tory concentration (MIC) distribution of moxifloxacin and levofloxacin in *S. pneumoniae* isolates remained stable during 2004-2009 and resistance to moxifloxacin and levofloxacin was low (≤1%). Moxifloxacin was the most potent fluoroquinolone available for treatment of *S. pneumoniae* infections in Belgium with MIC90 of 0.19 mg/L. **CONCLUSIONS:** The volume of fluoroquinolone use remains well controlled and fluoroquinolones were primarily used in those indications where they have been shown to yield clinical benefit. The use of fluoroquinolones has not led, to date, to an increase in the rate of pneumococcal resistance to fluoroquinolones.

PRS68

A SYSTEMATIC REVIEW OF CHRONIC RHINOSINUSITIS IN ASIA-PACFIC AND THE ROLE OF BALLOON SINUPLASTY

McElroy HJ[1], Belarbi S[2], Foteff C[1], Metz L[2], Chung L[3], Levine HL[4], O'Leary BA[1]
[1]*Covance Pty Ltd, North Ryde, NSW, Australia,* [2]*Johnson and Johnson Medical Asia-Pacific, Singapore,* [3]*Covance (Asia) Pte Ltd, Singapore,* [4]*Acclarent, Menlo Park, CA, USA*

OBJECTIVES: Chronic rhinosinusitis (CRS) is a debilitating chronic condition with substantial burden of illness. The purpose of this study was to obtain information to inform a budget impact model for balloon sinuplasty (BSP) in CRS in Asia Pacific (Australia, China, India, Japan, South Korea). **METHODS:** Three systematic reviews of the literature were undertaken (October 2010 – February 2011) using Medline, Embase and Cochrane to identify prevalence of CRS in the region, clinical evidence for BSP and economic evidence for CRS. Manual searching, including HTA databases and interviews with clinicians in each country, supplemented the review. **RESULTS:** A total of 171 epidemiological, 50 clinical and 95 economic articles were identified. After title/abstract and full text review, 14 epidemiological, 14 clinical and 6 economic articles remained. However, population-based prevalence of CRS was only reported for Japan (0.05%) and Korea (1% to 7%), with the remainder of the articles discussing risk factors or subcategories of the disease. Manual searching of key country specific journals, published articles and guidelines, the internet (including Mandarin search) and secondary data sources identified prevalence of CRS for Australia (9%) and India (8%), but not China. Two comparative (non-randomised) studies of BSP and nine case-series (n≥10 patients) were identified. BSP was reported to be favourable in terms of safety and efficacy with high ostia patency, shorter recovery time, improved symptoms and patient satisfaction. Economic studies confirmed the high economic burden of CRS. One economic study on BSP was identified which, from a USA payer perspective, demonstrated lower cost than conventional endoscopic sinus surgery predominantly due to the lower cost of revision surgery and associated shorter surgical time. **CONCLUSIONS:** Traditional data sources provide limited information on prevalence of CRS in Asia-Pacific. BSP appears to have value both clinically and economically, however further research is required to accurately quantify these benefits.

PRS69

SOCIOECONOMIC DETERMINANTS OF SMOKING STATUS IN GREECE

Athanasakis K, Zavras D, Pavi E, Kyriopoulos J
National School of Public Health, Athens, Greece

OBJECTIVES: To identify factors that affect smoking status in Greece. **METHODS:** A strictly-structured questionnaire-based telephone survey was conducted to a sample of 6559 individuals, >18 years, representative of the Greek population and stratified according to age, sex and place of residence. Participants were requested to answer to questions, regarding, among others, smoking status, family/marital status, self-reported quality-of-life, presence of a health problem, level of education, family income and type of occupancy. The survey took place from January to March 2011. A logistic regression analysis was conducted to identify the factors that influence smoking status (non-smokers vs. smokers, ex- vs. current smokers). **RESULTS:** Distinguishing between non-smokers vs. smokers, higher income (Odds Ratio: 1.08, 95% Confidence Interval: 1.03-1.13), absence of a health problem (OR: 1.31, 95%CI: 1.14-1.50) and living single (ORs: 1.46, 1.18 and 2.25 for singles, widows/widowers and divorcees, respectively) were associated with a greater risk of smoking. Female gender, enhanced quality-of-life status, and higher levels of education had a protective influence on the probability of smoking (ORs: 0.69, 0.79, 0.91). Comparing ex- and current smokers, the regression showed that the probability of quitting was associated with higher levels of education (OR: 0.91, 95%CI: 0.88-0.95), increasing age (OR: 0.97, 95%CI: 0.95-0.97) and enhanced quality-of-life (OR: 0.88, 95%CI: 0.80-0.98), whereas, women (OR: 1.81, 95%CI: 1.46-2.24), people without health-related problems (OR: 1.62, 95%CI: 1.32-1.99) and those with a higher income (OR: 1.05, 95%CI: 1.01-1.13) had increased probability of being current smokers. Pensioners and students were more likely to have quitted smoking than other occupational groups. All reported values are statistically significant (p<0.05). **CONCLUSIONS:** Socioeconomic factors significantly influence smoking status and the decision to quit. In Greece, as in other countries with a high prevalence of smoking, evidence like the aforementioned can serve as important inputs in the health policy decision-making process.

