OBJECTIVES: Anticoagulants are widely used and represent a class of drugs that are problem-prone and have a high potential for adverse patient outcomes. As such, these drugs may be amenable to the use of prescribing guidelines. However, relatively little has been published on the effect of such guidelines on clinical outcomes or costs of care. The purpose of this study was to assess whether guidelines improve the appropriateness of prescribing, clinical outcomes, and the costs associated with use of anticoagulants in a sample of community hospitals in the United States. METHODS: A retrospective analysis was performed of data voluntarily collected by 15 hospitals before (July–September 2001) and after (March–May 2002) implementation of anticoagulant prescribing guidelines. Statistical analyses of both patient-level and hospital-level variables were conducted. RESULTS: Implementation of the guidelines resulted in a significant increase in the proportion of anticoagulants that were prescribed appropriately (59.8% vs. 86.9%, p < 0.001). The guidelines also resulted in a shift in the type of anticoagulants prescribed (decreased use of unfractionated heparin and increased use of low-molecular-weight heparins). There was suggestive evidence, though not statistically significant, that the guidelines resulted in fewer anticoagulant-associated adverse events (total bleeding RR = 0.71) and lower costs (savings of $56.15 per patient per day). CONCLUSIONS: While limitations existed with the study design, sufficient benefits were identified to warrant hospitals to consider use of these or similar guidelines on a routine basis. Clearly, additional study in this area would be useful.

APPLICATION OF THE DELPHI TECHNIQUE IN THE DEVELOPMENT OF CLINICAL PRACTICE GUIDELINES FOR USE IN METHADONE MAINTENANCE PROGRAMS

Le Pén C1, Moreau A2
1Arensis Consultants and Paris Dauphine University, Paris, France; 2Ratiopharm, Laboratories, Paris, France

OBJECTIVES: To model the perspective of the generic drug market in France over the 2004–2008 period, given the rapidly increasing generic substitution rate and arrival on that market of a large number of best-selling drugs. METHODS: We simulated the development of the drug market under two sets of hypotheses. In the first hypothesis, we considered only the 129 molecules which are presently available on the generic market and we froze the substitution rate at the level reached in 2003. In the second hypothesis we considered the 56 additional molecules, the patent of which will expire between 2004 and 2008 and we extrapolated the increase of the substitution rate observed over the last years. We used Box-Jenkins technique to model the market evolution. We made the assumption that generic ex-factory price will be 40% below the princeps price. We finally computed the yearly and aggregated difference between the two scenarios, from a global market perspective and from the Health Insurance perspective taking into account the reimbursement rate of each compound. RESULTS: Over the considered period, the patent of some of the best-selling drugs such as omeprazole, pravastatin, simvastatin, etc. will expire. All together these drugs represent 15% of the 2003 reimbursed drug market. The substitution rate will reach 80%, 4 years after patent expiration. This will result in saving Health Insurance an estimated 1 billion Euro per year as soon as 2006. The aggregated savings on the full period will be above five billion Euros. Two-thirds of the savings will be attributable to the new generic drugs. CONCLUSIONS: The
generic revolution is still ahead and the drug market as a whole will be deeply affected by an increasing number of generic drugs. Public policy should take into account this evolution, in order to maintain the industry capacity to innovate.

**PHP5**

**DECISION MAKING IN ITALIAN HEALTH CARE: ARE ECONOMIC STUDIES USED BY DECISION MAKERS?**

Fattore G, Torbica A

Bocconi University, Milan, Italy

**OBJECTIVES:** The number of economic evaluation studies has grown extensively in recent years. However, a limited number of studies investigated its impact on decision making; the gap is particularly evident in Italy where there are no such studies available. Objective of the research is to evaluate impact of economic evaluation analysis on decision making in the Italian health care system. The prospective taken is that of professionals operating within the system. The aim is to investigate whether there are evident differences in attitudes among professionals who conduct different types of activities. **METHODS:** A 12 item based questionnaire was sent to 374 health care professionals who had undergone some form of health economics training. The sample was taken from a list of participants of a major health care management program at Bocconi School of Management in the last 10 years. **RESULTS:** Response rate was 35%. All respondents stated that basics of economic evaluation analysis must be part of the overall knowledge of health care professionals. Grade of usefulness of these arguments in professional activities was rated 3.84 (scale 1–5). Respondents considered that economic evaluation is more largely used in making managerial types of decisions rather than clinical ones (mean 2.94 vs. 2.73). Decisions taken according to short-term perspectives are considered the major barrier in the use of economic evaluation studies, particularly by managers (71%). More training in health economics was indicated as the most relevant facilitating factor for a wider use of studies, by both clinicians and managers (64%). Majority of respondents (80%) considered that the maximum benefits of economic evaluation are taken from its use at the organizational level. **CONCLUSIONS:** Although economic evaluation has a rather modest impact on decision making in Italian health care, there are some encouraging signs that could lead to its wider and more effective use.

