

# Depression in adults: treatment and management

Appendices O-R: Economic evidence Flow charts, Check lists, Tables and Profiles

*NICE Guideline*

*Appendices*

*May 2018*

*Consultation draft*

*Developed by the National Guideline Alliance, hosted by the Royal College of Obstetricians and Gynaecologists*



**Disclaimer**

Healthcare professionals are expected to take NICE clinical guidelines fully into account when exercising their clinical judgement. However, the guidance does not override the responsibility of healthcare professionals to make decisions appropriate to the circumstances of each patient, in consultation with the patient and/or their guardian or carer.

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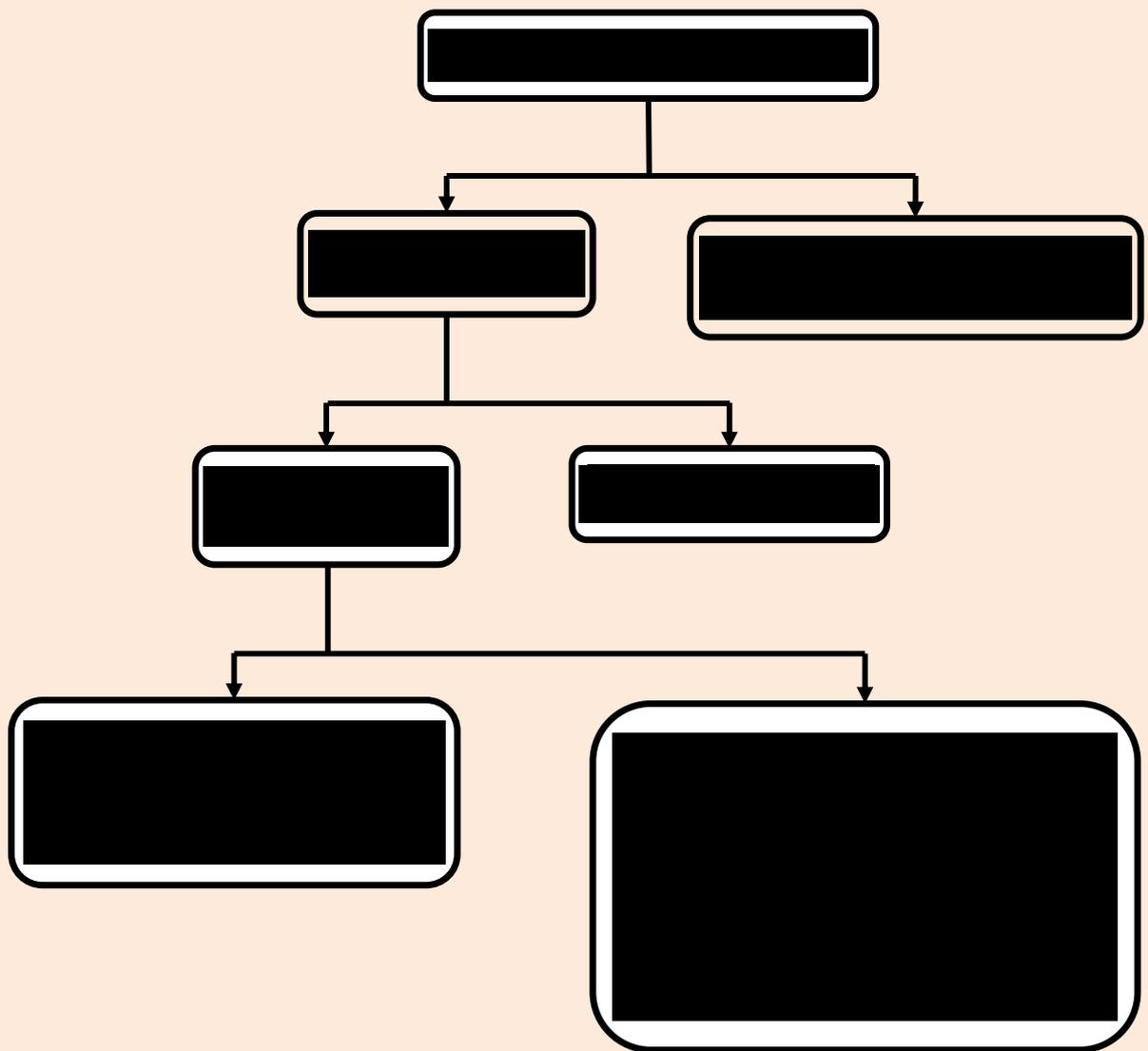
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# 1 Appendix O: Economic evidence – flow 2 chart

3 Figure 1: Flow diagram of economic study selection for review on interventions and  
4 services for adults with depression  
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# Appendix P: Economic evidence – health economic checklists

## P.1.3 Service delivery models for people with depression

### P.1.1.4 Simple collaborative care

**Study: Green C, Richards DA, Hill JJ, et al. (2014) Cost-effectiveness of collaborative care for depression in UK primary care: Economic evaluation of a randomised controlled trial (CADET). PLoS ONE 9(8): e104225.**

**Economic Question: service delivery models**

| <b>Section 1: Applicability (relevance to specific review question and the NICE reference case)</b> |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>        |
|---|--|------------------------------------|------------------------|
| 1.1   | Is the study population appropriate for the review question?   | Yes                                | Adults with depression |
| 1.2   | Are the interventions appropriate for the review question?   | Yes                                |                        |
| 1.3   | Is the system in which the study was conducted sufficiently similar to the current UK context?   | Yes                                | UK study               |
| 1.4   | Are the perspectives clearly stated and are they appropriate for the review question?  | Yes                                | NHS/PSS                |
| 1.5   | Are all direct effects on individuals included, and are all other effects included where they are material?  | Yes                                |                        |
| 1.6   | Are all future costs and outcomes discounted appropriately?  | NA                                 | Time horizon 12 months |
| 1.7   | Is QALY used as an outcome, and was it derived using NICE's preferred methods? If not, describe rationale and outcomes used in line with analytical perspectives taken (item 1.4 above). | Yes                                |                        |
| 1.8   | Are costs and outcomes from other sectors fully and appropriately measured and valued?   | NA                                 |                        |

1.9 Overall judgement: Directly applicable

Other comments: None

| <b>Section 2: Study limitations (level of methodological quality)</b> |   | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>  |
|---|---|------------------------------------|------------------|
| 2.1   | Does the model structure adequately reflect the nature of the topic under evaluation?             | NA                                 | RCT              |
| 2.2   | Is the time horizon sufficiently long to reflect all important differences in costs and outcomes? | Partly                             | 12 months        |
| 2.3   | Are all important and relevant outcomes included?   | Yes                                |                  |
| 2.4   | Are the estimates of baseline outcomes from the best available source?                            | Partly                             | RCT, N=581       |
| 2.5   | Are the estimates of relative intervention effects from the best available source?                | Partly                             | RCT              |
| 2.6   | Are all important and relevant costs included?  | Yes                                |                  |
| 2.7   | Are the estimates of resource use from the best available source?                                 | Partly                             | RCT              |
| 2.8   | Are the unit costs of resources from the best available source?                                   | Yes                                | National sources |

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**Study: Green C, Richards DA, Hill JJ, et al. (2014) Cost-effectiveness of collaborative care for depression in UK primary care: Economic evaluation of a randomised controlled trial (CADET). PLoS ONE 9(8): e104225.**

|  |  |     |   |
|--|--|-----|---|
| 2.9  | Is an appropriate incremental analysis presented or can it be calculated from the data?                | Yes |   |
| 2.10                                       | Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis? | Yes | Statistical analyses conducted; CEACs presented |
| 2.11                                       | Is there any potential conflict of interest?   | No  |   |
| 2.12 Overall assessment: Minor limitations |  |     |   |
| Other comments:                            |  |     |   |

1

**Study: Aragonés E, Lopez-Cortacans G, Sanchez-Iriso E, et al. Cost-effectiveness analysis of a collaborative care programme for depression in primary care. Journal of Affective Disorders 2014; 159:85-93.**

| <b>Economic Question: service delivery models</b>   |  |                                    |  |
|---|--|------------------------------------|--|
| <b>Section 1: Applicability (relevance to specific review question and the NICE reference case)</b> |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>                                |
| 1.1   | Is the study population appropriate for the review question?   | Yes                                | Adults with depression                         |
| 1.2   | Are the interventions appropriate for the review question?   | Yes                                |  |
| 1.3   | Is the system in which the study was conducted sufficiently similar to the current UK context?   | Partly                             | Spanish study                                  |
| 1.4   | Are the perspectives clearly stated and are they appropriate for the review question?  | Yes                                | healthcare system                              |
| 1.5   | Are all direct effects on individuals included, and are all other effects included where they are material?  | Yes                                |  |
| 1.6   | Are all future costs and outcomes discounted appropriately?  | NA                                 | Time horizon 12 months                         |
| 1.7   | Is QALY used as an outcome, and was it derived using NICE's preferred methods? If not, describe rationale and outcomes used in line with analytical perspectives taken (item 1.4 above). | Partly                             | QALY based on SF-6D, UK algorithm              |
| 1.8   | Are costs and outcomes from other sectors fully and appropriately measured and valued?   | NA                                 |  |
| 1.9 Overall judgement: partially applicable   |  |                                    |  |
| Other comments: None  |  |                                    |  |
| <b>Section 2: Study limitations (level of methodological quality)</b>                               |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>                                |
| 2.1   | Does the model structure adequately reflect the nature of the topic under evaluation?  | NA                                 | RCT  |
| 2.2   | Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?  | Partly                             | 12 months                                      |
| 2.3   | Are all important and relevant outcomes included?  | Yes                                |  |
| 2.4   | Are the estimates of baseline outcomes from the best available source?   | Partly                             | RCT, N=338; analysis based on N=292 completers |

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**Study: Aragonés E, Lopez-Cortacans G, Sanchez-Iriso E, et al. Cost-effectiveness analysis of a collaborative care programme for depression in primary care. Journal of Affective Disorders 2014; 159:85-93.**

|  |  |        |   |
|--|--|--------|---|
| 2.5  | Are the estimates of relative intervention effects from the best available source?                     | Partly | RCT, N=338; analysis based on N=292 completers  |
| 2.6  | Are all important and relevant costs included?   | Partly | Only depression-related costs included          |
| 2.7  | Are the estimates of resource use from the best available source?                                      | Partly | RCT, N=338; analysis based on N=292 completers  |
| 2.8  | Are the unit costs of resources from the best available source?  | Yes    | National sources                                |
| 2.9  | Is an appropriate incremental analysis presented or can it be calculated from the data?                | Yes    |   |
| 2.10                                       | Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis? | Yes    | Statistical analyses conducted; CEACs presented |
| 2.11                                       | Is there any potential conflict of interest?   | No     |   |
| 2.12 Overall assessment: Minor limitations |  |        |   |
| Other comments:                            |  |        |   |

1

**Study: Klug G, Hermann G, Fuchs-Nieder B, et al. Effectiveness of home treatment for elderly people with depression: Randomised controlled trial. British Journal of Psychiatry 2010; 197:463-467.**

| <b>Economic Question: service delivery models</b>   |  |                                    |  |
|---|--|------------------------------------|--|
| <b>Section 1: Applicability (relevance to specific review question and the NICE reference case)</b> |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>                                    |
| 1.1   | Is the study population appropriate for the review question?   | Yes                                | Adults above 65 years of age with major depression |
| 1.2   | Are the interventions appropriate for the review question?   | Yes                                |  |
| 1.3   | Is the system in which the study was conducted sufficiently similar to the current UK context?   | Partly                             | Austrian study                                     |
| 1.4   | Are the perspectives clearly stated and are they appropriate for the review question?  | Yes                                | healthcare system                                  |
| 1.5   | Are all direct effects on individuals included, and are all other effects included where they are material?  | Partly                             | Symptoms, functioning and QoL measured             |
| 1.6   | Are all future costs and outcomes discounted appropriately?  | NA                                 | Time horizon 12 months                             |
| 1.7   | Is QALY used as an outcome, and was it derived using NICE's preferred methods? If not, describe rationale and outcomes used in line with analytical perspectives taken (item 1.4 above). | No                                 |  |
| 1.8   | Are costs and outcomes from other sectors fully and  | NA                                 |  |

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**Study: Klug G, Hermann G, Fuchs-Nieder B, et al. Effectiveness of home treatment for elderly people with depression: Randomised controlled trial. British Journal of Psychiatry 2010; 197:463-467.**

|   |  |                                    |   |
|---|--|------------------------------------|---|
|   | appropriately measured and valued?   |                                    |   |
| 1.9 Overall judgement: partially applicable                           |  |                                    |   |
| Other comments: None  |  |                                    |   |
| <b>Section 2: Study limitations (level of methodological quality)</b> |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>   |
| 2.1   | Does the model structure adequately reflect the nature of the topic under evaluation?                  | NA                                 | RCT   |
| 2.2   | Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?      | Partly                             | 12 months   |
| 2.3   | Are all important and relevant outcomes included?  | Partly                             | Symptoms, functioning and QoL measured  |
| 2.4   | Are the estimates of baseline outcomes from the best available source?                                 | Partly                             | RCT, N=60; analysis based on N=51 completers  |
| 2.5   | Are the estimates of relative intervention effects from the best available source?                     | Partly                             | RCT, N=60; analysis based on N=51 completers  |
| 2.6   | Are all important and relevant costs included?   | Partly                             | Only intervention, psychiatric inpatient and nursing home care costs included; standard care costs not considered |
| 2.7   | Are the estimates of resource use from the best available source?                                      | Partly                             | RCT, N=60; analysis based on N=51 completers  |
| 2.8   | Are the unit costs of resources from the best available source?  | Partly                             | Regional sources  |
| 2.9   | Is an appropriate incremental analysis presented or can it be calculated from the data?                | Yes                                |   |
| 2.10  | Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis? | Yes                                | Bootstrapping conducted   |
| 2.11  | Is there any potential conflict of interest?   | No                                 |   |
| 2.12 Overall assessment: Potentially serious limitations              |  |                                    |   |
| Other comments:   |  |                                    |   |

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**Study: Simon GE, Von Korff M, Ludman EJ, et al. (2002) Cost-effectiveness of a program to prevent depression relapse in primary care. Medical care 40: 941-950.**

|   |  |                                    |                 |
|---|--|------------------------------------|-----------------|
| <b>Economic Question: service delivery models</b>   |  |                                    |                 |
| <b>Section 1: Applicability (relevance to specific review question and the NICE reference case)</b> |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b> |

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| <b>Study: Simon GE, Von Korff M, Ludman EJ, et al. (2002) Cost-effectiveness of a program to prevent depression relapse in primary care. Medical care 40: 941-950.</b> |  |                                    |  |
|--|--|------------------------------------|--|
| 1.1  | Is the study population appropriate for the review question?   | Yes                                | Adults with a history of recurrent major depression ( $\geq 3$ depressive episodes in the previous 5 years) or dysthymia (continuous depressive symptoms for the past 2 years) that had recovered from a depressive episode following antidepressant treatment in primary care |
| 1.2  | Are the interventions appropriate for the review question?   | Yes                                |  |
| 1.3  | Is the system in which the study was conducted sufficiently similar to the current UK context?   | Partly                             | US study   |
| 1.4  | Are the perspectives clearly stated and are they appropriate for the review question?  | Yes                                | 3rd party payer  |
| 1.5  | Are all direct effects on individuals included, and are all other effects included where they are material?  | Partly                             | HRQoL not measured   |
| 1.6  | Are all future costs and outcomes discounted appropriately?  | NA                                 | Time horizon 12 months   |
| 1.7  | Is QALY used as an outcome, and was it derived using NICE's preferred methods? If not, describe rationale and outcomes used in line with analytical perspectives taken (item 1.4 above). | No                                 | Number of depression-free days   |
| 1.8  | Are costs and outcomes from other sectors fully and appropriately measured and valued?   | NA                                 |  |
| 1.9 Overall judgement: Partially applicable  |  |                                    |  |
| Other comments: None   |  |                                    |  |
| <b>Section 2: Study limitations (level of methodological quality)</b>  |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>  |
| 2.1  | Does the model structure adequately reflect the nature of the topic under evaluation?  | NA                                 | RCT  |
| 2.2  | Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?  | Partly                             | 12 months  |
| 2.3  | Are all important and relevant outcomes included?  | Partly                             | HRQoL not considered   |
| 2.4  | Are the estimates of baseline outcomes from the best available source?   | Partly                             | RCT, N=386; n=315 completed all follow-up assessments and n=377 remained   |

| <b>Study: Simon GE, Von Korff M, Ludman EJ, et al. (2002) Cost-effectiveness of a program to prevent depression relapse in primary care. Medical care 40: 941-950.</b>   |  |         |  |
|--|--|---------|--|
|  |  |         | enrolled throughout follow-up                                  |
| 2.5  | Are the estimates of relative intervention effects from the best available source?                     | Partly  | RCT  |
| 2.6  | Are all important and relevant costs included?   | Yes     |  |
| 2.7  | Are the estimates of resource use from the best available source?                                      | Partly  | RCT  |
| 2.8  | Are the unit costs of resources from the best available source?  | Unclear | Probably local data  |
| 2.9  | Is an appropriate incremental analysis presented or can it be calculated from the data?                | Yes     |  |
| 2.10   | Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis? | Yes     | Statistical analyses conducted; bootstrapping methods employed |
| 2.11   | Is there any potential conflict of interest?   | No      |  |
| 2.12 Overall assessment: Potentially serious limitations   |  |         |  |
| Other comments: Analyses of clinical data included only those completing all blinded follow-up assessments; cost analyses included only those remaining enrolled throughout the follow-up period. Participation in follow-up interviews was significantly greater in the intervention group than in usual care, introducing a possibility of bias. |  |         |  |

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### P.1.21 Complex collaborative care

| <b>Study: Goorden M, Vlasveld MC, Anema JR, et al. (2014) Cost-utility analysis of a collaborative care intervention for major depressive disorder in an occupational healthcare setting. Journal of Occupational Rehabilitation, 24(3): 555-62</b> |  |                                    |   |
|---|--|------------------------------------|---|
| <b>Economic Question: service delivery models</b>   |  |                                    |   |
| <b>Section 1: Applicability (relevance to specific review question and the NICE reference case)</b>   |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>                             |
| 1.1   | Is the study population appropriate for the review question?   | Yes                                | Sick-listed workers with major depression   |
| 1.2   | Are the interventions appropriate for the review question?   | Yes                                |   |
| 1.3   | Is the system in which the study was conducted sufficiently similar to the current UK context?   | Partly                             | Dutch study                                 |
| 1.4   | Are the perspectives clearly stated and are they appropriate for the review question?  | Yes                                | Healthcare system                           |
| 1.5   | Are all direct effects on individuals included, and are all other effects included where they are material?  | Yes                                |   |
| 1.6   | Are all future costs and outcomes discounted appropriately?  | NA                                 | Time horizon 12 months                      |
| 1.7   | Is QALY used as an outcome, and was it derived using NICE's preferred methods? If not, describe rationale and outcomes used in line with analytical perspectives taken (item 1.4 above). | Partly                             | QALYs based on EQ-5D ratings (Dutch tariff) |
| 1.8   | Are costs and outcomes from other sectors fully and appropriately measured and valued?   | NA                                 |   |

| <b>Study: Goorden M, Vlasveld MC, Anema JR, et al. (2014) Cost-utility analysis of a collaborative care intervention for major depressive disorder in an occupational healthcare setting. Journal of Occupational Rehabilitation, 24(3): 555-62</b> |  |                                    |  |
|---|--|------------------------------------|--|
| 1.9 Overall judgement: Partially applicable   |  |                                    |  |
| Other comments:   |  |                                    |  |
| <b>Section 2: Study limitations (level of methodological quality)</b>   |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>                                |
| 2.1   | Does the model structure adequately reflect the nature of the topic under evaluation?                  | NA                                 | RCT  |
| 2.2   | Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?      | Partly                             | 12 months                                      |
| 2.3   | Are all important and relevant outcomes included?  | Yes                                |  |
| 2.4   | Are the estimates of baseline outcomes from the best available source?                                 | Partly                             | RCT, N=124                                     |
| 2.5   | Are the estimates of relative intervention effects from the best available source?                     | Partly                             | RCT  |
| 2.6   | Are all important and relevant costs included?   | Yes                                | Non-psychiatric inpatient costs not considered |
| 2.7   | Are the estimates of resource use from the best available source?                                      | Partly                             | RCT  |
| 2.8   | Are the unit costs of resources from the best available source?  | Yes                                | National sources                               |
| 2.9   | Is an appropriate incremental analysis presented or can it be calculated from the data?                | Yes                                |  |
| 2.10  | Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis? | Yes                                | Bootstrapping conducted                        |
| 2.11  | Is there any potential conflict of interest?   | No                                 |  |
| 2.12 Overall assessment: Minor limitations  |  |                                    |  |
| Other comments:   |  |                                    |  |

1

| <b>Study: Goorden M, Huijbregts KM, van Marwijk HW, et al (2015) Cost-utility of collaborative care for major depressive disorder in primary care in the Netherlands. Journal of Psychosomatic Research, 79(4), 316-23.</b> |   |                                    |  |
|---|---|------------------------------------|--|
| <b>Economic Question: service delivery models</b>   |   |                                    |  |
| <b>Section 1: Applicability (relevance to specific review question and the NICE reference case)</b>   |   | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>                                      |
| 1.1   | Is the study population appropriate for the review question?  | Yes                                | Adults with major depression treated in primary care |
| 1.2   | Are the interventions appropriate for the review question?  | Yes                                |  |
| 1.3   | Is the system in which the study was conducted sufficiently similar to the current UK context?              | Partly                             | Dutch study  |
| 1.4   | Are the perspectives clearly stated and are they appropriate for the review question?                       | Yes                                | Healthcare system (and societal)                     |
| 1.5   | Are all direct effects on individuals included, and are all other effects included where they are material? | Yes                                |  |

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| <b>Study: Goorden M, Huijbregts KM, van Marwijk HW, et al (2015) Cost-utility of collaborative care for major depressive disorder in primary care in the Netherlands. Journal of Psychosomatic Research, 79(4), 316-23.</b> |  |                                    |  |
|---|--|------------------------------------|--|
| 1.6   | Are all future costs and outcomes discounted appropriately?  | NA                                 | Time horizon 12 months   |
| 1.7   | Is QALY used as an outcome, and was it derived using NICE's preferred methods? If not, describe rationale and outcomes used in line with analytical perspectives taken (item 1.4 above). | Partly                             | QALYs based on EQ-5D ratings (Dutch tariff)  |
| 1.8   | Are costs and outcomes from other sectors fully and appropriately measured and valued?   | NA                                 |  |
| 1.9 Overall judgement: Partially applicable   |  |                                    |  |
| Other comments:   |  |                                    |  |
| <b>Section 2: Study limitations (level of methodological quality)</b>   |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>  |
| 2.1   | Does the model structure adequately reflect the nature of the topic under evaluation?  | NA                                 | RCT  |
| 2.2   | Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?  | Partly                             | 12 months  |
| 2.3   | Are all important and relevant outcomes included?  | Yes                                |  |
| 2.4   | Are the estimates of baseline outcomes from the best available source?   | Partly                             | RCT, N=150; 93 identified by screening and 47 by GP referral; economic analysis based only on n=93 identified by screening |
| 2.5   | Are the estimates of relative intervention effects from the best available source?   | Partly                             | RCT (n=93)   |
| 2.6   | Are all important and relevant costs included?   | Yes                                | Non-psychiatric inpatient costs not considered   |
| 2.7   | Are the estimates of resource use from the best available source?  | Partly                             | RCT (n=93)   |
| 2.8   | Are the unit costs of resources from the best available source?  | Yes                                | National sources   |
| 2.9   | Is an appropriate incremental analysis presented or can it be calculated from the data?  | Yes                                |  |
| 2.10  | Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis?   | Yes                                | Bootstrapping conducted  |
| 2.11  | Is there any potential conflict of interest?   | No                                 |  |
| 2.12 Overall assessment: Potentially serious limitations  |  |                                    |  |
| Other comments:   |  |                                    |  |

### P.1.31 Medication management

**Study: Bosmans JE, Brook OH, Van Hout HPJ, et al. (2007) Cost effectiveness of a pharmacy-based coaching programme to improve adherence to antidepressants. *Pharmacoeconomics* 25: 25-37.**

**Economic Question: service delivery models**

| <b>Section 1: Applicability (relevance to specific review question and the NICE reference case)</b> |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>  |
|---|--|------------------------------------|--|
| 1.1   | Is the study population appropriate for the review question?   | Yes                                | Adults with depression treated in primary care, with a new prescription for a non-tricyclic antidepressant |
| 1.2   | Are the interventions appropriate for the review question?   | Yes                                |  |
| 1.3   | Is the system in which the study was conducted sufficiently similar to the current UK context?   | Partly                             | Dutch study  |
| 1.4   | Are the perspectives clearly stated and are they appropriate for the review question?  | Yes                                | Societal   |
| 1.5   | Are all direct effects on individuals included, and are all other effects included where they are material?  | Partly                             | HRQoL not measured   |
| 1.6   | Are all future costs and outcomes discounted appropriately?  | NA                                 | Time horizon 6 months  |
| 1.7   | Is QALY used as an outcome, and was it derived using NICE's preferred methods? If not, describe rationale and outcomes used in line with analytical perspectives taken (item 1.4 above). | No                                 | Primary measures adherence to antidepressant treatment and depressive symptoms measured using HSCL         |
| 1.8   | Are costs and outcomes from other sectors fully and appropriately measured and valued?   | NA                                 |  |
| 1.9 Overall judgement: Partially applicable   |  |                                    |  |
| Other comments: None  |  |                                    |  |
| <b>Section 2: Study limitations (level of methodological quality)</b>                               |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>  |
| 2.1   | Does the model structure adequately reflect the nature of the topic under evaluation?  | NA                                 | RCT  |
| 2.2   | Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?  | Partly                             | 6 months   |
| 2.3   | Are all important and relevant outcomes included?  | Partly                             | HRQoL not measured   |
| 2.4   | Are the estimates of baseline outcomes from the best available source?   | Partly                             | RCT, N=151; completers of both 3- and 6-month follow-ups n=88  |
| 2.5   | Are the estimates of relative intervention effects from the best available source?   | Partly                             | RCT  |
| 2.6   | Are all important and relevant costs included?   | Unclear                            | Inpatient costs  |

Update 2018

**Study: Bosmans JE, Brook OH, Van Hout HPJ, et al. (2007) Cost effectiveness of a pharmacy-based coaching programme to improve adherence to antidepressants. PharmacoEconomics 25: 25-37.**

|   |  |        |  |
|---|--|--------|--|
|   |  |        | appeared to have been excluded           |
| 2.7   | Are the estimates of resource use from the best available source?                                      | Partly | RCT                                      |
| 2.8   | Are the unit costs of resources from the best available source?  | Yes    | National sources                         |
| 2.9   | Is an appropriate incremental analysis presented or can it be calculated from the data?                | Yes    |  |
| 2.10  | Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis? | Yes    | Bootstrapping conducted; CEACs presented |
| 2.11  | Is there any potential conflict of interest?   | No     |  |
| 2.12 Overall assessment: Potentially serious limitations  |  |        |  |
| Other comments: base-case analysis was complete case analysis regardless of assigned treatment. In addition, a per protocol analysis was included. Participants were included in the per protocol analysis if the prescription for antidepressant medication was written out by their GP and they completed all of the follow-up assessments. Participants in the intervention group were excluded from the per protocol analysis if they indicated that they had not watched the intervention videotape or did not receive the 3 coaching contacts. In sensitivity analysis, the mean value per treatment group was imputed for missing values in participants who did not complete all follow-up assessments. Imputation was limited to participants who had completed the baseline assessment (n=135). |  |        |  |

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**Study: Rubio-Valera M, Bosmans J, Fernandez A, et al. (2013) Cost-Effectiveness of a Community Pharmacist Intervention in Patients with Depression: A Randomized Controlled Trial (PRODEFAR Study). PLoS ONE 8(8): e70588.**

| <b>Economic Question: service delivery models</b>   |  |                                    |   |
|---|--|------------------------------------|---|
| <b>Section 1: Applicability (relevance to specific review question and the NICE reference case)</b> |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>   |
| 1.1   | Is the study population appropriate for the review question?   | Yes                                | Adults initiating treatment with antidepressant because of depression |
| 1.2   | Are the interventions appropriate for the review question?   | Yes                                |   |
| 1.3   | Is the system in which the study was conducted sufficiently similar to the current UK context?   | Partly                             | Spanish study   |
| 1.4   | Are the perspectives clearly stated and are they appropriate for the review question?  | Yes                                | Societal & healthcare   |
| 1.5   | Are all direct effects on individuals included, and are all other effects included where they are material?  | Yes                                |   |
| 1.6   | Are all future costs and outcomes discounted appropriately?  | NA                                 | Time horizon 6 months   |
| 1.7   | Is QALY used as an outcome, and was it derived using NICE's preferred methods? If not, describe rationale and outcomes used in line with analytical perspectives taken (item 1.4 above). | Partly                             | QALYs based on EQ-5D ratings (Spanish tariff)                         |
| 1.8   | Are costs and outcomes from other sectors fully and  | NA                                 |   |

Update 2018

| <b>Study: Rubio-Valera M, Bosmans J, Fernandez A, et al. (2013) Cost-Effectiveness of a Community Pharmacist Intervention in Patients with Depression: A Randomized Controlled Trial (PRODEFAR Study). PLoS ONE 8(8): e70588.</b>  |  |                                    |  |
|--|--|------------------------------------|--|
|  | appropriately measured and valued?   |                                    |  |
| 1.9 Overall judgement: Partially applicable  |  |                                    |  |
| Other comments: None   |  |                                    |  |
| <b>Section 2: Study limitations (level of methodological quality)</b>  |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>  |
| 2.1  | Does the model structure adequately reflect the nature of the topic under evaluation?                  | NA                                 | RCT  |
| 2.2  | Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?      | Partly                             | 6 months   |
| 2.3  | Are all important and relevant outcomes included?  | Yes                                |  |
| 2.4  | Are the estimates of baseline outcomes from the best available source?                                 | Partly                             | RCT, N=179; N=179; 71% completed at 6 months; n=151 received intervention as allocated |
| 2.5  | Are the estimates of relative intervention effects from the best available source?                     | Partly                             | RCT  |
| 2.6  | Are all important and relevant costs included?   | Yes                                |  |
| 2.7  | Are the estimates of resource use from the best available source?                                      | Partly                             | RCT  |
| 2.8  | Are the unit costs of resources from the best available source?  | Yes                                | Regional sources   |
| 2.9  | Is an appropriate incremental analysis presented or can it be calculated from the data?                | Yes                                |  |
| 2.10   | Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis? | Yes                                | Bootstrapping conducted; CEACs presented   |
| 2.11   | Is there any potential conflict of interest?   | No                                 |  |
| 2.12 Overall assessment: Potentially serious limitations   |  |                                    |  |
| Other comments: base-case analysis was based on intention to treat, with multiple imputation of missing data. In addition, a per protocol analysis was conducted in which participants who did not receive the intervention were excluded. Also, a complete case analysis was conducted, without the 52 participants who were lost to follow-up at 6 months. Results contradictory, depending on measure of outcome used |  |                                    |  |

Update 2018

#### P.1.41 Stepped care

| <b>Study: Mukuria C, Brazier J, Barkham M, et al. (2013) Cost-effectiveness of an improving access to psychological therapies service. British Journal of Psychiatry 202: 220-227.</b> |  |                                    |   |
|--|--|------------------------------------|---|
| <b>Economic Question: service delivery models</b>  |  |                                    |   |
| <b>Section 1: Applicability (relevance to specific review question and the NICE reference case)</b>  |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>   |
| 1.1  | Is the study population appropriate for the review question? | Yes                                | People 16-64 years old with a new or recurrent episode of |

| <b>Study: Mukuria C, Brazier J, Barkham M, et al. (2013) Cost-effectiveness of an improving access to psychological therapies service. British Journal of Psychiatry 202: 220-227.</b> |  |                                    |   |
|--|--|------------------------------------|---|
|  |  |                                    | depression or anxiety; >95% of people in IAPT had a primary diagnosis of depression by their GP |
| 1.2  | Are the interventions appropriate for the review question?   | Yes                                | IAPT service  |
| 1.3  | Is the system in which the study was conducted sufficiently similar to the current UK context?   | Yes                                | UK study  |
| 1.4  | Are the perspectives clearly stated and are they appropriate for the review question?  | Yes                                | NHS/PSS   |
| 1.5  | Are all direct effects on individuals included, and are all other effects included where they are material?  | Yes                                |   |
| 1.6  | Are all future costs and outcomes discounted appropriately?  | NA                                 | Time horizon 8 months   |
| 1.7  | Is QALY used as an outcome, and was it derived using NICE's preferred methods? If not, describe rationale and outcomes used in line with analytical perspectives taken (item 1.4 above). | Yes                                | SF-6D ratings and predicted EQ-5D ratings after mapping from SF-6D were used (both UK tariff)   |
| 1.8  | Are costs and outcomes from other sectors fully and appropriately measured and valued?   | NA                                 |   |
| 1.9 Overall judgement: Directly applicable   |  |                                    |   |
| Other comments: None   |  |                                    |   |
| <b>Section 2: Study limitations (level of methodological quality)</b>  |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>   |
| 2.1  | Does the model structure adequately reflect the nature of the topic under evaluation?  | NA                                 | Cohort study  |
| 2.2  | Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?  | Partly                             | 8 months  |
| 2.3  | Are all important and relevant outcomes included?  | Yes                                |   |
| 2.4  | Are the estimates of baseline outcomes from the best available source?   | Partly                             | Prospective cohort study with matched sites, N=403  |
| 2.5  | Are the estimates of relative intervention effects from the best available source?   | Partly                             | Prospective cohort study  |
| 2.6  | Are all important and relevant costs included?   | Partly                             | Medication costs not considered   |
| 2.7  | Are the estimates of resource use from the best available source?  | Partly                             | Prospective cohort study  |
| 2.8  | Are the unit costs of resources from the best available source?  | Yes                                | IAPT financial data and national sources  |
| 2.9  | Is an appropriate incremental analysis presented or can it be calculated from the data?  | Yes                                |   |

| <b>Study: Mukuria C, Brazier J, Barkham M, et al. (2013) Cost-effectiveness of an improving access to psychological therapies service. British Journal of Psychiatry 202: 220-227.</b>          |  |     |   |
|---|--|-----|---|
| 2.10  | Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis? | Yes | Statistical analyses conducted; CEACs presented |
| 2.11  | Is there any potential conflict of interest?   | No  |   |
| 2.12 Overall assessment: Potentially serious limitations  |  |     |   |
| Other comments: low response rate at recruitment (403/3391, 11.9%); IAPT service assessed over the first 2 years of establishment, therefore costs associated with learning effects were likely |  |     |   |

1

| <b>Study: Ricken R, Wiethoff K, Reinhold T, et al. (2011) Algorithm-guided treatment of depression reduces treatment costs - Results from the randomized controlled German Algorithm Project (GAPII). Journal of Affective Disorders 134: 249-256.</b> |  |                                    |  |
|--|--|------------------------------------|--|
| <b>Economic Question: service delivery models</b>  |  |                                    |  |
| <b>Section 1: Applicability (relevance to specific review question and the NICE reference case)</b>  |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>  |
| 1.1  | Is the study population appropriate for the review question?   | Yes                                | Adults with a ICD10 depressive syndrome receiving inpatient care |
| 1.2  | Are the interventions appropriate for the review question?   | Yes                                | Stepped care   |
| 1.3  | Is the system in which the study was conducted sufficiently similar to the current UK context?   | Partly                             | German study   |
| 1.4  | Are the perspectives clearly stated and are they appropriate for the review question?  | Yes                                | 3rd party payer  |
| 1.5  | Are all direct effects on individuals included, and are all other effects included where they are material?  | Partly                             | HRQoL not reported   |
| 1.6  | Are all future costs and outcomes discounted appropriately?  | NA                                 | Time horizon up to remission or drop-out, less than 1 year       |
| 1.7  | Is QALY used as an outcome, and was it derived using NICE's preferred methods? If not, describe rationale and outcomes used in line with analytical perspectives taken (item 1.4 above). | No                                 | Only remission considered as an outcome                          |
| 1.8  | Are costs and outcomes from other sectors fully and appropriately measured and valued?   | NA                                 |  |
| 1.9 Overall judgement: Partially applicable  |  |                                    |  |
| Other comments: None   |  |                                    |  |
| <b>Section 2: Study limitations (level of methodological quality)</b>  |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>  |
| 2.1  | Does the model structure adequately reflect the nature of the topic under evaluation?  | NA                                 | RCT  |
| 2.2  | Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?  | Partly                             | Time horizon up to remission or drop-out, less than 1 year       |

Update 2018

| <b>Study: Ricken R, Wiethoff K, Reinhold T, et al. (2011) Algorithm-guided treatment of depression reduces treatment costs - Results from the randomized controlled German Algorithm Project (GAPII). Journal of Affective Disorders 134: 249-256.</b> |  |         |                                |
|--|--|---------|--------------------------------|
| 2.3  | Are all important and relevant outcomes included?  | Partly  | HRQoL not reported             |
| 2.4  | Are the estimates of baseline outcomes from the best available source?                                 | Partly  | RCT, N=148                     |
| 2.5  | Are the estimates of relative intervention effects from the best available source?                     | Partly  | RCT                            |
| 2.6  | Are all important and relevant costs included?   | Yes     |                                |
| 2.7  | Are the estimates of resource use from the best available source?                                      | Partly  | RCT                            |
| 2.8  | Are the unit costs of resources from the best available source?  | Yes     | National sources               |
| 2.9  | Is an appropriate incremental analysis presented or can it be calculated from the data?                | Yes     |                                |
| 2.10   | Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis? | Yes     | Statistical analyses conducted |
| 2.11   | Is there any potential conflict of interest?   | Unclear |                                |
| 2.12 Overall assessment: Potentially serious limitations   |  |         |                                |
| Other comments:  |  |         |                                |

### P.1.51 Integrated care pathways

| <b>Study: Pyne JM, Fortney JC, Mouden S, et al. (2015) Cost-effectiveness of on-site versus off-site collaborative care for depression in rural FQHCs. Psychiatric Services 66: 491-499.</b> |  |                                    |  |
|--|--|------------------------------------|--|
| <b>Economic Question: service delivery models</b>  |  |                                    |  |
| <b>Section 1: Applicability (relevance to specific review question and the NICE reference case)</b>  |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>  |
| 1.1  | Is the study population appropriate for the review question?   | Yes                                | Adults who screened positive for depression according to a PHQ-9 score $\geq 10$ |
| 1.2  | Are the interventions appropriate for the review question?   | Yes                                |  |
| 1.3  | Is the system in which the study was conducted sufficiently similar to the current UK context?   | Partly                             | US study   |
| 1.4  | Are the perspectives clearly stated and are they appropriate for the review question?  | Yes                                | Healthcare & service users' time & mileage                                       |
| 1.5  | Are all direct effects on individuals included, and are all other effects included where they are material?  | Yes                                |  |
| 1.6  | Are all future costs and outcomes discounted appropriately?  | NA                                 | Time horizon 18 months   |
| 1.7  | Is QALY used as an outcome, and was it derived using NICE's preferred methods? If not, describe rationale and outcomes used in line with analytical perspectives taken (item 1.4 above). | Partly                             | QALYs based on SF-12/SF-6D (UK tariff)   |
| 1.8  | Are costs and outcomes from other sectors fully and appropriately measured and valued?   | NA                                 |  |

**Study: Pyne JM, Fortney JC, Mouden S, et al. (2015) Cost-effectiveness of on-site versus off-site collaborative care for depression in rural FQHCs. *Psychiatric Services* 66: 491-499.**

| 1.9 Overall judgement: Partially applicable                    |  |                             |   |
|--|--|-----------------------------|---|
| Other comments:  |  |                             |   |
| Section 2: Study limitations (level of methodological quality) |  | Yes/ Partly/ No/Unclear/ NA | Comments  |
| 2.1  | Does the model structure adequately reflect the nature of the topic under evaluation?                  | NA                          | RCT   |
| 2.2  | Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?      | Yes                         | 18 months   |
| 2.3  | Are all important and relevant outcomes included?  | Yes                         |   |
| 2.4  | Are the estimates of baseline outcomes from the best available source?                                 | Partly                      | RCT, N=364; 87% completed at 6 months, 79% at 12 months and 78% at 18 months  |
| 2.5  | Are the estimates of relative intervention effects from the best available source?                     | Partly                      | RCT   |
| 2.6  | Are all important and relevant costs included?   | Yes                         |   |
| 2.7  | Are the estimates of resource use from the best available source?                                      | Partly                      | RCT   |
| 2.8  | Are the unit costs of resources from the best available source?  | Yes                         | Regional sources in base-case analyse; national sources in secondary analysis |
| 2.9  | Is an appropriate incremental analysis presented or can it be calculated from the data?                | Yes                         |   |
| 2.10   | Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis? | Yes                         | Bootstrapping conducted; CEACs presented                                      |
| 2.11   | Is there any potential conflict of interest?   | No                          |   |
| 2.12 Overall assessment: Minor limitations                     |  |                             |   |
| Other comments:  |  |                             |   |

1

**Study: Wiley-Exley E, Domino ME, Maxwell J, et al. (2009) Cost-effectiveness of integrated care for elderly depressed patients in the PRISM-E study. *Journal of Mental Health Policy and Economics* 12: 205-213+217.**

| <b>Economic Question: service delivery models</b>  |  |                             |   |
|--|--|-----------------------------|---|
| Section 1: Applicability (relevance to specific review question and the NICE reference case) |  | Yes/ Partly/ No/Unclear/ NA | Comments  |
| 1.1  | Is the study population appropriate for the review question? | Yes                         | Adults above 65 years of age with depression (major or minor) |

Update 2018

| <b>Study: Wiley-Exley E, Domino ME, Maxwell J, et al. (2009) Cost-effectiveness of integrated care for elderly depressed patients in the PRISM-E study. Journal of Mental Health Policy and Economics 12: 205-213+217.</b>   |  |                                    |  |
|--|--|------------------------------------|--|
| 1.2  | Are the interventions appropriate for the review question?   | Yes                                |  |
| 1.3  | Is the system in which the study was conducted sufficiently similar to the current UK context?   | Partly                             | US study   |
| 1.4  | Are the perspectives clearly stated and are they appropriate for the review question?  | Yes                                | Healthcare & service users' and carers' time & mileage   |
| 1.5  | Are all direct effects on individuals included, and are all other effects included where they are material?  | Yes                                | See notes  |
| 1.6  | Are all future costs and outcomes discounted appropriately?  | NA                                 | Time horizon 6 months  |
| 1.7  | Is QALY used as an outcome, and was it derived using NICE's preferred methods? If not, describe rationale and outcomes used in line with analytical perspectives taken (item 1.4 above). | Partly                             | See notes  |
| 1.8  | Are costs and outcomes from other sectors fully and appropriately measured and valued?   | NA                                 |  |
| 1.9 Overall judgement: Partially applicable  |  |                                    |  |
| Other comments: Primary outcome measures were the Center for Epidemiologic Studies Depression Scale (CES-D) score; number of depression-free days (DFD) derived from the 20-item CES-D (score =0 indicated depression-free day, ≥ 16 full symptoms and intermediate severity scores were assigned a value between depression-free and fully symptomatic by linear interpolation); QALYs estimated based on depression-free days (QALY-DFD), using utility weights of health=1, depression=0.59); QALYs estimated based on SF-36 (QALY-SF), using preferences for matched vignettes created following cluster analysis of SF-12 mental and physical component scores, elicited by US service users with depression using SG |  |                                    |  |
| <b>Section 2: Study limitations (level of methodological quality)</b>  |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>  |
| 2.1  | Does the model structure adequately reflect the nature of the topic under evaluation?  | NA                                 | RCT  |
| 2.2  | Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?  | Partly                             | 6 months   |
| 2.3  | Are all important and relevant outcomes included?  | Partly                             | See notes on applicability   |
| 2.4  | Are the estimates of baseline outcomes from the best available source?   | Partly                             | RCT, N=840; within VA n=365, outside VA n=475; individuals with major depression within VA n=214, outside VA n=302 |
| 2.5  | Are the estimates of relative intervention effects from the best available source?   | Partly                             | RCT  |
| 2.6  | Are all important and relevant costs included?   | Yes                                |  |
| 2.7  | Are the estimates of resource use from the best available source?  | Partly                             | RCT  |
| 2.8  | Are the unit costs of resources from the best available source?  | Yes                                | national sources   |

|  |  |     |  |
|--|--|-----|--|
| <b>Study: Wiley-Exley E, Domino ME, Maxwell J, et al. (2009) Cost-effectiveness of integrated care for elderly depressed patients in the PRISM-E study. Journal of Mental Health Policy and Economics 12: 205-213+217.</b> |  |     |  |
| 2.9  | Is an appropriate incremental analysis presented or can it be calculated from the data?                | Yes |  |
| 2.10   | Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis? | Yes | Bootstrapping conducted; CEACs presented |
| 2.11   | Is there any potential conflict of interest?   | No  |  |
| 2.12 Overall assessment: Potentially serious limitations   |  |     |  |
| Other comments: separate analyses undertaken for participants within and outside the Veteran Affairs (VA) system; sub-analyses for people with major depression performed. Contradictory results across sub-analyses       |  |     |  |

## P.2.1 Interventions for first-line treatment of adults with a new episode of less severe depression

### P.2.1.3 Psychological interventions

|   |  |                                    |   |
|---|--|------------------------------------|---|
| <b>Study: Kendrick T, Simons L, Mynors-Wallis L, et al. (2005) A trial of problem-solving by community mental health nurses for anxiety, depression and life difficulties among general practice patients. The CPN-GP study. Health Technology Assessment 9.</b>  |  |                                    |   |
| <b>AND</b>  |  |                                    |   |
| <b>Kendrick T, Simons L, Mynors-Wallis L, et al. (2006) Cost-effectiveness of referral for generic care or problem-solving treatment from community mental health nurses, compared with usual general practitioner care for common mental disorders: Randomised controlled trial. British Journal of Psychiatry 189: 50-59.</b> |  |                                    |   |
| <b>Economic Question: psychological interventions as first-line treatment for adults with a new episode of depression</b>   |  |                                    |   |
| <b>Section 1: Applicability (relevance to specific review question and the NICE reference case)</b>   |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>   |
| 1.1   | Is the study population appropriate for the review question?   | Yes                                | Adults with common mental health problems, 75% depression |
| 1.2   | Are the interventions appropriate for the review question?   | Yes                                |   |
| 1.3   | Is the system in which the study was conducted sufficiently similar to the current UK context?   | Yes                                | UK study  |
| 1.4   | Are the perspectives clearly stated and are they appropriate for the review question?  | Yes                                | NHS   |
| 1.5   | Are all direct effects on individuals included, and are all other effects included where they are material?  | Yes                                |   |
| 1.6   | Are all future costs and outcomes discounted appropriately?  | NA                                 | Time horizon 26 weeks                                     |
| 1.7   | Is QALY used as an outcome, and was it derived using NICE's preferred methods? If not, describe rationale and outcomes used in line with analytical perspectives taken (item 1.4 above). | Yes                                |   |
| 1.8   | Are costs and outcomes from other sectors fully and appropriately measured and valued?   | NA                                 |   |
| 1.9 Overall judgement: Directly applicable  |  |                                    |   |

**Study: Kendrick T, Simons L, Mynors-Wallis L, et al. (2005) A trial of problem-solving by community mental health nurses for anxiety, depression and life difficulties among general practice patients. The CPN-GP study. Health Technology Assessment 9.**

**AND**

**Kendrick T, Simons L, Mynors-Wallis L, et al. (2006) Cost-effectiveness of referral for generic care or problem-solving treatment from community mental health nurses, compared with usual general practitioner care for common mental disorders: Randomised controlled trial. British Journal of Psychiatry 189: 50-59.**

Other comments: None

| <b>Section 2: Study limitations (level of methodological quality)</b> |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>  |
|---|--|------------------------------------|--|
| 2.1   | Does the model structure adequately reflect the nature of the topic under evaluation?                  | NA                                 | RCT  |
| 2.2   | Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?      | Partly                             | 26 weeks   |
| 2.3   | Are all important and relevant outcomes included?  | Yes                                |  |
| 2.4   | Are the estimates of baseline outcomes from the best available source?                                 | Partly                             | RCT  |
| 2.5   | Are the estimates of relative intervention effects from the best available source?                     | Partly                             | RCT (N=247; analysis based on n=184)                         |
| 2.6   | Are all important and relevant costs included?   | Yes                                |  |
| 2.7   | Are the estimates of resource use from the best available source?                                      | Partly                             | RCT  |
| 2.8   | Are the unit costs of resources from the best available source?  | Yes                                | National sources   |
| 2.9   | Is an appropriate incremental analysis presented or can it be calculated from the data?                | Yes                                |  |
| 2.10  | Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis? | Yes                                | Bootstrapping conducted; cost effectiveness planes presented |
| 2.11  | Is there any potential conflict of interest?   | No                                 |  |
| 2.12 Overall assessment: minor limitations                            |  |                                    |  |
| Other comments:   |  |                                    |  |

1

**Study: Simpson S, Corney R, Beecham J (2003) A randomized controlled trial to evaluate the effectiveness and cost-effectiveness of psychodynamic counselling for general practice patients with chronic depression. Psychological Medicine 33: 229-239.**

