



MAFEIP

Support Services for the Management and Utilization of
Monitoring and Assessment of the EIP - MAFEIP Tool

MasterMind. cCBT.

**Aragón Healthcare Service
(SALUD)**

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Executive summary

Description of the intervention

The MasterMind¹ project aimed at making high quality treatment for depression more widely available for adults suffering from the illness through the use of ICT. This analysis focuses on the pilot of one of the services (cCBT) in the site of the Aragón Healthcare Service (SALUD), the public healthcare provider for the Aragonese region. The age of the participants in the Aragón pilot ranged from 19 to 74 years old and it included both females (73%) and males (27%). During the period of the intervention participants had one face-to-face training session and several online sessions (the plan was 8 online sessions, but not all participants completed them). The evaluation used a one-group pre-trial-post-trial study design and it followed the dimensions of the Model for ASessment of Telemedicine (MAST) (Kidholm et al., 2012)².

Model input

Defining the health states and the transition probabilities

The baseline health state is defined as *having no symptoms of depression*, and the deteriorate state as *having symptoms of depression* (either mild, moderate, or severe). All but one of the participants that completed at least 50% of the sessions had symptoms before the implementation of the intervention. Nonetheless, 73% of them had recovered at the end of the pilot. This percentage is the recovery rate for the intervention group. The recovery rate for the control group (29%) is obtained from trials that assess the effect of medication in the treatment of depression during a similar period (Table 1). We use the same incidence rate for the control and the intervention group because the intervention's target is to cure those that have depression, not to prevent new cases. This value (3%) was also obtained from the scientific literature, as well as the relative risk (RR) of mortality for the deteriorated health states (1.92). (Table 1).

Computing the costs

Table 1 also displays the costs directly related to the intervention. On the one hand, these refer to the implementation cost that Aragón incurred at the beginning of the intervention (ICT infrastructure, subcontracting, development, and training for professionals), which amount to 95,348€. These are divided by the number of patients (133), and the expected years of life of the infrastructure (5). On the other hand, the costs of the programme per patient are estimated to be 60€. This comprises 46€ of direct costs, plus 14€ of overheads. Since this cost only affects patients in the deteriorated state, we add them under healthcare costs, because this section allows to differentiate between baseline and deteriorated health states.

Healthcare costs refer to resource use within the healthcare system. They are obtained from a study focusing on the remission of the major depressive disorder in Spain (Sicras-Mainar et al., 2012). In this study, healthcare costs for patients in remission (baseline state) were estimated to be 451€ and for those not in remission (deteriorated state) 826€. A similar project, *Caring Me*, provided a CBT therapy through a virtual platform that consisted of 12 sessions, and estimated

¹ <https://mastermind-project.eu/>

² Kidholm, K., Pedersen, C. D., Jensen, L. K., Ekeland, A. G., Bowes, A., Flottorp, S., & Bech, M. (2012). A model for assessment of telemedicine applications – MAST. *International Journal of Technology Assessment in Health Care*, 28(1), 44–51.

that the intervention reduced healthcare costs by 51%. From here we obtain the healthcare costs for the intervention group and deteriorated state (635€), to which we add the costs of the programme per patient to get the final number of 695€. The societal costs also come from Sicras-Mainar et al. (2012) and the project *Caring Me* (Table 1).

Utility

To calculate utility we used the variable *Satisfaction with life*³, which was collected during the MasterMind project using a 7-point Likert scale. The values were then mapped into the 0-1 range. The utility in the baseline health scenario was computed as the average *satisfaction with life* of those that had no symptoms after the pilot, for both the control and intervention groups. The utility for the deteriorated state in the intervention group, is the average utility of those that had depressive symptoms after the pilot. Finally, the average utility of the whole sample before the intervention started is the value for the control group's deteriorated state (Table 1).

Table 1. Input data used to populate the MAFEIP model

	Control Group	Intervention Group
Transition Probabilities		
Incidence	3 %	3 %
Recovery	29 %	73 %
Relative Risk		
Baseline State	1.00	1.00
Deteriorated State	1.92	1.92
Costs		
One-off cost per patient (Intervention)	-	143 €
Recurring cost per patient/year (Intervention)	-	-
Healthcare cost – Baseline	451 €	451 €
Healthcare cost – Deteriorated	826 €	695 €
Societal cost – Baseline	1,442 €	533 €
Societal cost – Deteriorated	2,668 €	848 €
Utility		
Baseline State	0.57	0.57
Deteriorated State	0.39	0.33

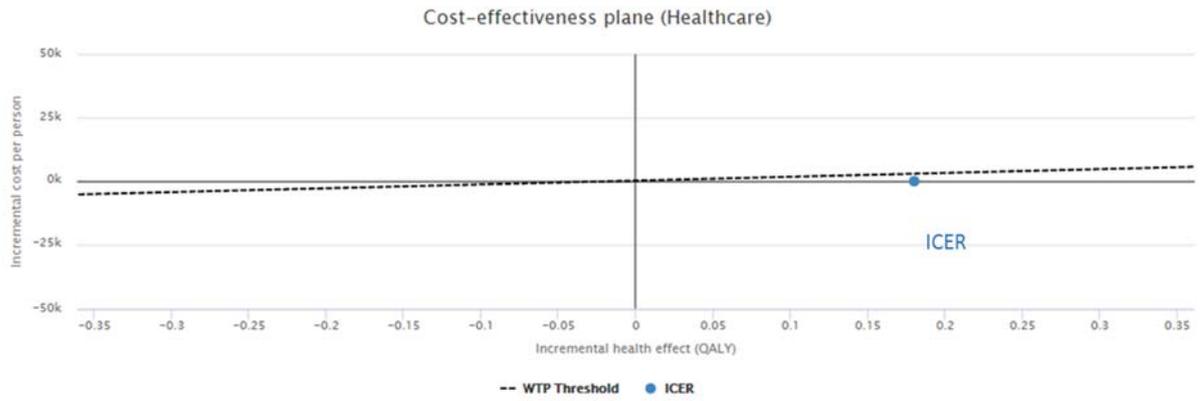
Model output

Figure 1 shows the overall impact of the intervention on the costs and effects of the whole target population. The incremental cost-effectiveness ratio (ICER) is placed in the dominant quadrant (lower-right), implying that the solution is always cost-effective (it is both cheaper and more effective than usual care).

³ How satisfied are you with your life as a whole today?

