

The incremental cost of traumatic brain injury during the first year after a road traffic accident in Belgium

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BACKGROUND

Insight in costs associated with traumatic brain injury (TBI) can provide guidance to improve existing policies. The available research within this area focuses on the absolute medical costs associated with TBI, regardless of other co-occurring injuries and regular healthcare utilization that has no relation to trauma.

AIM

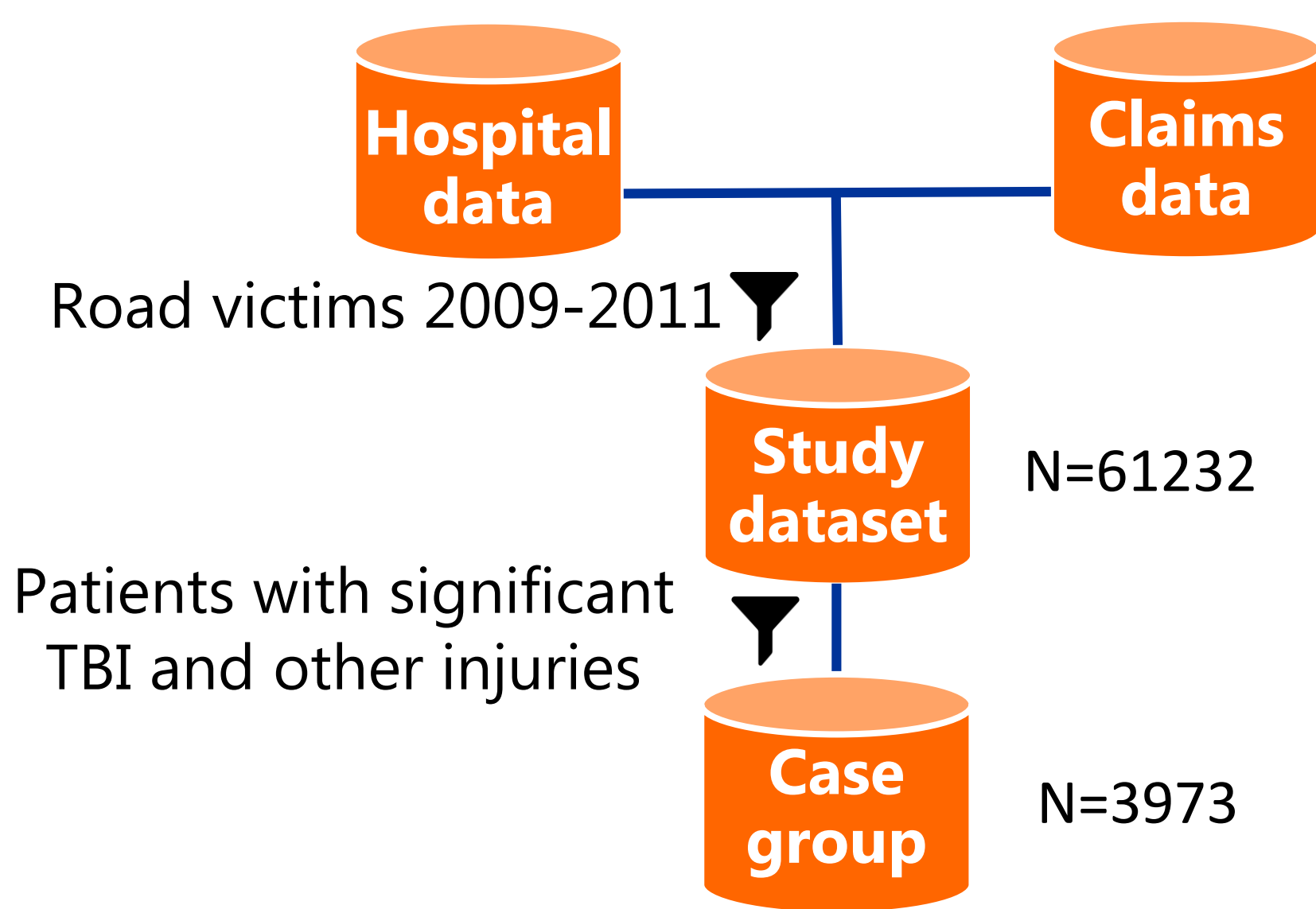
This study aims to provide more specific information on the cost associated with TBI by:

- 1) estimating the incremental one-year cost of TBI.
- 2) identifying factors determining costs of patients with TBI.

