

Health Literacy and Mental Health in Older Adults – A cross-sectional population study

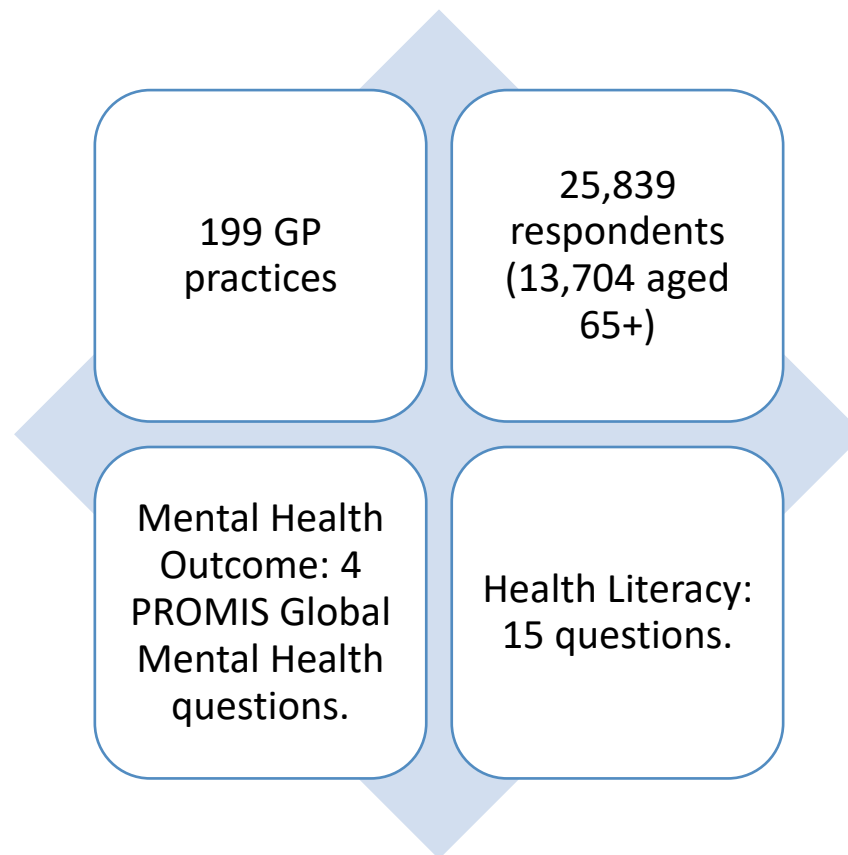
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The OECD Population Health Survey