Figure 1. Cost-effectiveness
Incremental cost and HRQoL effects

Incremental cost (Healthcare)	-235.71
Incremental effects	0.181
Incremental cost-effectiveness ratio (Healthcare)	Dominant



WTP Threshold: ● €15K/QALY ● €20K/QALY ● €30K/QALY ● €50K/QALY ● €80K/QALY

1. Description of the intervention

MasterMind⁴ was an EU project that aimed at making high quality treatment for depression more widely available for adults suffering from the illness through the use of ICT. Depression is one of the most prevalent mental disorders worldwide and it is associated with a high disease burden, elevated economic and societal costs, and premature death (Ferrari et al., 2013; Kessler, 2007; Wittchen et al., 2011). Moreover, despite the availability of effective treatments, the number of people that actually receive treatment for depressive disorders is not optimal. In this context, the use of ICT could improve feasibility in general practice, where the volume of patients is high, and it is essential that interventions are brief and practical.

MasterMind tested two services: cCBT (Guided cCBT for treatment of depression) and cCVC (Video conference for Collaborative Care and treatment of depression), in fifteen pilot sites. This analysis focuses on the cCBT pilot in the Aragón Healthcare Service (SALUD), the public healthcare provider for the Aragonese region (47,719 km², 1.3m inhabitants). Specifically, the MasterMind services were piloted at five out of the 15 healthcare centres, and at the Mental Healthcare Unit of Barbastro Healthcare Sector⁵ (8,500 km², 107,428 inhabitants). The prevalence of depression in this region was estimated to be 4%, thus the potential target for the services is 4,297 people. The adapted cCBT programme to the four Spanish organisations participating in Mastermind is composed by a set of 8 modules formed by multimedia materials and questionnaires and it is called *Supera tu depresión* (Overcome your depression). Each region adapted these contents to its local Information Systems.

The service is targeted at patients aged 18 or older diagnosed with depression. The age of the participants in the Aragón pilot ranged from 19 to 74 years old and it included both females (73%) and males (27%). Recruitment was performed by both the GPs at the Primary Care centres and by the professionals (psychologists and psychiatrists) at the Mental Health Unit. During the period of the intervention participants had one face-to-face training session and several online sessions (the plan was 8 online sessions, but not all participants completed them). One nurse was in charge of the training and follow up of patients during the intervention period. The follow up included the monitoring of the patient activity and also of the alarms and alerts generated by this activity. During the period of inclusion of patients within the programme, the nurse, taking into account the inputs she received from the patient through the tool, could decide to phone the patient and/or to refer him/her to the specialist if further attention was needed. The programme also included a telephone call at the end and one at session 4 depending on the degree of adherence. The evaluation used a one-group pre-trial-post-trial study design and it followed the dimensions of the Model for Assessment of Telemedicine (MAST) (Kidholm et al., 2012)⁶. The study period for intervention started in October 2015 and ended in April 2017.

Regarding the current care situation⁷, in the Aragón Healthcare Service (SALUD) the primary care professionals at the Primary Care Centres have the first and closest contact with the patients. They do the first diagnosis, and normally treat mild to moderate depression. This treatment might include an anti-depressants prescription. When there is a patient profile with more complex needs and/or the symptoms are more severe, the GP might decide to contact the Mental

⁴ <https://mastermind-project.eu/>

⁵ <http://sectorbarbastro.salud.aragon.es/en/>

⁶ Kidholm, K., Pedersen, C. D., Jensen, L. K., Ekeland, A. G., Bowes, A., Flottorp, S., & Bech, M. (2012). A model for assessment of telemedicine applications – MAST. *International Journal of Technology Assessment in Health Care*, 28(1), 44–51.

⁷ This is without the MasterMind intervention.

HealthCare. The frequency and the type of interaction depends very much on the GP's workload and on his/her training and experience in the treatment of mental health disorders. There was no previous experience in the area and organisation in the use of cCBT, nor in mental health technology-related projects. Therefore, a stepped approach was used, starting within the Mental Health Care Unit and then spreading to Primary Care Centres.

2. Model input

2.1. Defining the health states and the transition probabilities

In the MasterMind project, each pilot measured the symptoms of depression using their routine practice diagnostic procedures (e.g. PHQ-9, BDI, etc.). According to this, participants were classified in 5 categories: 1 = No symptoms are experienced, 2 = Symptoms are mild, 3 = Symptoms are moderate, 4 = Symptoms are severe, 5 = Symptoms are very severe. In the context of MAFEIP, the category of *no symptoms* represents the baseline health and the rest (i.e. having symptoms of a Major Depressive Disorder) the deteriorated state.

In Aragón, 133 patients started the intervention. However, only 63 completed at least 50% of the sessions and are therefore included in this analysis. Among them, only one was in baseline health before the MasterMind pilots started. Among those that were in the deteriorated state, 45 showed no symptoms of depression after the treatment. Thus, the **recovery rate** is **73%**.

The remaining patients abandoned the programme without completing at least 50% of the sessions and are not included in the analysis because there is no post-intervention data available from them. If we had taken into account the whole set of patients who started the intervention and we had considered as in baseline state after treatment only those patients from whom we have registered data, the recovery rate would have been **33.83%**. We have chosen this approach because we do not have evidence for these patients who abandoned the programme, we do not know their reasons for discontinuation and because the effects of the intervention are not considered to be relevant in their evolution due to the short percentage of completion (<50%). Some of them might get tired of the treatment, but also some of them abandoned because they were feeling better and had no depression symptoms. Nevertheless, we consider that it is important to take this information into account for the analysis. Thus, this is included later in the sensitivity analysis.

MasterMind partners decided not to include a control group because it could be considered unethical to exclude eligible patients willing to participate. Therefore, the recovery rate for the control group was extracted from the scientific literature, concretely from trials that assessed the effect of medication in the treatment of depression at 16 weeks. These found rates of recovery ranging from 23% to 42% (De Jonghe, Kool, Van Aalst, Dekker, & Peen, 2001⁸; Dimidjian et al., 2006⁹; Kessler et al., 2009¹⁰). First, we use the average of the values from these studies, **29%**, and, later, we apply the range 23-42 in the sensitivity analysis. Regarding the **incidence rate**, we use the same value for the control and the intervention group because the intervention's target is to cure those that have depression, not to prevent new cases. In fact, having depression symptoms is a requirement for entering the programme. The literature review conducted by Ferrari et al. (2013)¹¹ found a pooled estimate of annual incidence of 3%, which we use.

⁸ De Jonghe, F., Kool, S., Van Aalst, G., Dekker, J., & Peen, J. (2001). Combining psychotherapy and antidepressants in the treatment of depression. *Journal of Affective Disorders*, 64(2–3), 217–229.

