efficacy and safety profiles for published data on antidepressants fluoxetine and venlafaxine vs placebo and is compared to standard SMAA results. **RESULTS:** The results showed that, with a non-informative Dirichlet prior, the posterior mean weights for given rankings were similar to the central weight vectors of the standard SMAA, so were some other comparable measures such as the rank acceptability index and confidence factor **CONCLUSIONS:** The Bayesian SMAA has a number of advantages inherited from Bayesian decision analysis. The Bayesian estimates for key SMAA measures are similar to those of the standard SMAA. But it offers more options and flexibilities than the standard SMAA, and its implementation is easier.

PRM26

MULTIVARIATE NETWORK META-ANALYSIS: AN EXAMPLE IN TYPE 2 DIABETES FOR THE ANALYSIS OF GLYCAEMIC CONTROL

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OBJECTIVES: The objective was to conduct a Bayesian multivariate network meta-analysis (NMA) to take into account the correlation between three outcome measures assessing glycaemic control for the monotherapy treatments of type 2 diabetes mellitus (T2DM). **METHODS:** A systematic literature review was conducted to identify relevant randomised clinical trials. The efficacy of T2DM treatments on glycaemic control was assessed using the change in HbA1c from baseline, the change in fasting plasma glucose (FPG) from baseline or the proportion of patients reaching HbA1c < 7%. A Bayesian multivariate NMA accounting for the correlation between outcomes was conducted to model these three outcomes simultaneously and results were compared to the estimates from the three univariate NMAs. Interpretation of results was based on absolute differences/ratios and surface under the cumulative ranking curve (SUCRA). **RESULTS:** A total of 40 studies were included in the analysis, all of them reported results in terms of HbA1c change from baseline, 36 for FPG and 22 for the proportion of patients reaching HbA1c < 7%. Results for the analysis of glycaemic control from the multivariate NMA were overall consistent with the three univariate NMAs in terms of ranking of treatments based on the SUCRA and point estimates were comparable. Using the multivariate NMA, results for the proportion of patients reaching HbA1c < 7% were available for sulfonylureas, while no data on sulfonylureas were published for this outcome. Moreover, with the multivariate NMA, standard deviations were slightly lower compared to the univariate ones. **CONCLUSIONS:** This multivariate network meta-analysis of treatments in T2DM provided more precise estimates than separate univariate NMAs on glycaemic control. It enabled estimations of treatment effect for all comparators on all endpoints of interest including the ones for which data were not publicly available.

PRM27

A NOVEL ITC APPROACH: MATCHING PATIENT-LEVEL DATA TO STUDY-LEVEL SUMMARY MEANS AND VARIANCES

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OBJECTIVES: Indirect Treatment Comparisons (ITC) are used to contrast the effectiveness of two or more treatments, and are usually undertaken in the absence of head-to-head information. However, these indirect comparisons are less effective in situations where baseline patient characteristics (e.g. age, disease duration) differ between studies. Any clinically meaningful variation in these characteristics between the studies should be adjusted for in the statistical analyses in order to arrive at less biased estimates of the treatment differences. At present, many ITCs use a comparison of a sponsor's Individual Patient Data (IPD) with study-level summary information (typically means and SDs) from their competitors' studies. Various methods currently exist which allow for the matching between studies of the baseline characteristics means, but crucially not their variances. **METHODS:** We outline a novel approach which allows for the matching of both means and variances across multiple baseline patient characteristics. Our approach involves fitting higher-order polynomials separately to each of the baseline parameters with the aim of estimating a single weight for each individual patient. The weighted means and variances of the IPD are then compared with the (target) summary-level data. Simulation is used in order to arrive at the combination of polynomial functions which give the 'best fit'. **RESULTS:** The method is highlighted with a case study of anti-VEGF therapies in the treatment of visual impairment due to diabetic macular edema. Our proposed method successfully matches both the means and variances across three important predictors of post-baseline changes in visual acuity. **CONCLUSIONS:** The ability to match IPD variability with study-level summary variability is critical in order to accurately estimate the statistical significance of treatment differences. To our knowledge, current comparative effectiveness methods fail to do so - our novel approach provides a possible solution to this problem.

RESEARCH ON METHODS – Cost Methods

PRM28

COMPARISON OF DIFFERENT COSTING METHODS

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OBJECTIVES: Cost is an essential part of health economic evaluation. However, no set standard for costing has been suggested/proposed yet, and the impact of using different methods remains unclear. The aim of this study is to compare cost estimates from different costing methods and assess their impacts. **METHODS:** All adults (>18) newly diagnosed with acute myeloid leukaemia between September 2004 and August 2007 in the Haematological Malignancy Research Network (HMRN, www.hmrn.org, an established UK population-based registry) were included and followed until August 2014. Three costing methods were applied to the treatment pathways. One was a bottom-up costing, for which cost data were obtained directly from treating hospitals; and the other two were top-down costings that used reference costs and tariffs obtained from UK Hospital Episode Statistics (HES). The NHS perspective was adapted and all costs were adjusted to British pounds in 2014 value. **RESULTS:** The mean survival of 311 AML patients was 1.2 years. The average inpatient costs and standard deviations over a follow-up period ranging from 7 to 10 years were £38,532 (SD: £44,986), £32,115 (SD: £34,293), and £28,662 (SD: £33,298) for bottom-up costing, reference costs, and tariff costings respectively. These differences mainly reflect variations in first-line and second-line treatment costs ($p<0.001$); while during remission, the cost estimates from the three methods were identical. **CONCLUSIONS:** This study demonstrates that costing methods can generate substantially different cost estimates. Hence, decision makers need to interpret cost outcomes cautiously, taking account of the assumptions made.

