70	100	1.1	HP:0000001	not_a_date	True	missing_or_invalid_date

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Imputation-bias diagnostics

Warning rules: SMD≥0.1 | Var-ratio∉[0.5,2.0] | KS p<0.05

Variables evaluated: 1
: 1 issues found.

Variable	n_obs	n_imp	SMD	Var-ratio	KS p	Triggers	Warn
SampleID	2	1	nan	nan	nan		False

Variable	Status	Triggers
SampleID	OK	—

Missing Data Summary

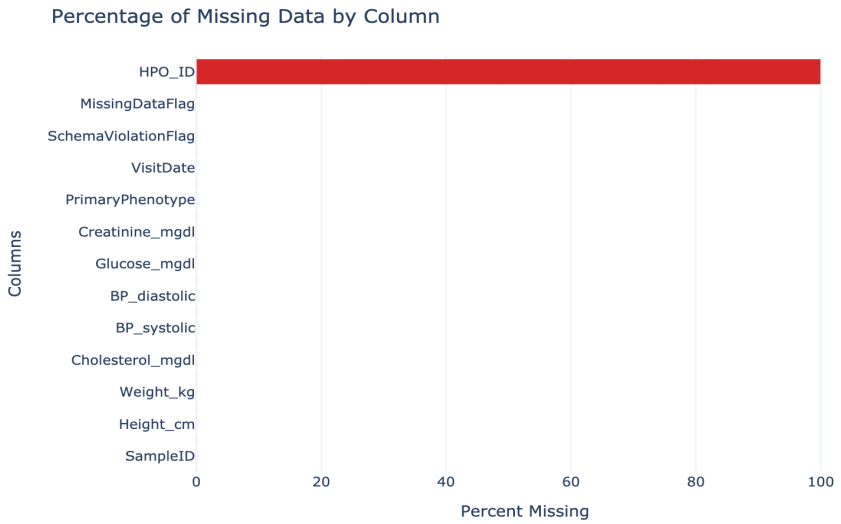
Column	Missing Count
SampleID	1

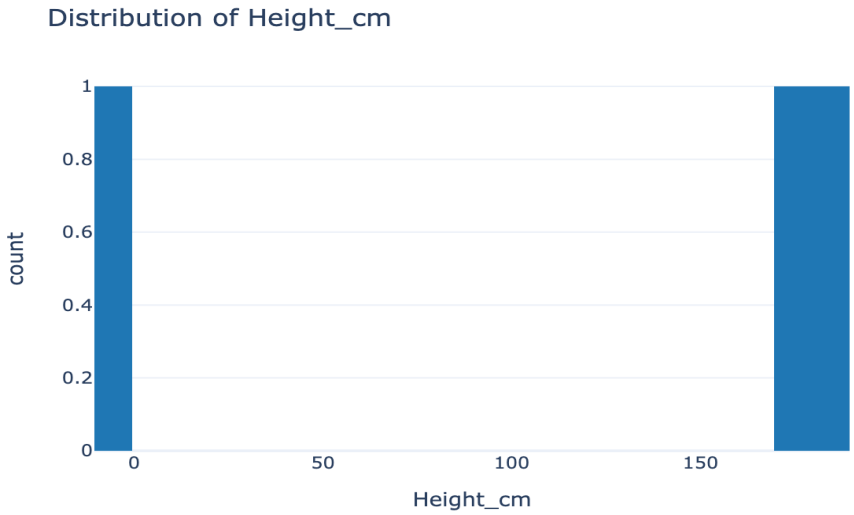
Records Flagged for Missing Data: 1

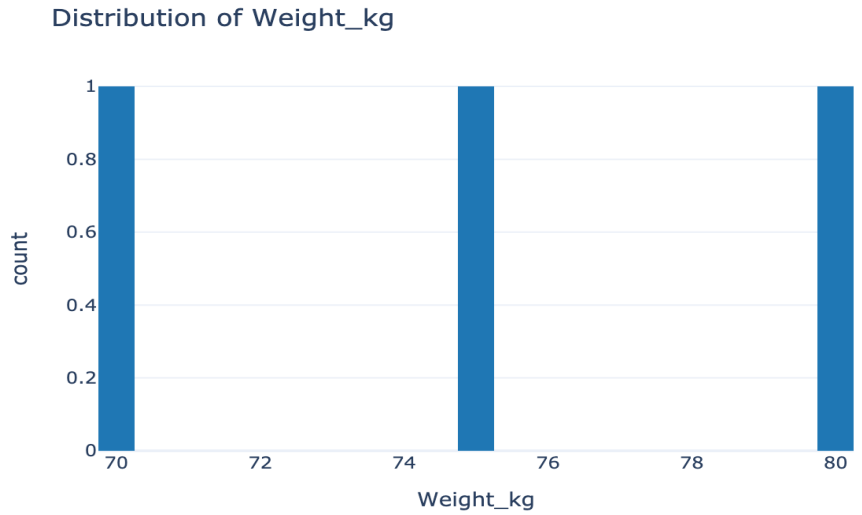
Ontology Mapping Summary

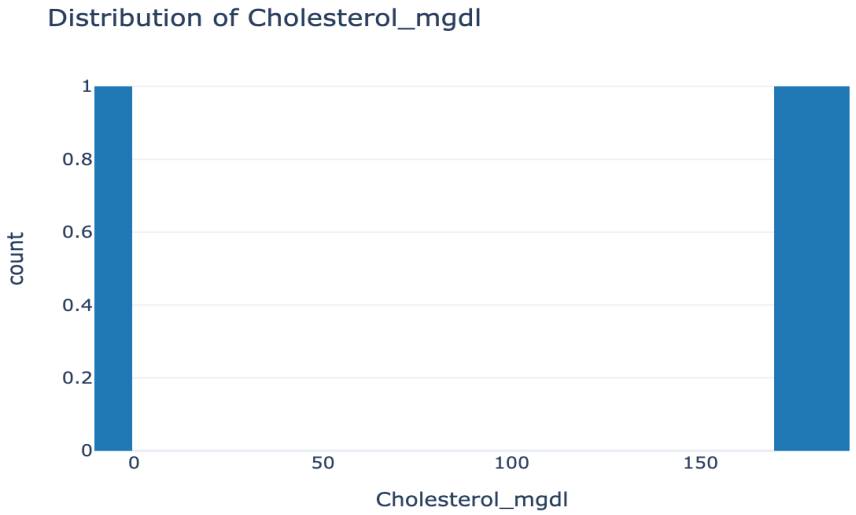
Ontology	Total Terms	Mapped	Success Rate
HPO	3	0	0.00%