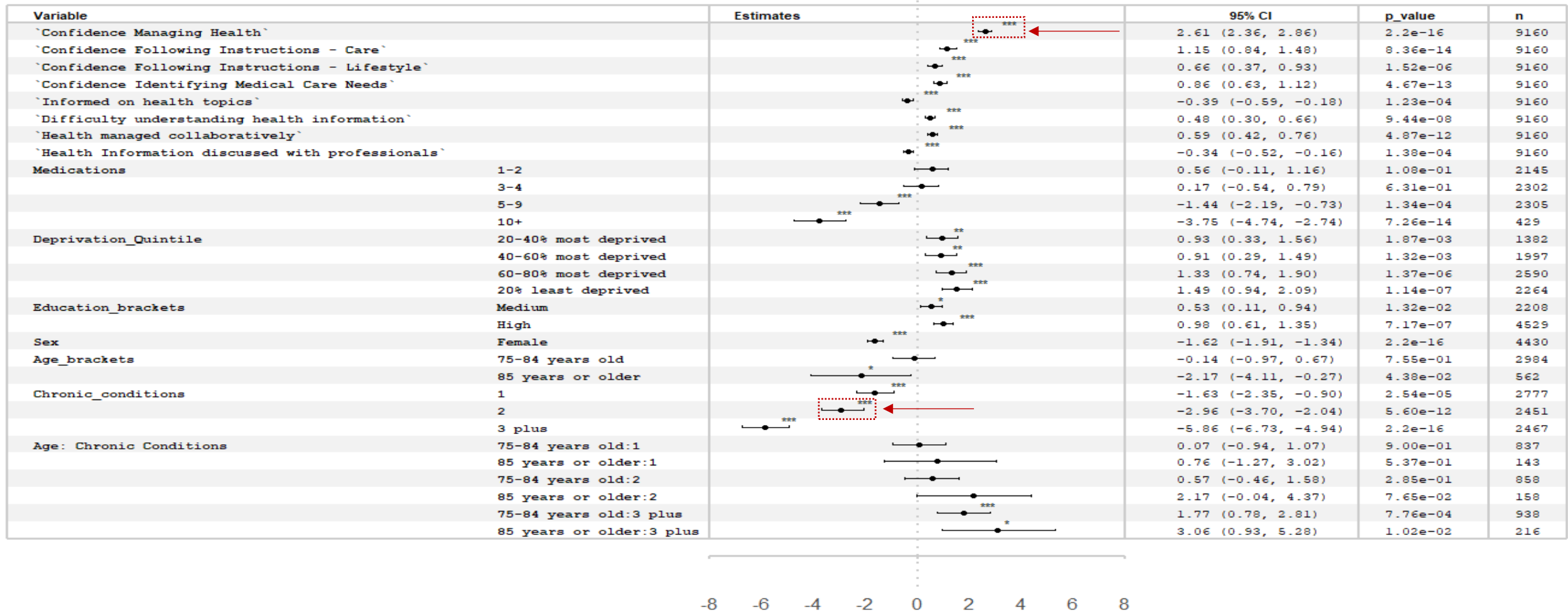


Methods – Phase 1

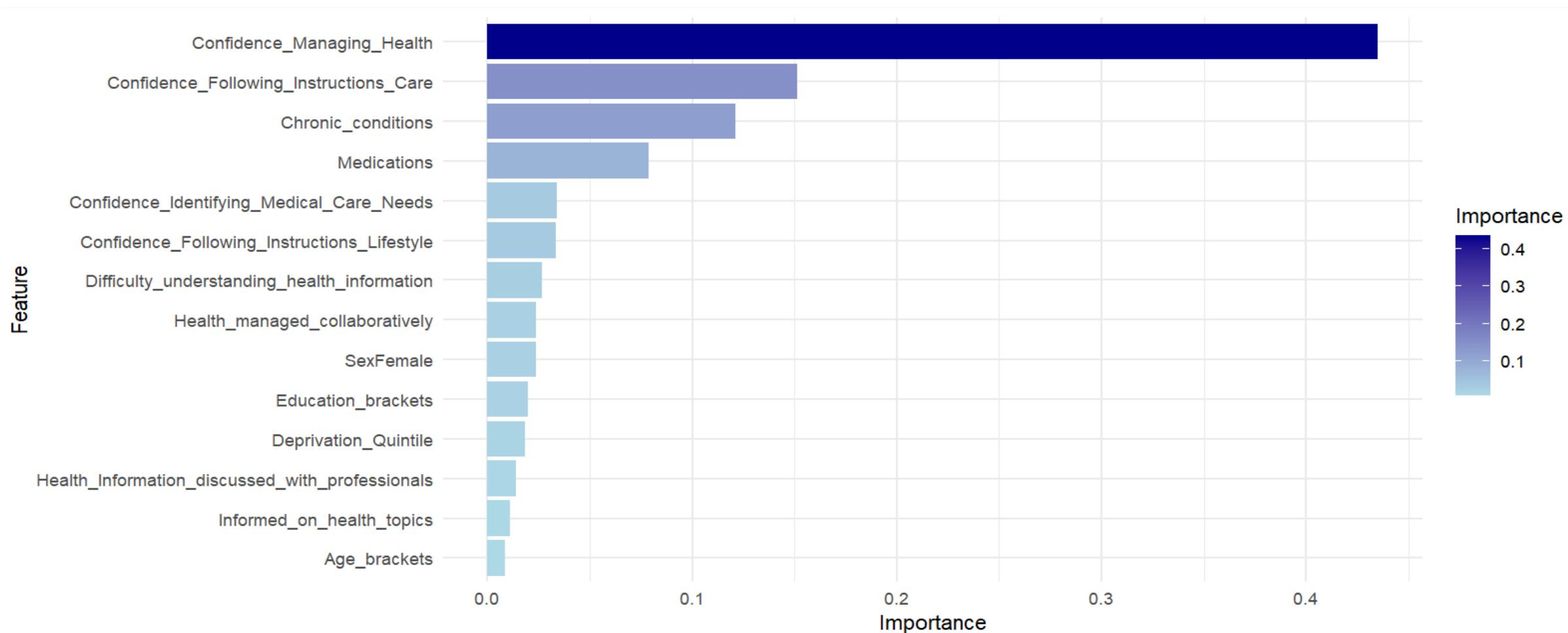
- Regression Models used to identify Health Literacy predictors of Mental Health
- Linear Regression and Generalised Additive Models were the most accurate models
- More advanced non-parametric models (Random Forest and xGBoost) less predictive but identified the same significant Health Literacy questions



