Results schema of the CohortMethod package

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Contents

1 Introduction

This document describes the data model of the output of the CohortMethod package, generated by the `exportToCsv()` function. This vignette assumes you are already familiar with the `CohortMethod` package, and have read all other vignettes.

1.1 Fields with minimum values

Some fields contain patient counts or fractions that can easily be converted to patient counts. To prevent identifiability, these fields are subject to a minimum value. When the value falls below this minimum, it is replaced with the negative value of the minimum. For example, if the minimum subject count is 5, and the actual count is 2, the value stored in the data model will be -5, which could be represented as '<5' to the user. Note that the value 0 is permissible, as it identifies no persons. These fields are identified below as having Min. count = 'Yes'.

2 Tables

In this section you will find the list of tables and their fields.

2.1 Table cm_analysis

Field	Type	Key	Min. count	Deprecated	Description
analysis_id	int	Yes	No	No	A unique identifier for an analysis.
description	varchar	No	No	No	A description for an analysis, e.g. 'On-treatment'.
definition	varchar	No	No	No	A CohortMethod JSON object specifying the analysis.

2.2 Table cm_attrition

Field	Type	Key	Min. count	Deprecated	Description
sequence_number	int	Yes	No	No	The place in the sequence of steps defining the final a
description	varchar	No	No	No	A description of the last restriction, e.g. "Removing p
subjects	int	No	Yes	No	The number of subjects in the cohort.
exposure_id	bigint	Yes	No	No	The identifier of the exposure cohort to which the att
target_comparator_id	bigint	Yes	No	No	A foreign key referencing the target_comparator tabl
analysis_id	int	Yes	No	No	The identifier for the outcome cohort.
outcome_id	bigint	Yes	No	No	Foreign key referencing the cm_analysis table.
database_id	varchar	Yes	No	No	Foreign key referencing the database.

2.3 Table cm_covariate

Field	Type	Key	Min. count	Deprecated	Description
covariate_id	bigint	Yes	No	No	A unique identified for a covariate.
covariate_name	varchar	No	No	No	A name for a covariate, e.g. 'Age group: 20-25 years'.
analysis_id	int	Yes	No	No	Foreign key referencing the cm_analysis table.
covariate_analysis_id	int	No	No	No	Foreign key referencing the cm_covariate_analysis tab
database_id	varchar	Yes	No	No	Foreign key referencing the database.

2.4 Table cm_covariate_analysis

Field	Type	Key	Min. count	Deprecated	Description
covariate_analysis_id	int	Yes	No	No	A unique identifier for a covariate analysis (only gu
covariate_analysis_name	varchar	No	No	No	A name for a covariate analysis, e.g. 'Demographic
analysis_id	int	Yes	No	No	A foreign key referencing the cm_analysis table.

2.5 Table cm_covariate_balance

Field	Type	Key	Min. count	Deprecated	Description
database_id	varchar	Yes	No	No	Foreign key referencing the database.
target_comparator_id	bigint	Yes	No	No	A foreign key referencing the target_comparato
outcome_id	bigint	Yes	No	No	The identifier for the outcome cohort.
analysis_id	int	Yes	No	No	A foreign key referencing the cm_analysis table
covariate_id	bigint	Yes	No	No	A foreign key referencing the cm_covariate tabl
target_mean_before	float	No	Yes	No	The mean value of the covariate in the target cc
comparator_mean_before	float	No	Yes	No	The mean value of the covariate in the compara
mean_before	float	No	Yes	No	The mean value of the covariate in the union of

Field	Type	Key	Min. count	Deprecated	Description
std_diff_before	float	No	No	No	The standardized difference of the means betwe
mean_after	float	No	Yes	No	The mean value of the covariate in the union of
target_mean_after	float	No	Yes	No	The mean value of the covariate in the target c
comparator_mean_after	float	No	Yes	No	The mean value of the covariate in the compara
std_diff_after	float	No	No	No	The standardized difference of the means betwe
target_std_diff	float	No	No	No	The standardized difference of the means before
comparator_std_diff	float	No	No	No	The standardized difference of the means before
target_comparator_std_diff	float	No	No	No	The standardized difference of the means before