METHODS

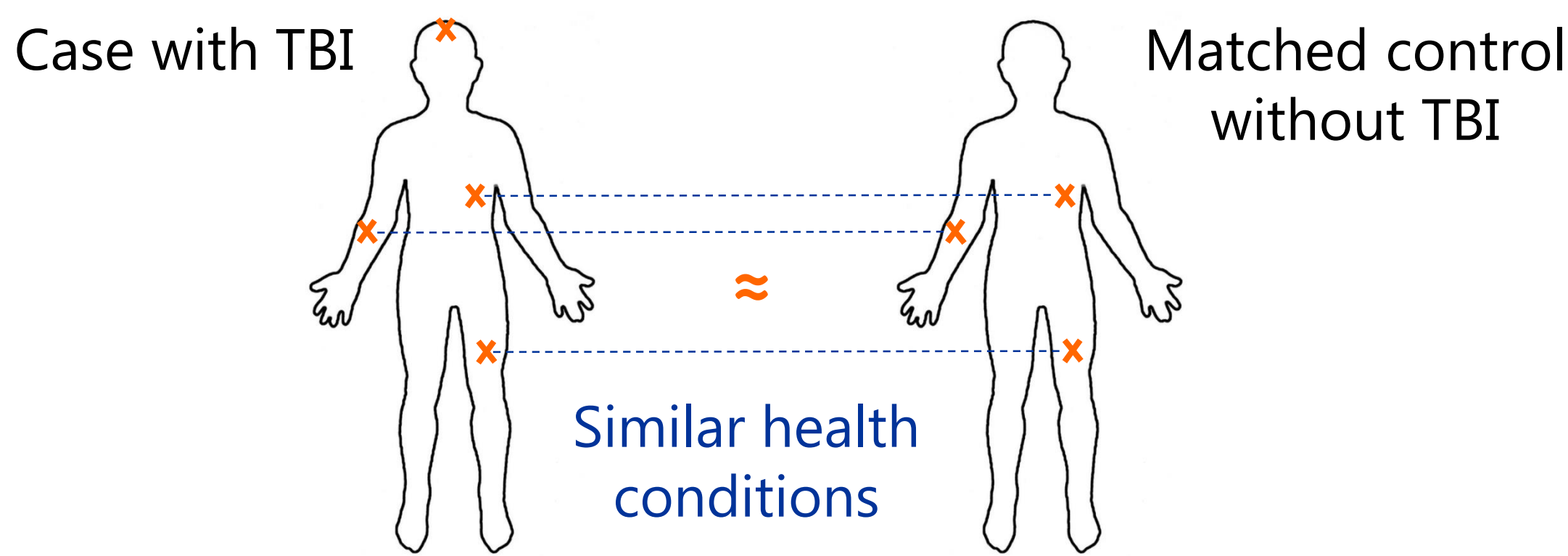
Data sources

This study utilizes a dataset of population-based administrative data on road traffic victims.



