index of GWBAS in EH was lower (80.0 ± 16.9 vs. 90.3 ± 15.3 points; $p < 0.0001$) and the total complaints index of GSCQ was higher (29.7 ± 17.4 vs. 15.9 ± 9.7 points; $p < 0.000001$) compared with the healthy control.
CONCLUSIONS: Some discrepancies were revealed in testing results of the studied QL measures in developed and transitional societies. GWBAS and GSCQ demonstrate sufficient internal consistency reliability, convergent and discriminate validity, as well as sensitivity and may be used for the QL assessment in EH living in an unstable economy. DHP seems to be less reliable, probably due to brevity and intersected structure of subscales, and should be applicable mainly for fast preliminary QL screening.

CARDIOVASCULAR DISEASES/DISORDERS— *Health Policy Presentations*

PCV34

PATTERNS OF ANTIHYPERTENSIVE DRUG UTILIZATION AND CLINIC VISITS FOR ESSENTIAL HYPERTENSION: EVIDENCE FROM MEDICAL EXPENDITURE PANEL SURVEY, 1996

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OBJECTIVE: The Joint National Committee (JNC) on Detection, Evaluation, and Treatment of High Blood Pressure V (1993) and VI (1997) recommended diuretics and beta-blockers as initial antihypertensive drugs. However, a few studies have shown a trend of the increasing use of angiotensin-converting enzyme inhibitors (ACEIs) and calcium channel blockers (CCBs), and the decreasing use of diuretics and beta-blockers. Hypertension is one of the most common reasons for patients to use clinic visits. The purpose of the study was to assess the association between the different patterns of antihypertensive drug use and the number of clinic visits for essential hypertension.
METHOD: Poisson regression model was employed to assess the association between the different patterns of antihypertensive drug use and the number of clinic visits by using the Medical Expenditure Panel Survey (MEPS, 1996), after controlling for confounding variables. The study population enrolled was estimated 10,357,769 non-institutionalized adult US patients with essential hypertension.
RESULTS: Patients with diuretics or beta-blockers had fewer clinic visits, compared to patients with ACEIs or CCBs ($p < 0.01$). Patients in good physical health had fewer clinic visits, compared with patients in fair or poor physical health ($p < 0.05$). Other significant explanatory variables include census region and limitations in daily life activities.
CONCLUSION: Patients using ACEIs or CCBs, which were not recommended by the current JNC guidelines had more clinic visits. This association needs to be concerned in the management of hypertension.

PCV35

AN ASSESSMENT OF THE POTENTIAL UK POPULATION OF PEOPLE WITH TYPE 2 DIABETES ELIGIBLE FOR PROPHYLAXIS WITH RAMIPRIL TO PREVENT CARDIOVASCULAR EVENTS

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OBJECTIVE: To estimate the UK population of people with type 2 diabetes who would be eligible for treatment with ramipril for secondary prevention of cardiovascular events, as defined by the inclusion criteria of the MICRO HOPE trial, as a basis for estimating the NHS budget impact of treatment.
METHOD: Patients were eligible to participate in the MICRO HOPE trial if they were over 55 years of age with diabetes and one other risk factor for cardiovascular disease (total cholesterol >5.2 mmol/L, HDL cholesterol ≤0.9 mmol/L, hypertension, known microalbuminuria, or current smoking). Exclusion criteria included dipstick positive proteinuria and present usage of ACE inhibitors. We used published national prevalence data to identify the number of people with Type 2 diabetes over 55 in the UK at present. In order to estimate the percentage of these patients who would fit the MICRO HOPE inclusion criteria, we conducted a review of the South Teeside Diabetes Register.
RESULTS: There were 6998 people with diabetes on the South Teeside District Diabetes Register in 2000. 4,733 were over 55 years of age, and of these patients 2,777 had available data for proteinuria: 496 (18%) patient tested positive, 2,281 (82%) were negative. 1,010 (36%) patients had additional risk factors as well as being proteinuria negative and not being treated with an ACE inhibitor. There are 816,000 people with Type 2 diabetes who are over 55 years of age in the UK at present. We estimate that 294,000 of these patients are eligible for treatment with ramipril, as prescribed in the MICRO HOPE trial, but are not presently being treated. For an average Primary Care Trust with a population of 100,000 people, there are likely to be 493 patients eligible for treatment.
CONCLUSION: This estimate gives a measure of potential workload for NHS primary care prescribers, and could populate a budget impact analysis study on the cost of implementing the MICRO HOPE trial recommendations.