PRS70

REAL WORLD EVALUATION OF DIFFERENT SMOKING CESSATION SERVICE MODELS IN ENGLAND

Mardle T[1], Merrett S[2], Wright J[3], Percival F[4], Lockhart I[5], Marshall S[4]
[1]*South Essex Stop Smoking Service, Rayleigh, Essex, UK,* [2]*Bournemouth and Poole Teaching PCT, Poole, Dorset, UK,* [3]*Warwickshire PCT, Warwick, Warwickshire, UK,* [4]*pH Associates, Marlow, Buckinghamshire, UK,* [5]*Pfizer UK, Tadworth, Surrey, UK*

OBJECTIVES: NHS Stop Smoking Services provide various options for support and counselling. Most services have evolved to suit local needs without any retrospective evaluation of their efficiency. Objective was to describe the structure and outcomes associated with different services. **METHODS:** Local service evaluations were done in three primary Care Trusts (PCTs) by conducting standardised interviews with key personnel in addition to extraction and analysis of data from 400 clients accessing the service after 1st April 2008 in each PCT. **RESULTS:** The PCTs varied in geography, population size and quit rate (47%-63%). Services were delivered by PCT-led specialist teams (PCT1), community-based health care providers (PCT3) and a combination of the two (PCT2) with varying resources and interventions in each. Group support resulted in the highest quit rates (64.3% for closed groups v 42.6% for one-to-one support (PCT1)). Quit rates were higher for PCT (75%) versus GP (60%) and pharmacist-delivered care (40%) where all existed in the same model (PCT2). The most-prescribed therapy was NRT (56%-65%), followed by varenicline (25%-34%), counselling alone (6%-8%) and bupropion (2%-4%). Quit rates for NRT at 4 weeks were 43%-55% across the 3 PCTs; 60% -81% for varenicline and 38%-91% for bupropion. **CONCLUSIONS:** The results suggest that service structure, method of support, healthcare professional involved and pharmacotherapy all play a role in a successful quit. Services must be tailored to support individual needs with patient choice and access to varied services being key factors.

PRS71

EVALUATION OF THE GETQUIT CLINICS FOR SMOKING CESSATION

Pokras SM[1], Ferrufino CP[1], Galaznik A[2], Zou K[2], Chapman R[1]
[1]*IMS Consulting Group, Alexandria, VA, USA,* [2]*Pfizer Global Pharmaceuticals, New York, NY, USA*

OBJECTIVES: GETQUIT clinics (GQCs) are free, US-based, 1-hour workshops sponsored by Pfizer, and designed to support smokers planning to quit. The clinics are hosted by physicians and tobacco-treatment specialists. We evaluated the impact of the GQCs on attendees' knowledge around developing a quit plan, readiness to change, and intent-to-act regarding smoking cessation. **METHODS:** Subjects pre-enrolled at GQCs between March-November 2010 were invited to a pre-clinic telephone interview and, within 7 days of attendance, to a post-clinic telephone interview. A survey was administered at both interviews to compare changes in responses. Incentives were offered to subjects completing both interviews. Change in subject knowledge was assessed by comparing pre- vs. post-clinic level of agreement with seven statements on developing a quit plan. Readiness-to-change was based on the proportion of subjects progressing ≥1 stage on the Transtheoretical Model Stages of Change-Short Form. Intent to act was assessed post-clinic only. Subject demographics, smoking history and nicotine dependence were also obtained. **RESULTS:** Of 3147 persons contacted, 369 completed both interviews. Mean age was 51.4y, 69% were female. All knowledge endpoints showed significant improvement post-clinic (p<0.0001 for all). Although there was no significant improvement in readiness-to-change overall, there were larger improvements among those in earlier stages of change pre-clinic (Contemplators 25% improvement vs. Preparation 5%). Post-clinic, 38% of attendees had contacted their doctor about quitting smoking and 44% of the remainder intended to do so within the next 2 weeks. Approximately 90% agreed or strongly agreed that they viewed their health care provider as a partner in managing their overall health since attending the GETQUIT clinic. **CONCLUSIONS:** Effecting successful behavior change requires sustained effort and multiple techniques. The GQCs, although brief, significantly improved attendees' knowledge on how to quit successfully. Additionally, more than a third of attendees reported engaging with their doctors about quitting after attending.

