ICER would be $53,964/QALY and the W would be $362 (SD 3322). If the subjects were to improve after dropout, the ICER would be $29,475/QALY and the W would be $5434 (SD 3309).

CONCLUSIONS: The results of cost-effectiveness analysis are fairly robust to the choice of imputation scenario. While point estimates indicate that over 4 years pramipexole is a cost-effective alternative to levodopa, significant statistical uncertainty exists. The uncertainty associated with the assumptions regarding post-dropout QoL is dwarfed by the uncertainty associated with the ICER estimate.

SCREENING

PATIENT PREFERENCES FOR COLORECTAL CANCER (CRC) SCREENING STRATEGIES
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The success of population screening for CRC depends largely on public uptake. Available strategies differ in multiple dimensions of process and outcome. OBJECTIVE: To measure patient preferences for CRC screening attributes and estimate willingness to pay (WTP) for changes in attribute levels using a discrete choice experiment ("conjoint analysis"). METHODS: Six key attributes of CRC screening strategies were identified through structured focus groups. Questionnaires included 10 choice sets based on a fractional factorial design to maximize D efficiency. Surveys were mailed to a random sample of patients aged 40–60 years from an Ontario primary care network (response rate = 51% (547/1074), 88% of whom completed all 10 choice sets (n = 485)); b coefficients from regression analyses estimated the marginal utilities of attribute levels from which WTP was calculated. Differences among subgroups were tested using likelihood ratio tests. RESULTS: Respondents had the strongest preferences for CRC screening attributes and estimate willingness to pay (WTP) for changes in attribute levels using a discrete choice experiment ("conjoint analysis"). CONCLUSIONS: patient preferences for CRC screening attributes and estimate willingness to pay (WTP) for changes in attribute levels using a discrete choice experiment ("conjoint analysis").

COST EFFECTIVENESS OF SCREENING AND STATIN THERAPY IN CLINICAL GUIDELINES FOR CARDIOVASCULAR PROPHYLAXIS
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OBJECTIVES: To quantify the cost effectiveness of updated clinical guidelines for risk screening and prevention of cardiovascular disease (CVD) with “statin” therapy in individuals free of cardiovascular disease. METHODS: Risk profiles were collected in 1992–1993 for 4704 men age 35–84 y and 1216 women age 45–84 y without CVD. Five-year risk of a cardiovascular hospital admission for each individual was estimated using a locally validated Framingham risk equation. The predicted number of incident events in 5 years was scaled to the 2001 NZ census population and integrated over age groups. In the base case, costs, benefits and cost effectiveness were estimated at screening age thresholds of 45 for men and 55 for women (10 years younger for smokers); concurrent treatment thresholds of 15% 5-year cardiovascular risk and TC/HDLc = 4.5; and 5% discount rate. RESULTS: In the NZ population of 784K men age 35–84 y and 558K women age 45–84 y, 72K men and 53K women would be eligible for prophylaxis. Compared to no intervention, 5y prophylaxis with 84% treatment adherence at a 15% treatment threshold would aver 6716 incident cardiovascular events and add 17,205 life years or 21,317 QALYs at an incremental cost of $270M. The base case ICER is $10,439 per event avoided, $4083 per LYG or $3295 per QALY and it is sensitive to the threshold lipid ratio, screening and treatment ages, risk threshold, treatment efficacy, 5y cardiovascular fatality, statin unit price and the discount rate. CONCLUSIONS: Screening and prophylaxis with statins is very cost effective at current drug prices and clinically realistic screening and treatment thresholds.

FACTORS IMPACTING MAMMOGRAPHY SCREENING IN RURAL AND URBAN AREAS
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OBJECTIVE: To compare mammography screening in rural and urban areas and to assess the effect of various predisposing and enabling factors on mammography screening. METHODS: Retrospective self-reported cross-sectional data from Behavioral Risk Factor Surveillance System (BRFSS) for year 2000 along with county level contextual variables from area resource file (ARF) were used in the analysis. The analysis was restricted to females between 40–69 years of age. Logistic regression analysis was performed using an indicator of mammography screening as a dependent variable and race, age, rural dummy as independent variables. Series of multiple logistic regressions adding predisposing and enabling factors consecutively to this model were conducted. All the results were adjusted for complex survey design. RESULTS: Seventy eight percent of women reported having had a mammography within the last two years for routine check up. Women living in rural area were less likely to be screened for mammography as compared to women residing in urban areas (OR = 0.80, CI = 0.72–0.86). This difference in screening no longer persisted after controlling for predisposing (smoking status, education level), enabling (income, insurance status) and contextual level enabling factors (physician population ratio). In general, women with higher education and better financial condition were more likely to screen. CONCLUSIONS: Insurance status was one of the major determinants of mammography screening for females residing in rural area. Availability of health care services also had an impact on screening rates. In an environment where rural areas are faced with shortage of health care services, the active participation of health care workers like physicians in advocating use of screening services becomes crucial.