PRM29

VIAL SIZES OF PHARMACEUTICALS FOR INFUSION – THE POTENTIAL FOR COST REDUCTIONS AND REDUCED WASTAGE BY OPTIMISING FILL VOLUMES

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OBJECTIVES: In economic analyses, the size (volume per vial) of pharmaceutical products is usually taken as a fixed quantity. However, whilst the product is in development, there is scope for the size to be altered. The objective of this study was to examine how product sizes might be optimised for maximum efficiency. **METHODS:** Four drugs available in two product sizes were chosen as examples: pemetrexed, cetuximab, panitumumab and belimumab. Drug costs per administration were estimated based on general population weight and body surface area data from the Health Survey for England, using the most efficient combinations of the two available vial sizes. The sizes of the two vials were varied simultaneously to identify the lowest average costs achievable. **RESULTS:** Generally, smaller vials were associated with less wastage and lower costs. Within the size ranges analysed, the cost per administration could be reduced by an average of 4.4% (range: 1.12% to 6.39%). Over 1 year on treatment, this represents an average potential saving of £1,892 (range: £120 to £3,289). However, this was associated with an increased number of vials per dose. **CONCLUSIONS:** The cost effectiveness of new medicines could be enhanced by better planning in the manufacturing process and more efficiently sized vials. Costs were generally greater when the large vial was a multiple of the smaller vial (which is the case in three of the four example drugs). Non-divisible pairs are associated with more precise dosing and less wastage, as a greater number of unique quantities can be formed with same numbers of vials. Optimal vial sizing could reduce costs for health systems, improving patient access to new medicines as a consequence. Increases in the number of vials per dose may impact the time and cost of preparation, but additional costs may be offset by savings from reductions in wastage.

PRM30

METHOD COMPARISON OF CENSORING COST ANALYSES

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OBJECTIVES: Cost analysis is an essential component of health economic evaluation. However, cost data are often incomplete due to loss of follow-up or administrative termination. Ignoring censored data could lead to biased cost results. Over the decades, many statistical methods for censored cost data have been proposed. However, studies on method comparison and appropriate application in clinical settings are limited. The aim of this study is to compare such methods and assess their accuracies in a population of patients with acute myeloid leukaemia (AML). **METHODS:** Data were sourced from Haematological Malignancy Research Network (www.hmrn.org), an established UK population-based registry, and cost data were derived from linked Hospital Episode Statistics (HES). All adults (≥18) in the network newly diagnosed with AML from September 2004 to August 2007 were included (n=311) and followed until August 2014. Data were censored in 2008, 2010 and 2012, accordingly cost analyses were undertaken for a minimum follow-up period of 1, 3 and 5 years respectively. Seven common methods were used to predict mean costs: naïve approaches (full-sample and uncensored cases), Lin's 2007a, Lin's 2007b, Bang and Tsaitis, Lin's regression and phase-based costing methods. All costs were adjusted to British pounds in 2014 value. **RESULTS:** The true lifetime cost was £32,115 per patient. When censored in 2008, the estimate from Bang and Tsaitis method was the closest prediction (£30,536). When censored in 2010 and 2012, full-case naïve and phase-based methods provided more accurate estimates (£31,486 and £31,501 respectively). **CONCLUSIONS:** The study shows that cost estimations vary with the method chosen and the duration of follow-up in the presence of censoring. Compared to the true lifetime cost, the phase-base censoring method with a minimum 3-year follow-up would yield the most accurate cost estimation. Further work on other cancers are needed to confirm the generalizability of these results.

PRM31

A COMPARISON OF FAT GRAFTING METHODS ON OPERATING ROOM EFFICIENCY AND COST

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OBJECTIVES: Centrifugation (Cf) is the standard method of fat processing but is cumbersome and time consuming, especially when large volumes are processed. A new autologous fat processing system (Rv) that incorporates fat harvesting and processing in a single unit offers a simple, more efficient system. This study compared the efficiency and economics of using Rv with CF in terms of fat grafting and operating room (OR) costs. **METHODS:** Data were collected over 2 years from consecutive breast surgery patients undergoing autologous fat grafting: January to December 2012 with the Cf method and January to December 2013 with Rv method. The volume of fat harvested, volume of fat injected after processing, and time taken to complete fat grafting (from harvest to injection) were determined. Standard OR costs ($15-$20