categorized regarding the specifics of the type of data requested. Using a comparative framework to examine the recommendations of CDR and NICE, we describe the frequency of the different types of data recommended for collection post-launch to highlight trends across jurisdictions. RESULTS: Thirty-four of 64 CDR submissions recommended 'no listing', 17 'list with criteria', and 13 'list or list in similar manner as other drugs in the same category'. Of the 64 appraisals, 41 were recommended to conduct further research to either collect specific items of data (n = 28), conduct subgroup analysis (n = 13), or collect data using a more appropriate study design (n = 19). The most commonly requested item was long-term adverse events or safety data (16/28), and this observation is consistent with the fact that, to date, most post-launch studies are safety surveillance studies. In addition, 11 of 28 recommended the collection of clinically important outcomes, long-term effectiveness (7/28). Similarly, 41 of 48 NICE appraisals recommended further research to collect real-world data, including treatment pathways, effectiveness, and long-term effectiveness or adverse events. CONCLUSION: This review suggests that recommendations for post-launch research from CDR and NICE appear to be similar. This highlights the inherent weakness of regulatory trials as a piece of evidence in informing reimbursement decisions.

**PHP18**

**HEALTH CARE DECISION-MAKERS’ ATTITUDE ON HEALTH ECONOMICS RESEARCH**

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**OBJECTIVE:** To assess lifetime cost-effectiveness of glatiramer acetate (GA) compared to natalizumab (NZ) in patients diagnosed with relapsing-remitting multiple sclerosis (RRMS) in the presence of long-term clinical evidence. **METHODS:** A literature-based Markov model was developed with patients transitioning through health-states based on Kurtzke expanded disability status scale (EDSS). Patients in the model are ≥21 years of age with RRMS and start in any of the health-states at diagnosis. Patients with an EDSS score below 6.0 receive treatment. Treatment effects for relapse and disease progression were obtained from clinical trials and long-term clinical evidence where available. Transition rates were estimated by applying a percent reduction of treatment effects of therapies to natural history rates of relapse and disease progression were adjusted for treatment discontinuation and persistent NZ antibodies. Patients incurred drug, other medical and lost worker productivity costs. Patients on NZ incurred additional costs for monitoring, diagnosis, and treatment of progressive multifocal leukoencephalopathy (PML), a possible serious adverse event for patients on NZ. Utility weights for each health-state were taken from published utility assessments for people with RRMS. The primary outcomes of the model were lifetime costs and quality-adjusted life years (QALYs). Costs (2005US$) and outcomes were discounted at 3% annually. **RESULTS:** The lifetime costs per patient for GA were $430,242 and for NZ were $498,728. QALYs during the lifetime of a patient on GA were 9.303 and 9.300 for a patient on NZ. The incremental cost per QALY for patients on GA and NZ compared to symptomatic treatment alone was $298,879 and $525,463 respectively. GA is cost-saving when compared to NZ. PML had very little impact on results. **CONCLUSIONS:** While incorporating all the long-term clinical evidence, model results indicated that GA was both less costly and more effective over a patient’s lifetime than NZ in treating RRMS.

**PHP19**

**IMMUNIZATION PROGRAM IN PARAGUAY: SOCIAL AND BEHAVIORAL DETERMINANTS AND ORGANIZATIONAL IMPACT**

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**OBJECTIVES:** Public health care system in Paraguay is highly centralized, compared to other Latin American sectors, and more than half of the population relies on it in order to receive formal treatment. The National Immunization Program (EPI) is not an exemption, affecting the way local/departmental resources in immunization are allocated, impacting on the effectiveness of these investments. In addition, differences in population characteristics among departments, in terms of health care behavior, income and education, and the use of formal medicine patterns by original ethnic groups might affect EPIIx effectiveness. The goal of the paper is to identify how supply side characteristics (financial, managerial and immunization strategies) and demand side factors contribute to immunization coverage. **METHODS:** The document proposes a sequential model, where local health authorities intent to fill the gap in immunization financing and managerial needs, based on the resources allocation and coverage strategy defined by the national health ministry, that leads the Paraguayan immunization design. As a result, a logistic model was implemented, where the likelihood of being vaccinated is tested as a dependent variable, where geographical, educational and ethnic barriers are checked. In addition, supply variables related to financing, coverage strategies and communicational efforts are included. The study analyze data from the Integrated National Household Survey (2001), complemented with a series of immunization effectiveness indexes constructed based on management, financing and vaccine provision criterion, distinguishing among financial sustainability, management effectiveness and antigen supply volatility, collected from official sources and interviews with key personnel by region. **RESULTS:** Health care policy variables were statistically significant, showing the relevance of social communication, measured in terms of physical, monetary and human resources involved. **CONCLUSION:** The paper shows the importance of socio-economic-cultural barriers on the probability of being immunized, based on health behavior, presence of formal health insurance, and main source of care (hospital, traditional medicine, etc.).

