OBJECTIVES: International pharmacoeconomic studies should comply with methodological guidelines, which state that cost data must be country-specific and clearly referenced. This study aims to identify the different requirements in each country and report costing sources that can be used. It also establishes common requirements between countries, and identification and data type issues in each country. METHOD: Seven European countries were chosen for analysis. Literature was analysed to review current pharmacoeconomic guidelines, costing requirements and perspective that should be adopted. Using the review results, and researchers with pharmacoeconomic expertise and local country knowledge, relevant country costing sources were found. Each source was reviewed and data extracted into an international costing sources database. Particular attention was given to the reliability of the source, price year, frequency of updates, type and level of costing, allowing meaningful comparisons between countries. RESULTS: Even though an important issue in international economic studies is cross-country cost analyses, there was very little published literature showing combined synthesis of costing sources. International guidelines tended to recommend the use of direct costs, particularly from the perspective of the government or third party payer. Main internationally recognised medical direct costs include medical visits, pharmaceuticals and hospitalisations, but between countries, the costing units may differ. The level of costing varied among countries and several reported hospitalisation costs are at DRG (Diagnosis Related Group) or specialty levels, for example. The frequency of price updates was not similar among countries, generally from one to three years. CONCLUSION: The database was populated following pharmacoeconomic guidelines, ensuring relevance, accuracy and quality of cost data collection. These factors are essential in conducting economic evaluations. This summarising of data allows an easy way of identifying what is available in each country and what methods should be adopted when performing pharmacoeconomic cost analyses. With research sponsors often looking towards international economic models and analyses, such timely information is important.

UNIVERSITY AND VALUE OF INFORMATION IN RAPID ECONOMIC EVALUATIONS
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Health care decision makers often have to make their decisions quickly and using information that is less than perfect. The provision of information is challenging as short timescales preclude primary data collection. As a result reliance is place on modelling exercises informed by systematic review. OBJECTIVE: Using value of information techniques may help to quantify the extent of uncertainty and identify whether it is cost-effective to gather more information. Uncertainty in modelling is outlined here in the frame of the rapid assessment of the cost-effectiveness of home haemodialysis for end stage renal failure (ESRF). METHODS: A net benefit approach is adopted to compute value of gathering more information. Evaluation was hampered as data on the costs and relative effectiveness of ESRF treatments are limited. The short time frame available for the study caused further uncertainty, resulting in two treatment options being treated as absorbing states (as was death) in the Markov model. Generalisable data were also limited. For example, cost data, although detailed and comprehensive, related to one centre and no utility data were available for the setting of interest. Such challenges were overcome by discussing the framing of the research question with the decision-maker and undertaking thorough sensitivity analysis. RESULTS: An initial deterministic model provided sufficient information for decision. A subsequent probabilistic analysis broadly supported the decision (although its results were unavailable at the time to decision-makers). The initial decision did not explicitly consider the value of improvements to the evidence base although this was facilitated by the probabilistic analysis. CONCLUSION: Value of information analysis can help to measure uncertainty surrounding results based on imperfect information and may become a useful addition both to those undertaking economic evaluations and decision makers themselves.

PROTOCOL FOR MEDICOECONOMIC EVALUATION OF OUTPATIENT MANAGEMENT OF INFANTILE BRONCHIOLITIS
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OBJECTIVES: To present a protocol of a medicoeconomic study which compares—in terms of medical effectiveness, satisfaction and costs—outpatient management of infantile bronchiolitis by paediatricians vs homeopathic and allopathic GPs in France. METHODS: We performed a bibliographic review and consulted clinical, statistical, and health-economics experts to define and validate the protocol. RESULTS: A prospective, “real-world”, observational study is to be carried out. Two independent epidemiological/economic observatories are to be set up with 130 GPs and 80 paediatricians recruited by sample-drawing. Each doctor is to include 4 “patients aged between 3 and 24-months, consulting for their first bout of acute bronchiolitis since birth, who have not yet received treatment and who do not require immediate hospitalisation”. The patients are to be monitored for a period of 6 months. The diagnostic criteria are: dry cough and/or tachypnea and/or intercostal retraction and/or wheezing. Throughout the entire monitoring period, medical effectiveness is to be assessed in terms of: 1) number, severity and duration of bouts; 2) complications; and 3) persistence of bronchial obstruction. Parent and doctor satisfaction is to be assessed using a 4-level Likert
scale. Direct medical costs are divided into outpatient and hospital costs. Outpatient costs (medical visits, medication, additional tests, physiotherapy sessions) are to be assessed using French public prices and Social Security tariffs. Hospital costs are to be assessed using the PMSI database. Indirect costs are to be assessed in terms of the number and duration of sick-leaves. Costs are to be assessed from the perspectives of society, patient and Social Security. The comparability of the 2 patient groups are to be statistically analysed before causing results.