ECONOMIC EVALUATION OF SCREENING FOR THE A-ADDUCIN GENE VARIANT IN HYPERTENSIVE PATIENTS
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OBJECTIVES: The purpose of this study was to determine whether screening for the a-adducin gene variant among hyper-
tensive patients is a cost effective method of preventing stroke and myocardial infarction (MI) among patients not taking diuretics. METHODS: A decision analytic model was developed to compare the costs of antihypertensive therapy, stroke, and MI for patients screened for the a-adducin gene variant versus those not screened (standard care). The outcomes possible for each group were: no event, stroke, or MI. Epidemiological data for the risk of stroke, MI and the effect of the a-adducin gene variant were obtained from the literature. We assumed patients in the standard care group continued on their current anti-hypertensive regimen. In the screened patient group, we assumed 90% with the a-adducin gene variant switched to a diuretic, whereas those with the wild-type a-adducin gene continued their current regimen. Cost data were obtained from the literature, and the cost of the screening test was estimated based on currently available commercial tests for other gene variants. The analysis was conducted in 2003 dollars from the payer perspective. One-way sensitivity analyses were performed to test the robustness of the results. RESULTS: The screening strategy saved $1427 and increased Quality of Adjusted Life Years (QALY) by 0.10. When the screening test was assumed to cost $2000, the incremental cost increased to $6600/QALY. When only 10% of patients were assumed to have switched to diuretics based on their screen result the incremental cost effectiveness ratio increased to $56,317/QALY. CONCLUSIONS: The results of this cost effectiveness analysis suggest that under most circumstances, screening patients on antihypertensive therapy for the a-adducin gene variant is a cost saving or cost effective strategy.

SESSION III

PRESCRIBING STUDIES

RX1

CLAIM-BASED DRUG WASTAGE ESTIMATION: HOW HIDDEN REFILL BEHAVIOR CAN HELP
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OBJECTIVES: Dispensing large quantities of maintenance drugs often causes concern of wastage due to patients changing medication types. This study examines the prescription claims related to patients changing medications, and establishes a new method to estimate drug wastage and explores its implications on drug dispensing policies. METHODS: The prescription claims of new patients of three drug classes (statins, SSRIs and PPIs) in 2002 were extracted from Caremark's prescription claim database. Drug changes were identified and wasted days of supply were calculated using the overlapping days between the new script fill date and the old script due date. The distributions of the wasted days of the three drug classes in 90-day-supply refills at mail and 30-day-supply refills at retail were analyzed. Based on the findings, a separation process was developed to estimate average wastage using clustering methods. RESULTS: The distributions of the wasted days appeared to be bimodal. One component of the bimodal distributions was consistent with overlapping pattern of non-changing drug refilling patterns. The wastage population identified two separate behavioral groups: refill-change people who change medications when their current medications are due to refill, and early-change people who change medications even though they still have significant amount of existing medications. Refill-change people were not likely to waste medications. The new wastage rates were 0.4% in 90-day supply and 0.2% in 30-day supply for statins, 0.2% in 90-day supply and 0.5% 30-day supply for SSRIs and 1.2% in 90-day supply and 0.9% in 30-day supply for PPIs. CONCLUSIONS: This study discovered a bimodal pattern in wastage. A portion of the wastage implies hidden refill pattern. Based on these findings, this study establishes a new way to estimate prescription drug wastage using claim data and shows that dispensing large quantities does not necessarily lead to higher wastage of medications.

RX2

PREVALENCE AND CORRELATES OF POTENTIALLY INAPPROPRIATE PRESCRIBING AMONG THE AMBULATORY ELDERLY IN 2001
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OBJECTIVES: The study objectives were to determine the prevalence and correlates of potentially inappropriate prescribing among the ambulatory elderly using 2003 Beers criteria. METHODS: Retrospective analysis was conducted of the 2001 public use file of the National Ambulatory Medical Care Survey and the National Hospital Ambulatory Medical Care Survey. A total of 7243 visits by individuals over 64 years old with at least one prescription were analyzed. The 2003 Beers criteria were used to define potentially inappropriate medications irrespective of disease, dose, and duration. Multivariate logistic regression using generalized estimating equations was performed to examine associations between age, gender, race, payment source, reason for visit, referral status, sharing of care by other physicians, number of medications, ambulatory setting type, metropolitan location of practice, and geographic region with potentially inappropriate prescribing. Data was analyzed using SAS 8.2 and SUDAAN 8.02. An alpha of 0.05 was required for significance. RESULTS: Potentially inappropriate medications were prescribed in 17.8 million office-based ambulatory visits and 930,211 hospital-based ambulatory visits, 11.9% of all ambulatory visits made by the elderly. The most common drug classes were narcotic analgesics, antihistamines, and antiarrhythmic agents. Among all variables examined, location of practice, referral status, and number of medications were associated with receipt of a potentially inappropriate medication. After adjusting for other risk factors, visits made in metropolitan areas or by referred patients were more than twice as likely to involve a potentially inappropriate medication. In addition, compared with patients taking one medication, those taking two (Odds Ratio (OR) = 2.64, 95% CI = 1.41–4.95), three (OR = 6.85, 95% CI = 3.15–14.88), or four or more medications (OR = 7.43, 95% CI = 4.36–12.67) were more likely to receive a potentially inappropriate medication. CONCLUSIONS: Potentially inappropriate prescriptions were prevalent in nearly 12% of ambulatory visits made by the elderly in 2001. More prospective efforts to improve prescribing practices and prevent drug-related problems among the elderly are needed.

RX3

EVALUATING CLINICAL AND FINANCIAL OUTCOMES ASSOCIATED WITH A RETROSPECTIVE DRUG UTILIZATION REVIEW PROGRAM
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OBJECTIVES: Retrospective Drug Utilization Review (RDUR) can be effective in reducing drug-related problems and adverse health outcomes. This study examined whether RDUR intervention letters to prescribers impacted the recurrence of drug-prescribing programs (exceptions) and evaluated the subsequent effect on utilization of health care services. METHODS: Data used were from combined pharmacy and medical claims from January 2002 through November 2003. To assess the impact of