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Assessing the relative importance of social determinants of health in malaria and anemia classification based on machine learning techniques

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ABSTRACT

Disparate types of data including biological and environmental have been used in supervised learning to predict a specific disease outcome. However, social determinants of health, which have been explored very little, promise to be significant predictors of public health problems such as malaria and anemia among children. We considered studying their contribution power in malaria and anemia predictions based on Variable Importance in Projection (VIP). This innovative method has potential advantages as it analyzes the impact of independent variables on disease

diseases, using social determinants of health data, and compared their results. Of them all, artificial neural networks gave the best results of 94.74% and 84.17% accuracy for malaria and anemia prediction, respectively. These results are consistent and reflect the significance of non-medical factors in disease prediction.

KEYWORDS:

Machine learning variable importance in projection (VIP) malaria anemia DHS Senegal social determinants of health

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Declaration of conflicting interests

The authors declare that there is no conflict of interest.

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