

Improving rheumatoid arthritis management within the Spanish National Health System: a social return on investment study

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Appendix

1. Investment for each proposal by areas of analysis

1.1. Diagnosis

Table 1. Breakdown of the investment for Proposal 1: Education and social awareness programs.

Stakeholder	Description of the investment	Breakdown of the investment	
Spanish National Health System (Spanish National Health System)	Economic resources	Average budget of the Ministry of Health, Social Services and Equality for an advertising campaign (1)	563,846.15 €
Spanish National Health System	Economic resources	Number of primary care health centers (2)	3,048
		Cost for color-printing a 50x70 poster †	0.14 €
		Number of posters per healthcare center for communicating information on the disease*	2
		Mailing cost of a package †	8.00 €
		Total (€)	25,237.44 €
Spanish National Health System	Economic resources	Number of community pharmacies (3)	22,046
		Cost for color-printing a 50x70 poster †	0.14 €
		Number of posters per community pharmacy for communicating information on the disease *	1
		Mailing cost of a package †	8.00 €
		Total (€)	179,454.44 €
Rheumatology professionals	Working time	n/a	0.00 €
Primary care physicians	Working time	n/a	0.00 €
Primary care health centers	Working time	n/a	0.00 €
RA patient associations	Working time	n/a	0,00 €
Community pharmacies	Working time	n/a	0.00 €
Prevalent patients with RA	No investment	n/a	0.00 €
Incident patients with RA	No investment	n/a	0.00 €
TOTAL INVESTMENT FOR PROPOSAL 1			768,538.03 €

*Assumption. † Market price.

Table 2. Breakdown of the investment for Proposal 2: Diagnostic training for primary care and emergency departments.

Stakeholder	Description of the investment	Breakdown of the investment	
Spanish National Health System	Structural resources	n/a	0,00 €
Spanish National Health System	Economic resources	Cost of the first application for accreditation of a face-to-face course (4)	102.01 €
		Cost per consecutive edition of an already accredited activity (4)	30.60 €
		Number of public hospitals in the Spanish National Health System (5)	457
		Annual face-to-face training sessions in rheumatoid arthritis (RA) for emergency professionals*	2
		Total (€)	121,205.54 €
Rheumatology professionals	Working time	n/a	0.00 €
Rheumatology professionals	Human resources: teaching	Number of public hospitals in the Spanish National Health System (5)	457
		Duration (hours) of the face-to-face course for emergency professionals*	4
		Cost per hour of training delivered by medical professionals (6)	127.40 €
		Annual face-to-face training sessions in RA for emergency professionals *	2
		Total (€)	465,767.43 €
Primary care physicians	Working time	Number of primary care healthcare centers (2)	3,048
		Annual visits to healthcare centers for joint visit between rheumatology and primary care medicine*	3
		Number of consultation hours per day per rheumatologist (7)	5
		Number of consecutive rheumatology visits per hour (7)	3
		Cost per consecutive visit to primary care medicine (8–24) ^a	50.00 €
		Total (€)	6,858,000.00 €
Emergency care physicians	Working time dedicated to training	n/a	0.00 €
Incident patients with RA	Personal time	n/a	0.00 €
Other rheumatology patients	Personal time	n/a	0.00 €
TOTAL INVESTMENT FOR PROPOSAL 2			7,444,972.97 €

*Assumption.

^a All costs referring to healthcare resources of the Spanish National Health System are based on the median of the official rates published in the bulletins of each autonomous community.

Table 3. Breakdown of the investment for Proposal 3: Fast track access from primary care to rheumatology.

Stakeholder	Description of the investment	Breakdown of the investment	
Spanish National Health System	Economic resources	n/a	0.00 €
Spanish National Health System	Economic resources	Gross annual salary of a hospital doctor in the Spanish National Health System (without on-call services) (25)	45,639.78 €
		Number of rheumatologists needed to raise the national ratio to 2 per 100,000 inhabitants (26,27)	98
		Total (€)	4,472,698.09 €
Spanish National Health System	Resource management	Expenditure per person for hiring external services for support, maintenance, and operation of the Digital Medical Record (28)	2.91 €
		Number of incident RA patients (26,29)	3,212
		Total (€)	9,361.48 €
Spanish National Health System	Resource management	Expenditure per person for hiring external services for support, maintenance, and operation of the Digital Medical Record (28)	2.91 €
		Number of incident RA patients (26,29)	3,212
		Total (€)	9,361.48 €
Rheumatology professionals	Working time	n/a	0.00 €
Primary care physicians	Working time	n/a	0.00 €
Incident patients with RA	No investment	n/a	0.00 €
Other incident rheumatology patients	No investment	n/a	0.00 €
Informal caregivers of incident patients with RA	No investment	n/a	0.00 €
TOTAL INVESTMENT FOR PROPOSAL 3			4,491,421.06 €

