

Package: edgedata (via r-universe)

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Type Package

Title Datasets that Support the EDGE Server DIY Logic

Version 0.3.0.9000

Description Datasets from most recent Center for Consumer Information and Insurance Oversight (CCIIO) DIY entry in a tidy format. These support the Centers for Medicare and Medicaid Services' (CMS) risk adjustment Do-It-Yourself (DIY) process, which allows health insurance issuers to calculate member risk profiles under the Health and Human Services-Hierarchical Condition Categories (HHS-HCC) regression model. This regression model is used to calculate risk adjustment transfers. Risk adjustment is a selection mitigation program implemented under the Patient Protection and Affordable Care Act (ACA or Obamacare) in the USA. Under the ACA, health insurance issuers submit claims data to CMS in order for CMS to calculate a risk score under the HHS-HCC regression model. However, CMS does not inform issuers of their average risk score until after the data submission deadline. These data sets can be used by issuers to calculate their average risk score mid-year. More information about risk adjustment and the HHS-HCC model can be found here:
<https://www.cms.gov/mmrr/Articles/A2014/MMRR2014_004_03_a03.html>.

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adult_demo

Adult Demographic Factors - Table 9

Description

A dataset containing the adult model demographic factors for the risk adjustment model. Demographics vary by age (groupings) and sex.

Usage

adult_demo

Format

An object of class `tbl_df` (inherits from `tbl`, `data.frame`) with 6 columns

used Whether or not the category is used in the RA model

metal Plan metal level (Benefit richness)

coef Demographic risk score coefficient

sex Male/Female demographic category

age_min, age_max Maximum and minimum age for each risk score

Source

Data import and cleaning at: <https://github.com/EeethB/edgedata/tree/main/data-raw>

See Also

Other factors: [adult_enroll_dur](#), [adult_group](#), [adult_hcc](#), [adult_interaction](#), [adult_rxc_hcc_inter](#), [adult_rxc](#), [child_demo](#), [child_group](#), [child_hcc](#), [infant_demo](#), [infant_mat_sev](#)

adult_enroll_dur	<i>Adult Enrollment Duration Factors - Table 9</i>
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Description

A dataset containing the adult model enrollment duration factors for the risk adjustment model. Risk score is increased for members with less than 12 months' duration due to risk that is present but not accounted for in diagnoses and prescriptions during the enrollment window.

Usage

```
adult_enroll_dur
```

Format

An object of class `tbl_df` (inherits from `tbl`, `data.frame`) with 4 columns

used Whether or not the category is used in the RA model

metal Plan metal level (Benefit richness)

coef Enrollment duration risk score coefficient

months Number of enrollment months for each risk score

Source

Data import and cleaning at: <https://github.com/EeethB/edgedata/tree/main/data-raw>

See Also

Other factors: [adult_demo](#), [adult_group](#), [adult_hcc](#), [adult_interaction](#), [adult_rxc_hcc_inter](#), [adult_rxc](#), [child_demo](#), [child_group](#), [child_hcc](#), [infant_demo](#), [infant_mat_sev](#)

adult_group	<i>Adult HCC Grouping Factors - Table 9</i>
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Description

A dataset containing the adult model HCC grouping factors for the risk adjustment model. Some condition categories have been grouped together, so that any number of HCCs within that group are zeroed out and replaced by the group.

Usage

adult_group

Format

An object of class `tbl_df` (inherits from `tbl`, `data.frame`) with 17 rows and 7 columns

group Group label for risk scores

used Whether or not the category is used in the RA model

metal Plan metal level (Benefit richness)

coef HCC grouping risk score coefficient

Source

Data import and cleaning at: <https://github.com/EeethB/edgedata/tree/main/data-raw>

See Also

Other factors: [adult_demo](#), [adult_enroll_dur](#), [adult_hcc](#), [adult_interaction](#), [adult_rxc_hcc_inter](#), [adult_rxc](#), [child_demo](#), [child_group](#), [child_hcc](#), [infant_demo](#), [infant_mat_sev](#)

