

Appendix to the manuscript:

Predicting the Intervention Threshold for Initiating Osteoporosis Treatment among Post-Menopausal Women in China: A Cost-Effectiveness Analysis Based on Real-World Data

1. Checklist of economic evaluations on osteoporosis, based on recommendations from ESCEO and the US branch of the International Osteoporosis Foundation.[1]

Item	Item no.	Recommendation	Reported on page no./ line no.
Transition probabilities	1	Report the transition probabilities and how they were estimated (including increased fracture risk)	1. Line 31-34 Page 4
Excess mortality after fractures	2	Describe approaches and data sources used for the excess mortality after fractures	2. Line 38-40 Page 4
Fractures costs	3	Describe approaches and data sources used for fractures costs	3. Line 23-29 Page 5
Fractures effects on utility	4	Describe approaches and data sources used for the effects of fractures on utility	4. Line 38-40 Page 5
Treatment effect during treatment	5	Describe fully the methods used for the identification, selection, and synthesis of clinical effectiveness data (per fracture site)	5. Line 1-4 Page 5
Treatment effect after discontinuation	6	Describe fully the methods used for the treatment effect after discontinuation	6. Line 11-12 Page 5
Medication adherence	7	Describe approaches and data sources used for modeling medication adherence	7. Line 14-20 Page 5
Treatment costs	8	Describe approaches and data sources used for therapy costs	8. Line 29-31 Page 5
Treatment side effects	9	Describe approaches and data sources used for costs and utilities effects of adverse events	9. Line 14-17 Page 9

2. CHEERS checklist, referred to Husereau et al. [2]

Table 1 CHEERS checklist—Items to include when reporting economic evaluations of health interventions

Section/item	Item No	Recommendation	Reported on page No/ line No
Title and abstract			
Title	1	Identify the study as an economic evaluation or use more specific terms such as “cost-effectiveness analysis”, and describe the interventions compared.	1. Line 1 Page 1
Abstract	2	Provide a structured summary of objectives, perspective, setting, methods (including study design and inputs), results (including base case and uncertainty analyses), and conclusions.	2. Page 1- 2
Introduction			
Background and objectives	3	Provide an explicit statement of the broader context for the study. Present the study question and its relevance for health policy or practice decisions.	3. Line 38-40 Page 3 Line 17-19 Page 3
Methods			
Target population and subgroups	4	Describe characteristics of the base case population and subgroups analysed, including why they were chosen.	4. Line 17-18 Page 4 Line 29-33 Page 3
Setting and location	5	State relevant aspects of the system(s) in which the decision(s) need(s) to be made.	5. Line 39-40 Page 3
Study perspective	6	Describe the perspective of the study and relate this to the costs being evaluated.	6. Line 38-40 Page 3
Comparators	7	Describe the interventions or strategies being compared and state why they were chosen.	7. Line 1-4 Page 5 Line 14-17 Page 3
Time horizon	8	State the time horizon(s) over which costs and consequences are being evaluated and say why appropriate.	8. Line 10-12 Page 4
Discount rate	9	Report the choice of discount rate(s) used for costs and outcomes and say why appropriate.	9. Line 12 Page 4

