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Title

The diagnostic value of the patient's reason for encounter in primary care: a retrospective cohort study

Priority 1 (Research Category)

Big Data

Presenters

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Abstract

Context

Knowledge of incidence, prevalence and trends in morbidity support the diagnostic process of general practitioners (GPs). GPs use estimated probabilities of probable diagnoses to guide their policy on testing and referral. However, GPs estimations often are implicit and imprecise. The International Classification of Primary Care (ICPC) has the potential to incorporate the doctor and patient's perspective within a clinical encounter. The patient perspective is reflected in the Reason for encounter (RFE) which is the 'literal uttered reason' of the patient to contact the GP and comprises the patient's priority for seeking care. Previous research showed the predictive value of some RFEs in diagnosing cancer.

Objective

Our aim is to analyze the predictive value of the RFE for the final diagnosis, taking into account patient's age and sex.

Study Design and Analysis

In this cohort study, we determined the relationship between RFE, age, sex and the final diagnosis with multilevel analysis and distribution analysis. We focused on the top 10 most common RFEs.

Dataset

FaMe-Net database, containing coded routine health data from GP registration network (7 GP practices; 40.000 patients). GPs code the RFE and diagnosis of all contacts with patients, using the ICPC-2 within an episode of care (EoC) structure. An EoC is defined as a health problem in an individual from the first encounter until completion in the last encounter.

Population Studied

We used data from 1989-2020 and selected all patients with a RFE in the top 10 most common RFEs and the corresponding final diagnoses.

Outcome Measures

The predictive value is shown in odds risk and frequencies.

Results

We included 162,315 contacts from 37,194 patients. Multilevel analysis showed significant impact of the additional RFE on the final diagnosis ($p<0.05$). For example, patients presenting with RFE cough had a 5.6% chance of pneumonia, while it rose to 16.4%, when cough and fever were mentioned as RFE. Age and sex were also of significant impact on the final diagnosis($p<0.05$), except for sex in case of fever(p 0.332) and throat symptoms(p 0.616).

Conclusions

Additional RFE, age and sex are of significant impact on the final diagnosis. Other patient factors might also have relevant predictive value. Artificial intelligence can be beneficial to add more variables to build a diagnostic prediction model. This model can support GPs in the diagnostic process and can help students and residents in training.