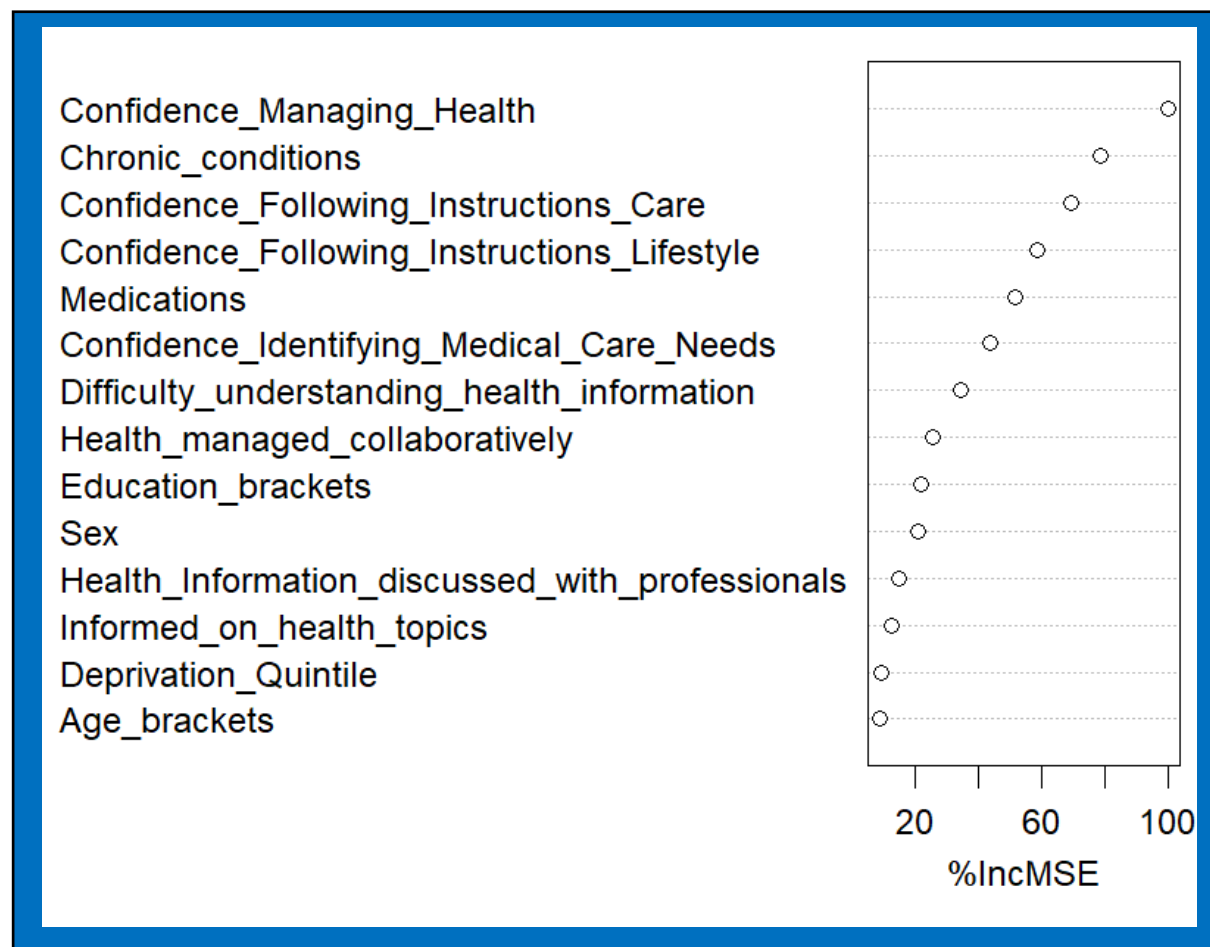
Results – Linear Model



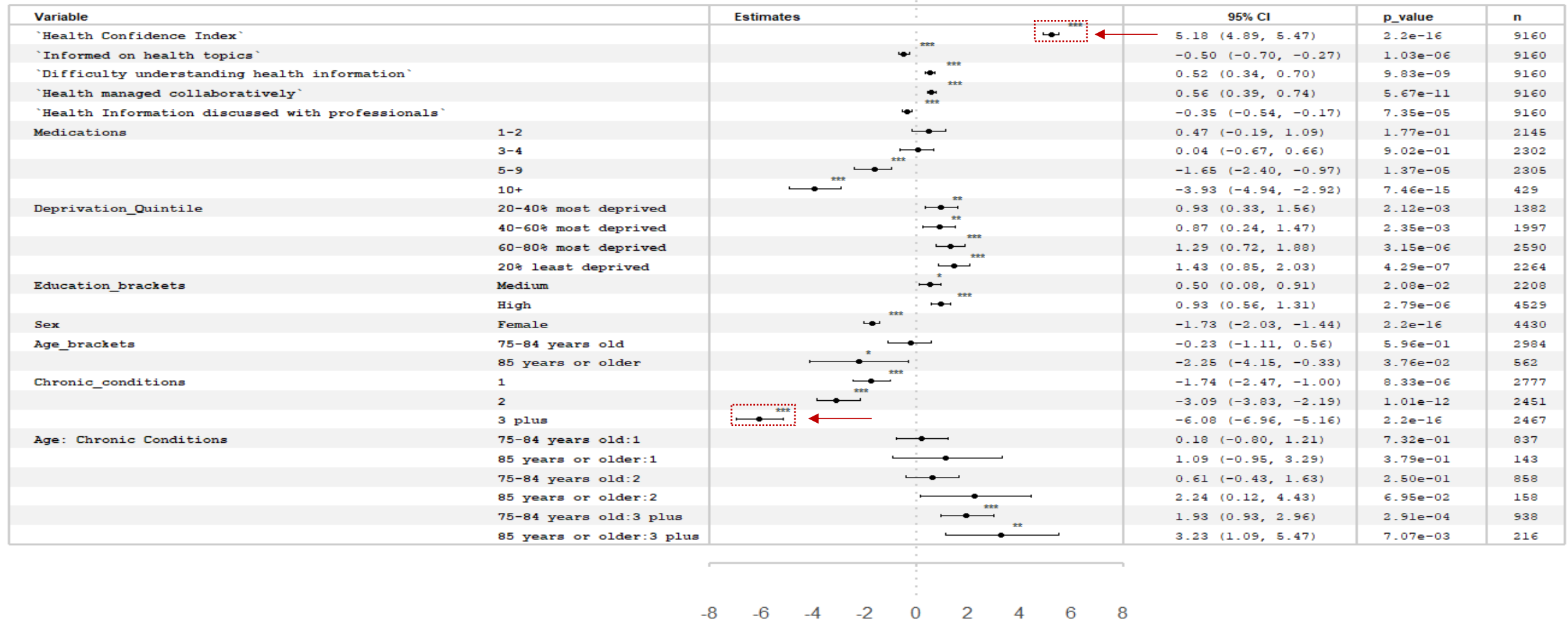
Results - XGBoost



Results – Random Forest



Results – Linear Model



Findings

- Four Health Literacy areas were identified as having significant association with Mental Health
 - Confidence in managing own health and wellbeing ($\beta = 2.61$)
 - Confidence in following Self-Care Instructions ($\beta = 1.15$)
 - Confidence in following Lifestyle Instructions ($\beta = 0.66$)
 - Confidence in identifying when to seek Medical Care ($\beta = 0.86$)
- Combined Health Confidence Index (HCI) is associated with 5.18 increase in self-reported Mental Health Score