Table 4. Breakdown of the investment for Proposal 4: Fast track access from specialized care to rheumatology

Stakeholder	Description of the investment	Breakdown of the investment	
Spanish National Health System	Economic resources	n/a	0.00 €
Spanish National Health System	Economic resources	n/a	0.00 €
Spanish National Health System	Resource management	n/a	0.00 €
Spanish National Health System	Resource management	n/a	0.00 €
Rheumatology professionals	Working time	n/a	0.00 €
Specialized care professionals	Working time	n/a	0.00 €
Incident patients with RA	No investment	n/a	0.00 €
Other incident rheumatology patients	No investment	n/a	0.00 €
Informal caregivers of incident patients with RA	No investment	n/a	0.00 €
TOTAL INVESTMENT FOR PROPOSAL 4			0.00 €

Table 5. Breakdown of the investment for Proposal 5: Psychological support following diagnosis.

Stakeholder	Description of the investment	Breakdown of the investment	
Rheumatology professionals	Working time	n/a	0.00 €
Nursing professionals with advanced skills in rheumatology	Working time	Number of groups of 10 incident patients to receive group sessions from nursing professionals with advanced skills in rheumatology*	321
		Annual psychology group sessions (30)	12
		Number of nursing visits equal to one 90 minute group session (30,31)	7
		Cost per consecutive visit to hospital nursing (8–24)	35.85 €
		Total (€)	967,488.75 €
Incident patients with RA	Personal time	n/a	0.00 €
Family caregivers of incident patients with RA	Personal time	n/a	0.00 €
TOTAL INVESTMENT FOR PROPOSAL 5			967,488.75 €

*Assumption.

1.2. Early rheumatoid arthritis

Table 6. Breakdown of the investment for Proposal 6: Treat-to-target strategies and tight control. Early treatment with DMARDs following diagnosis.

Stakeholder	Description of the investment	Breakdown of the investment	
Spanish National Health System	Economic resources	n/a	0.00 €
Rheumatology professionals	Working time	Number of prevalent RA patients (26,32)	184,766
		Proportion of patients with early RA (29,33)	3.48%
		Proportion of hospitals with a rheumatology department valued as excellent for complying with the criteria of the treat-to-target (T2T) strategy (34)	34.29%
		Annual rheumatology visits with the T2T strategy (35)	6
		Annual rheumatology visits with the conventional strategy (36)	3
		Cost per consecutive visit to the specialist (8–24)	81.11 €
		Total (€)	1,027,371.22 €
		Nursing professionals with advanced skills in rheumatology	Working time
Proportion of patients with early RA (29,33)	3.48%		
Proportion of hospitals with a rheumatology department valued as excellent for complying with the criteria of the T2T strategy (34)	34.29%		
Number of additional visits to nursing with the T2T strategy*	2		
Cost per consecutive visit to hospital nursing (8–24)	35.85 €		
Cost of a nursing telephone consultation (8–24)	15.00 €		
Total (€)	366,083.28 €		
Patients with early RA	Personal time		
Informal caregivers of patients with early RA	Personal time	n/a	0.00 €
TOTAL INVESTMENT FOR PROPOSAL 6			1,393,454.50 €

*Assumption.

Table 7. Breakdown of the investment for Proposal 7: Reach an agreement with the patient on the therapeutic plan to follow (pharmacological and non-pharmacological).

Stakeholder	Description of the investment	Breakdown of the investment	
Spanish National Health System	Economic and human resources	Number of speakers to participate in a panel discussion in a rheumatology conference*	4
		Average cost per speaker to participate in a panel discussion in a rheumatology conference ‡	1,800.00 €
		Total (€)	7,200.00 €
Spanish National Health System	Economic resources	Cost of poster design ‡	2,000.00 €
		Number of public hospitals in the Spanish National Health System with a rheumatology department (37)	221
		Mailing cost of a package ‡	8.00 €
		Number of family planning information manuals to be printed per hospital with a rheumatology service*	50
		Cost of color printing a 10-page manual ‡	5.00 €
		Number of family planning posters to be printed per hospital with a rheumatology service*	2
		Cost of color printing a 50x70 poster ‡	0.14 €
		Total (€)	59,079.88 €
Rheumatology: medicine and nursing	Economic and human resources	Annual workshops for RA patients per hospital with a rheumatology service*	3
		Number of public hospitals in the Spanish National Health System with a rheumatology department (37)	221
		Duration (hours) of workshops for RA patients*	4
		Cost per hour of training delivered by medical professionals (6)	127.40 €
		Total (€)	675,719.49 €
Rheumatology professionals	Working time	n/a	0.00 €
Patients with early RA	Personal time	n/a	0.00 €
Female patients with early RA	Personal time	n/a	0.00 €
TOTAL INVESTMENT FOR PROPOSAL 7			741,999.37 €

*Assumption. ‡ Market price.

