Conference Abstract

Comparison of predictive risk modeling among 5 European regions in the ACT project

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Abstract

Background: Predictive risk modeling elaborated from large population-based datasets using citizens traits, including historical information on use of healthcare resources, as potential predictors have shown to be useful mainly for two purposes: (i) to design health policies, with a preventive approach, in a given geographical area; and, (ii) to identify individuals with high risk for presenting undesirable health events (case finding) such as hospital admissions, functional decline and/or death. The ACT (Advancing Care Coordination and Telehealth deployment) programme is fully aligned with the European Innovation Partnership on Active and Healthy Aging (EIP on AHA)

objectives to deploy integrated care for chronic ill patients. ACT is an active member of the B3 Group on Integrated Care and is supporting with this study the progress of the risk stratification group (AA4).

Objective and Method: The current study compares the case finding approaches adopted in the five regions participating in ACT: Scotland, Basque Country, Catalonia, Groningen and Lombardy. A standardized questionnaire, elaborated by Opimec®, was used for this purpose. It included information on: modeling approach, source sample, statistics, outcome variables and covariates, update periodicity, target population and maturity of clinical implementation.

Results: Predictive models estimating risk of mortality and acute events (e.g. unplanned hospitalizations) with a quantitative estimation of sensitivity and specificity were provided by Basque Country and Scotland wherein the outcomes of the case finding tool is connected with electronic health records (EHR). Interestingly, Catalonia uses an explicative model rapidly evolving toward a complete predictive risk model showing some remarkable traits, namely: (i) transparency of algorithms and high transferability potential (adopted by the Spanish government); and; (ii) interoperability setting showing potential for dynamic update and for future synergistic interactions between population-based and subject-specific risk assessment and stratification. The approach from Lombardy was exclusively based on cost stratification; whereas the Groningen's predictive risk model was still under development.

Conclusions: There is an increasing interest of the healthcare systems to find optimal ways to predict resources consumption among groups of patients and to move towards population management strategies. Some regions are already applying predictive risk modeling for the whole population, but there is still limited assessment on the accuracy and sensitivity of the used models. Recommendations for standardization of case finding tools at European level are required, as well as studies assessing the predictive power of existing case finding tools using independent datasets. Coverage of both unmet needs should contribute to personalized care.

Keywords

predictive risk model; integrated care; stratification; personalised care;

PowerPoint presentation

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