Other HCC tables: [adult_hcc](#), [adult_interaction](#), [adult_rxc_hcc_inter](#), [cc_hier](#), [child_group](#), [child_hcc](#), [cpt_hcpcs](#), [icd_cc](#)

adult_hcc	<i>Adult HCC Factors - Table 9</i>
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Description

A dataset containing the adult model HCC factors for the risk adjustment model. Condition categories (CCs) are triggered by ICD-10 codes (See [icd_cc](#)), and a hierarchy is then applied (See [cc_hier](#)), creating hierarchical condition categories (HCCs).

Usage

adult_hcc

Format

An object of class `tbl_df` (inherits from `tbl`, `data.frame`) with 4 columns

used Whether or not the category is used in the RA model

metal Plan metal level (Benefit richness)

coef HCC grouping risk score coefficient

hcc HCC label for risk scores (Includes leading zeroes)

Source

Data import and cleaning at: <https://github.com/EeethB/edgedata/tree/main/data-raw>

See Also

Other factors: [adult_demo](#), [adult_enroll_dur](#), [adult_group](#), [adult_interaction](#), [adult_rxc_hcc_inter](#), [adult_rxc](#), [child_demo](#), [child_group](#), [child_hcc](#), [infant_demo](#), [infant_mat_sev](#)

Other HCC tables: [adult_group](#), [adult_interaction](#), [adult_rxc_hcc_inter](#), [cc_hier](#), [child_group](#), [child_hcc](#), [cpt_hcpcs](#), [icd_cc](#)

adult_interaction	<i>Adult Interaction Factors - Table 9</i>
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Description

A dataset containing the adult model interaction factors for the risk adjustment model. Certain HCCs are considered "high risk" HCCs, and when one of these high risk HCCs interacts with certain other HCCs, an additional interaction term is added to the risk score.

Usage

```
adult_interaction
```

Format

An object of class `tbl_df` (inherits from `tbl`, `data.frame`) with 4 columns

int_group Interaction group (M/H)

used Whether or not the category is used in the RA model

metal Plan metal level (Benefit richness)

coef HCC grouping risk score coefficient

Source

Data import and cleaning at: <https://github.com/EeethB/edgedata/tree/main/data-raw>

See Also

Other factors: [adult_demo](#), [adult_enroll_dur](#), [adult_group](#), [adult_hcc](#), [adult_rxc_hcc_inter](#), [adult_rxc](#), [child_demo](#), [child_group](#), [child_hcc](#), [infant_demo](#), [infant_mat_sev](#)

Other HCC tables: [adult_group](#), [adult_hcc](#), [adult_rxc_hcc_inter](#), [cc_hier](#), [child_group](#), [child_hcc](#), [cpt_hcpcs](#), [icd_cc](#)

 adult_rxc

Adult Rx Condition Factors - Table 9

Description

A dataset containing the adult model prescription drug category (RXC) factors for the risk adjustment model. Rx condition categories are triggered by NDC codes (See [ndc_rxc](#)) or HCPCS codes (See [hcpcs_rxc](#)), and a hierarchy is then applied (See [rxc_hier](#)).

Usage

adult_rxc

Format

An object of class `tbl_df` (inherits from `tbl`, `data.frame`) with 4 columns

used Whether or not the category is used in the RA model

metal Plan metal level (Benefit richness)

coef HCC grouping risk score coefficient

rxc RXC label for risk scores (Includes leading zeroes)

Source

Data import and cleaning at: <https://github.com/EeethB/edgedata/tree/main/data-raw>

See Also

Other factors: [adult_demo](#), [adult_enroll_dur](#), [adult_group](#), [adult_hcc](#), [adult_interaction](#), [adult_rxc_hcc_inter](#), [child_demo](#), [child_group](#), [child_hcc](#), [infant_demo](#), [infant_mat_sev](#)