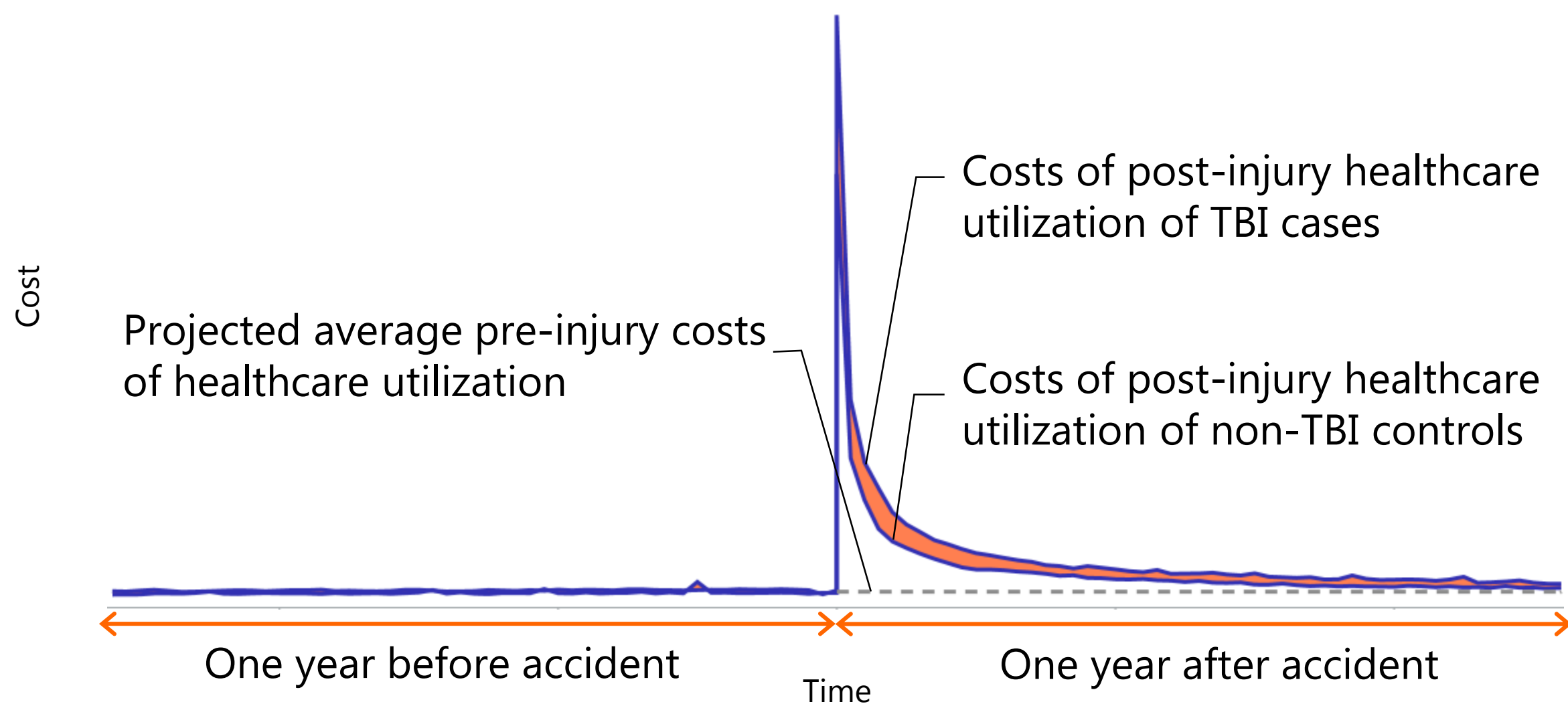
Matching

Controls are appointed using a combination of exact matching and propensity score matching with a greedy matching algorithm.



Estimation of incremental cost

Post-injury costs of each individual are corrected for their own pre-injury healthcare utilization. The orange area, i.e. the difference in post-injury costs between cases and controls, is estimated using a Generalized Estimating Equations model.



Identifying determinants for costs of patients with TBI

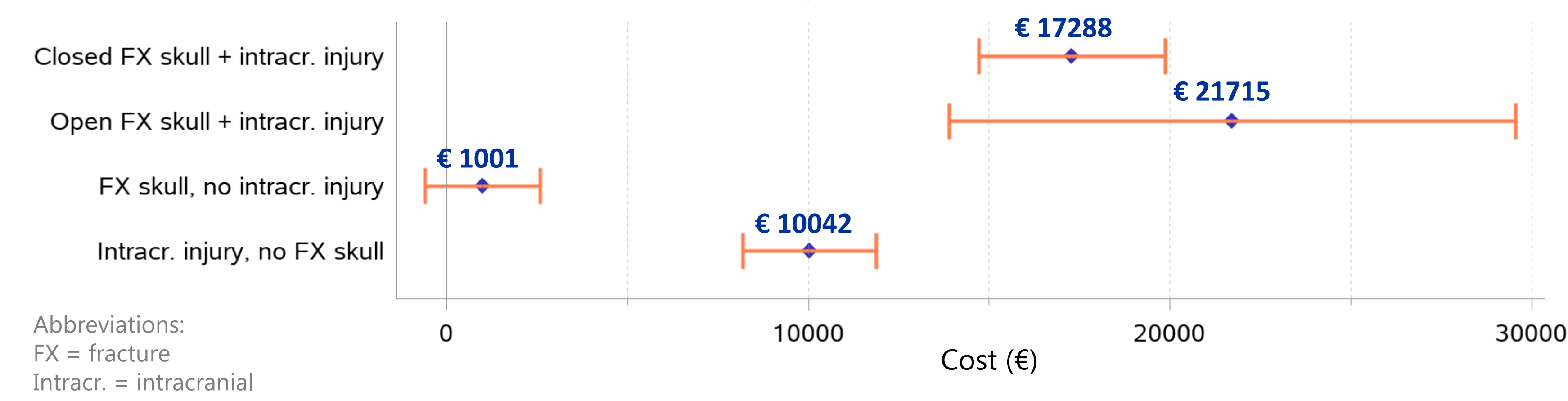
The most important cost drivers in patients with TBI are determined using multiple linear regression.