2.6 Table cm__diagnostics_summary

Field	Type	Key	Min. count	Deprecated	Description
analysis_id	int	Yes	No	No	A foreign key referencing the cm_ana
target_comparator_id	bigint	Yes	No	No	A foreign key referencing the target_
outcome_id	bigint	Yes	No	No	The identifier for the outcome cohort.
database_id	varchar	Yes	No	No	Foreign key referencing the database.
max_sdm	float	No	No	No	The maximum absolute standardized
sdm_family_wise_min_p	float	No	No	No	The minimum family-wise P-value for
shared_max_sdm	float	No	No	No	The maximum absolute standardized
shared_sdm_family_wise_min_p	float	No	No	No	The minimum family-wise P-value for
equipoise	float	No	No	No	The fraction of the study population
mdrr	float	No	No	No	The minimum detectable relative risk
attrition_fraction	float	No	No	Yes	DEPRECATED: The fraction of the t
generalizability_max_sdm	float	No	No	No	The maximum absolute standardized
ease	float	No	No	No	The expected absolute systematic err
balance_diagnostic	varchar(20)	No	No	No	Pass / warning / fail classification of
shared_balance_diagnostic	varchar(20)	No	No	No	Pass / warning / fail classification of
equipoise_diagnostic	varchar(20)	No	No	No	Pass / warning / fail classification of
mdrr_diagnostic	varchar(20)	No	No	No	Pass / warning / fail classification of
attrition_diagnostic	varchar(20)	No	No	Yes	DEPRECATED: Pass / warning / fai
generalizability_diagnostic	varchar(20)	No	No	No	Pass / warning / fail classification of
ease_diagnostic	varchar(20)	No	No	No	Pass / warning / fail classification of
unblind	int	No	No	No	Is unblinding the result recommended
unblind_for_evidence_synthesis	int	No	No	No	Is unblinding the result for inclusion i

2.7 Table cm__follow_up_dist

Field	Type	Key	Min. count	Deprecated	Description
target_comparator_id	bigint	Yes	No	No	A foreign key referencing the target_comparator t
outcome_id	bigint	Yes	No	No	The identifier for the outcome cohort.
analysis_id	int	Yes	No	No	Foreign key referencing the cm_analysis table.
target_min_days	float	No	No	No	The minimum number of observation days for a p
target_p_10_days	float	No	No	No	The 10th percentile of number of observation days
target_p_25_days	float	No	No	No	The 25th percentile of number of observation days
target_median_days	float	No	No	No	The median number of observation days for a pers
target_p_75_days	float	No	No	No	The 75th percentile of number of observation days
target_p_90_days	float	No	No	No	The 90th percentile of number of observation days
target_max_days	float	No	No	No	The maximum number of observation days for a p
comparator_min_days	float	No	No	No	The minimum number of observation days for a p

Field	Type	Key	Min. count	Deprecated	Description
comparator_p_10_days	float	No	No	No	The 10th percentile of number of observation days
comparator_p_25_days	float	No	No	No	The 25th percentile of number of observation days
comparator_median_days	float	No	No	No	The median number of observation days for a per
comparator_p_75_days	float	No	No	No	The 75th percentile of number of observation days
comparator_p_90_days	float	No	No	No	The 90th percentile of number of observation days
comparator_max_days	float	No	No	No	The maximum number of observation days for a p
target_min_date	Date	No	No	No	The first start date of the target cohort observed
target_max_date	Date	No	No	No	The last start date of the target cohort observed i
comparator_min_date	Date	No	No	No	The first start date of the comparator cohort obse
comparator_max_date	Date	No	No	No	The last start date of the comparator cohort obse
database_id	varchar	Yes	No	No	Foreign key referencing the database.

