limited data on settings, use of specialised centres and inappropriate gender balance. Relevant, potentially usable systematic reviews were identified for 27 (54%) of the economic evaluations in the sample, although none had been used. The use of data from systematic reviews would change the size of reported cost-effectiveness ratios. **CONCLUSIONS:** These findings suggest that critical appraisal of the clinical data underlying economic evaluations is needed before they are used in health care decision-making. Best available clinical evidence is not being utilised and further research is indicated to quantify the implications of using poor quality, or selective effectiveness data in economic evaluations.

**PMC6**

**THE IMPORTANCE OF ACCOUNTING FOR THE PORTFOLIO EFFECTS IN COST EFFECTIVENESS ANALYSES**  
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**OBJECTIVES:** In recent years, a number of health economists have introduced the potential of using portfolio theory as a basis for resource allocation in health. Portfolio theory is concerned with the optimal investment strategy, based on both return and risk, and demonstrates the potential benefits from pooling different investments into a single portfolio. Furthermore, portfolio theory can be modified to allow for synergies between interventions. Given that in public health we often need to implement multiple health care interventions with a single, fixed health budget, portfolio theory is of benefit both theoretically, and practically. **METHODS:** Using both theoretical and simulation modelling this paper demonstrates the importance of using a modified portfolio theory framework when evaluating a number of health interventions from the perspective of a representative individual. This is done by varying the level of correlation and synergy between two programs and focusing on stylised portfolio consisting of equal resource shares of each of the programs. **RESULTS:** The paper demonstrates the importance of taking a portfolio approach in considering the resource allocations made in the presence of risk. Risk can be reduced by combining programs, given that they are not perfectly correlated. If one allows for non-linearities through the inclusion of synergies, then portfolio theory is important for those who are even risk neutral. **CONCLUSIONS:** While portfolio analysis in health care is theoretically appealing, there are a number of pragmatic reasons for using it. Portfolio theory emphasizes the trade-offs required by a fixed budget and the importance of taking a global perspective, rather than piecemeal one, in the evaluation of health care interventions. A number of limitations in the portfolio approach exist, but many of these concerns are found in all forms of economic evaluation in health care.

**PMC7**

WITHDRAWN
OBJECTIVES: In 2002, the three Local Health Authorities (LHAs) of Bologna province (Emilia-Romagna region, Italy) began an outreach visits program aimed at modifying NHS prescriptions of specific drugs through evidence-based information packages and prescribing feedback. Aim of this study is to evaluate the impact of the pharmacist's outreach visits program comparing Coxib prescribing volumes between the intervention and three control LHAs of the same region (Parma, Ferrara, Imola).

METHODS: Prescribing databases were available for both intervention and control LHAs from October 2000 to October 2003; time series data of Coxib monthly consumption were expressed in DDD's. For each LHA, 2 time series were considered: the first, based on observed data, plots the real DDD's trend over 36 months; the second, expected, fits the time series until the intervention date—November 2002—and subsequently forecasts the forthcoming 12 months estimating DDDs under the hypothesis of no intervention. Data analysis was performed using SAS/ETS module (Estimating Time Series) of SAS System; expected time series were computed with ARIMA intervention modelling.

RESULTS: Since November 2002, all monthly DDD's observed in the intervention LHAs lie under the lower 95% confidence interval of the estimated DDD's forecasted by the model; vice versa, since November 2002, all monthly DDD's observed in the control LHA's lie within the 95% confidence interval of the forecasted data; this results show a significant reduction in prescribing volumes for the intervention LHAs.

CONCLUSIONS: Use of ARIMA intervention modelling for drug prescriptions time series may be a useful and easy to understand way of assessing the impact of drug information programs in terms of prescribing modifications.

OBJECTIVES: In 2005, the Medicare Prescription Drug, Improvement and Modernization Act (MMA) of 2003 requires payment for drugs administered in the physician's office at a new rate of average sales price plus 6%. This study provides a conceptual view of the change and suggests a conceptual modification.

METHODS: When the MMA imposed the new drug payment method, it also increased payment for drug administration. We postulate these relative weights used for the fee increases are diluted because they are specialty-specific rather than specific to practice type. This dilution defeats the original purpose of resource-based practice expenses. EVALUATION OF RESULTS: Resource-based methods for 2005 related to drugs and their administration were collected and deconstructed. Legislative rationales for the new drug payment method and for the differential in transitional procedure payments (32% add-on in 2005 versus 3% add-on in 2006) were identified. Computations utilizing the new methods were evaluated for indications of resource-based level of effort applications.

CONCLUSIONS: Because the drug payment method is new and untested, we estimate a 2-year implementation period is needed before evaluations can occur. We also believe the present formula for indirect cost allocation within a specialty does not sufficiently distinguish between a practice that provides these high-technology drugs (high resource consumption) versus other practices that do not (lower resource consumption). We propose a new add-on component within the practice expense formula. This new component provides the practice that administers high-technology drugs with a higher indirect cost weight than a practice that does