PCV36

MEDICATION ADHERENCE AND HEALTH CARE UTILIZATION IN HEART FAILURE PATIENTS

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OBJECTIVES: To quantify medication adherence to diuretic medication in heart failure (HF) patients and to evaluate the relationship between adherence and health care utilization.
METHODS: Prospective, convenience sample; Adult patients with a current medical diagnosis of HF and an active prescription for a diuretic from Wishard Memorial Hospital in Indianapolis, Indiana. Patients were given a six-month supply of their diuretic in a bottle capped with a microelectronic device (eDEM, Aprex Corporation) to assess daily adherence (percentage of prescribed doses taken) and scheduled adherence (percentage of prescribed doses taken on time). Health care utilization data were extracted from the Regenstrief Medical Records System, which is Wishard's clinical electronic data repository. Data retrieved during the six-month study period included numbers of hospitalizations and emergency department (ED) visits classified as all reasons, cardiac-related reasons, and heart failure-related reasons.
RESULTS: Patients (n = 42) were mostly single, middle-aged patients with moderately severe HF. The mean daily adherence and scheduled adherence were reported as 71.0% and 43.7%, respectively. All study patients were hospitalized at least once during the study period and most patients visited the ED. No relationship was found between daily adherence and health care utilization. However, significant relationships were found between scheduled adherence and both cardiac-related hospital admissions ($p = 0.0329$) and cardiac-related ED visits ($p = 0.0269$). The risk of these clinical encounters increased as scheduled adherence declined.
CONCLUSION: These findings suggest that patients who are consistent with the administration of their loop diuretic have fewer cardiac related hospitalizations and ED visits. This result may be due to the known erratic pharmacokinetic disposition of furosemide, the predominate diuretic being used by patients in the study. Study patients with low utilization may be taking their diuretic at times that maximize the concentration-response relationship. This mechanism, and not the actual dose, may contribute more to reduced utilization.

PCV37

EFFECT OF NON-ADHERENCE TO STATINS ON ASSOCIATED COST EFFECTIVENESS

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OBJECTIVE: As lipid-lowering therapy is likely to be long term and as many patients with hyperlipidemia are asymptomatic, adherence to HMG CoA Reductase Inhibitors (statins) may be of relevance to the cost effectiveness of these expensive agents. Therefore, rates of statin usage in the Irish community setting were established and effects on the incremental cost effectiveness ratios (ICERs) of individual statin drugs in both primary and secondary prevention of coronary heart disease (CHD) calculated.
METHODS: Non-adherence rates were established for 4,948 patients prescribed statins over an 18-month period (Sept. 1999 to Feb. 2001) using a prescription-claims database. A Markov model investigating the cost effectiveness of statins, using Irish costs for medications and acute myocardial infarction (AMI) treatment, Irish mortality probabilities and outcomes for AMI and death from the 4S trial for secondary prevention and the WOSCOPs trial for primary prevention was adapted for these non-adherence rates. Changes in the discounted ICERs per quality adjusted life year (QALY) were calculated.
RESULTS: Atorvastatin was the most cost-effective agent in both primary and secondary prevention of CHD followed by fluvatstatin, simvastatin and pravastatin. ICERs ranged from 1,172 to 3,900 Euro/QALY in secondary prevention, increasing to 2,388 and 7,508 Euro/QALY when non-adherence was factored. The effect in primary prevention was even more apparent. Discounted ICERs/QALY ranged from 17,668 Euro for atorvastatin to 38,459 Euro for pravastatin. Effects of non-adherence increased primary prevention ICERs to 24,663 and 57,494 Euro/QALY respectively.
CONCLUSION: Non-adherence is rarely considered in pharmacoeconomic evaluation. However, this study illustrates that non-compliance can have a significant impact on the cost effectiveness of all statins in the Irish setting. This is likely to be the case for most expensive medications indicated over the long-term in all healthcare settings. Therefore, the effects of non-compliance should be considered before results from economic evaluation are used to influence prescription choice.

PCV38

MORE MEDICATIONS AND DISEASE STATES WERE RELATED TO AN INCREASE IN MEDICATION ADHERENCE AMONG PATIENTS AFTER A MYOCARDIAL INFARCTION

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OBJECTIVES: Nonadherence is a major reason for morbidity and mortality. The purpose of this study was to determine medication adherence of patients post myocardial infarction (MI).
METHODS: Patients admitted to the University of Michigan Medical Center with diagnosis of MI were identified consecutively and prospectively from July 1999 to July 2000. Clinical data were obtained retrospectively from medical records including medications at discharge. Patients were interviewed by telephone six months after discharge. Follow-up data included a self-reported list of medications and a four-item adherence questionnaire.
RESULTS: Complete information was obtained from 216 patients. The mean age was 63.4 (+12.6) years and