Other RXC tables: [adult_rxc_hcc_inter](#), [hcpcs_rxc](#), [ndc_rxc](#), [rxc_hier](#)

adult_rxc_hcc_inter *Adult RXC/HCC Interaction Factors - Table 9*

Description

A dataset containing the adult model RXC/HCC interaction factors for the risk adjustment model. Some HCCs have built-in risk for the associated drugs, so if a member has both the diagnosis and the drug, their risk is overstated. Other drugs combined with conditions indicate a greater severity than either the drug or the condition alone, so risk is understated. The RXC/HCC interaction factors make these adjustments.

Usage

adult_rxc_hcc_inter

Format

An object of class `tbl_df` (inherits from `tbl`, `data.frame`) with 5 columns

used Whether or not the category is used in the RA model

metal Plan metal level (Benefit richness)

coef HCC grouping risk score coefficient

rxc RXC label for risk scores (Includes leading zeroes)

hcc HCC label for risk scores (Includes leading zeroes)

Source

Data import and cleaning at: <https://github.com/EeethB/edgedata/tree/main/data-raw>

See Also

Other factors: [adult_demo](#), [adult_enroll_dur](#), [adult_group](#), [adult_hcc](#), [adult_interaction](#), [adult_rxc](#), [child_demo](#), [child_group](#), [child_hcc](#), [infant_demo](#), [infant_mat_sev](#)

Other HCC tables: [adult_group](#), [adult_hcc](#), [adult_interaction](#), [cc_hier](#), [child_group](#), [child_hcc](#), [cpt_hcpcs](#), [icd_cc](#)

Other RXC tables: [adult_rxc](#), [hcpcs_rxc](#), [ndc_rxc](#), [rxc_hier](#)

cc_hier	<i>Condition Category Hierarchies - Table 4</i>
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Description

A dataset used to apply the risk adjustment condition category hierarchies. The HHS-Hcc risk model uses *hierarchical* condition categories. This means that when an individual has e.g. HCC 8 (Metastatic Cancer), they do not also get the risk score for less serious cancer categories.

Usage

cc_hier

Format

An object of class `tbl_df` (inherits from `tbl`, `data.frame`) with 149 rows and 3 columns

cc Condition category code without leading zeroes

desc Condition category description

set_0 Condition category that falls below cc on the hierarchy. No leading zeroes

Source

Data import and cleaning at: <https://github.com/EeethB/edgedata/tree/main/data-raw>

See Also

Other HCC tables: [adult_group](#), [adult_hcc](#), [adult_interaction](#), [adult_rxc_hcc_inter](#), [child_group](#), [child_hcc](#), [cpt_hcpcs](#), [icd_cc](#)

cc_int_h	<i>HCC to interaction group "H" mapping - Table 6</i>
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Description

A dataset containing the mapping from HCC to interaction group "H".

Usage

cc_int_h

Format

An object of class `tbl_df` (inherits from `tbl`, `data.frame`) with 9 rows and 3 columns

cc Hierarchical condition category (Currently includes some G*)

var Variable mapped to (`int_group_h`)

desc Short description of the variable

Details

Interaction group H (high?) takes priority over interaction group M (moderate?). If a member qualifies for group H, they should not get credit for group M.

Source

Data import and cleaning at: <https://github.com/EeethB/edgedata/tree/main/data-raw>

See Also

Other Severe interaction tables: [cc_int_m](#), [cc_severe](#)

 cc_int_m

HCC to interaction group "M" mapping - Table 6

Description

A dataset containing the mapping from HCC to interaction group "M".

Usage

```
cc_int_m
```

Format

An object of class `tbl_df` (inherits from `tbl`, `data.frame`) with 7 rows and 3 columns

cc Hierarchical condition category (Currently includes some G*)

var Variable mapped to (`int_group_m`)

desc Short description of the variable

Details

Interaction group H (high?) takes priority over interaction group M (moderate?). If a member qualifies for group H, they should not get credit for group M.