**Economic Question: psychological interventions as first-line treatment for adults with a new episode of depression**

| <b>Section 1: Applicability (relevance to specific review question and the NICE reference case)</b> |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>  |
|---|--|------------------------------------|--|
| 1.1   | Is the study population appropriate for the review question? | Yes                                | Adults with depression (BDI 14-40) lasting at least 6 months, with or without comorbid anxiety |

Update 2018

| <b>Study: Simpson S, Corney R, Beecham J (2003) A randomized controlled trial to evaluate the effectiveness and cost-effectiveness of psychodynamic counselling for general practice patients with chronic depression. Psychological Medicine 33: 229-239.</b> |  |                                    |  |
|--|--|------------------------------------|--|
| 1.2  | Are the interventions appropriate for the review question?   | Yes                                | Psychodynamic counselling                                      |
| 1.3  | Is the system in which the study was conducted sufficiently similar to the current UK context?   | Yes                                | UK study   |
| 1.4  | Are the perspectives clearly stated and are they appropriate for the review question?  | Yes                                | Health and social services                                     |
| 1.5  | Are all direct effects on individuals included, and are all other effects included where they are material?  | Partly                             | HRQoL not measured   |
| 1.6  | Are all future costs and outcomes discounted appropriately?  | NA                                 | time horizon 12 months   |
| 1.7  | Is QALY used as an outcome, and was it derived using NICE's preferred methods? If not, describe rationale and outcomes used in line with analytical perspectives taken (item 1.4 above). | No                                 | BDI and other secondary outcomes                               |
| 1.8  | Are costs and outcomes from other sectors fully and appropriately measured and valued?   | NA                                 |  |
| 1.9 Overall judgement: Partially applicable  |  |                                    |  |
| Other comments: None   |  |                                    |  |
| <b>Section 2: Study limitations (level of methodological quality)</b>  |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>  |
| 2.1  | Does the model structure adequately reflect the nature of the topic under evaluation?  | NA                                 | RCT  |
| 2.2  | Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?  | Partly                             | 1 year   |
| 2.3  | Are all important and relevant outcomes included?  | Partly                             | HRQoL not measured   |
| 2.4  | Are the estimates of baseline outcomes from the best available source?   | Partly                             | RCT, N=145; completers n=115                                   |
| 2.5  | Are the estimates of relative intervention effects from the best available source?   | Partly                             | RCT  |
| 2.6  | Are all important and relevant costs included?   | Yes                                |  |
| 2.7  | Are the estimates of resource use from the best available source?  | Partly                             | RCT, completers n=115  |
| 2.8  | Are the unit costs of resources from the best available source?  | Yes                                | National sources where available; local costs for intervention |
| 2.9  | Is an appropriate incremental analysis presented or can it be calculated from the data?  | Yes                                |  |
| 2.10   | Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis?   | Partly                             | Statistical tests undertaken; bootstrapping conducted          |
| 2.11   | Is there any potential conflict of interest?   | No                                 |  |
| 2.12 Overall assessment: Potentially serious limitations   |  |                                    |  |
| Other comments:  |  |                                    |  |

1

**Study: Kaltenthaler E, Brazier J, De Nigris E, et al. (2006) Computerized cognitive behavior therapy for depression and anxiety update: A systematic review and economic evaluation. Health Technology Assessment 10(33).**

**Economic Question: psychological interventions as first-line treatment for adults with a new episode of depression**

| <b>Section 1: Applicability (relevance to specific review question and the NICE reference case)</b> |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>   |
|---|--|------------------------------------|---|
| 1.1   | Is the study population appropriate for the review question?   | Yes                                | Adults with depression in a primary care setting                                      |
| 1.2   | Are the interventions appropriate for the review question?   | Yes                                | cCBT  |
| 1.3   | Is the system in which the study was conducted sufficiently similar to the current UK context?   | Yes                                | UK study  |
| 1.4   | Are the perspectives clearly stated and are they appropriate for the review question?  | Yes                                | NHS   |
| 1.5   | Are all direct effects on individuals included, and are all other effects included where they are material?  | Yes                                |   |
| 1.6   | Are all future costs and outcomes discounted appropriately?  | Yes                                | 3.5% annually   |
| 1.7   | Is QALY used as an outcome, and was it derived using NICE's preferred methods? If not, describe rationale and outcomes used in line with analytical perspectives taken (item 1.4 above). | Yes                                |   |
| 1.8   | Are costs and outcomes from other sectors fully and appropriately measured and valued?   | NA                                 |   |
| 1.9 Overall judgement: Directly applicable  |  |                                    |   |
| Other comments: None  |  |                                    |   |
| <b>Section 2: Study limitations (level of methodological quality)</b>                               |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>   |
| 2.1   | Does the model structure adequately reflect the nature of the topic under evaluation?  | Yes                                |   |
| 2.2   | Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?  | Yes                                | 18 months   |
| 2.3   | Are all important and relevant outcomes included?  | Yes                                | QALYs estimated   |
| 2.4   | Are the estimates of baseline outcomes from the best available source?   | Partly                             | analysis of individual-level RCT data   |
| 2.5   | Are the estimates of relative intervention effects from the best available source?   | Partly                             | analysis of individual-level RCT data and published RCT data; and further assumptions |
| 2.6   | Are all important and relevant costs included?   | Yes                                | Crude cost estimates  |
| 2.7   | Are the estimates of resource use from the best available source?  | Partly                             | Based on manufacturer submissions, published data                                     |

Update 2018

| <b>Study: Kaltenthaler E, Brazier J, De Nigris E, et al. (2006) Computerized cognitive behavior therapy for depression and anxiety update: A systematic review and economic evaluation. Health Technology Assessment 10(33).</b> |  |     |   |
|--|--|-----|---|
|  |  |     | and further assumptions                                 |
| 2.8  | Are the unit costs of resources from the best available source?  | Yes | National sources, intervention costs from manufacturers |
| 2.9  | Is an appropriate incremental analysis presented or can it be calculated from the data?                | Yes |   |
| 2.10   | Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis? | Yes | PSA, CEACs presented                                    |
| 2.11   | Is there any potential conflict of interest?   | No  |   |
| 2.12 Overall assessment: Potentially serious limitations   |  |     |   |
| Other comments:  |  |     |   |

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| <b>Study: McCrone P, Knapp M, Proudfoot J, et al. (2004) Cost-effectiveness of computerised cognitive-behavioural therapy for anxiety and depression in primary care: Randomised controlled trial. British Journal of Psychiatry 185: 55-62</b> |  |                                    |   |
|---|--|------------------------------------|---|
| <b>Economic Question: psychological interventions as first-line treatment for adults with a new episode of depression</b>   |  |                                    |   |
| <b>Section 1: Applicability (relevance to specific review question and the NICE reference case)</b>   |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>   |
| 1.1   | Is the study population appropriate for the review question?   | Partly                             | Adults with depression, mixed depression and anxiety or anxiety               |
| 1.2   | Are the interventions appropriate for the review question?   | Yes                                | cCBT  |
| 1.3   | Is the system in which the study was conducted sufficiently similar to the current UK context?   | Yes                                | UK study  |
| 1.4   | Are the perspectives clearly stated and are they appropriate for the review question?  | Yes                                | NHS (& societal)  |
| 1.5   | Are all direct effects on individuals included, and are all other effects included where they are material?  | Partly                             | HRQoL changes based on assumptions  |
| 1.6   | Are all future costs and outcomes discounted appropriately?  | NA                                 | time horizon 8 months   |
| 1.7   | Is QALY used as an outcome, and was it derived using NICE's preferred methods? If not, describe rationale and outcomes used in line with analytical perspectives taken (item 1.4 above). | Partly                             | BDI main outcome; QALY estimated based on assumptions around BDI measurements |
| 1.8   | Are costs and outcomes from other sectors fully and appropriately measured and valued?   | NA                                 |   |
| 1.9 Overall judgement: Partially applicable   |  |                                    |   |
| Other comments: None  |  |                                    |   |
| <b>Section 2: Study limitations (level of methodological quality)</b>   |  | <b>Yes/ Partly/</b>                | <b>Comments</b>   |

Update 2018

**Study: McCrone P, Knapp M, Proudfoot J, et al. (2004) Cost-effectiveness of computerised cognitive-behavioural therapy for anxiety and depression in primary care: Randomised controlled trial. British Journal of Psychiatry 185: 55-62**

|  |  | No/Unclear/<br>NA |   |
|--|--|-------------------|---|
| 2.1  | Does the model structure adequately reflect the nature of the topic under evaluation?                  | NA                | RCT   |
| 2.2  | Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?      | Partly            | 8 months  |
| 2.3  | Are all important and relevant outcomes included?  | Partly            | HRQoL changes based on assumptions                    |
| 2.4  | Are the estimates of baseline outcomes from the best available source?                                 | Partly            | RCT, N=274  |
| 2.5  | Are the estimates of relative intervention effects from the best available source?                     | Partly            | RCT   |
| 2.6  | Are all important and relevant costs included?   | Yes               |   |
| 2.7  | Are the estimates of resource use from the best available source?                                      | Partly            | RCT   |
| 2.8  | Are the unit costs of resources from the best available source?  | Yes               | National sources, intervention cost from manufacturer |
| 2.9  | Is an appropriate incremental analysis presented or can it be calculated from the data?                | Yes               |   |
| 2.10   | Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis? | Partly            | Statistical tests undertaken; bootstrapping conducted |
| 2.11   | Is there any potential conflict of interest?   | Yes               |   |
| 2.12 Overall assessment: Potentially serious limitations |  |                   |   |
| Other comments:  |  |                   |   |

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**Study: Littlewood E, Duarte A, Hewitt C, et al. (2015) A randomised controlled trial of computerised cognitive behaviour therapy for the treatment of depression in primary care: the Randomised Evaluation of the Effectiveness and Acceptability of Computerised Therapy (REEACT) trial. Health Technol Assess, 19(101).**

**Economic Question: psychological interventions as first-line treatment for adults with a new episode of depression**

| Section 1: Applicability (relevance to specific review question and the NICE reference case) |  | Yes/ Partly/<br>No/Unclear/<br>NA | Comments                           |
|--|--|-----------------------------------|------------------------------------|
| 1.1  | Is the study population appropriate for the review question?                                   | Partly                            | Adults with symptoms of depression |
| 1.2  | Are the interventions appropriate for the review question?                                     | Yes                               | cCBT with support                  |
| 1.3  | Is the system in which the study was conducted sufficiently similar to the current UK context? | Yes                               | UK study                           |
| 1.4  | Are the perspectives clearly stated and are they appropriate for the review question?          | Yes                               | NHS & PSS                          |
| 1.5  | Are all direct effects on individuals included, and are all                                    | Yes                               |                                    |

Update 2018

| Study: Littlewood E, Duarte A, Hewitt C, et al. (2015) A randomised controlled trial of computerised cognitive behaviour therapy for the treatment of depression in primary care: the Randomised Evaluation of the Effectiveness and Acceptability of Computerised Therapy (REEACT) trial. <i>Health Technol Assess</i> , 19(101). |  |                             |   |
|--|--|-----------------------------|---|
|  | other effects included where they are material?  |                             |   |
| 1.6  | Are all future costs and outcomes discounted appropriately?  | Yes                         | 3.5% annually   |
| 1.7  | Is QALY used as an outcome, and was it derived using NICE's preferred methods? If not, describe rationale and outcomes used in line with analytical perspectives taken (item 1.4 above). | Yes                         |   |
| 1.8  | Are costs and outcomes from other sectors fully and appropriately measured and valued?   | NA                          |   |
| 1.9 Overall judgement: Directly applicable   |  |                             |   |
| Other comments: None   |  |                             |   |
| Section 2: Study limitations (level of methodological quality)   |  | Yes/ Partly/ No/Unclear/ NA | Comments  |
| 2.1  | Does the model structure adequately reflect the nature of the topic under evaluation?  | NA                          | RCT   |
| 2.2  | Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?  | Yes                         | 2 years   |
| 2.3  | Are all important and relevant outcomes included?  | Yes                         |   |
| 2.4  | Are the estimates of baseline outcomes from the best available source?   | Partly                      | RCT, N=691; EQ-5D data available for n=416 at 24 months; NHS cost data available for n=580  |
| 2.5  | Are the estimates of relative intervention effects from the best available source?   | Partly                      | RCT   |
| 2.6  | Are all important and relevant costs included?   | Yes                         |   |
| 2.7  | Are the estimates of resource use from the best available source?  | Partly                      | RCT   |
| 2.8  | Are the unit costs of resources from the best available source?  | Yes                         | National sources  |
| 2.9  | Is an appropriate incremental analysis presented or can it be calculated from the data?  | Yes                         |   |
| 2.10   | Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis?   | Yes                         | Statistical tests undertaken; regression analysis to control for covariates conducted; Cholesky decomposition to account for covariance in costs and QALYs and PSA undertaken |
| 2.11   | Is there any potential conflict of interest?   | No                          |   |

**Study: Littlewood E, Duarte A, Hewitt C, et al. (2015) A randomised controlled trial of computerised cognitive behaviour therapy for the treatment of depression in primary care: the Randomised Evaluation of the Effectiveness and Acceptability of Computerised Therapy (REEACT) trial. Health Technol Assess, 19(101).**

2.12 Overall assessment: Minor limitations

Other comments:

1

**Study: Phillips R, Schneider J, Molosankwe I, et al. (2014) Randomized controlled trial of computerized cognitive behavioural therapy for depressive symptoms: effectiveness and costs of a workplace intervention. Psychological Medicine 44: 741-752.**

**Economic Question: psychological interventions as first-line treatment for adults with a new episode of depression**

| <b>Section 1: Applicability (relevance to specific review question and the NICE reference case)</b> |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>                                       |
|---|--|------------------------------------|---|
| 1.1   | Is the study population appropriate for the review question?   | Partly                             | Adults with depressive symptoms in workplace          |
| 1.2   | Are the interventions appropriate for the review question?   | Yes                                | cCBT with support                                     |
| 1.3   | Is the system in which the study was conducted sufficiently similar to the current UK context?   | Yes                                | UK study  |
| 1.4   | Are the perspectives clearly stated and are they appropriate for the review question?  | Yes                                | NHS (& societal)                                      |
| 1.5   | Are all direct effects on individuals included, and are all other effects included where they are material?  | Yes                                |   |
| 1.6   | Are all future costs and outcomes discounted appropriately?  | NA                                 | time horizon 12 weeks for outcomes; 6 weeks for costs |
| 1.7   | Is QALY used as an outcome, and was it derived using NICE's preferred methods? If not, describe rationale and outcomes used in line with analytical perspectives taken (item 1.4 above). | Yes                                |   |
| 1.8   | Are costs and outcomes from other sectors fully and appropriately measured and valued?   | NA                                 |   |

1.9 Overall judgement: Directly applicable

Other comments: None

| <b>Section 2: Study limitations (level of methodological quality)</b> |   | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>   |
|---|---|------------------------------------|---|
| 2.1   | Does the model structure adequately reflect the nature of the topic under evaluation?             | NA                                 | RCT   |
| 2.2   | Is the time horizon sufficiently long to reflect all important differences in costs and outcomes? | No                                 | 12 weeks for outcomes; 6 weeks for costs                |
| 2.3   | Are all important and relevant outcomes included?   | Yes                                |   |
| 2.4   | Are the estimates of baseline outcomes from the best available source?                            | Partly                             | RCT, N=637; completion 56% at 6 weeks & 36% at 12 weeks |

Update 2018

| <b>Study: Phillips R, Schneider J, Molosankwe I, et al. (2014) Randomized controlled trial of computerized cognitive behavioural therapy for depressive symptoms: effectiveness and costs of a workplace intervention. Psychological Medicine 44: 741-752.</b> |  |        |   |
|--|--|--------|---|
| 2.5  | Are the estimates of relative intervention effects from the best available source?                     | Partly | RCT   |
| 2.6  | Are all important and relevant costs included?   | No     | Intervention cost appears to have been omitted  |
| 2.7  | Are the estimates of resource use from the best available source?                                      | Partly | RCT   |
| 2.8  | Are the unit costs of resources from the best available source?  | Yes    | National sources  |
| 2.9  | Is an appropriate incremental analysis presented or can it be calculated from the data?                | Yes    |   |
| 2.10   | Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis? | Partly | Statistical tests undertaken; bootstrapping conducted but no uncertainty results reported |
| 2.11   | Is there any potential conflict of interest?   | No     |   |
| 2.12 Overall assessment: Very serious limitations  |  |        |   |
| Other comments: inadequate reporting of results; no incremental analysis conducted (although it is possible to conduct from reported data) and no uncertainty results presented; intervention cost appears to have been omitted                                |  |        |   |

Update 2018

### P.2.21 Pharmacological interventions

| <b>Study: Kendrick T, Chatwin J, Dowrick C, et al (2009) Randomised controlled trial to determine the clinical effectiveness and cost-effectiveness of selective serotonin reuptake inhibitors plus supportive care, versus supportive care alone, for mild to moderate depression with somatic symptoms in primary care: the THREAD (THREshold for AntiDepressant response) study. Health Technology Assessment 13(22)</b> |   |                                    |  |
|---|---|------------------------------------|--|
| <b>Economic Question: pharmacological interventions as first-line treatment for adults with a new episode of depression</b>   |   |                                    |  |
| <b>Section 1: Applicability (relevance to specific review question and the NICE reference case)</b>   |   | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>  |
| 1.1   | Is the study population appropriate for the review question?  | Yes                                | Adults with depressive symptoms and a baseline HDRS-17 score 12-19 |
| 1.2   | Are the interventions appropriate for the review question?  | Yes                                |  |
| 1.3   | Is the system in which the study was conducted sufficiently similar to the current UK context?                | Yes                                | UK study   |
| 1.4   | Are the perspectives clearly stated and are they appropriate for the review question?                         | Yes                                | Health and social services   |
| 1.5   | Are all direct effects on individuals included, and are all other effects included where they are material?   | Yes                                |  |
| 1.6   | Are all future costs and outcomes discounted appropriately?   | NA                                 | Time horizon 12 & 26 weeks   |
| 1.7   | Is QALY used as an outcome, and was it derived using NICE's preferred methods? If not, describe rationale and | Partly                             | Derived from SF-36; SF-6D  |

|  |  |                                    |   |
|--|--|------------------------------------|---|
| <b>Study: Kendrick T, Chatwin J, Dowrick C, et al (2009) Randomised controlled trial to determine the clinical effectiveness and cost-effectiveness of selective serotonin reuptake inhibitors plus supportive care, versus supportive care alone, for mild to moderate depression with somatic symptoms in primary care: the THREAD (THREShold for AntiDepressant response) study. Health Technology Assessment 13(22)</b>  |  |                                    |   |
|  | outcomes used in line with analytical perspectives taken (item 1.4 above).                             |                                    | UK algorithm used   |
| 1.8  | Are costs and outcomes from other sectors fully and appropriately measured and valued?                 | NA                                 |   |
| 1.9 Overall judgement: Directly applicable   |  |                                    |   |
| Other comments: None   |  |                                    |   |
| <b>Section 2: Study limitations (level of methodological quality)</b>  |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>   |
| 2.1  | Does the model structure adequately reflect the nature of the topic under evaluation?                  | NA                                 | RCT   |
| 2.2  | Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?      | Partly                             | 26 weeks  |
| 2.3  | Are all important and relevant outcomes included?  | Yes                                |   |
| 2.4  | Are the estimates of baseline outcomes from the best available source?                                 | Partly                             | RCT   |
| 2.5  | Are the estimates of relative intervention effects from the best available source?                     | Partly                             | RCT, N=220; 12-week completers n=196; 6-month follow-up n=160 |
| 2.6  | Are all important and relevant costs included?   | Yes                                |   |
| 2.7  | Are the estimates of resource use from the best available source?                                      | Partly                             | RCT   |
| 2.8  | Are the unit costs of resources from the best available source?  | Yes                                | National sources  |
| 2.9  | Is an appropriate incremental analysis presented or can it be calculated from the data?                | Yes                                |   |
| 2.10   | Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis? | Yes                                | Bootstrapping conducted, CEACs presented                      |
| 2.11   | Is there any potential conflict of interest?   | No                                 |   |
| 2.12 Overall assessment: Minor limitations   |  |                                    |   |
| Other comments:  |  |                                    |   |
| <b>Study: Peveler R, Kendrick T, Buxton M, et al (2005) A randomised controlled trial to compare the cost-effectiveness of tricyclic antidepressants, selective serotonin reuptake inhibitors and lofepramine. Health Technology Assessment 9(16)</b><br><b>AND Kendrick T, Peveler R, Longworth L, et al (2006) Cost-effectiveness and cost-utility of tricyclic antidepressants, selective serotonin reuptake inhibitors and lofepramine: Randomised controlled trial. British Journal of Psychiatry 188: 337-345.</b> |  |                                    |   |
| <b>Economic Question: pharmacological interventions as first-line treatment for adults with a new episode of depression</b>  |  |                                    |   |
| <b>Section 1: Applicability (relevance to specific review question and the NICE reference case)</b>  |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>   |
| 1.1  | Is the study population appropriate for the review   | Yes                                | Adults with a   |

1

|   |  |                                    |  |
|---|--|------------------------------------|--|
| <p><b>Study: Peveler R, Kendrick T, Buxton M, et al (2005) A randomised controlled trial to compare the cost-effectiveness of tricyclic antidepressants, selective serotonin reuptake inhibitors and lofepramine. Health Technology Assessment 9(16)</b><br/> <b>AND Kendrick T, Peveler R, Longworth L, et al (2006) Cost-effectiveness and cost-utility of tricyclic antidepressants, selective serotonin reuptake inhibitors and lofepramine: Randomised controlled trial. British Journal of Psychiatry 188: 337-345.</b></p> |  |                                    |  |
|   | question?  |                                    | new episode of depression presenting in primary care |
| 1.2   | Are the interventions appropriate for the review question?   | Yes                                |  |
| 1.3   | Is the system in which the study was conducted sufficiently similar to the current UK context?   | Yes                                | UK study   |
| 1.4   | Are the perspectives clearly stated and are they appropriate for the review question?  | Yes                                | Healthcare   |
| 1.5   | Are all direct effects on individuals included, and are all other effects included where they are material?  | Yes                                |  |
| 1.6   | Are all future costs and outcomes discounted appropriately?  | NA                                 | Time horizon 12 months                               |
| 1.7   | Is QALY used as an outcome, and was it derived using NICE's preferred methods? If not, describe rationale and outcomes used in line with analytical perspectives taken (item 1.4 above). | Yes                                |  |
| 1.8   | Are costs and outcomes from other sectors fully and appropriately measured and valued?   | NA                                 |  |
| 1.9 Overall judgement: Directly applicable  |  |                                    |  |
| Other comments: None  |  |                                    |  |
| <b>Section 2: Study limitations (level of methodological quality)</b>   |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>                                      |
| 2.1   | Does the model structure adequately reflect the nature of the topic under evaluation?  | NA                                 | RCT  |
| 2.2   | Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?  | Partly                             | 12 months  |
| 2.3   | Are all important and relevant outcomes included?  | Yes                                |  |
| 2.4   | Are the estimates of baseline outcomes from the best available source?   | Partly                             | RCT  |
| 2.5   | Are the estimates of relative intervention effects from the best available source?   | Partly                             | RCT  |
| 2.6   | Are all important and relevant costs included?   | Yes                                |  |
| 2.7   | Are the estimates of resource use from the best available source?  | Partly                             | RCT  |
| 2.8   | Are the unit costs of resources from the best available source?  | Yes                                | National sources                                     |
| 2.9   | Is an appropriate incremental analysis presented or can it be calculated from the data?  | Yes                                |  |
| 2.10  | Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis?   | Yes                                | Non-parametric bootstrapping                         |
| 2.11  | Is there any potential conflict of interest?   | No                                 |  |
| 2.12 Overall assessment: Minor limitations  |  |                                    |  |
| Other comments:   |  |                                    |  |

### P.2.31 Physical interventions

**Study: Spackman E, Richmond S, Sculpher M, et al. (2014) Cost-effectiveness analysis of acupuncture, counselling and usual care in treating patients with depression: The results of the ACUDep trial. PLoS ONE 9(11): e113726**

**Economic Question: physical therapy as first-line treatment for adults with a new episode of depression**

| <b>Section 1: Applicability (relevance to specific review question and the NICE reference case)</b> |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>  |
|---|--|------------------------------------|--|
| 1.1   | Is the study population appropriate for the review question?   | Yes                                | Adults with depression   |
| 1.2   | Are the interventions appropriate for the review question?   | Yes                                |  |
| 1.3   | Is the system in which the study was conducted sufficiently similar to the current UK context?   | Yes                                | UK study   |
| 1.4   | Are the perspectives clearly stated and are they appropriate for the review question?  | Yes                                | NHS  |
| 1.5   | Are all direct effects on individuals included, and are all other effects included where they are material?  | Yes                                |  |
| 1.6   | Are all future costs and outcomes discounted appropriately?  | NA                                 | Time horizon 12 months   |
| 1.7   | Is QALY used as an outcome, and was it derived using NICE's preferred methods? If not, describe rationale and outcomes used in line with analytical perspectives taken (item 1.4 above). | Yes                                | QALYs estimated using EQ-5D ratings (UK tariff)  |
| 1.8   | Are costs and outcomes from other sectors fully and appropriately measured and valued?   | NA                                 |  |
| 1.9 Overall judgement: Directly applicable  |  |                                    |  |
| Other comments: None  |  |                                    |  |
| <b>Section 2: Study limitations (level of methodological quality)</b>                               |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>  |
| 2.1   | Does the model structure adequately reflect the nature of the topic under evaluation?  | NA                                 | RCT  |
| 2.2   | Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?  | Partly                             | 12 months  |
| 2.3   | Are all important and relevant outcomes included?  | Yes                                |  |
| 2.4   | Are the estimates of baseline outcomes from the best available source?   | Partly                             | RCT  |
| 2.5   | Are the estimates of relative intervention effects from the best available source?   | Partly                             | RCT (N=755; at 12 months EQ-5D data n=572; complete resource use data n=150; multiple imputation used) |
| 2.6   | Are all important and relevant costs included?   | Yes                                |  |
| 2.7   | Are the estimates of resource use from the best available source?  | Partly                             | RCT  |
| 2.8   | Are the unit costs of resources from the best available source?  | Yes                                | National sources; acupuncture cost based on  |

Update 2018

| <b>Study: Spackman E, Richmond S, Sculpher M, et al. (2014) Cost-effectiveness analysis of acupuncture, counselling and usual care in treating patients with depression: The results of the ACUDep trial. PLoS ONE 9(11): e113726</b> |  |     |  |
|---|--|-----|--|
|   |  |     | published data   |
| 2.9   | Is an appropriate incremental analysis presented or can it be calculated from the data?                | Yes |  |
| 2.10  | Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis? | Yes | One-way SA; multiple imputation and regression analysis of costs and QALYs to account for baseline factors; PSA undertaken and CEACs presented |
| 2.11  | Is there any potential conflict of interest?   | No  |  |
| 2.12 Overall assessment: Potentially serious limitations  |  |     |  |
| Other comments: results sensitive to changes in intervention costs and use of complete case analysis  |  |     |  |

1

| <b>Study: Chalder M, Wiles NJ, Campbell J, et al. (2012) A pragmatic randomised controlled trial to evaluate the cost-effectiveness of a physical activity intervention as a treatment for depression: The treating depression with physical activity (TREAD) trial. Health Technology Assessment 16(10).</b> |  |                                    |  |
|---|--|------------------------------------|--|
| <b>Economic Question: physical therapy as first-line treatment for adults with a new episode of depression</b>  |  |                                    |  |
| <b>Section 1: Applicability (relevance to specific review question and the NICE reference case)</b>   |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>  |
| 1.1   | Is the study population appropriate for the review question?   | Yes                                | Adults with a recent first or new episode of mild /moderate depression |
| 1.2   | Are the interventions appropriate for the review question?   | Yes                                | Exercise   |
| 1.3   | Is the system in which the study was conducted sufficiently similar to the current UK context?   | Yes                                | UK study   |
| 1.4   | Are the perspectives clearly stated and are they appropriate for the review question?  | Yes                                | NHS & PSS  |
| 1.5   | Are all direct effects on individuals included, and are all other effects included where they are material?  | Yes                                |  |
| 1.6   | Are all future costs and outcomes discounted appropriately?  | NA                                 | Time horizon 12 months   |
| 1.7   | Is QALY used as an outcome, and was it derived using NICE's preferred methods? If not, describe rationale and outcomes used in line with analytical perspectives taken (item 1.4 above). | Yes                                | QALYs estimated using EQ-5D ratings (UK tariff)                        |
| 1.8   | Are costs and outcomes from other sectors fully and appropriately measured and valued?   | NA                                 |  |
| 1.9 Overall judgement: Directly applicable  |  |                                    |  |

Update 2018

| <b>Study: Chalder M, Wiles NJ, Campbell J, et al. (2012) A pragmatic randomised controlled trial to evaluate the cost-effectiveness of a physical activity intervention as a treatment for depression: The treating depression with physical activity (TREAD) trial. Health Technology Assessment 16(10).</b> |  |                                    |  |
|---|--|------------------------------------|--|
| Other comments: None  |  |                                    |  |
| <b>Section 2: Study limitations (level of methodological quality)</b>   |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>  |
| 2.1   | Does the model structure adequately reflect the nature of the topic under evaluation?                  | NA                                 | RCT  |
| 2.2   | Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?      | Partly                             | 12 months  |
| 2.3   | Are all important and relevant outcomes included?  | Yes                                |  |
| 2.4   | Are the estimates of baseline outcomes from the best available source?                                 | Partly                             | RCT  |
| 2.5   | Are the estimates of relative intervention effects from the best available source?                     | Partly                             | RCT (N=361; at 12 months EQ-5D data n=195; complete resource use data n=156) |
| 2.6   | Are all important and relevant costs included?   | Yes                                |  |
| 2.7   | Are the estimates of resource use from the best available source?                                      | Partly                             | RCT  |
| 2.8   | Are the unit costs of resources from the best available source?  | Yes                                | National sources   |
| 2.9   | Is an appropriate incremental analysis presented or can it be calculated from the data?                | Yes                                |  |
| 2.10  | Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis? | Yes                                | One-way SA; CEACs using bootstrapping  |
| 2.11  | Is there any potential conflict of interest?   | No                                 |  |
| 2.12 Overall assessment: Potentially serious limitations  |  |                                    |  |
| Other comments: results robust to multiple imputation used in sensitivity analysis; high attrition rates (>50%)   |  |                                    |  |

Update 2018

#### **P.2.4.1 Psychological, pharmacological, physical and combined interventions**

| <b>Study: Guideline economic analysis</b>   |  |                                    |   |
|---|--|------------------------------------|---|
| <b>Economic Question: psychological, pharmacological and combined interventions for treatment of new episodes</b> |  |                                    |   |
| <b>Section 1: Applicability (relevance to specific review question and the NICE reference case)</b>               |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>                                     |
| 1.1   | Is the study population appropriate for the review question?                                   | Yes                                | Adults with a new episode of less severe depression |
| 1.2   | Are the interventions appropriate for the review question?                                     | Yes                                |   |
| 1.3   | Is the system in which the study was conducted sufficiently similar to the current UK context? | Yes                                | UK study  |
| 1.4   | Are the perspectives clearly stated and are they appropriate for the review question?          | Yes                                | NHS/PSS   |

| <b>Study: Guideline economic analysis</b>                             |  |                                    |   |
|---|--|------------------------------------|---|
| 1.5   | Are all direct effects on individuals included, and are all other effects included where they are material?  | Yes                                |   |
| 1.6   | Are all future costs and outcomes discounted appropriately?  | Yes                                | Discount rate 3.5%  |
| 1.7   | Is QALY used as an outcome, and was it derived using NICE's preferred methods? If not, describe rationale and outcomes used in line with analytical perspectives taken (item 1.4 above). | Yes                                |   |
| 1.8   | Are costs and outcomes from other sectors fully and appropriately measured and valued?   | NA                                 |   |
| 1.9 Overall judgement: <b>Directly applicable</b>                     |  |                                    |   |
| <b>Other comments: None</b>   |  |                                    |   |
| <b>Section 2: Study limitations (level of methodological quality)</b> |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>   |
| 2.1   | Does the model structure adequately reflect the nature of the topic under evaluation?  | Yes                                |   |
| 2.2   | Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?  | Yes                                | 12 weeks + 2 years  |
| 2.3   | Are all important and relevant outcomes included?  | Partly                             | Disutility due to serious (but rare) side effects not considered                                  |
| 2.4   | Are the estimates of baseline outcomes from the best available source?   | Yes                                | Review of naturalistic studies  |
| 2.5   | Are the estimates of relative intervention effects from the best available source?   | Yes                                | Systematic review & NMA   |
| 2.6   | Are all important and relevant costs included?   | Partly                             | Cost of managing serious (but rare) side effects not considered                                   |
| 2.7   | Are the estimates of resource use from the best available source?  | Yes                                | Study based on large UK primary care database, supplemented by recent resource use data and costs |
| 2.8   | Are the unit costs of resources from the best available source?  | Yes                                | National sources  |
| 2.9   | Is an appropriate incremental analysis presented or can it be calculated from the data?  | Yes                                |   |
| 2.10  | Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis?   | Yes                                | PSA conducted; CEACs presented  |
| 2.11  | Is there any potential conflict of interest?   | No                                 |   |
| 2.12 Overall assessment: <b>Minor limitations</b>                     |  |                                    |   |
| Other comments:   |  |                                    |   |

## P.3.1 Interventions for first-line treatment of adults with a new episode of more severe depression

### P.3.1.3 Psychological interventions

**Study: Horrell L, Goldsmith KA, Tylee AT, et al. (2014) One-day cognitive-behavioural therapy self-confidence workshops for people with depression: Randomised controlled trial. British Journal of Psychiatry 204: 222-233.**

**Economic Question: psychological interventions as first-line treatment for adults with a new episode of depression**

| Section 1: Applicability (relevance to specific review question and the NICE reference case) |  | Yes/ Partly/ No/Unclear/ NA | Comments  |
|--|--|-----------------------------|---|
| 1.1  | Is the study population appropriate for the review question?   | Yes                         | Adults with depression  |
| 1.2  | Are the interventions appropriate for the review question?   | Yes                         |   |
| 1.3  | Is the system in which the study was conducted sufficiently similar to the current UK context?   | Yes                         | UK study  |
| 1.4  | Are the perspectives clearly stated and are they appropriate for the review question?  | Yes                         | NHS   |
| 1.5  | Are all direct effects on individuals included, and are all other effects included where they are material?  | Yes                         |   |
| 1.6  | Are all future costs and outcomes discounted appropriately?  | NA                          | Time horizon 12 weeks   |
| 1.7  | Is QALY used as an outcome, and was it derived using NICE's preferred methods? If not, describe rationale and outcomes used in line with analytical perspectives taken (item 1.4 above). | Yes                         |   |
| 1.8  | Are costs and outcomes from other sectors fully and appropriately measured and valued?   | NA                          |   |
| 1.9 Overall judgement: Directly applicable   |  |                             |   |
| Other comments: None   |  |                             |   |
| Section 2: Study limitations (level of methodological quality)                               |  | Yes/ Partly/ No/Unclear/ NA | Comments  |
| 2.1  | Does the model structure adequately reflect the nature of the topic under evaluation?  | NA                          | RCT   |
| 2.2  | Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?  | No                          | 12 weeks  |
| 2.3  | Are all important and relevant outcomes included?  | Yes                         |   |
| 2.4  | Are the estimates of baseline outcomes from the best available source?   | Partly                      | RCT   |
| 2.5  | Are the estimates of relative intervention effects from the best available source?   | Partly                      | RCT (N=459; economic analysis based on n=375 or 380, depending on outcome used) |
| 2.6  | Are all important and relevant costs included?   | Yes                         |   |
| 2.7  | Are the estimates of resource use from the best available source?  | Partly                      | RCT   |
| 2.8  | Are the unit costs of resources from the best available source?  | Yes                         | National sources &  |

Update 2018

**Study: Horrell L, Goldsmith KA, Tylee AT, et al. (2014) One-day cognitive-behavioural therapy self-confidence workshops for people with depression: Randomised controlled trial. British Journal of Psychiatry 204: 222-233.**

|  |  |     |  |
|--|--|-----|--|
|  |  |     | published studies                        |
| 2.9  | Is an appropriate incremental analysis presented or can it be calculated from the data?                | Yes |  |
| 2.10   | Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis? | Yes | Bootstrapping conducted, CEACs presented |
| 2.11   | Is there any potential conflict of interest?   | No  |  |
| 2.12 Overall assessment: potentially serious limitations |  |     |  |
| Other comments:  |  |     |  |

1

**Study: Holman AJ, Serfaty MA, Leurent BE, et al. (2011) Cost-effectiveness of cognitive behaviour therapy versus talking and usual care for depressed older people in primary care. BMC health services research 11: 33.**

**Economic Question: psychological interventions as first-line treatment for adults with a new episode of depression**

| <b>Section 1: Applicability (relevance to specific review question and the NICE reference case)</b> |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>  |
|---|--|------------------------------------|--|
| 1.1   | Is the study population appropriate for the review question?   | Yes                                | Older adults aged ≥ 65 years with depression (BDI ≥14) |
| 1.2   | Are the interventions appropriate for the review question?   | Yes                                | CBT  |
| 1.3   | Is the system in which the study was conducted sufficiently similar to the current UK context?   | Yes                                | UK study   |
| 1.4   | Are the perspectives clearly stated and are they appropriate for the review question?  | Yes                                | Health and social services                             |
| 1.5   | Are all direct effects on individuals included, and are all other effects included where they are material?  | Partly                             | HRQoL not measured                                     |
| 1.6   | Are all future costs and outcomes discounted appropriately?  | NA                                 | Time horizon 10 months                                 |
| 1.7   | Is QALY used as an outcome, and was it derived using NICE's preferred methods? If not, describe rationale and outcomes used in line with analytical perspectives taken (item 1.4 above). | No                                 | BDI  |
| 1.8   | Are costs and outcomes from other sectors fully and appropriately measured and valued?   | NA                                 |  |
| 1.9 Overall judgement: Partially applicable   |  |                                    |  |
| Other comments: None  |  |                                    |  |
| <b>Section 2: Study limitations (level of methodological quality)</b>                               |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>  |
| 2.1   | Does the model structure adequately reflect the nature of the topic under evaluation?  | NA                                 | RCT  |
| 2.2   | Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?  | Partly                             | 10 months  |
| 2.3   | Are all important and relevant outcomes included?  | Partly                             | HRQoL not measured                                     |

Update 2018

| <b>Study: Holman AJ, Serfaty MA, Leurent BE, et al. (2011) Cost-effectiveness of cognitive behaviour therapy versus talking and usual care for depressed older people in primary care. BMC health services research 11: 33.</b> |  |        |   |
|---|--|--------|---|
| 2.4   | Are the estimates of baseline outcomes from the best available source?                                 | Partly | RCT, N=204; analysis on n=167   |
| 2.5   | Are the estimates of relative intervention effects from the best available source?                     | Partly | RCT   |
| 2.6   | Are all important and relevant costs included?   | No     | Only primary and community healthcare services considered             |
| 2.7   | Are the estimates of resource use from the best available source?                                      | Partly | RCT, analysis on n=198  |
| 2.8   | Are the unit costs of resources from the best available source?  | Yes    | National sources  |
| 2.9   | Is an appropriate incremental analysis presented or can it be calculated from the data?                | Yes    |   |
| 2.10  | Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis? | Yes    | Statistical tests including bootstrapping undertaken; CEACs presented |
| 2.11  | Is there any potential conflict of interest?   | No     |   |
| 2.12 Overall assessment: Potentially serious limitations  |  |        |   |
| Other comments:   |  |        |   |

1

| <b>Study: Hollinghurst S, Peters TJ, Kaur S, et al. (2010) Cost-effectiveness of therapist-delivered online cognitive-behavioural therapy for depression: Randomised controlled trial. British Journal of Psychiatry 197: 297-304.</b> |  |                                    |   |
|--|--|------------------------------------|---|
| <b>Economic Question: psychological interventions as first-line treatment for adults with a new episode of depression</b>  |  |                                    |   |
| <b>Section 1: Applicability (relevance to specific review question and the NICE reference case)</b>  |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>                         |
| 1.1  | Is the study population appropriate for the review question?   | Partly                             | Adults with a new episode of depression |
| 1.2  | Are the interventions appropriate for the review question?   | Yes                                | individual CBT delivered online         |
| 1.3  | Is the system in which the study was conducted sufficiently similar to the current UK context?   | Yes                                | UK study                                |
| 1.4  | Are the perspectives clearly stated and are they appropriate for the review question?  | Yes                                | NHS (& societal)                        |
| 1.5  | Are all direct effects on individuals included, and are all other effects included where they are material?  | Yes                                |   |
| 1.6  | Are all future costs and outcomes discounted appropriately?  | NA                                 | time horizon 8 months                   |
| 1.7  | Is QALY used as an outcome, and was it derived using NICE's preferred methods? If not, describe rationale and outcomes used in line with analytical perspectives taken (item 1.4 above). | Yes                                |   |

Update 2018

| <b>Study: Hollinghurst S, Peters TJ, Kaur S, et al. (2010) Cost-effectiveness of therapist-delivered online cognitive-behavioural therapy for depression: Randomised controlled trial. British Journal of Psychiatry 197: 297-304.</b> |  |                                    |  |
|--|--|------------------------------------|--|
| 1.8  | Are costs and outcomes from other sectors fully and appropriately measured and valued?                 | NA                                 |  |
| 1.9 Overall judgement: Directly applicable   |  |                                    |  |
| Other comments: None   |  |                                    |  |
| <b>Section 2: Study limitations (level of methodological quality)</b>  |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>  |
| 2.1  | Does the model structure adequately reflect the nature of the topic under evaluation?                  | NA                                 | RCT  |
| 2.2  | Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?      | Partly                             | 8 months   |
| 2.3  | Are all important and relevant outcomes included?  | Yes                                |  |
| 2.4  | Are the estimates of baseline outcomes from the best available source?                                 | Partly                             | RCT, N=297; BDI data for n=210; QALYs for n=165; NHS cost data for n=137 |
| 2.5  | Are the estimates of relative intervention effects from the best available source?                     | Partly                             | RCT  |
| 2.6  | Are all important and relevant costs included?   | Yes                                |  |
| 2.7  | Are the estimates of resource use from the best available source?                                      | Partly                             | RCT  |
| 2.8  | Are the unit costs of resources from the best available source?  | Yes                                | National sources   |
| 2.9  | Is an appropriate incremental analysis presented or can it be calculated from the data?                | Yes                                |  |
| 2.10   | Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis? | Yes                                | Statistical tests undertaken; bootstrapping conducted                    |
| 2.11   | Is there any potential conflict of interest?   | No                                 |  |
| 2.12 Overall assessment: Potentially serious limitations   |  |                                    |  |
| Other comments:  |  |                                    |  |

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| <b>Study: Ekers D, Godfrey C, Gilbody S, et al (2011) Cost utility of behavioural activation delivered by the non-specialist. British Journal of Psychiatry 199: 510-511.</b> |  |                                    |                        |
|---|--|------------------------------------|------------------------|
| <b>Economic Question: psychological interventions as first-line treatment for adults with a new episode of depression</b>   |  |                                    |                        |
| <b>Section 1: Applicability (relevance to specific review question and the NICE reference case)</b>   |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>        |
| 1.1   | Is the study population appropriate for the review question?                                   | Yes                                | Adults with depression |
| 1.2   | Are the interventions appropriate for the review question?                                     | Yes                                | Behavioural activation |
| 1.3   | Is the system in which the study was conducted sufficiently similar to the current UK context? | Yes                                | UK study               |
| 1.4   | Are the perspectives clearly stated and are they   | Yes                                | NHS/PSS                |

Update 2018

**Study: Ekers D, Godfrey C, Gilbody S, et al (2011) Cost utility of behavioural activation delivered by the non-specialist. British Journal of Psychiatry 199: 510-511.**

|   |  |                                    |   |
|---|--|------------------------------------|---|
|   | appropriate for the review question?   |                                    |   |
| 1.5   | Are all direct effects on individuals included, and are all other effects included where they are material?  | Yes                                |   |
| 1.6   | Are all future costs and outcomes discounted appropriately?  | NA                                 | Time horizon 3 months                   |
| 1.7   | Is QALY used as an outcome, and was it derived using NICE's preferred methods? If not, describe rationale and outcomes used in line with analytical perspectives taken (item 1.4 above). | Yes                                |   |
| 1.8   | Are costs and outcomes from other sectors fully and appropriately measured and valued?   | NA                                 |   |
| 1.9 Overall judgement: <b>Directly applicable</b>                     |  |                                    |   |
| Other comments: None  |  |                                    |   |
| <b>Section 2: Study limitations (level of methodological quality)</b> |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>                         |
| 2.1   | Does the model structure adequately reflect the nature of the topic under evaluation?  | NA                                 | RCT                                     |
| 2.2   | Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?  | Partly                             | 3 months                                |
| 2.3   | Are all important and relevant outcomes included?  | Yes                                |   |
| 2.4   | Are the estimates of baseline outcomes from the best available source?   | Partly                             | RCT                                     |
| 2.5   | Are the estimates of relative intervention effects from the best available source?   | Partly                             | RCT (N=47, completers n=38)             |
| 2.6   | Are all important and relevant costs included?   | Yes                                |   |
| 2.7   | Are the estimates of resource use from the best available source?  | Partly                             | RCT                                     |
| 2.8   | Are the unit costs of resources from the best available source?  | Yes                                | National sources                        |
| 2.9   | Is an appropriate incremental analysis presented or can it be calculated from the data?  | Yes                                |   |
| 2.10  | Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis?   | Yes                                | Bootstrapping conducted, CEAC presented |
| 2.11  | Is there any potential conflict of interest?   | No                                 |   |
| 2.12 Overall assessment: <b>potentially serious limitations</b>       |  |                                    |   |
| Other comments:   |  |                                    |   |

1

**Study: Miller P, Chilvers C, Dewey M, et al. (2003) Counseling versus antidepressant therapy for the treatment of mild to moderate depression in primary care economic analysis. International Journal of Technology Assessment in Health Care 19: 80-90.**

**Economic Question: psychological interventions as first-line treatment for adults with a new episode of depression**

|   |  |                                    |                 |
|---|--|------------------------------------|-----------------|
| <b>Section 1: Applicability (relevance to specific review question and the NICE reference case)</b> |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b> |
| 1.1   | Is the study population appropriate for the review | Yes                                | Adults with     |

Update 2018

| <b>Study: Miller P, Chilvers C, Dewey M, et al. (2003) Counseling versus antidepressant therapy for the treatment of mild to moderate depression in primary care economic analysis. International Journal of Technology Assessment in Health Care 19: 80-90.</b> |  |                                    |   |
|--|--|------------------------------------|---|
|  | question?  |                                    | major depression  |
| 1.2  | Are the interventions appropriate for the review question?   | Yes                                | Counselling and antidepressants   |
| 1.3  | Is the system in which the study was conducted sufficiently similar to the current UK context?   | Yes                                | UK study  |
| 1.4  | Are the perspectives clearly stated and are they appropriate for the review question?  | Yes                                | NHS   |
| 1.5  | Are all direct effects on individuals included, and are all other effects included where they are material?  | Partly                             | HRQoL not measured  |
| 1.6  | Are all future costs and outcomes discounted appropriately?  | NA                                 | Time horizon 12 months  |
| 1.7  | Is QALY used as an outcome, and was it derived using NICE's preferred methods? If not, describe rationale and outcomes used in line with analytical perspectives taken (item 1.4 above). | No                                 | Global outcome, defined using research diagnostic criteria, BDI score and GP notes. |
| 1.8  | Are costs and outcomes from other sectors fully and appropriately measured and valued?   | NA                                 |   |
| 1.9 Overall judgement: Partially applicable  |  |                                    |   |
| Other comments: None   |  |                                    |   |
| <b>Section 2: Study limitations (level of methodological quality)</b>  |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>   |
| 2.1  | Does the model structure adequately reflect the nature of the topic under evaluation?  | NA                                 | RCT & preference trial  |
| 2.2  | Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?  | Partly                             | 12 months   |
| 2.3  | Are all important and relevant outcomes included?  | Partly                             | HRQoL not measured  |
| 2.4  | Are the estimates of baseline outcomes from the best available source?   | Partly                             | RCT (N=103; at 12 months n=81) & preference trial (N=220; at 12 months n=163)       |
| 2.5  | Are the estimates of relative intervention effects from the best available source?   | Partly                             | RCT & preference trial  |
| 2.6  | Are all important and relevant costs included?   | Partly                             | Only depression-related costs measured  |
| 2.7  | Are the estimates of resource use from the best available source?  | Partly                             | RCT (n=103) & preference trial (n=215)  |
| 2.8  | Are the unit costs of resources from the best available source?  | Yes                                | National sources & local costs for counsellors                                      |

| <b>Study: Miller P, Chilvers C, Dewey M, et al. (2003) Counseling versus antidepressant therapy for the treatment of mild to moderate depression in primary care economic analysis. International Journal of Technology Assessment in Health Care 19: 80-90.</b> |  |     |   |
|--|--|-----|---|
| 2.9  | Is an appropriate incremental analysis presented or can it be calculated from the data?                | Yes |   |
| 2.10   | Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis? | Yes | Statistical tests including bootstrapping undertaken; CEACs presented |
| 2.11   | Is there any potential conflict of interest?   | No  |   |
| 2.12 Overall assessment: Potentially serious limitations   |  |     |   |
| Other comments:  |  |     |   |