Table 8. Breakdown of the investment for Proposal 8: Access to the rheumatologist without an appointment in case of outbreaks or decompensations.

Stakeholder	Description of the investment	Breakdown of the investment	
Spanish National Health System	Technical and human resources	n/a	0.00 €
Rheumatology professionals	Working time	Number of prevalent RA patients (26,32)	184,766
		Proportion of patients with early RA (29,33)	3.48%
		Proportion of patients with RA attending the rheumatologist due to RA complications (38)	1.60%
		Cost per consecutive visit to the specialist (8–24)	81.11 €
		Total (€)	8,338.09 €
Patients with early RA	Personal time	n/a	0.00 €
Other rheumatology patients	Personal time	n/a	0.00 €
TOTAL INVESTMENT FOR PROPOSAL 8			8,338.09 €

Table 9. Breakdown of the investment for Proposal 9: Nursing practice in rheumatology for early RA.

Stakeholder	Description of the investment	Breakdown of the investment	
Spanish National Health System	Economic resources	n/a	0.00 €
Rheumatology professionals	Working time	n/a	0.00 €
Nursing professionals with advanced skills in rheumatology	Working time	n/a	0.00 €
Patients with early RA	Personal time	n/a	0.00 €
TOTAL INVESTMENT FOR PROPOSAL 9			0.00 €

Table 10. Breakdown of the investment for Proposal 10: Training on adherence and drug use in early RA.

Stakeholder	Description of the investment	Breakdown of the investment	
Spanish National Health System	Economic resources	n/a	0.00 €
Nursing professionals with advanced skills in rheumatology	Working time	Number of prevalent RA patients (26,32)	184,766
		Proportion of patients with early RA (29,33)	3.48%
		Proportion of hospitals with a rheumatology department that have a nursing practice (39)	42.20%
		Number of specialized nursing visits for training on adherence and drug use*	2
		Cost per consecutive visit to hospital nursing (8–24)	35.85 €
		Total (€)	266,289.76 €
Patients with early RA	Personal time	n/a	0.00 €
Informal caregivers of patients with early RA	Personal time	n/a	0.00 €
TOTAL INVESTMENT FOR PROPOSAL 10			266,289.76 €

Table 11. Breakdown of the investment for Proposal 11: Training and adherence regarding non-pharmacological aspects associated with the disease for patients with early RA.

Stakeholder	Description of the investment	Breakdown of the investment	
Spanish National Health System	Economic resources	n/a	0.00 €
Nursing professionals with advanced skills in rheumatology	Working time	Number of prevalent RA patients (26,32)	184,766
		Proportion of patients with early RA (29,33)	3.48%
		Proportion of hospitals with a rheumatology department that have a nursing practice (39)	42.20%
		Annual number of group visits per patient for training in non-pharmacological aspects associated with the disease*	2
		Number of patients in each group session (40)	10
		Cost of a group visit to nursery (estimated to be equivalent to total individual visits) (8-24)	646.97 €
		Total (€)	480,522.87 €
Patients with early RA	Personal time	n/a	0.00 €
Informal caregivers of patients with early RA	Personal time	n/a	0.00 €
Spanish National Health System	Economic resources	n/a	0.00 €
TOTAL INVESTMENT FOR PROPOSAL 11			480,522.87 €

Table 12. Breakdown of the investment for Proposal 12: Comprehensive approach to care regarding other intangible aspects.

Stakeholder	Description of the investment	Breakdown of the investment	
Spanish National Health System	Healthcare resources	n/a	0.00 €
Rheumatology professionals	Working time	n/a	0.00 €
Nursing professionals with advanced skills in rheumatology	Working time	Number of prevalent RA patients (26,32)	184,766
		Proportion of patients with early RA (29,33)	3.48%
		Cost per consecutive visit to hospital nursing (8–24)	35.85 €
		Total (€)	230,354.46 €
Psychologists	Working time	Number of prevalent RA patients (26,32)	184,766
		Proportion of patients with early RA (29,33)	3.48%
		Proportion of patients with psychological distress at baseline (41)	46.90%
		Cost of first visit to psychology (8–24)	135.18 €
		Annual number of consecutive individual visits to psychology for patients with early RA and psychological distress*	3
		Cost per consecutive visit to psychology (8–24)	81.11 €
		Total (€)	1,140,580.60 €
Social workers	Working time	Number of prevalent RA patients (26,32)	184,766
		Proportion of patients with early RA (29,33)	3.48%
		Proportion of patients with RA and a recognized disability grade (42)	31.20%
		Cost of a visit to a social worker (8–24)	121.91 €
		Total (€)	538,901.29 €
Patients with early RA	Personal time	n/a	0.00 €
Informal caregivers of patients with early RA	Personal time	n/a	0.00 €
TOTAL INVESTMENT FOR PROPOSAL 12			1,909,836.36 €

*Assumption.