Choice of health outcomes	10	Describe what outcomes were used as the measure(s) of benefit in the evaluation and their relevance for the type of analysis performed.	10. Line 1-5 Page 6
Measurement of effectiveness	11a	<i>Single study-based estimates:</i> Describe fully the design features of the single effectiveness study and why the single study was a sufficient source of clinical effectiveness data.	_____
	11b	<i>Synthesis-based estimates:</i> Describe fully the methods used for identification of included studies and synthesis of clinical effectiveness data.	11b. Line 28-36 Page 3 Line 29-40 Page 4
Measurement and valuation of preference based outcomes	12	If applicable, describe the population and methods used to elicit preferences for outcomes.	12. NA
Estimating resources and costs	13a	<i>Single study-based economic evaluation:</i> Describe approaches used to estimate resource use associated with the alternative interventions. Describe primary or secondary research methods for valuing each resource item in terms of its unit cost. Describe any adjustments made to approximate to opportunity costs.	13a. Line 23-32 Page 5
	13b	<i>Model-based economic evaluation:</i> Describe approaches and data sources used to estimate resource use associated with model health states. Describe primary or secondary research methods for valuing each resource item in terms of its unit cost. Describe any adjustments made to approximate to opportunity costs.	_____
Currency, price date, and conversion	14	Report the dates of the estimated resource quantities and unit costs. Describe methods for adjusting estimated unit costs to the year of reported costs if necessary. Describe methods for converting costs into a common currency base and the exchange rate.	14. Line 27-32 Page 5
Choice of model	15	Describe and give reasons for the specific type of decision-analytical model used. Providing a figure to show model structure is strongly recommended.	15. Line 2-14 Page 4 Figure 1
Assumptions	16	Describe all structural or other assumptions underpinning the decision-analytical model.	16. Line 2-14 Page 4
Analytical methods	17	Describe all analytical methods supporting the evaluation. This could include methods for dealing with skewed, missing, or censored data; extrapolation methods; methods for pooling data; approaches to validate or make adjustments (such as half cycle corrections) to a model; and methods for handling population heterogeneity and uncertainty.	17. Line 30-34 Page 4; Line 23-32 Page 5
Results			
Study parameters	18	Report the values, ranges, references, and, if used, probability distributions for all parameters. Report reasons or sources for distributions used to represent uncertainty where appropriate. Providing a table to show the input values is strongly recommended.	18. Line 29-40 Page 4, Line 1-40 Page 5, Table 1
Incremental costs and outcomes	19	For each intervention, report mean values for the main categories of estimated costs and outcomes of interest, as well as mean differences between the comparator groups. If applicable, report incremental cost-effectiveness ratios.	19. Supplementary Table 4, Supplementary Table 5
Characterising uncertainty	20a	<i>Single study-based economic evaluation:</i> Describe the effects of sampling uncertainty for the estimated incremental cost and incremental effectiveness parameters, together with the impact of methodological assumptions (such as discount rate, study perspective).	_____
	20b	<i>Model-based economic evaluation:</i> Describe the effects on the results of uncertainty for all input parameters, and uncertainty related to the structure of the model and assumptions.	20b. Line 8-14 Page 6, Line 8-12 Page 7, Figure 5, Supplementary Table 6
Characterising heterogeneity	21	If applicable, report differences in costs, outcomes, or cost-effectiveness that can be explained by variations between subgroups of patients with different baseline characteristics or other observed variability in effects that are not reducible by more information.	21. Figure 4, Supplementary Table 5
Discussion			
Study findings, limitations, generalisability, and current knowledge	22	Summarise key study findings and describe how they support the conclusions reached. Discuss limitations and the generalisability of the findings and how the findings fit with current knowledge.	22. Key finding: Line 29-33 Page 9, Limitation: Line 5-26 Page 9 Generalizability: Line 4-7 Page 8
Other			
Source of funding	23	Describe how the study was funded and the role of the funder in the identification, design, conduct, and reporting of the analysis. Describe other non-monetary sources of support.	23. Line 36-41 Page 9
Conflicts of interest	24	Describe any potential for conflict of interest of study contributors in accordance with journal policy. In the absence of a journal policy, we recommend authors comply with International Committee of Medical Journal Editors recommendations.	24. Line 24 Page 1

For consistency, the CHEERS statement checklist format is based on the format of the CONSORT statement checklist

Reference:

1. Hiligsmann M, Reginster JY, Tosteson ANA, et al. (2019) Recommendations for the conduct of economic evaluations in osteoporosis: outcomes of an experts' consensus meeting organized by the

European Society for Clinical and Economic Aspects of Osteoporosis, Osteoarthritis and Musculoskeletal Diseases (ESCEO) and the US branch of the International Osteoporosis Foundation. *Osteoporos Int* 30:45-57

2. Husereau D, Drummond M, Petrou S, Carswell C, Moher D, Greenberg D, Augustovski F, Briggs AH, Mauskopf J, Loder E (2013) Consolidated Health Economic Evaluation Reporting Standards (CHEERS) statement. *Pharmacoeconomics* 31:361-367