PRS72

HOW MUCH WOULD THE UNIVERSAL UPTAKE OF GOLD RECOMMENDATIONS FOR ITALIAN COPD PATIENTS COST?

Zaniolo O[1], Bettoncelli G[2], Bosio G[3], Mantovani LG[4], Pistelli R[5], Vaghi A[6], Villa M[7], Iannazzo S[1], Bamfi F[8], Pitrelli A[8], Frizzo V[8], Dal Negro R[9]
[1]*AdRes HE&OR, Turin, Italy,* [2]*SIMG, Ospitaletto, Italy,* [3]*A.O. Istituti Ospedalieri di Cremona, Cremona, Italy,* [4]*Federico II University of Naples, Naples, Italy,* [5]*Università Cattolica Sacro Cuore, Rome, Italy,* [6]*A.O. Salvini, Garbagnate Milanese (Mi), Italy,* [7]*ASL Provincia di Cremona, Cremona, Italy,* [8]*GlaxoSmithKline, Verona, Italy,* [9]*ASL 22 Ospedale Orlandi, Bussolengo (VE), Italy*

OBJECTIVES: To estimate the economic consequences of an ameliorated adherence to GOLD guidelines recommendations for Chronic Obstructive Pulmonary Disease (COPD) management in the Italian clinical practice. **METHODS:** A Markov model compares the current approach for COPD treatment (CURRENT strategy) with a strategy of care (GOLD GL strategy) mainly consisting of universal spirometry-based staging, alignment of the pharmacological therapy to guideline recommendations implemented by expert opinion. Drug consumption of the CURRENT strategy is based on data of 3113 patients collected by three Local Health Units. The consumption of other health resources, i.e. medical visits and inpatient care, is estimated from a multicentre observational Italian study, from which also their variation as a consequence of the improved adherence to GOLD is derived. Costs are calculated from the National Health Service perspective, based on published analyses and current prices and tariffs. **RESULTS:** The adoption of the GOLD GL strategy for the treatment of the over 1250,000 prevalent Italian COPD patients results in a cost increase of 19 million Euros for the restaging and of 100 million Euros for the redefinition of the clinical management strategy, compared to the CURRENT strategy. Furthermore, the adaptation of the pharmacological therapy to GOLD recommendations, (essentially a higher usage of long-acting beta agonist/corticosteroid combinations), increases costs by more than 320 million Euros. On the other side, the consumption of other health care resources is reduced by 44%, an estimated cost saving of more than 850 million Euros. The net cost saving associated with the improved GOLD guideline adoption results in 410 million Euros. **CONCLUSIONS:** The model estimates that the adoption of GOLD guidelines in the Italian clinical practice is associated to an increase of expenses for pharmaceuti-

cals and diagnostic (or staging) tests, more than offset by cost savings related to lower consumption of other health care resources.

PRS73

SYSTEMATIC REVIEW OF THE GUIDELINES ON THE PREVENTION OF ALLERGIC MANIFESTATIONS IN CHILDREN

Iskedjian M[1], Berbari J[2], Navarro V[1], Heil-Ruess M[3], Detzel P[4], Spieldenner J[4]
[1]PharmIdeas Europe SAS, Lyon, France, [2]PharmIdeas Research and Consulting, Ottawa, ON, Canada, [3]MHR - Nutrition Marketing Services, Lausanne, Switzerland, [4]Nestlé Nutrition Institute, Vevey, Switzerland