### P.3.2.1 Pharmacological interventions

| <b>Study: Benedict A, Arellano J, De Cock E, Baird J (2010) Economic evaluation of duloxetine versus serotonin selective reuptake inhibitors and venlafaxine XR in treating major depressive disorder in Scotland. Journal of Affective Disorders 120: 94-104.</b> |  |                                    |  |
|--|--|------------------------------------|--|
| <b>Economic Question: pharmacological interventions as first-line treatment for adults with a new episode of depression</b>  |  |                                    |  |
| <b>Section 1: Applicability (relevance to specific review question and the NICE reference case)</b>  |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>  |
| 1.1  | Is the study population appropriate for the review question?   | Yes                                | Adults with a new episode of moderate to severe depression treated in primary care |
| 1.2  | Are the interventions appropriate for the review question?   | Yes                                |  |
| 1.3  | Is the system in which the study was conducted sufficiently similar to the current UK context?   | Yes                                | UK study   |
| 1.4  | Are the perspectives clearly stated and are they appropriate for the review question?  | Yes                                | Scottish NHS   |
| 1.5  | Are all direct effects on individuals included, and are all other effects included where they are material?  | Yes                                |  |
| 1.6  | Are all future costs and outcomes discounted appropriately?  | NA                                 | Time horizon 48 weeks  |
| 1.7  | Is QALY used as an outcome, and was it derived using NICE's preferred methods? If not, describe rationale and outcomes used in line with analytical perspectives taken (item 1.4 above). | Yes                                |  |
| 1.8  | Are costs and outcomes from other sectors fully and appropriately measured and valued?   | NA                                 |  |
| 1.9 Overall judgement: Directly applicable   |  |                                    |  |
| Other comments: None   |  |                                    |  |
| <b>Section 2: Study limitations (level of methodological quality)</b>  |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>  |
| 2.1  | Does the model structure adequately reflect the nature of the topic under evaluation?  | Yes                                |  |
| 2.2  | Is the time horizon sufficiently long to reflect all important   | Partly                             | 48 weeks   |

| <b>Study: Benedict A, Arellano J, De Cock E, Baird J (2010) Economic evaluation of duloxetine versus serotonin selective reuptake inhibitors and venlafaxine XR in treating major depressive disorder in Scotland. Journal of Affective Disorders 120: 94-104.</b> |  |        |  |
|--|--|--------|--|
|  | differences in costs and outcomes?   |        |  |
| 2.3  | Are all important and relevant outcomes included?  | Partly | Disutility from side effects not considered                      |
| 2.4  | Are the estimates of baseline outcomes from the best available source?                                 | Partly | Meta-analyses of clinical trials                                 |
| 2.5  | Are the estimates of relative intervention effects from the best available source?                     | Partly | Meta-analyses of clinical trials - randomisation possibly broken |
| 2.6  | Are all important and relevant costs included?   | Partly | Cost of side effects not considered                              |
| 2.7  | Are the estimates of resource use from the best available source?                                      | Partly | Expert opinion   |
| 2.8  | Are the unit costs of resources from the best available source?  | Yes    | National sources   |
| 2.9  | Is an appropriate incremental analysis presented or can it be calculated from the data?                | Yes    |  |
| 2.10   | Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis? | Yes    |  |
| 2.11   | Is there any potential conflict of interest?   | Yes    | Funded by industry   |
| 2.12 Overall assessment: Potentially serious limitations   |  |        |  |
| Other comments:  |  |        |  |

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| <b>Study: Lenox-Smith A, Greenstreet L, Burslem K, Knight C (2009) Cost effectiveness of venlafaxine compared with generic fluoxetine or generic amitriptyline in major depressive disorder in the UK. Clinical Drug Investigation 29: 173-184.</b> |   |                                    |   |
|---|---|------------------------------------|---|
| <b>Economic Question: pharmacological interventions as first-line treatment for adults with a new episode of depression</b>   |   |                                    |   |
| <b>Section 1: Applicability (relevance to specific review question and the NICE reference case)</b>   |   | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>   |
| 1.1   | Is the study population appropriate for the review question?  | Yes                                | Adult outpatients with major depression                 |
| 1.2   | Are the interventions appropriate for the review question?  | Yes                                | (venlafaxine included but not considered for guideline) |
| 1.3   | Is the system in which the study was conducted sufficiently similar to the current UK context?              | Yes                                | UK study  |
| 1.4   | Are the perspectives clearly stated and are they appropriate for the review question?                       | Yes                                | NHS   |
| 1.5   | Are all direct effects on individuals included, and are all other effects included where they are material? | Partly                             | Side effects not considered                             |
| 1.6   | Are all future costs and outcomes discounted appropriately?   | NA                                 | Time horizon 24 weeks                                   |

Update 2018

**Study: Lenox-Smith A, Greenstreet L, Burslem K, Knight C (2009) Cost effectiveness of venlafaxine compared with generic fluoxetine or generic amitriptyline in major depressive disorder in the UK. Clinical Drug Investigation 29: 173-184.**

|   |  |                                    |  |
|---|--|------------------------------------|--|
| 1.7   | Is QALY used as an outcome, and was it derived using NICE's preferred methods? If not, describe rationale and outcomes used in line with analytical perspectives taken (item 1.4 above). | Partly                             | Utility values estimated based on the presumed utilities of a depression-free day and a severely depressed day |
| 1.8   | Are costs and outcomes from other sectors fully and appropriately measured and valued?   | NA                                 |  |
| 1.9 Overall judgement: Partially applicable                           |  |                                    |  |
| Other comments: None  |  |                                    |  |
| <b>Section 2: Study limitations (level of methodological quality)</b> |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>  |
| 2.1   | Does the model structure adequately reflect the nature of the topic under evaluation?  | Yes                                |  |
| 2.2   | Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?  | Partly                             | 24 weeks   |
| 2.3   | Are all important and relevant outcomes included?  | Partly                             | Side effects not considered  |
| 2.4   | Are the estimates of baseline outcomes from the best available source?   | Partly                             | Meta-analysis of RCTs  |
| 2.5   | Are the estimates of relative intervention effects from the best available source?   | Partly                             | Meta-analysis of RCTs; method of synthesis unclear, but randomisation appears to have been broken              |
| 2.6   | Are all important and relevant costs included?   | Partly                             | Costs of side effects not considered   |
| 2.7   | Are the estimates of resource use from the best available source?  | Partly                             | Delphi panel   |
| 2.8   | Are the unit costs of resources from the best available source?  | Yes                                | National sources   |
| 2.9   | Is an appropriate incremental analysis presented or can it be calculated from the data?  | Yes                                |  |
| 2.10  | Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis?   | Yes                                |  |
| 2.11  | Is there any potential conflict of interest?   | Yes                                | Funded by industry   |
| 2.12 Overall assessment: Very serious limitations                     |  |                                    |  |
| Other comments:   |  |                                    |  |

1

**Study: Wade AG, Toumi I, Hemels MEH (2005) A probabilistic cost-effectiveness analysis of escitalopram, generic citalopram and venlafaxine as a first-line treatment of major depressive disorder in the UK. Current Medical Research and Opinion 21: 631-641.**

Update 2018

| <b>Study: Wade AG, Toumi I, Hemels MEH (2005) A probabilistic cost-effectiveness analysis of escitalopram, generic citalopram and venlafaxine as a first-line treatment of major depressive disorder in the UK. Current Medical Research and Opinion 21: 631-641.</b> |  |                                    |   |
|---|--|------------------------------------|---|
| <b>Economic Question: pharmacological interventions as first-line treatment for adults with a new episode of depression</b>   |  |                                    |   |
| <b>Section 1: Applicability (relevance to specific review question and the NICE reference case)</b>   |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>   |
| 1.1   | Is the study population appropriate for the review question?   | Yes                                | Adults with major depression (baseline MADRS score 18-40) |
| 1.2   | Are the interventions appropriate for the review question?   | Yes                                | (venlafaxine was included but not part of RQ)             |
| 1.3   | Is the system in which the study was conducted sufficiently similar to the current UK context?   | Yes                                | UK study  |
| 1.4   | Are the perspectives clearly stated and are they appropriate for the review question?  | Yes                                | NHS and societal  |
| 1.5   | Are all direct effects on individuals included, and are all other effects included where they are material?  | Partly                             | Side effects / HRQoL not considered                       |
| 1.6   | Are all future costs and outcomes discounted appropriately?  | NA                                 | Time horizon 26 weeks                                     |
| 1.7   | Is QALY used as an outcome, and was it derived using NICE's preferred methods? If not, describe rationale and outcomes used in line with analytical perspectives taken (item 1.4 above). | No                                 | Outcome was measured as % of remission (MADRS score ≤ 12) |
| 1.8   | Are costs and outcomes from other sectors fully and appropriately measured and valued?   | NA                                 |   |
| 1.9 Overall judgement: Partially applicable   |  |                                    |   |
| Other comments: None  |  |                                    |   |
| <b>Section 2: Study limitations (level of methodological quality)</b>   |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>   |
| 2.1   | Does the model structure adequately reflect the nature of the topic under evaluation?  | Yes                                |   |
| 2.2   | Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?  | Partly                             | 26 weeks  |
| 2.3   | Are all important and relevant outcomes included?  | Partly                             | HRQoL not measured  |
| 2.4   | Are the estimates of baseline outcomes from the best available source?   | Partly                             | Meta-analysis of RCTs                                     |
| 2.5   | Are the estimates of relative intervention effects from the best available source?   | Partly                             | Meta-analysis of RCTs                                     |
| 2.6   | Are all important and relevant costs included?   | Partly                             | Cost of side effects not considered                       |
| 2.7   | Are the estimates of resource use from the best available source?  | Partly                             | GP database and expert opinion                            |

**Study: Wade AG, Toumi I, Hemels MEH (2005) A probabilistic cost-effectiveness analysis of escitalopram, generic citalopram and venlafaxine as a first-line treatment of major depressive disorder in the UK. Current Medical Research and Opinion 21: 631-641.**

|  |  |        |  |
|--|--|--------|--|
| 2.8  | Are the unit costs of resources from the best available source?  | Yes    | National sources                             |
| 2.9  | Is an appropriate incremental analysis presented or can it be calculated from the data?                | Yes    |  |
| 2.10   | Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis? | Partly | SA results not based on incremental analysis |
| 2.11   | Is there any potential conflict of interest?   | Yes    | Funded by industry                           |
| 2.12 Overall assessment: Potentially serious limitations |  |        |  |
| Other comments:  |  |        |  |

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**Study: Wade AG, Toumi I, Hemels MEH (2005) A pharmacoeconomic evaluation of escitalopram versus citalopram in the treatment of severe depression in the United Kingdom. Clinical Therapeutics 27: 486-496.**

**Economic Question: pharmacological interventions as first-line treatment for adults with a new episode of depression**

| Section 1: Applicability (relevance to specific review question and the NICE reference case) |  | Yes/ Partly/ No/Unclear/ NA | Comments  |
|--|--|-----------------------------|---|
| 1.1  | Is the study population appropriate for the review question?   | Yes                         | Adults with major severe depression (baseline MADRS score ≥ 30) |
| 1.2  | Are the interventions appropriate for the review question?   | Yes                         |   |
| 1.3  | Is the system in which the study was conducted sufficiently similar to the current UK context?   | Yes                         | UK study  |
| 1.4  | Are the perspectives clearly stated and are they appropriate for the review question?  | Yes                         | NHS and societal  |
| 1.5  | Are all direct effects on individuals included, and are all other effects included where they are material?  | Partly                      | Side effects / HRQoL not considered                             |
| 1.6  | Are all future costs and outcomes discounted appropriately?  | NA                          | Time horizon 26 weeks   |
| 1.7  | Is QALY used as an outcome, and was it derived using NICE's preferred methods? If not, describe rationale and outcomes used in line with analytical perspectives taken (item 1.4 above). | No                          | Outcome was measured as % of remission (MADRS score ≤ 12)       |
| 1.8  | Are costs and outcomes from other sectors fully and appropriately measured and valued?   | NA                          |   |
| 1.9 Overall judgement: Partially applicable  |  |                             |   |
| Other comments: None   |  |                             |   |
| Section 2: Study limitations (level of methodological quality)                               |  | Yes/ Partly/ No/Unclear/ NA | Comments  |
| 2.1  | Does the model structure adequately reflect the nature of  | Yes                         |   |

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| <b>Study: Wade AG, Toumi I, Hemels MEH (2005) A pharmacoeconomic evaluation of escitalopram versus citalopram in the treatment of severe depression in the United Kingdom. Clinical Therapeutics 27: 486-496.</b> |  |        |   |
|---|--|--------|---|
|   | the topic under evaluation?  |        |   |
| 2.2   | Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?      | Partly | 26 weeks                                |
| 2.3   | Are all important and relevant outcomes included?  | Partly | HRQoL not considered                    |
| 2.4   | Are the estimates of baseline outcomes from the best available source?                                 | Partly | Meta-analysis of RCTs                   |
| 2.5   | Are the estimates of relative intervention effects from the best available source?                     | Partly | Meta-analysis of RCTs                   |
| 2.6   | Are all important and relevant costs included?   | Yes    |   |
| 2.7   | Are the estimates of resource use from the best available source?                                      | Partly | Published literature and expert opinion |
| 2.8   | Are the unit costs of resources from the best available source?  | Yes    | National sources                        |
| 2.9   | Is an appropriate incremental analysis presented or can it be calculated from the data?                | Yes    |   |
| 2.10  | Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis? | Yes    |   |
| 2.11  | Is there any potential conflict of interest?   | Yes    | Funded by industry                      |
| 2.12 Overall assessment: Potentially serious limitations  |  |        |   |
| Other comments:   |  |        |   |

Update 2018

### P.3.3.1 Combined pharmacological and psychological interventions

| <b>Study: Simon J, Pilling S, Burbeck R, Goldberg D (2006) Treatment options in moderate and severe depression: Decision analysis supporting a clinical guideline. British Journal of Psychiatry 189: 494-501.</b> |  |                                    |  |
|--|--|------------------------------------|--|
| <b>Economic Question: combination therapy as first-line treatment for adults with a new episode of depression</b>  |  |                                    |  |
| <b>Section 1: Applicability (relevance to specific review question and the NICE reference case)</b>  |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>                                    |
| 1.1  | Is the study population appropriate for the review question?   | Yes                                | Adults with moderate / severe depression           |
| 1.2  | Are the interventions appropriate for the review question?   | Yes                                |  |
| 1.3  | Is the system in which the study was conducted sufficiently similar to the current UK context?   | Yes                                | UK study   |
| 1.4  | Are the perspectives clearly stated and are they appropriate for the review question?  | Yes                                | NHS  |
| 1.5  | Are all direct effects on individuals included, and are all other effects included where they are material?  | Yes                                |  |
| 1.6  | Are all future costs and outcomes discounted appropriately?  | NA                                 | Time horizon 15 months                             |
| 1.7  | Is QALY used as an outcome, and was it derived using NICE's preferred methods? If not, describe rationale and outcomes used in line with analytical perspectives taken (item 1.4 above). | Partly                             | Utilities used to estimate QALYs were derived from |

**Study: Simon J, Pilling S, Burbeck R, Goldberg D (2006) Treatment options in moderate and severe depression: Decision analysis supporting a clinical guideline. British Journal of Psychiatry 189: 494-501.**

|  |  |                                    |  |
|--|--|------------------------------------|--|
|  |  |                                    | service users that valued vignettes using SG |
| 1.8  | Are costs and outcomes from other sectors fully and appropriately measured and valued?                 | NA                                 |  |
| 1.9 Overall judgement: Partially applicable  |  |                                    |  |
| Other comments: None   |  |                                    |  |
| <b>Section 2: Study limitations (level of methodological quality)</b>  |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>                              |
| 2.1  | Does the model structure adequately reflect the nature of the topic under evaluation?                  | Yes                                | Decision tree                                |
| 2.2  | Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?      | Partly                             | 15 months                                    |
| 2.3  | Are all important and relevant outcomes included?  | Partly                             | Side effects not considered                  |
| 2.4  | Are the estimates of baseline outcomes from the best available source?                                 | Yes                                | Systematic review & meta-analysis            |
| 2.5  | Are the estimates of relative intervention effects from the best available source?                     | Yes                                | Systematic review & meta-analysis            |
| 2.6  | Are all important and relevant costs included?   | Partly                             | Costs of side effects not considered         |
| 2.7  | Are the estimates of resource use from the best available source?                                      | Partly                             | published literature and expert opinion      |
| 2.8  | Are the unit costs of resources from the best available source?  | Yes                                | National sources                             |
| 2.9  | Is an appropriate incremental analysis presented or can it be calculated from the data?                | Yes                                |  |
| 2.10   | Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis? | Yes                                | One-way SA; PSA & CEACs                      |
| 2.11   | Is there any potential conflict of interest?   | No                                 |  |
| 2.12 Overall assessment: Minor limitations   |  |                                    |  |
| Other comments: costs and disutility associated with side effects not considered but since drugs were used in both arms of the model, the impact of this omission is considered to be negligible and depends on the difference of treatment discontinuation between the two arms |  |                                    |  |

Update 2018

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**Study: Koeser L, Donisi V, Goldberg DP, et al. (2015) Modelling the cost-effectiveness of pharmacotherapy compared with cognitive-behavioural therapy and combination therapy for the treatment of moderate to severe depression in the UK. Psychological Medicine, 45(14), 3019-31.**

|   |                                    |                 |
|---|------------------------------------|-----------------|
| <b>Economic Question: combination therapy as first-line treatment for adults with a new episode of depression</b> |                                    |                 |
| <b>Section 1: Applicability (relevance to specific review question and the NICE reference case)</b>               | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b> |

| <b>Study: Koeser L, Donisi V, Goldberg DP, et al. (2015) Modelling the cost-effectiveness of pharmacotherapy compared with cognitive-behavioural therapy and combination therapy for the treatment of moderate to severe depression in the UK. Psychological Medicine, 45(14), 3019-31.</b> |  |                                    |   |
|---|--|------------------------------------|---|
| 1.1   | Is the study population appropriate for the review question?   | Yes                                | Adults with moderate or severe depression                 |
| 1.2   | Are the interventions appropriate for the review question?   | Yes                                |   |
| 1.3   | Is the system in which the study was conducted sufficiently similar to the current UK context?   | Yes                                | UK study  |
| 1.4   | Are the perspectives clearly stated and are they appropriate for the review question?  | Yes                                | NHS   |
| 1.5   | Are all direct effects on individuals included, and are all other effects included where they are material?  | Yes                                |   |
| 1.6   | Are all future costs and outcomes discounted appropriately?  | Yes                                | 3.5% annually; time horizon 27 months                     |
| 1.7   | Is QALY used as an outcome, and was it derived using NICE's preferred methods? If not, describe rationale and outcomes used in line with analytical perspectives taken (item 1.4 above). | Yes                                | EQ-5D (UK tariff)   |
| 1.8   | Are costs and outcomes from other sectors fully and appropriately measured and valued?   | NA                                 |   |
| 1.9 Overall judgement: Directly applicable  |  |                                    |   |
| Other comments: None  |  |                                    |   |
| <b>Section 2: Study limitations (level of methodological quality)</b>   |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>   |
| 2.1   | Does the model structure adequately reflect the nature of the topic under evaluation?  | Yes                                | Decision tree   |
| 2.2   | Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?  | Yes                                | 27 months   |
| 2.3   | Are all important and relevant outcomes included?  | Partly                             | Side effects not considered                               |
| 2.4   | Are the estimates of baseline outcomes from the best available source?   | Partly                             | NMA of RCTs identified in a database                      |
| 2.5   | Are the estimates of relative intervention effects from the best available source?   | Yes                                | NMA of RCTs identified in a systematic database           |
| 2.6   | Are all important and relevant costs included?   | Partly                             | Costs of side effects not considered                      |
| 2.7   | Are the estimates of resource use from the best available source?  | Partly                             | published literature based on expert opinion and RCT data |
| 2.8   | Are the unit costs of resources from the best available source?  | Yes                                | National sources  |
| 2.9   | Is an appropriate incremental analysis presented or can it be calculated from the data?  | Yes                                |   |

|   |  |     |                         |
|---|--|-----|-------------------------|
| <b>Study: Koeser L, Donisi V, Goldberg DP, et al. (2015) Modelling the cost-effectiveness of pharmacotherapy compared with cognitive-behavioural therapy and combination therapy for the treatment of moderate to severe depression in the UK. Psychological Medicine, 45(14), 3019-31.</b> |  |     |                         |
| 2.10  | Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis? | Yes | One-way SA; PSA & CEACs |
| 2.11  | Is there any potential conflict of interest?   | No  |                         |
| 2.12 Overall assessment: Minor limitations  |  |     |                         |
| Other comments:   |  |     |                         |

### P.3.41 Physical interventions

|  |  |                                    |  |
|--|--|------------------------------------|--|
| <b>Study: Greenhalgh J, Knight C, Hind D, et al. (2005) Clinical and cost-effectiveness of electroconvulsive therapy for depressive illness, schizophrenia, catatonia and mania: Systematic reviews and economic modelling studies. Health Technology Assessment 9(9).</b> |  |                                    |  |
| <b>Economic Question: physical therapy as first-line treatment for adults with a new episode of depression</b>   |  |                                    |  |
| <b>Section 1: Applicability (relevance to specific review question and the NICE reference case)</b>  |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>  |
| 1.1  | Is the study population appropriate for the review question?   | Yes                                | Adults with major depression who require hospitalisation   |
| 1.2  | Are the interventions appropriate for the review question?   | Yes                                | ECT & medication   |
| 1.3  | Is the system in which the study was conducted sufficiently similar to the current UK context?   | Yes                                | UK study   |
| 1.4  | Are the perspectives clearly stated and are they appropriate for the review question?  | Yes                                | NHS  |
| 1.5  | Are all direct effects on individuals included, and are all other effects included where they are material?  | Partly                             | Impact of side effects considered only in terms of discontinuation   |
| 1.6  | Are all future costs and outcomes discounted appropriately?  | NA                                 | Time horizon 12 months   |
| 1.7  | Is QALY used as an outcome, and was it derived using NICE's preferred methods? If not, describe rationale and outcomes used in line with analytical perspectives taken (item 1.4 above). | Partly                             | QALYs estimated based on preferences for vignettes using the McSad system valued by Canadian service users with previous depression using SG |
| 1.8  | Are costs and outcomes from other sectors fully and appropriately measured and valued?   | NA                                 |  |
| 1.9 Overall judgement: Partially applicable  |  |                                    |  |
| Other comments: None   |  |                                    |  |
| <b>Section 2: Study limitations (level of methodological quality)</b>  |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>  |

| <b>Study: Greenhalgh J, Knight C, Hind D, et al. (2005) Clinical and cost-effectiveness of electroconvulsive therapy for depressive illness, schizophrenia, catatonia and mania: Systematic reviews and economic modelling studies. Health Technology Assessment 9(9).</b> |  |           |   |
|--|--|-----------|---|
|  |  | <b>NA</b> |   |
| 2.1  | Does the model structure adequately reflect the nature of the topic under evaluation?                  | Yes       |   |
| 2.2  | Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?      | Partly    | 12 months                                 |
| 2.3  | Are all important and relevant outcomes included?  | Yes       |   |
| 2.4  | Are the estimates of baseline outcomes from the best available source?                                 | Partly    | Systematic review and further assumptions |
| 2.5  | Are the estimates of relative intervention effects from the best available source?                     | Partly    | Systematic review and further assumptions |
| 2.6  | Are all important and relevant costs included?   | Yes       |   |
| 2.7  | Are the estimates of resource use from the best available source?                                      | Partly    | Published literature and expert opinion   |
| 2.8  | Are the unit costs of resources from the best available source?  | Yes       | National sources                          |
| 2.9  | Is an appropriate incremental analysis presented or can it be calculated from the data?                | Yes       |   |
| 2.10   | Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis? | Yes       | PSA; 95% CI reported                      |
| 2.11   | Is there any potential conflict of interest?   | No        |   |
| 2.12 Overall assessment: Potentially serious limitations   |  |           |   |
| Other comments:  |  |           |   |

Update 2018

### P.3.51 Psychological, pharmacological and combined interventions

| <b>Study: Guideline economic analysis</b>   |   |                                    |   |
|---|---|------------------------------------|---|
| <b>Economic Question: psychological, pharmacological and combined interventions for treatment of new episodes</b> |   |                                    |   |
| <b>Section 1: Applicability (relevance to specific review question and the NICE reference case)</b>               |   | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>                                     |
| 1.1   | Is the study population appropriate for the review question?  | Yes                                | Adults with a new episode of more severe depression |
| 1.2   | Are the interventions appropriate for the review question?  | Yes                                |   |
| 1.3   | Is the system in which the study was conducted sufficiently similar to the current UK context?                | Yes                                | UK study  |
| 1.4   | Are the perspectives clearly stated and are they appropriate for the review question?                         | Yes                                | NHS/PSS   |
| 1.5   | Are all direct effects on individuals included, and are all other effects included where they are material?   | Yes                                |   |
| 1.6   | Are all future costs and outcomes discounted appropriately?   | Yes                                | Discount rate 3.5%                                  |
| 1.7   | Is QALY used as an outcome, and was it derived using NICE's preferred methods? If not, describe rationale and | Yes                                |   |

| <b>Study: Guideline economic analysis</b>  |  |                                    |   |
|--|--|------------------------------------|---|
|  | outcomes used in line with analytical perspectives taken (item 1.4 above).                             |                                    |   |
| 1.8  | Are costs and outcomes from other sectors fully and appropriately measured and valued?                 | NA                                 |   |
| 1.9 Overall judgement: Directly applicable   |  |                                    |   |
| Other comments: None   |  |                                    |   |
| <b>Section 2: Study limitations (level of methodological quality)</b>  |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>   |
| 2.1  | Does the model structure adequately reflect the nature of the topic under evaluation?                  | Yes                                |   |
| 2.2  | Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?      | Yes                                | 12 weeks + 2 years  |
| 2.3  | Are all important and relevant outcomes included?  | Partly                             | Disutility due to serious (but rare) side effects not considered                                  |
| 2.4  | Are the estimates of baseline outcomes from the best available source?                                 | Yes                                | Review of naturalistic studies  |
| 2.5  | Are the estimates of relative intervention effects from the best available source?                     | Yes                                | Systematic review & NMA   |
| 2.6  | Are all important and relevant costs included?   | Partly                             | Cost of managing serious (but rare) side effects not considered                                   |
| 2.7  | Are the estimates of resource use from the best available source?                                      | Yes                                | Study based on large UK primary care database, supplemented by recent resource use data and costs |
| 2.8  | Are the unit costs of resources from the best available source?  | Yes                                | National sources  |
| 2.9  | Is an appropriate incremental analysis presented or can it be calculated from the data?                | Yes                                |   |
| 2.10   | Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis? | Yes                                | PSA conducted; CEACs presented  |
| 2.11   | Is there any potential conflict of interest?   | No                                 |   |
| 2.12 Overall assessment: Potentially serious limitations   |  |                                    |   |
| Other comments: Due to sparseness of connections in some of the networks that informed the economic analysis, and the inclusion of studies with unexpectedly large effects which were transferred due to limited indirect comparisons available in the networks, results for some interventions are likely to have been exaggerated. |  |                                    |   |

Update 2018

## P.4.1 Interventions for the treatment of adults with a depressive episode who responded inadequately or were intolerant to previous treatment

### P.4.14 Psychological interventions

**Study: Scott J, Palmer S, Paykel E, et al (2003) Use of cognitive therapy for relapse prevention in chronic depression: Cost-effectiveness study. British Journal of Psychiatry 182: 221-227.**

**Economic Question: psychological interventions for the treatment of adults with a depressive episode who responded inadequately or were intolerant to previous treatment**

| Section 1: Applicability (relevance to specific review question and the NICE reference case) |  | Yes/ Partly/ No/Unclear/ NA | Comments  |
|--|--|-----------------------------|---|
| 1.1  | Is the study population appropriate for the review question?   | Yes                         | Adults with partially remitted major depression despite adequate clinical treatment |
| 1.2  | Are the interventions appropriate for the review question?   | Yes                         |   |
| 1.3  | Is the system in which the study was conducted sufficiently similar to the current UK context?   | Yes                         | UK study  |
| 1.4  | Are the perspectives clearly stated and are they appropriate for the review question?  | Yes                         | NHS/PSS   |
| 1.5  | Are all direct effects on individuals included, and are all other effects included where they are material?  | Partly                      | HRQoL not measured  |
| 1.6  | Are all future costs and outcomes discounted appropriately?  | Partly                      | Annual rate of 6%; time horizon 17 months   |
| 1.7  | Is QALY used as an outcome, and was it derived using NICE's preferred methods? If not, describe rationale and outcomes used in line with analytical perspectives taken (item 1.4 above). | No                          | % of relapses prevented   |
| 1.8  | Are costs and outcomes from other sectors fully and appropriately measured and valued?   | NA                          |   |
| 1.9 Overall judgement: Partially applicable  |  |                             |   |
| Other comments: None   |  |                             |   |
| Section 2: Study limitations (level of methodological quality)                               |  | Yes/ Partly/ No/Unclear/ NA | Comments  |
| 2.1  | Does the model structure adequately reflect the nature of the topic under evaluation?  | NA                          | RCT   |
| 2.2  | Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?  | Partly                      | 17 months   |
| 2.3  | Are all important and relevant outcomes included?  | Partly                      | HRQoL not considered  |
| 2.4  | Are the estimates of baseline outcomes from the best available source?   | Partly                      | RCT, N=158  |
| 2.5  | Are the estimates of relative intervention effects from the best available source?   | Partly                      | RCT   |

Update 2018

| <b>Study: Scott J, Palmer S, Paykel E, et al (2003) Use of cognitive therapy for relapse prevention in chronic depression: Cost-effectiveness study. British Journal of Psychiatry 182: 221-227.</b> |  |        |  |
|--|--|--------|--|
| 2.6  | Are all important and relevant costs included?   | Yes    |  |
| 2.7  | Are the estimates of resource use from the best available source?                                      | Partly | RCT, full data on 65% of participants                    |
| 2.8  | Are the unit costs of resources from the best available source?  | Partly | National sources; inpatient cost data from local sources |
| 2.9  | Is an appropriate incremental analysis presented or can it be calculated from the data?                | Yes    |  |
| 2.10   | Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis? | Yes    | Statistical analyses conducted; CEAC presented           |
| 2.11   | Is there any potential conflict of interest?   | No     |  |
| 2.12 Overall assessment: Minor limitations   |  |        |  |
| Other comments:  |  |        |  |

1

| <b>Study: Hollinghurst S, Carroll FE, Abel A, et al. (2014) Cost-effectiveness of cognitive-behavioural therapy as an adjunct to pharmacotherapy for treatment-resistant depression in primary care: Economic evaluation of the CoBaIT Trial. British Journal of Psychiatry 204: 69-76.</b> |  |                                    |   |
|---|--|------------------------------------|---|
| <b>Economic Question: psychological interventions for the treatment of adults with a depressive episode who responded inadequately or were intolerant to previous treatment</b>   |  |                                    |   |
| <b>Section 1: Applicability (relevance to specific review question and the NICE reference case)</b>   |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>   |
| 1.1   | Is the study population appropriate for the review question?                                   | Yes                                | Adults aged 18-75 years with major depression, who had adhered to antidepressant medication for at least 6 weeks in primary care, but who continued to have significant depressive symptoms |
| 1.2   | Are the interventions appropriate for the review question?                                     | Yes                                |   |
| 1.3   | Is the system in which the study was conducted sufficiently similar to the current UK context? | Yes                                | UK study  |
| 1.4   | Are the perspectives clearly stated and are they appropriate for the review question?          | Yes                                | NHS/PSS for cost-utility analysis; health & social care provider for cost   |

Update 2018

**Study: Hollinghurst S, Carroll FE, Abel A, et al. (2014) Cost-effectiveness of cognitive-behavioural therapy as an adjunct to pharmacotherapy for treatment-resistant depression in primary care: Economic evaluation of the CoBaIT Trial. British Journal of Psychiatry 204: 69-76.**

|   |  |                                    |  |
|---|--|------------------------------------|--|
|   |  |                                    | consequence analysis, with service user expenses and productivity losses assessed in additional analyses |
| 1.5   | Are all direct effects on individuals included, and are all other effects included where they are material?  | Yes                                |  |
| 1.6   | Are all future costs and outcomes discounted appropriately?  | Yes                                | 3.5% annually on costs and outcomes  |
| 1.7   | Is QALY used as an outcome, and was it derived using NICE's preferred methods? If not, describe rationale and outcomes used in line with analytical perspectives taken (item 1.4 above). | Yes                                | Other outcomes (e.g. response, remission) considered as well   |
| 1.8   | Are costs and outcomes from other sectors fully and appropriately measured and valued?   | NA                                 |  |
| 1.9 Overall judgement: Directly applicable                            |  |                                    |  |
| Other comments: None  |  |                                    |  |
| <b>Section 2: Study limitations (level of methodological quality)</b> |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>  |
| 2.1   | Does the model structure adequately reflect the nature of the topic under evaluation?  | NA                                 | RCT  |
| 2.2   | Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?  | Yes                                | 3-5 years' follow up   |
| 2.3   | Are all important and relevant outcomes included?  | Yes                                |  |
| 2.4   | Are the estimates of baseline outcomes from the best available source?   | Partly                             | RCT, N=467   |
| 2.5   | Are the estimates of relative intervention effects from the best available source?   | Partly                             | RCT  |
| 2.6   | Are all important and relevant costs included?   | Yes                                |  |
| 2.7   | Are the estimates of resource use from the best available source?  | Partly                             | RCT  |
| 2.8   | Are the unit costs of resources from the best available source?  | Yes                                | National sources   |
| 2.9   | Is an appropriate incremental analysis presented or can it be calculated from the data?  | Yes                                |  |
| 2.10  | Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis?   | Yes                                | Statistical analyses conducted; CEAC presented   |
| 2.11  | Is there any potential conflict of interest?   | No                                 |  |
| 2.12 Overall assessment: Minor limitations                            |  |                                    |  |
| Other comments:   |  |                                    |  |

### P.4.21 Pharmacological interventions

**Study: Olgiati P, Bajo E, Bigelli M, et al. (2013) Challenging sequential approach to treatment resistant depression: cost-utility analysis based on the Sequenced Treatment Alternatives to Relieve Depression (STAR\*D) trial. European Neuropsychopharmacology 23: 1739-1746.**

**Economic Question: pharmacological interventions for the treatment of adults with a depressive episode who responded inadequately or were intolerant to previous treatment**

| <b>Section 1: Applicability (relevance to specific review question and the NICE reference case)</b> |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>  |
|---|--|------------------------------------|--|
| 1.1   | Is the study population appropriate for the review question?   | Yes                                | Adults with chronic depression that received second line treatment following non-remission |
| 1.2   | Are the interventions appropriate for the review question?   | Yes                                |  |
| 1.3   | Is the system in which the study was conducted sufficiently similar to the current UK context?   | Partly                             | US study   |
| 1.4   | Are the perspectives clearly stated and are they appropriate for the review question?  | Yes                                | 3rd party payer  |
| 1.5   | Are all direct effects on individuals included, and are all other effects included where they are material?  | Yes                                |  |
| 1.6   | Are all future costs and outcomes discounted appropriately?  | NA                                 | Time horizon 26 weeks  |
| 1.7   | Is QALY used as an outcome, and was it derived using NICE's preferred methods? If not, describe rationale and outcomes used in line with analytical perspectives taken (item 1.4 above). | Partly                             | Based on preferences for vignettes, elicited from service users in the US/Canada using SG  |
| 1.8   | Are costs and outcomes from other sectors fully and appropriately measured and valued?   | NA                                 |  |
| 1.9 Overall judgement: Partially applicable   |  |                                    |  |
| Other comments: None  |  |                                    |  |
| <b>Section 2: Study limitations (level of methodological quality)</b>                               |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>  |
| 2.1   | Does the model structure adequately reflect the nature of the topic under evaluation?  | Yes                                |  |
| 2.2   | Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?  | Partly                             | 26 weeks   |
| 2.3   | Are all important and relevant outcomes included?  | Yes                                |  |
| 2.4   | Are the estimates of baseline outcomes from the best available source?   | Partly                             | Large study of series of RCTs  |
| 2.5   | Are the estimates of relative intervention effects from the best available source?   | No                                 | Data for each arm obtained from 2 different studies, thus breaking rules of randomisation  |
| 2.6   | Are all important and relevant costs included?   | Partly                             | Cost of side   |

Update 2018

**Study: Olgiati P, Bajo E, Bigelli M, et al. (2013) Challenging sequential approach to treatment resistant depression: cost-utility analysis based on the Sequenced Treatment Alternatives to Relieve Depression (STAR\*D) trial. European Neuropsychopharmacology 23: 1739-1746.**

|   |  |        |                                     |
|---|--|--------|-------------------------------------|
|   |  |        | effects not considered              |
| 2.7   | Are the estimates of resource use from the best available source?                                      | Partly | Expert opinion                      |
| 2.8   | Are the unit costs of resources from the best available source?  | Yes    | National sources                    |
| 2.9   | Is an appropriate incremental analysis presented or can it be calculated from the data?                | Yes    |                                     |
| 2.10  | Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis? | Yes    | PSA conducted but no CEAC presented |
| 2.11  | Is there any potential conflict of interest?   | No     |                                     |
| 2.12 Overall assessment: Very serious limitations |  |        |                                     |
| Other comments: only incremental QALYs presented  |  |        |                                     |

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**Study: Nordstrom G, Despiegel N, Marteau F, et al (2010) Cost effectiveness of escitalopram versus SNRIs in second-step treatment of major depressive disorder in Sweden. Journal of Medical Economics 13: 516-526.**

| <b>Economic Question: pharmacological interventions for the treatment of adults with a depressive episode who responded inadequately or were intolerant to previous treatment</b> |  |                                    |   |
|---|--|------------------------------------|---|
| <b>Section 1: Applicability (relevance to specific review question and the NICE reference case)</b>   |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>   |
| 1.1   | Is the study population appropriate for the review question?   | Partly                             | Adults with major depression who initiated antidepressant treatment, with a history of treatment with another antidepressant within the previous 6 months |
| 1.2   | Are the interventions appropriate for the review question?   | Yes                                |   |
| 1.3   | Is the system in which the study was conducted sufficiently similar to the current UK context?   | Partly                             | Swedish study   |
| 1.4   | Are the perspectives clearly stated and are they appropriate for the review question?  | Yes                                | Societal but healthcare costs reported separately   |
| 1.5   | Are all direct effects on individuals included, and are all other effects included where they are material?  | Yes                                |   |
| 1.6   | Are all future costs and outcomes discounted appropriately?  | NA                                 | Time horizon 6 months   |
| 1.7   | Is QALY used as an outcome, and was it derived using NICE's preferred methods? If not, describe rationale and outcomes used in line with analytical perspectives taken (item 1.4 above). | Yes                                |   |

Update 2018

| <b>Study: Nordstrom G, Despiegel N, Marteau F, et al (2010) Cost effectiveness of escitalopram versus SNRIs in second-step treatment of major depressive disorder in Sweden. Journal of Medical Economics 13: 516-526.</b> |  |                                    |   |
|--|--|------------------------------------|---|
| 1.8  | Are costs and outcomes from other sectors fully and appropriately measured and valued?                 | NA                                 |   |
| 1.9 Overall judgement: Partially applicable  |  |                                    |   |
| Other comments: None   |  |                                    |   |
| <b>Section 2: Study limitations (level of methodological quality)</b>  |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>   |
| 2.1  | Does the model structure adequately reflect the nature of the topic under evaluation?                  | Yes                                |   |
| 2.2  | Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?      | Partly                             | 6 months  |
| 2.3  | Are all important and relevant outcomes included?  | Yes                                |   |
| 2.4  | Are the estimates of baseline outcomes from the best available source?                                 | Partly                             | Pooled analysis of trial data, for participants who had already received antidepressant therapy – data for duloxetine & venlafaxine pooled together |
| 2.5  | Are the estimates of relative intervention effects from the best available source?                     | Partly                             | Pooled analysis of trial data, for participants who had already received antidepressant therapy   |
| 2.6  | Are all important and relevant costs included?   | Yes                                |   |
| 2.7  | Are the estimates of resource use from the best available source?                                      | Partly                             | Naturalistic study  |
| 2.8  | Are the unit costs of resources from the best available source?  | Yes                                | National sources  |
| 2.9  | Is an appropriate incremental analysis presented or can it be calculated from the data?                | Yes                                |   |
| 2.10   | Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis? | Partly                             | CEACs presented for escitalopram versus each of the other drugs considered  |
| 2.11   | Is there any potential conflict of interest?   | Yes                                | Funded by industry  |
| 2.12 Overall assessment: Potentially serious limitations   |  |                                    |   |
| Other comments:  |  |                                    |   |

Update 2018

1

| <b>Study: Benedict A, Arellano J, De Cock E, Baird J (2010) Economic evaluation of duloxetine versus serotonin selective reuptake inhibitors and venlafaxine XR in treating major depressive disorder in Scotland. Journal of Affective Disorders 120: 94-104.</b> |  |                                    |  |
|--|--|------------------------------------|--|
| <b>Economic Question: pharmacological interventions for the treatment of adults with a depressive episode who responded inadequately or were intolerant to previous treatment</b>  |  |                                    |  |
| <b>Section 1: Applicability (relevance to specific review question and the NICE reference case)</b>  |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>  |
| 1.1  | Is the study population appropriate for the review question?   | Yes                                | Adults with severe major depression who failed previous treatment with SSRIs |
| 1.2  | Are the interventions appropriate for the review question?   | Yes                                |  |
| 1.3  | Is the system in which the study was conducted sufficiently similar to the current UK context?   | Yes                                | UK study   |
| 1.4  | Are the perspectives clearly stated and are they appropriate for the review question?  | Yes                                | Scottish NHS   |
| 1.5  | Are all direct effects on individuals included, and are all other effects included where they are material?  | Yes                                |  |
| 1.6  | Are all future costs and outcomes discounted appropriately?  | NA                                 | Time horizon 48 weeks  |
| 1.7  | Is QALY used as an outcome, and was it derived using NICE's preferred methods? If not, describe rationale and outcomes used in line with analytical perspectives taken (item 1.4 above). | Yes                                |  |
| 1.8  | Are costs and outcomes from other sectors fully and appropriately measured and valued?   | NA                                 |  |
| 1.9 Overall judgement: Directly applicable   |  |                                    |  |
| Other comments: None   |  |                                    |  |
| <b>Section 2: Study limitations (level of methodological quality)</b>  |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>  |
| 2.1  | Does the model structure adequately reflect the nature of the topic under evaluation?  | Yes                                |  |
| 2.2  | Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?  | Partly                             | 48 weeks   |
| 2.3  | Are all important and relevant outcomes included?  | Partly                             | Disutility from side effects not considered                                  |
| 2.4  | Are the estimates of baseline outcomes from the best available source?   | Partly                             | Meta-analyses of clinical trials   |
| 2.5  | Are the estimates of relative intervention effects from the best available source?   | Partly                             | Meta-analyses of clinical trials - randomisation possibly broken             |
| 2.6  | Are all important and relevant costs included?   | Partly                             | Cost of side effects not considered  |
| 2.7  | Are the estimates of resource use from the best available source?  | Partly                             | Expert opinion   |
| 2.8  | Are the unit costs of resources from the best available source?  | Yes                                | National sources   |

**Study: Benedict A, Arellano J, De Cock E, Baird J (2010) Economic evaluation of duloxetine versus serotonin selective reuptake inhibitors and venlafaxine XR in treating major depressive disorder in Scotland. Journal of Affective Disorders 120: 94-104.**

|  |  |     |                    |
|--|--|-----|--------------------|
| 2.9  | Is an appropriate incremental analysis presented or can it be calculated from the data?                | Yes |                    |
| 2.10   | Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis? | Yes |                    |
| 2.11   | Is there any potential conflict of interest?   | Yes | Funded by industry |
| 2.12 Overall assessment: Potentially serious limitations |  |     |                    |
| Other comments:  |  |     |                    |

1

**Study: Malone DC (2007) A budget-impact and cost-effectiveness model for second-line treatment of major depression. Journal of Managed Care Pharmacy 13: S8-S18.**

**Economic Question: pharmacological interventions for the treatment of adults with a depressive episode who responded inadequately or were intolerant to previous treatment**

| Section 1: Applicability (relevance to specific review question and the NICE reference case) |  | Yes/ Partly/ No/Unclear/ NA | Comments   |
|--|--|-----------------------------|--|
| 1.1  | Is the study population appropriate for the review question?   | Yes                         | Adults with major depression who have failed to achieve remission with SSRIs |
| 1.2  | Are the interventions appropriate for the review question?   | Yes                         |  |
| 1.3  | Is the system in which the study was conducted sufficiently similar to the current UK context?   | Partly                      | US study   |
| 1.4  | Are the perspectives clearly stated and are they appropriate for the review question?  | Yes                         | 3rd party payer  |
| 1.5  | Are all direct effects on individuals included, and are all other effects included where they are material?  | Partly                      | Side effects and HRQoL not considered  |
| 1.6  | Are all future costs and outcomes discounted appropriately?  | NA                          | Time horizon 6 months  |
| 1.7  | Is QALY used as an outcome, and was it derived using NICE's preferred methods? If not, describe rationale and outcomes used in line with analytical perspectives taken (item 1.4 above). | No                          | Outcome measure was probability of remission                                 |
| 1.8  | Are costs and outcomes from other sectors fully and appropriately measured and valued?   | NA                          |  |
| 1.9 Overall judgement: Partially applicable  |  |                             |  |
| Other comments: None   |  |                             |  |
| Section 2: Study limitations (level of methodological quality)                               |  | Yes/ Partly/ No/Unclear/ NA | Comments   |
| 2.1  | Does the model structure adequately reflect the nature of the topic under evaluation?  | Yes                         |  |
| 2.2  | Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?  | Partly                      | 6 months   |
| 2.3  | Are all important and relevant outcomes included?  | Partly                      | Side effects and HRQoL not   |

Update 2018

| <b>Study: Malone DC (2007) A budget-impact and cost-effectiveness model for second-line treatment of major depression. Journal of Managed Care Pharmacy 13: S8-S18.</b> |  |         |   |
|---|--|---------|---|
|   |  |         | considered  |
| 2.4   | Are the estimates of baseline outcomes from the best available source?                                 | Partly  | Baseline data from published trials   |
| 2.5   | Are the estimates of relative intervention effects from the best available source?                     | No      | review of published trial data and further assumptions – synthesis by naïve addition of data (leading to breaking of randomisation) |
| 2.6   | Are all important and relevant costs included?   | Yes     |   |
| 2.7   | Are the estimates of resource use from the best available source?                                      | Partly  | Analysis of 1,814 persons enrolled in 10 antidepressant studies   |
| 2.8   | Are the unit costs of resources from the best available source?  | Unclear | Medication costs from national sources; other unit costs taken from other studies, unclear whether these were national or local     |
| 2.9   | Is an appropriate incremental analysis presented or can it be calculated from the data?                | Yes     |   |
| 2.10  | Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis? | Partly  | Results of sensitivity analysis reported using primarily each intervention's CER and not ICERs.                                     |
| 2.11  | Is there any potential conflict of interest?   | Yes     |   |
| 2.12 Overall assessment: Very serious limitations   |  |         |   |
| Other comments:   |  |         |   |

Update 2018

1

| <b>Study: Edwards S, Hamilton V, Nherera L, Trevor N (2013) Lithium or an atypical antipsychotic drug in the management of treatment resistant depression: a systematic review and economic evaluation. Health Technology Assessment 17(54).</b> |  |                                    |                                 |
|--|--|------------------------------------|---------------------------------|
| <b>Economic Question: pharmacological interventions for the treatment of adults with a depressive episode who responded inadequately or were intolerant to previous treatment</b>  |  |                                    |                                 |
| <b>Section 1: Applicability (relevance to specific review question and the NICE reference case)</b>  |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>                 |
| 1.1  | Is the study population appropriate for the review question? | Yes                                | Adults with treatment-resistant |

| <b>Study: Edwards S, Hamilton V, Nherera L, Trevor N (2013) Lithium or an atypical antipsychotic drug in the management of treatment resistant depression: a systematic review and economic evaluation. Health Technology Assessment 17(54).</b> |  |                                    |   |
|--|--|------------------------------------|---|
|  |  |                                    | unipolar depression (TRD) defined as failure to respond to at least 2 previous antidepressants in the current episode of depression |
| 1.2  | Are the interventions appropriate for the review question?   | Yes                                |   |
| 1.3  | Is the system in which the study was conducted sufficiently similar to the current UK context?   | Yes                                | UK study  |
| 1.4  | Are the perspectives clearly stated and are they appropriate for the review question?  | Yes                                | NHS/PSS   |
| 1.5  | Are all direct effects on individuals included, and are all other effects included where they are material?  | Partly                             | Side effects not considered   |
| 1.6  | Are all future costs and outcomes discounted appropriately?  | NA                                 | Time horizon 12 months  |
| 1.7  | Is QALY used as an outcome, and was it derived using NICE's preferred methods? If not, describe rationale and outcomes used in line with analytical perspectives taken (item 1.4 above). | Yes                                |   |
| 1.8  | Are costs and outcomes from other sectors fully and appropriately measured and valued?   | NA                                 |   |
| 1.9 Overall judgement: Directly applicable   |  |                                    |   |
| Other comments: Evidence on lithium derived from people who had failed at least one antidepressant   |  |                                    |   |
| <b>Section 2: Study limitations (level of methodological quality)</b>  |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>   |
| 2.1  | Does the model structure adequately reflect the nature of the topic under evaluation?  | Yes                                |   |
| 2.2  | Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?  | Partly                             | 12 months   |
| 2.3  | Are all important and relevant outcomes included?  | Partly                             | Side effects not considered   |
| 2.4  | Are the estimates of baseline outcomes from the best available source?   | Partly                             | Pooled trial data identified in a systematic review   |
| 2.5  | Are the estimates of relative intervention effects from the best available source?   | Partly                             | Indirect comparison using a common baseline comparator; data on lithium not from TRD population                                     |
| 2.6  | Are all important and relevant costs included?   | Yes                                |   |
| 2.7  | Are the estimates of resource use from the best available source?  | Partly                             | Clinical expert opinion; weighted   |

| <b>Study: Edwards S, Hamilton V, Nherera L, Trevor N (2013) Lithium or an atypical antipsychotic drug in the management of treatment resistant depression: a systematic review and economic evaluation. Health Technology Assessment 17(54).</b> |  |     |   |
|--|--|-----|---|
|  |  |     | medication costs were used, based on expert opinion |
| 2.8  | Are the unit costs of resources from the best available source?  | Yes | National sources                                    |
| 2.9  | Is an appropriate incremental analysis presented or can it be calculated from the data?                | Yes |   |
| 2.10   | Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis? | Yes |   |
| 2.11   | Is there any potential conflict of interest?   | No  |   |
| 2.12 Overall assessment: Potentially serious limitations   |  |     |   |
| Other comments:  |  |     |   |