Source

Data import and cleaning at: <https://github.com/EeethB/edgedata/tree/main/data-raw>

See Also

Other Severe interaction tables: [cc_int_h](#), [cc_severe](#)

cc_severe	<i>HCC to severity group mapping - Table 6</i>
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Description

A dataset containing the mapping from HCC to severe status.

Usage

cc_severe

Format

An object of class `tbl_df` (inherits from `tbl`, `data.frame`) with 8 rows and 3 columns

cc Hierarchical condition category (Currently includes some G*)

var Variable mapped to (severe_v3)

desc Short description of the variable

Source

Data import and cleaning at: <https://github.com/EeethB/edgedata/tree/main/data-raw>

See Also

Other Severe interaction tables: [cc_int_h](#), [cc_int_m](#)

child_demo	<i>Child Demographic Factors - Table 9</i>
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Description

A dataset containing the child model demographic factors for the risk adjustment model. Demographics vary by age (groupings) and sex.

Usage

child_demo

Format

An object of class `tbl_df` (inherits from `tbl`, `data.frame`) with 6 columns

used Whether or not the category is used in the RA model

metal Plan metal level (Benefit richness)

coef Demographic risk score coefficient

sex Male/Female demographic category

age_min, age_max Maximum and minimum age for each risk score

Source

Data import and cleaning at: <https://github.com/EeethB/edgedata/tree/main/data-raw>

See Also

Other factors: [adult_demo](#), [adult_enroll_dur](#), [adult_group](#), [adult_hcc](#), [adult_interaction](#), [adult_rxc_hcc_inter](#), [adult_rxc](#), [child_group](#), [child_hcc](#), [infant_demo](#), [infant_mat_sev](#)

 child_group

Child HCC Grouping Factors - Table 9

Description

A dataset containing the child model HCC grouping factors for the risk adjustment model. Some condition categories have been grouped together, so that any number of HCCs within that group are zeroed out and replaced by the group.

Usage

child_group

Format

An object of class `tbl_df` (inherits from `tbl`, `data.frame`) with 4 columns

group Group label for risk scores

used Whether or not the category is used in the RA model

metal Plan metal level (Benefit richness)

coef HCC grouping risk score coefficient

Source

Data import and cleaning at: <https://github.com/EeethB/edgedata/tree/main/data-raw>

See Also

Other factors: [adult_demo](#), [adult_enroll_dur](#), [adult_group](#), [adult_hcc](#), [adult_interaction](#), [adult_rxc_hcc_inter](#), [adult_rxc](#), [child_demo](#), [child_hcc](#), [infant_demo](#), [infant_mat_sev](#)

Other HCC tables: [adult_group](#), [adult_hcc](#), [adult_interaction](#), [adult_rxc_hcc_inter](#), [cc_hier](#), [child_hcc](#), [cpt_hcpcs](#), [icd_cc](#)

 child_hcc

Child HCC Factors - Table 9

Description

A dataset containing the child model HCC factors for the risk adjustment model. Condition categories (CCs) are triggered by ICD-10 codes (See [icd_cc](#)), and a hierarchy is then applied (See [cc_hier](#)), creating hierarchical condition categories (HCCs).

Usage

child_hcc

Format

An object of class `tbl_df` (inherits from `tbl`, `data.frame`) with 4 columns

used Whether or not the category is used in the RA model

metal Plan metal level (Benefit richness)

coef HCC grouping risk score coefficient

hcc HCC label for risk scores (Includes leading zeroes)

Source

Data import and cleaning at: <https://github.com/EeethB/edgedata/tree/main/data-raw>

See Also

Other factors: [adult_demo](#), [adult_enroll_dur](#), [adult_group](#), [adult_hcc](#), [adult_interaction](#), [adult_rxc_hcc_inter](#), [adult_rxc](#), [child_demo](#), [child_group](#), [infant_demo](#), [infant_mat_sev](#)

Other HCC tables: [adult_group](#), [adult_hcc](#), [adult_interaction](#), [adult_rxc_hcc_inter](#), [cc_hier](#), [child_group](#), [cpt_hcpcs](#), [icd_cc](#)

 cpt_hcpcs

RA-eligible CPT and HCPCS - Table 2

Description

A dataset containing the Current Procedural Terminology (CPT) and Health Care Procedure Coding System (HCPCS) codes that determine if a claim is eligible for risk adjustment.