⁹ Dimidjian, S., Hollon, S., Dobson, K., Schmaling, K., Kohlenberg, R., Addis, M., ... Jacobson, N. (2006). Randomized trial of behavioral activation, cognitive therapy, and antidepressant medication in the acute treatment of adults with major depression. *Journal of Consulting and Clinical Psychology*, 74(4), 658–670.

¹⁰ Kessler, D., Lewis, G., Kaur, S., Wiles, N., King, M., Weich, S., ... Peters, T. J. (2009). Therapist-delivered internet psychotherapy for depression in primary care: a randomised controlled trial. *The Lancet*, 374, 628–634.

¹¹ Ferrari, A. J., Charlson, F. J., Norman, R. E., Flaxman, A. D., Patten, S. B., Vos, T., & Whiteford, H. A. (2013). The Epidemiological Modelling of Major Depressive Disorder: Application for the Global Burden of Disease Study 2010. *PLoS ONE*, 8(7).

The **risk for mortality** should be a bit higher than for the general population because unipolar depression is associated with premature death. For instance, people with major depression and schizophrenia have a 40% to 60% greater chance of dying prematurely than the general population, due to physical health problems left unattended and suicide (WHO, 2013)¹². In fact, Baxter, Page, & Whiteford (2011)¹³ conducted a systematic review and meta-analysis of excess mortality in population-based studies of clinically defined depression and concluded that there is a significantly higher risk of mortality for major depression, with an estimated relative risk (RR) of **1.92**. This is the value that we use in the present exercise for the deteriorated health state in both the intervention and control groups. We use the same value for both groups because reducing suicides was not the main objective of the intervention, and because it is not possible to demonstrate whether the MasterMind service reduced this risk. For the baseline we keep the default value of **1**, since people in this state do not have depressive symptoms.

2.2. Computing the costs

The **one-off costs** to implement the MasterMind services include ICT infrastructure, subcontracting, development, and training for professionals. The Spanish cluster in MasterMind (comprising the Spanish partners of the project) developed (based on previous experiences) the cCBT intervention content, which was called *Supera tu Depresión* (Get Over your Depression). This brought higher implementation costs, but avoided paying a 200€ licence per patient to a third provider. The one-off implementation costs amounted to **95,348€**, which divided by the number of patients (133) gives a cost of **717€** per person. Since it is estimated that this investment would be useable for approximately 5 years, this amount is divided by 5 (**143€**). On the other hand, it must be noted that with this investment it could be possible to support a larger number of patients, thus, these costs may be overestimated.

Table 2. Intervention costs

Intervention costs (per patient)	
Implementation costs (ICT infrastructure, subcontracting, development, and training for professionals) (one-off)	143

The **costs of the programme per patient** are estimated to be **60€**. This comprises 46€ of direct costs, which refer to personnel costs (nurses in charge of providing training to patients, patients' follow up and monitoring alarms; technicians providing technical support; and GP or psychologist who performs an evaluation), and 14€ of overheads. This cost only affects patients in the deteriorated state, because the intervention is aimed at those having depressive symptoms. However, the current version of the MAFEIP tool does not allow to differentiate between states when inputting the intervention costs. For this reason, we add this value under healthcare costs (Table 3) because this section allows to differentiate between baseline and deteriorated health states.

The programme is only applied once per patient. If this person recovers, the treatment is no longer needed; if the patient does not recover, he/she moves back to usual care (it means that this kind of treatment is not suitable for this specific individual). However, in the MAFEIP tool patients cannot move from the intervention to usual care. Thus, patients in intervention that do not recover remain in the intervention's deteriorated state, and the costs of the programme and

¹² WHO. (2013). Mental Health Action Plan 2013-2020. Geneva. Retrieved from http://apps.who.int/iris/bitstream/10665/89966/1/9789241506021_eng.pdf

¹³ Baxter, A. J., Page, A., & Whiteford, H. A. (2011). Factors influencing risk of premature mortality in community cases of depression: A meta-analytic review. *Epidemiology Research International*, 2011, 1–12.

the intervention's recovery rate are applied to them (instead, they should have no costs related to the programme and the control group's recovery rate, because they are no longer following the intervention). Nevertheless, since the recovery rate is high (73%), this only affects a reduced amount of people.

Healthcare costs refer to resource use within the healthcare system in each situation, usual care and intervention, such as the cost of consultations, hospitalisation costs, cost of medication, etc. However, MasterMind did not compute healthcare costs. Nonetheless, a study focusing on the remission of the major depressive disorder in Spain (Sicras-Mainar et al., 2012) estimated these costs per person and year. It calculated healthcare costs (e.g. physician visits, hospitalisations, pharmaceuticals, etc.) and indirect costs associated with patients' production losses due to sick leave. These costs were calculated for patients that were in remission and for those that were not. Healthcare costs for patients in remission (baseline state) were estimated to be **451€** and for those not in remission (deteriorated state) **826€**.

A similar project, *Caring Me*¹⁴, provided a CBT therapy through a virtual platform that consisted of 12 sessions. The project calculated the average healthcare costs during the intervention per patient. They estimated that the intervention reduced healthcare costs¹⁵ by 51%. Mastermind would probably have a similar impact. We apply this reduction (51%) to the difference between the healthcare costs for patients in remission and those not in remission (375€). As a result, we get that the healthcare costs for the intervention are 635€, value that we input to the deteriorated state. We add to this, the annual intervention costs estimated above (60€). Thus, the final value is **695€**. In the baseline state, we input the same value than for the control group, because since they have recovered, the intervention no longer applies to them.

Table 3. Healthcare Costs (per patient and year in €)

Control Group baseline health	451
Control Group deteriorated health	826
Intervention Group baseline health	451
Intervention Group deteriorated health	695

The societal costs add the costs outside the healthcare sector (time spent using the new service, time spent travelling for patients and caregivers, travel costs for patients and caregivers, time spent by patients in consultation, time spent in caregiving tasks by informal caregiver, etc.). As mentioned above, Sicras-Mainar et al. (2012) estimated the costs due to loss of labour productivity. Their estimates were **991€** for patients in remission and **1,842€** for those not in remission. On the other hand, *Caring Me* estimated that the losses due to sick leaves had diminished by 91.7% after the intervention. Assuming the same impact for MasterMind, gives a cost for the intervention group of **82€** and **153€** for the baseline and deteriorated states respectively. These costs are added to the healthcare costs (Table 4).

¹⁴ <http://www.caring-me.com/>

¹⁵ This was composed of primary care costs (consultations, tests, medication, etc.) and specialised care costs (days in hospital, consultations, emergency care).