1

| <b>Study: Taneja C, Papakostas GI, Jing Y, et al (2012) Cost-effectiveness of adjunctive therapy with atypical antipsychotics for acute treatment of major depressive disorder. Annals of Pharmacotherapy 46: 642-649.</b> |  |                                    |  |
|--|--|------------------------------------|--|
| <b>Economic Question: pharmacological interventions for the treatment of adults with a depressive episode who responded inadequately or were intolerant to previous treatment</b>  |  |                                    |  |
| <b>Section 1: Applicability (relevance to specific review question and the NICE reference case)</b>  |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>  |
| 1.1  | Is the study population appropriate for the review question?   | Yes                                | Adults with major depression who responded inadequately to previous antidepressant therapy |
| 1.2  | Are the interventions appropriate for the review question?   | Yes                                |  |
| 1.3  | Is the system in which the study was conducted sufficiently similar to the current UK context?   | Partly                             | US study   |
| 1.4  | Are the perspectives clearly stated and are they appropriate for the review question?  | Yes                                | Healthcare system  |
| 1.5  | Are all direct effects on individuals included, and are all other effects included where they are material?  | Partly                             | Side effects and HRQoL not considered  |
| 1.6  | Are all future costs and outcomes discounted appropriately?  | NA                                 | Time horizon 6 weeks   |
| 1.7  | Is QALY used as an outcome, and was it derived using NICE's preferred methods? If not, describe rationale and outcomes used in line with analytical perspectives taken (item 1.4 above). | No                                 | Outcome measure was probability of response  |
| 1.8  | Are costs and outcomes from other sectors fully and appropriately measured and valued?   | NA                                 |  |
| 1.9 Overall judgement: Partially applicable  |  |                                    |  |
| Other comments: None   |  |                                    |  |
| <b>Section 2: Study limitations (level of methodological quality)</b>  |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>  |

Update 2018

**Study: Taneja C, Papakostas GI, Jing Y, et al (2012) Cost-effectiveness of adjunctive therapy with atypical antipsychotics for acute treatment of major depressive disorder. Annals of Pharmacotherapy 46: 642-649.**

|   |  |        |   |
|---|--|--------|---|
| 2.1   | Does the model structure adequately reflect the nature of the topic under evaluation?                  | Yes    |   |
| 2.2   | Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?      | No     | 6 weeks   |
| 2.3   | Are all important and relevant outcomes included?  | Partly | Side effects and HRQoL not considered   |
| 2.4   | Are the estimates of baseline outcomes from the best available source?                                 | Partly | Pooled published trial data   |
| 2.5   | Are the estimates of relative intervention effects from the best available source?                     | Partly | Meta-analysis of published phase 3 clinical trials and indirect comparison using placebo as baseline comparator |
| 2.6   | Are all important and relevant costs included?   | Yes    |   |
| 2.7   | Are the estimates of resource use from the best available source?                                      | Partly | Administrative databases and assumptions  |
| 2.8   | Are the unit costs of resources from the best available source?  | Yes    | National sources  |
| 2.9   | Is an appropriate incremental analysis presented or can it be calculated from the data?                | Yes    |   |
| 2.10  | Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis? | Partly | Only sensitivity analysis relating to relative effectiveness reported   |
| 2.11  | Is there any potential conflict of interest?   | Yes    |   |
| 2.12 Overall assessment: Very serious limitations |  |        |   |
| Other comments:                                   |  |        |   |

Update 2018

**P.5.1 Interventions aimed at preventing relapse in people whose depression has responded to treatment**

**P.5.1.3 Psychological interventions**

**Study: Kuyken W, Byford S, Taylor RS, et al. (2008) Mindfulness-Based Cognitive Therapy to Prevent Relapse in Recurrent Depression. Journal of Consulting and Clinical Psychology 76: 966-978.**

**Economic Question: psychological interventions for relapse prevention**

| Section 1: Applicability (relevance to specific review question and the NICE reference case) |  | Yes/ Partly/ No/Unclear/ NA | Comments                                 |
|--|--|-----------------------------|--|
| 1.1  | Is the study population appropriate for the review question? | Yes                         | Adults with three or more previous major |

**Study: Kuyken W, Byford S, Taylor RS, et al. (2008) Mindfulness-Based Cognitive Therapy to Prevent Relapse in Recurrent Depression. Journal of Consulting and Clinical Psychology 76: 966-978.**

|   |  |                                    |  |
|---|--|------------------------------------|--|
|   |  |                                    | depressive episodes, on a therapeutic dose of maintenance antidepressants and currently in full or partial remission |
| 1.2   | Are the interventions appropriate for the review question?   | Yes                                |  |
| 1.3   | Is the system in which the study was conducted sufficiently similar to the current UK context?   | Yes                                | UK study   |
| 1.4   | Are the perspectives clearly stated and are they appropriate for the review question?  | Yes                                | NHS/PSS; societal perspective  |
| 1.5   | Are all direct effects on individuals included, and are all other effects included where they are material?  | Partly                             | HRQoL not measured   |
| 1.6   | Are all future costs and outcomes discounted appropriately?  | NA                                 | Time horizon 15 months   |
| 1.7   | Is QALY used as an outcome, and was it derived using NICE's preferred methods? If not, describe rationale and outcomes used in line with analytical perspectives taken (item 1.4 above). | No                                 | % of relapses prevented; number of depression-free days  |
| 1.8   | Are costs and outcomes from other sectors fully and appropriately measured and valued?   | NA                                 |  |
| 1.9 Overall judgement: Partially applicable                           |  |                                    |  |
| Other comments: None  |  |                                    |  |
| <b>Section 2: Study limitations (level of methodological quality)</b> |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>  |
| 2.1   | Does the model structure adequately reflect the nature of the topic under evaluation?  | NA                                 | RCT  |
| 2.2   | Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?  | Partly                             | 15 months  |
| 2.3   | Are all important and relevant outcomes included?  | Partly                             | HRQoL not considered   |
| 2.4   | Are the estimates of baseline outcomes from the best available source?   | Partly                             | RCT, N=123   |
| 2.5   | Are the estimates of relative intervention effects from the best available source?   | Partly                             | RCT  |
| 2.6   | Are all important and relevant costs included?   | Yes                                |  |
| 2.7   | Are the estimates of resource use from the best available source?  | Partly                             | RCT, N=123   |
| 2.8   | Are the unit costs of resources from the best available source?  | Yes                                | National sources   |
| 2.9   | Is an appropriate incremental analysis presented or can it be calculated from the data?  | Yes                                |  |
| 2.10  | Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis?   | Yes                                | Statistical analyses conducted; CEAC   |

**Study: Kuyken W, Byford S, Taylor RS, et al. (2008) Mindfulness-Based Cognitive Therapy to Prevent Relapse in Recurrent Depression. Journal of Consulting and Clinical Psychology 76: 966-978.**

|  |  |    |           |
|--|--|----|-----------|
|  |  |    | presented |
| 2.11                                       | Is there any potential conflict of interest? | No |           |
| 2.12 Overall assessment: Minor limitations |  |    |           |
| Other comments:                            |  |    |           |

1

**Study: Kuyken W, Hayes R, Barrett B, et al. (2015) Effectiveness and cost-effectiveness of mindfulness-based cognitive therapy compared with maintenance antidepressant treatment in the prevention of depressive relapse or recurrence (PREVENT): a randomised controlled trial. Lancet 386: 63-73.**

| <b>Economic Question: psychological interventions for relapse prevention</b>                        |  |                                    |  |
|---|--|------------------------------------|--|
| <b>Section 1: Applicability (relevance to specific review question and the NICE reference case)</b> |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>  |
| 1.1   | Is the study population appropriate for the review question?   | Yes                                | Adults with three or more previous major depressive episodes and on a therapeutic dose of maintenance antidepressant |
| 1.2   | Are the interventions appropriate for the review question?   | Yes                                |  |
| 1.3   | Is the system in which the study was conducted sufficiently similar to the current UK context?   | Yes                                | UK study   |
| 1.4   | Are the perspectives clearly stated and are they appropriate for the review question?  | Yes                                | Health and social services; societal perspective   |
| 1.5   | Are all direct effects on individuals included, and are all other effects included where they are material?  | Yes                                |  |
| 1.6   | Are all future costs and outcomes discounted appropriately?  | Yes                                | Annual rate of 3.5% used; time horizon 2 years   |
| 1.7   | Is QALY used as an outcome, and was it derived using NICE's preferred methods? If not, describe rationale and outcomes used in line with analytical perspectives taken (item 1.4 above). | Partly                             | The primary outcome was % of relapse or recurrence; QALYs (based on EQ-5D) were secondary outcome                    |
| 1.8   | Are costs and outcomes from other sectors fully and appropriately measured and valued?   | NA                                 |  |
| 1.9 Overall judgement: Directly applicable  |  |                                    |  |
| Other comments: None  |  |                                    |  |
| <b>Section 2: Study limitations (level of methodological quality)</b>                               |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>  |
| 2.1   | Does the model structure adequately reflect the nature of the topic under evaluation?  | NA                                 | RCT  |

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| <b>Study: Kuyken W, Hayes R, Barrett B, et al. (2015) Effectiveness and cost-effectiveness of mindfulness-based cognitive therapy compared with maintenance antidepressant treatment in the prevention of depressive relapse or recurrence (PREVENT): a randomised controlled trial. Lancet 386: 63-73.</b> |  |        |   |
|---|--|--------|---|
| 2.2   | Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?      | Yes    | 2 years   |
| 2.3   | Are all important and relevant outcomes included?  | Yes    |   |
| 2.4   | Are the estimates of baseline outcomes from the best available source?                                 | Partly | RCT, N=424                                      |
| 2.5   | Are the estimates of relative intervention effects from the best available source?                     | Partly | RCT   |
| 2.6   | Are all important and relevant costs included?   | Yes    |   |
| 2.7   | Are the estimates of resource use from the best available source?                                      | Partly | RCT, N=424                                      |
| 2.8   | Are the unit costs of resources from the best available source?  | Yes    | National sources                                |
| 2.9   | Is an appropriate incremental analysis presented or can it be calculated from the data?                | Yes    |   |
| 2.10  | Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis? | Yes    | Statistical analyses conducted; CEACs presented |
| 2.11  | Is there any potential conflict of interest?   | No     |   |
| 2.12 Overall assessment: Minor limitations  |  |        |   |
| Other comments:   |  |        |   |

## P.5.21 Psychological, pharmacological and combined interventions

2

| <b>Study: Guideline economic analysis</b>  |  |                                    |  |
|--|--|------------------------------------|--|
| <b>Economic Question: psychological, pharmacological and combined interventions for relapse prevention</b> |  |                                    |  |
| <b>Section 1: Applicability (relevance to specific review question and the NICE reference case)</b>        |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>  |
| 1.1  | Is the study population appropriate for the review question?   | Yes                                | Adults with depression that is in remission, at medium or high risk of relapse |
| 1.2  | Are the interventions appropriate for the review question?   | Yes                                |  |
| 1.3  | Is the system in which the study was conducted sufficiently similar to the current UK context?   | Yes                                | UK study   |
| 1.4  | Are the perspectives clearly stated and are they appropriate for the review question?  | Yes                                | NHS/PSS  |
| 1.5  | Are all direct effects on individuals included, and are all other effects included where they are material?  | Yes                                |  |
| 1.6  | Are all future costs and outcomes discounted appropriately?  | Yes                                | Discount rate 3.5%   |
| 1.7  | Is QALY used as an outcome, and was it derived using NICE's preferred methods? If not, describe rationale and outcomes used in line with analytical perspectives taken | Yes                                |  |

| <b>Study: Guideline economic analysis</b>                             |  |                                    |   |
|---|--|------------------------------------|---|
|   | (item 1.4 above).  |                                    |   |
| 1.8   | Are costs and outcomes from other sectors fully and appropriately measured and valued?                 | NA                                 |   |
| 1.9 Overall judgement: Directly applicable                            |  |                                    |   |
| Other comments: None  |  |                                    |   |
| <b>Section 2: Study limitations (level of methodological quality)</b> |  | <b>Yes/ Partly/ No/Unclear/ NA</b> | <b>Comments</b>   |
| 2.1   | Does the model structure adequately reflect the nature of the topic under evaluation?                  | Yes                                |   |
| 2.2   | Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?      | Yes                                | 10 years  |
| 2.3   | Are all important and relevant outcomes included?  | Partly                             | Disutility due to serious (but rare) side effects not considered                                  |
| 2.4   | Are the estimates of baseline outcomes from the best available source?                                 | Yes                                | Review of naturalistic studies  |
| 2.5   | Are the estimates of relative intervention effects from the best available source?                     | Yes                                | Systematic review & pairwise meta-analysis or NMA, as appropriate                                 |
| 2.6   | Are all important and relevant costs included?   | Partly                             | Cost of managing serious (but rare) side effects not considered                                   |
| 2.7   | Are the estimates of resource use from the best available source?                                      | Yes                                | Study based on large UK primary care database, supplemented by recent resource use data and costs |
| 2.8   | Are the unit costs of resources from the best available source?  | Yes                                | National sources  |
| 2.9   | Is an appropriate incremental analysis presented or can it be calculated from the data?                | Yes                                |   |
| 2.10  | Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis? | Yes                                | PSA conducted; CEACs presented  |
| 2.11  | Is there any potential conflict of interest?   | No                                 |   |
| 2.12 Overall assessment: Minor limitations                            |  |                                    |   |
| Other comments:   |  |                                    |   |

# 1 Appendix Q: Economic evidence – evidence tables

## Q.1.2 Service delivery models for people with depression

### Q.1.1.3 Simple collaborative care – references to included studies

- 4 1. Green C, Richards DA, Hill JJ, Gask L, Lovell K, Chew-Graham C, et al. (2014) Cost-effectiveness of collaborative care for depression in UK  
5 primary care: Economic evaluation of a randomised controlled trial (CADET). PLoS ONE 9(8): e104225. [UK]
- 6 AND
- 7 Richards DA, Bower P, Chew-Graham C, Gask L, Lovell K, Cape J, Pilling S, Araya R, Kessler D, Barkham M, Bland JM, Gilbody S, Green  
8 C, Lewis G, Manning C, Kontopantelis E, Hill JJ, Hughes-Morley A, Russell A (2016) Clinical effectiveness and cost-effectiveness of  
9 collaborative care for depression in UK primary care (CADET): a cluster randomised controlled trial. Health Technol Assess, 20(14), 1-192.
- 10 2. Aragonés E, Lopez-Cortacans G, Sanchez-Iriso E, Pinol JL, Caballero A, Salvador-Carulla L, Cabaesés J. Cost-effectiveness analysis of a  
11 collaborative care programme for depression in primary care. Journal of Affective Disorders 2014; 159:85-93.
- 12 3. Klug G, Hermann G, Fuchs-Nieder B, Panzer M, Haider-Stipacek A, Zapotoczky HG, Priebe S. Effectiveness of home treatment for elderly  
13 people with depression: Randomised controlled trial. British Journal of Psychiatry 2010; 197:463-467.
- 14 4. Simon GE, Von Korff M, Ludman EJ, Katon WJ, Rutter C, Unutzer J, Lin EH, Bush T, Walker E (2002) Cost-effectiveness of a program to  
15 prevent depression relapse in primary care. Medical care 40: 941-950. [US, relapse prevention]

| Study Country Study type                          | Intervention details  | Study population Study design Data sources  | Costs and outcomes: description and values  | Results: Cost-effectiveness  | Comments   |
|---|---|---|---|--|--|
| Green et al., 2014<br>UK<br>Cost-utility analysis | Interventions:<br>Simple collaborative care in addition to usual primary care (SCC), comprising care managers making 6-12 contacts with service users over 14 weeks; contacts involved education about depression, medication management, behavioural activation and relapse prevention instructions. | Adults with depression<br>Multi-centre cluster RCT (N=581)<br>Source of efficacy data: RCT (Richards2013); (data available) | Costs: intervention (care manager's time and supervision by specialists), staff time (GP, mental health nurse, practice nurse, counsellor, mental health worker, social worker, home care worker, occupational therapist, psychiatrist, psychologist, psychiatric nurse/care coordinator), walk-in-centre, voluntary group, inpatient psychiatric and general stay, A&E, day hospital, other outpatient contact, day care centre, drop-in club; | ICER of SCC vs TAU: £14,248/QALY<br>Probability of SCC being cost-effective: 0.58 and 0.65 at WTP £20,000 and £30,000/QALY, respectively.<br>Results robust to multiple imputation of missing data, use of SF- | Perspective: NHS/PSS; broader perspective (informal care costs and service user expenses) considered in sensitivity analysis |

| Study Country<br>Study type                          | Intervention details  | Study population<br>Study design<br>Data sources  | Costs and outcomes: description and values  | Results: Cost-effectiveness   | Comments  |
|--|---|---|---|---|---|
|  | Care managers provided GPs with advice on medication and regular updates on service user progress including medication adherence.<br>Treatment as usual (TAU), defined as GP care that includes antidepressant treatment and referral for other treatments, including Improving Access to Psychological Therapies (IAPT) services | for n=466)<br>Source of resource use data: RCT (data available for n=447)<br>Source of unit costs: national sources             | informal care and service user expenses in sensitivity analysis<br>Mean NHS/PSS cost per person (SD):<br>SCC: £1,887 (£3,714); TAU: £1,571 (£2,442)<br>Unadjusted difference: £316<br>Adjusted difference: £271 (95%CI: -£203 to £886)<br>Primary outcome measure: QALY based on EQ-5D ratings (UK tariff); SF-6D (UK tariff) used in sensitivity analysis<br>Mean number of QALYs per person (SD):<br>SCC: 0.605 (0.261); TAU: 0.554 (0.286)<br>Unadjusted difference: 0.051<br>Adjusted difference: 0.019 (95%CI: -0.019 to 0.06) | 6D utility values, use of alternative SCC costs; SCC dominant using a broader perspective; excluding one participant with an extremely high level of self-reported resource use, ICER became £3,334/QALY and probability of cost effectiveness 0.76 and 0.79 at WTP £20,000 and £30,000 /QALY, respectively | Currency: GBP£<br>Cost year: 2011<br>Time horizon: 12 months<br>Discounting: NA<br>Applicability: directly applicable<br>Quality: minor limitations |
| 1  |   |   |   |   |   |
| Study Country<br>Study type                          | Intervention details  | Study population<br>Study design<br>Data sources  | Costs and outcomes: description and values  | Results: Cost-effectiveness   | Comments  |
| Aragones et al., 2014<br>UK<br>Cost-utility analysis | Interventions:<br>Simple collaborative care in addition to treatment as usual (SCC), comprising a multi-component programme with clinical, educational and organisational procedures based on the chronic care model adapted to primary care settings; intervention model based on the  | Adults with depression<br>RCT (N=338)<br>Source of efficacy data: RCT (Aragones 2012)<br>Source of resource use data: RCT (data | Costs: intervention (health professional training, expenses related to the creation of materials such as the clinical manual, booklets etc.), costs of healthcare visits due to depression-related problems including primary care visits to as physician, nurse, emergency services, visits with mental health specialists such as psychiatrists and psychologists at the primary care centre, mental health   | ICER of SCC vs TAU:<br>Complete cases: €4056 /QALY<br>Imputed missing data: €3839/QALY<br><br>Probability of SCC being cost-effective: 0.90 at WTP €10,000/QALY   | Perspective: healthcare system; indirect costs (temporary disability leave from work due to depression or related problems) considered in           |

| Study Country<br>Study type | Intervention details   | Study population<br>Study design<br>Data sources              | Costs and outcomes: description and values  | Results: Cost-effectiveness                                    | Comments  |
|-----------------------------|--|---|---|--|---|
|                             | optimisation of available resources<br>Treatment as usual (TAU), including drug treatments, referrals to psychiatry and recommendations for the use of private medical services. | available for n=292<br>Source of unit costs: national sources | centre or private centres; hospital emergency room visits; hospitalisations due to depression; medication (antidepressants, anxiolytics /hypnotics and other psychotropic medications)<br>Mean healthcare cost per person (SD):<br>SCC: €776 (€664); TAU: €594 (€603)<br>Difference (complete cases): €183 (€53)<br>Difference (imputed missing data): €165 (€46)<br>Primary outcome measure: QALY based on SF-6D ratings (UK tariff);<br>Incremental QALYs per person (SD):<br>Complete cases:0.045 (0.019)<br>Imputed missing data: 0.043 (0.017) | (both complete cases and following imputation of missing data) | separate analysis<br>Currency: Euro (€)<br>Cost year: 2011<br>Time horizon: 12 months<br>Discounting: NA<br>Applicability: partially applicable<br>Quality: minor limitations |

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| Study Country<br>Study type                            | Intervention details  | Study population<br>Study design<br>Data sources   | Costs and outcomes: description and values  | Results: Cost-effectiveness | Comments   |
|--|---|--|---|-----------------------------|--|
| Klug et al., 2010<br>UK<br>Cost effectiveness analysis | Interventions:<br>Simple collaborative care (SCC) provided over 1 year by a publicly funded voluntary organisation specialising in mental health services in the community, in addition to standard psychiatric outpatient care. All psychiatric in-patient, outpatient and community | Adults over 64 years old with a primary diagnosis of major depression according to ICD-10, with a moderately impaired global functioning (GAF=21-60), who lived independently in their own homes.<br>Exclusion criteria: symptoms of | Costs: intervention (psychologists, social workers, nurses and psychiatrists providing geriatric home treatment); outpatient consultations, psychiatric inpatient care, admissions to nursing homes<br>Mean (95% CI) total cost per person:<br>SCC: €8751 (€5,996 to €11,507)<br>TAU: €21,032 (€10,092 to €31,972)<br>Mean difference (bootstrap 95% CI):<br>-€12,280 (€1,859 to €22,702) | SCC dominant                | Perspective: healthcare<br>Currency: Euro (€)<br>Cost year: not reported, but likely 2010<br>Time horizon: 1 year<br>Discounting: NA<br>Applicability: |

| Study Country<br>Study type | Intervention details  | Study population<br>Study design<br>Data sources   | Costs and outcomes: description and values  | Results: Cost-effectiveness | Comments   |
|-----------------------------|---|--|---|-----------------------------|--|
|                             | services in the area could refer individuals to the collaborative care model, which included home visits. Home visits occurred 1-2 and up to 4 times per week. Telephone contact with the individual and, if applicable, the carer, was also offered. Treatment as usual (TAU) comprising free and direct access to outpatient consultations with consultant psychiatrists, without any significant waiting time. | dementia, i.e. MMSE<27; intention to give up independent living and move to a nursing home.<br>RCT (N=60)<br>Source of efficacy and resource use data: RCT (N=51 at 12 months)<br>Source of unit costs: regional sources | Primary outcome measure: level of depressive symptoms, measured by the 15-item Geriatric Depression Scale (GDS-15)<br>Secondary outcome measures included functioning, measured using GAF, and subjective quality of life, measured using the short form of the Berlin Quality of Life Profile (BQLP-KF)<br>Mean (95% CI) GDS-15 score at 12 months:<br>SCC: 6.11 (4.98 to 7.20)<br>TAU: 10.43 (9.28 to 11.69); p<0.001<br>SCC was significantly better than TAU in secondary outcomes. |                             | partially applicable<br>Quality: potentially serious limitations |

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| Study Country<br>Study type                             | Intervention details  | Study population<br>Study design<br>Data sources  | Costs and outcomes: description and values  | Results: Cost-effectiveness  | Comments   |
|---|---|---|---|--|--|
| Simon et al., 2002<br>US<br>Cost effectiveness analysis | Interventions: Simple collaborative care comprising an educational book and videotape on effective management of depression; 2 visits to a depression prevention specialist including shared decision making on maintenance | Adults with a history of either recurrent major depression (i.e. at least 3 depressive episodes in the previous 5 years) or dysthymia (depressive symptoms present continuously for the past 2 years) that had recovered from a depressive episode following antidepressant | Costs: medication, staff time, any inpatient and outpatient services for mental health or general medical care<br>Mean total cost cost per person:<br>SCC: \$2,691 (95%CI \$2,320 to \$3,062)<br>TAU: \$2,619 (95%CI \$2,139 to \$3,099)<br>Incremental \$13 (95%CI -\$584 to \$511), after adjustment for gender, age, baseline Hopkins Symptoms Checklist (HSCL) depression score and chronic disease score | ICER of SCC vs. TAU \$1 per depression-free day (95%CI - \$134 to \$344) | Perspective: 3rd party payer<br>Currency: US\$<br>Cost year: 1998<br>Time horizon: 12 months<br>Discounting: NA<br>Applicability: partially applicable |

| Study Country Study type | Intervention details  | Study population Study design Data sources  | Costs and outcomes: description and values   | Results: Cost-effectiveness | Comments                                 |
|--------------------------|---|---|--|-----------------------------|--|
|                          | antidepressant treatment; plus 3 scheduled telephone contacts and 4 personalised mailings for monitoring depressive symptoms and treatment adherence (SCC)<br>Treatment as usual (TAU), including primary care and referral to specialty mental health care | treatment in primary care RCT (Katon2001)<br>Source of efficacy and resource use data: RCT; N=386, n=315 (82%) completed all follow-up assessments; n=377 (98%) remained enrolled throughout the follow-up period<br>Source of unit costs: local data | Primary outcome measure: number of depression-free days, defined as days with a HSCL depression score $\leq 0.5$ ; days with a HSCL score above 0.5 but $< 2$ were considered 50% depression free<br>Number of depression-free days:<br>SCC: 253.2 (95% CI 241.7 to 264.7)<br>TAU: 239.4 (95% CI 227.3 to 251.4)<br>Incremental 13.9 (95%CI -1.5 to 29.3, $p=0.078$ ), after adjustment for gender, age, baseline SCL depression score and chronic disease score |                             | Quality: potentially serious limitations |

**Q.1.21 Complex collaborative care – references to included studies**

- 2 5. Goorden M, Vlasveld MC, Anema JR, van Mechelen W, Beekman AT, Hoedeman R, van der Feltz-Cornelis CM, Hakkaart-van Roijen L (2014) Cost-utility analysis of a collaborative care intervention for major depressive disorder in an occupational healthcare setting. *Journal of Occupational Rehabilitation*, 24(3): 555-62
- 3
- 4
- 5 6. Goorden M, Huijbregts KM, van Marwijk HW, Beekman AT, van der Feltz-Cornelis CM, Hakkaart-van Roijen L (2015) Cost-utility of collaborative care for major depressive disorder in primary care in the Netherlands. *Journal of Psychosomatic Research*, 79(4), 316-23.
- 6

| Study Country Study type   | Intervention details   | Study population Study design Data sources   | Costs and outcomes: description and values   | Results: Cost-effectiveness  | Comments  |
|--|--|--|--|--|---|
| Goorden et al., 2014<br>The Netherlands<br>Cost-utility analysis | Interventions:<br>Complex collaborative care (CCC) provided by a trained occupational physician – care manager who was guided by a web-based stepped care protocol and received close supervision by a consultant psychiatrist, in addition to | Sick-listed workers with major depression<br>RCT (N=126)<br>Source of efficacy and resource use data: RCT (Vlasveld2012, | Costs: intervention (occupational physician – care manager’s time, training and supervision), staff time (GP, mental health care professional, public and private psychologist/psychiatrist, operational physician, other specialist, paramedic, social worker, alternative medicine practitioner), self-help group, day care, | ICER of TAU vs CCC €14,589/QALY<br>Following bootstrapping and inspection of the cost effectiveness plane:<br>75% of replications were in the south-west | Perspective: healthcare system; productivity losses reported separately<br>Currency: Euro (€) |

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| Study Country<br>Study type | Intervention details   | Study population<br>Study design<br>Data sources            | Costs and outcomes: description and values  | Results: Cost-effectiveness  | Comments  |
|-----------------------------|--|---|---|--|---|
|                             | <p>treatment as usual. Service users were offered manual guided self-help, 6–12 sessions of problem solving treatment (PST), a workplace intervention and, if considered necessary, antidepressant medication. If symptoms were persistent after 18 weeks of treatment, the service users were referred to secondary mental health care.</p> <p>Treatment as usual (TAU), comprising sickness guidance by the company's occupational physician.</p> <p>Both interventions were provided at an occupational healthcare setting. Service users were free to engage in any other treatment as well.</p> | <p>N=126)</p> <p>Source of unit costs: national sources</p> | <p>psychiatric inpatient care, medication; productivity losses reported separately</p> <p>Mean total healthcare cost per person:<br/>CCC €3,874 (95 %CI €2,778 to €5,718)<br/>TAU €4,583 (95 %CI €3,108 to €6,794)</p> <p>Primary outcome measure: QALYs based on EQ-5D ratings (Dutch tariff)</p> <p>Mean total number of QALYs per person:<br/>CCC 0.11 (95% CI 0.07 to 0.14)<br/>TAU 0.16 (95%CI 0.11 to 0.19)<br/>Difference: -0.05 (95%CI -0.11 to 0.00)</p> | <p>quadrant (CCC less costly and less effective), 21% into the north-west quadrant (CCC dominated), 3% in the south-east quadrant (CCC dominant), and 1% in the north-east quadrant (CCC more costly and more effective).</p> <p>Results not sensitive to day care and psychiatric inpatient care costs.</p> | <p>Cost year: 2009</p> <p>Time horizon: 12 months</p> <p>Discounting: NA</p> <p>Applicability: partially applicable</p> <p>Quality: minor limitations</p> |

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1

| Study Country<br>Study type                             | Intervention details  | Study population<br>Study design<br>Data sources   | Costs and outcomes: description and values  | Results: Cost-effectiveness   | Comments   |
|---|---|--|---|---|--|
| Goorden et al., 2015<br>The Netherlands<br>Cost-utility | <p>Interventions:</p> <p>Complex collaborative care (CCC) provided by a depression care manager, usually a qualified nurse, who collaborated with a GP and a liaison psychiatrist in order to</p> | <p>People aged ≥17 years with major depression according to the MINI.</p> <p>Exclusion criteria: being suicidal,</p> | <p>Costs: GP, psychiatric / mental health care practice nurse, psychiatric inpatient care, specialist outpatient care, private psychologist / psychiatrist, occupational physician, other specialist, paramedic, social worker, counselling centre for drugs, alcohol, etc,</p> | <p>ICER of TAU vs CCC €53,717/QALY</p> <p>Probability of CCC being cost-effective: 0.20 and 0.70 at WTP €20,000 and €80,000/QALY,</p> | <p>Perspective: healthcare system; productivity losses reported separately</p> <p>Currency: Euro</p> |

| Study Country<br>Study type | Intervention details  | Study population<br>Study design<br>Data sources  | Costs and outcomes: description and values   | Results: Cost-effectiveness | Comments  |
|-----------------------------|---|---|--|-----------------------------|---|
| analysis                    | provide and guide more structured and adherent depression treatment in primary care. Treatment consisted of problem solving, manual guided self-help (both provided by the care manager), and, if necessary, antidepressants (prescribed by the GP). Care managers and GPs received training in CCC.<br><br>Treatment as usual (TAU) in primary care, comprising prescription of antidepressants or referral to psychotherapy | psychotic symptoms, dementia, drug or alcohol dependence, already under specialty mental health treatment<br>RCT (N=150; 93 identified by screening and 47 by GP referral)<br>Source of efficacy and resource use data: RCT (Huijbregts 2013, n=93 identified by screening)<br>Source of unit costs: national sources | alternative medicine, self-help group, day care, psychotropic medication<br>Mean total healthcare cost per person:<br>CCC €4,011 (95% CI €2,679 to €5,513)<br>TAU €2,838 (95% CI €2,463 to €3,244)<br>Difference: €1,173 (95% CI, -€216 to €2726)<br><br>Primary outcome measure: QALYs based on EQ-5D ratings (Dutch tariff)<br>Mean total number of QALYs gained per person:<br>CCC 0.07 (95% CI 0.05 to 0.09)<br>TAU 0.05 (95% CI 0.03 to 0.06)<br>Difference: 0.02 (95% CI -0.004 to 0.04) | respectively.               | (€)<br>Cost year: 2013<br>Time horizon: 12 months<br>Discounting: NA<br>Applicability: partially applicable<br>Quality: potentially serious limitations |

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### Q.1.31 Medication management – references to included studies

- 2 7. Bosmans JE, Brook OH, Van Hout HPJ, De Bruijne MC, Nieuwenhuys H, Bouter LM, Stalman WAB, Van Tulder MW (2007) Cost
- 3 effectiveness of a pharmacy-based coaching programme to improve adherence to antidepressants. *PharmacoEconomics* 25: 25-37.
- 4 8. Rubio-Valera M, Bosmans J, Fernandez A, Penarrubia-Maria M, March M, Trave P, Bellon JA, Serrano-Blanco A (2013) Cost-Effectiveness
- 5 of a Community Pharmacist Intervention in Patients with Depression: A Randomized Controlled Trial (PRODEFAR Study). *PLoS ONE* 8(8):
- 6 e70588.

| Study Country<br>Study type | Intervention details  | Study population<br>Study design<br>Data sources           | Costs and outcomes: description and values   | Results: Cost-effectiveness                    | Comments                                |
|-----------------------------|---|--|--|--|---|
| Bosmans et al., 2007<br>The | Interventions:<br>Medication management (MM), comprising coaching and education | Adults with depression treated in primary care, with a new | Costs: intervention (25-minute take home video, drug coaching contacts at the pharmacy), healthcare and non-healthcare staff time (GP, psychologist, social worker, psychiatrist), other | From a societal perspective:<br>ICER of MM vs. | Perspective: societal<br>Currency: Euro |

| Study Country<br>Study type                | Intervention details  | Study population<br>Study design<br>Data sources  | Costs and outcomes: description and values  | Results: Cost-effectiveness  | Comments   |
|--|---|---|---|--|--|
| Netherlands<br>Cost effectiveness analysis | by a pharmacist to improve adherence to antidepressant therapy. This consisted of 3 contacts with the pharmacist (mean duration 13-20 minutes) during which pharmacists gave service users information about the use of antidepressants, plus a take-home video reviewing important facts on depression and antidepressant treatment<br>Treatment as usual (TAU) comprising standard oral and written information that is routinely issued in the Netherlands when people with depression pick up their prescriptions for antidepressants at the pharmacy | prescription for a non-tricyclic antidepressant, who had not received antidepressant treatment in the past 6 months<br>RCT (N=151)<br>Source of efficacy and resource use data: RCT (Brook2005, N=151; analysis based on n=88 completers of both 3- and 6-month follow-ups)<br>Source of unit costs: national sources | specialist outpatient appointment (homeopath, physiotherapist, community mental healthcare, haptonomist, magnetic therapist, acupuncturist, spiritualist, foot reflex therapist, company doctor), abdominal x-ray, medication, absenteeism from paid labour<br>Mean societal cost per person:<br>MM: €3,275; TAU: €2,961<br>Mean difference €315 (95%CI –€1,922 to €2,416).<br>Mean direct cost per person:<br>MM: €724; TAU: €712<br>Mean difference €12 (95%CI not reported).<br>Primary outcome measures: adherence to antidepressant treatment measured using an electronic pill container; depressive symptoms measured using the Hopkins Symptom Checklist (HSCL)<br>Mean adherence per arm:<br>MM: 88%; TAU: 86%<br>Mean difference: 2.1% (95%CI –5.6% to 9.8%)<br>Mean difference in HSCL score per person: –0.15 (95% CI –0.54 to 0.23) favouring MM | TAU<br>€14,900 per extra person with improvement in adherence<br>€2,550 per point improvement in SCL<br>Probability of MM being cost-effective around 0.65 at WTP of €50,000 per extra person with improvement in adherence.<br>Results robust to per protocol analysis, the price of producing the video-tape, the method for estimating indirect costs, and imputation of missing data | (€)<br>Cost year: 2002<br>Time horizon: 6 months<br>Discounting: NA<br>Applicability: partially applicable<br>Quality: potentially serious limitations |

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| Study Country<br>Study type                | Intervention details   | Study population<br>Study design<br>Data sources                             | Costs and outcomes: description and values   | Results: Cost-effectiveness   | Comments   |
|--|--|--|--|---|--|
| Rubio-Valera et al., 2013<br>Spain<br>Cost | Interventions:<br>Medication management (MM), comprising an educational intervention provided by the | Adults aged 18-75 years initiating treatment with antidepressants because of | Costs: intervention (pharmacist time, pharmacist training), publicly funded healthcare services (GP, nurse, psychologist, psychiatrist, other medical specialists, social worker, hospital | Under a healthcare perspective:<br>ICER of MM vs. TAU<br>€962 per extra | Perspective: societal and healthcare<br>Currency: Euro |

| Study Country<br>Study type             | Intervention details   | Study population<br>Study design<br>Data sources  | Costs and outcomes: description and values  | Results: Cost-effectiveness  | Comments   |
|---|--|---|---|--|--|
| effectiveness and cost-utility analysis | pharmacist, focusing on improving service users' knowledge of antidepressant medication, making them aware of the importance of compliance to the medication, reassuring them about possible side-effects, and stressing the importance of carrying out GPs' advice. In service users with a sceptical attitude towards antidepressants, the intervention aimed to reduce stigma. Pharmacists were trained for the intervention. Treatment as usual from GP and pharmacist (TAU), comprising filling the prescriptions, addressing service users' questions about medication and giving basic advice about how to take the antidepressant. | depression<br>RCT (N=179)<br>Source of efficacy and resource use data: RCT (Rubio-Valera2012, N=179; 71% completed at 6 months; n=151 received intervention as allocated)<br>Source of unit costs: regional sources | emergency visits, hospital stay, diagnostic tests, medication), privately funded healthcare services (psychiatrist, psychologist, medical specialist, GP), absenteeism from paid labour.<br>Mean societal cost per person: MM: €1,091; TAU: €767<br>Mean difference €324 (95%CI –€97 to €745).<br>Mean direct cost per person: MM: €444; TAU: €425<br>Mean difference €49 (95%CI not reported).<br>Primary outcome measures: adherence to antidepressant treatment measured using electronic pharmacy records; remission of depressive symptoms defined as a reduction in the Patient Health Questionnaire 9-item (PHQ-9) of at least 50%; QALYs based on EQ-5D ratings (Spanish tariff)<br>Incremental probability of adherence per person: 0.04 (95%CI -0.2 to 0.1)<br>Incremental probability of remission per person: -0.01 (95%CI -0.2 to 0.1)<br>Incremental QALYs per person: 0.01 (95%CI -0.02 to 0.03) | adherent service user<br>€3,592/QALY<br>TAU dominant in terms of remission<br>Probability of MM being cost-effective 0.71 and 0.76 for WTP €6,000 /adherent service user and €30,000 /QALY, respectively.<br>Using remission, maximum probability of MM being cost-effective 0.46.<br>Results robust to per protocol or complete case analysis, use of DSM-IV criteria for depression, intervention costs or method for estimating indirect costs. | (€)<br>Cost year: 2009<br>Time horizon: 6 months<br>Discounting: NA<br>Applicability: partially applicable<br>Quality: potentially serious limitations |

Update 2018

#### Q.1.41 Stepped care – references to included studies

- 2 9. Mukuria C, Brazier J, Barkham M, Connell J, Hardy G, Hutten R, Saxon D, Dent-Brown K, Parry G (2013) Cost-effectiveness of an improving
- 3 access to psychological therapies service. *British Journal of Psychiatry* 202: 220-227.
- 4 10. Ricken R, Wiethoff K, Reinhold T, Schietsch K, Stamm T, Kiermeir J, Neu P, Heinz A, Bauer M, Adli M (2011) Algorithm-guided
- 5 treatment of depression reduces treatment costs - Results from the randomized controlled German Algorithm Project (GAPII). *Journal of*
- 6 *Affective Disorders* 134: 249-256.

| Study Country<br>Study type  | Intervention details   | Study population<br>Study design<br>Data sources   | Costs and outcomes: description and values  | Results: Cost-effectiveness  | Comments   |
|--|--|--|---|--|--|
| Mukuria et al., 2013<br>UK<br>Cost effectiveness and cost-utility analysis | <p>Interventions:</p> <p>Stepped care approach: Improving Access to Psychological Therapies (IAPT) service comprising: Step 1 watchful waiting; Step 2 guided self-help including bibliotherapy with support, computerised CBT with support and CBT-based telephone support for problem-solving; Step 3 CBT ± medication. IAPT was provided in addition to treatment as usual</p> <p>Treatment as usual alone (TAU), comprising GP care, primary care counselling and referral to mental health professionals in secondary care.</p> <p>IAPT was evaluated in Doncaster demonstration site.</p> <p>Comparator sites were selected to match IAPT site regarding size &amp; type of population served based on deprivation, ethnicity and age; geographical location; local implementation of 'pathways to work'; ethnic diversity; recent changes in organisational structure.</p> <p>Also, comparator sites were selected based on how well they performed according to average Quality and Outcomes Framework points, a voluntary</p> | <p>People 16-64 years old with a new or recurrent episode of depression or anxiety, who were likely to benefit from psychological therapies. More than 95% of people in IAPT had a primary diagnosis of depression by their GP.</p> <p>Prospective cohort study with matched sites (N=403)</p> <p>Source of efficacy and resource use data: cohort study (N=403; available 8-month cost and QALY data for n=297)</p> <p>Source of unit costs: IAPT data and national sources</p> | <p>Costs: intervention (staff time, training, equipment, facilities and overheads), other mental healthcare (psychiatrist, psychologist, community psychiatric nurse, psychotherapist/ counsellor, other mental health professionals and voluntary sector services), primary and secondary care, social care; medication costs not considered</p> <p>Mean total cost per person (SD):<br/>IAPT: £1,190 (£2,193);<br/>TAU: £934 (£1,666)</p> <p>Unadjusted difference: £256 (95% CI: -£266 to £779)</p> <p>Adjusted difference: £236 (95%CI: -£214 to £689)</p> <p>Primary outcome measures: proportion of people with a reliable and clinically significant (RCS) improvement on the PHQ-9; QALY based on SF-6D ratings (UK tariff); QALYs based on predicted EQ-5D ratings (UK tariff), estimated from SF-6D using an empirical mapping function were used in sensitivity analysis</p> <p>Proportion of people with a PHQ-9 RCS significant improvement (95% CI):<br/>IAPT: 0.221 (0.164 to 0.278)<br/>TAU: 0.205 (0.116 to 0.293)</p> <p>Unadjusted difference: 0.016 (-0.089 to 0.122)</p> | <p>ICER of IAPT vs. TAU<br/>£9,440 per participant with RCS improvement<br/>£29,500/QALY using SF-6D<br/>£16,857/QALY using predicted EQ-5D scores</p> <p>Probability of IAPT being cost-effective using SF-6D QALYs:<br/>&lt;0.40 at WTP<br/>£30,000/QALY;<br/>using EQ-5D QALYs:<br/>0.38 and 0.53 at WTP<br/>£20,000 and £30,000 / QALY, respectively.</p> <p>Using national unit costs instead of IAPT financial data resulted in an ICER of £3,800 per participant achieving RCS improvement and £11,875/QALY using SF-6D</p> | <p>Perspective: NHS and social services; productivity losses estimated separately<br/>Currency: GBP£<br/>Cost year: 2008/09<br/>Time horizon: 8 months<br/>Discounting: NA<br/>Applicability: directly applicable<br/>Quality: potentially serious limitations</p> |

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| Study Country Study type | Intervention details  | Study population Study design Data sources | Costs and outcomes: description and values   | Results: Cost-effectiveness | Comments |
|--------------------------|---|--|--|-----------------------------|----------|
|                          | annual reward and incentive programme for all GPs in England that assesses areas of clinical care, organisation, patient experience & other services. |  | Adjusted difference: 0.025 (-0.078 to 0.127)<br>Mean number of SF-6D QALYs per person (95% CI):<br>IAPT: 0.026 (0.018 to 0.033)<br>TAU: 0.018 (0.007 to 0.029)<br>Unadjusted difference 0.007 (-0.006 to 0.021)<br>Adjusted difference 0.008 (-0.005 to 0.021)<br>Mean number of EQ-5D QALYs per person (95% CI):<br>IAPT: 0.038 (0.027 to 0.049)<br>TAU: 0.025 (0.009 to 0.040)<br>Unadjusted difference: 0.013 (-0.007 to 0.033)<br>Adjusted difference: 0.014 (-0.005 to 0.032) |                             |          |

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| Study Country Study type                                      | Intervention details  | Study population Study design Data sources  | Costs and outcomes: description and values  | Results: Cost-effectiveness | Comments   |
|---|---|---|---|-----------------------------|--|
| Ricken et al., 2011<br>Germany<br>Cost effectiveness analysis | Interventions:<br>Stepped care comprising a standardised stepwise drug treatment regimen (SC)<br>Treatment as usual (TAU) | Adults with a depressive syndrome according to ICD-10, with an indication for antidepressant therapy, receiving care in an inpatient setting.<br>Exclusion criteria: organic mental disorders, alcohol or substance dependence, substance-related affective disorders, ongoing prophylactic medication with a mood stabilizer that could not be | Costs: medication, hospitalisation<br>Mean hospitalisation cost per person (SD):<br>SC: €10,830 (€8,632);<br>TAU: €15,202 (€12,483), p=0.026<br>Mean medication cost per person (SD): | SC dominant                 | Perspective: 3rd party payer<br>Currency: Euro (€)<br>Cost year: likely 2004<br>Time horizon: time from enrolment to |

| Study Country Study type | Intervention details | Study population Study design Data sources   | Costs and outcomes: description and values  | Results: Cost-effectiveness | Comments  |
|--------------------------|----------------------|--|---|-----------------------------|---|
|                          |                      | discontinued, a new antidepressant started within the last 21 days, postpartum depression, pregnancy or breast-feeding, severe general medical illness prohibiting standard antidepressant medication, involuntary court ordered hospitalisation, and/or rejection of psychopharmacology treatment.<br>RCT (N=148)<br>Source of efficacy and resource use data: RCT (Bauer2009, N=148; completers n=103)<br>Source of unit costs: national sources | SC: €155 (€183);<br>TAU: €184 (€216), p=0.188<br>Primary outcome measures: remission, defined as a Bech-Rafaelsen-Melancholia-Scale (BRMS) score <7<br>Probability of remission: SC: 0.541; TAU: 0.392<br>Hazard ratio 2.02, p=0.07 |                             | study endpoint, i.e. dropout or remission<br>Discounting: NA<br>Applicability: partially applicable<br>Quality: potentially serious limitations |

**Q.1.51 Integrated care pathways – references to included studies**

- 2 11. Pyne JM, Fortney JC, Mouden S, Lu L, Hudson TJ, Mittal D (2015) Cost-effectiveness of on-site versus off-site collaborative care for
- 3 depression in rural FQHCs. *Psychiatric Services* 66: 491-499.
- 4 12. Wiley-Exley E, Domino ME, Maxwell J, Levkoff SE (2009) Cost-effectiveness of integrated care for elderly depressed patients in the
- 5 PRISM-E study. *Journal of Mental Health Policy and Economics* 12: 205-213+217.

