

TITLE: Case-mix classification for Dutch homecare payment: Developing an instrument to collect data on relevant predictors

Introduction

Case-mix based prospective homecare payment is being implemented in several countries to achieve high-quality, efficient, client-centered care. In the Netherlands, as part of an ongoing reform of the Dutch homecare payment system, a case-mix model was developed using Case-Mix Short Form (CM-SF) questionnaire data. The CM-SF contained eleven items on commonly used predictors from existing case-mix models for homecare, i.e. on illness prognosis (n=1), functional status in terms of ADL (n=6), self-reliance in terms of instrumental ADL (IADL) (n=2), cognitive functioning (n=1), and informal care (n=1). However, this model, explaining 21% of the variance in homecare use, still requires improvement. Therefore, a Delphi-study was conducted to identify predictors that could improve its predictive value, according to district nurses and healthcare purchasing experts. Based on these findings, the CM-SF was further developed into version 2 in collaboration with stakeholders.

Methods

In the first Delphi-round, participants scored the relevance of the eleven client characteristics of the CM-SF for predicting homecare use, using a 9-Point Likert scale. Participants could suggest missing relevant characteristics. In the second round, after an expert panel meeting, participants re-assessed relevance of pre-existing characteristics that were previously assessed uncertain and of a selection of suggested characteristics. Median and inter-quartile ranges were calculated to determine relevance. Characteristics that were found consensually relevant were operationalized for inclusion in the CM-SF version 2, based on (parts of) existing validated questionnaire, interviews with district nurses and feedback from stakeholders.

Results

In the first Delphi-round, participants suggested 142 client characteristics, of which eleven were selected for further assessment. The eleven characteristics of the CM-SF and eleven suggested characteristics were assessed on their relevance for predicting homecare use by seventeen district nurses and five purchasing experts. In the second Delphi-round, of the 22 characteristics in total, ten client characteristics were assessed as relevant, with 'Cognitive functioning', 'Learning ability', and 'Social network' achieving the highest consensus for relevance. Other relevantly assessed client characteristics were among others 'Multi-morbidity', 'Mental functioning', and 'Resilience'. The other twelve characteristics were assessed uncertain, which largely concern characteristics regarding a client's daily functioning (including 'Toileting' and 'Dressing') and physical health status (including 'Skin problems' and 'Malnutrition'). None of the 22 characteristics was found irrelevant. Most consensually relevant characteristics such as 'Social network' and 'Health literacy' were complex to operationalize and objectively measure. As a result, the final formulation of the 15 items for the CM-SF version 2 were largely based on input from district nurses.

Conclusions

In general, client characteristics suggested by the participants were more likely to be considered relevant compared to initial CM-SF items. According to district nurses and health insurers, homecare use could be predicted better by including other more holistic predictors in case-mix classification, such as on mental functioning and social network. While including all stakeholders improves their support in the process of development and implementation prospective homecare payment, new difficulties were found regarding the objective measurability of relevant predictors.