RESULTS

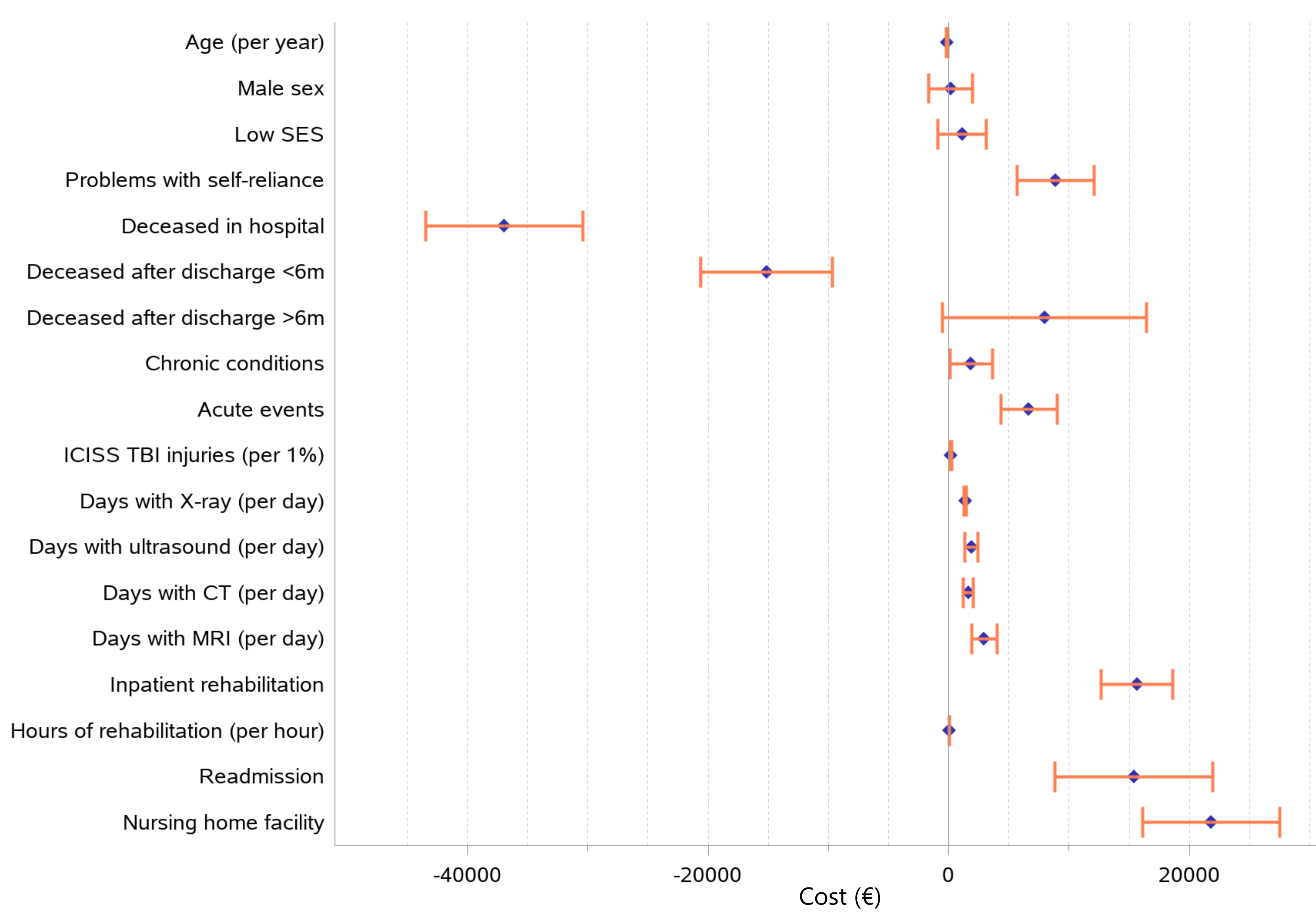
[Read full paper here](#)



1) Estimation of the incremental one-year cost of TBI



2) Identification of determinants for one-year cost of patients with TBI



CONCLUSION

This study reveals a considerable incremental cost of TBI, ranging between €10042 (95% CI [€8198 ; €11887]) and €21715 (95% CI [€13889 ; €29540]). The insights contributed by this study can support informed decision-making on the allocation of healthcare resources, reasoned budgeting, identifying best practices and targeted efforts towards prevention of TBI. In the long run, this can expose opportunities for a more resource efficient organization of care for the population of patients with TBI.

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