| Study Country Study type  | Intervention details   | Study population Study design Data sources  | Costs and outcomes: description and values  | Results: Cost-effectiveness  | Comments   |
|---|--|---|---|--|--|
| Pyne et al., 2015<br>US<br>Cost effectiveness and cost-utility analysis | Interventions:<br>On-site, practice-based integrated care, comprising treatment provided by local primary care providers, coordinated by on-site nurse depression care managers; the latter contacted service users either face-to-face or by telephone. Service users | Adults who screened positive for depression according to a PHQ-9 score ≥10.<br>Exclusion criteria: schizophrenia, bipolar disorder, acute suicidal ideation | Costs: intervention (training of depression care managers, education material, interactive video equipment, staff time, telephone line), outpatient visits, inpatient care, emergency room care, medication, service users' time and mileage.<br>Adjusted incremental total cost per person: Off-site vs. on-site \$1,146 (95%CI \$396 to \$1,897); p=0.003.<br>Primary outcome measures: number of | ICER of off-site vs. on-site<br>\$36,033/QALY using regional costs<br>\$28,126/QALY using national costs<br>ICER using depression-free days as the measure of outcome reported | Perspective: healthcare & service users' time and mileage<br>Currency: US\$<br>Cost year: 2009<br>Time horizon: 18 months<br>Discounting: NA |

| Study<br>Country<br>Study type | Intervention details  | Study population<br>Study design<br>Data sources   | Costs and outcomes: description and values  | Results: Cost-effectiveness  | Comments   |
|--------------------------------|---|--|---|--|--|
|                                | <p>could be referred to specialists at off-site locations.</p> <p>Off-site, telemedicine-based integrated care, which used off-site specialists to support local primary care providers. Five types of providers were involved: on-site primary care providers, off-site depression care managers who contacted service users via telephone, a psychologist, a psychiatrist and a clinical pharmacist. At any time service users had access to CBT delivered via interactive video.</p> | <p>Multi-site pragmatic RCT (N=364)</p> <p>Source of efficacy and resource use data: RCT (Dobscha2006, N=364; 87% completed at 6 months, 79% at 12 months and 78% at 18 months)</p> <p>Source of unit costs: regional sources; national sources used in secondary analysis</p> | <p>depression-free days derived from the 20-item HSCL (score <math>\leq 0.5</math> indicated depression-free day, <math>\geq 1.7</math> full symptoms and intermediate severity scores were assigned a value between depression-free and fully symptomatic by linear interpolation); QALYs based on SF-12/SF-6D algorithm (UK tariff)</p> <p>Adjusted incremental number of depression-free days per person off-site vs. on-site: 110 (95%CI 80 to 140); <math>p &lt; 0.001</math></p> <p>Adjusted incremental QALYs per person off-site vs. on-site: 0.04 (95%CI 0.02 to 0.07); <math>p = 0.003</math></p> | <p>only after exclusion of inpatient costs: \$10.75 / depression-free day</p> <p>Probability of off-site being cost-effective 0.86 at WTP \$50,000/QALY</p> <p>Results sensitive to telephone line charges</p> | <p>Applicability: partially applicable</p> <p>Quality: minor limitations</p> |

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| Study<br>Country<br>Study type   | Intervention details  | Study population<br>Study design<br>Data sources  | Costs and outcomes: description and values  | Results: Cost-effectiveness  | Comments   |
|--|---|---|---|--|--|
| <p>Wiley-Exley <i>et al.</i>, 2009<br/>US<br/>Cost effectiveness and cost-utility analysis</p> | <p>Interventions:<br/>Integrated care (IC) comprising collaboration between primary and specialty mental health care; a behavioural health professional was co-located in the primary care setting and the primary care provider continued involvement in the mental health care of the service user<br/>Primary care with a specialty referral system (SRS) for referral to a behavioural health provider outside the primary care setting, who had primary responsibility for the mental health needs of the service user.<br/>Both service delivery models were assessed within and outside the Veteran Affairs (VA) system.</p> | <p>Adults above 65 years of age with depression (major or minor)<br/><br/>Multi-site pragmatic RCT (N=840)<br/><br/>Source of efficacy and resource use data: RCT (Krahn2006, N=840; within VA n=365, outside VA n=475; individuals with major depression within VA n=214, outside VA n=302)<br/>Source of unit costs: national sources</p> | <p>Costs: outpatient visits, inpatient care, nursing home, rehabilitation, emergency room, medication, service users' and caregivers' time and travel costs.<br/><br/>Adjusted incremental total cost per person:<br/>All: VA: -\$651, p=ns; Non-VA: \$46, p=ns<br/>Major depression: VA: \$877, p=ns; Non-VA: -\$380, p=ns<br/><br/>Primary outcome measures: Center for Epidemiologic Studies Depression Scale (CES-D) score; number of depression-free days (DFD) derived from the 20-item CES-D (score =0 indicated depression-free day, ≥ 16 full symptoms and intermediate severity scores were assigned a value between depression-free and fully symptomatic by linear interpolation); QALYs estimated based on depression-free days (QALY-DFD), using utility weights of health=1, depression=0.59); QALYs estimated based on SF-36 (QALY-SF), using preferences for matched vignettes created following cluster analysis of SF-12 mental and physical component scores, elicited by US service users with depression using SG<br/><br/>Adjusted incremental CES-D score per person:</p> | <p>Full VA sample:<br/>IC is dominant<br/>Probability of IC being cost-effective &gt;0.70 for any WTP/QALY-SF<br/>Full non-VA sample:<br/>IC is dominated when using CES-D, DFD, QALY-DFD.<br/>When using QALY-SF, ICER of IC vs. SRS was \$94,929/QALY<br/>Probability of IC being cost-effective &lt;0.40 for any WTP/QALY-SF<br/>Major depression VA sample: ICER of IC vs. SRS: \$322/CES-D point change \$94/DFD \$45,965/QALY-DFD \$58,815/QALY-SF<br/>Probability of IC being cost-effective &lt;0.50 for WTP of \$40,000/QALY-SF and above<br/>Major depression non-VA sample:</p> | <p>Perspective: healthcare &amp; service users' and carers' time and travel costs<br/><br/>Currency: US\$<br/><br/>Cost year: 2002<br/><br/>Time horizon: 6 months<br/><br/>Discounting: NA<br/><br/>Applicability: partially applicable<br/><br/>Quality: potentially serious limitations</p> |

| Study<br>Country<br>Study type | Intervention details | Study population<br>Study design<br>Data sources | Costs and outcomes: description and values   | Results: Cost-effectiveness   | Comments |
|--------------------------------|----------------------|--|--|---|----------|
|                                |                      |  | <p>All: VA: -1.3, p=ns; Non-VA: 2.9, p&lt;0.01</p> <p>Major depression: VA: -2.8, p&lt;0.05; Non-VA: 3.45, p&lt;0.05</p> <p>Adjusted incremental DFDs per person:</p> <p>All: VA: 3.89, p=ns; Non-VA: -5.73, p=ns</p> <p>Major depression: VA: 9.29, p=ns; Non-VA: -5.20, p&lt;0.05</p> <p>Adjusted incremental QALY-DFD per person:</p> <p>All: VA: 0.005, p=ns; Non-VA: -0.016, p&lt;0.05</p> <p>Major depression: VA: 0.019, p=ns; Non-VA: -0.011, p&lt;0.05</p> <p>Adjusted incremental QALY-SF per person:</p> <p>All: VA: 0.007, p=ns; Non-VA: 0.0004, p=ns</p> <p>Major depression: VA: 0.015, p=ns; Non-VA: -0.005, p=ns</p> | <p>SRS is dominant in terms of CES-D</p> <p>ICER of SRS vs. IC: \$73/DFD</p> <p>\$34,167/QALY-DFD</p> <p>\$79,590/QALY-SF</p> <p>Probability of IC being cost-effective &gt;0.50 for WTP \$50,000/QALY-SF and above</p> |          |

Update 2018

## Q.2.1 Interventions for first-line treatment of adults with a new episode of less severe depression

### Q.2.1.2 Psychological interventions – references to included studies

#### 3 Problem solving

1 13. Kendrick T, Simons L, Mynors-Wallis L, Gray A, Lathlean J, Pickering R, Harris S, Rivero-Arias O, Gerard K, Thompson C (2005) A trial  
2 of problem-solving by community mental health nurses for anxiety, depression and life difficulties among general practice patients. The CPN-  
3 GP study. Health Technology Assessment 9: iii-59.

4 AND

5 Kendrick T, Simons L, Mynors-Wallis L, Gray A, Lathlean J, Pickering R, Harris S, Rivero-Arias O, Gerard K, Thompson C (2006) Cost-  
6 effectiveness of referral for generic care or problem-solving treatment from community mental health nurses, compared with usual general  
7 practitioner care for common mental disorders: Randomised controlled trial. British Journal of Psychiatry 189: 50-59.

#### 8 Psychodynamic counselling

9 14. Simpson S, Corney R, Beecham J (2003) A randomized controlled trial to evaluate the effectiveness and cost-effectiveness of  
10 psychodynamic counselling for general practice patients with chronic depression. Psychological Medicine 33: 229-239.

#### 11 Computerised CBT

12 15. Kaltenthaler E, Brazier J, De Nigris E, Tumor I, Ferriter M, Beverly C, Parry G, Rooney G, Sutcliffe P (2006) Computerized cognitive  
13 behavior therapy for depression and anxiety update: A systematic review and economic evaluation. Health Technology Assessment 10(33).

14 16. McCrone P, Knapp M, Proudfoot J, Ryden C, Cavanagh K, Shapiro DA, Ilson S, Gray JA, Goldberg D, Mann A, Marks I, Everitt B, Tylee  
15 A (2004) Cost-effectiveness of computerised cognitive-behavioural therapy for anxiety and depression in primary care: Randomised  
16 controlled trial. British Journal of Psychiatry 185: 55-62.

#### 17 Computerised CBT with support

18 17. Littlewood E, Duarte A, Hewitt C, Knowles S, Palmer S, Walker S, Andersen P, Araya R, Barkham M, Bower P, Brabyn S, Brierley G,  
19 Cooper C, Gask L, Kessler D, Lester H, Lovell K, Muhammad U, Parry G, Richards DA, Richardson R, Tallon D, Tharmanathan P, White D,  
20 Gilbody S; REEACT Team (2015) A randomised controlled trial of computerised cognitive behaviour therapy for the treatment of depression  
21 in primary care: the Randomised Evaluation of the Effectiveness and Acceptability of Computerised Therapy (REEACT) trial. Health Technol  
22 Assess, 19(101).

23 18. Phillips R, Schneider J, Molosankwe I, Leese M, Foroushani PS, Grime P, McCrone P, Morriss R, Thornicroft G (2014) Randomized  
24 controlled trial of computerized cognitive behavioural therapy for depressive symptoms: effectiveness and costs of a workplace intervention.  
25 Psychological Medicine 44: 741-752.

| Study<br>Country<br>Study type | Intervention<br>details                  | Study population<br>Study design<br>Data sources                                       | Costs and outcomes: description<br>and values   | Results: Cost-<br>effectiveness               | Comments  |
|--------------------------------|--|--|---|---|---|
| Kendrick et al., 2005 & 2006a  | Interventions: Problem-solving treatment | Adults with a new episode of anxiety, depression or reaction to life difficulties with | Costs: intervention, training & supervision, medication, staff time (GP, practice nurse, counsellor, social | Under NHS perspective: usual GP care dominant | Perspective: NHS (and societal)<br>Currency: GBP£ |

| Study Country Study type    | Intervention details   | Study population Study design Data sources  | Costs and outcomes: description and values   | Results: Cost-effectiveness | Comments   |
|-----------------------------|--|---|--|-----------------------------|--|
| UK<br>Cost-utility analysis | provided by nurses<br>Generic community mental health (MH) nurse care<br>Usual GP care | duration of symptoms 4 weeks to 6 months; and a General Health<br>Questionnaire 12-item version (GHQ-12) $\geq 3$ .<br>75% of participants had depression.<br>Exclusion criteria: current psychological treatment or contact with psychiatric services; severe mental disorder or substance misuse; dementia; active suicidal ideas<br>Pragmatic RCT (N=247) (Kendrick2006)<br>Source of efficacy & resource use data: RCT, analysis based on n=184 with clinical data available; cost data available for n=159<br>Source of unit costs: national sources | worker, psychiatrist, psychologist), outpatient visit, A&E, inpatient care, other hospital contacts<br>For societal perspective: out of pocket expenses and productivity losses<br>Mean total NHS cost per person (SD):<br>Problem solving: £608 (£501)<br>MH nurse care: £569 (£350)<br>GP care: £283 (£300)<br>Adjusted differences vs GP care (95% CI):<br>Problem solving: £325 (£204 to £484)<br>MH nurse care: £286 (£174 to £411)<br>Outcome measure: QALY based on EQ-5D ratings (UK tariff)<br>Mean QALYs gained per person (SD):<br>Problem solving: 0.39 (0.09)<br>MH nurse care: 0.40 (0.07)<br>GP care: 0.40 (0.07)<br>Adjusted differences in QALY vs GP care (95% CI):<br>Problem solving: -0.02 (-0.05 to 0.012)<br>MH nurse care: 0 (-0.03 to 0.03) |                             | Cost year: 2003<br>Time horizon: 26 weeks<br>Discounting: NA<br>Applicability: directly applicable<br>Quality: minor limitations |

Update 2018

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| Study Country Study type           | Intervention details                                     | Study population Study design Data sources   | Costs and outcomes: description and values   | Results: Cost-effectiveness                               | Comments   |
|------------------------------------|--|--|--|---|--|
| Simpson et al., 2003<br>UK<br>Cost | Interventions: Psychodynamic counselling (6-12 sessions) | Adults aged 18-70 with depression (BDI 14-40) lasting at least 6 months, with or without comorbid anxiety. | Costs: GPs, practice nurses & counsellors, medication, specialist mental health, hospital, community health and social care services<br>Mean total cost per person (sd): | No differences in costs or outcomes between interventions | Perspective: health and social services<br>Currency: |

| Study Country Study type | Intervention details   | Study population Study design Data sources   | Costs and outcomes: description and values  | Results: Cost-effectiveness | Comments   |
|--------------------------|--|--|---|-----------------------------|--|
| effectiveness analysis   | each lasting 50 min) provided by highly trained, BAC accredited counsellors, who received regular supervision in addition to GP treatment as usual GP treatment as usual (TAU) | Exclusion criteria: symptoms of anxiety only; depression lasting >5 years; people 'difficult' or 'hard to treat'; history of drug or alcohol related problems, suicide attempts or psychosis; had seen a counsellor in the last 6 months RCT (Simpson2003, N=145) Source of efficacy and resource use data: RCT (at 12 months n=115 for outcomes and costs) Source of unit costs: local intervention costs; national sources for all other costs | Psychodynamic counselling £1046 (£1728), TAU £1074 (£1509); mean difference -£28, adjusted 95%CI -£597 to £588<br>Primary outcome measure: BDI<br>Secondary outcome measures: Brief Symptom Inventory (BSI); Inventory for Interpersonal Problems (IIP); Social Adjustment Schedule (SAS); Duke Social Support Scale (DSSS); number of 'cases of depression' defined as BDI≥14 or any of total BSI measures ≥63, or any SAS subcategory ≥2<br>Outcome results:<br>No significant differences between groups on any of the outcomes at 6 or 12 months, with the exception of BDI-defined cases of depression at 12 months: counselling: 48%; TAU: 64% (p=0.02) |                             | GBP£<br>Cost year: 1998<br>Time horizon: 12 months<br>Discounting: NA<br>Applicability: partially applicable<br>Quality: potentially serious limitations |

Update 2018

| Study Country Study type                              | Intervention details   | Study population Study design Data sources   | Costs and outcomes: description and values  | Results: Cost-effectiveness  | Comments  |
|---|--|--|---|--|---|
| Kaltenthaler et al., 2006 UK<br>Cost-utility analysis | Interventions: Computerised CBT – 3 packages examined: Beating the Blues (cCBT1) Cope (cCBT2) Overcoming Depression (cCBT3) Treatment as | Adults with depression treated in a primary care setting<br>Decision-analytic modelling<br>Source of efficacy data: analysis of RCT individual-level data for cCBT1 and cCBT2; published RCT data for cCBT3; and further assumptions | Costs: intervention (licence fees, computer hardware, screening of patients for suitability, clinical support, capital overheads, training), healthcare costs according to severity of depression (including medication, primary, inpatient and outpatient care)<br>Mean total cost per person:<br>cCBT1: £584<br>cCBT2: £630<br>cCBT3: £501<br>TAU: £437 | ICER vs TAU:<br>cCBT1: £1,801/QALY<br>cCBT2: £7,139/QALY<br>cCBT3: £5,391/QALY<br>Probability of each intervention being cost-effective vs TAU at WTP £30,000/QALY:<br>cCBT1: 0.87<br>cCBT2: 0.63<br>cCBT3: 0.54 | Perspective: NHS<br>Currency: GBP£<br>Cost year: likely 2003<br>Time horizon: 18 months<br>Discounting: 3.5% annually<br>Applicability: directly applicable<br>Quality: potentially serious limitations |

| Study Country Study type | Intervention details  | Study population Study design Data sources  | Costs and outcomes: description and values  | Results: Cost-effectiveness | Comments |
|--------------------------|---|---|---|-----------------------------|----------|
|                          | usual, defined as GP visits, medication and possible referral to a specialist (TAU) | Source of resource use data: manufacturer submissions, published data and other assumptions<br>Source of unit costs: national sources | Outcome measure: QALY estimated based on EQ-5D (UK tariff)<br>Mean QALYs per person<br>cCBT1: 1.10<br>cCBT2: 1.05<br>cCBT3: 1.03<br>TAU: 1.02 |                             |          |

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| Study Country Study type   | Intervention details  | Study population Study design Data sources  | Costs and outcomes: description and values  | Results: Cost-effectiveness  | Comments   |
|--|---|---|---|--|--|
| McCrone et al., 2004<br>UK<br>Cost effectiveness and cost-utility analysis | Interventions:<br>Computerised CBT (Beating the Blues), consisting of a 15min introductory video followed by 8 50min sessions of CBT (cCBT)<br>Treatment as usual (TAU), consisting of a variety of interventions, including discussions with the GP, referral to a counsellor, practice nurse or mental health professional, and treatment of physical conditions. | Adults aged 18-75 years with a diagnosis of depression, mixed depression and anxiety or anxiety disorders, who were not currently receiving face-to-face psychological therapy<br>RCT (Proudfoot2004a, N=274)<br>Source of efficacy and resource use data: RCT (cost data available for n=261)<br>Source of unit costs: national sources, intervention cost from manufacturer | Costs: intervention (programme, computers and overheads), inpatient care (physical and psychiatric), outpatient care, day surgery, A&E, staff time (GP, practice nurse, district nurse, CPN, nurse practitioner, counsellor, clinical psychologist, psychiatrist, health visitor, social worker, physiotherapist, other therapist), psychotropic medication, other services<br>Productivity losses considered in societal perspective<br>Mean total NHS cost per person (SD):<br>cCBT: £397 (£589); TAU: £357 (£575)<br>Mean difference: £40 (90% CI -£28 to £148)<br>Outcome measures: BDI score; number of depression-free days (DFDs) defined based on BDI scores; QALY assuming that a DFD scores 1 and a day with depression scores 0.59<br>Outcome results: | ICER of cCBT vs TAU:<br>£11/point improvement on BDI<br>£1/DFD<br>£1,250/QALY<br>Probability of cCBT being cost-effective:<br>0.14 and 0.81 at WTP zero and £40 per point improvement in BDI, respectively<br>0.15 and 0.80 at WTP zero and £5 per additional DFD, | Perspective: NHS (and societal)<br>Currency: GBP£<br>Cost year: 2000<br>Time horizon: 8 months<br>Discounting: NA<br>Applicability: partially applicable<br>Quality: potentially serious limitations |

Update 2018

| Study Country<br>Study type | Intervention details | Study population<br>Study design<br>Data sources | Costs and outcomes: description and values  | Results: Cost-effectiveness  | Comments |
|-----------------------------|----------------------|--|---|--|----------|
|                             |                      |  | BDI difference: -3.5 (95% CI 0.6–6.4)<br>Number of DFDs (SD):<br>cCBT: 89.7 (74.2); TAU 61.0 (67.1)<br>Difference: 28.4 (95% CI 10.7-45.5).<br>Difference in QALYs: 0.032 | respectively<br>0.85 and 0.99 at<br>WTP £5,000<br>and £15,000 per<br>QALY,<br>respectively |          |

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| Study Country<br>Study type                            | Intervention details  | Study population<br>Study design<br>Data sources   | Costs and outcomes: description and values  | Results: Cost-effectiveness  | Comments   |
|--|---|--|---|--|--|
| Littlewood et al., 2015<br>UK<br>Cost-utility analysis | Interventions:<br>Computerised, commercially produced CBT (Beating the Blues) with therapist support in addition to treatment as usual (cCBT1)<br>Computerised, free to use cCBT (MoodGYM) with therapist support in addition to treatment as usual (cCBT2)<br>Treatment as usual, comprising GP care with no constraints on the range of treatments that could be accessed (TAU) | Adults with symptoms of depression (PHQ-9 score ≥10)<br>Pragmatic multicentre RCT (Gilbody2015, N=691)<br>Source of efficacy and resource use data: RCT (EQ-5D data available for n=416 at 24 months; NHS cost data available for n=580)<br>Source of unit costs: national sources | Costs: intervention (licence fee, cost of support), GP or nurse visits (including telephone call appointments), out-of-hours GP services, inpatient stays, outpatient visits, other community services (including counsellors, psychologists, psychiatrists, CMHT and IAPT services), depression-related medication (antidepressants, antipsychotics, mood stabilisers, sleeping tablets, anxiety medication)<br>Mean total cost per person (SE):<br>cCBT1: £1,186 (£80)<br>cCBT2: £1,098 (£135)<br>TAU: £1,121 (£62)<br>Adjusted mean differences (95% CI)<br>cCBT1 vs TAU: £104 (-£67 to £275)<br>cCBT2 vs TAU: -£106 (-£262 to £50)<br>Primary outcome measure: QALYs estimated based on EQ-5D (UK tariff)<br>Number of QALYs per person (SE):<br>cCBT1: 1.333 (0.034) | cCBT1 dominated by TAU<br>TAU vs cCBT2 £6,933/QALY<br>Probability of each intervention being cost effective at WTP £20,000/QALY:<br>cCBT1: 0.038<br>cCBT2: 0.417<br>TAU: 0.545<br>Using SF-6D QALYs:<br>cCBT1 dominated by TAU<br>cCBT2 dominant<br>Probability of each intervention being cost-effective at WTP £20,000/QALY:<br>cCBT1: 0.007<br>cCBT2: 0.756<br>TAU: 0.237<br>Results robust to inclusion of depression-related costs only and to consideration of | Perspective: NHS & PSS<br>Currency: GBP£<br>Cost year: 2012<br>Time horizon: 2 years<br>Discounting: 3.5% annually<br>Applicability: directly applicable<br>Quality: minor limitations |

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| Study Country<br>Study type   | Intervention details   | Study population<br>Study design<br>Data sources   | Costs and outcomes: description and values  | Results: Cost-effectiveness  | Comments  |
|---|--|--|---|--|---|
|   |  |  | cCBT2: 1.356 (0.033)<br>TAU: 1.389 (0.033)<br>Adjusted mean differences (95% CI)<br>cCBT1 vs TAU: -0.044 (-0.117 to 0.030)<br>cCBT2 vs TAU: -0.015 (-0.092 to 0.061)  | completers' data only (instead of imputed data analysis)<br>Little evidence of an interaction effect between preference and treatment allocation on outcomes |   |
| 1   |  |  |   |  |   |
| Study Country<br>Study type   | Intervention details   | Study population<br>Study design<br>Data sources   | Costs and outcomes: description and values  | Results: Cost-effectiveness  | Comments  |
| Phillips et al., 2014<br>UK<br>Cost effectiveness and cost-utility analysis | Interventions: Computerised CBT (MoodGYM) comprising 5 1hr modules, usually taken weekly, plus support in the form of telephone interviews (cCBT) 'Attention' control (five websites with general information about mental health) | Adults with depressive symptoms, as measured by PHQ-9 responses, identified via occupational health settings<br>Pragmatic RCT (Phillips2014, N=637)<br>Source of efficacy and resource use data: RCT (for clinical analysis: completion 56% at 6 weeks; 36% at 12 weeks; for cost analysis: completion rates not reported)<br>Source of unit costs: national sources | Costs: hospital (inpatient and outpatient care), community services, staff time (GP, psychiatrist, district nurse, counsellor, occupational health providers, other providers, medication)<br>Intervention cost appears to have been omitted from analysis<br>Productivity losses considered in societal perspective<br>Mean total NHS cost per person (SD): cCBT: £29 (£110); Control: £38 (£125)<br>Outcome measures: Work and Social Adjustment Scale (WSAS); QALYs estimated based on EQ-5D (UK tariff)<br>Outcome results:<br>WSAS difference: -0.470 (95% CI -1.837 to 0.897)<br>QALY:<br>cCBT: 0.082; control: 0.083 at 6 weeks<br>cCBT: 0.167; control: 0.170 at 12 weeks | ICER of control vs cCBT: £3,667/QALY   | Perspective: NHS (and societal)<br>Currency: GBP£<br>Cost year: likely 2010<br>Time horizon: 12 weeks for outcomes; 6 weeks for costs<br>Discounting: NA<br>Applicability: directly applicable<br>Quality: very serious limitations |

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## Q.2.21 Pharmacological interventions – references to included studies

### 2 **SSRIs (fluvoxamine, sertraline, paroxetine, citalopram or escitalopram) plus GP supportive care vs. GP supportive care alone**

3 19. Kendrick T, Chatwin J, Dowrick C, Tylee A, Morriss R, Peveler R, Leese M, McCrone P, Harris T, Moore M, Byng R, Brown G, Barthel S,  
4 Mander H, Ring A, Kelly V, Wallace V, Gabbay M, Craig T, Mann A (2009) Randomised controlled trial to determine the clinical effectiveness  
5 and cost-effectiveness of selective serotonin reuptake inhibitors plus supportive care, versus supportive care alone, for mild to moderate  
6 depression with somatic symptoms in primary care: the THREAD (THREShold for AntiDepressant response) study. Health Technology  
7 Assessment 13(22)

### 8 **TCA (amitriptyline, dothiepin or imipramine) versus SSRIs (fluoxetine, sertraline or paroxetine) versus lofepramine**

9 20. Peveler R, Kendrick T, Buxton M, Longworth L, Baldwin D, Moore M, Chatwin J, Goddard J, Thornett A, Smith H, Campbell M,  
10 Thompson C (2005) A randomised controlled trial to compare the cost-effectiveness of tricyclic antidepressants, selective serotonin reuptake  
11 inhibitors and lofepramine. Health Technology Assessment 9(16)

12 AND

13 Kendrick T, Peveler R, Longworth L, Baldwin D, Moore M, Chatwin J, Thornett A, Goddard J, Campbell M, Smith H, Buxton M, Thompson C  
14 (2006) Cost-effectiveness and cost-utility of tricyclic antidepressants, selective serotonin reuptake inhibitors and lofepramine: Randomised  
15 controlled trial. British Journal of Psychiatry 188: 337-345.

| Study<br>Country<br>Study type  | Intervention<br>details  | Study population<br>Study design<br>Data sources  | Costs and outcomes: description and values   | Results: Cost-<br>effectiveness   | Comments  |
|---|--|---|--|---|---|
| Kendrick et al., 2009<br>UK<br>Cost effectiveness and cost-utility analysis | Interventions: SSRIs (fluoxetine, fluvoxamine, sertraline, paroxetine, citalopram or escitalopram) plus GP supportive care<br>GP supportive care alone, comprising consultations at 2, 4, 8 and 12 weeks after the | Adults with depressive symptoms for ≥ 8 weeks, who had received no antidepressant treatment within the previous 12 months, were not in receipt of counselling or psychological therapies at baseline, had a baseline HAMD17 score 12-19 and at least one symptom on the Bradford Somatic Inventory (BSI). | Costs: medication, primary care (face-to-face GP consultations, GP telephone contacts, practice nurse contacts), secondary care (inpatient, outpatient, day patient, accident and emergency), community health services (health visitors, district nurses, counselling or psychological therapists), social care services (social workers, housing workers)<br>Mean (SD) total cost per person:<br>At 12 weeks:<br>SSRI & GP: £341 (£454); GP alone: £388 (£932)<br>Difference adjusted for baseline:<br>-£28 (95%CI -£656 to £117)<br>At 26 weeks:<br>SSRI & GP: £759 (£1730); GP alone: £629 | 12 weeks<br>SSRI & GP dominates GP alone<br>At zero WTP per unit of reduction on HAMD17, probability of SSRI & GP being cost-effective was 54.9%<br>At a WTP of £20,000–£30,000/QALY, probability of SSRI & GP being cost-effective was 80-85%.<br>26 weeks | Perspective: health and social care<br>Currency: UK£<br>Cost year: 2007<br>Time horizon: 12 and 26 weeks<br>Discounting: NA<br>Applicability: directly applicable<br>Quality: minor limitations |

| Study Country Study type | Intervention details | Study population Study design Data sources   | Costs and outcomes: description and values  | Results: Cost-effectiveness  | Comments |
|--------------------------|----------------------|--|---|--|----------|
|                          | baseline assessment  | Exclusion criteria: significant substance misuse and an Alcohol Use Disorders Identification Test (AUDIT) score $\geq$ 12<br>RCT (Kendrick2009, N=220)<br>Source of efficacy & resource use data: RCT (N=220; 12-week completers n=196; 6-month followed-up n=160)<br>Source of unit costs: national sources | (£1092)<br>Difference adjusted for baseline: £153 (95%CI -£500 to £304)<br>Outcome measures: HAMD17 score; QALY based on SF-36 ratings (UK tariff)<br>Mean (SD) HAMD17 score per person:<br>At 12 weeks<br>SSRI & GP: 8.73 (5.20); GP alone: 11.22 (5.78)<br>At 26 weeks<br>SSRI & GP: 7.92 (5.67); GP alone: 9.73 (5.57)<br>Mean QALYs gained per person:<br>From baseline to 12 weeks<br>SSRI & GP 0.159; GP alone 0.152<br>Difference adjusting for baseline 0.005<br>From baseline to 26 weeks<br>SSRI & GP 0.331; GP alone 0.318<br>Difference adjusted for baseline 0.010 | ICER of SSRI & GP vs. GP alone £90/unit of improvement on HAMD17 or £14,854/QALY<br>SSRI & GP has a greater than 0.50 probability of being cost-effective when the WTP exceeds £80 per unit reduction on HAMD17<br>At a WTP at £20,000–£30,000/QALY, probability of SSRI & GP being cost-effective was 0.65-0.75 |          |

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| Study Country Study type  | Intervention details  | Study population Study design Data sources   | Costs and outcomes: description and values  | Results: Cost-effectiveness  | Comments   |
|---|---|--|---|--|--|
| Peveler et al., 2005 and Kendrick et al., 2006b<br>UK<br>Cost effectiveness and cost-utility analysis | Interventions: TCAs (amitriptyline, dothiepin or imipramine)<br>SSRIs (fluoxetine, sertraline or paroxetine)<br>Lofepramine | Adults with a new episode of depression willing to receive antidepressant treatment in primary care, including those with comorbid physical or mental illness.<br>Exclusion criteria: already taking antidepressants, pregnant, breast-feeding, terminal illness<br>Open-label RCT, with partial | Costs: GP time (surgery contact, by telephone, home visit), other staff time (practice nurse, district nurse, CPN, counsellor, psychiatrist), day centre, non-psychiatric hospital clinic, A&E, psychiatric and non-psychiatric in-patient stay<br>Mean total cost per person (95%CI):<br>TCAs £762 (£553 to £1059)<br>SSRIs £875 (£675 to £1355) | ICERs<br>SSRI vs. TCAs £59/DFW<br>TCAs vs. LOF £183/DFW (TCAs extendedly dominated)<br>SSRI vs. LOF £32/DFW<br>SSRIs vs. LOF | Perspective: NHS<br>Currency: UK£<br>Cost year: 2002<br>Time horizon: 12 months<br>Discounting: NA<br>Applicability: directly applicable<br>Quality: minor limitations |

| Study Country Study type | Intervention details   | Study population Study design Data sources  | Costs and outcomes: description and values  | Results: Cost-effectiveness   | Comments |
|--------------------------|--|---|---|---|----------|
|                          | (LOF)<br>Treatment lasted 6 months after remission or for at least 12 months if participant had experienced ≥ 2 depressive episodes within the past 5 years. | preference design (following randomisation, treatment could be prescribed from a different class to the one allocated at random, if participants or their doctor preferred an alternative). (Peveler2005; N=327; entered preference group n=92; followed-up at 12 months n=171)<br>Source of efficacy data: RCT (n=264 for depression-free weeks, n=262 for QALYs)<br>Source of resource use data: RCT (n=324; sub-analysis included for those who provided efficacy data, and used in estimation of ICERs/CEACs)<br>Source of unit costs: national sources | LOF £867 (£634 to £1521) (p=0.09)<br>Outcome measures: number of depression-free weeks (DFW, defined as a Hospital Anxiety and Depression Scale - Depression subscale (HADS-D) <8) and QALYs based on EQ-5D ratings (UK tariff)<br>Number of depression-free weeks per person (95%CI):<br>TCAs 25.3 (21.3 to 29.0)<br>SSRIs 28.3 (24.3 to 32.2)<br>LOF 24.6 (20.6 to 28.9)<br>p=0.327<br>Mean QALYs per person, adjusted for baseline (95%CI):<br>TCAs 0.548 (0.481 to 0.606)<br>SSRIs 0.586 (0.523 to 0.641)<br>LOF 0.552 (0.493 to 0.612) | £5,686/QALY<br>LOF vs. TCAs<br>£23,250/QALY (LOF extendedly dominated)<br>SSRIs vs. TCAs<br>£2,692/QALY<br>Probability of SSRIs being cost-effective approximately 0.6 at WTP of £20,000/QALY |          |

Update 2018

### Q.2.31 Physical interventions – references to included studies

#### 2 Acupuncture versus counselling versus usual care

21. Spackman E, Richmond S, Sculpher M, Bland M, Brealey S, Gabe R, Hopton A, Keding A, Lansdown H, Perren S, Torgerson D, Watt I, MacPherson H (2014) Cost-effectiveness analysis of acupuncture, counselling and usual care in treating patients with depression: The results of the ACUDep trial. PLoS ONE 9(11): e113726

#### 6 Exercise versus usual care

22. Chalder M, Wiles NJ, Campbell J, Hollinghurst SP, Searle A, Haase AM, Taylor AH, Fox KR, Baxter H, Davis M, Thorp H, Winder R, Wright C, Calnan M, Lawlor DA, Peters TJ, Sharp DJ, Turner KM, Montgomery AA, Lewis G (2012) A pragmatic randomised controlled trial to evaluate the cost-effectiveness of a physical activity intervention as a treatment for depression: The treating depression with physical activity (TREAD) trial. Health Technology Assessment 16(10).

| Study<br>Country<br>Study type                       | Intervention<br>details  | Study population<br>Study design<br>Data sources   | Costs and outcomes: description<br>and values   | Results: Cost-effectiveness  | Comments  |
|--|--|--|---|--|---|
| Spackman et al., 2014<br>UK<br>Cost-utility analysis | Interventions:<br>Acupuncture 12 weekly sessions<br>Counselling 12 weekly sessions<br>Treatment as usual (TAU) | Adults with depression (BDI-II score $\geq 20$ ), who were in contact with primary care services for this reason within the past 5 years, and were continuing to experience moderate to severe depression<br>Open parallel-arm RCT (MacPherson 2013, N=755)<br>Source of efficacy and resource use data: RCT (at 12 months EQ-5D data n=572; complete resource use data n=150; multiple imputation used)<br>Source of unit costs: national sources | Costs: intervention, GP, practice nurse, other health professional, NHS hospital outpatient clinic, hospital ward, hospital mental health unit, other hospital unit, accident and emergency, community mental health nurse, psychologist or psychiatrist, NHS counsellor<br>Mean total cost per person:<br>Acupuncture £1,227; counselling £1,450; TAU £958<br>Primary outcome measure:<br>QALYs estimated using EQ-5D ratings (UK tariff)<br>QALYs per person:<br>Acupuncture 0.663; counselling 0.666; TAU 0.604 using imputed data and seemingly unrelated regression controlling for the baseline HRQoL | ICER of counselling vs. acupuncture: £71,757/QALY<br>acupuncture vs. TAU £4,560/QALY<br>counselling vs. TAU (when acupuncture is not suitable) £7,935/QALY<br>Probability of cost effectiveness at £20,000/QALY: acupuncture 0.62; counselling 0.36; TAU 0.02<br><br>Results sensitive to small changes in intervention costs; results robust to inclusion of depression-related resource use only. In complete case analysis acupuncture dominated counselling. | Perspective: NHS<br>Currency: GBP£<br>Cost year: 2012<br>Time horizon: 12 months<br>Discounting: NA<br>Applicability: directly applicable<br>Quality: potentially serious limitations |

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| Study<br>Country<br>Study type                      | Intervention<br>details  | Study population<br>Study design<br>Data sources   | Costs and outcomes: description<br>and values  | Results: Cost-effectiveness  | Comments   |
|---|--|--|--|--|--|
| Chalder et al., 2012<br>UK<br>Cost-utility analysis | Interventions:<br>Physical activity intervention delivered by a physical activity facilitator plus GP treatment as usual | Adults 18-69 years of age, with a recent first or new episode of mild/moderate depression (BDI score $\geq 14$ ), who were not taking antidepressants at the time of assessment or had been prescribed | Costs: intervention (physical activity facilitator's time), primary care professionals' time (GP, practice nurse, phlebotomist, health visitor, district nurse, midwife, nurse practitioner, mental health worker, counsellor, community psychiatric nurse, physiotherapist), paramedic, A&E, outpatient care, walk-in centre, NHS | Under NHS & PSS perspective:<br>Using completers' data:<br>ICER of physical activity vs. TAU: £20,834/QALY<br>Probability of physical activity being cost-effective at £20,000 and | Perspective: NHS & PSS (and societal)<br>Currency: GBP£<br>Cost year: 2009<br>Time horizon: 12 months<br>Discounting: NA |

| Study Country Study type | Intervention details  | Study population Study design Data sources  | Costs and outcomes: description and values  | Results: Cost-effectiveness  | Comments   |
|--------------------------|---|---|---|--|--|
|                          | GP treatment as usual (TAU), which may include antidepressant medication, counselling or referral to secondary mental health services | antidepressants within 4 weeks of assessment but had had an antidepressant-free period of 4 weeks prior to that<br>Pragmatic, multicentre RCT (N=361, excluded from clinical analysis due to high attrition rates)<br>Source of efficacy and resource use data: RCT (at 12 months EQ-5D data n=195; complete resource use data n=156; multiple imputation used in sensitivity analysis)<br>Source of unit costs: national sources | Direct out-of-hours care, medication, productivity losses<br>Mean total service cost per person:<br>Physical activity £ 646; TAU £350<br>Difference: £296 (95%CI £202 to £390)<br>Primary outcome measure:<br>QALYs estimated using EQ-5D ratings (UK tariff)<br>QALYs per person:<br>Physical activity: 0.809; TAU 0.795<br>Difference 0.014 (95%CI -0.033 to 0.061) | £30,000/QALY: 0.49 and 0.57, respectively<br>Using imputed data:<br>ICER of physical activity vs. TAU £19,394/QALY<br>Probability of physical activity being cost-effective at £20,000 and £30,000/QALY: 0.50 and 0.60, respectively | Applicability: directly applicable<br>Quality: potentially serious limitations |

Update 2018

### Q.3.1 Interventions for first-line treatment of adults with a new episode of more severe depression

#### Q.3.1.3 Psychological interventions – references to included studies

##### 4 Psychoeducation

5 23. Horrell L, Goldsmith KA, Tylee AT, Schmidt UH, Murphy CL, Bonin EM, Beecham J, Kelly J, Raikundalia S, Brown JSL (2014) One-day  
6 cognitive-behavioural therapy self-confidence workshops for people with depression: Randomised controlled trial. British Journal of  
7 Psychiatry 204: 222-233.

##### 8 Cognitive behavioural therapy (CBT)

9 24. Holman AJ, Serfaty MA, Leurent BE, King MB (2011) Cost-effectiveness of cognitive behaviour therapy versus talking and usual care for  
10 depressed older people in primary care. BMC health services research 11: 33.

1 25. Hollinghurst S, Peters TJ, Kaur S, Wiles N, Lewis G, Kessler D (2010) Cost-effectiveness of therapist-delivered online cognitive-  
2 behavioural therapy for depression: Randomised controlled trial. *British Journal of Psychiatry* 197: 297-304.

3 **Behavioural activation**

4 26. Ekers D, Godfrey C, Gilbody S, Parrott S, Richards DA, Hammond D, Hayes A (2011) Cost utility of behavioural activation delivered by  
5 the non-specialist. *British Journal of Psychiatry* 199(6): 510-1.

6 **Counselling versus antidepressants**

7 27. Miller P, Chilvers C, Dewey M, Fielding K, Gretton V, Palmer B, Weller D, Churchill R, Williams I, Bedi N, Duggan C, Lee A, Harrison G  
8 (2003) Counseling versus antidepressant therapy for the treatment of mild to moderate depression in primary care economic analysis.  
9 *International Journal of Technology Assessment in Health Care* 19: 80-90.

| Study<br>Country<br>Study type  | Intervention<br>details   | Study population<br>Study design<br>Data sources  | Costs and outcomes: description and values   | Results: Cost-effectiveness  | Comments  |
|---|---|---|--|--|---|
| Horrell et al.,<br>2014<br>UK<br>Cost effectiveness and cost-utility analysis | Interventions:<br>Psychoeducational one-day self-confidence workshop<br>Wait list | Adults with depression, as indicated by a BDI≥14<br>No exclusion criteria in relation to antidepressants or concurrent psychological therapy<br>Multicentre open RCT (N=459; completers n=382) (Horrell2014)<br>Source of efficacy & resource use data: RCT; cost effectiveness analysis based on n=380; cost-utility analysis based on n=375<br>Source of unit costs: national sources and other published studies | Costs: intervention (venue, advertising, workshop materials, volunteer time, staff time including training, preparation, administration, delivering the intervention and volunteer time), medication, primary care, outpatient and inpatient care, specialist mental health and community-based services such as social work and alternative therapy<br>For societal perspective: productivity losses<br>Mean total NHS cost per person (95% CI):<br>Psychoeducation: £834, WL: £841 (-£286 to -£278)<br>Outcome measures:<br>Change in BID-II<br>number of depression-free days (DFD) calculated based on BDI-II scores: a full DFD was assigned for BDI <10 and no DFD for BDI >28, with scores in between weighted proportionally<br>QALY based on EQ-5D ratings (UK tariff)<br>Mean change in BDI-II (SD):<br>Psychoeducation: 9.47 (10.91); WL: 3.51 (8.32)<br>Difference (95% CI): 5.96 (4.01 to 7.91) | Psychoeducation dominant in terms of BDI-II change scores and DFDs;<br>Less costly and less effective in terms of QALYs; ICER of WL vs psychoeducation: £2,333/QALY<br>Psychoeducation and WL had similar costs and QALYs<br>Probability of psychoeducation being cost-effective: 0.30, 0.80 and 0.99 at WTP zero, £30 and £70 per BDI point improvement<br>0.90 at WTP £14 per DFD gained<br>0.50 at WTP of £19,500/QALY, max | Perspective: NHS (and societal)<br>Currency: GBP£<br>Cost year: 2011<br>Time horizon: 12 weeks<br>Discounting: NA<br>Applicability: directly applicable<br>Quality: potentially serious limitations |

Update 2018

| Study<br>Country<br>Study type | Intervention<br>details | Study population<br>Study design<br>Data sources | Costs and outcomes: description and values  | Results: Cost-effectiveness              | Comments |
|--------------------------------|-------------------------|--|---|--|----------|
|                                |                         |  | Additional depression-free days (SD):<br>Psychoeducation: 28.85 (31.16); WL: 9.62 (24.99)<br>Difference: 19.23 (13.56 to 24.90)<br>QALYs gained (SD):<br>Psychoeducation: 0.007 (0.06); WL: 0.010 (0.61)<br>Difference: -0.003 (-0.01 to 0.012) | 0.56 irrespective of WTP per QALY gained |          |

1

| Study<br>Country<br>Study type                           | Intervention<br>details  | Study population<br>Study design<br>Data sources  | Costs and outcomes: description and values   | Results: Cost-effectiveness   | Comments  |
|--|--|---|--|---|---|
| Holman et al., 2011<br>UK<br>Cost effectiveness analysis | Interventions: Cognitive behavioural therapy (12 sessions) in addition to treatment as usual (CBT)<br>Treatment as usual (TAU) | Older adults aged $\geq 65$ years with depression (BDI $\geq 14$ ) and, if on an antidepressant, a stable dose of medication for at least 8 weeks prior to randomization<br>Single-blind RCT (Serfaty2009, N=204)<br>Source of efficacy and resource use data: RCT (at 10 months n=198 for costs, n=167 for outcomes)<br>Source of unit costs: national sources | Costs: intervention (CBT) and community health service costs (contacts with GP's, practice and district nurses, health visitors, psychiatrists, clinical psychologists, occupational therapists, physiotherapists, community psychiatric nurses and general counsellors); medication not considered but likely similar between groups; secondary care not considered<br>Mean cost difference per person: £427 (95% CI: £56 to £787, $p < 0.001$ )<br>Primary outcome measure: BDI-II<br>Mean BDI-II difference per person: 3.6 (95%CI: 0.7 to 6.5, $p = 0.018$ ) | ICER of CBT vs. TAU £120 /additional point reduction in BDI-II<br>Probability of CBT being cost-effective: 0.90 at a WTP of £270 /point reduction in BDI-II | Perspective: health and social services (only primary and community healthcare services considered)<br>Currency: GBP£<br>Cost year: 2008<br>Time horizon: 10 months<br>Discounting: NA<br>Applicability: partially applicable<br>Quality: potentially serious limitations |

Update 2018

1

| Study Country Study type   | Intervention details  | Study population Study design Data sources  | Costs and outcomes: description and values   | Results: Cost-effectiveness   | Comments   |
|--|---|---|--|---|--|
| Hollingshurst et al., 2010<br>UK<br>Cost effectiveness and cost-utility analysis | Interventions:<br>Computerised CBT delivered online using real-time therapist interaction through written messaging comprising up to 10 55min sessions (CBT)<br><br>Waiting list (WL) | Adults aged 18-75 years who were identified in primary care as having a new episode of depression, defined by a BDI score $\geq 14$ and an ICD-10 diagnosis of depression using the Revised Clinical Interview Schedule (CIS-R)<br>RCT (Kessler2009, N=297)<br><br>Source of efficacy and resource use data: RCT (BDI data available for n=210; QALYs available for n=165; NHS cost data available for n=137)<br>Source of unit costs: national sources | Costs: intervention, staff time (GP, practice nurse, counsellor, health visitor, occupational health therapist, psychiatrist, phlebotomist, physiotherapist), walk-in centre, NHS Direct, A&E, inpatient and outpatient care, medication<br><br>Personal expenses (private sector healthcare, over-the-counter drugs, social and domestic help, travel costs and out-of-pocket loss of earnings) and productivity losses considered in societal perspective<br><br>Mean total NHS cost per person (SD):<br>CBT: £764 (£380); WL: £295 (£359)<br>Mean difference: £469 (95% CI £342 to £597)<br><br>Outcome measures: BDI; recovery based on BDI score <10; QALYs estimated based on EQ-5D (UK tariff)<br><br>Outcome results:<br>BDI score: CBT 14.7 (11.6); WL 22.2 (15.2)<br>Difference: -6.2 (-9.3 to -3.9)<br>% of people recovered: CBT 42%, WL 26%<br>Difference 16.5% (3.7% to 29.2%)<br>QALYs: CBT 0.530 (0.099); WL 0.496 (0.126)<br>Difference 0.034 (-0.001 to 0.069) | Complete data:<br>ICER of CBT vs WL:<br>£3,528/extra person recovering<br>£17,173/QALY<br>Probability of CBT being cost-effective:<br>0.56 and 0.71 at WTP<br>£20,000 & £30,000/QALY, respectively<br>Imputed missing data:<br>ICER of CBT vs WL:<br>£10,083/QALY<br>Probability of CBT being cost-effective:<br>0.94 and 0.98 at WTP<br>£20,000 & £30,000/QALY, respectively | Perspective:<br>NHS (and societal)<br>Currency:<br>GBP£<br>Cost year: 2007<br>Time horizon: 8 months<br>Discounting:<br>NA<br>Applicability:<br>directly applicable<br>Quality:<br>potentially serious limitations |

Update 2018

2

| Study Country Study type | Intervention details | Study population Study design Data sources | Costs and outcomes: description and values | Results: Cost-effectiveness | Comments |
|--------------------------|----------------------|--|--|-----------------------------|----------|
|--------------------------|----------------------|--|--|-----------------------------|----------|

| Study Country Study type   | Intervention details  | Study population Study design Data sources  | Costs and outcomes: description and values  | Results: Cost-effectiveness  | Comments   |
|--|---|---|---|--|--|
| <p>Ekers <i>et al.</i>, 2011</p> <p>UK</p> <p>Cost effectiveness and cost-utility analysis</p> | <p><u>Interventions:</u></p> <p>Behavioural activation (BA), delivered over 12 hourly sessions by 2 mental health nurses on post qualification pay bands with no previous formal therapy training; therapists received 5-day training and 1 hour clinical supervision fortnightly</p> <p>Treatment as usual (TAU) comprising GP care or primary care by mental health workers</p> | <p>Adults with depression (confirmed by the revised Clinical Interview Schedule - CIS-R), on stable or no antidepressant medication for 6 weeks, attending general practice or primary care mental health services</p> <p>Pragmatic RCT (N=47; completers n=38) (Ekers2011)</p> <p><u>Source of efficacy &amp; resource use data:</u> RCT, based on participants' primary care records and self-completed questionnaires</p> <p><u>Source of unit costs:</u> national sources</p> | <p><u>Costs:</u> intervention: therapist time, supervision &amp; training costs spread over 3 years; 2 scenarios employed, based on 2 estimates of workload according to Improving Access to Psychological Therapy (IAPT) service specifications: 65 treatments/year in a depression-specific role (scenario A) or 33 treatments/year treating depression and anxiety (scenario B); primary (general &amp; mental health) care, secondary (general &amp; mental health) care, community and social services, medication</p> <p>Cost differences adjusted for baseline:<br/>Scenario A: £149 (95%CI -£56 to £355)<br/>Scenario B: £175 (95%CI -£31 to £380)<br/>Imputed, bias-corrected costs – scenario A:<br/>BA: £583 (95%CI £442 to £771)<br/>TAU: £413 (95%CI £279 to £560)<br/>Imputed, bias-corrected costs – scenario B:<br/>BA: £609 (95%CI £473 to £797)<br/>TAU: £413 (95%CI £284 to £587)</p> <p><u>Outcome measure:</u> BDI score; QALY based on EQ-5D ratings (UK tariff)</p> <p>Mean change in BDI-II: -15.78 (95% CI -24.55 to -7.02)</p> <p>Mean bias-adjusted QALYs gained:<br/>BA: 0.05 (95%CI 0.04 to 0.07)<br/>TAU: 0.02 (95%CI 0.00 to 0.03)</p> | <p>Scenario A<br/>ICER of BA vs. TAU</p> <ul style="list-style-type: none"> <li>• £9.45 per BDI-II point reduction</li> <li>• £5,006/QALY</li> </ul> <p>At a WTP of £20,000/QALY, probability of BA being cost-effective was 0.98</p> <p>Scenario B<br/>ICER of BA vs. TAU</p> <ul style="list-style-type: none"> <li>• £11.04 per BDI-II point reduction</li> <li>• £5,756/QALY</li> </ul> <p>At a WTP of £20,000/QALY, probability of BA being cost-effective was 0.97</p> | <p><u>Perspective:</u> NHS &amp; PSS</p> <p><u>Currency:</u> GBP£</p> <p><u>Cost year:</u> 2009</p> <p><u>Time horizon:</u> 3 months</p> <p><u>Discounting:</u> NA</p> <p><u>Applicability:</u> directly applicable</p> <p><u>Quality:</u> potentially serious limitations</p> |

| Study Country Study type                                 | Intervention details   | Study population Study design Data sources   | Costs and outcomes: description and values  | Results: Cost-effectiveness  | Comments   |
|--|--|--|---|--|--|
| Miller et al., 2003<br>UK<br>Cost effectiveness analysis | Interventions: Generic psychological therapy comprising 6 weekly 50-minute sessions (counselling) Routinely prescribed antidepressant drugs, comprising dothiepin (150 mg) taken at night, fluoxetine (20 mg) taken once daily or lofepramine (140–210 mg) taken daily in divided doses, or a different drug if it was judged necessary by GP (AD) | Adults aged 18-70 years who met diagnostic criteria for major depression (assessed by their GP).<br>Exclusion criteria: psychosis, suicidal tendencies, postnatal depression, recent bereavement, drug or alcohol misuse<br>RCT (Bedi2000, N=103); people refusing randomisation but agreeing to participate in the patient preference trial were given the treatment of their choice (N=220)<br>Source of efficacy data: RCT (at 12 months n=81) and preference trial (at 12 months n=163)<br>Source of resource use data: RCT (at 12 months n=103) and preference trial (at 12 months n=215)<br>Source of unit costs: national sources and local costs for counsellors | Costs: intervention (counselling, medication), depression-related GP visits, psychiatric inpatient & outpatient care<br>Mean cost (SD) per person:<br>RCT<br>Counselling: £302 (£38)<br>AD: £344 (£62); p=0.777<br>Preference trial:<br>Counselling: £336 (£25)<br>AD: £263 (£34) p =0.005<br>Primary outcome measure: global outcome, assessed by a psychiatrist blind to treatment allocation, using the research diagnostic criteria (RDC), BDI score and GP notes. The outcome was good if the person responded to treatment within 8 weeks and then remained well<br>% of people with good global outcome:<br>RCT<br>Counselling: 25%, AD: 41%, p=0.196<br>Preference trial:<br>Counselling: 36%, AD: 28%, p=0.191 | RCT: ICER of AD vs. counselling £263/ extra person with a good global outcome<br>Probability of counselling being cost-effective: 0.25 and 0.10 at a WTP of £500 and £2,000 per extra person with a good global outcome, respectively<br>Sensitivity analysis: assuming missing data were good: probability of counselling being cost-effective increases for any WTP; assuming missing data were poor: probability of counselling being cost-effective slightly increases for WTP<£1,500 and decreases for WTP >£1,500.<br>Preference trial: ICER of counselling vs. AD £912/ extra person with a good global outcome | Perspective: NHS (only depression-related costs considered)<br>Currency: UK£<br>Cost year: 1995<br>Time horizon: 12 months<br>Discounting: NA<br>Applicability: partially applicable<br>Quality: potentially serious limitations |

Update 2018

### Q.3.21 Pharmacological interventions – references to included studies

#### 2 SSRIs versus mirtazapine [versus duloxetine and venlafaxine XR that were not part of the guideline decision problem]

1 28. Benedict A, Arellano J, De Cock E, Baird J (2010) Economic evaluation of duloxetine versus serotonin selective reuptake inhibitors and  
2 venlafaxine XR in treating major depressive disorder in Scotland. *Journal of Affective Disorders* 120: 94-104.

