

Figure S1. Visualization of sine and cosine transform of Month.

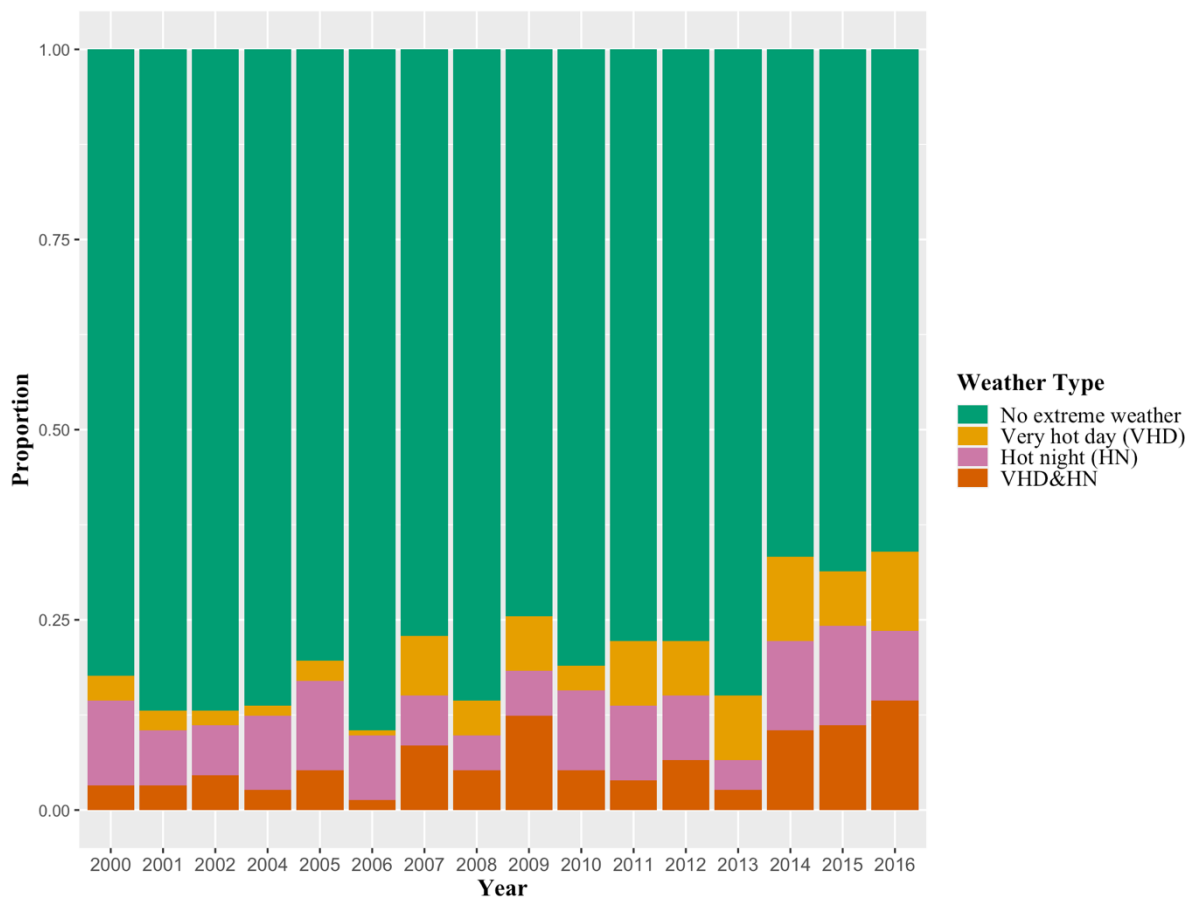


Figure S2. Frequency of VHD and HN in hot season from 2000 to 2016.