**PHP20**

**THE GENERIC COST-EFFECTIVENESS OF HEALTH CARE**

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**OBJECTIVES:** To assess the generic cost-effectiveness of health care. **METHODS:** We estimated the contribution of prevention and medical care towards population health for infectious diseases, cancers, and cardiovascular diseases. This contribution was defined as the difference between the current burden of disease (BoD) and its counterfactual: a 'null' situation without selected prevention (vaccinations, screening, and preventive medication) and medical care, and accounting for the role of other health determinants such as improvements in housing and nutrition, and reduced smoking. The counterfactual was back-calculated with use of historical data on incidence, survival, mortality, and the prevalence of risk factors. The Global Burden of Disease methodology was applied, combining incidence, prevalence, mortality, and disability weights into multi-state lifetables. If required, epidemiological estimates were made internally consistent with advanced modelling techniques (DISMOD2). The difference between the current BoD and the
counterfactual was combined with cost of illness data to estimate
the generic cost-effectiveness of prevention and medical care for
the selected disease clusters. RESULTS: The total increase in
disability adjusted life expectancy due to prevention and medical
care was 5.3 years: 1.7 years for infectious diseases, 0.6 years for
cancers, and 3.1 years for cardiovascular diseases. This increase
was larger for females than for males: 6.3 years and 4.3 years,
respectively. The increase can be disentangled into an increase in
life expectancy of 3.9 years and 1.4 decrease in years lived with
disability. The average costs per DALY gained were 2,000 euro
for cardiovascular disease, 3,400 euro for infectious diseases, and
16,000 euro for cancers. CONCLUSION: For the selected
disease clusters, the average cost-effectiveness of health care is far
below current acceptable thresholds. We assessed the likely
health contribution of sociocultural and socioeconomic factors
as opposed to health care with help of the best available knowl-
edge, but many questions remain unanswered.

IMPACT OF DISCONTINUITY IN HEALTH INSURANCE ON
RESOURCE UTILIZATION
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OBJECTIVES: Public insurance for the poor (Medicaid) in the
United States often results in poor continuity of coverage due to
the phenomenon of “churning.” Churning occurs when individu-
als lose and regain coverage in a short period of time. Gaps occur
within the Medicaid program because of changes in family cir-
cumstances that make individuals ineligible for public insurance
or because of administrative complexity that result in failure to
renew coverage. The purpose of this study is to evaluate the
impact of insurance transitions on health care utilization among
beneficiaries with interruption in Medicaid coverage. These
METHODS: We used the Medical Expenditure Panel Survey (MEPS)
for years 2000–2004 for this study. MEPS provides monthly insurance
status and resource utilization. Additionally, MEPS contains detailed
demographic, socioeconomic and health status information. We esti-
만 number of transitions for an individual using monthly
insurance data. We estimated resource utilization using the total
number of inpatient hospitalizations, emergency room visits, out-
patient visits, and total number of prescriptions. Number of inpatient
hospitalization and emergency room visits were modeled using zero-inflated negative binomial models, while out-
patient visits and prescription drugs were modeled using negative
binomial models. RESULTS: Our sample has 35,779 individuals,
of whom 10,754 had one transition into or out of Medicaid and
2,448 had more than one transition. We find that individuals
with multiple transitions tend to have 46% more hospitalizations
and use the emergency room 13% more. However, these individu-
als have 37% lower prescription drug utilization and 12% less
outpatient physician visits relative to those who are continu-
ously insured by Medicaid. CONCLUSION: Utilization of emer-
gency and inpatient services were significantly higher, while use of
outpatient care and prescription drugs was significantly lower
for beneficiaries with interruption in Medicaid coverage. These
findings point to the need for further research to assess the
impact of churning in this population.

THE GREEK PHARMACEUTICAL EXPENDITURE DATA:
EFFECTS OF THE NATIONAL ACCOUNTS’ REVISION
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OBJECTIVES: In September 2006, the National Statistical
Service of Greece revised the system of National Accounts. In this
framework, significant increases took place in the data describing
the pharmaceutical market, the overall picture of which has
completely changed. The study aims to present these changes, as
well as highlight some remarkable (or even questionable) char-
acteristics of the revision. METHODS: Data from official sources
relating to pharmaceuticals’ production, external trade, expendi-
ture and sales were collected and analyzed, in an effort to
synthesize the overall picture of the pharmaceutical market
and provide a comparative instrument for the revised data.
RESULTS: Under the new data, the pharmaceutical market bears
two significant changes: a) private pharmaceutical expenditure
accounts for 47.5% of total expenditure—against 22% which
was the case before the revision, and b) data on the demand side
appear to exceed supply-side data—the latter including parallel
exports. The disproportional rise in pharmaceutical expenditure
(58% on average for the years 2000–2005) led to an increase in
pharmaceuticals’ share to both health care expenditure and GDP.
Moreover, the increase was totally attributable to a shift in
private pharmaceutical expenditure—which was tripled—whereas
public expenditure remained at the before-the-revision levels.
However, such an increase contravenes both the fact that phar-
macologicals in Greece are mainly reimbursed by Social Insurance
and the fact that the pharmaceutical market is heavily regulated
and—in general—“hidden economy” phenomena do not exist.
Furthermore, the increase is not supported by the results of the
2005 Household Budget Survey. CONCLUSION: The revised
data raise questions on the relationship of public-private phar-
maceutical expenditure and supply-demand market data, and
entail the risk of leading to irrational decision making for both
policy makers and pharmaceutical companies.