3 **Fluoxetine versus amitriptyline [versus venlafaxine XR that was not part of the guideline decision problem]**

4 29. Lenox-Smith A, Greenstreet L, Burslem K, Knight C (2009) Cost effectiveness of venlafaxine compared with generic fluoxetine or  
5 generic amitriptyline in major depressive disorder in the UK. *Clinical Drug Investigation* 29: 173-184.

6 AND

7 Lenox-Smith A, Conway P, Knight C (2004) Cost effectiveness of representatives of three classes of antidepressants used in major  
8 depression in the UK. *PharmacoEconomics* 22: 311-319 (updated by Lenox et al. 2009)

9 **Escitalopram versus citalopram [versus venlafaxine XR that was not part of the guideline decision problem]**

10 30. Wade AG, Toumi I, Hemels MEH (2005) A probabilistic cost-effectiveness analysis of escitalopram, generic citalopram and venlafaxine  
11 as a first-line treatment of major depressive disorder in the UK. *Current Medical Research and Opinion* 21: 631-641.

12 31. Wade AG, Toumi I, Hemels MEH (2005) A pharmacoeconomic evaluation of escitalopram versus citalopram in the treatment of severe  
13 depression in the United Kingdom. *Clinical Therapeutics* 27: 486-496.

| Study<br>Country<br>Study type                       | Intervention<br>details  | Study population<br>Study design<br>Data sources  | Costs and outcomes: description<br>and values  | Results: Cost-effectiveness   | Comments  |
|--|--|---|--|---|---|
| Benedict et al., 2010<br>UK<br>Cost-utility analysis | Interventions: SSRIs<br>Mirtazapine<br>(Duloxetine and venlafaxine also included but not considered here as they were not part of review question) | Adults with moderate to severe major depression defined by a HAMD17 score $\geq 19$ , having a new treatment episode in primary care<br>Decision-analytic modelling<br>Source of efficacy data: meta-analyses of clinical trials - randomisation likely broken<br>Source of resource use data: expert opinion | Costs: medication, A&E Visits, GPs, psychiatrists, hospitalisation<br>Mean total cost per person:<br>SSRIs £486<br>Mirtazapine £516<br>Outcome measure: QALY estimated based on EQ-5D ratings (UK tariff)<br>Number of QALYs per person:<br>SSRIs 0.656<br>Mirtazapine 0.654 | SSRIs dominated mirtazapine<br>PSA favouring duloxetine which is not part of the guideline decision problem<br>Results sensitive to changes in efficacy (response / relapse) and utility values | Perspective: Scottish NHS<br>Currency: UK£<br>Cost year: likely 2003<br>Time horizon: 48 weeks<br>Discounting: NA<br>Applicability: directly applicable<br>Quality: potentially serious limitations |

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| Study<br>Country<br>Study type                                | Intervention<br>details   | Study population<br>Study design<br>Data sources  | Costs and outcomes: description<br>and values  | Results: Cost-effectiveness  | Comments  |
|---|---|---|--|--|---|
|   |   | Source of unit costs:<br>national sources   |  |  |   |
| Study<br>Country<br>Study type                                | Intervention<br>details   | Study population<br>Study design<br>Data sources  | Costs and outcomes: description<br>and values  | Results: Cost-<br>effectiveness  | Comments  |
| Lenox-Smith<br>et al., 2009<br>UK<br>Cost-utility<br>analysis | Interventions:<br>Fluoxetine<br>Amitriptyline<br>(Venlafaxine<br>also included but<br>not considered<br>here as it was<br>not part of<br>review question) | Adult outpatients with<br>major depression<br>Decision-analytic<br>modelling<br>Source of efficacy<br>data: pooled data from<br>meta-analysis for<br>fluoxetine versus<br>amitriptyline; a single<br>RCT for amitriptyline<br>vs. venlafaxine;<br>method of synthesis<br>unclear, but most likely<br>randomisation was<br>broken<br>Source of resource use<br>data: Delphi panel<br>Source of unit costs:<br>national sources | Costs: medication, lab testing, clinical<br>examinations, community psychiatric<br>nursing, inpatient and outpatient<br>services, staff time (GP, psychiatrist,<br>psychologist), psychotherapy<br>Mean total cost per person:<br>Fluoxetine £1539<br>Amitriptyline £1558<br>Outcome measure: QALY estimated<br>based on the presumed utilities of a<br>depression-free day and a severely<br>depressed day<br>Mean QALY gains per person<br>Fluoxetine 0.090<br>Amitriptyline 0.085 | Fluoxetine dominates<br>amitriptyline<br>Results robust to changes<br>in costs.<br>Results sensitive to the<br>value of the utility gain<br>associated with a<br>depression-free day | Perspective: NHS<br>Currency: GBP£<br>Cost year: 2006<br>Time horizon: 24<br>weeks<br>Discounting: NA<br>Applicability:<br>partially applicable<br>Quality: very<br>serious limitations |

Update 2018

2

| Study<br>Country<br>Study type           | Intervention<br>details        | Study population<br>Study design<br>Data sources             | Costs and outcomes: description<br>and values   | Results: Cost-<br>effectiveness                              | Comments                           |
|--|--------------------------------|--|---|--|------------------------------------|
| Wade et al.,<br>2005a<br>(probabilistic) | Interventions:<br>Escitalopram | Adults with major<br>depression with<br>baseline MADRS score | Costs: study medication, staff time (GP,<br>psychiatrist, hospitalisation, community<br>services, attempted suicide; sick leave | Escitalopram dominates<br>citalopram<br>Results robust under | Perspective: NHS<br>(and societal) |

| Study<br>Country<br>Study type                  | Intervention<br>details   | Study population<br>Study design<br>Data sources   | Costs and outcomes: description<br>and values   | Results: Cost-<br>effectiveness  | Comments   |
|---|---|--|---|--|--|
| ...)<br>UK<br>Cost<br>effectiveness<br>analysis | Citalopram<br>(Venlafaxine XR<br>included but not<br>part of decision<br>problem) | between 18-40<br>Decision-analytic<br>modelling<br>Source of efficacy<br>data: meta-analysis of<br>head-to-head RCTs<br>between escitalopram<br>and citalopram; and<br>between escitalopram<br>and venlafaxine XR<br>Source of resource use<br>data: General Practice<br>Research Database,<br>published literature and<br>expert opinion<br>Source of unit costs:<br>national sources | Mean (range) total NHS cost per<br>person:<br>Escitalopram: £465 (£436-£493)<br>Citalopram: £544 (£514-£573)<br>Outcome measure: % of remission,<br>defined as MADRS score ≤ 12<br>% of remission: mean (range)<br>Escitalopram: 63.5% (61.5%-65.4%)<br>Citalopram: 58.2% (56.3%-60.3%) | different scenarios (changes<br>in rates of remission,<br>relapse, discontinuation,<br>unit costs) | Currency: GBP£<br>Cost year: 2003<br>Time horizon: 26<br>weeks<br>Discounting: NA<br>Applicability:<br>partially applicable<br>Quality: potentially<br>serious limitations |

Update 2018

| Study<br>Country<br>Study type   | Intervention<br>details                      | Study population<br>Study design<br>Data sources   | Costs and outcomes: description<br>and values   | Results: Cost-<br>effectiveness  | Comments   |
|--|--|--|---|--|--|
| Wade et al.,<br>2005b<br>(severe<br>depression)<br>UK<br>Cost<br>effectiveness<br>analysis | Interventions:<br>Escitalopram<br>Citalopram | Adults with major<br>severe depression with<br>baseline MADRS score<br>≥ 30<br>Decision-analytic<br>modelling<br>Source of efficacy<br>data: published meta-<br>analysis of RCTs<br>Source of resource use<br>data: published<br>literature and expert | Costs: study medication, GP and<br>psychiatrist visits, inpatient psychiatric<br>hospitalizations, treatment<br>discontinuation, treatment-emergent<br>AEs, attempted suicide. Sick leave<br>Mean (range) total NHS cost per<br>person:<br>Escitalopram: £422 (£404-£441)<br>Citalopram £454 (£436-£471)<br>Outcome measures: % of remission,<br>defined as MADRS score ≤ 12, and %<br>remission without switch | Escitalopram dominates<br>citalopram<br>Results robust to changes<br>in drug-specific probabilities<br>and cost data<br>PSA: Escitalopram was<br>dominant in >99.8% of<br>iterations | Perspective: NHS<br>(and societal)<br>Currency: GBP£<br>Cost year: 2003<br>Time horizon: 26<br>weeks<br>Discounting: NA<br>Applicability:<br>partially applicable<br>Quality: potentially<br>serious limitations |

| Study Country<br>Study type | Intervention details | Study population<br>Study design<br>Data sources  | Costs and outcomes: description and values   | Results: Cost-effectiveness | Comments |
|-----------------------------|----------------------|---|--|-----------------------------|----------|
|                             |                      | opinion<br>Source of unit costs: national sources | % of remission: mean (range)<br>Escitalopram: 53.7% (50.3%-57.5%)<br>Citalopram: 48.7% (45.8%-51.7%)<br>% of remission without switch: mean (range)<br>Escitalopram: 41.7% (37.5 %-46.3%)<br>Citalopram: 30.8% (27.5%-34.6%) |                             |          |

### Q.3.31 Combined pharmacological and psychological interventions – references to included studies

#### 2 CBT plus antidepressant (fluoxetine) versus antidepressant alone

- 3 32. Simon J, Pilling S, Burbeck R, Goldberg D (2006) Treatment options in moderate and severe depression: Decision analysis supporting a  
4 clinical guideline. *British Journal of Psychiatry* 189: 494-501.
- 5 33. Koeser L, Donisi V, Goldberg DP, McCrone P (2015) Modelling the cost-effectiveness of pharmacotherapy compared with cognitive-  
6 behavioural therapy and combination therapy for the treatment of moderate to severe depression in the UK. *Psychological Medicine*, 45(14),  
7 3019-31.

| Study Country<br>Study type  | Intervention details  | Study population<br>Study design<br>Data sources  | Costs and outcomes: description and values  | Results: Cost-effectiveness  | Comments   |
|--|---|---|---|--|--|
| Simon et al., 2006<br>UK<br>Cost effectiveness and cost-utility analysis | Interventions:<br>Combination therapy comprising 16 sessions of CBT lasting 50min each and antidepressant therapy (Combo)<br>Antidepressant therapy alone, comprising fluoxetine 40mg | Adults with moderate depression and adults with severe depression<br>Decision-analytic modelling (decision tree)<br>Source of efficacy data: systematic literature review & meta-analysis of RCTs<br>Source of resource use data: published | Costs: intervention (clinical psychologist's time for CBT, antidepressant medication, dispensing fee, outpatient care with consultant psychiatrist or specialist registrar), subsequent depression treatment over 12months<br>Mean total cost per person:<br>Combo £1,297; AD £660; difference £637<br>Outcome measures:<br>Probability of successful treatment (remission and no relapse over 12 months) with remission defined as HRSD-17 ≤ 6 or HRSD-24 ≤ 8<br>QALYs estimated based on vignettes valued by service users using SG | ICER of Combo vs AD: £4,056 per additional successfully treated person (95% CI £1,400 to £18,300)<br>Moderate depression: £14,540/QALY (95% CI £4,800 to £79,400/QALY)<br>Probability of Combo being cost-effective at WTP £30,000/QALY 0.88 | Perspective: NHS<br>Currency: GBP£<br>Cost year: 2003<br>Time horizon: 15 months<br>Discounting: NA<br>Applicability: partially applicable<br>Quality: minor limitations |

| Study<br>Country<br>Study type | Intervention<br>details                              | Study population<br>Study design<br>Data sources                        | Costs and outcomes: description and<br>values  | Results: Cost-<br>effectiveness   | Comments |
|--------------------------------|--|---|--|---|----------|
|                                | daily for 3 months and standard outpatient care (AD) | literature and expert opinion<br>Source of unit costs: national sources | Outcome results:<br>Probability of successful treatment:<br>Combo 0.29; AD 0.14; difference 0.16<br>QALYs per person with severe depression:<br>Combo 0.63; AD: 0.52; difference 0.11<br>QALYs per person with moderate depression<br>Combo 0.89; AD 0.84; difference 0.04 | Severe depression:<br>£5,777/QALY (95% CI £1,900 to £33,800/QALY)<br>Probability of Combo being cost-effective at WTP £30,000/QALY 0.97<br>Results sensitive to changes in relative efficacy (in terms of remission, relapse) |          |

1

| Study<br>Country<br>Study type                     | Intervention<br>details  | Study population<br>Study design<br>Data sources  | Costs and outcomes: description and<br>values  | Results: Cost-<br>effectiveness   | Comments   |
|--|--|---|--|---|--|
| Koeser et al., 2015<br>UK<br>Cost-utility analysis | Interventions:<br>Antidepressant therapy alone, comprising citalopram 20mg daily for 15 months and standard outpatient care (AD)<br>Cognitive Behavioural Therapy (CBT) comprising 16 acute + 2 booster sessions for | Adults with moderate or severe major depression<br>Decision-analytic modelling (decision tree)<br>Source of efficacy data: systematic screening of database containing RCTs that compare psychological treatments (single or combined) for adults with depression with a control intervention;<br>NMA<br>Source of resource | Costs: intervention (clinical psychologist's time for CBT, antidepressant medication, dispensing fee, outpatient care with consultant psychiatrist or specialist registrar), service use associated with remission, response, no response<br>Mean total cost per person:<br>AD: £3,645<br>CBT: £4,418<br>Combo: £5,060<br>Outcome measures:<br>QALYs estimated based on EQ-5D (UK tariff)<br>Mean total QALYs per person:<br>AD: 1.236<br>CBT: 1.274<br>Combo: 1.274 | Combo dominated by CBT<br>ICER of CBT vs AD: £20,039/QALY<br>Probability of being best at WTP £25,000/QALY:<br>CBT: 0.43<br>AD: 0.37<br>Combo: 0.20<br>Results sensitive to changes in inclusion criteria for RCTs for acute and follow-up treatment and to use of SF-6D values | Perspective: NHS<br>Currency: GBP£<br>Cost year: 2012<br>Time horizon: 27 months<br>Discounting: 3.5% annually<br>Applicability: directly applicable<br>Quality: minor limitations |

Update 2018

| Study Country<br>Study type | Intervention details   | Study population<br>Study design<br>Data sources   | Costs and outcomes: description and values | Results: Cost-effectiveness | Comments |
|-----------------------------|--|--|--|-----------------------------|----------|
|                             | responders, each lasting 50 min<br>Combination therapy comprising CBT and AD treatment (Combo) | use data: published literature that reported expert opinion and analysis of RCT data<br>Source of unit costs: national sources |  |                             |          |

### Q.3.41 Physical interventions – references to included studies

#### 2 ECT versus SSRIs, SNRIs, or SSRIs & lithium

- 3 34. Greenhalgh J, Knight C, Hind D, Beverley C, Walters S (2005) Clinical and cost-effectiveness of electroconvulsive therapy for  
4 depressive illness, schizophrenia, catatonia and mania: Systematic reviews and economic modelling studies. Health Technology  
5 Assessment 9(9).

| Study Country<br>Study type                            | Intervention details   | Study population<br>Study design<br>Data sources   | Costs and outcomes: description and values   | Results: Cost-effectiveness  | Comments   |
|--|--|--|--|--|--|
| Greenhalgh et al., 2005<br>UK<br>Cost-utility analysis | Interventions:<br>Electroconvulsive therapy (ECT), TCAs, SSRIs, SNRIs and lithium augmentation (Li) combined in 8 strategies of 3 lines of therapy plus maintenance therapy of SSRI unless otherwise specified:<br>1. SNRI, SSRI, Li<br>2. ECT, SSRI, Li; ECT maintenance in ECT<br>3. ECT, SSRI, Li; Lithium & TCA maintenance in ECT<br>4. SNRI, ECT, Li; Lithium & TCA maintenance in ECT | Adults with major depressive disorder who require hospitalisation<br>Decision-analytic modelling (decision tree)<br>Source of efficacy data: systematic literature review of RCTs and published meta-analyses, and further assumptions<br>Source of resource use | Costs: intervention (ECT, medication, hospitalisation), continued care for non-responders (nursing home placement with psychiatric provision), maintenance treatment (laboratory testing, contacts with GP, psychiatrist and psychiatric nurse)<br>Mean total cost per person (95% CI):<br>Strategy 1. £11,400 (£9,349 to £13,718)<br>Strategy 2. £15,354 (£13,445 to £17,361) | Strategies 1, 2, 3, 6, 7, and 8 dominated<br>ICER of Strategy 5 vs. strategy 4: £6,232/QALY<br>Results modestly sensitive to use of alternative utility values; results robust to small changes in costs and suicide rates | Perspective: NHS<br>Currency: GBP£<br>Cost year: 2001<br>Time horizon: 12 months<br>Discounting: NA<br>Applicability: partially applicable<br>Quality: |

| Study<br>Country<br>Study type | Intervention details   | Study population<br>Study design<br>Data sources  | Costs and outcomes: description<br>and values   | Results: Cost-<br>effectiveness | Comments                        |
|--------------------------------|--|---|---|---------------------------------|---------------------------------|
|                                | 5. ECT, SSRI, Li<br>6. SNRI, SSRI, ECT; Lithium & TCA maintenance in ECT<br>7. SNRI, ECT, Li; ECT maintenance in ECT<br>8. SNRI, SSRI, ECT; ECT maintenance in ECT | data: published literature and expert opinion<br>Source of unit costs: national sources | Strategy 3. £10,997 (£9,080 to £13,045)<br>Strategy 4. £10,592 (£8,874 to £12,435)<br>Strategy 5. £11,022 (£9,016 to £13,069)<br>Strategy 6. £13,939 (£11,161 to £17,049)<br>Strategy 7. £12,591 (£10,678 to £14,497)<br>Strategy 8. £14,548 (£11,680 to £17,717)<br>Primary outcome measure:<br>QALYs estimated based on preferences for vignettes using the McSad health state classification system valued by service users with previous depression in Canada using SG<br>Mean total QALYs per person (95% CI):<br>Strategy 1. 0.490 (0.453 to 0.526)<br>Strategy 2. 0.458 (0.422 to 0.493)<br>Strategy 3. 0.424 (0.389 to 0.459)<br>Strategy 4. 0.470 (0.431 to 0.508)<br>Strategy 5. 0.539 (0.498 to 0.579)<br>Strategy 6. 0.489 (0.452 to 0.524)<br>Strategy 7. 0.486 (0.449 to 0.522)<br>Strategy 8. 0.494 (0.459 to 0.529) |                                 | potentially serious limitations |

## Q.4.1 Interventions for the treatment of adults with a depressive episode who responded inadequately or were intolerant to previous treatment

### Q.4.1.3 Psychological interventions – references to included studies

#### 4 Cognitive behavioural therapy (CBT) as an adjunct to pharmacotherapy

5 35. Scott J, Palmer S, Paykel E, Teasdale J, Hayhurst H (2003) Use of cognitive therapy for relapse prevention in chronic depression: Cost-effectiveness study. *British Journal of Psychiatry* 182: 221-227.

7 36. Hollinghurst S, Carroll FE, Abel A, Campbell J, Garland A, Jerrom B, Kessler D, Kuyken W, Morrison J, Ridgway N, Thomas L, Turner K, Williams C, Peters TJ, Lewis G, Wiles N (2014) Cost-effectiveness of cognitive-behavioural therapy as an adjunct to pharmacotherapy for treatment-resistant depression in primary care: Economic evaluation of the CoBaIT Trial. *British Journal of Psychiatry* 204: 69-76.

10 AND

11 Wiles N, Thomas L, Abel A, Barnes M, Carroll F, Ridgway N, Sherlock S, Turner N, Button K, Odondi L, Metcalfe C, Owen-Smith A, Campbell J, Garland A, Hollinghurst S, Jerrom B, Kessler D, Kuyken W, Morrison J, Turner K, Williams C, Peters T, Lewis G (2014) Clinical effectiveness and cost-effectiveness of cognitive behavioural therapy as an adjunct to pharmacotherapy for treatment-resistant depression in primary care: The CoBaIT randomised controlled trial. *Health Technology Assessment* 18(31).

15 AND

16 Wiles NJ, Thomas L, Turner N, Garfield K, Kounali D, Campbell J, Kessler D, Kuyken W, Lewis G, Morrison J, Williams C, Peters TJ, Hollinghurst S (2016) Long-term effectiveness and cost-effectiveness of cognitive behavioural therapy as an adjunct to pharmacotherapy for treatment-resistant depression in primary care: follow-up of the CoBaIT randomised controlled trial. *Lancet Psychiatry*, 3(2), 137-44.

| Study<br>Country<br>Study type                             | Intervention details   | Study population<br>Study design<br>Data sources   | Costs and outcomes:<br>description and values   | Results: Cost-effectiveness  | Comments   |
|--|--|--|---|--|--|
| Scott et al.,<br>2003<br>UK<br>Cost effectiveness analysis | Interventions:<br>Cognitive therapy (16 sessions in 20 weeks plus 2 booster sessions) in addition to antidepressants (minimum dose equivalent to $\geq$ 125mg of | Outpatients 21-65 years that met DSM-III-R criteria for major depression, who were in an episode within the past 18 months but not in the past 2 months. At randomisation they had residual symptoms over at least 8 weeks with HAMD $\geq$ 8 and BDI $\geq$ 9.<br>Exclusion criteria: past history of | Costs: CT, medication, clinical management, inpatient care, day hospital, GP, social worker, community psychiatric nurse, therapist/counsellor, group therapy, marital therapy. | ICER of CT & AD vs AD:<br>£4328 per relapse prevented<br>£4667 using mean imputation<br>£5028 using non-parametric multiple imputation<br>£7056 using only the 65% of subjects in the complete case analysis<br>Probability of CT & AD being | Perspective:<br>NHS/PSS<br>Currency: GBP£<br>Cost year: 1999<br>Time horizon:<br>17 months<br>Discounting: 6%<br>Applicability:<br>partially |

| Study Country Study type  | Intervention details  | Study population Study design Data sources  | Costs and outcomes: description and values   | Results: Cost-effectiveness  | Comments  |
|---|---|---|--|--|---|
|   | amitryptiline) and clinical management (30-min appointments with a psychiatrist every 4 weeks during 20 weeks and every 8 weeks during the 48-week follow-up) (CT & AD)<br>Antidepressants and clinical management alone (AD) | bipolar disorder; current history of significant Axis I or II comorbidity; currently receiving formal psychotherapy; having previously received CT for > 5 sessions.<br>RCT<br>Source of efficacy data: RCT (Paykel1999); (N=158)<br>Source of resource use data: RCT (full data for 65% of participants)<br>Source of unit costs: national & local inpatient cost data | Mean cost per person:<br>CT & AD: £1898<br>AD: £1119<br>Cost difference: £779 (95% CI £387 to £1170)<br>Primary outcome measure: percentage of relapses<br>Cumulative relapse rates:<br>CT & AD: 29%<br>AD: 47%<br>Adjusted HR 0.51 (95% CI 0.32-0.93)   | cost-effective 0.60 and 0.80 at WTP of £6000 and £8500 per relapse prevented, respectively<br>Probability sensitive to method of missing data imputation   | applicable<br>Quality: minor limitations  |
|   |   |   |  |  |   |
| Study Country Study type  | Intervention details  | Study population Study design Data sources  | Costs and outcomes: description and values   | Results: Cost-effectiveness  | Comments  |
| Hollinghurst et al., 2014; Wiles et al., 2016<br>UK<br>Cost consequence and cost-utility analysis | Interventions: Cognitive behavioural therapy comprising 12-18 sessions lasting about an hour each, taking place at a GP surgery or a similar location, in addition to treatment as usual (CBT)                                | Adults aged 18-75 years with major depression, who had adhered to antidepressant medication for at least 6 weeks in primary care, but who continued to have significant depressive symptoms; people had a BDI-II score of at least 14 or more and an ICD-10 diagnosis of depression using the Revised Clinical  | Costs: medication, primary and community mental and general health care, specialist (secondary) mental health care, personal out-of-pocket expenditure such as travel costs, use of private therapies and over-the-counter medications; productivity losses<br>AT 12 MONTHS<br>Mean total cost per person (SD):<br>NHS/PSS cost: CBT £1614 (£1100); TAU £763 (£697); difference: £850 (95%CI £683 to £1017)<br>Personal expenditure: CBT £80 (£12), TAU £127 (£35); difference -£47 (95%CI -£120 to £25)<br>Out-of-pocket expenses: CBT £694 (£4,824), TAU £517 (£2,464); difference £176 (95%CI - | AT 12 MONTHS<br>ICER of CBT vs. TAU<br>£14,911/QALY<br>Probability of CBT being cost-effective 0.74 and 0.91 at WTP of £20,000/QALY and £30,000/QALY, respectively<br>Results robust to changes in psychologist unit | Perspective: NHS/PSS for cost-utility analysis; health and social care provider for cost consequence analysis, with service user expenses and productivity losses assessed in additional analyses<br>Currency: GBP£ |

Update 2018

| Study<br>Country<br>Study type | Intervention<br>details   | Study population<br>Study design<br>Data sources  | Costs and outcomes: description and values  | Results: Cost-effectiveness   | Comments  |
|--------------------------------|---|---|---|---|---|
|                                | Treatment as usual alone, comprising GP care, including antidepressant treatment as judged appropriate by the person's GP or a referral as required (TAU) | <p>Interview Schedule (CIS-R)</p> <p>RCT (Wiles2013, N=469)</p> <p>Source of efficacy data and resource use data: RCT (NHS and PSS cost and QALY data available for n=368 at 12 months; follow-up data available for n=248)</p> <p>Source of unit costs: national sources</p> | <p>£662 to £1014)</p> <p>Lost productivity: CBT £1,067 (£3,887), TAU £1,102 (£3,529); difference -£36 (95%CI -£797 to £726)</p> <p>AT 3-5 YEARS</p> <p>Mean annual NHS/PSS cost (SD): CBT £885 (£938); TAU £604 (£904); difference: £281 (95%CI £32 to £531)</p> <p>Outcome measures: response (reduction of at least 50% in BDI-II score); BDI-II score; remission (BDI-II &lt;10; SF-12 mental and physical subscales; EQ-5D; QALYs estimated using EQ-5D &amp; SF-6D ratings (latter in sensitivity analysis) (UK tariff)</p> <p>AT 12 MONTHS</p> <p>Response: CBT 55.3%, TAU %31.3; OR 2.89 (95%CI 2.03 to 4.10)</p> <p>BDI-II score (mean, SD): CBT 17.0 (14.0), TAU 21.7 (12.9); difference -5.1 (-7.1 to -3.1)</p> <p>Remission: CBT 39.6%, TAU 18.2%; OR 2.74 (95%CI 1.82 to 4.13)</p> <p>SF-12 mental sub-scale (mean, SD): CBT 39.1 (14.6), TAU 35.4 (12.8); difference 4.8 (2.7 to 6.9)</p> <p>SF-12 physical sub-scale (mean, SD): CBT 44.6 (13.2), TAU 41.1 (13.5); difference -0.7 (95%CI -2.1 to 0.8)</p> <p>QALYs: CBT 0.62 (0.22), TAU 0.56 (0.25); difference 0.053 (95%CI 0.019 to 0.087)</p> <p>AT 3-5 YEARS</p> <p>Response: CBT 43%, TAU 27%; OR 2.09 (95%CI 1.19 to 3.67)</p> <p>BDI-II score (mean, SD): CBT 19.2 (13.8), TAU 23.4 (13.2); difference -3.6 (-6.6 to -0.6)</p> <p>Remission: CBT 28%, TAU 18%; OR 1.77</p> | <p>costs and exclusion of hospitalisation costs.</p> <p>Results sensitive to use of SF-6D instead of EQ-5D, with ICER rising at £29,626/QALY</p> <p>Analysis of completers' data (instead of imputation of missing data): ICER £18,361/QALY</p> <p>AT 3-5 YEARS ICER of CBT vs. TAU £5,374/QALY</p> <p>Probability of CBT being cost-effective at a WTP of £20,000/QALY and £30,000/QALY: 0.92 and 0.95, respectively</p> | <p>Cost year: 2010 for endpoint data; 2013 for follow-up data</p> <p>Time horizon: 12 months; follow-up analysis 3-5 years (median 45.5 months, interquartile range 42.5 to 51.1)</p> <p>Discounting: 3.5% annually</p> <p>Applicability: directly applicable</p> <p>Quality: minor limitations</p> |

| Study Country<br>Study type | Intervention details | Study population<br>Study design<br>Data sources | Costs and outcomes: description and values  | Results: Cost-effectiveness | Comments |
|-----------------------------|----------------------|--|---|-----------------------------|----------|
|                             |                      |  | (95%CI 0.93 to 3.39)<br>SF-12 mental sub-scale (mean, SD): CBT 38.7 (12.1), TAU 34.6 (11.8); difference 3.5 (0.7 to 6.3)<br>SF-12 physical sub-scale (mean, SD): CBT 42.2 (13.8), TAU 39.2 (13.5); difference 0.9 (95%CI -0.2 to 3.8)<br>Mean annual QALYs: CBT 0.60 (0.17), TAU 0.54 (0.20); difference 0.052 (95%CI 0.003 to 0.102) |                             |          |

#### Q.4.21 Pharmacological interventions – references to included studies

##### 2 Continuation of current treatment (citalopram) versus switching to another antidepressant (venlafaxine, sertraline) or augmentation with bupropion

37. Olgiati P, Bajo E, Bigelli M, Montgomery S, Serretti A, group CEAP (2013) Challenging sequential approach to treatment resistant depression: cost-utility analysis based on the Sequenced Treatment Alternatives to Relieve Depression (STAR\*D) trial. *European Neuropsychopharmacology* 23: 1739-1746.

##### 7 Escitalopram versus duloxetine and venlafaxine

38. Nordstrom G, Despiegel N, Marteau F, Danchenko N, Maman K (2010) Cost effectiveness of escitalopram versus SNRIs in second-step treatment of major depressive disorder in Sweden. *Journal of Medical Economics* 13: 516-526.

##### 10 Duloxetine versus venlafaxine XR and mirtazapine

39. Benedict A, Arellano J, De Cock E, Baird J (2010) Economic evaluation of duloxetine versus serotonin selective reuptake inhibitors and venlafaxine XR in treating major depressive disorder in Scotland. *Journal of Affective Disorders* 120: 94-104.

##### 13 Various antidepressants (generic SSRIs including citalopram, fluoxetine and paroxetine, escitalopram, paroxetine controlled release, sertraline, and venlafaxine extended release)

40. Malone DC (2007) A budget-impact and cost-effectiveness model for second-line treatment of major depression. *Journal of Managed Care Pharmacy* 13: S8-S18.

##### 17 Augmentation with lithium or atypical antipsychotics (including combination of olanzapine / fluoxetine)

41. Edwards S, Hamilton V, Nherera L, Trevor N (2013) Lithium or an atypical antipsychotic drug in the management of treatment resistant depression: a systematic review and economic evaluation. *Health Technology Assessment* 17(54).

- 1 42. Taneja C, Papakostas GI, Jing Y, Baker RA, Forbes RA, Oster G (2012) Cost-effectiveness of adjunctive therapy with atypical  
2 antipsychotics for acute treatment of major depressive disorder. *Annals of Pharmacotherapy* 46: 642-649.

| Study<br>Country<br>Study type                            | Intervention<br>details   | Study population<br>Study design<br>Data sources   | Costs and outcomes:<br>description and values  | Results: Cost-<br>effectiveness  | Comments   |
|---|---|--|--|--|--|
| Olgiati et al.,<br>2013<br>US<br>Cost-utility<br>analysis | Interventions:<br>Different strategies<br>for non-remitters:<br>A. Continuation of<br>current treatment<br>(citalopram) for 13<br>weeks<br>B. Choice to:<br>a. switch to<br>sertraline or<br>venlafaxine for 13<br>weeks<br>or<br>b. augment with<br>bupropion for 13<br>weeks<br>Remitters<br>(HAMD17<7)<br>continued treatment<br>with citalopram for<br>another 13 weeks | Adult outpatients with chronic<br>depression, with a HAMD17<br>≥ 14, who were treated with<br>citalopram for 13 weeks and<br>received 2nd line treatment<br>following no remission;<br>exclusion criteria: indications<br>for hospital treatment such as<br>psychotic symptoms, suicidal<br>risk or inpatient detoxification<br>for alcohol / substance<br>dependence; obsessive<br>compulsive disorder, eating<br>disorder<br>Decision-analytic modelling<br>Source of efficacy data: data<br>for A taken from RCT<br>(Wade2006); data for B taken<br>from a study comprising<br>series of RCTs<br>(Rush2006/STAR*D), thus<br>breaking randomisation rules<br>Source of resource use data:<br>expert opinion<br>Source of unit costs: national<br>sources | Costs: medication, primary<br>care, outpatient visits,<br>community mental health<br>services<br>Mean total cost per person:<br>Strategy A: \$724<br>Strategy B: \$800<br>Strategy Ba: \$809<br>Strategy Bb: \$849<br><br>Outcome measure: QALY<br>estimated based on service<br>Canadian/US users'<br>preferences for vignettes<br>Incremental number of QALYs<br>per person:<br>Strategy B versus strategy A:<br>0.007<br>Strategy Ba versus strategy A:<br>0.006<br>Strategy Bb versus strategy A:<br>0.008 | ICER of strategy B versus<br>strategy A:<br>Deterministic analysis:<br>\$11,481/QALY<br>Probabilistic analysis:<br>\$10,665/QALY (95%CI:<br>\$6,498 to \$14,832)<br>ICER of strategy Ba versus<br>strategy A:<br>\$14,738/QALY<br>ICER of strategy Bb versus<br>strategy A:<br>\$15,458/QALY<br>Results robust to changes<br>in utility scores and the<br>probability of remission<br>after 3 months of citalopram<br>(strategy A) | Perspective: 3rd<br>party payer<br>Currency: US\$<br>Cost year: 2011<br>Time horizon: 26<br>weeks<br>Discounting: NA<br>Applicability:<br>partially applicable<br>Quality: very<br>serious limitations |

Update 2018

3

| Study<br>Country<br>Study type | Intervention<br>details | Study population<br>Study design<br>Data sources | Costs and outcomes:<br>description and values | Results: Cost-<br>effectiveness | Comments     |
|--------------------------------|-------------------------|--|---|---------------------------------|--------------|
| Nordström et                   | Interventions:          | Adults with major depression                     | Costs: medication, staff time (GP,            | Escitalopram dominant           | Perspective: |

| Study<br>Country<br>Study type                                      | Intervention<br>details   | Study population<br>Study design<br>Data sources   | Costs and outcomes:<br>description and values   | Results: Cost-<br>effectiveness  | Comments  |
|---|---|--|---|--|---|
| al., 2010<br>Sweden<br>Cost effectiveness and cost-utility analysis | Escitalopram<br>Duloxetine<br>Venlafaxine extended release (XR) | who initiated treatment with one of the assessed interventions in primary care, who had had a history of treatment with another antidepressant within the previous 6 months<br>Decision-analytic modelling<br>Source of efficacy data: pooled analysis of trial data, including only participants who had already received antidepressant therapy prior to randomisation – data for duloxetine and venlafaxine pooled together<br>Source of resource use data: cohort study conducted in 56 primary care centres in Sweden over 6 months<br>Source of unit costs: national sources | psychiatrist, other doctors e.g. neurologist, cardiologist, psychotherapist, counsellor, psychologist, nurse), hospitalisation, treatment of side effects, indirect costs (sick leave)<br>Mean total healthcare cost per person:<br>Escitalopram €973<br>Duloxetine €990<br>Venlafaxine €1,014<br>Outcome measures: probability of remission (defined as a MADRS total score ≤ 12) achieved after 8 weeks of treatment and sustained until the end of 6 months; QALY estimated based on EQ-5D ratings (UK tariff)<br>Probability of remission:<br>Escitalopram: 50.1%<br>Duloxetine: 33.6%<br>Venlafaxine: 33.6%<br>Mean QALYs per person:<br>Escitalopram 0.322<br>Duloxetine 0.297<br>Venlafaxine 0.298 | over duloxetine and venlafaxine<br>Considering healthcare costs only: probability of escitalopram being cost-effective at WTP £20,000/QALY (€22,080/QALY) 0.981 and 0.985 compared with duloxetine and venlafaxine, respectively<br>Results robust to changes in remission rates, relapse rates, number of GP visits, or incidence of nausea | societal; healthcare costs reported separately<br>Currency: Euros(€)<br>Cost year: 2009<br>Time horizon: 6 months<br>Discounting: NA<br>Applicability: partially applicable<br>Quality: potentially serious limitations |

Update 2018

1

| Study<br>Country<br>Study type | Intervention<br>details   | Study population<br>Study design<br>Data sources | Costs and outcomes:<br>description and values      | Results: Cost-<br>effectiveness         | Comments                  |
|--------------------------------|---------------------------|--|--|---|---------------------------|
| Benedict et al., 2010          | Interventions: Duloxetine | Adults with severe major depression defined by a | Costs: medication, A&E Visits, GPs, psychiatrists, | Duloxetine dominates venlafaxine XR and | Perspective: Scottish NHS |

| Study<br>Country<br>Study type | Intervention<br>details       | Study population<br>Study design<br>Data sources   | Costs and outcomes:<br>description and values  | Results: Cost-<br>effectiveness   | Comments  |
|--------------------------------|-------------------------------|--|--|---|---|
| UK<br>Cost-utility<br>analysis | Venlafaxine XR<br>Mirtazapine | HAMD17 score ≥25, who failed previous SSRI treatment and were referred to mental health specialists in secondary care<br>Decision-analytic modelling<br>Source of efficacy data: meta-analyses of clinical trials - randomisation possibly broken<br>Source of resource use data: expert opinion<br>Source of unit costs: national sources | hospitalisation<br>Mean total cost per person:<br>Duloxetine £1,622<br>Venlafaxine XR £1,667<br>Mirtazapine £1,640<br><br>Outcome measure: QALY estimated based on EQ-5D ratings (UK tariff)<br>Number of QALYs per person:<br>Duloxetine 0.637<br>Venlafaxine XR 0.632<br>Mirtazapine 0.629 | mirtazapine<br>Probability of duloxetine being cost-effective at WTP £20,000/QALY: approximately 0.80<br>Results robust to sensitivity analysis | Currency: GBP£<br>Cost year: likely 2003<br>Time horizon: 48 weeks<br>Discounting: NA<br>Applicability: directly applicable<br>Quality: potentially serious limitations |

Update 2018

| Study<br>Country<br>Study type                          | Intervention<br>details   | Study population<br>Study design<br>Data sources  | Costs and outcomes:<br>description and values   | Results: Cost-<br>effectiveness  | Comments  |
|---|---|---|---|--|---|
| Malone, 2007<br>US<br>Cost<br>effectiveness<br>analysis | Interventions:<br>Generic SSRIs (citalopram, fluoxetine, paroxetine, weighted according to market share)<br>Escitalopram<br>Paroxetine controlled release [CR]<br>Sertraline<br>Venlafaxine extended release [XR] | Adults with major depression who failed to achieve remission with SSRIs<br>Decision-analytic modelling<br>Source of efficacy data: review of published trial data and further assumptions – synthesis by naïve addition of data (leading to breaking of randomisation)<br>Source of resource use data: analysis of 1,814 persons enrolled in 10 antidepressant studies<br>Source of unit costs: | Costs: medication, physician visits, laboratory tests, inpatient mental health care<br>Mean total healthcare cost per person:<br>Generic SSRIs \$3,095<br>Escitalopram \$3,127<br>Paroxetine CR \$3,206<br>Sertraline \$3,178<br>Venlafaxine \$3,172<br>Outcome measure: probability of remission (defined as a HDRS score ≤ 7 or a MADRS total score ≤ 10) | Paroxetine CR and sertraline dominated by other options<br>ICER of venlafaxine XR vs. generic SSRIs \$2,073 per person achieving remission<br>ICER of escitalopram vs. generic SSRIs \$3,566 / additional person remitting [extendedly dominated]<br>Results of sensitivity analysis reported using primarily each | Perspective: 3rd party payer<br>Currency: US\$<br>Cost year: not reported, likely 2005<br>Time horizon: 6 months<br>Discounting: NA<br>Applicability: partially applicable<br>Quality: very serious limitations |

| Study Country<br>Study type | Intervention details | Study population<br>Study design<br>Data sources  | Costs and outcomes:<br>description and values  | Results: Cost-effectiveness       | Comments |
|-----------------------------|----------------------|---|--|-----------------------------------|----------|
|                             |                      | medication costs from national sources; other unit costs taken from other studies, unclear whether these were national or local | Probability of remission:<br>Generic SSRIs 18.5% (weighted average)<br>Escitalopram 19.4%<br>Paroxetine CR 17.7%<br>Sertraline 19.5%<br>Venlafaxine XR 22.2% | intervention's CER and not ICERs. |          |

1

| Study Country<br>Study type                         | Intervention details  | Study population<br>Study design<br>Data sources   | Costs and outcomes:<br>description and values   | Results: Cost-effectiveness  | Comments  |
|---|---|--|---|--|---|
| Edwards et al., 2013<br>UK<br>Cost-utility analysis | Interventions:<br>An atypical antipsychotic drug (AAP) as an adjunct to an SSRI<br>Lithium as an adjunct to an SSRI | Adults with treatment-resistant depression (TRD) defined as failure to respond to at least 2 previous antidepressants in the current episode of depression<br>Decision-analytic modelling<br>Source of efficacy data: systematic review and indirect comparison using 6 RCTs comparing olanzapine + fluoxetine vs. fluoxetine alone in people with TRD and 1 RCT comparing lithium + fluoxetine vs. fluoxetine alone in people who had failed at least one antidepressant; a common class effect was assumed for the SSRIs and the AAPs. Data on lithium taken from population that had failed to respond to 1 previous SSRI (so not a TRD population)<br>Source of resource use data: mainly clinical expert opinion, length of hospitalisation taken from national hospital episode statistics | Costs: medication (weighted costs according to expert opinion; it was estimated that AAP comprises 30% aripiprazole, 30% olanzapine, 20% quetiapine, and 20% risperidone; and an SSRI comprises 20% citalopram, 20% escitalopram, 30% fluoxetine, and 30% sertraline), healthcare professional time (GP, CMHT, CRHTT), hospitalisation and monitoring (laboratory testing)<br>Mean total cost per person: AAP £5,644; Lithium £4,739<br>Outcome measure: QALYs estimated using EQ-5D ratings (UK tariff)<br>Mean QALYs per person: AAP 1.225; Lithium 1.253 | Augmentation with lithium dominates augmentation with AAP<br>Probability of lithium being dominant 1<br>Results sensitive to efficacy of augmentation strategies and discontinuation rates; robust under different assumptions regarding resource use, as well as under changes in remission and relapse risk at follow-up | Perspective: NHS/PSS<br>Currency: GBP£<br>Cost year: 2011<br>Time horizon: 12 months<br>Discounting: NA<br>Applicability: directly applicable<br>Quality: potentially serious limitations<br>Other comments: a fixed baseline MADRS score was assumed; change in MADRS scores at endpoint assumed to have a normal distribution in order to estimate proportions of |

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| Study Country Study type | Intervention details | Study population Study design Data sources | Costs and outcomes: description and values | Results: Cost-effectiveness | Comments  |
|--------------------------|----------------------|--|--|-----------------------------|---|
|                          |                      | Source of unit costs: national sources     |  |                             | people in response, no response, and remission states |

