The impact of a clinical pharmacist intervention on lipid-lowering in a primary care setting

**OBJECTIVES:** The Adult Treatment Panel III guidelines suggest that the goal of low-density lipoprotein cholesterol (LDL-C) in patients with both cardiovascular disease and diabetes is <100 mg/dL. Many patients remain poorly controlled despite various interventions in primary care, including statin therapy and healthy behavior modification. We evaluated the impact of adding a clinical pharmacist intervention to usual care on LDL-C control and treatment costs in diabetic cardiac patients.

**METHODS:** We prospectively compared a clinical pharmacist intervention in 138 patients with a matched control sample of 353 patients receiving usual care in Maccabi Healthcare Services (MHS) in Israel. Patients with cardiovascular disease and diabetes and LDL-C levels >100 mg/dL were identified from the MHS’s computerized database. The clinical pharmacist reviewed patients’ clinical charts and discussed the recommendations to improve hyperlipidemic control with the patients’ primary-care practitioners. The recommendations were given every three months for a one-year period. The primary clinical endpoint was reaching LDL-C goal. Clinical outcomes and overall treatment costs in both groups were evaluated at the end of the study year.

**RESULTS:** During the study year, 67% of the patients in the intervention group reached the LDL-C goal vs. only 54% in the control group (p = 0.014). LDL target was reached three months earlier in the intervention group as compared with control patients (0.710 year vs. 0.992 year; respectively; log-rank test: p = 0.015). However, at the end of the study year, LDL target was maintained in approximately 50% of patients in both groups. Overall treatment costs (physician visits, hospital and emergency room admissions, lab tests, medications) were 14% lower in the intervention group and 11% higher in the control group as compared to the year prior the intervention.

**CONCLUSIONS:** A clinical pharmacist intervention in high-risk patients may result in clinical improvements and lower treatment costs. These results demonstrate the high-value of clinical pharmacist involvement in patient treatment.

**EPIDEMIOLOGICAL STUDY OF EUROPEAN CARDIOVASCULAR RISK PATIENTS: DISEASE PREVENTION AND MANAGEMENT IN USUAL DAILY PRACTICE—TURKISH RESULTS OF EURIKA STUDY**

**OBJECTIVES:** To assess management of cardiovascular risk factors (CVRF) in daily clinical practice and to identify areas of potential improvement in primary prevention of CVD.

**METHODS:** A total of 663 patients >50 years of age (59.4 ± 7.6 years; 47.2% males) with at least one additional CVRF and 67 physicians (mean age: 40.7 ± 8.6 years; 82.1% males) were included from Turkey in the multicentre, multinational, cross-sectional epidemiological EURIKA study (NECT0882336) conducted across Europe. Management and control of clinical, emergent and psychosocial CVRF use of CV risk assessment by the physicians as well as barriers for estimating and using global cardiovascular risk scores were identified. **RESULTS:** Total CV risk assessment in Turkish patients was stated to be performed by 48.5% of the physicians mostly by chart (71.9%) and mainly for an advice on healthy lifestyle (84.4%) and to decide on antihypertensive (78.1%) or lipid-lowering treatment (75.0%). Time constraint for global CV risk evaluation was the main reason (73.5%) for the lack of assessment identified by the physicians. A total of 514 patients (77.5%) were classified to have high CV risk by the physicians using a local (7.6%) or the recent European Guidelines on Cardiovascular Disease Prevention in Clinical Practice (ESC 2007) (80.0%). Although global cardiovascular risk was said to be under control in 75.5% of the patients, satisfying control of CV risk factors was evident in only 56.7% while the overall percentage of the patients who were aware of their CV risk was 68.5%.

**CONCLUSIONS:** Apparent targets defined in guidelines are not sufficiently met and there is clear need for better management of high risk patients. Development of better structured and more realistic, simple and credible national guidelines adapted to suit local medical and economic conditions should be encouraged.

**IMPACT OF REGIONAL MEASURES IN THE SALES OF THE REIN- ANGIOTENSIN SYSTEM ANTAGONISTS IN SPAIN**

**OBJECTIVES:** To analyze the impact of regional measures in the sales of the renin-angiotensin system antagonists in Spain. **METHODS:** Regional measures from each of the 17 Spanish Autonomous Regions (AR) were identified by searching on health services reimbursement scale (RMS) in rational use of drugs (RUD) database. The impact of those regional measures was calculated. The analysis was performed from April 2008 to April 2009, 57% of post-ACS clopidogrel patients also had a PPI prescribed.

