THE ASSESSMENT OF THE INFLUENCE OF AN EDUCATIONAL INTERVENTION ON PATIENT IMPORTANT OUTCOMES INCLUDING HEALTH RELATED QUALITY OF LIFE (HRQoL) AND MORTALITY USING A TIME-TO-EVENT SURVIVAL ANALYSIS IN PATIENTS WITH HEART FAILURE

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OBJECTIVES: Patients with HF can suffer from poor HRQoL particularly as their disease progresses. We wanted to determine whether HRQoL and mortality differences existed between patients following an intervention. We defined an event as either death or a drop from baseline of at least 10 points in the PCS or MCS summary scales of the SF-36 that was sustained on at least 2 consecutive intervals with no recovery prior to study termination. METHODS: This was an RCT (n = 134) with HRQoL collection from baseline every 3 months to 1 year. All data collection and outcomes assessment were done by study personnel who were blinded to patient treatment allocation. Complete SF-36 data were available on 114 patients. We did a Cox regression time-to-event survival analysis adjusting for Arm. RESULTS: According to our definition of events 14.9% of patients had a PCS event and 16.7% of patients had an MCS event. There was no significant effect of Arm. CONCLUSIONS: A 10-point drop in the PCS or MCS can be considered to be a minimal clinically important difference in patients with a sustained drop indicating no response to the intervention. The analytic techniques we used expand the interpretability of HRQoL changes and incorporate clinical outcomes.

WHAT IS THE WILLINGNESS TO PAY FOR FUTURE HEALTH BENEFITS AMONG HYPERTENSIVE PATIENTS—A PILOT STUDY IN POLISH SETTING

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OBJECTIVE: Although there is no final agreement on how willingness to pay (WTP) should be measured, it is increasingly used to value future health benefits. The objective is to measure the financial value of potential health benefits from antihypertensive treatment. METHODS: The study was carried out in 103 hypertensive patients in 3 centres in Poland. The WTP for theoretical antihypertensive agent (drug A) was measured assuming that it would reduce the risk of ischemic heart disease and strokes in the future. Patients were able to choose the treatment or non-treatment option, data obtained were confidential. Three types of potential benefits from the new healthcare intervention were measured: patient benefits, insurance/option value and altruistic value. RESULTS: The average WTP was €14,47 in terms of drug’s price (patient benefit), €3,16 as an insurance premium (private benefit) and €1,16 in additional taxes (societal benefit, all on monthly bases). Differences due to the regional level of development (wealth) were observed. A strong correlation between individual income and WTP was detected. The correlation between WTP and a level of education and occupational status is weaker. CONCLUSION: Patients are willing to pay more then twice as much as the average price of a drug available on the market, (if not reimbursed) and 3.7 times the amount of patient co-payment (if the drug is reimbursed). Patients are willing to allocate a substantial part of their income to avoid the complications of hypertension.

THE INFLUENCE OF COPAYMENTS ON THE DEMAND FOR DRUGS WITH THERAPEUTIC COMPETITORS: THE STATINS

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OBJECTIVES: Many prescription drug markets are inhabited by multiple patented drugs that perform similar functions at different effectiveness levels without generic competition. Little is known about the influence of drug benefits on drug choice in these markets. This paper employs a multinomial logit regression to estimate the influence of copayments on demand for statins for patients diagnosed with coronary heart disease (CHD). METHODS: Patients selected for inclusion in the study (N = 36,135) from the MarketScan Commercial Claims and Encounters database were required to have an ICD-9 diagnosis of CHD, use one of five statins (atorvastatin, fluvastatin, lovastatin, pravastatin, or simvastatin), and be continuously enrolled in an identified health plan. To estimate the influence of health plan benefits on usage, the average copayment for each patient’s statin over his relevant therapy period was calculated relative to pravastatin. Other explanatory variables used to control for variation in statin choice included demographic factors, clinical comorbidities, insurance type, and a proxy for primary CHD prevention. RESULTS: Most patients in the sample are treated with atorvastatin (N = 13,162) or simvastatin (N = 12,863). The copayment of the patient’s statin of choice has a highly significant influence on statin choice. An increase in the patient’s copayment relative to the copayment of pravastatin, over the patient’s therapy period, decreases the likelihood of receiving that statin by as much as 84% (lovastatin), and as little as 11% (atorvastatin). CONCLUSION: Findings suggest that insurers can influence a patient’s choice of one drug over another by varying a patient’s copayment level. Moreover, results
are consistent with general clinical prescribing patterns and comparable efficacy of statins. Patients treated with atorvastatin are least likely to be influenced by copayment than patients using other statins.