1.3. Established rheumatoid arthritis

Table 13. Breakdown of the investment for Proposal 13: Treat-to-target strategies and tight control.

Stakeholder	Description of the investment	Breakdown of the investment	
Spanish National Health System	Economic resources	n/a	0 €
Rheumatology professionals	Working time	Number of prevalent RA patients (26,32)	184,766
		Proportion of patients with established RA (29,33)	96.52%
		Proportion of hospitals with a rheumatology department valued as excellent for complying with the criteria of the T2T strategy (34)	34.29%
		Annual number of rheumatology visits with the T2T strategy (35)	7
		Annual number of visits to rheumatology with the conventional strategy (36)	3
		Cost per consecutive visit to the specialist (8–24)	81.11 €
		Total (€)	38,023,150,17 €
		Nursing professionals with advanced skills in rheumatology	Working time
Proportion of patients with established RA (29,33)	96.52%		
Proportion of hospitals with a rheumatology department valued as excellent for complying with the criteria of the T2T strategy (34)	34.29%		
Number of additional visits to nursing with the T2T strategy*	2		
Cost per consecutive visit to hospital nursing (8–24)	35.85 €		
Cost of a nursing telephone consultation (8–24)	15.00 €		
Total (€)	10,161,594.49€		
Patients with established RA	Personal time		
Informal caregivers of patients with established RA	Personal time	n/a	0.00 €
TOTAL INVESTMENT FOR PROPOSAL 13			48,184,744.66 €

Table 14. Breakdown of the investment for Proposal 14: Coordination between primary care and specialized care for the treatment and follow-up of the patient.

Stakeholder	Description of the investment	Breakdown of the investment	
Spanish National Health System	Non-healthcare resources	Number of prevalent RA patients (26,32)	184,766
		Proportion of patients with established RA (29,33)	96.52%
		Expenditure per person for hiring external services for support, maintenance, and operation of the Digital Medical Record (28)	2.91 €
		Total (€)	519,704.56 €
		Cost of on-line training on the use of the Digital Medical Record †	12,952.00 €
		Total (€)	12,952.00 €
		"Clinical pathway" working group	Working time
"Clinical pathway" communication group	Extra working time	Number of medical trainers for the communication of clinical pathways*	2
		Hours of training for each clinical pathway dissemination session*	3
		Cost per hour of training delivered by medical professionals (6)	127.40 €
		Number of basic health areas (2(p2017))	2,719
		Total (€)	2,078,372.49 €
Rheumatology: medicine and nursing	Working time dedicated to training	n/a	0.00 €
Primary care: medicine and nursing	Working time dedicated to training	n/a	0.00 €
Patients with established RA	No investment	n/a	0.00 €
Informal caregivers of patients with established RA	No investment	n/a	0.00 €
TOTAL INVESTMENT FOR PROPOSAL 14			2,611,029.05 €

*Assumption. † Market price.

Table 15. Breakdown of the investment for Proposal 15: Equity in access to all available marketed drugs.

Stakeholder	Description of the investment	Breakdown of the investment	
Spanish National Health System	Economic resources	Number of prevalent RA patients (26,32)	184,766
		Proportion of patients with established RA (29,33)	96.52%
		Proportion of patients with established RA treated with anti-TNF (38)	59.60%
		Proportion of patients that switched treatments over the past year (38)	60.60%
		Proportion of patients whose treatment switch was due to adverse events or partial response (38)	87.30%
		Average annual cost of treatment with tocilizumab (43–45)	11,750.83 €
		Average annual cost of treatment with anti-TNF (43–45)	9,898.13 €
		Total (€)	104,181,453.96 €
Rheumatology professionals	No investment	n/a	0.00 €
Hospital pharmacy	No investment	n/a	0.00 €
Patients with established RA	No investment	n/a	0.00 €
TOTAL INVESTMENT FOR PROPOSAL 15			104,181,453.96 €

Table 16. Breakdown of the investment for Proposal 16: Nursing practice in rheumatology for established RA.

Stakeholder	Description of the investment	Breakdown of the investment	
Spanish National Health System	Structural resources	n/a	0.00 €
Rheumatology professionals	Working time	n/a	0.00 €
Nursing professionals with advanced skills in rheumatology	Working time	n/a	0.00 €
Patients with established RA	Personal time	n/a	0.00 €
TOTAL INVESTMENT FOR PROPOSAL 16			0.00 €

Table 17. Breakdown of the investment for Proposal 17: Training on adherence and drug use in established RA.