**CONCLUSIONS:** Interest in cardiovascular diseases (CVD) in patients with schizophrenia has recently become growing among psychiatrists due to its documented incremental mortality for these causes. Identification of markers for such disorders seems, therefore, reasonable. Serum Protein-C-Reactive (PCR) levels have been determined as a marker of inflammation in individuals with CVD and/or at high risk for developing it. However, it is unknown the role of this protein in schizophrenia. Thus, the goal of this research was to explore the use of PCR as a marker of inflammation and CVD in patients with Schizophrenia. **METHODS:** A cross-sectional analysis of the Spanish administrative claim database was conducted including all men and women, >18 years, with a schizophrenia spectrum disorders (by DSM-IV criteria) diagnosis. **RESULTS:** Measurement together with socio-demographics, evaluation, medical history, 10-years CVD risk (Framingham equation) and biochemistry data was extracted for analysis. **RESULTS:** A total of 705 patients [53.0% men, 48.2% <45 years, 51.8% >50 years, 40.8% <50 years, by sex, evolution, smoking and anti-inflammatory drugs treatment, PCR was linearly associated with 10-year CVD risk stratified by its level of risk (low, moderate, high/high very high); respectively, 2.3 (95% CI 2.1–2.5), 3.1 (2.6–3.5) and 3.7 (3.2–4.1) mg/L. F = 13.5, P = 0.001. Patients with known CVD showed also higher PCR levels; 3.7 (2.9–4.5) vs. 2.5 (2.4–2.7) mg/L, p = 0.008, and higher probability of values above normal’s Odds Ratio = 4.71 (2.01–11.04), P < 0.001. **CONCLUSIONS:** High PCR levels (above normal’s) were associated with both known CVD and high very high 10-year risk of CVD event in patients with schizophrenia. Thus, PCR might be a marker of inflammation and CVD in this psychiatric disorder.
45% and Germany 45%). An overall increase in co-prescribing of clopidogrel and PPIs was observed in all countries from April 2006 to April 2009 except for France where omeprazole co-prescribing decreased in 2008–2009. The most frequently prescribed PPI in combination with clopidogrel was omeprazole in all three countries (58% in the UK, 36% in France and 63% in Germany). The second most frequently used PPI was lansoprazole in the UK (36%), pantoprazole in Germany (21%) and esomeprazole in France (28%). The proportion of clopidogrel patients who were co-prescribed lansoprazole was 36% in the UK and only 11% in France and 2% in Germany. 

OBJECTIVES: A previous study indicated that increasing nurse staffing levels in Belgian general cardiology postoperative nursing units was associated with lower mortality rates. The aim of this study is to conduct a cost-effectiveness analysis of increasing nurse staffing levels to the 75th percentile in Belgian general cardiology postoperative nursing units from a hospital perspective.

RESULTS: The 75th percentile in Belgian general cardiac postoperative nursing units amounted to 2.1 additional nurse-hours per patient day to the 75th percentile for operative nursing units from a hospital perspective. 

CONCLUSIONS: Increasing nurse staffing levels in Belgian general cardiology postoperative nursing units was associated with lower mortality rates. The intervention was cost-effective and led to a reduction of 0.81–1.00 QALYs per given avoided death and the additional costs per patient per year to the 75th percentile for nursing units staffed below that level. The comparator was a “do nothing” alternative.

PCV127 INCREASING NURSE STAFFING LEVELS IN BELGIAN CARDIAC SURGERY CENTERS: A COST-EFFECTIVE PATIENT SAFETY INTERVENTION!
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OBJECTIVES: A previous study indicated that increasing nurse staffing levels in Belgian general cardiology postoperative nursing units was associated with lower mortality rates. The aim of this study is to conduct a cost-effectiveness analysis of increasing nurse staffing levels to the 75th percentile in Belgian general cardiology postoperative nursing units from a hospital perspective. 

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PCV128 MODELING OF HEALTH SERVICE RESEARCH RESULTS WITH UPDATED COST DATA—THE GERSHWYN STUDY EXAMPLE
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OBJECTIVES: Health services research is an expanding field of interest for recently introduced medical technologies. Complementing efficacy results with effectiveness data illustrates the clinical contribution of a new technology in the real-life setting. With effectiveness results being relatively stable over time, the change in reimbursement and price decreases have a substantial impact on initial cost-effectiveness considerations. The three-year GERSHWYN study (GERman Stent Health outcomes Within Normal practice) was designed to determine long-term clinical outcome and economic consequences of Sirolimus-eluting stents (SES) versus bare-metal stents BMS in the treatment of CAD from a societal prospective. Economic analysis resulted in an ICER of 29,868 per avoided major adverse coronary events (MACE) based on 2003 to 2005 prices. Due to substantial price reductions, a remodelling with current 2003 to 2005 prices can drastically change the ICER generated from health services research projects. Modelling with current cost data is an essential contribution for iterative cost-benefit assessment procedures.

