**Description**

The HCAI repository includes scripts to clean and process raw emergency department visit data from Health Care Access and Information (HCAI) for use in estimating the effects of heat on emergency department visits in California between 2008 and 2018.

**R Scripts**

*HCAI\_ICD\_Definitions.R*

This code defines ICD-9 and ICD-19 diagnostic codes into health outcomes that have been associated with heat. Diagnostic codes are classified into Classifications for main categories of outcomes and Sub Classifications for specific categories of outcomes. This code is used as an input in the R code *1\_HCAI\_Definitions.Rmd*.

*1\_HCAI\_Definitions.Rmd*

Step 1 for cleaning and processing HCAI data. This code defines diagnostic codes for main and sub-classifications of diagnoses from primary and external causes (dx1ext) and primary, secondary, and external causes (dx12ext). HCAI ICD-9 and ICD-10 to diagnostic codes are defined for emergency department visits in California between 2008 and 2018. ICD-9 codes are used up to 2015-09-30 and ICD-10 codes are used for 2015-10-01 and thereafter.

*2\_HCAI\_Groupings.Rmd*

Step 2 for cleaning and processing HCAI data. This code groups heat-related emergency department diagnoses. Diagnoses are grouped into a limited (D2Dx1) group and broad (D5Dx1) group of outcomes that have been associated with heat in prior literature. The temporal period spans the warm season in California (May to September) between 2008 and 2018. Primary and external causes (dx1ext) are used in the model and are only included in the code hereafter.

*3\_HCAI\_EnvironmentalData.Rmd*

Step 3 for cleaning and processing HCAI data. This code prepares the grouped HCAI data for modeling. Data is aggregated by ZIP code at the daily level. ED visits in the ED file are treat-and-release only and do not include the ED visits that get hospitalized (e.g. this code does not include PDD records). Aggregated data are merged with ZIP code-level data for daily maximum apparent temperature, climate zones, and population count.