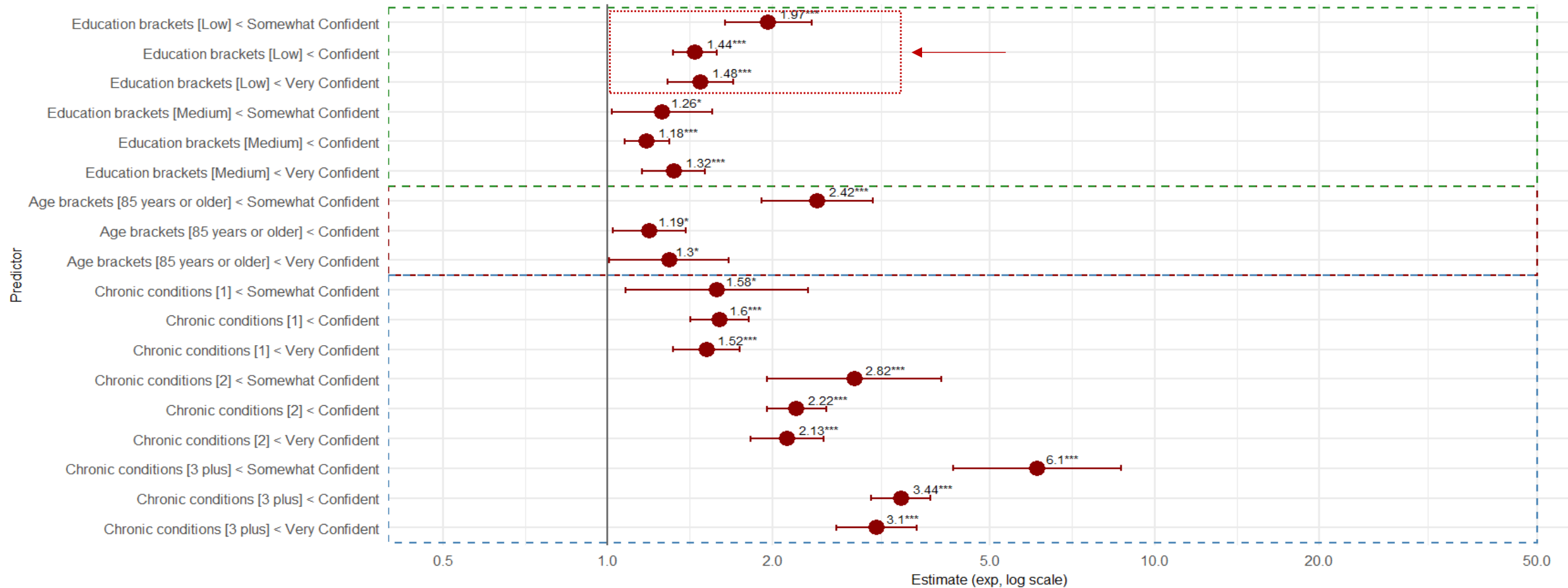
Methods – Phase 2

- Non-Proportional Odds Model identified demographics associated with key health literacy areas.
- Accounts for varying slopes across thresholds, reflecting unequal probabilities of change.
- Retained only demographics with significant odds ratios across all thresholds as intervention targets.