Stakeholder	Description of the investment	Breakdown of the investment	
Spanish National Health System	Economic resources	n/a	0.00 €
Nursing professionals with advanced skills in rheumatology	Working time	Number of prevalent RA patients (26,32)	184,766
		Proportion of patients with established RA (29,33)	96.52%
		Proportion of hospitals with a rheumatology department that have a nursing practice (39)	42.20%
		Number of specialized nursing visits for training on adherence and drug use*	2
		Cost per consecutive visit to hospital nursing (8–24)	35.85 €
		Total (€)	7,391,565.48 €
Patients with established RA	Personal time	n/a	0.00 €
Informal caregivers of patients with established RA	Personal time	n/a	0.00 €
TOTAL INVESTMENT FOR PROPOSAL 17			7,391,565.48 €

*Assumption.

Table 18. Breakdown of the investment for Proposal 18: Training and adherence regarding non-pharmacological aspects associated with the disease for patients with established RA.

Stakeholder	Description of the investment	Breakdown of the investment	
Spanish National Health System	Economic resources	n/a	0.00 €
Nursing professionals with advanced skills in rheumatology	Working time	Number of prevalent RA patients (26,32)	184,766
		Proportion of patients with established RA (29,33)	96.52%
		Proportion of hospitals with a rheumatology department that have a nursing practice (39)	42.20%
		Annual number of group visits per patient for training in non-pharmacological aspects associated with the disease*	2
		Number of patients in each group session (40)	10
		Cost of a group visit to nursing (estimated to be equivalent to the total individual visits) (8-24)	646.97 €
		Total (€)	13,338,163.26 €
Patients with established RA	Personal time	n/a	0.00 €
Informal caregivers of patients with established RA	Personal time	n/a	0.00 €
TOTAL INVESTMENT FOR PROPOSAL 18			13,338,163.26 €

*Assumption.

Table 19. Breakdown of the investment for Proposal 19: Extension of specialized care working hours.

Stakeholder	Description of the investment	Breakdown of the investment	
Rheumatology professionals	Working time	Number of rheumatologists in the Spanish National Health System (46,47)	1,105
		Proportion of rheumatologists who could adhere to the sliding schedule*	10.00%
		Annual incentive to rheumatologists for choosing a sliding schedule (48)*	2,400.00 €
		Total (€)	265,200.00 €
Patients with established RA	Personal time	n/a	0.00 €
TOTAL INVESTMENT FOR PROPOSAL 19			265,200.00 €

*Assumption.

Table 20. Breakdown of the investment for Proposal 20: Comprehensive, multidisciplinary, and individual approach, ensuring access to other healthcare professionals.

Stakeholder	Description of the investment	Breakdown of the investment	
Rheumatology professionals	Working time	n/a	0.00 €
Rehabilitation professionals	Working time	Number of prevalent RA patients (26,32)	184,766
		Proportion of patients with established RA (29,33)	96.52%
		Cost of first specialized visit (8–24)	143.02 €
		Total (€)	25,506,263.24 €
Physiotherapists	Working time	Number of prevalent RA patients (26,32)	184,766
		Proportion of patients with established RA (29,33)	96.52%
		Proportion of patients who should attend physiotherapy (49)	80.00%
		Proportion of patients who attended physiotherapy (49)	35.00%
		Average number of physiotherapy sessions (50)	22
		Cost of a physiotherapy session (8–24)	19.00 €
		Total (€)	33,546,009.76 €
Occupational therapists	Working time	Number of prevalent RA patients (26,32)	184,766
		Proportion of patients with established RA (29,33)	96.52%
		Proportion of patients with functional stage III (51)	16.14%
		Proportion of patients with functional stage IV (51)	9.14%
		Proportion of patients that visited occupational therapy (50)	3.00%
		Average number of occupational therapy sessions (50)	14
		Cost of a visit to occupational therapy (8–24)	17.64 €
Total (€)	10,800,596.81 €		
Dietetics and nutrition professionals	Working time	Number of prevalent RA patients (26,32)	184,766
		Proportion of patients with established RA (29,33)	96.52%
		Proportion of patients with obesity (Body Mass Index [BMI]>30) (52)	23.20%
		Cost of first specialized visit (8–24)	143.02 €
		Cost per consecutive visit to the specialist (8–24)	81.11 €
Total (€)	9,273,409.37 €		
Patients with established RA	Personal time	n/a	0.00 €
Informal caregivers of patients with established RA	Personal time	n/a	0.00 €
TOTAL INVESTMENT FOR PROPOSAL 20			79,126,279.18 €

Table 21. Breakdown of the investment for Proposal 21: Encourage the role of associations as a complementary element to the benefits of the National Health System.