**PHP6**

**PRESCRIPTION PATTERN OF ALIMENTARY TRACT DRUGS AFTER CHANGES OF DRUG BENEFIT STATUS IN KOREA**

Lee EK, Park EJ

Korea Institute for Health and Social Affairs, Seoul, South Korea

**OBJECTIVES:** In Korea, even non-prescription drugs have been on the list of reimbursable drugs, but recent suggestions are that there is a need to change the scope of the positive list. In April 2001, 829 non-prescription alimentary tract drugs were removed from the list of reimbursable drugs and made non-reimbursable even when doctors prescribed them. This study investigated the effect of delisting on the prescribing pattern of alimentary tract drugs. **METHODS:** Health insurance reimbursement claims data before (October 2001) and after (October 2002, October 2003) the delisting were analyzed for 707 clinics (4% randomized sampling). We calculated the prescription rate of alimentary tract drugs and examined the use of alimentary tract drugs by diseases. **RESULTS:** The prescription rate for alimentary tract drugs declined from 79.03% in October 2001 to 59.91% in October 2002 and to 61.58% in October 2003. The prescription rate for digestive, of which all products were delisted, dropped sharply from 32.03% before delisting to 1.9% in October 2002 and to 0.75% in October 2003. Medicines for intestinal disorders were prescribed less frequently after delisting, while the prescription rate for anti-ulcerants and antacids increased by 3–4%. In general, the drugs on the positive list were not switched to delisted drugs, even though some listed ingredients were used more often. Also, the use of alimentary tract drugs for patients who had respiratory diseases such as common cold reduced more than by 20% after delisting, while the prescription rate for those with gastric ulcer decreased by 1% after delisting. **CONCLUSIONS:** The delisting policy reduced the use of alimentary tract drugs. But there was difference in the effect of delisting by drug classification and some delisted drugs were found to be switched to listed drugs. The use of alimentary tract drugs changed less for diseases for which they are essential than for supplementary purposes.

**PHP7**

**THE IMPACT OF PHARMACEUTICAL MARKET COMPETITION ON PRICE AND REIMBURSEMENT STATUS OF PATENTED DRUGS IN THE NETHERLANDS, BELGIUM, FRANCE AND GERMANY**

Koijman H1, Meijboom M1, Dieren van H1, Eigelsloven M1

1PharMerit, Capelle ad IJssel, The Netherlands; 2Dutch Health Care Insurance Board, Amstelveen, The Netherlands

**OBJECTIVES:** The Dutch Ministry of Health (MoH) has requested the Health Care Insurance Board (CVZ) to advise on the modernisation of the drug reimbursement system (Geneesmiddelenvergoedingssysteem GVS). On behalf of the CVZ, PharMerit assessed the impact of market competition on pricing and reimbursement (P&R) of patented drugs in Belgium, France and Germany. **METHODS:** In-depth interviews with reimbursement policy-makers; analysis of laws and policy documents. Impact of market competition (defined as total number of marketed generics and therapeutically comparable patented drugs) on drug reimbursement decision-making was assessed in each of the study countries. **RESULTS:** In Belgium and France, drug P&R is determined in negotiation between manufacturers and authorities. Generic prices are set 30–40% lower than specialties. “Late-arrivals” (e.g. me-too’s or other therapeutically comparable patented drugs) receive lower prices than (first-in-class) “early-arrivals”. Since 2004, patented drugs in Germany are no longer excluded from therapeutic reference-pricing if at least 3 comparable alternatives are available. Sickness Funds are legally entitled to adjust cluster reference prices in case justified by “changes in the market”. Cluster reference prices with a high number of generics (off-patent and patented drugs) are expected to be reduced in the future. Prices of patented late-arrivals in The Netherlands are not directly subject to market competition considerations and tend to level the cluster reference price, based on the average price of clustered products. Recently, prices of generics have been lowered in an informal agreement between MoH and manufacturers. The MoH is seeking ways to modernise the reimbursement system. **CONCLUSIONS:** In Belgium and France, late-arriving patented drugs can be assigned relatively lower prices in comparison to their early-arriving competitors. In Germany, introduction of late-arrivals may impact on P&R of both early and late-arrivals. In the current set-up of the Dutch GVS, market introduction of late-arrivals does not impact on cluster reference prices.

**PHP36**

**REIMBURSEMENT POLICY IN TURKEY: NEW CONSENSUS**

Tulunay FC1, Gulmez SE2, Ergun H2

1Ankara University, Ankara, Turkey; 2Ankara University School of Medicine, Ankara, Turkey

**OBJECTIVES:** Reimbursement policies clearly affect the rational use of drugs. In Turkey there are three state funded social