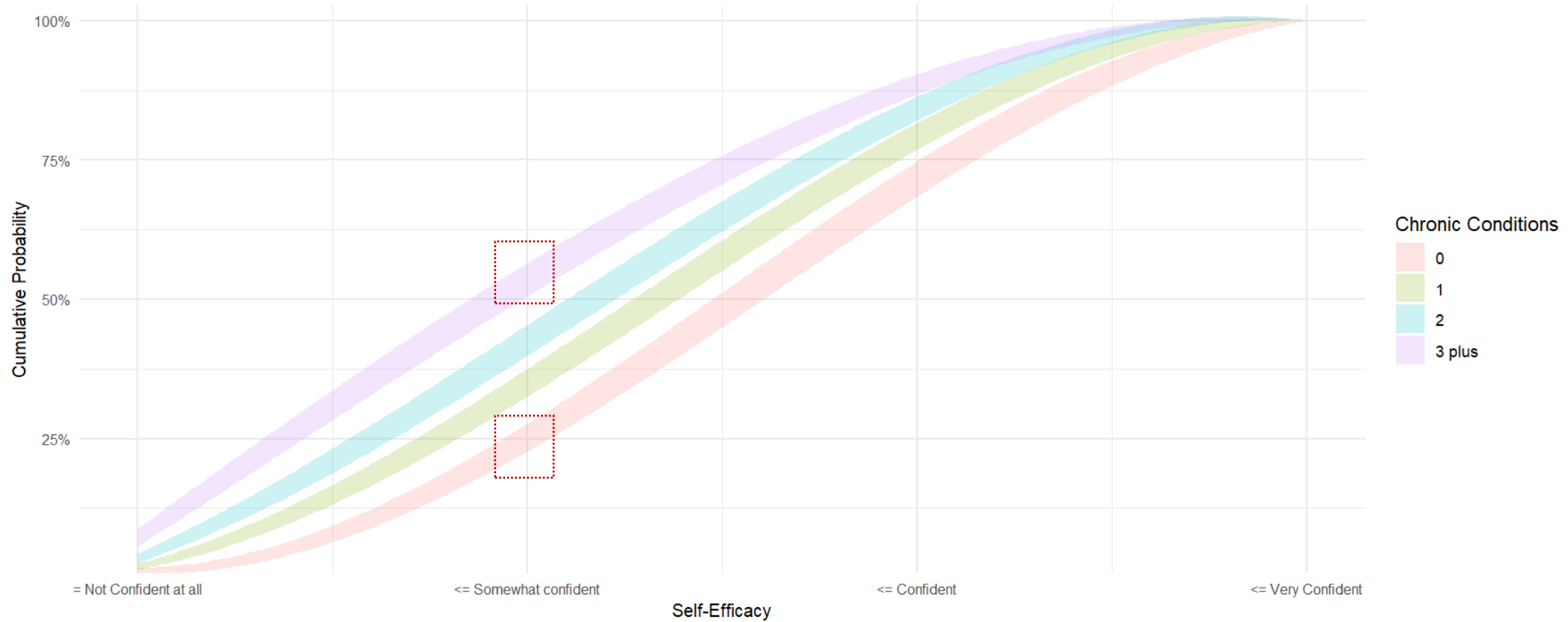


Results – Odds Ratios

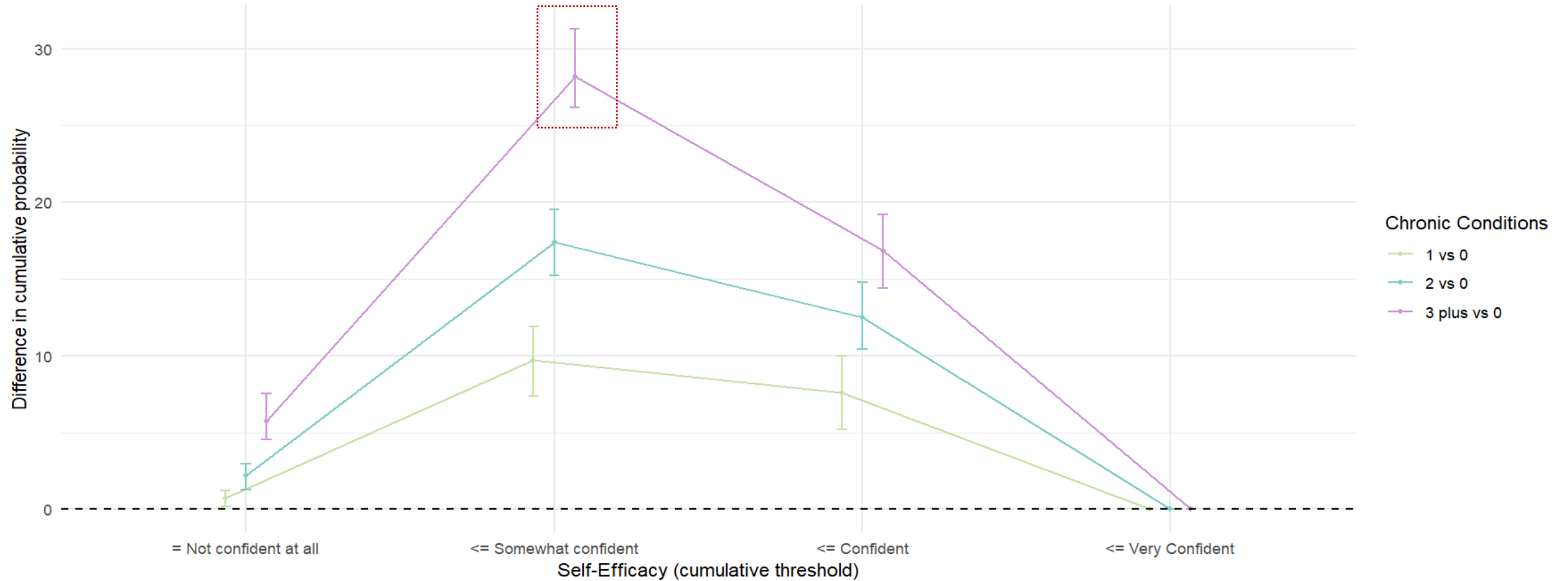
Drivers of Low Confidence: Health and Wellbeing Self-Management