Table 4. Societal Costs (per patient and year in €)

Control Group baseline health	
Cost of sick leave	991
Healthcare costs	451
TOTAL	1,442
Control Group deteriorated health	
Cost of sick leave	1,842
Healthcare costs	826
TOTAL	2,668
Intervention Group baseline health	
Cost of sick leave	82
Healthcare costs	451
TOTAL	533
Intervention Group deteriorated health	
Cost of sick leave	153
Healthcare costs	695
TOTAL	848

2.3. Utility

MAFEIP recommends using the EQ-5D to calculate utility, but MasterMind did not use this questionnaire. However, it collected the variables *Satisfaction with life*¹⁶ and *satisfaction with mental health*¹⁷ using a 7-point Likert scale, before and after treatment. The values in the 7-point Likert scale were mapped into a 0-1 range¹⁸. The utility in the baseline health scenario was computed as the average *satisfaction with life* of those that had no symptoms after the pilot, 0.57. We input the same value both for the control and intervention¹⁹ (Figure 2). On the other hand, the utility for the deteriorated state in the intervention group, is the average utility of those that had depressive symptoms after the pilot, 0.33. Finally, the average utility of the whole sample before the intervention started is the value that we use for the control group's deteriorated state (0.39), since all participants had depressive symptoms²⁰ before the implementation of the cCBT service (Table 5).

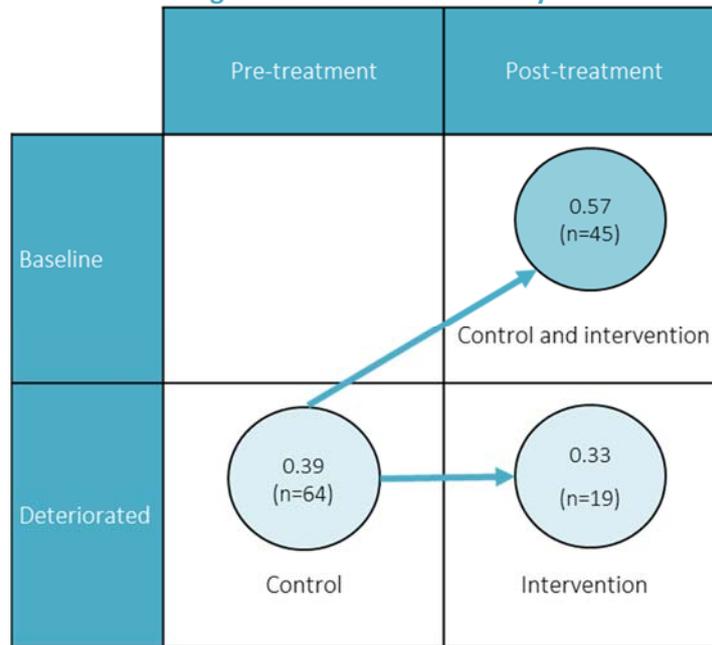
¹⁶ How satisfied are you with your life as a whole today?

¹⁷ How satisfied are you with your mental health?

¹⁸ Using the formula: $X = (x - 1) / 6$

¹⁹ This implies assuming that the utility of patients once they have recovered is the same regardless of the treatment followed (cCBT or usual care)

²⁰ The one that did not have symptoms is not included

Figure 2. Calculation of utility

Table 5. Utility

	Control	Intervention
Baseline	0.57	0.57
Deteriorated	0.39	0.33

3. Model output

The figure below shows the incremental costs by age. We see that costs are negative (meaning that the intervention is cheaper than the current option) for all age groups except for the older population (Figure 3). If we use the societal costs (i.e. including the effects of sick leave), savings are higher and the intervention is cheaper than usual care for all age groups. The incremental effects by age are positive, although small (Figure 5). The incremental cost-effectiveness ratio (ICER) is placed in the dominant quadrant (lower-right), implying that the solution is always cost-effective (it is both cheaper and more effective than usual care) (Figure 6).

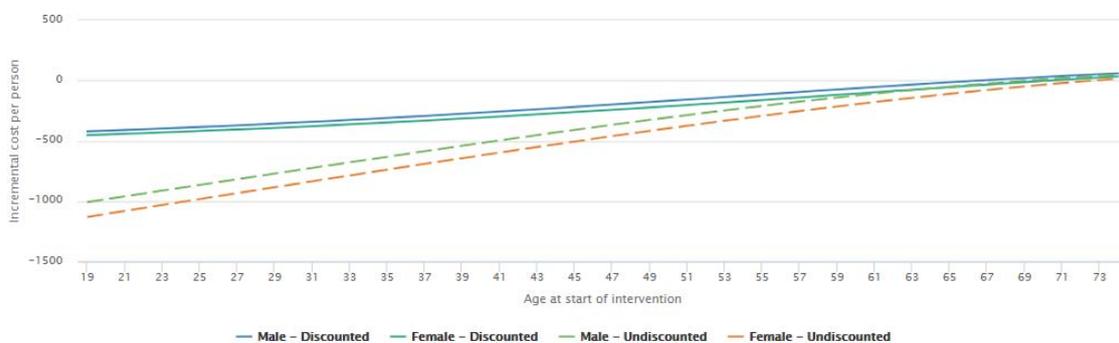
Figure 3. Incremental cost by age


Figure 4. Incremental cost by age (societal costs)