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| Study Country Study type                                 | Intervention details   | Study population Study design Data sources   | Costs and outcomes: description and values  | Results: Cost-effectiveness  | Comments  |
|--|--|--|---|--|---|
| Taneja et al., 2012<br>US<br>Cost effectiveness analysis | Interventions:<br>Aripiprazole 2-20 mg /day and antidepressant therapy (ARI)<br>Quetiapine 150 mg /day or 300 mg /day and antidepressant therapy (QUE)<br>Fixed-dose combination of olanzapine 6, 12, or 18 mg /day with fluoxetine 50 mg /day (OLZ/FLUO)<br>Antidepressant therapy alone (AD) | Adults with major depression who responded inadequately to previous antidepressant therapy<br>Decision-analytic modelling<br>Source of efficacy data: meta-analysis of published phase III clinical trials and indirect comparison using placebo as baseline comparator<br>Source of resource use data: administrative databases and assumptions<br>Source of unit costs: national sources | Costs: medication, outpatient care for depression, treatment of adverse events<br>Mean total healthcare cost per person:<br>ARI \$847<br>QUE 150 mg/day \$541<br>QUE 300 mg/day \$672<br>OLZ/FLUO \$791<br>AD \$192<br>Outcome measure: probability of response (defined as at least 50% reduction in MADRS total score)<br>Probability of response:<br>ARI 49%<br>QUE 150 mg/day 34%<br>QUE 300 mg/day 38%<br>OLZ/FLUO 45%<br>AD 30% | QUE 150 & 300 mg/day and OLZ/FLUO extendedly dominated<br>ICER of ARI vs. AD \$3,447 per person responding<br>Results sensitive to changes in relative effectiveness | Perspective: healthcare system<br>Currency: US\$<br>Cost year: 2011<br>Time horizon: 6 weeks<br>Discounting: NA<br>Applicability: partially applicable<br>Quality: very serious limitations |

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## Q.5.1 Interventions aimed at preventing relapse in people whose depression has responded to treatment

### Q.5.1.3 Psychological interventions – references to included studies

- 4 43. Kuyken W, Byford S, Taylor RS, Watkins E, Holden E, White K, et al (2008) Mindfulness-Based Cognitive Therapy to Prevent Relapse in  
5 Recurrent Depression. *Journal of Consulting and Clinical Psychology* 76: 966-978.
- 6 44. Kuyken W, Hayes R, Barrett B, Byng R, Dalgleish T, Kessler D, et al (2015) Effectiveness and cost-effectiveness of mindfulness-based  
7 cognitive therapy compared with maintenance antidepressant treatment in the prevention of depressive relapse or recurrence (PREVENT): a  
8 randomised controlled trial. *Lancet* 386: 63-73.

| Study<br>Country<br>Study type                                    | Intervention<br>details   | Study population<br>Study design<br>Data sources   | Costs and outcomes: description and<br>values   | Results: Cost-<br>effectiveness   | Comments   |
|---|---|--|---|---|--|
| Kuyken et al.,<br>2008<br>UK<br>Cost<br>effectiveness<br>analysis | Interventions:<br>Mindfulness -<br>based cognitive<br>therapy with<br>support to taper<br>or discontinue<br>antidepressant<br>treatment,<br>comprising 8 x 2<br>hour group<br>sessions over<br>consecutive<br>weeks, with 4<br>follow-up<br>sessions in the<br>following year<br>(MBCT-TS)<br>Maintenance<br>antidepressant<br>treatment plus<br>medication<br>adherence<br>monitoring (AD) | Adults with ≥ 3 previous major<br>depressive episodes, on a<br>therapeutic dose of maintenance<br>antidepressants over the last 6<br>months, and currently either in full<br>or partial remission from the most<br>recent episode.<br>Exclusion criteria: organic brain<br>damage, comorbid diagnoses of<br>current substance dependence,<br>current/past psychosis, bipolar<br>disorder, persistent antisocial<br>behaviour, persistent self -injury<br>requiring clinical<br>management/therapy, unable to<br>engage with MBCT for physical,<br>practical, or other reasons, formal<br>concurrent psychotherapy<br>Pragmatic single-blind parallel 2-<br>group RCT<br>Source of efficacy data: RCT<br>(Kuyken2008); (N=123,<br>completers n=115)<br>Source of resource use data: | Costs: MBCT-TS, medication, hospital<br>(inpatient, outpatient, emergency<br>department) and community health and<br>social services (e.g., primary care,<br>social work, complementary therapies),<br>plus productivity losses.<br>Mean NHS/PSS cost per person:<br>MCBT-TS: \$2076, AD: \$1577<br>Mean societal cost per person (SD):<br>MCBT-TS: \$3373 (\$4002), AD: \$2915<br>(\$4838); difference \$457 (95%CI -\$1130<br>to \$2043, p=0.87)<br>Primary outcome measure: time to and<br>% of relapse/recurrence<br>Secondary outcomes: severity/duration<br>of relapses/recurrences, severity of<br>residual depressive symptoms, number<br>of comorbid psychiatric diagnoses,<br>quality of life using the WHO Quality of<br>Life instrument (WHOQOL-BREF).<br>Percentage of people relapsing:<br>MBCT-TS: 47%; ADs: 60%<br>Hazard ratio 0.63 (95%CI 0.39 to 1.04, | ICER of MCBT-TS<br>vs AD:<br>\$439/additional<br>relapse or<br>recurrence<br>prevented and<br>\$23/depression-free<br>day (NHS/PSS<br>perspective)<br>\$962 /additional<br>relapse or<br>recurrence<br>prevented and \$50<br>/depression-free day<br>(societal perspective)<br>Probability of MCBT-<br>TS being cost-<br>effective at zero<br>willingness to pay for<br>preventing an<br>additional relapse<br>/recurrence: 0.42;<br>probability of MCBT-<br>TS exceeds 0.50 at | Perspective:<br>NHS/PSS (and<br>societal)<br>Currency:<br>international \$<br>Cost year: 2006<br>Time horizon:<br>15 months<br>Discounting: NA<br>Applicability:<br>partially<br>applicable<br>Quality: minor<br>limitations |

| Study Country Study type | Intervention details | Study population Study design Data sources                            | Costs and outcomes: description and values  | Results: Cost-effectiveness  | Comments |
|--------------------------|----------------------|---|---|--|----------|
|                          |                      | RCT (N=123, completers=115)<br>Source of unit costs: national sources | p=0.07<br>Difference in secondary outcomes: MBCT-TS more effective than AD in reducing residual depressive symptoms and psychiatric comorbidity and in improving quality of life in the physical and psychological domains. | willingness to pay ≥ \$1,000 per relapse / recurrence averted (societal perspective) |          |

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| Study Country Study type  | Intervention details   | Study population Study design Data sources  | Costs and outcomes: description and values  | Results: Cost-effectiveness   | Comments   |
|---|--|---|---|---|--|
| Kuyken et al., 2015<br>UK<br>Cost effectiveness and cost-utility analysis | Interventions: Mindfulness - based cognitive therapy with support to taper or discontinue antidepressant treatment, comprising 8 x 2.25 hour group sessions, normally over consecutive weeks, with 4 refresher sessions offered roughly every 3 months for the following year (MBCT-TS)<br>Maintenance antidepressant treatment plus | Adults with ≥ 3 previous major depressive episodes, in full or partial remission from their most recent episode, and on a therapeutic dose of maintenance antidepressants<br>Exclusion criteria: current major depressive episode, comorbid diagnoses of current substance misuse, organic brain damage, current or past psychosis including bipolar disorder, persistent antisocial behaviour, persistent self-injury needing clinical management or therapy, formal concurrent psychotherapy.<br>Pragmatic single-blind | Costs: MBCT-TS, medication, inpatient & outpatient care, A&E, ambulance, staff time (GP, practice nurse, district nurse, health visitor, community psychiatric nurse, midwife, community psychiatrist, clinical psychologist, occupational therapist, physiotherapist, counselling, art/drama/music therapist, chiroprapist, dietician, social worker, support worker), advice service, day centre<br>Plus out-of-pocket expenses and productivity losses<br>Mean health and social care cost per person (SD): MCBT-TS: £2485 (£4077), AD: £2360 (£4206); difference £124 (95%CI -£750 to £973, p=0.80).<br>Mean societal cost per person (SD): MCBT-TS: £3204 (£4012), AD: £2755 (£4465); difference £449 (95%CI -£842 to £1286, p=0.68)<br>Primary outcome measure: time to and % of relapse/recurrence<br>Secondary outcomes: depression-free days recorded by the depression module of the Structured Clinical Interview for DSM-IV (SCID), residual depressive symptoms assessed by the GRID-HAMD and the BDI, psychiatric and medical | Using primary outcome: ICER of MCBT-TS vs AD: £4,955 (NHS/PSS perspective) or £10,604 (societal perspective) per additional relapse or recurrence averted<br><br>Using QALYs, MBCT-TS is dominated by AD<br>Using any of the outcomes, the probability of MBCT-TS being cost-effective did not exceed 0.49 (NHS/PSS perspective) or | Perspective: NHS/PSS (and societal)<br>Currency: GBP£<br>Cost year: 2012<br>Time horizon: 2 years<br>Discounting: 3.5%<br>Applicability: directly applicable<br>Quality: minor limitations |

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| Study<br>Country<br>Study type | Intervention<br>details   | Study population<br>Study design<br>Data sources   | Costs and outcomes: description and values  | Results: Cost-effectiveness | Comments |
|--------------------------------|---|--|---|-----------------------------|----------|
|                                | GP support in maintaining a therapeutic level of medication over 2 years (AD) | parallel 2-group RCT<br>Source of efficacy data: RCT (Kuyken2015); (N=424, completers=366)<br>Source of resource use data: RCT (N=424, completers=248)<br>Source of unit costs: national sources | comorbidity using the relevant SCID modules and the Medical Symptom Checklist (MSCL), respectively, quality of life using the WHO Quality of Life instrument (WHOQOL-BREF) and the EQ-5D-3L (used to estimate QALYs)<br>Percentage of people relapsing: MBCT-TS: 44%; ADs: 47%<br>Hazard ratio 0.89 (95%CI 0.67 to 1.18, p=0.43)<br>Difference in secondary outcomes: no statistically significant differences<br>QALYs: MBCT-TS: 1.49; ADs: 1.53 | 0.52 (societal perspective) |          |

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# 1 Appendix R: Health economic profiles

## R.1.2 Service delivery models for adults with depression

### R.1.13 Collaborative care

4 Table 1: Clinical / economic question: simple collaborative care alone or in addition to TAU versus TAU for adults with depression

| Economic evidence profile      |                                |                                   |   |                                   |   |                              |  |
|--------------------------------|--------------------------------|-----------------------------------|---|-----------------------------------|---|------------------------------|--|
| Study and country              | Limitations                    | Applicability                     | Other comments  | Incremental cost (£) <sup>1</sup> | Incremental effect                                | ICER (£/effect) <sup>1</sup> | Uncertainty <sup>1</sup>   |
| Green et al., 2014<br>UK       | Minor limitations <sup>2</sup> | Directly applicable <sup>3</sup>  | Outcome: QALY   | £287                              | 0.019   | £15,092                      | Probability of intervention being cost-effective: 0.58 and 0.65 at WTP £21,185 and £31,778/QALY, respectively<br>Results robust to multiple imputation of missing data, use of SF-6D utility values, use of alternative intervention costs |
| Aragones et al., 2014<br>Spain | Minor limitations <sup>4</sup> | Partially applicable <sup>5</sup> | Outcome: QALY   | 180                               | 0.045   | 3985                         | Probability of intervention being-cost effective 0.90 at WTP £10,000/QALY<br>When missing data were imputed ICER became £3772/QALY   |
| Klug et al., 2010<br>Austria   | Minor limitations <sup>6</sup> | Partially applicable <sup>7</sup> | Outcomes: depressive symptoms, measured by the Geriatric Depression Scale (GDS-15); functioning measured using GAF, quality of life measured using the short form of the Berlin Quality of Life Profile (BQLP-KF) | -12,137                           | Intervention significantly better in all outcomes | SCC dominant                 | Costs and outcomes significantly better for SCC  |

Notes:

1. Costs uplifted to 2015 UK pounds using the UK hospital & community health services (HCHS) index (Curtis & Burns, 2015).
2. Time horizon 12 months; analysis conducted alongside RCT (N=581; data available for cost analysis n=447); national unit costs used; statistical

| Economic evidence profile  |             |               |                |                                   |                    |                              |                          |
|--|-------------|---------------|----------------|-----------------------------------|--------------------|------------------------------|--------------------------|
| Study and country  | Limitations | Applicability | Other comments | Incremental cost (£) <sup>1</sup> | Incremental effect | ICER (£/effect) <sup>1</sup> | Uncertainty <sup>1</sup> |
| analyses conducted; CEACs presented.   |             |               |                |                                   |                    |                              |                          |
| 3. UK study; NHS & PSS perspective; QALY estimates based on EQ-5D (UK tariff)  |             |               |                |                                   |                    |                              |                          |
| 4. Time horizon 12 months; analysis conducted alongside RCO (N=338; analysis based on n=292 completers); national unit costs used; statistical analyses conducted, CEACs presented |             |               |                |                                   |                    |                              |                          |
| 5. Spanish study; healthcare perspective; QALY estimates based on SF-6F (UK tariff)  |             |               |                |                                   |                    |                              |                          |
| 6. Time horizon 12 months; analysis conducted alongside RCT (N=60; analysis based on n=51 completers); regional unit costs used; statistical analyses and bootstrapping conducted  |             |               |                |                                   |                    |                              |                          |
| 7. Austrian study; healthcare perspective; no QALYs estimated  |             |               |                |                                   |                    |                              |                          |

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2 **Table 2: Clinical / economic question: simple collaborative care versus TAU aiming at preventing relapse in adults with depression**

| Economic evidence profile |  |                                   |   |                                   |                    |                              |                            |
|---------------------------|--|-----------------------------------|---|-----------------------------------|--------------------|------------------------------|----------------------------|
| Study and country         | Limitations                                  | Applicability                     | Other comments  | Incremental cost (£) <sup>1</sup> | Incremental effect | ICER (£/effect) <sup>1</sup> | Uncertainty <sup>1</sup>   |
| Simon et al., 2002 US     | Potentially serious limitations <sup>2</sup> | Partially applicable <sup>3</sup> | Outcome: number of depression-free days (days with a Hopkins Symptoms Checklist (HSCL) depression score ≤ 0.5; days with a HSCL score above 0.5 but < 2 considered 50% depression free) | £13.91                            | 13.9               | £1.1                         | ICER 95% CI: -£143 to £368 |

Notes:

1. Costs converted and uplifted to 2015 UK pounds using purchasing power parity (PPP) exchange rates and the UK HCHS index (Curtis & Burns, 2015).
2. Time horizon 12 months; analysis conducted alongside RCT (N=386, n=377 used for cost analysis and n=315 used for clinical analysis); local prices used; statistical analyses conducted, including bootstrapping; analyses of clinical data included only those completing all blinded follow-up assessments; cost analyses included only those remaining enrolled throughout the follow-up period; participation in follow-up interviews was significantly greater in the intervention group than in usual care, introducing a possibility of bias.
3. US study; 3rd party payer perspective; no QALYs estimated

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2 **Table 3: Clinical / economic question: complex collaborative care in addition to TAU versus TAU for adults with depression**

| Economic evidence profile               |  |                                   |                                       |                                   |                    |                              |  |
|---|--|-----------------------------------|---------------------------------------|-----------------------------------|--------------------|------------------------------|--|
| Study and country                       | Limitations                                  | Applicability                     | Other comments                        | Incremental cost (£) <sup>1</sup> | Incremental effect | ICER (£/effect) <sup>1</sup> | Uncertainty <sup>1</sup>   |
| Goorden et al., 2014<br>The Netherlands | Minor limitations <sup>2</sup>               | Partially applicable <sup>3</sup> | Occupational setting<br>Outcome: QALY | -£644                             | -0.05              | £13,233                      | Following bootstrapping and inspection of the cost effectiveness plane: in 75% of replications collaborative care less costly and less effective; in 21% collaborative care dominated; in 3% collaborative care dominant; in 1 % collaborative care more costly and more effective |
| Goorden et al., 2015<br>The Netherlands | Potentially serious limitations <sup>4</sup> | Partially applicable <sup>3</sup> | Primary care setting<br>Outcome: QALY | £1089                             | 0.02               | £49,894                      | Probability of CCC being cost-effective: 0.20 and 0.70 at WTP £18,576 and £74,304/QALY, respectively.  |

Notes:

1. Costs converted and uplifted to 2015 UK pounds using PPP exchange rates and the UK HCHS index (Curtis & Burns, 2015).
2. Time horizon 12 months; analysis conducted alongside RCT (N=126); national unit costs used.
3. Dutch study; healthcare system perspective; QALY based on EQ-5D ratings but Dutch tariff
4. Time horizon 12 months; analysis conducted alongside RCT (N=150; 93 identified by screening and 47 by GP referral; economic analysis based only on n=93 identified by screening); national unit costs used; CEACs presented

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### R.1.23 Medication management

4 **Table 4: Clinical / economic question: medication management in addition to TAU versus TAU for adults with depression**

| Economic evidence profile               |  |                                   |  |                                   |                    |   |   |
|---|--|-----------------------------------|--|-----------------------------------|--------------------|---|---|
| Study and country                       | Limitations                                  | Applicability                     | Other comments                                     | Incremental cost (£) <sup>1</sup> | Incremental effect | ICER (£/effect) <sup>1</sup>                            | Uncertainty <sup>1</sup>  |
| Bosmans et al., 2007<br>The Netherlands | Potentially serious limitations <sup>2</sup> | Partially applicable <sup>3</sup> | Outcomes:<br>Adherence<br>Difference in HSCL score | £324                              | 0.021<br>-0.15     | £15,314/ extra adherence<br>£2,621/point improvement in | Probability of intervention being cost-effective around 0.65 at WTP of £51,391 per extra person with improvement in adherence |

| Economic evidence profile          |  |                                   |   |                                   |                       |  |  |
|------------------------------------|--|-----------------------------------|---|-----------------------------------|-----------------------|--|--|
| Study and country                  | Limitations                                  | Applicability                     | Other comments                              | Incremental cost (£) <sup>1</sup> | Incremental effect    | ICER (£/effect) <sup>1</sup>   | Uncertainty <sup>1</sup>   |
|                                    |  |                                   |   |                                   |                       | HSCL   |  |
| Rubio-Valera et al., 2013<br>Spain | Potentially serious limitations <sup>4</sup> | Partially applicable <sup>5</sup> | Outcomes:<br>Adherence<br>Remission<br>QALY | £44                               | 0.04<br>-0.01<br>0.01 | £863/extra adherence<br>Dominated using remission as an outcome<br>£3,224/QALY | Probability of intervention being cost-effective 0.71 and 0.76 for WTP £5,385 /adherent service user and £26,927/QALY, respectively.<br>Using remission, maximum probability of intervention being cost-effective was 0.46 |

Notes:

1. Costs converted and uplifted to 2015 UK pounds using PPP exchange rates and the UK HCHS index (Curtis & Burns, 2015).
2. Time horizon 6 months; no consideration of HRQoL outcomes; analysis conducted alongside RCT (N=151; economic analysis based on n=88 completers of both 3- and 6-month follow-up); national unit costs used; CEACs presented.
3. Dutch study; societal perspective; no QALY outcome
4. Time horizon 6 months; analysis conducted alongside RCT (N=179; 71% completed at 6 months; n=151 received intervention as allocated); regional unit costs used; CEACs presented; contradictory results depending on the outcome measure used
5. Spanish study; healthcare perspective; QALYs based on EQ-5D ratings, Spanish tariff

### R.1.31 Stepped care

2 Table 5: Clinical / economic question: stepped care in addition to TAU versus TAU for adults with depression

| Economic evidence profile  |  |                                  |   |                                   |                         |  |  |
|----------------------------|--|----------------------------------|---|-----------------------------------|-------------------------|--|--|
| Study and country          | Limitations                                  | Applicability                    | Other comments  | Incremental cost (£) <sup>1</sup> | Incremental effect      | ICER (£/effect) <sup>1</sup>   | Uncertainty <sup>1</sup>   |
| Mukuria et al., 2013<br>UK | Potentially serious limitations <sup>2</sup> | Directly applicable <sup>3</sup> | Outcomes:<br>proportion with reliable and clinically significant improvement on PHQ-9<br>QALY - SF-6D (UK tariff)<br>QALY - predicted EQ-5D (UK tariff), estimated from SF-6D using empirical mapping | £259                              | 0.025<br>0.008<br>0.014 | £10,363/<br>improved participant<br>£32,384/<br>QALY (SF-6D)<br>£18,504/<br>QALY (predicted) | Probability of IAPT being cost-effective using SF-6D QALYs: <0.40 at WTP £32,933/QALY; using EQ-5D QALYs: 0.38 and 0.53 at WTP £21,955 and £32,933/QALY, respectively.<br>Using national unit costs instead of IAPT financial data: £4,171/improved participant; |

| Economic evidence profile      |  |                                  |  |                                   |                    |                              |  |
|--------------------------------|--|----------------------------------|--|-----------------------------------|--------------------|------------------------------|--|
| Study and country              | Limitations                                  | Applicability                    | Other comments   | Incremental cost (£) <sup>1</sup> | Incremental effect | ICER (£/effect) <sup>1</sup> | Uncertainty <sup>1</sup>   |
| Ricken et al., 2011<br>Germany | Potentially serious limitations <sup>4</sup> | Directly applicable <sup>5</sup> | Outcome: probability of remission, defined as a Bech–Rafaelsen-Melancholia-Scale (BRMS) score <7 | -£4,170                           | 0.15               | Dominant<br>EQ-5D)           | £13,036/QALY using SF-6D<br>Difference in costs p<0.05;<br>difference in effect p=0.07 |

Notes:

1. Costs converted and uplifted to 2015 UK pounds using PPP exchange rates and the UK HCHS index (Curtis & Burns, 2015).
2. Time horizon 8 months; prospective cohort study with matched sites (N=403); low response rate at recruitment (403/3,391, 11.9%); IAPT service was assessed over the first 2 years of establishment, therefore costs associated with learning effects were likely; IAPT financial data used – results sensitive to the use of national unit costs; CEACs presented.
3. UK; NHS and social service perspective; QALY based on SG-6D (UK tariff); QALYs based on predicted EQ-5D ratings (UK tariff), estimated from SF-6D using an empirical mapping function, used in sensitivity analysis
4. Time horizon from enrolment to study endpoint, i.e. drop-out or remission; consideration of hospitalisation and medication costs only; analysis conducted alongside RCT (N=148; completers n=103); national unit costs used.
5. German study; 3rd party payer perspective; no QALYs used, but intervention dominant so judgements on cost effectiveness were straightforward

### R.1.4.1 Integrated care pathways

2 **Table 6: Clinical / economic question: off-site versus on-site integrated care (primary care liaison) for adults with depression**

| Economic evidence profile |                                |                                   |   |                                   |                    |  |   |
|---------------------------|--------------------------------|-----------------------------------|---|-----------------------------------|--------------------|--|---|
| Study and country         | Limitations                    | Applicability                     | Other comments  | Incremental cost (£) <sup>1</sup> | Incremental effect | ICER (£/effect) <sup>1</sup>                                   | Uncertainty <sup>1</sup>  |
| Pyne et al., 2015<br>US   | Minor limitations <sup>2</sup> | Partially applicable <sup>3</sup> | Outcome: QALY<br>Study included number of free days as an outcome measure, however, this analysis did not include inpatient costs, hence ICER not reported here | £823                              | 0.04               | £25,875/QALY (regional costs)<br>£20,197/QALY (national costs) | Probability of off-site being cost-effective 0.86 at a cost effectiveness threshold of £35,905/QALY |

Notes:

1. Costs converted and uplifted to 2015 UK pounds using PPP exchange rates and the UK HCHS index (Curtis & Burns, 2015).

| Economic evidence profile  |             |               |                |                                   |                    |                              |                          |
|--|-------------|---------------|----------------|-----------------------------------|--------------------|------------------------------|--------------------------|
| Study and country  | Limitations | Applicability | Other comments | Incremental cost (£) <sup>1</sup> | Incremental effect | ICER (£/effect) <sup>1</sup> | Uncertainty <sup>1</sup> |
| 2. Time horizon 18 months; analysis conducted alongside RCT (N=364); unit costs from regional sources; national sources used in sensitivity analysis; bootstrapping conducted, CEACs presented |             |               |                |                                   |                    |                              |                          |
| 3. US study; health care provider perspective including service users' time and mileage; QALYs based on SF-12/SF-6D algorithm (UK tariff)  |             |               |                |                                   |                    |                              |                          |

1 **Table 7: Clinical / economic question: integrated care versus primary care with referral system to specialist care for adults with depression**  
2

| Economic evidence profile      |  |                                   |   |                                   |                                    |  |  |
|--------------------------------|--|-----------------------------------|---|-----------------------------------|------------------------------------|--|--|
| Study and country              | Limitations                                  | Applicability                     | Other comments  | Incremental cost (£) <sup>1</sup> | Incremental effect                 | ICER (£/effect) <sup>1</sup>   | Uncertainty <sup>1</sup>   |
| Wiley-Exley et al., 2009<br>US | Potentially serious limitations <sup>2</sup> | Partially applicable <sup>2</sup> | Separate analyses for:<br>Full (major and minor depression) VA sample<br>Full non-VA sample<br>Major depression VA sample<br>Major depression non-VA sample<br>Outcomes used: CES-D score; number of depression-free days derived from CES-D; QALYs estimated based on depression-free days, using utility weights of health=1, depression=0.59; QALYs estimated based on SF-36, using preferences for matched vignettes created following cluster analysis of SF-12 mental and physical component scores, elicited by US service users with depression using SG. Only results for the latter presented here. | -£580<br>£41<br>£781<br>-£339     | 0.007<br>0.0004<br>0.015<br>-0.005 | Dominant<br>£84,566/QALY<br>£52,395/QALY<br>£70,902/QALY (less effective, less costly) | Probability of IC being cost-effective:<br>>0.70 for any WTP/QALY<br><0.40 for any WTP/QALY<br><0.50 for WTP of £35,600/QALY and above<br>>0.50 for WTP £44,500/QALY and above |

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| Economic evidence profile   |             |               |                |                                   |                    |                              |                          |
|---|-------------|---------------|----------------|-----------------------------------|--------------------|------------------------------|--------------------------|
| Study and country   | Limitations | Applicability | Other comments | Incremental cost (£) <sup>1</sup> | Incremental effect | ICER (£/effect) <sup>1</sup> | Uncertainty <sup>1</sup> |
| Notes:  |             |               |                |                                   |                    |                              |                          |
| 1. Costs converted and uplifted to 2015 UK pounds using PPP exchange rates and the UK HCHS index (Curtis & Burns, 2015).  |             |               |                |                                   |                    |                              |                          |
| 2. Time horizon 6 months; analysis conducted alongside multi-site pragmatic RCT (N=840 with major or minor depression, assessed within and outside the Veteran Affairs (VA) system.; within VA n=365, outside VA n=475; individuals with major depression within VA n=214, outside VA n=302); national unit costs; bootstrapping conducted, CEACs presented |             |               |                |                                   |                    |                              |                          |
| 3. US study; health care provider perspective including service users' time and mileage; QALYs based on SF-36, using preferences for matched vignettes created following cluster analysis of SF-12 mental and physical component scores, elicited by US service users with depression using SG.   |             |               |                |                                   |                    |                              |                          |

## R.2.1 First-line treatment of adults with a new episode of less severe depression

### R.2.1.2 Psychological interventions

#### 3 Table 8: Clinical / economic question: problem solving versus treatment as usual

| Economic evidence profile   |                               |                                  |                |                                   |                    |                                  |   |
|---|-------------------------------|----------------------------------|----------------|-----------------------------------|--------------------|----------------------------------|---|
| Study and country   | Limitations                   | Applicability                    | Other comments | Incremental cost (£) <sup>1</sup> | Incremental effect | ICER (£/effect)                  | Uncertainty <sup>1</sup>  |
| Kendrick et al., 2005 & 2006<br>UK  | Minor limitation <sup>2</sup> | Directly applicable <sup>3</sup> | Outcome: QALY  | £446                              | -0.02              | Problem solving dominated by TAU | Significant difference in costs; non-significant difference in effects; majority of bootstrapped iterations showed problem solving being dominated by TAU |
| Notes:  |                               |                                  |                |                                   |                    |                                  |   |
| 1. Costs uplifted to 2015 UK pounds using the UK hospital & community health services (HCHS) index (Curtis & Burns, 2015).  |                               |                                  |                |                                   |                    |                                  |   |
| 2. Time horizon 26 weeks; analysis conducted alongside RCT (N=247; analysis based on n=184 with clinical data available; cost data available for n=159); national unit costs used; statistical analyses conducted; cost effectiveness planes presented. |                               |                                  |                |                                   |                    |                                  |   |
| 3. UK study; NHS perspective; QALY estimates based on EQ-5D (UK tariff)   |                               |                                  |                |                                   |                    |                                  |   |

#### 4 Table 9: Clinical / economic question: psychodynamic counselling versus treatment as usual

| Economic evidence profile |             |               |                |                      |                    |                 |                          |
|---------------------------|-------------|---------------|----------------|----------------------|--------------------|-----------------|--------------------------|
| Study and country         | Limitations | Applicability | Other comments | Incremental cost (£) | Incremental effect | ICER (£/effect) | Uncertainty <sup>1</sup> |

| Economic evidence profile  |   |                                   |   |                          |              |  |  |
|--|---|-----------------------------------|---|--------------------------|--------------|--|--|
| country  | ns  | ty                                |   | al cost (£) <sup>1</sup> | al effect    |  |  |
| Simpson et al. 2003 UK   | Potentially serious limitation <sup>2</sup> | Partially applicable <sup>3</sup> | Primary outcome: change on the BDI; various other scales used as secondary outcomes | -£47                     | Non-reported | Similar costs and outcomes between interventions | Non-significant difference in costs and outcomes |
| Notes:   |   |                                   |   |                          |              |  |  |
| 1. Costs uplifted to 2015 UK pounds using the UK hospital & community health services (HCHS) index (Curtis & Burns, 2015).   |   |                                   |   |                          |              |  |  |
| 2. Time horizon 12 months; analysis conducted alongside RCT (N=145; cost and outcome data at 12 months available for n=115); local prices used for intervention, national unit costs used for other cost elements; statistical analyses (including bootstrapping) conducted; costs and outcomes not combined/summarised in a cost effectiveness measure; no uncertainty around cost effectiveness suggested. |   |                                   |   |                          |              |  |  |
| 3. UK study; NHS and social services perspective; QALY was not used as an outcome  |   |                                   |   |                          |              |  |  |

1 **Table 10: Clinical / economic question: computerised CBT (with minimal support) versus treatment as usual**

| Economic evidence profile  |   |                                   |   |   |  |  |   |
|--|---|-----------------------------------|---|---|--|--|---|
| Study and country  | Limitations                                 | Applicability                     | Other comments  | Incremental cost (£) <sup>1</sup>       | Incremental effect                       | ICER (£/effect) <sup>1</sup>                       | Uncertainty <sup>1</sup>  |
| Kaltenthaler et al., 2006 UK   | Potentially serious limitation <sup>2</sup> | Partially applicable <sup>3</sup> | Outcome: QALY<br>3 commercially produced computerised CBT packages assessed | From £88 to £265 (depending on package) | From 0.01 to 0.08 (depending on package) | From £2,470 to £9,791 (depending on package)       | Probability of cCBT being cost-effective at WTP £41,146/QALY: 0.54-0.87 (depending on package)  |
| McCrone et al., 2003 UK  | Potentially serious limitation <sup>4</sup> | Partially applicable <sup>5</sup> | Outcomes:<br>BDI score<br>number of depression-free days (DFDs)<br>QALY     | £62                                     | -3.5<br>28.4<br>0.032                    | £17 / BDI unit change<br>£2 / DFD<br>£1,944 / QALY | Probability of cCBT being cost-effective: 0.14 and 0.81 at WTP zero and £62 per point improvement in BDI, respectively 0.15 and 0.80 at WTP zero and £8 per additional DFD, respectively 0.85 and 0.99 at WTP £7,775 and £23,324 per QALY, respectively |
| Notes:   |   |                                   |   |   |  |  |   |
| 1. Costs uplifted to 2015 UK pounds using the UK hospital & community health services (HCHS) index (Curtis & Burns, 2015).                       |   |                                   |   |   |  |  |   |
| 2. Time horizon 18 months; analysis based on decision-analytic economic modelling; efficacy data based on analysis of individual-level RCT data, |   |                                   |   |   |  |  |   |

| Economic evidence profile   |             |               |                |                                   |                    |                              |                          |
|---|-------------|---------------|----------------|-----------------------------------|--------------------|------------------------------|--------------------------|
| Study and country   | Limitations | Applicability | Other comments | Incremental cost (£) <sup>1</sup> | Incremental effect | ICER (£/effect) <sup>1</sup> | Uncertainty <sup>1</sup> |
| published RCT data and further assumptions; resource use data based on manufacturer submissions, published data and other assumptions; manufacturer prices used for intervention, national unit costs used for other cost elements; sensitivity analyses, including PSA conducted; CEACs presented                    |             |               |                |                                   |                    |                              |                          |
| 3. UK study; NHS perspective; QALY estimated based on EQ-5D ratings (UK tariff)   |             |               |                |                                   |                    |                              |                          |
| 4. Time horizon 8 months; analysis conducted alongside RCT (N=274, cost data available for n=261); manufacturer prices used for intervention, national unit costs used for other cost elements; statistical analyses (including bootstrapping) conducted; QALY estimates based on assumption around BDI measurements. |             |               |                |                                   |                    |                              |                          |
| 5. UK study; NHS perspective; DFDs and QALY estimated based on assumptions around BDI measurements and around the utility of DFDs, respectively   |             |               |                |                                   |                    |                              |                          |

1 Table 11: Clinical / economic question: computerised CBT with support versus treatment as usual

| Economic evidence profile             |                                |                                  |   |   |  |   |  |
|---------------------------------------|--------------------------------|----------------------------------|---|---|--|---|--|
| Study and country                     | Limitations                    | Applicability                    | Other comments  | Incremental cost (£) <sup>1</sup>       | Incremental effect                         | ICER (£/effect) <sup>1</sup>  | Uncertainty <sup>1</sup>   |
| Littlewood <i>et al.</i> , 2015<br>UK | Minor limitations <sup>2</sup> | Directly applicable <sup>3</sup> | Outcome: QALY<br>2 computerised CBT programmes assessed (one commercially produced, the other freely available) | £108<br>-£110<br>(depending on package) | -0.044<br>-0.015<br>(depending on package) | cCBT package 1 dominated<br>cCBT package 2 less costly, less effective £7,193 | Probability of each intervention being cost effective at WTP £20,000/QALY:<br>cCBT package 1 0.038; cCBT package 2 0.417; TAU: 0.545<br>Using SF-6D QALYs:<br>cCBT package 1 dominated by TAU;<br>cCBT package 2 dominant<br>Probability of each intervention being cost-effective at WTP £20,000/QALY:<br>cCBT package 1 0.007; cCBT package 2 0.756; TAU: 0.237<br>Results robust to inclusion of depression-related costs only and to consideration of completers' data only (instead of imputed data analysis)<br>Little evidence of an interaction effect between preference and treatment allocation on outcomes |

Notes:

1. Costs uplifted to 2015 UK pounds using the UK hospital & community health services (HCHS) index (Curtis & Burns, 2015).

| Economic evidence profile  |             |               |                |                                   |                    |                              |                          |
|--|-------------|---------------|----------------|-----------------------------------|--------------------|------------------------------|--------------------------|
| Study and country  | Limitations | Applicability | Other comments | Incremental cost (£) <sup>1</sup> | Incremental effect | ICER (£/effect) <sup>1</sup> | Uncertainty <sup>1</sup> |
| 2. Time horizon 2 years; analysis conducted alongside RCT (N=691; at 24 months EQ-5D data available for n=416 and NHS cost data available for n=580); national unit costs used; statistical analyses including regression analysis to control for covariates conducted; Cholesky decomposition conducted to account for covariance in costs and QALYs; CEACs presented; deterministic sensitivity analysis conducted |             |               |                |                                   |                    |                              |                          |
| 3. UK study; NHS & PSS perspective; QALY estimated based on EQ-5D ratings (UK tariff)  |             |               |                |                                   |                    |                              |                          |

## R.2.21 Pharmacological interventions

2

| Economic evidence profile           |                                |                                  |                           |                                      |   |  |  |
|-------------------------------------|--------------------------------|----------------------------------|---------------------------|--------------------------------------|---|--|--|
| Study and country                   | Limitations                    | Applicability                    | Other comments            | Incremental cost (£) <sup>1</sup>    | Incremental effect                              | ICER (£/effect)  | Uncertainty <sup>1</sup>   |
| Kendrick <i>et al.</i> , 2009<br>UK | Minor limitations <sup>2</sup> | Directly applicable <sup>3</sup> | Outcomes: HAMD17 and QALY | 12 weeks<br>-£33<br>26 weeks<br>£180 | 12 weeks<br>-2.49<br>26 weeks<br>-1.81<br>0.010 | 12 weeks:<br>SSRIs & supportive care dominant<br>26 weeks:<br>£106/HAMD17 reduction in score<br>£17,429/QALY | Probability of SSRI plus supportive care being cost-effective >0.50 at WTP £94/HAMD17 unit reduction; 0.65-0.70 at WTP £20,000-£30,000 /QALY |

Notes:

1. Costs uplifted to 2015 UK pounds using the UK hospital & community health services (HCHS) index (Curtis & Burns, 2015).
2. Time horizon 12 and 26 weeks; analysis conducted alongside RCT (N=220; 12-week completers n=196; 6-month follow-up n=160); national unit costs used; statistical analyses (including bootstrapping) conducted; CEACs presented.
3. UK study; NHS and social care perspective; QALY estimates based on SF-36/SF-6D (UK tariff)

## 3 Table 12: Clinical / economic question: TCAs versus SSRIs versus lofepramine

| Economic evidence profile     |                                |                                  |                                      |                                   |                     |                      |   |
|-------------------------------|--------------------------------|----------------------------------|--------------------------------------|-----------------------------------|---------------------|----------------------|---|
| Study and country             | Limitations                    | Applicability                    | Other comments                       | Incremental cost (£) <sup>1</sup> | Incremental effect  | ICER (£/effect)      | Uncertainty <sup>1</sup>  |
| Peveler <i>et al.</i> , 2005; | Minor limitations <sup>2</sup> | Directly applicable <sup>3</sup> | Outcomes: number of DFWs, defined as | Versus lofepramine:               | Versus lofepramine: | SSRIs vs lofepramine | Probability of SSRIs being cost-effective 0.6 at WTP £20,000/QALY |

| Economic evidence profile    |             |               |                            |                                   |  |  |                          |
|------------------------------|-------------|---------------|----------------------------|-----------------------------------|--|--|--------------------------|
| Study and country            | Limitations | Applicability | Other comments             | Incremental cost (£) <sup>1</sup> | Incremental effect   | ICER (£/effect)  | Uncertainty <sup>1</sup> |
| Kendrick et al., 2006b<br>UK |             |               | a HADS-D score <8;<br>QALY | TCAs: -£149<br>SSRIs: £11         | DFWs:<br>TCAs: 0.7<br>SSRIs: 3.7<br>QALYs:<br>TCAs: -0.004<br>SSRIs: 0.034 | £45/DFW (TCAs extendedly dominated)<br>SSRIs vs TCAs<br>£3,821/QALY (lofepramine extendedly dominated) |                          |

Notes:

1. Costs uplifted to 2015 UK pounds using the UK hospital & community health services (HCHS) index (Curtis & Burns, 2015).
2. Time horizon 12 months; analysis conducted alongside an open label RCT (N=327; entered preference group n=92; followed-up at 12 months n=171); national unit costs used; statistical analyses (including bootstrapping) conducted; CEACs presented..
3. UK study; NHS perspective; QALY estimates based on EQ-5D ratings (UK tariff)

## R.2.31 Physical interventions

2 Table 13: Clinical / economic question: acupuncture versus counselling versus treatment as usual

| Economic evidence profile   |  |                                  |                |  |  |   |  |
|-----------------------------|--|----------------------------------|----------------|--|--|---|--|
| Study and country           | Limitations                                  | Applicability                    | Other comments | Incremental cost (£) <sup>1</sup>                | Incremental effect                                 | ICER (£/effect) <sup>1</sup>                              | Uncertainty <sup>1</sup>   |
| Spackman et al., 2014<br>UK | Potentially serious limitations <sup>2</sup> | Directly applicable <sup>3</sup> | Outcome: QALY  | Versus counselling:<br>-£231<br>Versus TAU: £279 | Versus counselling:<br>-0.003<br>Versus TAU: 0.059 | Versus TAU:<br>£4,731<br>Counselling extendedly dominated | Probability of cost effectiveness at WTP £20,000/QALY: acupuncture 0.62, counselling 0.36, TAU 0.02<br>Results sensitive to small changes in intervention costs; results robust to inclusion of depression-related resource use only. In complete case analysis acupuncture dominated counselling. |

Notes:

1. Costs uplifted to 2015 UK pounds using the UK hospital & community health services (HCHS) index (Curtis & Burns, 2015).
2. Time horizon 12 months; analysis conducted alongside RCT (N=755; at 12 months EQ-5D data available for n=572; complete resource use data for n=150; multiple imputation used); acupuncture cost based on published data, for all other costs national unit costs used; statistical analyses conducted,

| Economic evidence profile   |             |               |                |                                   |                    |                              |                          |
|---|-------------|---------------|----------------|-----------------------------------|--------------------|------------------------------|--------------------------|
| Study and country   | Limitations | Applicability | Other comments | Incremental cost (£) <sup>1</sup> | Incremental effect | ICER (£/effect) <sup>1</sup> | Uncertainty <sup>1</sup> |
| including multiple imputation and regression analysis of costs and QALYs to account for baseline factors; PSA undertaken and CEACs presented; one way sensitivity analysis undertaken |             |               |                |                                   |                    |                              |                          |
| 3. UK study; NHS perspective; QALY estimates based on EQ-5D (UK tariff)   |             |               |                |                                   |                    |                              |                          |

1 **Table 14: Clinical / economic question: exercise versus treatment as usual**

| Economic evidence profile  |  |                                  |                |                                   |                    |                              |  |
|--|--|----------------------------------|----------------|-----------------------------------|--------------------|------------------------------|--|
| Study and country  | Limitations                                  | Applicability                    | Other comments | Incremental cost (£) <sup>1</sup> | Incremental effect | ICER (£/effect) <sup>1</sup> | Uncertainty <sup>1</sup>   |
| Chalder <i>et al.</i> , 2012<br>UK   | Potentially serious limitations <sup>2</sup> | Directly applicable <sup>3</sup> | Outcome: QALY  | £325                              | 0.014              | £22,871                      | Probability of cost effectiveness at £20,000 and £30,000/QALY: 0.49 and 0.57, respectively<br>Using imputed data:<br>ICER £21,290/QALY<br>Probability of cost effectiveness at £20,000 and £30,000/QALY: 0.50 and 0.60, respectively |
| Notes:   |  |                                  |                |                                   |                    |                              |  |
| 1. Costs uplifted to 2015 UK pounds using the UK hospital & community health services (HCHS) index (Curtis & Burns, 2015).   |  |                                  |                |                                   |                    |                              |  |
| 2. Time horizon 12 months; analysis conducted alongside RCT (N=361; at 12 months EQ-5D data n=195; complete resource use data n=156); national unit costs used; statistical analyses conducted, including bootstrapping; PSA undertaken and CEACs presented; one way sensitivity analysis undertaken |  |                                  |                |                                   |                    |                              |  |
| 3. UK study; NHS & PSS perspective; QALY estimates based on EQ-5D (UK tariff)  |  |                                  |                |                                   |                    |                              |  |

## R.2.41 Psychological, pharmacological, physical and combined interventions

2 Table 15: Clinical / economic question: various interventions

| Economic evidence profile      |                                |                                  |                |  |  |  |  |
|--------------------------------|--------------------------------|----------------------------------|----------------|--|--|--|--|
| Study and country              | Limitations                    | Applicability                    | Other comments | Incremental cost / 1000 people (£) <sup>1</sup>  | Incremental effect / 1000 people   | NMB (£) per person <sup>1</sup>  | Uncertainty <sup>1</sup>   |
| Guideline economic analysis UK | Minor limitations <sup>2</sup> | Directly applicable <sup>3</sup> | Outcome: QALY  | Versus pill placebo:<br>Cital -51,270<br>BA 812,743<br>CBT ind 843,302<br>CBT group 481,474<br>IPT 874,879<br>STPP 868,054<br>Counsell 860,932<br>Prob solving 21,225<br>cCBT + support 28,276<br>cCBT -54,186<br>Psychoed -6,455<br>Exercise -72,237<br>IPT +cital 861,186<br>STPP +cital 774,233<br>Exercise + sert 55,372 | Versus pill placebo:<br>Cital 30.1<br>BA 48.0<br>CBT ind 39.5<br>CBT group 42.8<br>IPT 30.7<br>STPP 19.4<br>Couns 29.3<br>Problem solving 18.7<br>cCBT+ sup 23.1<br>cCBT 26.1<br>Psychoed 20.3<br>Exercise 30.3<br>IPT + cital 48.7<br>STPP+cital 35.8<br>Exerc+sertr 17.1 | Exercise 31,705<br>Citalopram 31,680<br>cCBT 31,603<br>cCBT + support 31,461<br>Psychoeducation 31,438<br>CBT group 31,401<br>Problem solving 31,379<br>Exercise + sertr 31,313<br>BA 31,173<br>IPT + citalopram 31,139<br>Pill placebo 31,026<br>CBT individual 30,974<br>STPP +citalop 30,969<br>IPT 30,766<br>Counselling 30,751<br>STPP 30,545 | Probability of cost effectiveness at WTP £20,000/QALY: exercise 0.33; citalopram 0.20; cCBT 0.10; cCBT with support 0.03; psychoed 0.14; CBT group 0.02; problem solving 0.02; exercise + sertr 0.05; BA 0.04; IPT + cital 0.05; pill placebo 0.00; CBT indiv 0.00; STPP +cital 0.01; IPT 0.00; counselling 0.00; STPP 0.00<br>Results of individual psych interventions sensitive to utility values, cost of relapse and unit cost of therapist |

Notes:

1. Costs uplifted to 2016 UK pounds using the UK hospital & community health services (HCBS) index (Curtis & Burns, 2015).
2. Decision-analytic hybrid model, time horizon 12 weeks + 2 years; relative effects based on guideline systematic review and NMA; baseline effects derived from review of naturalistic studies; resource use based on published data supplemented by most up-to-date resource use and unit cost data; national unit prices used; PSA conducted; CEACs and CEAF presented
3. UK study; NHS & PSS perspective; QALY estimates based on EQ-5D (UK tariff)

## R.3.1 First-line treatment of adults with a new episode of more severe depression

### R.3.1.2 Psychological interventions

3 Table 16: Clinical / economic question: psychoeducational workshop versus wait list

| Economic evidence profile  |  |                                  |  |                                   |                         |   |   |
|--|--|----------------------------------|--|-----------------------------------|-------------------------|---|---|
| Study and country  | Limitations                                  | Applicability                    | Other comments   | Incremental cost (£) <sup>1</sup> | Incremental effect      | ICER (£/effect) <sup>1</sup>  | Uncertainty <sup>1</sup>  |
| Horrell <i>et al.</i> , 2014<br>UK   | Potentially serious limitations <sup>2</sup> | Directly applicable <sup>3</sup> | Outcomes: BDI-II scores, number of depression-free days (DFDs), QALY | -£7                               | 5.96<br>19.23<br>-0.003 | Not reported (not possible to estimate as reported costs and outcomes were not adjusted for baseline differences) | Probability of psychoeducation being cost-effective: 0.30, 0.80 and 0.99 at WTP zero, £32 and £74 per BDI-II point improvement, respectively; 0.90 at WTP £15/DFD gained; 0.50 at WTP £20,656/QALY, max probability 0.56, irrespective of WTP per QALY gained |
| Notes:   |  |                                  |  |                                   |                         |   |   |
| 1. Costs uplifted to 2015 UK pounds using the UK hospital & community health services (HCHS) index (Curtis & Burns, 2015).   |  |                                  |  |                                   |                         |   |   |
| 2. Time horizon 3 months; analysis conducted alongside RCT (N=459, completers n=382); national unit costs used; statistical analyses conducted including bootstrapping, CEACs presented. |  |                                  |  |                                   |                         |   |   |
| 3. UK study; NHS perspective; QALY estimates based on EQ-5D (UK tariff)  |  |                                  |  |                                   |                         |   |   |

Update 2018

4 Table 17: Clinical / economic question: individual CBT versus treatment as usual

| Economic evidence profile  |  |                                   |   |                                   |                    |                              |   |
|--|--|-----------------------------------|---|-----------------------------------|--------------------|------------------------------|---|
| Study and country  | Limitations                                  | Applicability                     | Other comments  | Incremental cost (£) <sup>1</sup> | Incremental effect | ICER (£/effect) <sup>1</sup> | Uncertainty <sup>1</sup>  |
| Holman <i>et al.</i> , 2011<br>UK  | Potentially serious limitations <sup>2</sup> | Partially applicable <sup>3</sup> | CBT delivered online using real-time therapist interaction through written messaging<br>Outcome: change in BDI-II score | £487                              | 3.6                | £137                         | Probability of CBT being cost-effective 0.90 at WTP £308 per point reduction in BDI-II. |
| Notes:   |  |                                   |   |                                   |                    |                              |   |
| 1. Costs uplifted to 2015 UK pounds using the UK hospital & community health services (HCHS) index (Curtis & Burns, 2015). |  |                                   |   |                                   |                    |                              |   |

**Economic evidence profile**

2. Time horizon 10 months; analysis conducted alongside RCT (N=204, at endpoint available cost data for n=198, available outcome data for n=167.); only primary and community service costs considered; secondary care costs omitted; national unit costs used; statistical analyses conducted including bootstrapping, CEACs presented.