Stakeholder	Description of the investment	Breakdown of the investment	
Spanish National Health System	Healthcare and human resources	n/a	0.00 €
Professionals associated with RA	Working time	Number of principal entities associated with RA*	15
		Annual number of training sessions per year for patient associations*	2
		Number of professionals invited to each training session for patient associations*	3
		Cost of fees and logistics per teacher (part-time) ‡	800.00 €
		Total (€)	72,000.00 €
RA patient associations	Working time	Number of public hospitals in the Spanish National Health System with a rheumatology department (37)	221
		Cost of fees and logistics per association informing patients ‡	1,000.00 €
		Cost of room management for the training session ‡	400.00 €
		Annual cost of website maintenance ‡	5,400.00 €
		Total (€)	314,800.00 €
Patients with established RA	Personal time	n/a	0.00 €
TOTAL INVESTMENT FOR PROPOSAL 21			386,800.00 €

*Assumption. ‡ Market price.

Table 22. Breakdown of the investment for Proposal 22: Disability awareness: coordination of health and social care, and general social support.

Stakeholder	Description of the investment	Breakdown of the investment	
Social workers	Working time	Number of prevalent RA patients (26,32)	184,766
		Proportion of patients with established RA (29,33)	96.52%
		Proportion of patients with RA and a recognized disability grade (42)	31.20%
		Cost of a visit to a social worker (8–24)	121.91 €
		Total (€)	14,958,608.19 €
Patients with established RA	Personal time	n/a	0.00 €
Informal caregivers of patients with established RA	Personal time	n/a	0.00 €
TOTAL INVESTMENT FOR PROPOSAL 22			14,958,608.19 €

1. Outcomes for each proposal by areas of analysis

The following tables provide a detailed description of the outcomes and their monetisation for each proposal. The total impact of each outcome was calculated as follows:

= (outcome indicator) * (proxy [value of the outcome or change]) * (1 - % deadweight [what would have occurred anyway]) * (1 - % outcome displacement) * (1 - % outcome attribution [part of the outcome due to other causes]).

2.1. Diagnosis

Table 23. Breakdown of outcomes for Proposal 1: Education and social awareness programs.

Outcome	Breakdown of outcomes		
Outcome 1.1 Prevalent RA patients would improve their emotional status given they feel better understood by society.	Indicator	Number of prevalent patients that would improve their emotional status given they feel better understood by society (26,32)	184,766
	Proxy	Cost of 6 private psychology sessions*‡	420.00 €
	Deadweight	100% - proportion of patients that feel lack of understanding from their environment (53)	81.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	
Outcome 1.2 The disabling functional course of RA in incident patients would be contained by correct referral and consequent early diagnosis.	Indicator	Number of incident patients that may develop disability if not treated on time (26,29,54)	1,606
	Proxy	Willingness to pay for 50% improvement in physical function (percentage of net salary) from first symptoms to diagnosis (55–57)	4,020.94 €
	Deadweight	100% - proportion of patients who don't receive an early diagnosis*	50.00%
	Displacement	n/a	0.00%
	Attribution	Proportion of return due to other proposals*	75.00%
		Total (€)	
TOTAL OUTCOME FOR PROPOSAL 1			15,551,676.50 €

*Assumption. ‡ Market price.

Table 24. Breakdown of outcomes for Proposal 2: Diagnostic training for primary care and emergency departments.

Outcome	Breakdown of outcomes		
Outcome 2.1 Visits to the emergency department would be increased as a result of the increase in the rheumatology waiting list, due to the reduction in patient hours for training sessions.	Indicator	Number of visits to the emergency department due to RA associated with the increase in the rheumatology waiting list (2,7)*	20,574
	Proxy	Cost of a visit to the hospital emergency department (8–24)	181.90 €
	Deadweight	n/a	0.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	
Outcome 2.2 Costs associated with the delayed diagnosis of incident RA patients would be reduced due to improved training of professionals.	Indicator	Number of incident patients that would be correctly referred from a first visit to the primary care physician to the rheumatologist (26,29)	3,212
	Proxy	Direct healthcare costs associated with a late referral to rheumatology (8–24,43,58)	162.94 €
	Deadweight	100% - proportion of patients that were misdiagnosed in primary care (58)	31.66%
	Displacement	n/a	0.00%
	Attribution	Proportion of return due to other proposals*	50.00%
		Total (€)	
Outcome 2.3 The emotional status of incident RA patients would be improved due to a correct referral.	Indicator	Number of incident patients that would have an early referral (26,29)	3,212
	Proxy	Cost of private psychology sessions during the delayed diagnosis period (57)*‡	231.00 €
	Deadweight	100% - proportion of patients that were misdiagnosed in primary care (58)	31.66%
	Displacement	n/a	0.00%
	Attribution	Proportion of return due to other proposals*	75.00%
		Total (€)	
Outcome 2.4 The disabling functional course of RA in incident patients would be contained by correct referral and consequent early diagnosis.	Indicator	Number of incident patients that may develop disability if not treated on time (26,29,54)	1,606
	Proxy	Willingness to pay for 50% improvement in physical function (percentage of net salary) from first symptoms to diagnosis (55–57)	4,020.94 €
	Deadweight	100% - proportion of patients who don't receive an early diagnosis*	50.00%
	Displacement	n/a	0.00%
	Attribution	Proportion of return due to other proposals*	75.00%
		Total (€)	
TOTAL OUTCOME FOR PROPOSAL 2			-2,629,412.76 €

*Assumption. ‡ Market price.