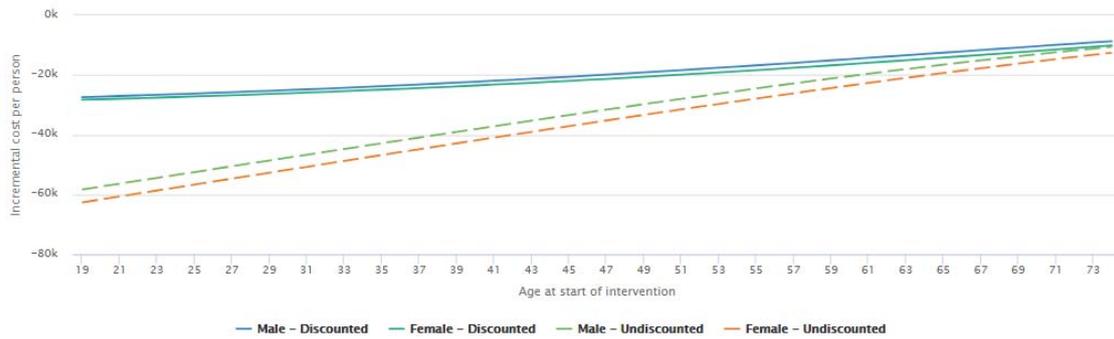


Figure 5. Incremental effects by age

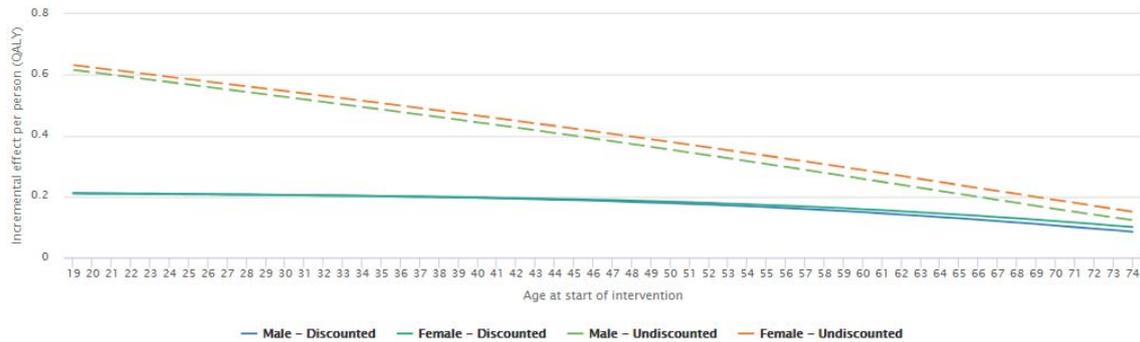
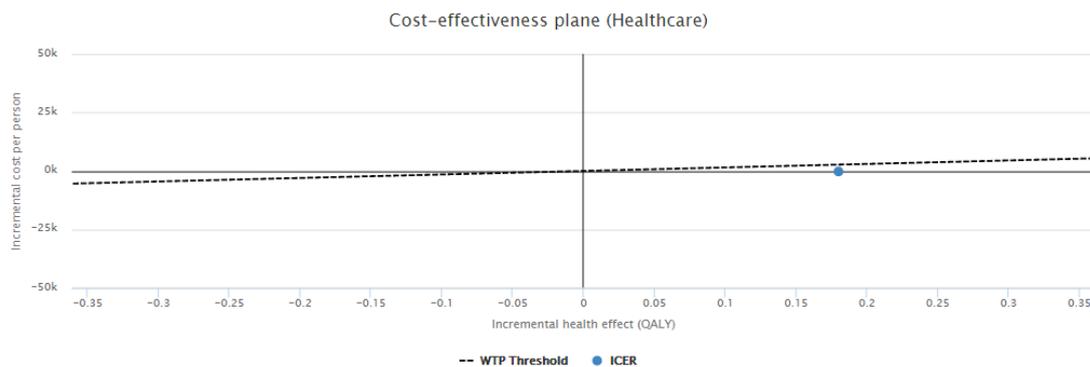


Figure 6. Cost-effectiveness plane (healthcare costs)

Incremental cost and HRQoL effects

Incremental cost (Healthcare)	-235.71
Incremental effects	0.181
Incremental cost-effectiveness ratio (Healthcare)	Dominant



WTP Threshold: €15K/QALY ● €20K/QALY ● €30K/QALY ● €50K/QALY ● €80K/QALY

The following figures show the cumulative incremental costs and effects over time. The target population is 4,297, the inhabitants of the area covered by the healthcare centres of the Aragón Healthcare Service in the Barbastro Healthcare Area, multiplied by the prevalence of depression in the region (4%).

Figure 7. Cumulative incremental costs

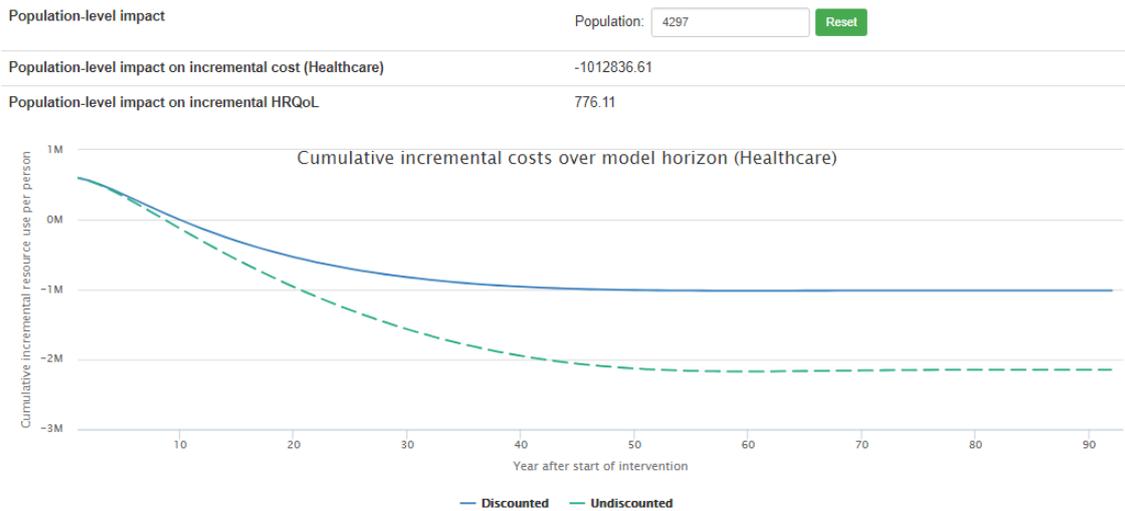
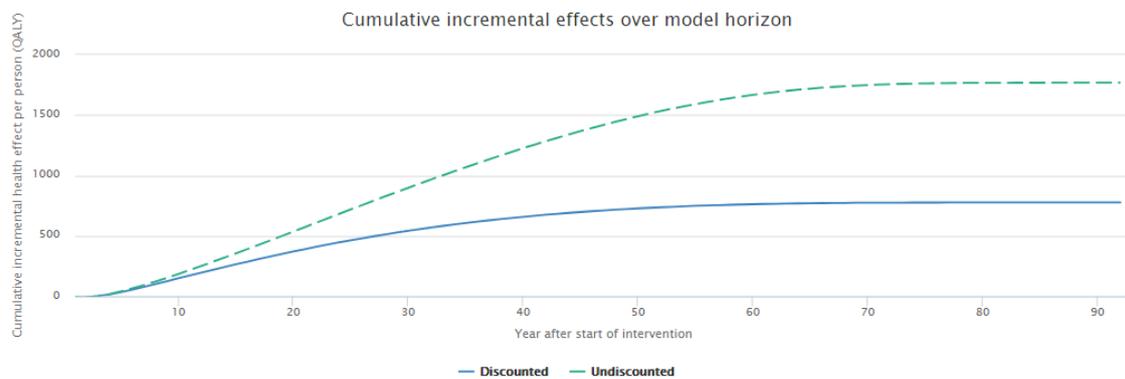


Figure 8. Cumulative incremental effects



The following figures display the expected transition between states for one specific person (in this case a 20 year old male). The population has a high probability of staying in the baseline health state, due to the fact that incidence is low (3%). Moreover, this probability is higher in intervention, since the recovery rate is larger. The probability of dying remains low until the last decades, and it is slightly higher for current care.