Usage

cpt_hcpcs

Format

An object of class `tbl_df` (inherits from `tbl`, `data.frame`) with 6557 rows and 8 columns

code CPT/HCPCS code

desc Short description of the code

prior Whether or not the code was valid in the prior benefit year

curr Whether or not the code is valid in the current benefit year

footnote Any footnotes included in the CMS DIY file

Details

Risk adjustment requires that claims be face-to-face to count in the HHS-HCC model. The codes in this dataset denote a face-to-face procedure, so if one of these codes is found anywhere on a claim, it counts for risk adjustment.

Source

Data import and cleaning at: <https://github.com/EeethB/edgedata/tree/main/data-raw>

See Also

Other HCC tables: [adult_group](#), [adult_hcc](#), [adult_interaction](#), [adult_rxc_hcc_inter](#), [cc_hier](#), [child_group](#), [child_hcc](#), [icd_cc](#)

hcpcs_rxc

HCPCS to Rx Condition Crosswalk - Table 10b

Description

A dataset containing the HCPCS to Rx condition mappings.

Usage

hcpcs_rxc

Format

An object of class `tbl_df` (inherits from `tbl`, `data.frame`) with 43 rows and 3 columns

rxc Rx condition number without leading zeroes

desc Rx condition description

ndc HCPCS code that maps to rxc

Details

HCPCS codes create a system for identifying drugs given in a medical setting. But since there are so many drugs, and they very specific, the HHS-HCC model groups similar drugs into broader Rx condition categories.

Source

Data import and cleaning at: <https://github.com/EeethB/edgedata/tree/main/data-raw>

See Also

Other crosswalks: [icd_cc](#), [ndc_rxc](#)

Other RXC tables: [adult_rxc_hcc_inter](#), [adult_rxc](#), [ndc_rxc](#), [rxc_hier](#)

icd_cc

*ICD to Condition Category Crosswalk - Table 3***Description**

A dataset containing the ICD-10 to condition category mappings.

Usage

icd_cc

Format

An object of class `tbl_df` (inherits from `tbl`, `data.frame`) with 8528 rows and 11 columns

icd ICD-10 code

cc Risk adjustment condition category

class It's not yet clear how this is used

eff_date Effective date of ICD code

term_date Term date of ICD code

sex Male/Female specification for ICD code (Risk adjustment currently only supports male and female)

sex_num Numeric sex encoding (1/M and 2/F)

model_num Number corresponding to model: 0 = newborn, 1 = pediatric 2 = maternity, 3 = adult

model Which regression model the age/sex filters apply to - Includes maternity, which is not used in actual score calculations

age_min Minimum age for a given diagnosis code

age_max Maximum age for a given diagnosis code

Details

The ICD-10 system is a vast diagnosis coding system in healthcare. But since there are so many diagnoses, and they very specific, the HHS-HCC model groups similar codes into broader condition categories. Additionally, some diagnoses can only apply to one sex or the other, or to a particular age range.

Source

Data import and cleaning at: <https://github.com/EeethB/edgedata/tree/main/data-raw>

See Also

Other crosswalks: [hcpcs_rxc](#), [ndc_rxc](#)

Other HCC tables: [adult_group](#), [adult_hcc](#), [adult_interaction](#), [adult_rxc_hcc_inter](#), [cc_hier](#), [child_group](#), [child_hcc](#), [cpt_hcpcs](#)

 infant_demo

Infant Demographic Factors - Table 9

Description

A dataset containing the infant model demographic factors for the risk adjustment model. Demographics vary by age and sex.