Results – Cumulative Probabilities



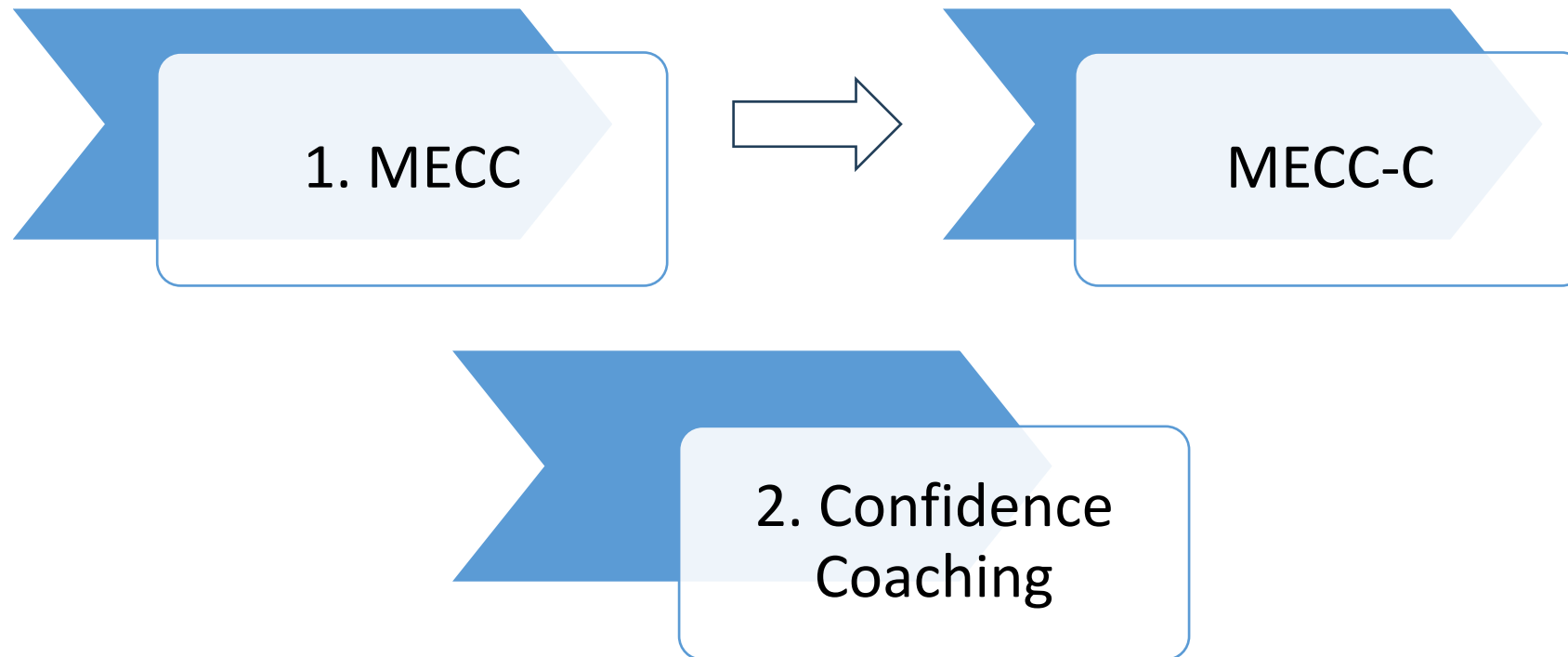
Results – Cumulative Probabilities



Findings

Health Literacy Areas	Target Cohorts
Confidence managing own health and wellbeing	85 +, Low-Medium Education, 1 or more Chronic Conditions
Confidence following Self-Care Instructions	85 +, Low-Medium Education, 3 or more Chronic Conditions, Lowest Deprivation Quintile
Confidence following Lifestyle Guidance	85 +, Low-Medium Education, 3 or more Chronic Conditions, Lowest Deprivation Quintile, Male
Confidence identifying when to seek medical care	85 +, 3 or more Chronic Conditions

Recommendations



Next Steps



Pilot both approaches



Evaluation Focus:

Primary: Change in confidence (domain + Health Confidence Index).

Secondary: Mental health scores, adherence, service use.





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