Identifying Factors Associated with Shared Decision Making in Wales

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Introduction

Historically healthcare systems have operated within a clinician-centered framework, with physicians directing treatment and patients having limited input. Recent decades have seen a shift towards patient-centered care, placing individual needs, values and experiences at the forefront. This transformation is associated with improved patient outcomes & satisfaction. The Welsh Population Health Survey offers a unique opportunity to explore this by collecting patient-reported outcomes and experiences, including perceived involvement in decision making. This enables assessment of shared decision making delivery and links to associated individual, relational & systemic factors.

Aims

To examine which individual, relational and systemic factors are most strongly associated with perceived involvement in healthcare decisions (shared decision making).

Methods

Patients were asked whether they were involved as much as they wanted to be in decisions about their care. We used six feature selection and decision tree methods to explore the association of responses to 53 demographic, wellbeing and healthcare assessment questions with shared decision making. Factors which were selected in at least three out of our six methods were entered into a generalized linear model, alongside potential confounders, for final assessment. Analyses were carried out in Rstudio (v4.4.3).

Results

All models selected 'Are you considered a whole person in relation to your care' as having the strongest association with shared decision making. This was closely followed by 'Rate GP medical care over the past 12 months' and 'Do healthcare professionals encourage you to talk about healthcare concerns'. These were confirmed in the final generalized linear model.

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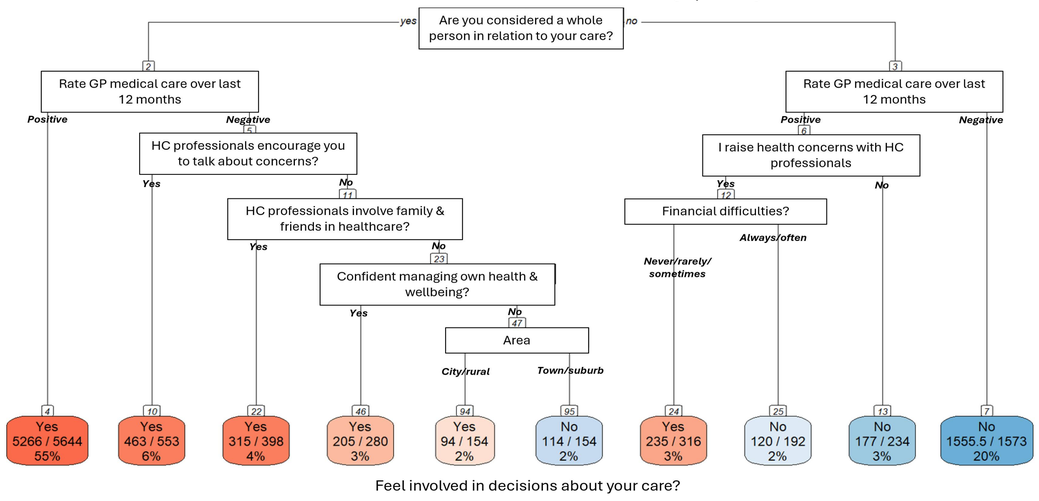

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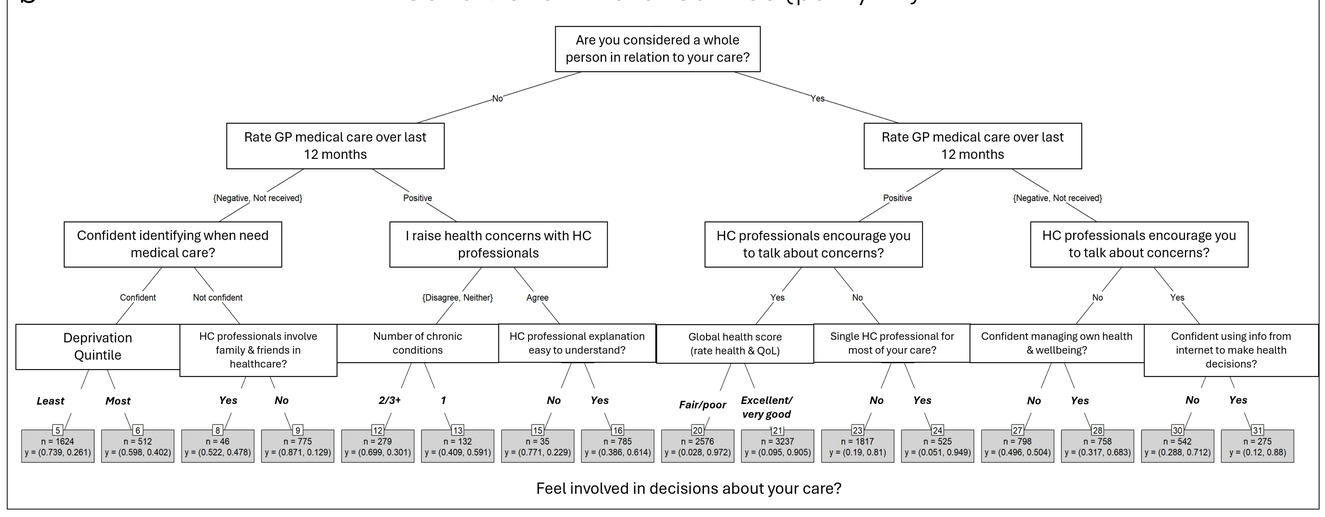