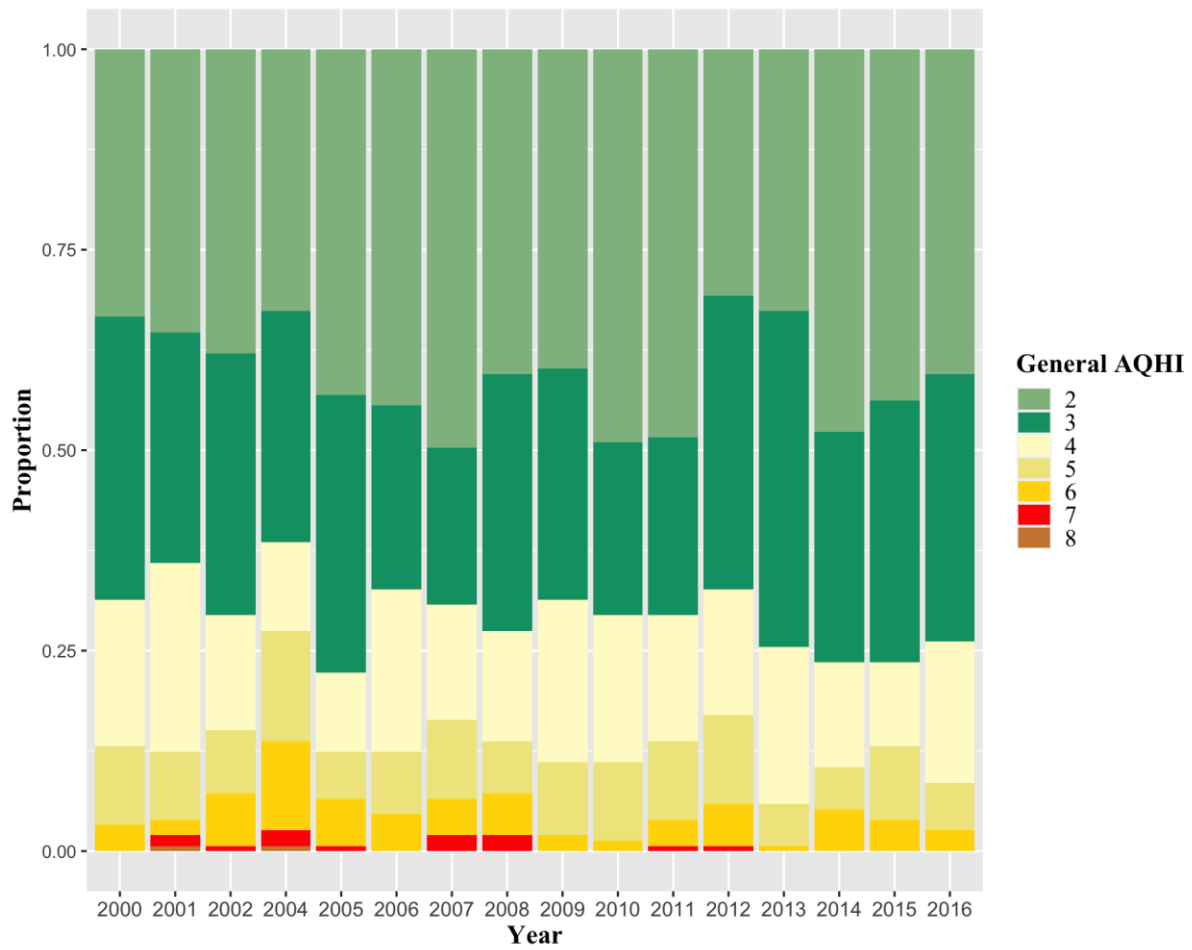


Figure S3. Frequency of general AQHI in hot season from 2000 to 2016.

Table S1: A summary of potential predictors used in developing the prediction models.

Potential predictor	Lag (in days)	Models involved
ED attendance rates of the previous days	1-14	LR(model 1,2,3), Decision tree, SVM, Random forest, DNN, GRU
General AQHI	1-14	LR(model 1,2,3), Decision tree, SVM, Random forest, DNN, GRU
Maximum daily temperatures	1-14	LR(model 2) [#] , Decision tree [#] , SVM [#] , Random forest [#] , DNN, GRU
Mean daily temperatures	1-14	LR(model 2) [#] , Decision tree [#] , SVM [#] , Random forest [#] , DNN, GRU
Minimum daily temperatures	1-14	LR(model 2) [#] , Decision tree [#] , SVM [#] , Random forest [#] , DNN, GRU
Very Hot Day	1-14	LR(model 3) [#] , DNN, GRU
Hot Night	1-14	LR(model 3) [#] , DNN, GRU

Transformed month and week indicators	0	LR(model 1,2,3), Decision tree, SVM, Random forest
	1-14	DNN, GRU
Holiday indicator	0	LR(model 1,2,3), Decision tree, SVM, Random forest
	1-14	DNN, GRU

The selected variables from LASSO were listed in Table 1.

LR denotes linear regression, SVM denotes support vector machine, DNN denotes deep neural network, and GRU denotes gated recurrent unit.