conducted in Spain and published between January, 2003 and April, 2009 were identified. A combination of terms was applied to systematically review electronic and grey literature sources. Three Spanish journals were hand searched. Methodological quality was assessed applying the National Institute of Clinical Excellence (NICE) 10 criteria check list. The Netherlands’ assessment criteria (CERB) recommendations for appraising economic evaluations. RESULTS: After applying the inclusion and exclusion criteria, a total of 48 papers and 1 Health Technologies Evaluation Agency (HTEAs) report were included. Key findings: 1) 69.5% of papers referred to therapeutic interventions; 30.4% to preventive strategies; 2) no assessments of diagnostic procedures were identified; 3) 510.4% dealt with medical devices; 4) Markov modelling was frequently applied (58.7%); 5) the NHS perspective was commonly adopted (36.3%); 6) costs and effects were usually discounted (71.7%); 7) probabilistic sensitivity methods were reported in 36.4% papers; 8) 91.9%, other the ICER or ICUR was stated; 9) effectiveness, costs and utility data came from Spanish sources in 15.2% publications; 10) 60.8% of studies were of 3b level of evidence mainly due to the diverse nature of the sources consulted to gather data, estimate utilities and design models; 11) 89% of authors compared their findings against an accepted threshold of €30,000 per QALY, but little attention was given to contrasting results or addressing other implementation issues; 12) 45.6% reported the source of funds. CONCLUSIONS: A small number of economic evaluations using QALYs was conducted. Diagnostic and preventive interventions as well as medical devices were scarcely considered. Low evidence scores show that important methodological limitations remain to produce reliable estimates to guide the allocation of resources.

**PH96**

**PUBLICATION OF COST-EFFECTIVENESS ANALYSES AND SUBSEQUENT CITATIONS IN THE MEDICAL AND HEALTH ECONOMICS LITERATURE**

Graafsema P1, Waddoups N2, Neumann P1

1Tufts Medical Center, Boston, MA, USA, 2Ben-Gurion University of the Negev, Beer-Sheva, Israel

OBJECTIVES: The dissemination of research findings begins with publication in peer-reviewed journals and is continued by citation of the original publications. The number of citations received by an article is one marker of study importance. We investigate whether the proliferation of the cost-effectiveness analysis (CEA) literature in recent years is matched by increased citations of study results. METHODS: We used the Tufts Medical Center registry of original CEs published through 2006 (www.cearegistry.org) (N = 1394) to determine the journal name, and year of publication. We used the Science Citation Index Expanded (ISI Web of Knowledge, Thomson Reuters) to determine the extent to which each CEA has been cited in other publications. Co-citation analysis and different publication times were calculated for each CEA by number of citations per year since publication. RESULTS: Citation information was available for 1,301 studies (94% of studies analyzed). The average (SD) number of citation counts per article was 26 ± 37 (range 0 to 391) and the average (SD) number of citations per year since article publication was 3.4 ± 3.9 (range 0 to 34) and did not vary substantially by year of publication. The ten most cited CEs by number of citations per year since publication were in high profile medical journals (e.g., Lancet, New England Journal of Medicine) and were frequently co-authored by the most prolific authors of cost-effectiveness research. These studies pertained mainly to coronary stents, implantable defibrillators, HPV vaccination, screening and treatment for HIV positive patients. CONCLUSIONS: CEs are widely published and cited, but this phenomenon is not yet accompanied by an increase in citations. Further analyses is needed to analyze factors that may contribute to citation of CEs, as well as measures to enhance better dissemination of this important body of research to researchers and decision-makers.