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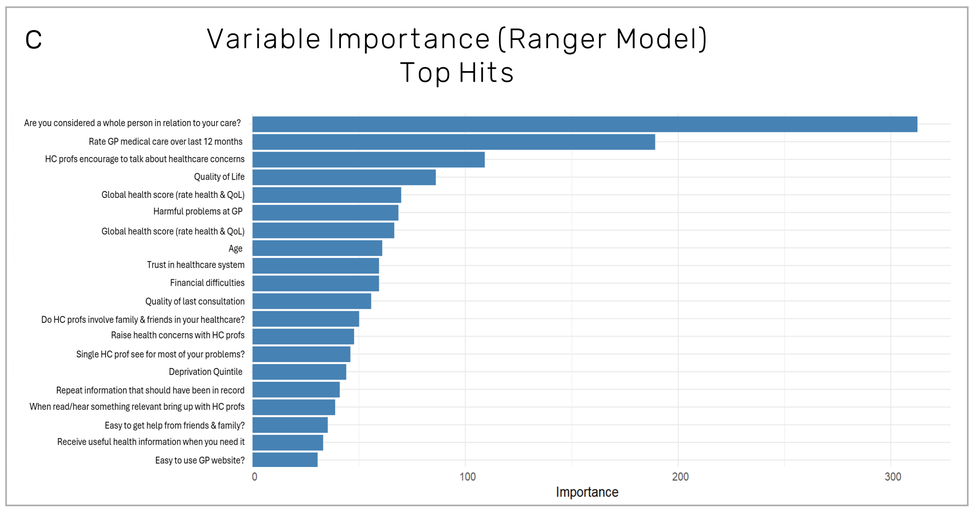

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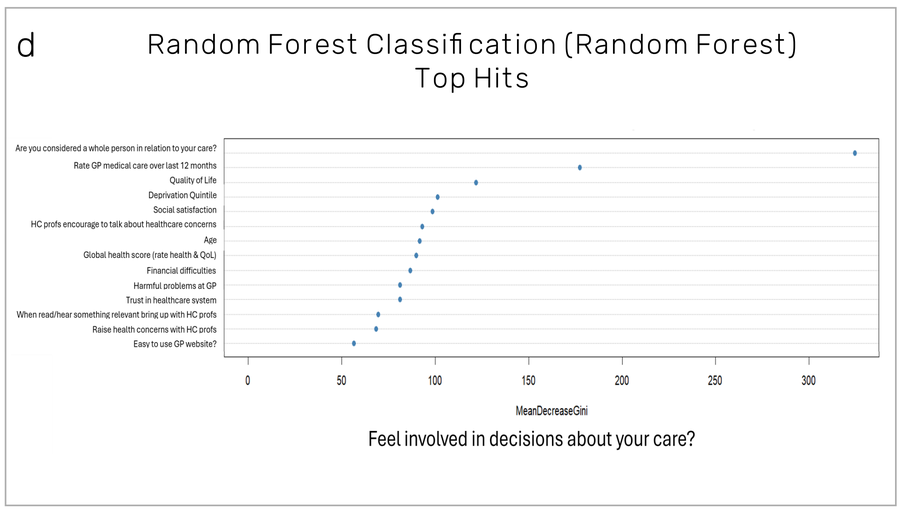