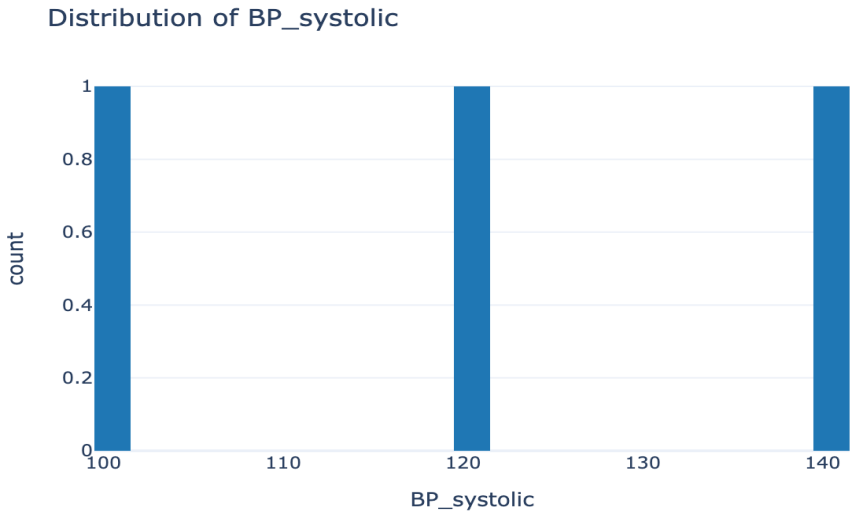
Visualizations

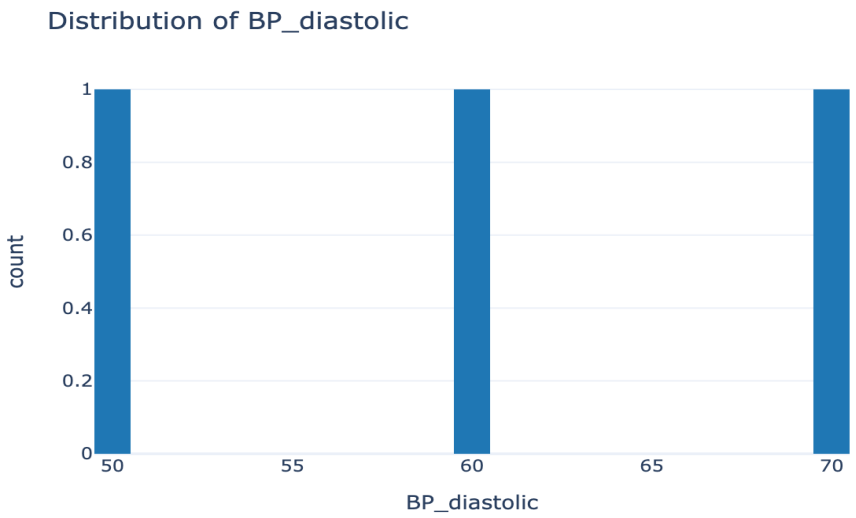


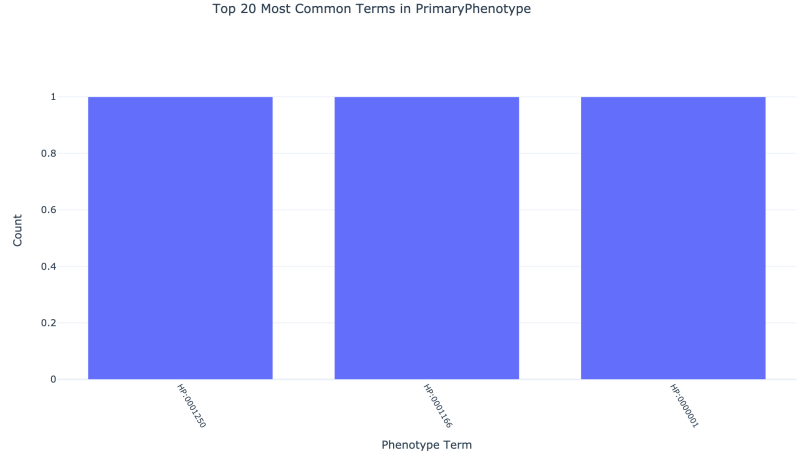


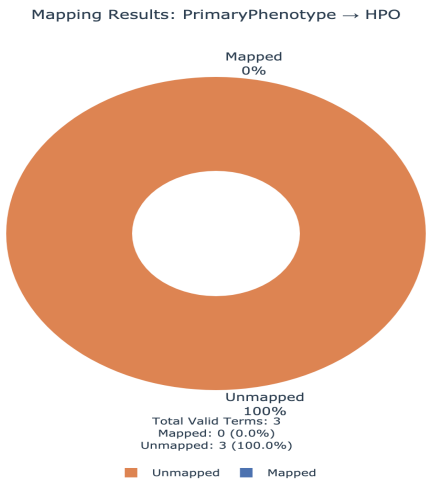



Distribution of Cholesterol_mgdl
count
Cholesterol_mgdl
0
0.2
0.4
0.6
0.8
1
0
50
100
150


Distribution of BP_systolic
count
BP_systolic
0
0.2
0.4
0.6
0.8
1
100
110
120
130
140


Distribution of BP_diastolic
count
BP_diastolic
0
0.2
0.4
0.6
0.8
1
50
55
60
65
70


Top 20 Most Common Terms in PrimaryPhenotype
Count
Phenotype Term
0
0.2
0.4
0.6
0.8
1
HP:0001250
HP:0001166
HP:0000001


Mapping Results: PrimaryPhenotype → HPO
Mapped
0%
Unmapped
100%
Total Valid Terms: 3
Mapped: 0 (0.0%)
Unmapped: 3 (100.0%)
Unmapped
Mapped