judgements of life satisfaction coupled with an absence of negative feelings. Little is known about levels of well-being in the context of adaptation to chronic illness. This paper will explore the impact of chronic illness on the well-being of family members.

Methods Data come from wave 1 of *Understanding Society*, a new longitudinal UK-representative household panel survey. Subjective well-being of adults (16 years) was measured using the GHQ-12, the Warwick-Edinburgh Mental Well-being Scale and a question on life satisfaction. The Strengths and Difficulties Questionnaire measured well-being in youth (aged 10–15 years). Self-reported long-term limiting illness (LLTI) was used to indicate chronic illness. Latent variable models were used to explore associations between partners (N=4167) and among family members (n=3056).

Results LLTI in one member of a cohabiting partnership was negatively associated not only with their own well-being but also that of their partner. There were no differences by gender. The association between a parent's LLTI and their adult child's well-being was not significant, regardless of the gender of the parent. There was a significant association between mother's LLTI and SDQ total difficulties score for younger children; however no association was observed for father's Illness.

Conclusions There are associations between one's own illness on both themselves and their partners. A parent's LLTI was not associated with worse well-being in adult children but was associated with increased difficulties in their younger children.

P2-31 ASSOCIATION BETWEEN PLASMA VITAMIN D AND METABOLIC SYNDROME IN THE CANADIAN POPULATION

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Background Vitamin D deficiency has been implicated in the susceptibility to the metabolic syndrome and a spectrum of conditions, such as obesity and type 2 diabetes mellitus. The present study aimed to quantify the association between vitamin D serum levels and the occurrence of metabolic syndrome components and insulin resistance among Canadian adults.

Methods Vitamin D serum levels and the related clinical data were extracted from 1920 subjects from the Canadian Health Measures Survey, a national survey representing the general Canadian population. The definition of the metabolic syndrome components was based on the National Cholesterol Education Program, Adult Treatment Panel III criteria. Adjusted unconditional logistic regression models were used to estimate the association between vitamin D level quartiles and risk of having metabolic syndrome, as well as the association between plasma vitamin D and insulin resistance (HOMA-IR).

Results Within the survey, 11.4% of the subjects had the metabolic syndrome. Increasing levels of plasma vitamin D were positively correlated with reduced numbers of metabolic syndrome components. Subjects in the highest quartile had significantly lower risk of having metabolic syndrome compared to those in the lowest vitamin D quartile (OR=0.36, 95% CI 0.19 to 0.66). Furthermore, increasing plasma vitamin D levels were associated with lower HOMA-IR scores ($\beta=-0.88$, $p=0.004$) in a fully adjusted linear model.

Conclusion Vitamin D serum levels can predict the occurrence of metabolic syndrome and insulin resistance among Canadian adults.

P2-32 VITAMIN D IN THE PREDICTION OF METABOLIC SYNDROME: A TARGET FOR PUBLIC HEALTH INTERVENTION

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Background The association between vitamin D (VitD) and cardiometabolic health has been described however the ability of VitD to predict metabolic syndrome (MetSyn) beyond individual demographics and common lifestyle factors is unclear.

Methods 1799 adults from the Canadian Health Measures Survey, a nationally representative survey were examined. MetSyn was defined based on the National Cholesterol Education Program's Adult Treatment Panel III criteria. The comparative value of smoking status, energy expenditure from physical activity and plasma 25 (OH)D VitD to predict the presence of metabolic syndrome was evaluated using receiver operating characteristic curves (ROC) from fully adjusted logistic regression models (age, sex, ethnicity, education, annual fruit intake and month of interview). Somer's D and *c* statistics were used to compare across models. Sampling weights were applied to all models.

Results Inclusion of plasma VitD, energy expenditure and smoking status all lead to increases in the *c* statistic and Somer's D suggesting increased predictive ability compared to the baseline model. ROC contrasts, however, showed that only inclusion of VitD significantly increased the predictive ability of the model ($p=0.001$).

Discussion VitD may be a useful predictive tool for cardiometabolic risk prediction in addition to conventional factors. Prospective analyses may provide more insight into VitD as a potential population-based intervention target for reduction of chronic disease burden related to MetSyn.

P2-33 THE IMPACT OF THE METABOLIC SYNDROME ON CARDIOMETABOLIC AND INFLAMMATORY PROFILES AMONG CANADIAN ADULTS

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Background The metabolic syndrome (MetSyn) is known as a precursor condition for a spectrum of cardiometabolic complications including type 2 diabetes and cardiovascular disease. The present analysis aimed to quantify the differences in serum levels of cardiometabolic and inflammatory markers across the number of MetSyn components among Canadian adults.

Methods Serum levels of apolipoprotein A1 and B (ApoA1, B), creatine, total cholesterol/HDL cholesterol ratio (TC:HDL), C reactive protein (CRP), fibrinogen, glycosylated haemoglobin (HbA1c) and homocysteine were extracted from 1920 adults from the Canadian Health Measures Survey (CHMS). The definition of MetSyn components was based on the National Cholesterol Education Program, Adult Treatment Panel III criteria. Generalised linear models adjusted for age, sex, physical activity, smoking and ethnicity were used to quantify the relationship between select markers and number of MetSyn components.

Results Among survey subjects, 11.4% had MetSyn with 59.6% having at least one component. We observed several significant relationships between markers with increasing numbers of MetSyn components. Mean levels of ApoB, creatine, (TC:HDL), CRP,