Table 25. Breakdown of outcomes for Proposal 3: Fast track access from primary care to rheumatology.

Outcome	Breakdown of outcomes		
Outcome 3.1 The costs associated with the delayed diagnosis of incident RA patients in primary care would be reduced thanks to the fast track access from primary care to rheumatology.	Indicator	Number of incident patients who would be referred early (26,29)	3,212
	Proxy	Direct healthcare costs associated with a late referral to rheumatology (8–24,43,58)	162.94 €
	Deadweight	100% - proportion of patients that were misdiagnosed in primary care (58)	31.66%
	Displacement	n/a	0.00%
	Attribution	Proportion of return due to other proposals*	50.00%
		Total (€)	178,855.75 €
Outcome 3.2 The emotional status of incident RA patients would be improved due to an early diagnosis.	Indicator	Number of incident patients who would be referred early (26,29)	3,212
	Proxy	Cost of first and subsequent visits to the psychologist during the time of delay in diagnosis (57)*‡	395.50 €
	Deadweight	100% - proportion of patients that were misdiagnosed in primary care (58)	31.66%
	Displacement	n/a	0.00%
	Attribution	Proportion of return due to other proposals*	75.00%
		Total (€)	217,061.77 €
Outcome 3.3 The disabling functional course of RA in incident patients would be contained by correct referral and consequent early diagnosis.	Indicator	Number of incident patients who would be diagnosed early and could avoid developing high functional limitation (26,29,54)	1,606
	Proxy	Willingness to pay for 50% improvement in physical function (percentage of net salary) from first symptoms to diagnosis (55–57)	4,020.94 €
	Deadweight	100% - proportion of patients who don't receive an early diagnosis*	50.00%
	Displacement	n/a	0.00%
	Attribution	Proportion of return due to other proposals*	75.00%
		Total (€)	807,324.56 €
Outcome 3.4 The satisfaction of incident RA patients with the Spanish National Health System would be improved due to the fast track access from primary care to rheumatology.	Indicator	Number of incident patients who would not file a complaint or grievance for an intermediate consultation (26,29)	3,212
	Proxy	Cost of a private rheumatology session ‡	120.00 €
	Deadweight	Proportion of Spaniards who believe that the health system works well or fairly well though it needs changes (59)	67.60%
	Displacement	n/a	0.00%
	Attribution	Proportion of return due to other proposals*	50.00%
		Total (€)	62,450.57 €
TOTAL OUTCOME FOR PROPOSAL 3			1,265,692.65 €

*Assumption. ‡ Market price.

Table 26. Breakdown of outcomes for Proposal 4: Fast track access from specialized care to rheumatology

Outcome	Breakdown of outcomes		
Outcome 4.1 Costs associated with the delayed diagnosis of incident RA patients would be reduced through early referral to rheumatology due to the fast track access from specialized care to rheumatology.	Indicator	Number of incident patients who would be referred early due to an early referral (26,29)	3,212
	Proxy	Annual costs saved due to early referral to rheumatology (58)	84.57 €
	Deadweight	100% - proportion of patients who don't receive an early diagnosis*	50.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	
Outcome 4.2 The emotional status of incident RA patients would be improved due to an early diagnosis.	Indicator	Number of incident patients who would receive an early diagnosis (26,29)	3,212
	Proxy	Cost of first and subsequent visits to the psychologist during the time of delay in diagnosis (57)*‡	395.50 €
	Deadweight	100% - proportion of patients who don't receive an early diagnosis*	50.00%
	Displacement	n/a	0.00%
	Attribution	Proportion of return due to other proposals*	75.00%
		Total (€)	
Outcome 4.3 The disabling functional course of RA in incident patients would be contained by correct referral and consequent early diagnosis.	Indicator	Number of incident patients with high functional limitation who would be diagnosed early (26,29,54)	1,606
	Proxy	Willingness to pay for 50% improvement in physical function (percentage of net salary) from first symptoms to diagnosis (55-57)	4,020.94 €
	Deadweight	100% - proportion of patients who don't receive an early diagnosis*	50.00%
	Displacement	n/a	0.00%
	Attribution	Proportion of return due to other proposals*	75.00%
		Total (€)	
Outcome 4.4 The satisfaction of incident RA patients with the Spanish National Health System would be improved due to the fast track access from specialized care to rheumatology.	Indicator	Number of incident patients who would not file a complaint or grievance for an intermediate consultation (26,29)	3,212
	Proxy	Cost of the first visit to a private rheumatology session ‡	120.00 €
	Deadweight	Proportion of Spaniards who believe that the health system works well or fairly well though it needs changes (59)	67.60%
	Displacement	n/a	0.00%
	Attribution	Proportion of return due to other proposals*	50.00%
		Total (€)	
TOTAL OUTCOME FOR PROPOSAL 4			1,164,431.61 €

*Assumption. ‡ Market price.