3. UK study; health and social services perspective; QALY not used as an outcome

**1 Table 18: Clinical / economic question: individual CBT delivered online versus wait list**

**Economic evidence profile**

| Study and country                       | Limitations                                  | Applicability                    | Other comments                          | Incremental cost (£) <sup>1</sup> | Incremental effect | ICER (£/effect) <sup>1</sup> | Uncertainty <sup>1</sup>   |
|---|--|----------------------------------|---|-----------------------------------|--------------------|------------------------------|--|
| Hollinghurst <i>et al.</i> , 2010<br>UK | Potentially serious limitations <sup>2</sup> | Directly applicable <sup>3</sup> | Outcomes: % of recovery (BDI <10), QALY | £550                              | 16.5%<br>0.034     | £20,150                      | Probability of computerised CBT being cost-effective: 0.56 and 0.71 at WTP £20,000 and £30,000/QALY, respectively. After imputation of missing data: ICER £11,831/QALY<br>Probability of computerised CBT being cost-effective: 0.94 and 0.98 at WTP £20,000 and £30,000/QALY, respectively. |

Notes:

1. Costs uplifted to 2015 UK pounds using the UK hospital & community health services (HCHS) index (Curtis & Burns, 2015).

2. Time horizon 8 months; analysis conducted alongside RCT (N=297; BDI data available for n=210; QALYs available for n=165; NHS cost data available for n=137); national unit costs used; statistical analyses conducted including bootstrapping, CEACs presented.

3. UK study; NHS perspective; QALY estimates based on EQ-5D (UK tariff)

**2 Table 19: Clinical / economic question: behavioural activation versus treatment as usual**

**Economic evidence profile**

| Study and country | Limitations | Applicability | Other comments | Incremental cost (£) <sup>1</sup> | Incremental effect | ICER (£/effect) <sup>1</sup> | Uncertainty <sup>1</sup> |
|-------------------|-------------|---------------|----------------|-----------------------------------|--------------------|------------------------------|--------------------------|
|-------------------|-------------|---------------|----------------|-----------------------------------|--------------------|------------------------------|--------------------------|

| Economic evidence profile  |  |                                  |   |   |                         |  |   |
|--|--|----------------------------------|---|---|-------------------------|--|---|
| Ekers <i>et al.</i> , 2011<br>UK   | Potentially serious limitations <sup>2</sup> | Directly applicable <sup>3</sup> | Outcomes: change in BDI-II score; QALY<br>Intervention delivered by nurses with no previous training<br>2 scenarios: therapists delivering 65 treatments/year in a depression-specific role (A) or 33 treatments/year treating depression and anxiety (B) | A: £164<br>B: £192<br><br>Imputed values:<br>A: £187<br>B: £215 | BDI -15.78<br>QALY 0.03 | A: £10/BDI-II point reduction<br>£5,495/QALY<br><br>B: £12/BDI-II point reduction<br>£6,319/QALY | Probability of behavioural activation being cost-effective at WTP £20,000/QALY 0.98 (A) or 0.97 (B) |
| Notes:   |  |                                  |   |   |                         |  |   |
| 1. Costs uplifted to 2015 UK pounds using the UK hospital & community health services (HCHS) index (Curtis & Burns, 2015).   |  |                                  |   |   |                         |  |   |
| 2. Time horizon 3 months; analysis conducted alongside RCT (N=47, completers n=38); primary, secondary and community care costs considered; national unit costs used; statistical analyses conducted including bootstrapping, CEACs presented. |  |                                  |   |   |                         |  |   |
| 3. UK study; NHS and personal social services perspective; QALY estimates based on EQ-5D (UK tariff)   |  |                                  |   |   |                         |  |   |

1 **Table 20: Clinical / economic question: counselling versus antidepressants (AD)**

| Economic evidence profile  |  |                                   |   |                                     |                                   |   |  |
|--|--|-----------------------------------|---|-------------------------------------|-----------------------------------|---|--|
| Study and country  | Limitations                                  | Applicability                     | Other comments  | Incremental cost (£) <sup>1</sup>   | Incremental effect                | ICER (£/effect) <sup>1</sup>  | Uncertainty <sup>1</sup>   |
| Miller <i>et al.</i> , 2003<br>UK  | Potentially serious limitations <sup>2</sup> | Partially applicable <sup>3</sup> | Outcome: % of people with good 'global outcome', reflecting response to treatment within 8 weeks and remaining well | RCT: -£77<br>Preference trial: £134 | RCT: -16%<br>Preference trial: 8% | RCT: AD vs counselling £483<br>Preference trial: counselling vs AD £1,675 | RCT: probability of counselling being cost-effective 0.25 and 0.10 at WTP £918 and £3,674 /extra person with good global outcome, respectively<br>Assuming missing data reflected good outcomes, probability of counselling being cost-effective increased at any WTP<br>Assuming missing data represented poor outcomes, probability of counselling being cost-effective slightly increased for WTP < £2,755 /good global outcome and decreased for WTP > £2,755 /good global outcome |
| Notes:   |  |                                   |   |                                     |                                   |   |  |
| 1. Costs uplifted to 2015 UK pounds using the UK hospital & community health services (HCHS) index (Curtis & Burns, 2015).   |  |                                   |   |                                     |                                   |   |  |
| 2. Time horizon 12 months; analysis conducted alongside RCT (N=103, at 12 months efficacy data for n=81 and resource data for n=103) and preference trial (N=220; at 12 months efficacy data for n=163 and resource use data n=215); only depression-related costs considered; national unit costs used except for |  |                                   |   |                                     |                                   |   |  |

| Economic evidence profile  |             |               |                |                                   |                    |                              |                          |
|--|-------------|---------------|----------------|-----------------------------------|--------------------|------------------------------|--------------------------|
| Study and country  | Limitations | Applicability | Other comments | Incremental cost (£) <sup>1</sup> | Incremental effect | ICER (£/effect) <sup>1</sup> | Uncertainty <sup>1</sup> |
| counsellors, where local costs were used; statistical analyses conducted including bootstrapping, CEACs presented. |             |               |                |                                   |                    |                              |                          |
| 3. UK study; NHS perspective; QALY not used as an outcome  |             |               |                |                                   |                    |                              |                          |

### R.3.2.1 Pharmacological interventions

2 Table 21: Clinical / economic question: SSRIs versus mirtazapine

| Economic evidence profile  |  |                                  |                |                                   |                    |                              |   |
|--|--|----------------------------------|----------------|-----------------------------------|--------------------|------------------------------|---|
| Study and country  | Limitations                                  | Applicability                    | Other comments | Incremental cost (£) <sup>1</sup> | Incremental effect | ICER (£/effect) <sup>1</sup> | Uncertainty <sup>1</sup>  |
| Benedict <i>et al.</i> , 2010<br>UK  | Potentially serious limitations <sup>2</sup> | Directly applicable <sup>3</sup> | Outcome: QALY  | -£41                              | 0.002              | SSRIs dominant               | Probabilistic analysis favoured duloxetine, which was not part of decision problem for this review question<br>Results sensitive to efficacy and utility data |
| Notes:   |  |                                  |                |                                   |                    |                              |   |
| 1. Costs uplifted to 2015 UK pounds using the UK hospital & community health services (HCHS) index (Curtis & Burns, 2015).   |  |                                  |                |                                   |                    |                              |   |
| 2. Time horizon 48 weeks; analysis based on decision-analytic modelling; efficacy data derived from meta-analyses of clinical trials with randomisation possibly broken; disutility and costs due to side effects not considered; resource use estimates based on expert opinion; national unit costs used; funded by industry |  |                                  |                |                                   |                    |                              |   |
| 3. UK study; Scottish NHS perspective; QALYs based on EQ-5D (UK tariff)  |  |                                  |                |                                   |                    |                              |   |

Update 2018

3 Table 22: Clinical / economic question: escitalopram versus citalopram

| Economic evidence profile        |  |                                  |  |                                   |                    |                              |  |
|----------------------------------|--|----------------------------------|--|-----------------------------------|--------------------|------------------------------|--|
| Study and country                | Limitations                                  | Applicability                    | Other comments   | Incremental cost (£) <sup>1</sup> | Incremental effect | ICER (£/effect) <sup>1</sup> | Uncertainty <sup>1</sup>   |
| Wade <i>et al.</i> , 2005a<br>UK | Potentially serious limitations <sup>2</sup> | Directly applicable <sup>3</sup> | Population: adults with moderate-to-severe depression<br>Outcome: % of remission | -£108                             | 5.3%               | Escitalopram dominant        | Results robust under different scenarios (changes in rates of remission, relapse, discontinuation, unit costs) |
| Wade <i>et al.</i> ,             | Potentially                                  | Directly                         | Population: adults with  | -£44                              | 5%                 | Escitalopram                 | Results robust to changes in drug-   |

| Economic evidence profile  |                                  |                         |  |                                   |                    |                              |  |
|--|----------------------------------|-------------------------|--|-----------------------------------|--------------------|------------------------------|--|
| Study and country  | Limitations                      | Applicability           | Other comments                               | Incremental cost (£) <sup>1</sup> | Incremental effect | ICER (£/effect) <sup>1</sup> | Uncertainty <sup>1</sup>   |
| 2005b UK   | serious limitations <sup>4</sup> | applicable <sup>3</sup> | severe depression<br>Outcome: % of remission |                                   |                    | dominant                     | specific probabilities and cost data<br>PSA: Escitalopram dominant in >99.8% of iterations |
| Notes:   |                                  |                         |  |                                   |                    |                              |  |
| 1. Costs uplifted to 2015 UK pounds using the UK hospital & community health services (HCHS) index (Curtis & Burns, 2015).   |                                  |                         |  |                                   |                    |                              |  |
| 2. Time horizon 26 weeks; analysis based on economic modelling, efficacy data from pooled RCTs; resource use data based on a general practice database, expert opinion and published studies; national unit costs used; statistical analyses conducted including PSA, funded by industry, side effects not considered in estimation of costs |                                  |                         |  |                                   |                    |                              |  |
| 3. UK study; NHS perspective; QALY not used as an outcome but intervention dominant (so no further judgements on cost effectiveness required)  |                                  |                         |  |                                   |                    |                              |  |
| 4. Time horizon 26 weeks; analysis based on economic modelling, efficacy data from pooled RCTs; resource use data based on a general practice database, expert opinion and published studies; national unit costs used; statistical analyses conducted including PSA, funded by industry.  |                                  |                         |  |                                   |                    |                              |  |

### R.3.31 Combined pharmacological and psychological interventions

2 Table 23: Clinical / economic question: combination therapy (CBT and fluoxetine) versus antidepressant therapy (fluoxetine)

| Economic evidence profile     |                                |                                   |   |                                   |  |  |  |
|-------------------------------|--------------------------------|-----------------------------------|---|-----------------------------------|--|--|--|
| Study and country             | Limitations                    | Applicability                     | Other comments  | Incremental cost (£) <sup>1</sup> | Incremental effect   | ICER (£/effect) <sup>1</sup>   | Uncertainty <sup>1</sup>   |
| Simon <i>et al.</i> , 2006 UK | Minor limitations <sup>2</sup> | Partially applicable <sup>3</sup> | Population: adults with moderate or severe depression<br>Outcomes: % of successful treatment (remission and no relapse over 12 months, remission defined as HAMD17 ≤ 6 or HAMD24 ≤ 8); QALY | £874                              | % successful treatment: 16%<br>QALYs<br>- moderate depression 0.04<br>- severe depression 0.11 | £5,563 /extra successfully treated person<br>£19,942/QALY for moderate depression<br>£7,923/QALY for severe depression | 95% CIs:<br>£1,920 to £25,099 /extra successfully treated person<br>£6,583 to £108,901/QALY for moderate depression<br>£2,606 to 446,358/QALY for severe depression<br>Results sensitive to changes in relative efficacy (remission and relapse).<br>Probability of Combo being cost-effective at WTP £41,000/QALY 0.88 for moderate depression and 0.97 for severe depression |

| Economic evidence profile   |             |               |                |                                   |                    |                              |                          |
|---|-------------|---------------|----------------|-----------------------------------|--------------------|------------------------------|--------------------------|
| Study and country   | Limitations | Applicability | Other comments | Incremental cost (£) <sup>1</sup> | Incremental effect | ICER (£/effect) <sup>1</sup> | Uncertainty <sup>1</sup> |
| Notes:  |             |               |                |                                   |                    |                              |                          |
| 1. Costs uplifted to 2015 UK pounds using the UK hospital & community health services (HCHS) index (Curtis & Burns, 2015).  |             |               |                |                                   |                    |                              |                          |
| 2. Time horizon 18 months; analysis based on economic modelling, efficacy data from systematic review and meta-analysis; resource use data based on expert opinion and published studies; national unit costs used; PSA conducted, CEACs presented; side effects not considered in estimation of costs or QALYs |             |               |                |                                   |                    |                              |                          |
| 3. UK study; NHS perspective; QALYs generated based on vignettes valued by service users using standard gamble techniques   |             |               |                |                                   |                    |                              |                          |

1 **Table 24: Clinical / economic question: combination therapy (CBT and citalopram) versus CBT versus antidepressant therapy**  
2 **(citalopram)**

| Economic evidence profile   |                                |                                  |  |  |  |   |   |
|---|--------------------------------|----------------------------------|--|--|--|---|---|
| Study and country   | Limitations                    | Applicability                    | Other comments   | Incremental cost (£) <sup>1</sup>          | Incremental effect                         | ICER (£/effect) <sup>1</sup>                            | Uncertainty <sup>1</sup>  |
| Koeser <i>et al.</i> , 2015<br>UK   | Minor limitations <sup>2</sup> | Directly applicable <sup>3</sup> | Population: adults with moderate or severe depression<br>Outcome: QALY | Vs citalopram:<br>CBT £802<br>Combo £1,468 | Vs citalopram:<br>CBT 0.038<br>Combo 0.038 | Combo dominated by CBT<br>CBT vs citalopram:<br>£20,791 | Probability of CBT, citalopram, Combo being cost-effective at WTP £26,000/QALY: 0.43, 0.37 and 0.20, respectively<br>Results sensitive to changes in inclusion criteria for RCTs for acute and follow-up treatment<br>Using SF-6D values: ICER of CBT vs citalopram<br>£33,805/QALY |
| Notes:  |                                |                                  |  |  |  |   |   |
| 1. Costs uplifted to 2015 UK pounds using the UK hospital & community health services (HCHS) index (Curtis & Burns, 2015).  |                                |                                  |  |  |  |   |   |
| 2. Time horizon 27 months; analysis based on economic modelling, efficacy data from systematic review and network meta-analysis; resource use data based on published estimates of expert opinion and analysis of RCT data; PSA conducted, CEACs presented; side effects not considered in estimation of costs or QALYs |                                |                                  |  |  |  |   |   |
| 3. UK study; NHS perspective; QALYs generated based EQ-5D ratings (UK tariff)   |                                |                                  |  |  |  |   |   |

### R.3.41 Physical interventions

2 Table 25: Clinical / economic question: ECT as part of different sequencing strategies

| Economic evidence profile             |  |                                   |   |   |  |   |   |
|---------------------------------------|--|-----------------------------------|---|---|--|---|---|
| Study and country                     | Limitations                                  | Applicability                     | Other comments  | Incremental cost (£) <sup>1</sup>   | Incremental effect   | ICER (£/effect) <sup>1</sup>  | Uncertainty <sup>1</sup>  |
| Greenhalgh <i>et al.</i> , 2005<br>UK | Potentially serious limitations <sup>2</sup> | Partially applicable <sup>3</sup> | Population: adults with depression requiring hospitalisation<br>Strategies:<br>1. SNRI, SSRI, Li<br>2. ECT, SSRI, Li; ECT maintenance in ECT<br>3. ECT, SSRI, Li; Lithium & TCA maintenance in ECT<br>4. SNRI, ECT, Li; Lithium & TCA maintenance in ECT<br>5. ECT, SSRI, Li<br>6. SNRI, SSRI, ECT; Lithium & TCA maintenance in ECT<br>7. SNRI, ECT, Li; ECT maintenance in ECT<br>8. SNRI, SSRI, ECT; ECT maintenance in ECT<br>Outcome: QALY | Strategies 2-8 vs 1:<br>£5,901<br>-£601<br>-£1,206<br>-£564<br>£3,789<br>£1,777<br>£4,698 | Strategies 2-8 vs 1:<br>-0.032<br>-0.066<br>-0.020<br>0.049<br>-0.001<br>-0.004<br>0.004 | Strategies 1, 2, 3, 6, 7, and 8 dominated<br>ICER of 5 vs. 4: £9,300/QALY | Results modestly sensitive to use of alternative utility values; results robust to small changes in costs and suicide rates |

Notes:

1. Costs uplifted to 2015 UK pounds using the UK hospital & community health services (HCHS) index (Curtis & Burns, 2015).
2. Time horizon 12 months; analysis based on economic modelling, efficacy data from systematic literature review of RCTs and published meta-analyses, and further assumptions; resource use data based on published literature and expert opinion; national unit costs used; sensitivity analysis conducted including PSA (95% CI reported); impact of side effects considered only in terms of discontinuation
3. UK study; NHS perspective; QALYs estimated based on preferences for vignettes using the McSad health state classification system valued by service users with previous depression in Canada using standard gamble techniques

### R.3.51 Psychological, pharmacological, physical and combined interventions

2 Table 26: Clinical / economic question: various interventions

| Economic evidence profile      |  |                                  |                |  |   |  |  |
|--------------------------------|--|----------------------------------|----------------|--|---|--|--|
| Study and country              | Limitations                                  | Applicability                    | Other comments | Incremental cost / 1000 people (£) <sup>1</sup>  | Incremental effect / 1000 people  | NMB (£) per person <sup>1</sup>  | Uncertainty <sup>1</sup>   |
| Guideline economic analysis UK | Potentially serious limitations <sup>2</sup> | Directly applicable <sup>3</sup> | Outcome: QALY  | Versus pill placebo:<br>Citalopram 28,148<br>Mirtazapine 26,490<br>BA 754,035<br>CBT indiv 798,239<br>cCBT -101,944<br>CBT indiv + cital 993,274 | Versus pill placebo:<br>Citalopram 52.0<br>Mirtazapine 55.8<br>BA 166.1<br>CBT individual 189.1<br>cCBT 86.2<br>CBT ind + sertr 107.8 | CBT indiv 28,640<br>BA 28,225<br>cCBT 27,483<br>CBT indiv + cital 26,820<br>Mirtazapine 26,748<br>Citalopram 26,668<br>Pill placebo 25,657 | Probability of cost effectiveness at WTP £20,000/QALY:<br>CBT indiv 0.57; BA 0.29; cCBT 0.08; CBT indiv + cital 0.02; mirtazapine 0.03; citalopram 0.01; pill placebo 0.00<br>Results of psych interventions sensitive to utility values |

Notes:

1. Costs uplifted to 2016 UK pounds using the UK hospital & community health services (HCHS) index (Curtis & Burns, 2015).
2. Decision-analytic hybrid model, time horizon 12 weeks + 2 years; relative effects based on guideline systematic review and NMA; baseline effects derived from review of naturalistic studies; resource use based on published data supplemented by most up-to-date resource use and unit cost data; national unit prices used; PSA conducted; CEACs and CEAF presented; due to sparseness of connections in some of the networks that informed the economic analysis, and the inclusion of studies with unexpectedly large effects which were transferred due to limited indirect comparisons available in the networks, results for some interventions are likely to have been exaggerated.
3. UK study; NHS & PSS perspective; QALY estimates based on EQ-5D (UK tariff)

## R.4.1 Interventions for adults with depression who responded inadequately or were intolerant to previous treatment

### R.4.1.3 Psychological interventions

4 Table 27: Clinical / economic question: cognitive therapy or cognitive behavioural therapy in addition to TAU versus TAU alone

| Economic evidence profile                               |                               |                                   |  |   |   |  |  |
|---|-------------------------------|-----------------------------------|--|---|---|--|--|
| Study and country                                       | Limitations                   | Applicability                     | Other comments   | Incremental cost (£) <sup>1</sup>           | Incremental effect                            | ICER (£/effect) <sup>1</sup>           | Uncertainty <sup>1</sup>   |
| Scott et al., 2003<br>UK                                | Minor limitation <sup>2</sup> | Partially applicable <sup>3</sup> | Intervention: cognitive therapy<br>TAU: antidepressant therapy plus medical management<br>Outcome measure: percentage of relapses avoided        | £1,265                                      | 18%   | £7,030                                 | ICER £7,581 using mean imputation; £8,167 using non-parametric multiple imputation; £11,462 using only the 65% of subjects in the complete case analysis<br>Probability of cognitive therapy being cost-effective 0.60 and 0.80 at WTP of £9,746 and £13,807 per relapse prevented, respectively; probability sensitive to method of missing data imputation |
| Hollingshurst et al., 2014;<br>Wiles et al., 2016<br>UK | Minor limitation <sup>4</sup> | Directly applicable <sup>5</sup>  | Intervention: cognitive behavioural therapy<br>TAU: GP care, including antidepressant treatment or referral as required<br>Outcome measure: QALY | Endpoint: £928<br>Mean over 3-5 years: £287 | Endpoint: 0.053<br>Mean over 3-5 years: 0.052 | Endpoint: £16,271<br>Follow-up: £5,482 | Results robust to changes in psychologist unit cost & exclusion of hospitalisation costs<br>Using SF-6D-based QALYs: £32,328/QALY<br>Using completers' data: £20,036/QALY<br>Probability of CBT being cost-effective: Endpoint: 0.74 / 0.91; follow-up: 0.92 / 0.95<br>at WTP of £20,000/£30,000/QALY, respectively  |

Notes:

1. Costs uplifted to 2015 UK pounds using the UK hospital & community health services (HCHS) index (Curtis & Burns, 2015).
2. Time horizon 17 months; analysis conducted alongside RCT (N=158; full data for 65% of participants); national unit costs used; statistical analyses (including bootstrapping) conducted; CEACs presented.
3. UK study; NHS & PSS perspective; outcome measure % of relapses, no QALY used as an outcome
4. Time horizon 12 months plus 3-5 year follow-up; analysis conducted alongside RCT (N=469; NHS and PSS cost and QALY data available for n=368 at

| Economic evidence profile  |             |               |                |                                   |                    |                              |                          |
|--|-------------|---------------|----------------|-----------------------------------|--------------------|------------------------------|--------------------------|
| Study and country  | Limitations | Applicability | Other comments | Incremental cost (£) <sup>1</sup> | Incremental effect | ICER (£/effect) <sup>1</sup> | Uncertainty <sup>1</sup> |
| 12 months; follow-up data available for n= 248); national unit costs used; statistical analyses (including bootstrapping) conducted; CEACs presented |             |               |                |                                   |                    |                              |                          |
| 5. UK study; NHS & PSS perspective; QALYs estimated based on EQ-5D ratings (UK tariff)   |             |               |                |                                   |                    |                              |                          |

## R.4.21 Pharmacological interventions

2 Table 28: Clinical / economic question: various antidepressants (escitalopram, duloxetine, venlafaxine, mirtazapine)

| Economic evidence profile                |  |                                   |  |   |   |                              |   |
|--|--|-----------------------------------|--|---|---|------------------------------|---|
| Study and country                        | Limitations                                  | Applicability                     | Other comments   | Incremental cost (£) <sup>1</sup>                             | Incremental effect  | ICER (£/effect) <sup>1</sup> | Uncertainty <sup>1</sup>  |
| Benedict <i>et al.</i> , 2010<br>UK      | Potentially serious limitations <sup>2</sup> | Directly applicable <sup>3</sup>  | Interventions:<br>duloxetine, venlafaxine, mirtazapine<br>Outcome: QALY  | Duloxetine versus:<br>Venlafaxine: -£62<br>Mirtazapine: -£25  | Duloxetine versus:<br>Venlafaxine: 0.05<br>Mirtazapine: 0.08    | Duloxetine dominant          | Probability of duloxetine being cost-effective at WTP £20,000/QALY: approximately 0.80  |
| Nordström <i>et al.</i> , 2010<br>Sweden | Potentially serious limitations <sup>4</sup> | Partially applicable <sup>5</sup> | Interventions:<br>escitalopram, duloxetine, venlafaxine<br>Outcome: QALY | Escitalopram versus:<br>Duloxetine: -£15<br>Venlafaxine: -£55 | Escitalopram versus:<br>Duloxetine: 0.025<br>Venlafaxine: 0.024 | Escitalopram dominant        | Probability of escitalopram being cost-effective at WTP £20,000/QALY 0.981 and 0.985 compared with duloxetine and venlafaxine, respectively |

Notes:

1. Costs converted and uplifted to 2015 UK pounds using purchasing power parity (PPP) exchange rates and the UK HCHS index (Curtis & Burns, 2015).
2. Time horizon 48 weeks; analysis based on decision-analytic modelling; efficacy data derived from meta-analyses of clinical trials with randomisation possibly broken; disutility and costs due to side effects not considered; resource use estimates based on expert opinion; national unit costs used; funded by industry
3. UK study; Scottish NHS perspective; QALYs based on EQ-5D (UK tariff)
4. Time horizon 6 months; analysis based on decision-analytic modelling; efficacy data derived from pooled analysis of trial data, including only participants who had already received antidepressant therapy prior to randomisation; data for duloxetine and venlafaxine pooled together; resource use estimates based on a cohort study conducted in 56 primary care centres in Sweden over 6 months; national unit costs used; CEACs presented for escitalopram versus each of the other drugs considered and not for all 3 options; funded by industry
5. Swedish study; societal perspective but analysis based on healthcare costs presented separately; QALYs based on EQ-5D (UK tariff)

1 **Table 29: Clinical / economic question: lithium versus antipsychotics as adjuncts to SSRI treatment**

| Economic evidence profile          |  |                                  |                |                                   |                    |  |   |
|------------------------------------|--|----------------------------------|----------------|-----------------------------------|--------------------|--|---|
| Study and country                  | Limitations                                  | Applicability                    | Other comments | Incremental cost (£) <sup>1</sup> | Incremental effect | ICER (£/effect)                        | Uncertainty   |
| Edwards <i>et al.</i> , 2103<br>UK | Potentially serious limitations <sup>2</sup> | Directly applicable <sup>3</sup> | Outcome: QALY  | -£959                             | 0.028              | Lithium as an adjunct to SSRI dominant | Probability of lithium being dominant 1<br>Results sensitive to efficacy of augmentation strategies and discontinuation rates; robust under different assumptions regarding resource use, as well as under changes in remission and relapse risk at follow-up |

Notes:

1. Costs uplifted to 2015 UK pounds using the UK hospital & community health services (HCHS) index (Curtis & Burns, 2015).

2. Time horizon 12 months; analysis based on decision-analytic modelling; efficacy data taken from a systematic review and indirect comparison using 6 RCTs comparing olanzapine + fluoxetine vs. fluoxetine alone in people with treatment-resistant depression and 1 RCT comparing lithium + fluoxetine vs. fluoxetine alone in people who had failed at least one antidepressant (so not from a population with treatment-resistant depression); a common class effect was assumed for the SSRIs and the AAPs; resource use estimates based on expert opinion; national unit costs used; PSA conducted.

3. UK study; NHS & PSS perspective; QALY estimates based on EQ-5D (UK tariff)

## R.5.2 Interventions for relapse prevention

### R.5.13 Psychological interventions

4 **Table 30: Clinical / economic question: mindfulness-based cognitive therapy versus maintenance antidepressant treatment**

| Economic evidence profile         |                                |                                   |  |                                   |                    |                                     |   |
|-----------------------------------|--------------------------------|-----------------------------------|--|-----------------------------------|--------------------|-------------------------------------|---|
| Study and country                 | Limitations                    | Applicability                     | Other comments                                   | Incremental cost (£) <sup>1</sup> | Incremental effect | ICER (£/effect) <sup>1</sup>        | Uncertainty <sup>1</sup>  |
| Kuyken <i>et al.</i> , 2008<br>UK | Minor limitations <sup>2</sup> | Partially applicable <sup>3</sup> | Outcome: % of people avoiding relapse            | £380                              | 13%                | £335/relapse prevented (adjusted)   | Not statistically significant differences in costs or outcomes                              |
| Kuyken <i>et al.</i> , 2008<br>UK | Minor limitations <sup>4</sup> | Directly applicable <sup>5</sup>  | Outcomes: % of people avoiding relapse and QALYs | £129                              | 3%<br>-0.04        | £5,141/relapse prevented (adjusted) | Not statistically significant differences in costs or outcomes<br>Probability of MBCT being |

| Economic evidence profile   |             |               |                |                                   |                    |                              |  |
|---|-------------|---------------|----------------|-----------------------------------|--------------------|------------------------------|--|
| Study and country   | Limitations | Applicability | Other comments | Incremental cost (£) <sup>1</sup> | Incremental effect | ICER (£/effect) <sup>1</sup> | Uncertainty <sup>1</sup>                                 |
|   |             |               |                |                                   |                    | Dominated                    | cost-effective less than 0.50 at any WTP per QALY gained |
| Notes:  |             |               |                |                                   |                    |                              |  |
| 1. Costs converted and uplifted to 2015 UK pounds using purchasing power parity (PPP) exchange rates and the UK HCHS index (Curtis & Burns, 2015).  |             |               |                |                                   |                    |                              |  |
| 2. Time horizon 15 months, analysis conducted alongside RCT (N=125; completers n=115); national unit prices used. statistical analyses conducted, including bootstrapping; CEACs presented for societal perspective |             |               |                |                                   |                    |                              |  |
| 3. UK study; NHS & PSS perspective (societal perspective reported separately); outcome measure was percentage of relapses avoided; no QALYs estimated   |             |               |                |                                   |                    |                              |  |
| 4. Time horizon 2 years, analysis conducted alongside RCT (N=424, completers=366); national unit prices used. Statistical analyses conducted, including bootstrapping; CEACs presented                              |             |               |                |                                   |                    |                              |  |
| 5. UK study; NHS & PSS perspective (societal perspective reported separately); outcome measure was percentage of relapses avoided and QALYs based on EQ-5D ratings (UK tariff)                                      |             |               |                |                                   |                    |                              |  |

## R.5.21 Pharmacological interventions

2 **Table 31: Clinical / economic question: maintenance SSRIs versus clinical management (SSRIs tapering) in people at medium risk of**  
3 **relapse who remitted following acute pharmacological treatment and who experienced less severe depression if they**  
4 **relapsed**

| Economic evidence profile      |                                |                                  |                |                                   |                    |                              |   |
|--------------------------------|--------------------------------|----------------------------------|----------------|-----------------------------------|--------------------|------------------------------|---|
| Study and country              | Limitations                    | Applicability                    | Other comments | Incremental cost (£) <sup>1</sup> | Incremental effect | ICER (£/effect) <sup>1</sup> | Uncertainty <sup>1</sup>  |
| Guideline economic analysis UK | Minor limitations <sup>2</sup> | Directly applicable <sup>3</sup> | Outcome: QALY  | £111                              | 0.0003             | £293,305                     | Probability of SSRIs being cost-effective at WTP £20,000/QALY: 0.29<br>Conclusions robust to use of alternative utility values for less severe depression, changes in cost of relapse.<br>Cost effectiveness of SSRIs improves as number of previous episodes increases and severity of future relapses increases |

Notes:

1. Costs reported in 2016 UK pounds.

| Economic evidence profile   |             |               |                |                                   |                    |                              |                          |
|---|-------------|---------------|----------------|-----------------------------------|--------------------|------------------------------|--------------------------|
| Study and country   | Limitations | Applicability | Other comments | Incremental cost (£) <sup>1</sup> | Incremental effect | ICER (£/effect) <sup>1</sup> | Uncertainty <sup>1</sup> |
| 2. Decision-analytic Markov model, time horizon 10 years; relative effects based on guideline systematic review and meta-analysis; baseline effects derived from review of naturalistic studies; disutility and costs due to common side effects considered – disutility and costs due to serious (but less common) side effects not considered; resource use based on published data from a large naturalistic study (N=88,935) supplemented by most up-to-date resource use and unit cost data; national unit prices used; PSA conducted; CEACs presented |             |               |                |                                   |                    |                              |                          |
| 3. UK study; NHS & PSS perspective; QALYs based on EQ-5D measurements and the UK population tariff  |             |               |                |                                   |                    |                              |                          |

1 **Table 32: Clinical / economic question: maintenance SNRIs versus clinical management (SNRIs tapering) in people at medium risk of**  
 2 **relapse who remitted following acute pharmacological treatment and who experienced less severe depression if they**  
 3 **relapsed**

| Economic evidence profile      |                                |                                  |                |                                   |                    |                              |   |
|--------------------------------|--------------------------------|----------------------------------|----------------|-----------------------------------|--------------------|------------------------------|---|
| Study and country              | Limitations                    | Applicability                    | Other comments | Incremental cost (£) <sup>1</sup> | Incremental effect | ICER (£/effect) <sup>1</sup> | Uncertainty <sup>1</sup>  |
| Guideline economic analysis UK | Minor limitations <sup>2</sup> | Directly applicable <sup>3</sup> | Outcome: QALY  | £165                              | -0.009             | Dominated                    | Probability of SNRIs being cost-effective at WTP £20,000/QALY: 0.04<br>Conclusions robust to use of alternative utility values for less severe depression, changes in cost of relapse.<br>Cost effectiveness of SNRIs improves as number of previous episodes increases and severity of future relapses increases |

Notes:

1. Costs reported in 2016 UK pounds.

2. Decision-analytic Markov model, time horizon 10 years; relative effects based on guideline systematic review and meta-analysis; baseline effects derived from review of naturalistic studies; disutility and costs due to common side effects considered – disutility and costs due to serious (but less common) side effects not considered; resource use based on published data from a large naturalistic study (N=88,935) supplemented by most up-to-date resource use and unit cost data; national unit prices used; PSA conducted; CEACs presented

3. UK study; NHS & PSS perspective; QALYs based on EQ-5D measurements and the UK population tariff

1 **Table 33: Clinical / economic question: maintenance TCAs versus clinical management (TCAs tapering) in people at medium risk of**  
2 **relapse who remitted following acute pharmacological treatment and who experienced less severe depression if they**  
3 **relapsed**

| Economic evidence profile      |                                |                                  |                |                                   |                    |                              |  |
|--------------------------------|--------------------------------|----------------------------------|----------------|-----------------------------------|--------------------|------------------------------|--|
| Study and country              | Limitations                    | Applicability                    | Other comments | Incremental cost (£) <sup>1</sup> | Incremental effect | ICER (£/effect) <sup>1</sup> | Uncertainty <sup>1</sup>   |
| Guideline economic analysis UK | Minor limitations <sup>2</sup> | Directly applicable <sup>3</sup> | Outcome: QALY  | £171                              | -0.009             | Dominated                    | Probability of TCAs being cost-effective at WTP £20,000/QALY: 0.09<br>Conclusions robust to use of alternative utility values for less severe depression, changes in cost of relapse.<br>Cost effectiveness of SNRIs improves as number of previous episodes increases and severity of future relapses increases |

Notes:

1. Costs reported in 2016 UK pounds.

2. Decision-analytic Markov model, time horizon 10 years; relative effects based on guideline systematic review and meta-analysis; baseline effects derived from review of naturalistic studies; disutility and costs due to common side effects considered – disutility and costs due to serious (but less common) side effects not considered; resource use based on published data from a large naturalistic study (N=88,935) supplemented by most up-to-date resource use and unit cost data; national unit prices used; PSA conducted; CEACs presented

3. UK study; NHS & PSS perspective; QALYs based on EQ-5D measurements and the UK population tariff

Update 2018

4 **Table 34: Clinical / economic question: maintenance mirtazapine versus clinical management (mirtazapine tapering) in people at**  
5 **medium risk of relapse who remitted following acute pharmacological treatment and who experienced less severe**  
6 **depression if they relapsed**

| Economic evidence profile      |                                |                                  |                |                                   |                    |                              |   |
|--------------------------------|--------------------------------|----------------------------------|----------------|-----------------------------------|--------------------|------------------------------|---|
| Study and country              | Limitations                    | Applicability                    | Other comments | Incremental cost (£) <sup>1</sup> | Incremental effect | ICER (£/effect) <sup>1</sup> | Uncertainty <sup>1</sup>  |
| Guideline economic analysis UK | Minor limitations <sup>2</sup> | Directly applicable <sup>3</sup> | Outcome: QALY  | £151                              | -0.011             | Dominated                    | Probability of mirtazapine being cost-effective at WTP £20,000/QALY: 0.09<br>Conclusions robust to use of alternative utility values for less severe depression, changes in cost of relapse.<br>Cost effectiveness of SNRIs improves as number of previous episodes |

| Economic evidence profile   |             |               |                |                                   |                    |                              |   |
|---|-------------|---------------|----------------|-----------------------------------|--------------------|------------------------------|---|
| Study and country   | Limitations | Applicability | Other comments | Incremental cost (£) <sup>1</sup> | Incremental effect | ICER (£/effect) <sup>1</sup> | Uncertainty <sup>1</sup>                            |
|   |             |               |                |                                   |                    |                              | increases and severity of future relapses increases |
| Notes:  |             |               |                |                                   |                    |                              |   |
| 1. Costs reported in 2016 UK pounds.  |             |               |                |                                   |                    |                              |   |
| 2. Decision-analytic Markov model, time horizon 10 years; relative effects based on guideline systematic review and meta-analysis; baseline effects derived from review of naturalistic studies; disutility and costs due to common side effects considered – disutility and costs due to serious (but less common) side effects not considered; resource use based on published data from a large naturalistic study (N=88,935) supplemented by most up-to-date resource use and unit cost data; national unit prices used; PSA conducted; CEACs presented |             |               |                |                                   |                    |                              |   |
| 3. UK study; NHS & PSS perspective; QALYs based on EQ-5D measurements and the UK population tariff  |             |               |                |                                   |                    |                              |   |

### R.5.31 Psychological, pharmacological and combined interventions

2 **Table 35: Clinical / economic question: MBCT combined with maintenance antidepressant treatment versus MBCT combined with**  
3 **clinical management (antidepressant tapering) versus maintenance antidepressant treatment versus clinical management**  
4 **(antidepressant tapering) versus group CT combined with maintenance antidepressant treatment in people at high risk of**  
5 **relapse who remitted following acute pharmacological treatment and who experienced more severe depression if they**  
6 **relapsed**

| Economic evidence profile      |                                |                                  |  |   |   |   |   |
|--------------------------------|--------------------------------|----------------------------------|--|---|---|---|---|
| Study and country              | Limitations                    | Applicability                    | Other comments   | Incremental cost (£) vs clinical management (AD taper) <sup>1</sup>     | Incremental effect vs clinical management (AD taper)                              | NMB (£) <sup>1</sup>  | Uncertainty <sup>1</sup>  |
| Guideline economic analysis UK | Minor limitations <sup>2</sup> | Directly applicable <sup>3</sup> | Outcome: QALY<br>Interventions in [] considered in SA only | MBCT & AD £192<br>MBCT & AD taper £78<br>AD £56<br>[group CT & AD £162] | MBCT & AD: 0.056<br>MBCT & AD taper: 0.059<br>AD: 0.036<br>[Group CT & AD: 0.053] | MBCT & AD taper 129.4<br>MBCT & AD £129.3<br>[group CT & AD £129.2]<br>AD £129.0<br>AD taper £128.3 | Probability of being cost-effective:<br>AD base-case analysis:<br>MBCT & AD taper 0.48; MBCT & AD 0.16; group CT & AD 0.35; AD 0.01; AD taper 0.00<br>AD sensitivity analysis:<br>MBCT & AD taper 0.62; MBCT & AD 0.14; group CT & AD |

| Economic evidence profile |             |               |                |   |  |                      |  |
|---------------------------|-------------|---------------|----------------|---|--|----------------------|--|
| Study and country         | Limitations | Applicability | Other comments | Incremental cost (£) vs clinical management (AD taper) <sup>1</sup> | Incremental effect vs clinical management (AD taper) | NMB (£) <sup>1</sup> | Uncertainty <sup>1</sup>   |
|                           |             |               |                |   |  |                      | 0.24; AD 0.00; AD taper 0.00<br>Results robust to an increase in number of previous episodes, changes in utility values, use of a zero cost for clinical management and a 50% change in relapse cost. Assuming that the preventive effect of MBCT lasts only one year results in MBCT & AD becoming the most cost-effective intervention |

Notes:

1. Costs reported in 2016 UK pounds.
2. Decision-analytic Markov model, time horizon 10 years; relative effects based on guideline systematic review and meta-analysis; baseline effects derived from review of naturalistic studies; disutility and costs due to common side effects considered – disutility and costs due to serious (but less common) side effects not considered; resource use based on published data from a large naturalistic study (N=88,935) supplemented by most up-to-date resource use and unit cost data; national unit prices used; PSA conducted; CEACs presented
3. UK study; NHS & PSS perspective; QALYs based on EQ-5D measurements and the UK population tariff

Update 2018

1 **Table 36: Clinical / economic question: CT versus fluoxetine versus clinical management (pill placebo) versus no treatment (wait list)**  
 2 **in people at medium risk of relapse who remitted following acute pharmacological treatment and who experienced less**  
 3 **severe depression if they relapsed**

| Economic evidence profile |             |               |                |   |  |                      |  |
|---------------------------|-------------|---------------|----------------|---|--|----------------------|--|
| Study and country         | Limitations | Applicability | Other comments | Incremental cost (£) vs clinical management (pill placebo) <sup>1</sup> | Incremental effect vs clinical management (pill placebo) | NMB (£) <sup>1</sup> | Uncertainty <sup>1</sup>                                   |
| Guideline economic        | Minor       | Directly      | Outcome:       | CT £700   | CT: 0.014  | Pill placebo £131.8  | Probability of being cost-effective: pill placebo 0.55; no |

| Economic evidence profile |                          |                         |                |   |  |   |  |
|---------------------------|--------------------------|-------------------------|----------------|---|--|---|--|
| Study and country         | Limitations              | Applicability           | Other comments | Incremental cost (£) vs clinical management (pill placebo) <sup>1</sup> | Incremental effect vs clinical management (pill placebo) | NMB (£) <sup>1</sup>                        | Uncertainty <sup>1</sup>   |
| analysis UK               | limitations <sup>2</sup> | applicable <sup>3</sup> | QALY           | Fluoxetine £235<br>No treat -£36  | Fluoxetine: -0.016<br>No treat: -0.013                   | No treat £131.6<br>CT £131.4<br>Fluo £131.2 | treat 0.40; CT 0.04; fluoxetine 0.01<br>Results robust to an increase in number of previous episodes, assuming zero cost of clinical management, and a 50% increase in cost of relapse.<br>CT becomes most cost effective option if number of sessions is reduced to 4; 2 <sup>nd</sup> most cost-effective option if number of sessions is reduced to 4 but preventive effect lasts only 1 year or future relapse episodes are more severe; least cost-effective if less severe depression has a higher utility value or cost of relapse is reduced by 50% or preventive effect of CT lasts only one year |

Notes:

1. Costs reported in 2016 UK pounds.
2. Decision-analytic Markov model, time horizon 10 years; relative effects based on guideline systematic review and meta-analysis; baseline effects derived from review of naturalistic studies; disutility and costs due to common side effects considered – disutility and costs due to serious (but less common) side effects not considered; resource use based on published data from a large naturalistic study (N=88,935) supplemented by most up-to-date resource use and unit cost data; national unit prices used; PSA conducted; CEACs presented
3. UK study; NHS & PSS perspective; QALYs based on EQ-5D measurements and the UK population tariff

Update 2018

1 **Table 37: Clinical / economic question: CT versus fluoxetine versus clinical management (pill placebo) versus no treatment (wait list)**  
2 **versus MBCT versus group CT in people at high risk of relapse who remitted following acute pharmacological treatment and**  
3 **who experienced more severe depression if they relapsed**

| Economic evidence profile      |                                |                                  |  |  |   |  |  |
|--------------------------------|--------------------------------|----------------------------------|--|--|---|--|--|
| Study and country              | Limitations                    | Applicability                    | Other comments   | Incremental cost (£) vs clinical management (pill placebo) <sup>1</sup>    | Incremental effect vs clinical management (pill placebo)                                | NMB (£) <sup>1</sup>   | Uncertainty <sup>1</sup>   |
| Guideline economic analysis UK | Minor limitations <sup>2</sup> | Directly applicable <sup>3</sup> | Outcome: QALY<br>Interventions in [] considered in SA only | CT £671<br>Fluoxetine £225<br>No treat -£19<br>[MBCT £99]<br>Group CT £87] | CT: 0.032<br>Fluoxetine: -0.013<br>No treat: -0.029<br>[MBCT 0.012]<br>[Group CT 0.004] | [MBCT £128.6]<br>Pill placebo £128.4<br>[group CT £128.4]<br>CT £128.4<br>Fluo £127.9<br>No treat £127.9 | Probability of being cost-effective:<br>Base-case analysis:<br>Pill placebo 0.36; CT 0.28; fluoxetine 0.06; no treat 0.30;<br>Sensitivity analysis:<br>CT 0.14; fluoxetine 0.03; no treat 0.00; MBCT 0.33; group CT 0.28; pill placebo 0.22<br>Results overall robust to 50% change in the cost of relapse and to changes in utility values.<br>Pill placebo most cost-effective if clinical management cost is zero.<br>CT is most cost-effective if number of previous episodes increases to 5 or number of sessions is reduced to 4, even if preventive effect lasts only 1 year; 2 <sup>nd</sup> least cost-effective if future relapses are less severe |

Notes:

1. Costs reported in 2016 UK pounds.

2. Decision-analytic Markov model, time horizon 10 years; relative effects based on guideline systematic review and meta-analysis; baseline effects derived from review of naturalistic studies; disutility and costs due to common side effects considered – disutility and costs due to serious (but less common) side effects not considered; resource use based on published data from a large naturalistic study (N=88,935) supplemented by most up-to-date resource use and unit cost data; national unit prices used; PSA conducted; CEACs presented

| Economic evidence profile |             |               |                |   |  |                      |                          |
|---------------------------|-------------|---------------|----------------|---|--|----------------------|--------------------------|
| Study and country         | Limitations | Applicability | Other comments | Incremental cost (£) vs clinical management (pill placebo) <sup>1</sup> | Incremental effect vs clinical management (pill placebo) | NMB (£) <sup>1</sup> | Uncertainty <sup>1</sup> |

3. UK study; NHS & PSS perspective; QALYs based on EQ-5D measurements and the UK population tariff

1 **Table 38: Clinical / economic question: combined psychological (CBT) and pharmacological (fluoxetine) maintenance treatment**  
 2 **versus pharmacological treatment alone versus psychological treatment combined with clinical management**  
 3 **(antidepressant tapering) versus clinical management (antidepressant tapering) at high risk of relapse who remitted**  
 4 **following acute pharmacological treatment and who experienced more severe depression if they relapsed**

| Economic evidence profile      |                                |                                  |                |   |  |   |  |
|--------------------------------|--------------------------------|----------------------------------|----------------|---|--|---|--|
| Study and country              | Limitations                    | Applicability                    | Other comments | Incremental cost (£) vs clinical management (pill placebo) <sup>1</sup> | Incremental effect vs clinical management (pill placebo) | NMB (£) <sup>1</sup>  | Uncertainty <sup>1</sup>   |
| Guideline economic analysis UK | Minor limitations <sup>2</sup> | Directly applicable <sup>3</sup> | Outcome: QALY  | Combo £825<br>AD £22<br>Psych & AD taper £772                           | Combo: 0.060<br>AD: 0.048<br>Psych & AD taper: 0.034     | AD £129.3<br>Combo £128.7<br>Psych & AD taper £128.4<br>AD taper £128.2 | Probability of being cost-effective: AD 0.92; Combo 0.04; AD taper 0.0; Psych & AD taper 0.03<br>Results overall robust to changes in number of previous episodes, changes severity of future episodes or in utility values, assuming that the cost of clinical management is zero, 50% change in the cost of relapse, reducing number of psychol therapy sessions to 4<br>Combo becomes most cost-effective option when the number of sessions of its psych component is reduced from 10 to 4 and the number of previous episodes is at least 6 |

Update 2018

| Economic evidence profile |             |               |                |   |  |                      |                          |
|---------------------------|-------------|---------------|----------------|---|--|----------------------|--------------------------|
| Study and country         | Limitations | Applicability | Other comments | Incremental cost (£) vs clinical management (pill placebo) <sup>1</sup> | Incremental effect vs clinical management (pill placebo) | NMB (£) <sup>1</sup> | Uncertainty <sup>1</sup> |

Notes:

1. Costs reported in 2016 UK pounds.
2. Decision-analytic Markov model, time horizon 10 years; relative effects based on guideline systematic review and meta-analysis; baseline effects derived from review of naturalistic studies; disutility and costs due to common side effects considered – disutility and costs due to serious (but less common) side effects not considered; resource use based on published data from a large naturalistic study (N=88,935) supplemented by most up-to-date resource use and unit cost data; national unit prices used; PSA conducted; CEACs presented
3. UK study; NHS & PSS perspective; QALYs based on EQ-5D measurements and the UK population tariff

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