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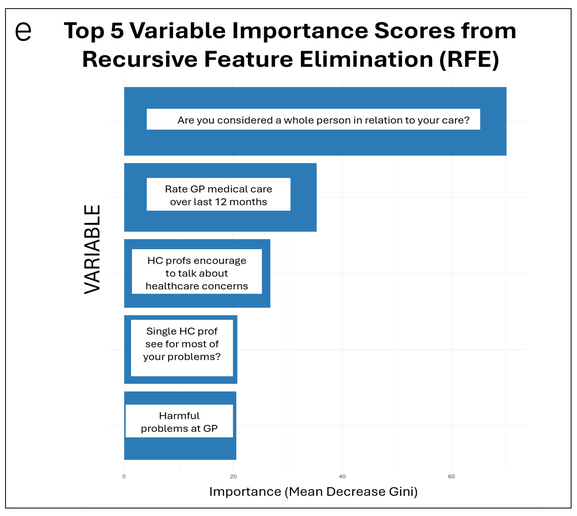

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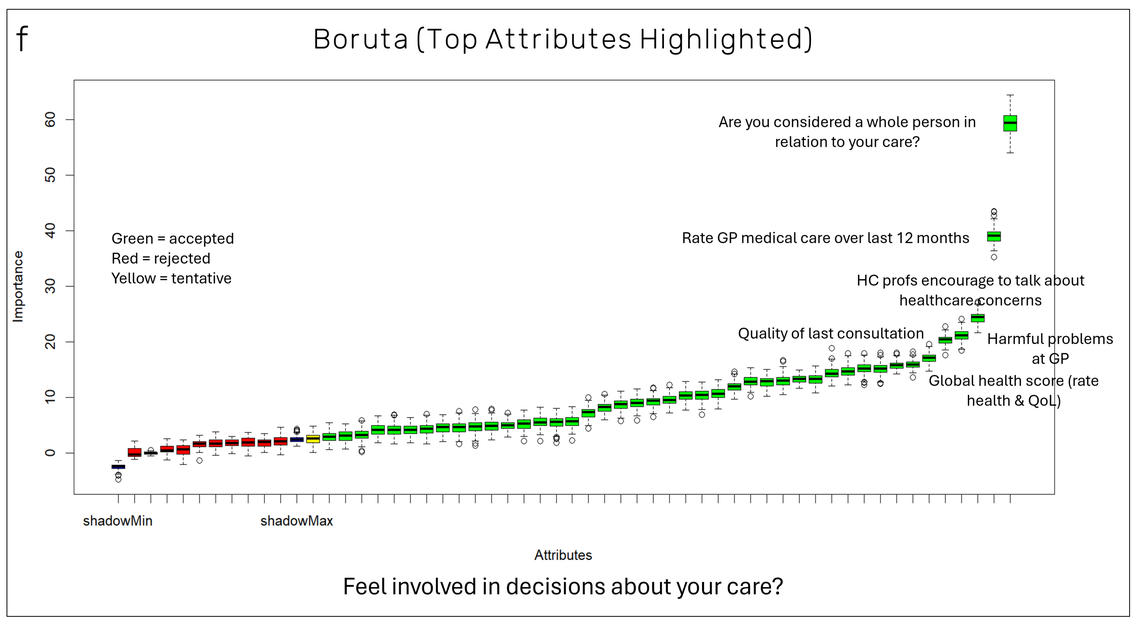

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Model	AUC	Accuracy	Kappa
Classification decision tree model	0.85	0.83	0.51
Random forest (rpart)	0.87	0.84	0.5
Random forest (ranger)	0.86	0.83	0.49
Conditional inference tree	0.85	0.83	0.47

h

Figure 1: Demographic, wellbeing and healthcare factors and their association with shared decision making a) Classification Decision Tree, b) Conditional Inference Tree, c) Variable Importance (Ranger Model), d) Random Forest Classification, e) Recursive Feature Elimination & f) Boruta. g) Performance Metrics. h) Binary Logistic regression using features selected in decisions trees/feature selection.

Conclusions

In general, our feature selection and decision tree methods performed well and showed good agreement on features selected, which were confirmed in our GLM. Those who are not as involved as they want to be in decisions about their care are more likely to feel less like a whole person and more like just a disease/condition in relation to their care. They rate their GP medical care less favourably and have less trust in the healthcare system, are less likely to raise healthcare concerns with or be encouraged to talk about healthcare concerns by their healthcare providers. They are more likely to report that healthcare providers do not explain things in a way that is easy to understand, and report lower quality of life and general health scores. Men and those from the 20% most deprived areas are less likely to report feeling involved in their care decisions. Perceived involvement in care decisions is shaped by personal, relational and systemic factors. These identified patient groups could benefit from intervention to improve their healthcare experiences and provides potentially modifiable variables that could guide efforts to promote more inclusivity, empowering healthcare experiences in Wales.