**CARDIOVASCULAR DISEASES/DISORDERS—Healthcare Policy**

**EVALUATION OF NITRATE PRESCRIPTION PATTERNS AMONG PHYSICIANS FROM DIFFERENT SPECIALTIES IN ISRAEL**

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**OBJECTIVES:** Nitrates are the treatment of choice for angina pectoris. Isosorbide dinitrate (Id) has the same clinical effect and is less costly than isosorbide mononitrate (Im). Id is the recommended treatment of choice for angina pectoris in Israel and Britain. An early study shows very low prescription rate of Id versus Im in Israel. This study characterizes factors affecting nitrate prescription patterns among specialist doctors in Israel.

**METHODS:** One hundred nine specialists (cardiologists, internists, family physicians) were requested to answer an anonymous questionnaire about the treatment of choice for a case of a stable angina patient. Questions included the following parameters: knowledge regarding effectiveness/safety/cost, prescription preference, drug promotion effect, awareness of clinical guidelines.

**RESULTS:** Twenty-one cardiologists, 29 internists, 39 family physicians were interviewed. Of all doctors only 26.7% stated that they prescribe dinitrates. 44.4% do not know of any difference between drugs, and they prescribe mononitrates out of habit. Family physicians prescribe dinitrates eight-fold compared to cardiologists. 62.9% stated the drug’s price does affect their decision-making. 32% didn’t receive any guidelines regarding the preferred treatment for angina pectoris.

**CONCLUSIONS:** Relatively high awareness to clinical guidelines favoring Isosorbide dinitrate for treatment of angina is contradictory to the over prescription of mononitrates. Cardiologists in particular believe that mononitrates are more effective than dinitrates. Even physicians who know that there is no difference between the drugs explain their prescription pattern is based on clinical experience and out of habit. Awareness to drug prices did not influence prescription patterns toward less costly drugs. Most doctors who received guidelines for treatment of angina didn’t follow their recommendations. This study provides the “proof of concept” that the prescription habits toward mononitrates are a waste of scarce resources. Further intervention and cost effectiveness studies are needed to explore the effects of over prescription of mononitrates.

**POSSIBILITIES OF NEW TECHNOLOGIES AMONG PATIENTS WITH HYPERTENSION: FEASIBILITY AND ACCEPTANCE OF AN EDUCATIVE INTERVENTION THROUGH SHORT MESSAGES TO THE PATIENT’S CELLULAR PHONE**

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**OBJECTIVES:** A descriptive study of the general interest in educative programs using new technologies (Internet for example) and a pilot-trial to demonstrate the feasibility and acceptance of a specific education program based in short messages (SMS) in the cellular phone to improve drug compliance have been carried out among hypertensive patients (HTP) in Spain.

**METHODS:** Descriptive data were collected among HTP using a self-administered questionnaire. For the pilot-trial, 30 primary care investigators were randomized to Control or Intervention Group. Each investigator recruited four HTP. Availability of a cellular phone was an inclusion criteria for all patients. Investigators of the Intervention Group registered their patients in a free SMS service, after informed consent. Patients in this group received two short messages per week, addressing issues related with compliance and health habits. All the patients in the Intervention group received the messages during 24 weeks.

**RESULTS:** Two thousand three hundred sixty-three surveys were collected in the descriptive study. 27% of HTP were Internet users; 56% of the HTP would visit a website dedicated to HT, 50% would consult with their doctors through the Internet, and 43.5% would be willing to receive health messages in their cellular phones. 120 HTP were willing to participate in the pilot trial. The mean age was 60.2 in Control Group and 55.9 in Intervention Group (differences not significant). The messages to the cellular phone were well accepted by investigators and patients along the scheduled period (24 weeks).

**CONCLUSIONS:** The use of SMS seems to be a useful tool for educational programs, especially because cellular phone is an increasingly popular communications system. As the SMS becomes more affordable, it would be convenient to explore in more detail its effectiveness in health outcomes, specifically regarding compliance.