Figure 9. Patient flow through model states (Alive states)

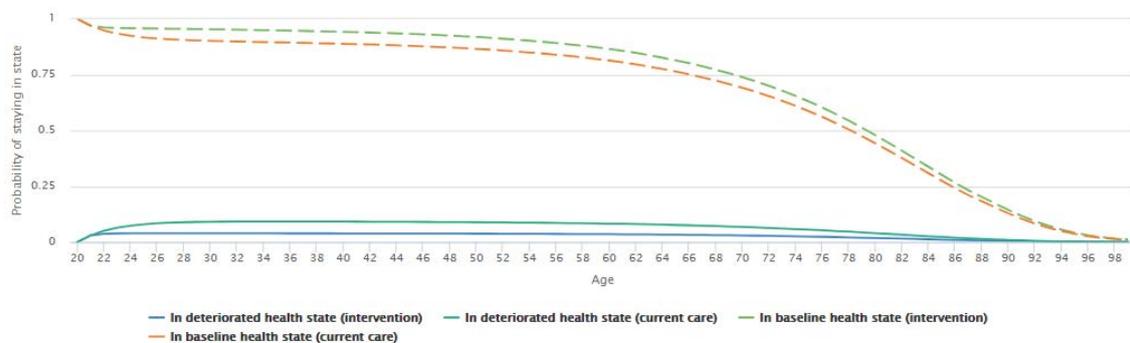
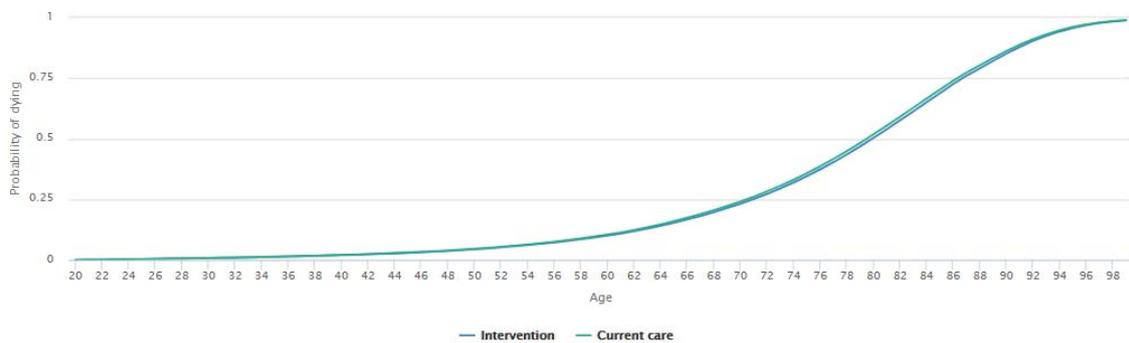


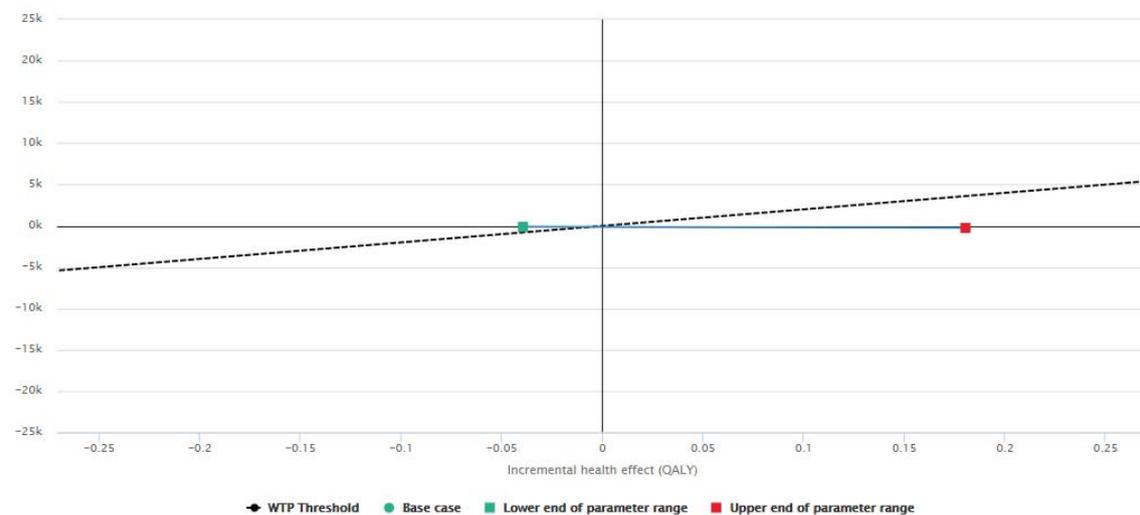
Figure 10. Patient flow through model states (Dead state)



The sensitivity analysis allows us to assess how the output varies when one parameter changes. First, we apply the range of recovery rates for the control group found in the literature (23-42%). We can see that if the recovery rate for the control group was better, the intervention's effects and savings would decline a bit, but the ICER would remain in the dominant quadrant (Figure 11).

Second, we apply a wide range for the recovery rate of the intervention group, from 34% to 73%. The first value is the minimum recovery rate for the MasterMind intervention, because it assumes that none of the participants who dropped-out has recovered. The second is the one used in the model. The results show that if the recovery rate was much lower, the ICER could move above the willingness to pay threshold, implying that the solution would not be cost-effective (Figure 12).

On the other hand, Figure 12. Univariate sensitivity analysis with a change in the recovery rate for the intervention group



WTP Threshold: ● €15K/QALY ● €20K/QALY ● €30K/QALY ● €50K/QALY ● €80K/QALY

Figure 13 shows what would happen if the MasterMind intervention decreased healthcare costs by a smaller amount than Caring Me, concretely by 25%, which would increase the costs from 695€ to 792€. In this case, the incremental costs would be only slightly higher, and the ICER would remain practically at the same point.