**PH97**

**THE PROBLEM-BASED LEARNING AS A NEW PRACTICAL METHOD OF SKILL DEVELOPMENT IN THE HEALTH SCIENCES HIGHER EDUCATION**

Szögedi-Müller I1, Bence P2, Béthelheim J1, Feke J1, Kriszthabacher F1, Domján P2

1University of Pecs, Zalaegerszeg, Hungary, 2University of Pécs, Pécs, Hungary

OBJECTIVES: The last decade has witnessed a rapid expansion of biomedical knowledge. Despite this, fashions in medical education over the same period have shifted away from factual (didactic) teaching and towards contextual, or problem-based, learning (PBL). This paradigm shift has been justified by studies showing that PBL improves reasoning and communication while being associated with few if any detectable knowledge deficits. METHODS: A retrospective and comparative analytical approach was used. Data on final Cardiopulmonary Resuscitation (CPR) exam grades, collected from PBL or traditionally trained students, and on teaching process, were obtained for a total of 2220 students. The data collection took place between 2003–2008, in two major locations in Hungary and in Finland. The data analysis was done with Chi-square and ANOVA using SPSS14.0. PBL and traditional teaching methods were compared as well as the schools themselves. RESULTS: Students who received PBL training grades had better final CPR grades than traditionally trained peers. This was only means yielded significant differences (t = 356, p < 0.001) between PBL and conventional training favouring PBL taught students. The only significant difference among universities was found favouring PBL training. There was no difference between the two universities in terms of final CPR grades when traditional training was concerned. CONCLUSIONS: It is possible to indicate significant differences in the perception of the development of problem solving skills between the two countries with the help of the khi square trial (kh2 = 17,974 t = 3 p < 0.01). The Finnish evaluated the efficiency of this method significantly higher than their Hungarian peers. One of the new and important messages of the study is to emphasise that the process of learning will not extend in one dimension for the whole life, and it will not confined just for the formal school education.

**PH98**

**FIRST IMPRESSIONS FROM A SHORT TRAINING COURSE IN RATIONAL USE OF DRUGS FOR THE PHARMACOLOGISTS IN THE PHARMACY SCHOOLS IN TURKEY**

Tolık H2, Dulger G1, Yarsı E1, Gümüşeli B1, Akıç A1

1Marmara University School of Pharmacy, Istanbul, Turkey, 2Karadeniz Technical University School of Medicine, Trabzon, Turkey, 3Hacettepe University School of Pharmacy, Ankara, Turkey, 4Marmara University School of Medicine, Istanbul, Turkey

OBJECTIVES: Pharmacists’ role as patient counsellor/educator in the ambulatory setting is essential for the rational use of drugs (RUD). The need for the qualified pharmacy services relies on improvement of teaching methods in pharmacotherapy. Pharmacy students often face problems in implementing theoretical pharmacotherapy knowledge to practice. Thus, novel methods (e.g. Groningen model) are developed for pharmacotherapy teaching. METHODS: A short course of “RUD Teaching” was conducted. Fifteen pharmacologists from 8 different pharmacy schools (of the total 15) attended the 4 days training course. On the first day, attendants were subjected to a pretest which was based on the evaluation of their dispensing abilities. For this purpose a simulated patient presented a prescription ordering a single drug for the treatment of his ailments. Attendants had a 3 day training similar to the Groningen model and finally they were subjected to a posttest. On the last day, trained attendants were expected to put their experience into practice with 12 pharmacy students. RESULTS: The results have shown that the average dispensing score of the 15 trainees (pharmacologists who received the training) which was 32/100 in the pretest, was increased to 72/100 at the end of the three days training. The questionnaire showed that all of the pharmacology lecturers agreed that the novel teaching method would improve the learning efficiency and communication skills of the student and change their dispensing attitude. On the otherhand 41.6% have stated that they believed the new teaching method would produce extra workload to their department. However, all of them have claimed that they would practice the new method in their department. Also, the students have also stated that the course improved their dispensing skills. CONCLUSIONS: Although the course was conducted with a small group of trainees, results show that Groningen model can be adapted to RUD teaching in the Turkish pharmacy schools.

**HEALTH CARE USE & POLICY STUDIES – Health Technology Assessment Programs**

Gallelo G1, Casey R1, Norman R1, Goodall S1

1University of Technology, Sydney, Ultimo, NSW, Australia

OBJECTIVES: The aim of this study was to explore the views and perceptions of stakeholder’s about the current national health technology assessment process for new