
POSTER ABSTRACT

Exploring the potential of a risk stratification tool to move forward in integrated, person-centered primary care

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Introduction: Despite growing numbers of patients facing chronic multimorbidity with complex care needs, current integrated primary care approaches for chronic disease are still highly standardized and single disease-focused. To facilitate a more person-centered approach, a risk stratification tool distinguishing patient subgroups with homogeneous care needs could be valuable. The aim of the present study was to explore the degree to which routinely registered patient characteristics can be used to stratify chronically ill into care utilization subgroups.

Methods: We conducted a two-year retrospective cohort study using routinely-registered chronically ill patient characteristics from Electronic Health Records EHRs total population of 481,842 patients, 129 Dutch general practices. Care utilization was used as a proxy for care needs and operationalized as the number of duration-weighted consultations per patient. Cumulative care utilization was divided into three equal parts i.e. care utilization subgroups. Chi-square, ANOVA and post-hoc tests $p < 0.05$ were used to test whether subgroups of care utilization differed in terms of age, sex, socio-economic status, multimorbidity, number and nature of chronic conditions.

Results: A division of the cohort 66 practices, $n = 85,457$ into three subgroups with equal care utilization i.e. each consuming one-third of cumulative weighted consultations showed a 'low-utilization' subgroup covering almost two-third of patients 63.8%, while the 'medium-utilization' and 'high-utilization' subgroups represented significantly smaller proportions of the cohort 24.5% and 11.7%, respectively. Compared to the low and middle group, this last subgroup contains relatively older patients, more females, lower socio-economic status and higher multimorbidity and combinations of physical and mental chronic conditions.

Discussions: The significant differences in patient characteristics between the three care utilization subgroups are in line with findings from previous studies. Enriched with other relevant patient characteristics such as personal income and family size, the care utilization subgroups could stimulate to consider person-centred rather than disease-specific characteristics in aligning care to the needs of chronically ill. An individual consultation could for instance be built around the patient, having multiple conditions, instead of offering a fragmented consultation for every condition.

Conclusions: The present study shows that care utilization subgroups, distinct in patient characteristics, can be developed from patient characteristics routinely registered in EHRs.

Lessons learned: It was demonstrated that even a simple stratification of chronically ill based on care utilization shows great variety of patient characteristics between the subgroups. These insights are promising for the development of a risk stratification tool to support person-centered, integrated primary care.

Limitations: This study lacks the inclusion of social patient characteristics not routinely registered in EHRs and data on care utilization outside primary care. Besides, care utilization was used as a proxy of care needs.

Suggestions for future research: A more sophisticated analysis, like Latent Class Analysis, could be employed to examine latent classes of care needs amongst chronically ill. Moreover, a predictive analysis technique, such as machine learning, is needed to create insight into the use of patient characteristics in allocating chronically ill to a matching care needs subgroup.

Keywords: multimorbidity; primary care; integrated care; risk stratification
