

Ikeda T., and H. Kusaka, 2021: Development of models for predicting the number of patients with heatstroke on the next day considering heat acclimatization. *J. Meteor. Soc. Japan*, **99**, <https://doi.org/10.2151/jmsj.2021-067>.

Plain Language Summary: Some models for predicting the number of ambulance transport due to heatstroke cause underestimation in early summer. This study's model reduces underestimation in early summer, using the number of days since June 1 and the number of ambulance transport due to heatstroke on the previous day.

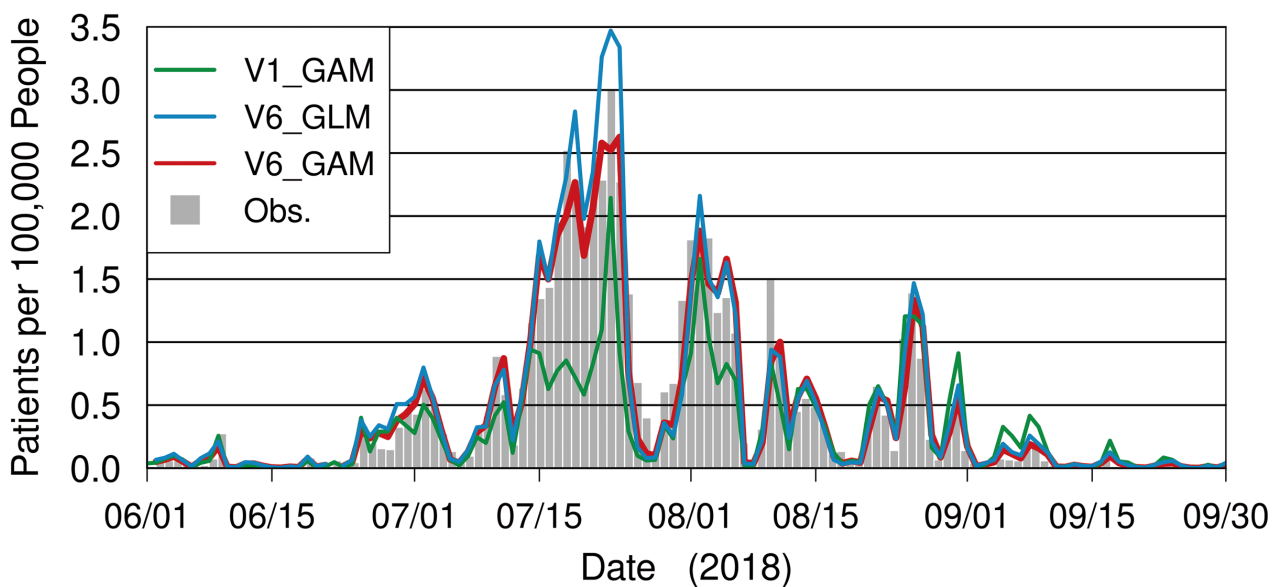


Figure 1. Daily number of ambulance transport due to heatstroke from June 1 to September 30, 2018. Green line (V1_GAM): prediction by model combining temperature and the generalized additive model. Blue line (V6_GLM): prediction by model combining six explanatory variables (temperature, relative humidity, wind speed, solar radiation, the number of days since June 1, and the number of ambulance transport due to heatstroke on the previous day) and the generalized linear model. Red line (V6_GAM): prediction by model combining six explanatory variables and the generalized additive model. Gray vertical bars: observation.

- We developed models for prediction the number of ambulance transport due to heatstroke using different combination of explanatory variables and modeling methods.
- The best model was developed by combining six explanatory variables (temperature, relative humidity, wind speed, solar radiation, the number of days since June 1, and the number of ambulance transport due to heatstroke on the previous day) and the generalized additive model.
- The contribution of changing the modeling methods to the prediction accuracy was smaller than that of changing the explanatory variables.