As patients advance through the model, their BMD progresses and they are at risk of fracture (hip, vertebral, other) and of death. BMD changes, fracture risks and mortality were all based on the Dubbo Osteoporosis Epidemiology Study (DOES). Utility values were based on the patients fracture status. Evidence for the efficacy of alendronate in the prevention of fracture was the clinical fracture arm of the Fracture Intervention Trial (FIT). RESULTS: The incremental cost per QALY of broadening access to alendronate compared with current practice was $34,808 (incremental costs of $783 per patient with 0.0225 QALY’s gained). Broadening access to alendronate resulted in fewer fracture-related deaths (301 per 100,000 population), hip fractures (904), vertebral fractures (259) and other fractures (1098).

CONCLUSIONS: Broadening primary prevention treatment of osteoporotic fracture with alendronate to individuals aged >70 years with BMD T-scores < -2.5 will prevent fractures and save lives at good value-for-money.

PMS42
COST-EFFECTIVENESS OF INCREASING BISPHOSPHONATES ADHERENCE FOR OSTEOPOROSIS IN COMMUNITY PHARMACIES
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OBJECTIVES: Increasing real-life adherence to bisphosphonates therapy is important to achieve the clinical benefits of reducing fractures reported in randomized clinical trials (RCTs). The aim of this pharmaco-economic analysis was to determine the cost-effectiveness of a pharmaceutical care intervention program in community pharmacies, aimed to increase bisphosphonates adherence for the prevention of osteoporotic fractures.

METHODS: A decision analytical model was constructed with a time horizon of three years, discounting at 4% and 1.5% annually for costs and effects, respectively. Dutch health outcomes and costs were used.

Adherence and efficacy data were gathered from a Dutch pharmaceutical care program in community pharmacies (the MeMO intervention). The association between bisphosphonate adherence and osteoporotic fractures was modelled using Dutch clinical studies. Recent and upcoming reimbursement policy changes in The Netherlands were modelled with a scenario of therapeutic substitution, characterized by drastically lower drug prices.

RESULTS: Adherence to bisphosphonates therapy in The Netherlands was 68.3%. The pharmaceutical care intervention program increased bisphosphonates adherence to 83.9% (P < 0.001). If the intervention program was introduced nationwide in community pharmacies, 3 osteoporotic fractures would be prevented and 47 quality-adjusted life years (QALYs) would be gained. Additional medication and intervention costs were €1,738,000, the cost savings due to reduced fractures were €998,000. The cost-effectiveness of the pharmaceutical care intervention was €16,000 per QALY. When drug prices declined, the cost-effectiveness of the intervention increased. This study demonstrates the value of pharmaceutical care programs in community pharmacies to increase therapy adherence.

PMS43
COST-EFFECTIVENESS OF DENOSUMAB IN THE TREATMENT OF POST-MENOPAUSAL OSTEOARTHRITIS IN SCOTLAND
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OBJECTIVES: Denosumab has been shown to be a cost-effective use of NHS resources for the treatment of postmenopausal osteoporosis in England and Wales. This study assessed the cost-effectiveness of denosumab given Scottish treatment and resource use patterns.

METHODS: A probabilistic model employed in a recent submission to NICE was used with resource use amended to reflect local expert advice. This indicated zoledronic acid requires an annual pre-infusion assessment appointment and that patients failing on, or unable to take oral bisphosphonates are referred on to secondary care. A further treatment was modelled as initiated in secondary care, with subsequent injections in primary care.

RESULTS: For 70 year old women with bone mineral density T-score < -2.5 was based on a published algorithm and accounted for primary fracture. Relative efficacy of osteoporosis therapies was based on meta-analysis and adjusted indirect comparison.

Utility values reflected patients’ age and modelled health states. All therapies’ administration was costed using NHS Reference and FSSRU costs. Drug costs were from the British National Formulary. Costs and utilities were discounted at 3.5%.

CONCLUSIONS: Denosumab dominated zoledronic acid and IV ibandronate in both cohorts, and was cost-effective versus raloxifene (£4,335/QALY without prior fracture and dominant in patients with prior fracture). Denosumab was also cost-effective against no treatment: cost/QALY £22,380 and £9,618 in patients without and with prior fracture respectively. IV zoledronate and denosumab each produced very similar cost/QALYs in the two cohorts, however, denosumab’s costs were approximately £1,000 lower in each. Zoledronate’s cost/QALY ratios against denosumab were £120,000 and £50,000, i.e. zoledronate was not cost-effective against denosumab. Denosumab had the greater probabilities of being cost-effective at threshold values of £30,000/QALY in both cohorts.

PMS44
COST-EFFECTIVENESS OF CERITOLIZUMAB PEGOL PLUS METHOTREXATE FOR THE TREATMENT OF MODERATE-TO-SEVERE ACTIVE RHUMATOID ARTHRITIS IN GREECE
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OBJECTIVES: To evaluate the cost-utility and budget impact (BI) of ceritolizumab pegol (CZP) as an add-on therapy to methotrexate (MTX) versus other first line biological DMARDs, in the treatment of adult patients with active RA who did not respond adequately to DMARDs, including MTX, in Greece.

METHODS: A Markov (cohort health state transition) model was developed to evaluate the cost-utility of CZP versus other TNF-α inhibitors recommended in Greece [etanercept (ETA), adalimumab (ADA) and infliximab (IFX)]. Treatment efficacy was measured using the ACR responses (ACR20/50/70) at 6 months. ACR estimated rates were based on adjusted indirect comparison (MTX as common comparator) of published clinical trials (CTs) that were derived from EQ-5D-5L data from CZP RA clinical trials. Clinical history/resource use data came from published literature. Sensitivity analyses were conducted. The BI of CZP as an add-on therapy to MTX was estimated from payer perspective over 2011–2015. The alternatives to CZP include all TNF-α inhibitors recommended in Greece (ADA, ETA, INF and pulsed infliximab). Epidemiological data were used to estimate the RA population eligible for CZP therapy. Published 2011 hospital unit costs (drug acquisition, administration, monitoring, resources) in both analyses were taken from Greek routine sources/expert opinion. Base case analysis assumed a payer perspective, costs discounted at 3.5% (CUB), a lifetime horizon, with outcomes discounted at 3.5% (CU), 0.5 kg patient fixed average weight (BI).

RESULTS: In both the base case and sensitivity analyses, CZP was cost-effective compared with all combination therapies considered (€22,349/QALY). In the two cohorts, however, denosumab’s costs were approximately £1,000 lower in each. Zoledronate’s cost/QALY ratios against denosumab were £120,000 and £50,000, i.e. zoledronate was not cost-effective against denosumab. Denosumab had the greater probabilities of being cost-effective at threshold values of £30,000/QALY in both cohorts.

CONCLUSIONS: Denosumab was shown to be the cost-effective against all comparators in both primary and secondary care settings. Compared with zoledronate, denosumab may be a better use of NHS resources.

PMS45
COST-EFFECTIVENESS AND CERITOLIZUMAB PEGOL FOR THE TREATMENT OF MODERATE-TO-SEVERE ACTIVE RHUMATOID ARTHRITIS IN SPAIN
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OBJECTIVES: To evaluate the cost-utility of CZP compared with standard-of-care first-line administered TNF inhibitors - MTX in the treatment of moderate-to-severe RA in Spain.

METHODS: A Markov (cohort health state transition) model was developed to evaluate the cost-utility of CZP versus the other TNF inhibitors licensed and recommended in Spain (etanercept [ETA], adalimumab [ADA], and...