2.8   Table cm_interaction_result

Field	Type	Key	Min. count	Deprecated	Description
analysis_id	int	Yes	No	No	Foreign key referencing the cm_analysis table.
target_comparator_id	bigint	Yes	No	No	A foreign key referencing the target_comparator ta
outcome_id	bigint	Yes	No	No	The identifier for the outcome cohort.
interaction_covariate_id	int	Yes	No	No	Foreign key referencing the cm_covariate table.
rr	float	No	No	No	The estimated relative risk (e.g. the ratio of hazard
ci_95_lb	float	No	No	No	The lower bound of the 95% confidence interval of t
ci_95_ub	float	No	No	No	The upper bound of the 95% confidence interval of
p	float	No	No	No	The two-sided p-value considering the null hypothe
target_subjects	int	No	Yes	No	The number of subject in the target cohort.
comparator_subjects	int	No	Yes	No	The number of subject in the comparator cohort.
target_days	int	No	No	No	The number of days observed in the target cohort.
comparator_days	int	No	No	No	The number of days observed in the comparator co
target_outcomes	int	No	Yes	No	The number of outcomes observed in the target coh
comparator_outcomes	int	No	Yes	No	The number of outcomes observed in the comparato
log_rr	float	No	No	No	The log of the relative risk.
se_log_rr	float	No	No	No	The standard error of the log of the relative risk.
calibrated_rr	float	No	No	No	The calibrated relative risk.
calibrated_ci_95_lb	float	No	No	No	The lower bound of the calibrated 95% confidence i
calibrated_ci_95_ub	float	No	No	No	The upper bound of the calibrated 95% confidence
calibrated_p	float	No	No	No	The calibrated two-sided p-value.
calibrated_log_rr	float	No	No	No	The log of the calibrated relative risk.
calibrated_se_log_rr	float	No	No	No	The standard error of the log of the calibrated rela
target_estimator	varchar	No	No	No	The target estimator, for example "att", "ate", "atu
database_id	varchar	Yes	No	No	Foreign key referencing the database.

2.9   Table cm_kaplan_meier_dist

Field	Type	Key	Min. count	Deprecated	Description
time_day	int	Yes	No	No	Time in days since cohort start.
target_survival	float	No	No	No	The estimated survival fraction in the target cohort
target_survival_lb	float	No	No	No	The lower bound of the 95% confidence interval of
target_survival_ub	float	No	No	No	The upper bound of the 95% confidence interval of
comparator_survival	float	No	No	No	The estimated survival fraction in the comparator c
comparator_survival_lb	float	No	No	No	The lower bound of the 95% confidence interval of

Field	Type	Key	Min. count	Deprecated	Description
comparator_survival_ub	float	No	No	No	The upper bound of the 95% confidence interval of
target_at_risk	int	No	Yes	No	The number of subjects still at risk in the target co
comparator_at_risk	int	No	Yes	No	The number of subjects still at risk in the compara
target_comparator_id	bigint	Yes	No	No	A foreign key referencing the target_comparator ta
outcome_id	bigint	Yes	No	No	The identifier for the outcome cohort.
analysis_id	int	Yes	No	No	A foreign key referencing the cm_analysis table.
database_id	varchar	Yes	No	No	Foreign key referencing the database.

2.10 Table cm_likelihood_profile

Field	Type	Key	Min. count	Deprecated	Description
log_rr	float	Yes	No	No	The log of the relative risk where the likelihood is san
log_likelihood	float	No	No	No	The normalized log likelihood.
gradient	float	No	No	No	The gradient of the log likelihood.
target_comparator_id	bigint	Yes	No	No	A foreign key referencing the target_comparator tabl
outcome_id	bigint	Yes	No	No	The identifier for the outcome cohort.
analysis_id	int	Yes	No	No	A foreign key referencing the cm_analysis table.
database_id	varchar	Yes	No	No	Foreign key referencing the database.

2.11 Table cm_preference_score_dist

Field	Type	Key	Min. count	Deprecated	Description
analysis_id	int	Yes	No	No	A foreign key referencing the cm_analysis table.
target_comparator_id	bigint	Yes	No	No	A foreign key referencing the target_comparator tabl
database_id	varchar	Yes	No	No	Foreign key referencing the database.
preference_score	float	Yes	No	No	A preference score value.
target_density	float	No	No	No	The distribution density for the target cohort at the g
comparator_density	float	No	No	No	The distribution density for the comparator cohort at

2.12 Table cm_propensity_model

Field	Type	Key	Min. count	Deprecated	Description
target_comparator_id	bigint	Yes	No	No	A foreign key referencing the target_comparator tabl
analysis_id	int	Yes	No	No	A foreign key referencing the cm_analysis table.
database_id	varchar	Yes	No	No	Foreign key referencing the database.
covariate_id	bigint	Yes	No	No	Foreign key referencing the cm_covariate table. 0 is r
coefficient	float	No	No	No	The coefficient (beta) for the covariate in the propens

2.13 Table cm_result

Field	Type	Key	Min. count	Deprecated	Description
analysis_id	int	Yes	No	No	Foreign key referencing the cm_analysis table.
target_comparator_id	bigint	Yes	No	No	A foreign key referencing the target_comparator ta
outcome_id	bigint	Yes	No	No	The identifier for the outcome cohort.
rr	float	No	No	No	The estimated relative risk (e.g. the hazard ratio).