OBJECTIVES: A systematic review of the literature was performed to gather all official recommendations on the prevention in infants of allergic manifestations (AM), and, more specifically, atopic dermatitis (AD), by using hydrolyzed infant formulas (HF) such as partially or extensively hydrolyzed formula (PHF; EHF). **METHODS:** OVID MEDLINE® and the grey literature were searched by two reviewers using the keywords AM, AD, prevention and guidelines. A third person acted as adjudicator in case of disagreement. Of interest were recommendations pertaining to the prevention of AM issued by national or regional associations of medical professionals. **RESULTS:** This review yielded 11 sets of guidelines published for Australia, France, Germany, Spain, Switzerland (all n=1), Europe and the US (both n=3) between 1999 and 2010. Most guidelines included AD either specifically (n=3) or in the broad context of AMs. Six guidelines (of which 2 recommended PHF over EHF) endorsed the use of HFs for the prevention of AM in "at risk" infants when exclusive breastfeeding was not or no longer possible. Two other publications did not explicitly recommend HFs, but rather formulas with a documented reduced allergenicity. The need for an appropriate level of nutritional support was stressed in one publication. Five guidelines acknowledged that not all HFs have the same protective benefit. . Four publications underlined the importance of sound clinical evidence when determining the preventive efficacy of HFs. None of the guidelines based their recommendations on recent evidence from meta-analyses focusing on a specific brand of PHF NAN-HA®. **CONCLUSIONS:** HFs and specifically PHFs are endorsed for the prevention of AMs. The need for a strong validity and universality of the clinical evidence and methodology is acknowledged by national or regional medical associations. Hence, recent evidence regarding the preventive efficacy of a specific brand of PHF, NAN-HA®, should provide the basis for new recommendations.

Respiratory-Related Disorders – Research On Methods

PRS74

MEASUREMENT OF A POSSIBLE PATCH TESTING OUTCOME INDICATOR

Gallo R, Signori A, Cinotti E, Parodi A
University of Genoa, Genoa, Italy

OBJECTIVES: Patch testing is a well-established method to determine whether contact sensitization to certain agents has occurred and it can directly influence the clinical outcome of patients with allergic contact dermatitis (ACD) where detection of causative allergens is crucial for appropriate prevention and treatment. Its positive predictive value, however, is influenced by many variables. In particular, not all patients referred for patch testing actually have ACD and not all positive reactions are clinically relevant. The objective of our study was to develop an outcome indicator of patch testing. **METHODS:** We identified and measured as a possible indicator the ratio of patients with allergic and/or photo-allergic contact dermatitis clinically cured/improved as a result of identification of relevant allergens. Patients with positive reactions considered relevant to their current dermatitis were interviewed by telephone 2 months after patch/photo-patch testing in order to assess their clinical outcome in relation to the recommended elimination of supposedly relevant allergens. We parallely evaluated the prevalence of referral diagnosis different from ACD in patients whose test results were negative/non-relevant. **RESULTS:** Over a 4-year period positive reactions were seen in 1397 out of 2857 tested patients. Relevance was considered current in 578 subjects, and 506 of them were interviewed. Remission/significant improvement following allergen(s) contact avoidance was reported by 431 patients, the outcome indicator (431/506) thus scoring 85.2%. Among the 75 patients who reported no improvement, 41 had not avoided contact with the offending substance(s), 17 had other persistent concomitant skin conditions, and 17 were unchanged despite elimination of the alleged relevant allergens. The likely diagnoses of patients whose test results were negative/non-relevant were: non-eczematous diseases (39% of total patients), endogenous eczema (22%), irritant contact dermatitis (10%), unknown (5%), possible ACD from unidentified haptens (4%). **CONCLUSIONS:** The ratio of relevantly patch-test-positive patients resolved/improved after allergen avoidance is a useful patch-testing outcome indicator.

PRS75

HEALTH TECHNOLOGY APPRAISAL OF NEW DRUGS: ARE WE GETTING IT RIGHT?

Gordon J[1], Karnon J[2]
[1]University of Adelaide, Adelaide, SA, Australia, [2]University of Adelaide, Adelaide, South Australia, Australia

OBJECTIVES: A particular challenge for economic evaluation of new pharmaceuticals is to address the potential for conflict between 1) the available evidence that informs decisions about reimbursement coverage, and 2) the reality of how products are used in clinical practice. The aim of this study is to explore the issue of divergence between actual and evaluated drug pathways and resultant consequences for the appropriateness of technology appraisals and reimbursement coverage decisions. **METHODS:** We develop a generic decision analytic model to illustrate the issue of divergence between actual and evaluated drug pathways arising from a new product changing the number of lines of therapy available to patients, rather than displacing existing therapies. Under this generic model, incremental costs and effects are potentially affected by response to therapy and the clinical decision to maintain or switch treatment. The potential effects on the estimated cost-effectiveness of new drugs from the misspecification of the drug pathway are illustrated using COPD as a case study disease area and prescription utilisation data from Australia. **RESULTS:** In the case of treatments for COPD, cost-effectiveness of new therapies is overestimated when displacement is assumed, but the real-world utilisation of new products involves additions to reimbursement schedules without displacement and when effect size decreases with therapy line. We define this as *pathway misspecification bias* and consider that it may arise in all disease areas and drug classes. We demonstrate that the size of the bias is positively related to the proportion of non-responders. **CONCLUSIONS:** We demonstrate that without provision to withdraw funding from existing lines of therapy, cost-effectiveness analysis to inform reimbursement decision-making should be expanded to include further routine modelling of the likely use of products in clinical practice. We demonstrate that providing for the withdrawal of funding for existing technologies may provide for more efficient funding decisions.