Figure 11. Univariate sensitivity analysis with a change in the recovery rate for the control group

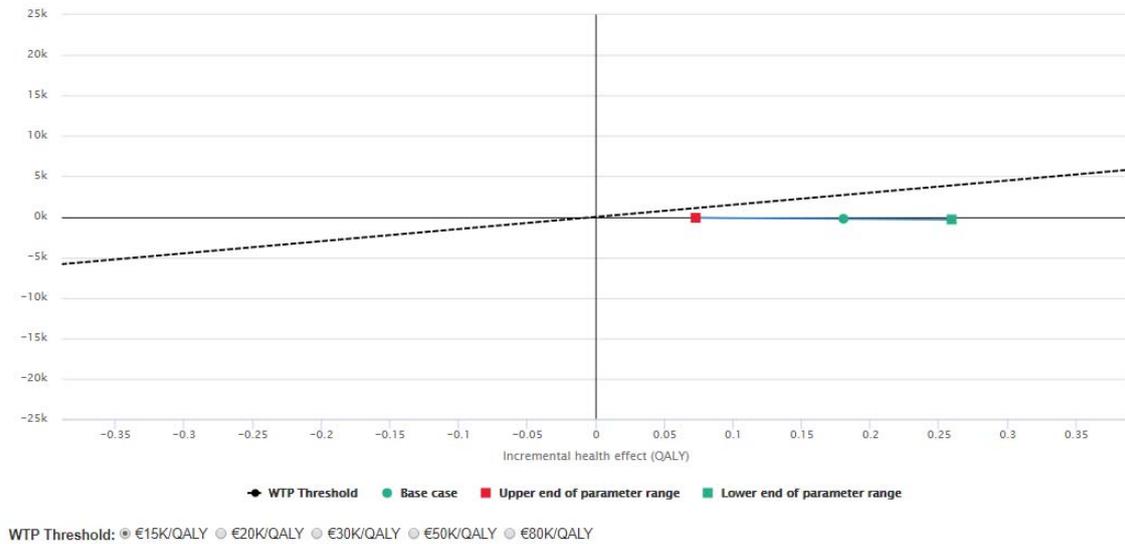
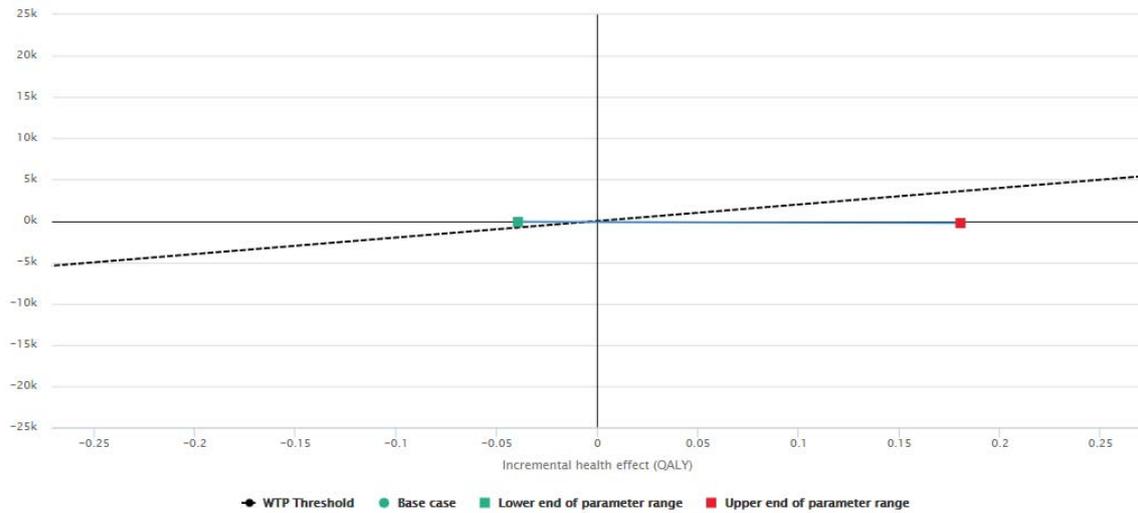
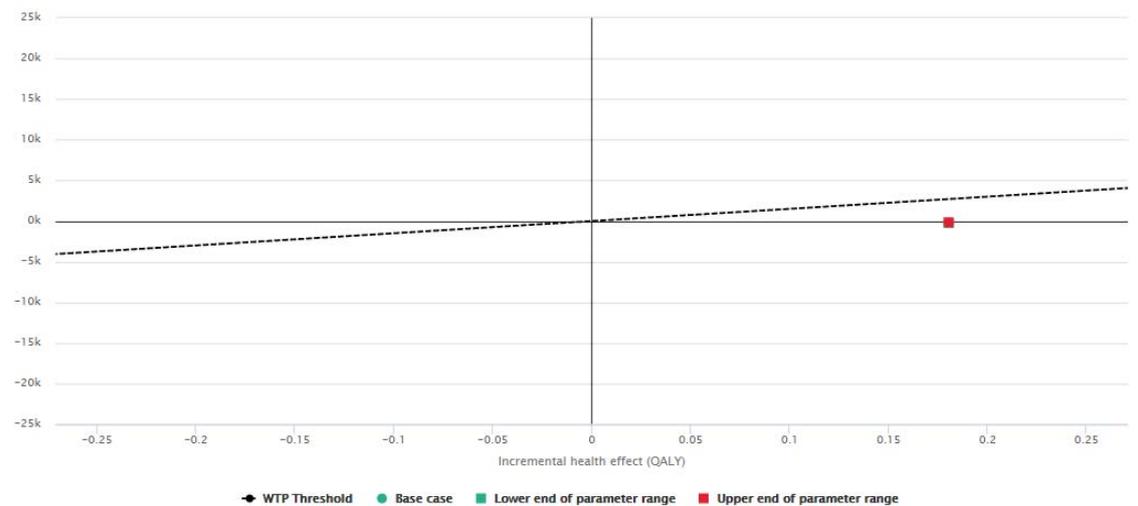


Figure 12. Univariate sensitivity analysis with a change in the recovery rate for the intervention group



WTP Threshold: ● €15K/QALY ● €20K/QALY ● €30K/QALY ● €50K/QALY ● €80K/QALY

Figure 13. Univariate sensitivity analysis with a change in the healthcare costs in deteriorated health for the intervention group



WTP Threshold: ● €15K/QALY ● €20K/QALY ● €30K/QALY ● €50K/QALY ● €80K/QALY

The figures below show how a change in some relevant parameters affect the incremental costs (Figure 14) and the incremental effects (Figure 15), when applying a $\pm 10\%$ change in each of them. The baseline healthcare costs in intervention are the ones that have a greater impact on costs. On the other hand, the utility in baseline is clearly the parameter that has a higher impact on effects.