Field	Type	Key	Min. count	Deprecated	Description
ci_95_lb	float	No	No	No	The lower bound of the 95% confidence interval of t
ci_95_ub	float	No	No	No	The upper bound of the 95% confidence interval of
p	float	No	No	No	The two-sided p-value considering the null hypothes
one_sided_p	float	No	No	No	The one-sided p-value considering the null hypothes
target_subjects	int	No	Yes	No	The number of subject in the target cohort.
comparator_subjects	int	No	Yes	No	The number of subject in the comparator cohort.
target_days	int	No	No	No	The number of days observed in the target cohort.
comparator_days	int	No	No	No	The number of days observed in the comparator co
target_outcomes	int	No	Yes	No	The number of outcomes observed in the target coh
comparator_outcomes	int	No	Yes	No	The number of outcomes observed in the comparato
log_rr	float	No	No	No	The log of the relative risk.
se_log_rr	float	No	No	No	The standard error of the log of the relative risk.
llr	float	No	No	No	The log of the likelihood ratio (of the MLE vs the n
calibrated_rr	float	No	No	No	The calibrated relative risk.
calibrated_ci_95_lb	float	No	No	No	The lower bound of the calibrated 95% confidence i
calibrated_ci_95_ub	float	No	No	No	The upper bound of the calibrated 95% confidence
calibrated_p	float	No	No	No	The calibrated two-sided p-value.
calibrated_one_sided_p	float	No	No	No	The calibrated one-sided p-value considering the nu
calibrated_log_rr	float	No	No	No	The log of the calibrated relative risk.
calibrated_se_log_rr	float	No	No	No	The standard error of the log of the calibrated relat
target_estimator	varchar	No	No	No	The target estimator, for example "att", "ate", "atu
database_id	varchar	Yes	No	No	Foreign key referencing the database.

2.14 Table cm_shared_covariate_balance

Field	Type	Key	Min. count	Deprecated	Description
database_id	varchar	Yes	No	No	Foreign key referencing the database.
target_comparator_id	bigint	Yes	No	No	A foreign key referencing the target_comparato
analysis_id	int	Yes	No	No	A foreign key referencing the cm_analysis table
covariate_id	bigint	Yes	No	No	A foreign key referencing the cm_covariate tab
mean_before	float	No	Yes	No	The mean value of the covariate in the union of
target_mean_before	float	No	Yes	No	The mean value of the covariate in the target co
comparator_mean_before	float	No	Yes	No	The mean value of the covariate in the compara
std_diff_before	float	No	No	No	The standardized difference of the means betwe
mean_after	float	No	Yes	No	The mean value of the covariate in the union of
target_mean_after	float	No	Yes	No	The mean value of the covariate in the target co
comparator_mean_after	float	No	Yes	No	The mean value of the covariate in the compara
std_diff_after	float	No	No	No	The standardized difference of the means betwe
target_std_diff	float	No	No	No	The standardized difference of the means before
comparator_std_diff	float	No	No	No	The standardized difference of the means before
target_comparator_std_diff	float	No	No	No	The standardized difference of the means before

2.15 Table cm_target_comparator

Field	Type	Key	Min. count	Deprecated	Description
target_comparator_id	bigint	Yes	No	No	Primary key for identifying a target-comparator-(nestin
target_id	bigint	No	No	No	The identifier for the target cohort.
comparator_id	bigint	No	No	No	The identifier for the comparator cohort.
nesting_cohort_id	bigint	No	No	No	The identifier for the nesting cohort. Null if not nested

Field	Type	Key	Min. count	Deprecated	Description

2.16   Table cm_target_comparator_outcome

Field	Type	Key	Min. count	Deprecated	Description
outcome_id	bigint	Yes	No	No	The identifier for the outcome cohort.
outcome_of_interest	int	No	No	No	Is the outcome of interest (1 = yes, 0 = no)
true_effect_size	float	No	No	No	The true effect size for the target-comparator-outcome.
target_comparator_id	bigint	Yes	No	No	A foreign key referencing the target_comparator table.