PRS76

SYSTEMATIC LITERATURE REVIEW OF CONCEPTUAL MODELS TO INFORM ECONOMIC MODELLING IN COPD

Gonzalez McQuire S[1], Tabberer M[2], Chambers M[1]
[1]GlaxoSmithKline, Uxbridge, UK, [2]GlaxoSmithKline, Uxbridge , UK

OBJECTIVES: To identify evidence gaps for future economic modelling of Chronic Obstructive Pulmonary Disease (COPD) by reviewing published Conceptual Models and studies reporting associations between end-points and disease outcomes. **METHODS:** A systematic literature search was undertaken to identify English language publications since 2000 in Medline and Embase describing Conceptual Models of COPD and studies reporting associations between end-points and disease outcomes. Studies were reviewed against inclusion/exclusion criteria and those including therapeutic interventions were excluded at screening. **RESULTS:** Forty-one published papers were identified: 7 conceptual models of COPD and 34 articles on associations between endpoints and disease outcomes. Of the 7 conceptual models, 6 described single aspects of COPD (cognitive function, dyspnoea, brain function, design of patient related interventions, activity and functional performance). Only 1 described a broader set of determinants of health status in COPD patients (physiological functioning, patient complaints, functional impairment and quality of life.) 2 review papers on cognitive function and functional performance and 1 reporting determinants of functional performance and dyspnoea based on patient/expert interviews were identified. 31 studies using regression analyses to estimate associations between relevant parameters in COPD, including symptoms (mainly dyspnoea), health status, exercise, lung function, exacerbations, quality of life, biomarkers, co-morbidities, mortality and healthcare utilization were found. No studies on the use of conceptual models for economic modelling in COPD were identified. None of the studies presented a comprehensive set of determinants of disease progression and outcomes. **CONCLUSIONS:** It is recommended that models used to support economic evaluations of health care interventions are based on conceptual models capturing all relevant aspects of the disease and outcomes of value. The available evidence does not provide a full spectrum of relationships between diagnosis, disease progression and outcomes needed for a comprehensive disease based economic model in COPD.

PRS77

APPLICATION OF INNOVATIVE METHODS TO IDENTIFY AND CHARACTERIZE DIFFERENTIAL RESPONDERS IN CLINICAL TRIALS OF COPD: THE USE OF MIXTURE MODELS

Stull DE[1], Houghton K[1], Gale R[2], Wiklund I[3], Capkun-Niggli G[4], Jones P[5]
[1]RTI Health Solutions, Manchester, UK, [2]Novartis, Horsham, UK, [3]United BioSource Corporation, London, UK, [4]Novartis Pharma AG, Basel, Switzerland, [5]St. George's, University of London, London, UK

OBJECTIVES: Applying innovative methods to clinical trial data to identify and characterize unobserved subgroups of differential responders. **METHODS:** Data from three COPD clinical trials was retrospectively analysed using Growth Mixture Models (GMMs): INHANCE (indacaterol 150μg and 300μg vs tiotropium 18μg and placebo); INLIGHT-2 (indacaterol 150μg vs salmeterol 50μg and placebo); and INVOLVE (indacaterol 300μg and 600μg vs formoterol 12μg and placebo). GMMs were conducted on SGRQ Symptoms Domain data at baseline, 12 weeks, and six months to identify unobserved subgroups. Baseline characteristics were compared between emergent subgroups of differential responders in *post hoc* analyses. **RESULTS:** Within INHANCE and INLIGHT-2, two subgroups of patients emerged per treatment arm: responders (improvement) and non-responders (little change/deterioration). Within INOLVE, three subgroups of patients emerged per treatment arm: responders, non-responders, and partial-responders. When responders were analysed separately, mean treatment effects in terms of SGRQ Symptom scores were generally larger than when all patients were included: INHANCE responder improvements ranged from 8 -12 units compared with 7-14 for all patients; INLIGHT-2 responder improvements were 3 -13 units versus 3 -8 for all patients; INVOLVE responder improvements were 5 -17 units vs 3 -11 for all patients. Within each trial, responders made up the largest proportion of the sample (55% - 82%) but non-/partial-responder groups were large enough and different enough to dampen treatment effects when group means were analyzed as a whole. Responders had significantly better baseline SGRQ Symptom scores than non-responders. Further significant differences were found between non-responders, partial-responders and responders in terms of smoking history, age, and breathlessness.