PCV129 TELEHEALTH—EARLY EVALUATION FINDINGS
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OBJECTIVES: NHS North Yorkshire and York commissioned York Health Economists’ Consortium to carry out an evaluation of their recent Telehealth pilot involving patients with long-term conditions. The findings from the evaluation will be used to inform plans for the further rollout of Telehealth in North Yorkshire.

METHODS: Three questionnaires were employed: one to obtain details about the Telehealth experiences of users and their carers; Case Managers and Community Matrons with Telehealth patients on their caseloads were interviewed about referral criteria and the impact of Telehealth on their role and patient care; Health care resource use data were analysed. Some caution should be used when generalizing findings due to the small sample size and the specific characteristics of pilot Telehealth recipients.

RESULTS: Forty-eight questionnaires were handed out and twenty returned (42%). Overall, respondents were happy with Telehealth (90%). Results showed that the installation process had been smooth (75%); individuals had received sufficient tuition (95%); they were confident using the equipment (95%); and were happy with the service received from the monitoring centre (95%). Telehealth gave users peace of mind and helped them to manage their own health condition. However, a number of users had experienced technical issues (during installation and when taking daily measurements). Although there had been some teething problems, mainly in relation to the installation process and the monitoring system, clinicians were broadly supportive of Telehealth. There was a repeated view that individual patient characteristics needed to be taken into account when identifying patients who would benefit from Telehealth. The impact of Telehealth on health care resource use was difficult to determine within the eight month timescale of the pilot. CONCLUSIONS: Telehealth gives users peace of mind and helps them manage their health; however, its impact on health care resource use is still unclear.

PCV130 PRACTICE PATTERNS AND QUALITY OF LIFE IN ACUTE CORONARY SYNDROME PATIENTS IN 2008–2009: BASELINE RESULTS FOR AUSTRIA FROM THE ANTIPLATELET TREATMENT OBSERVATIONAL REGISTRY II (APTOR II)
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OBJECTIVES: This 12-month international, prospective, observational study recruited ACS patients in selected hospitals undergoing percutaneous coronary intervention (PCI), April 2008–March 2009, capturing practice patterns, resource use and QoL. RESULTS: A total of 148 ACS-PCI patients (out of the 152 recruited) were eligible: median age 60 yrs (IQR 51–69), median weight 80 kg (IQR 70–89), 20% female, 28% Type II diabetics, and 17% prior myocardial infarction (MI). Index diagnosis was unstable angina or non-ST-elevation MI (UA/STEMI)–44% and ST-elevation MI (STEMI)–56%. Almost all patients (96%) received stents: 28% bare metal stents only, 70% drug eluting stents only and 2% both. Time from start of ACS symptoms to PCI was 53 days in 86% of UA/STEMI patients and 51 days in 98% of STEMI patients. Oral antiplatelet medications at loading dose (LD) used: aspirin–97% and clopidogrel–91%. Clopidogrel LD was administered in the ambulance–9%, previous hospital–10%, emergency room–41%, CCU or ICU–31%, catheterization lab–5%, or other ward–5%. LD was administered in 6 hours before to 6 hours after PCI in 82% of cases. The first clopidogrel LD was 600 mg in 85% and 300 mg in 10% of cases and in-hospital maintenance dose was 75 mg in 97%. At time of hospital discharge, 97% of the discharged patients were prescribed clopidogrel (discharge dose 75 mg for all patients except one). QOL in discharged patients was good: median EQ-5D health state index at 1.00 (IQR 0.81–1.00). CONCLUSIONS: These real life data reflect treatment patterns among ACS patients managed by PCI in selected hospitals in Austria in 2008–2009. Timing and place of loading of antiplatelet agents differ. The QoL of patients at discharge was high.

PCV131 AN INTERNATIONAL COMPARISON OF DUAL ANTIPLATELET USE BY STENT TYPE AT 6 MONTHS FOLLOWING HOSPITAL DISCHARGE AFTER ACUTE CORONARY SYNDROME: RESULTS FROM THE ANTIPLATELET TREATMENT OBSERVATIONAL REGISTRY II (APTOR-II)
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OBJECTIVES: Current European Society of Cardiology Guidelines recommend dual antiplatelet therapy for 12 months for patients with acute coronary syndrome (ACS); however, reimbursement for antiplatelet therapy differs by EU country and is dependent upon the use of bare metal (BMS) or drug-eluting (DES) stents during percutaneous coronary intervention (PCI). Dual antiplatelet (clopidogrel + aspirin) treatment