

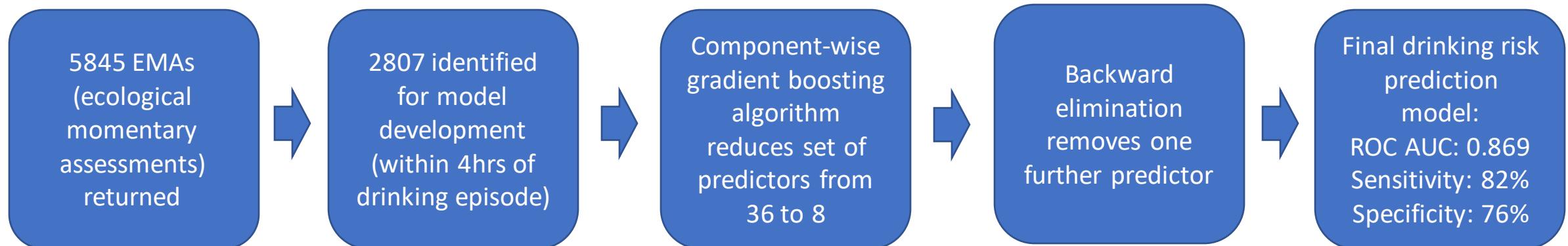
What?

Substance dependence disorders are prevalent amongst those experiencing **homelessness**¹. Using ecological momentary assessments delivered via a provided smartphone, a population of **95 people** experiencing homelessness and **harmful drinking habits provided data**² pertaining to access to alcohol, drinking habits, desire to drink, mood, shelter, and location, amongst other variables. The data was used to **produce a model that predicted 82%** of imminent **drinking episodes**.

Why?

The ability to predict imminent drinking episodes would provide a valuable **window for intervention**, with a view towards helping people with alcohol dependence minimise their alcohol consumption. Additionally, this model provides valuable insight into the **variables that influence alcohol consumption habits**, including those that protect against it. Understanding of these variables could open new avenues in the treatment of alcohol dependence.

Process for prediction model development:



Who?

This model was developed with the intention to eventually deploy it for those interested in receiving **just-in-time-adaptive-interventions** (tailored intervention text messages). This phase of research was interrupted in early 2020 due to COVID-19 but appears to remain underway according to its funding period³.

Author Comments

The relationship between healthcare and machine learning remains in its infancy. Areas in which the two may intersect are being explored with varying degrees of success and viability. Though imminent **drinking episodes may be predictable** under the right circumstances and with the right user participation, the true **effectiveness** of these interventions **remains untested** in a **real-life context**.

References:

1. David S Morrison, Homelessness as an independent risk factor for mortality: results from a retrospective cohort study, International Journal of Epidemiology, Volume 38, Issue 3, June 2009, Pages 877–883, <https://doi.org/10.1093/ije/dyp160>
2. Scott T. Walters, Michael S. Businelle, Robert Suchting, Xiaoyin Li, Emily T. Hébert, Eun-Young Mun, Using machine learning to identify predictors of imminent drinking and create tailored messages for at-risk drinkers experiencing homelessness, Journal of Substance Abuse Treatment, Volume 127, 2021, 108417, ISSN 0740-5472, <https://doi.org/10.1016/j.jsat.2021.108417>.
3. <https://app.dimensions.ai/details/grant/grant.7614730>, accessed 11/05/22