Usage

infant_demo

Format

An object of class `tbl_df` (inherits from `tbl`, `data.frame`) with 5 columns

used Whether or not the category is used in the RA model

metal Plan metal level (Benefit richness)

coef Demographic risk score coefficient

age Age for each risk score

sex Male/Female demographic category

Source

Data import and cleaning at: <https://github.com/EeethB/edgedata/tree/main/data-raw>

See Also

Other factors: [adult_demo](#), [adult_enroll_dur](#), [adult_group](#), [adult_hcc](#), [adult_interaction](#), [adult_rxc_hcc_inter](#), [adult_rxc](#), [child_demo](#), [child_group](#), [child_hcc](#), [infant_mat_sev](#)

infant_mat_sev	<i>Infant Maturity/Severity Factors - Table 9</i>
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Description

A dataset containing the infant model maturity/severity factors for the risk adjustment model. Risk scores are done a little differently in the infant model. Instead of grouping/applying a hierarchy to condition categories, infants have all conditions grouped into 5 severity levels (1-5). They also get a maturity level which corresponds to weeks of gestation at which they were born. There is also a maturity category for age 1.

Usage

```
infant_mat_sev
```

Format

An object of class `tbl_df` (inherits from `tbl`, `data.frame`) with 5 columns

mat Infant maturity level. Can be extremely immature, immature, premature multiples, term, or age 1

sev Infant severity level. 1-5

used Whether or not the category is used in the RA model

metal Plan metal level (Benefit richness)

coef Maturity/severity risk score coefficient

Source

Data import and cleaning at: <https://github.com/EeethB/edgedata/tree/main/data-raw>

See Also

Other factors: [adult_demo](#), [adult_enroll_dur](#), [adult_group](#), [adult_hcc](#), [adult_interaction](#), [adult_rxc_hcc_inter](#), [adult_rxc](#), [child_demo](#), [child_group](#), [child_hcc](#), [infant_demo](#)

ndc_rxc	<i>NDC to Rx Condition Crosswalk - Table 10a</i>
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Description

A dataset containing the NDC to Rx condition mappings.

Usage

```
ndc_rxc
```


Format

An object of class `tbl_df` (inherits from `tbl`, `data.frame`) with 12323 rows and 3 columns

rxc Rx condition number without leading zeroes

desc Rx condition description

ndc NDC that maps to rxc

Details

The NDC system is a unique drug identifier system. But since there are so many drugs, and they very specific, the HHS-HCC model groups similar drugs into broader Rx condition categories.

Source

Data import and cleaning at: <https://github.com/EeethB/edgedata/tree/main/data-raw>

See Also

Other crosswalks: [hcpcs_rxc](#), [icd_cc](#)

Other RXC tables: [adult_rxc_hcc_inter](#), [adult_rxc](#), [hcpcs_rxc](#), [rxc_hier](#)

 rxc_hier

Rx Condition Hierarchies - Table 11

Description

A dataset used to apply the risk adjustment Rx condition category hierarchies. The HHS risk model uses *hierarchical* condition categories. This means that when an individual has e.g. RXC 6 (Insulin), they do not also get the risk score for RXC 7 (Anti-Diabetic Agents, Except Insulin...).

Usage

`rxc_hier`

Format

An object of class `tbl_df` (inherits from `tbl`, `data.frame`) with 1 rows and 3 columns

rxc Rx condition code without leading zeroes

desc Rx condition code description

set_0 Rx condition code that falls below rxc on the hierarchy No leading zeroes

Source

Data import and cleaning at: <https://github.com/EeethB/edgedata/tree/main/data-raw>

See Also

Other RXC tables: [adult_rxc_hcc_inter](#), [adult_rxc](#), [hcpcs_rxc](#), [ndc_rxc](#)

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