Figure 14. Parameter impact on incremental costs

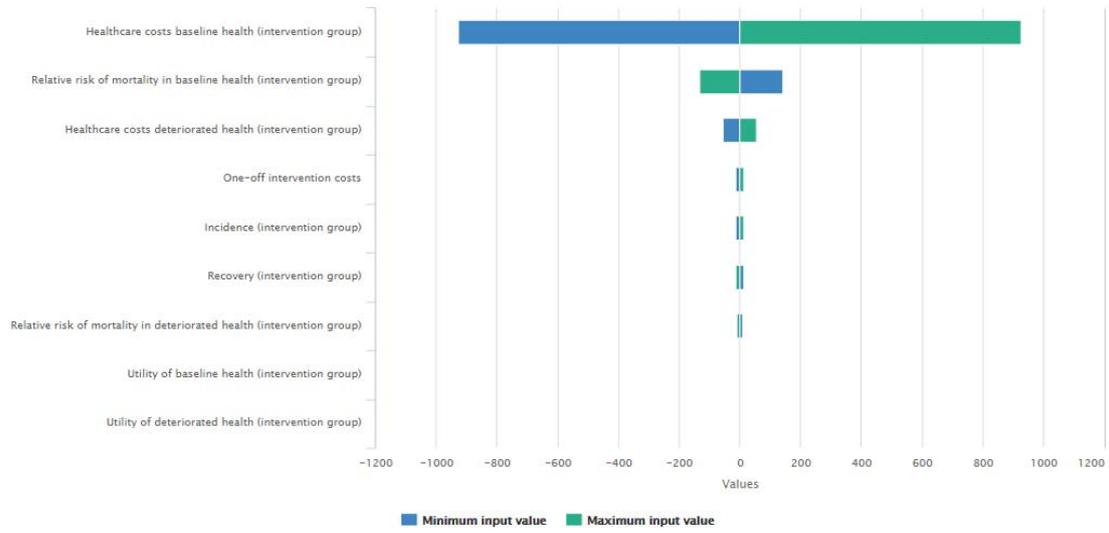
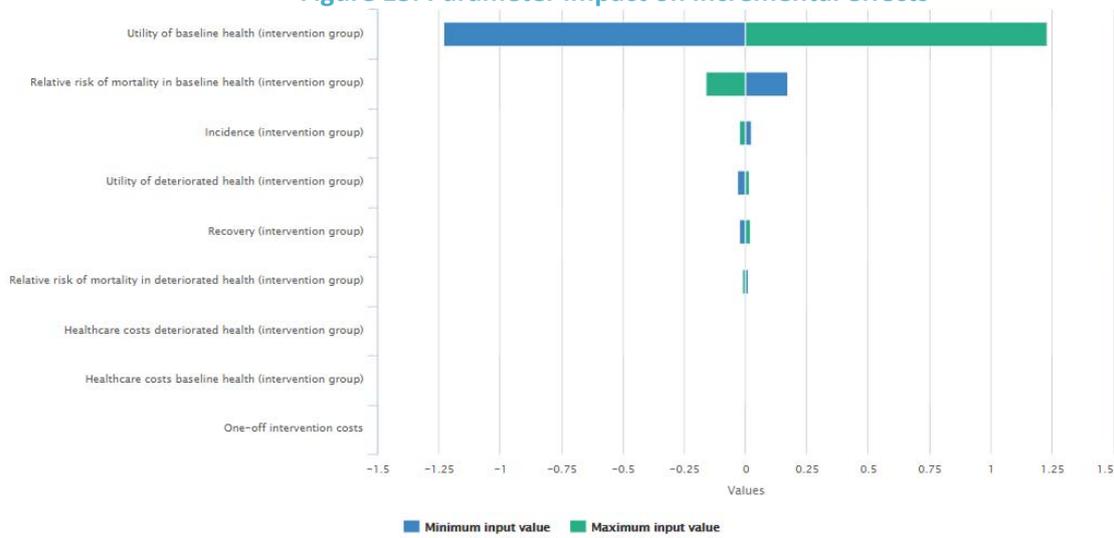


Figure 15. Parameter impact on incremental effects



4. Lessons learned

This section summarises the main difficulties we have encountered in adapting the intervention performed in MasterMind to the Markov model used in MAFEIP. These difficulties are detailed below:

- The fact that the project did not include a control group posed some difficulties, since MAFEIP is based on the comparison between a control group and an intervention group. This was addressed by exploring the scientific literature and extracting from there parameters that could be applied to MAFEIP.
- The section on the periodic costs of the intervention does not differentiate between baseline and deteriorated health state. In MasterMind this difference is important, since those that do not have symptoms (baseline state) do not follow the treatment. This was addressed by including these costs under the healthcare costs of the deteriorated state. However, it would be better if they could be entered separately, since they refer to different concepts.
- In the MAFEIP simulation all participants start in the baseline state. However, in the MasterMind pilot, patients started in the deteriorated state (because they were all suffering from depression). Also, this does not adjust to reality, because when the intervention started there were people already having depressive symptoms in the region.
- It could be useful to apply a temporal limit to the simulation, because the intervention might have a specific duration (e.g. 10 or 20 years).
- The intervention did not last one year but 3-4 months. In the simulation, it is assumed that the programme is applied once per year, in order to adjust this to the transition probabilities.
- The intervention is only applied once per patient (if they do not recover, they go back to usual care). It is not possible to include this option in the MAFEIP tool. However, it would be possible to model if the tool included four states. These states would be *baseline*, *deteriorated*, *not recovered*, and *death*. Patients who do not recover after the intervention would move from *deteriorated* to *not recovered*. In this state, healthcare costs would be the ones associated with depression, intervention costs would not be applicable, and the recovery rate would be the one for people with depression following treatment as usual. In fact, the parameters of the *not recovered* in intervention would be the same than for those in the control group that are in the *deteriorated* state.
- The clinical evolution of the patients in the MasterMind final assessment was evaluated through the analysis of the level of severity of symptoms obtained from questionnaires performed at the beginning and at the end of the intervention. The scale used was: *having no symptoms*, *having mild*, *moderate*, *severe* and *very severe symptoms*. 56% of Patients included reduced their symptoms in one category and 31.3% reduced their symptoms in two categories (e.g. from moderate to no symptoms). The reduction of symptoms does not imply a change of state in the MAFEIP model, but it is relevant for the analysis of results.
- The cost analysis should differentiate between the pilot phase and the deployment phase. The one-off costs invested in MasterMind could be enough to support a higher number of patients than those recruited during the pilot phase.

- The MAFEIP tool does not allow to include new patients that start the intervention in future cycles.
- The analysis corresponds to a pilot oriented to evaluate the service with a small number of patients. Deployment into routine care might arise different results, especially because the one-off costs could involve a larger number of patients.

These lessons learned can be applied for the further development of the MAFEIP tool.