female. Eighty-seven percent of elderly population used health service at least once and four-fifths used health care in multi-health centers. One-third of elderly patients who used the health services were hypertension patients. Older age (incidence rate: RR: 2.77, 95% confidence interval 2.75-2.79 for patients aged > 80 years), being female (IRR 1.96, 95% CI 1.95-1.98), and having multiple-comorbidity (IRR 1.56, 95% CI 1.56-1.58) or co-morbidities index (CCI score > 4) increase the utilization of health service. CONCLUSIONS: Health need was the most important factor associated with health services utilization. Health system should be appropriately designed for elderly population. Further study is required to evaluate economic consequences of the elderly’s health utilization and identify the factors affecting patients who visit multi-health-centers.

PHS105

BREAST AND CERVICAL CANCER SCREENING IN UK: DYNAMIC INTERRELATED PROCESSES?

Lauren A. Quick, MSc, 1University of Illinois College of Medicine at Peoria, Peoria, IL, USA

OBJECTIVES: No previous analysis has investigated simultaneously the determinants of screening uptake for the breast and cervical cancer screening in UK and identified possible spillover effects from one type of screening examination to the other type of screening examination. METHODS: 838 women with 11,732 from the British Household Panel Survey (BHPS) for the time period from 1992 to 2008 were analysed for this analysis. As econometric model was a dynamic random effects panel bivariate probit model with initial conditions (Wooldridge-type estimator) used and dependent variables were the uptake of breast and cervical cancer screening in the recent year. RESULTS: Our investigation shows the high relevance of past screening behavior on the scope of the screening examination and the importance of the same for the other type of cancer screening examinations even after controlling for covariates and unobserved heterogeneity. The uptake for breast and cervical cancer screening was higher if the same screening examinations were one or three years before which is in accordance with the medical screening guidelines. For breast and cervical cancer screening positive spillover effects existed from one type of examination to the other examination for the same women with a uptake of a GP, living in a partnership and individuals in the recommended age groups had a higher uptake for breast and cervical cancer screening. Other socioeconomic and health related variables had non-uniform results in both screening examination. CONCLUSIONS: Promoting the uptake level of one type of female prevention activity could also enhance the uptake of the other type of prevention activity.

PHS106

EXPLORING THE IMPACT OF CLINICAL, FUNCTIONAL AND SOCIAL FACTORS ON HIP FRACTURE PATIENT HOSPITALIZATION COSTS: INFORMING THE DESIGN OF A NEW CASE MIX PAYMENT SYSTEM

Helena HC1, Rauh R2, Tsegelsky A2, Malikie K2

1Health Quality Ontario, Toronto, ON, Canada, 2Ministry of Health and Long-Term Care, Toronto, ON, Canada

OBJECTIVE: Case mix reimbursement systems used in many countries to pay for hospitals typically rely on combinations of diagnoses and procedures to group patients according to their expected costs. In frail, complex populations with hip fracture, patients’ pre-hospitalization functional status and social factors may also be important to consider in the design of a new case mix payment system. While investigations have assessed frailty in 1-month or 6-month window, recent evidence suggests that the predictive value of frailty information extends beyond this short-term assessment window. We investigated the association between clinical, functional and social factors and hospitalization costs in order to inform the parameters for a new case mix payment system. METHODS: We conducted a cross-sectional study among 255 patients aged 65 years and older admitted with hip fracture to hospitals in Ontario, Canada throughout 2011/12. Of these, 17.6% were admitted from residence in long-term care. Multivariable analysis revealed the most important predictors of increased hospitalization costs to be impairments in activities of daily living, higher Charlson comorbidity score and pre-hospitalization residence in a long-term care home. On based on these results, the expert panel recommended a new hip fracture funding model that stratifies the population by pre-fracture place of residence and incorporates activities of daily living and comorbidity level as additional risk adjustors. CONCLUSIONS: While requiring record linkage across datasets, the inclusion of hip fracture patients’ pre-hospitalization characteristics as case mix adjustors can improve the performance of case mix payment systems. For the frail hip fracture population, functional and social factors should also be considered as predictors of hospitalization costs, along side traditional clinically-focused variables.

PHS107

INCREASED IN ACUTE HEALTH CARE USE AMONG PEOPLE LIVING WITH HUMAN IMMUNODEFICIENCY VIRUS (HIV) AND CO-MORBID DEPRESSION IN ONTARIO

Choi SJ1, Royle E2, Kumar M1, Cairney J1, Kranz MD1, Grootendorst P1, Carvalhal A2, Collins EJ1, Rouille SB1

1Ontario HIV Treatment Network, Toronto, ON, Canada, 2University of Toronto, ON, Canada, 3University of Ottawa, Ottawa, ON, Canada, 4McMaster University, Hamilton, ON, Canada, 5University of Ottawa, Ottawa, ON, Canada

OBJECTIVES: Depression is a common co-morbidity among people living with HIV. Co-morbid depression often leads to poor self-management and non-adherence to antiretroviral therapy which may result in increased use of emergency and inpatient care. We aimed to examine impacts of co-morbid depression on acute health care utilization over time among this high-need population in Ontario. METHODS: A longitudinal cohort study (N=3,545) was conducted in Ontario by linking the Ontario HIV Treatment Network (OHTN) Cohort Study and the administrative health databases. Co-morbid depression defined based on either the Center for Epidemiologic Studies Depression Scale (Scores ≥ 20) or the Kessler Psychological Distress Scale (Scores ≥ 15). The effect of depression and inpatient care utilization were assessed during the 12 months following each interview. Urgent and non-urgent emergency room visits were defined using the five-level Canadian Triage and Acuity Scale (CTAS). Generalized mixed effect regressions were used to examine associations between the acute care utilization and the co-morbid depression over time. RESULTS: At baseline, 950 (27%) were identified with co-morbid depression. The HIV+ patients with co-morbid depression were more likely to be age < 50 years (OR: 1.99; 95% CI: 1.93-1.99), female (OR: 1.69; CI 1.31-1.39), depression (OR: 1.96; 95% CI: 1.95-1.98), and have used non-medical drugs in past 6 months (OR: 1.85; 95% CI: 1.51-2.21). The presence and the use of urgent (OR: 1.91; 95% CI: 1.71-2.11) and non-urgent emergency (OR: 1.56; 95% CI: 1.36-1.80) care for those with co-morbid depression were 58% higher, 44% and 31%, respectively when compared to their non-depressed counterparts. Over the five-year follow-up, those with co-morbid depression were more likely to use urgent (Adjusted OR: 3.11; 95% CI: 2.92-3.31) and non-urgent emergency care (Adjusted OR: 5.36; 95% CI: 3.30-8.82) compared to those who did not. Both urgent and non-urgent emergency care use was significantly higher among HUs (16.63 [16.28-16.99]) vs. other patients (0.89 [0.84-0.94]). Among those living with HIV, patients with co-morbid depression had the highest emergency care use compared to those without (OR: 16.12; 95% CI: 15.09-17.22) and to those with non-depressed counterparts (OR: 15.12; 95% CI: 14.12-16.19). CONCLUSIONS: Co-morbid depression experienced by those living with HIV significantly increases the use of acute care services. Incorporation of strategies in managing and detecting co-morbid depression would be important to deliver successful HIV care in Ontario.