**CONCLUSION:** Given the public-health problem caused by epidemic infantile bronchiolitis each year in France, the results of this pragmatic medicoeconomic study will aid public policy makers and practitioners in determining the most cost-effective Health care management strategies.

**PMD18 INDIRECT COSTS OF A LARGE-SCALE IMMUNIZATION PROGRAM—WHEN COSTS EXCEED SAVINGS**

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**OBJECTIVE:** To show that indirect intervention costs can be crucial for the results of large-scale prevention programs. **METHODS:** We estimated the indirect costs of the Dutch meningococcal serogroup C conjugate immunization program of all persons aged 14 months to 18 years that ran from June 2002 until January 2003. Using the friction cost method, we measured the indirect intervention costs caused by additional health visits due to the catch-up immunization program and side effects of immunization as well as the indirect savings due to averted cases of meningococcal disease and its complications. For valuing the work-loss of parents accompanying younger children (less than 15 years) we used the average labor costs per employed parent that was computed by weighting the age- and sex specific labor costs of employees with the age- and sex specific probabilities of being a parent. For valuing the work-loss of persons aged 15 years or older, we used the age- and sex-specific labor costs per capita. **RESULTS:** The immunization program caused indirect intervention costs of €17.14 million. As the indirect savings due to prevented cases of meningococcal disease were only €0.75 million, the net indirect costs were €16.39 million. Including the indirect costs increases the cost-effectiveness ratio of the immunization program from about €13,200 per life year gained to about €17,700 per life year gained. These results are sensitive to the work-time loss per vaccination, the way children were called in for vaccination, i.e. whether by birth-cohort or by ZIP-code, and the approach for indirect cost measurement. **CONCLUSIONS:** Indirect intervention costs can be substantial and should always be measured. Failing to do so cannot only lead to misleading results but also to higher than necessary indirect costs as the decision maker might not take them into account when planning the program setup.

**PMD19 THE COST-EFFECTIVENESS OF TREATMENT FOR TYPE 1 DIABETES**

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**OBJECTIVE:** While Type 1 Diabetes only affects 5–10% of the 16 million people with diabetes, it accounts for about 30% of the total costs. The primary purpose of this presentation is to review the literature and identify cost-effective treatments for Type 1 Diabetes. **METHOD:** A search was conducted using Medline and other international publications and resources. Articles were retrieved and reviewed with results synthesized and summarized by the cost effectiveness of the intervention or treatment method. **RESULTS:** Studies on the cost-effectiveness of treatment for Type 1 Diabetes proved difficult to locate. Economic information regarding treatment varied greatly across studies, but generally demonstrated a cost benefit. For interventions of diabetic retinopathy, studies using simulated populations showed a cost-savings for panretinal photocoagulation for proliferative diabetic retinopathy and focal photocoagulation for macular edema. A similar cost-saving was found in pre-conception care with a cost benefit ratio of the care program being 5.19, meaning for every $1 spent on the program, there would be a net savings of $5.19. While the rate of costs or savings were varied, interventions for diabetic nephropathy and glycemic control were clearly cost effective. Two interventions assessed did not demonstrate cost-effectiveness: 1) the self-management training intervention which showed only potential cost-effective results, and 2) the self-monitoring of blood glucose (SMBG) which displayed unclear results. **CONCLUSION:** This review shows that most of the available studies on cost-effectiveness of Type 1 Diabetes deal with interventions geared to prevent or arrest the progression of complications. The most accessible ones are studies on diabetic retinopathy and nephropathy. Studies that address cost-effectiveness of self-management and SMBG are difficult to find. For a chronic disease such as Type 1 Diabetes, non-empirical study data is more common, and the source of cost-effectiveness data (for modeling, etc.) has also been derived mostly from non-empirical sources.