Table 27. Breakdown of outcomes for Proposal 5: Psychological support following diagnosis.

Outcome	Breakdown of outcomes		
Outcome 5.1 The emotional status of incident RA patients would improve due to psychological care.	Indicator	Number of incident patients (26,29)	3,212
	Proxy	Average annual expenditure per person on leisure, entertainment, and culture (60)	636.80 €
	Deadweight	100% - proportion of patients with psychological distress at baseline (41)	53.10%
	Displacement	n/a	0.00%
	Attribution	Proportion of return due to other proposals*	75.00%
		Total (€)	
Outcome 5.2 Labor productivity losses would appear due to psychological group sessions.	Indicator	Number of labor productivity hours that would be lost to psychological support group sessions (26,29,30,53)*	67,077
	Proxy	Average gain per normal working hour (55)	-15.27 €
	Deadweight	n/a	0.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	
Outcome 5.3 The burden of care would increase for informal caregivers due to the time needed to accompany patients to psychological support group sessions.	Indicator	Number of informal care hours that would be needed to accompany incident RA patients to psychological support group sessions (26,29,30,61)*	50,701
	Proxy	Cost per hour of non-professional care (62)	-5.54 €
	Deadweight	n/a	0.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	
TOTAL OUTCOME FOR PROPOSAL 5			-1,065,281.03 €

*Assumption.

2.2. Early rheumatoid arthritis

Table 28. Breakdown of outcomes for Proposal 6: Treat-to-target strategies and tight control. Early treatment with DMARDs following diagnosis.

Outcome	Breakdown of outcomes		
Outcome 6.1 Healthcare costs would be reduced due to remission of patients with early RA following the DAS28 criteria.	Indicator	Number of patients with early RA who would achieve remission following DAS28 criteria as a consequence of the T2T strategy (26,29,32–34,63)	2,453
	Proxy	Difference in cost between a patient with low disease activity levels and a patient in remission (64)	293.21 €
	Deadweight	n/a	0.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	
Outcome 6.2 The control of patients with early RA would be improved due to minimization of damage and preservation of physical function.	Indicator	Number of patients with early RA who are not adequately controlled and would be well controlled with the implementation of the T2T strategy (26,29,32–34,63)	2,453
	Proxy	Willingness to pay for 50% improvement in physical function (percentage of net salary) (55,56)	4,270.03 €
	Deadweight	n/a	0.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	
Outcome 6.3 Work productivity would be lost in patients with early RA as a consequence of additional visits.	Indicator	Number of labor productivity hours that would be lost to additional visits (26,29,32–34,53,65)*	24,488
	Proxy	Average gain per normal working hour (55)	-15.27 €
	Deadweight	n/a	0.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	
Outcome 6.4 The burden of care of informal caregivers would increase due to the need to accompany patients with early RA to additional visits.	Indicator	Number of hours needed to accompany patients to additional visits (26,29,32–34,61,65)*	18,510
	Proxy	Cost per hour of non-professional care (62)	-5.54 €
	Deadweight	n/a	0.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	
TOTAL OUTCOME FOR PROPOSAL 6			10,717,376.71 €

*Assumption.

Table 29. Breakdown of outcomes for Proposal 7: Reach an agreement with the patient on the therapeutic plan to follow (pharmacological and non-pharmacological).

Outcome	Breakdown of outcomes		
Outcome 7.1 Patients with early RA would improve their adherence due to greater training, and would participate in decisions regarding their treatment plan.	Indicator	Number of patients with early RA that would be better trained and would actively participate in decisions regarding their treatment plan (26,29,32,33)	6,425
	Proxy	Difference in cost between a patient with low disease activity levels and a patient in remission (64)	293.21 €
	Deadweight	100% - proportion of patients that don't share uncertainties with their physician (66)	29.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	
Outcome 7.2 Patients with early RA would be more satisfied with their medication due to greater training, and would participate joint decision making with their physician.	Indicator	Number of patients with early RA (26,29,32,33)	6,425
	Proxy	Average annual expenditure per person on leisure, recreation, and holiday trips (67)	250.30 €
	Deadweight	100% - proportion of patients that demand more attention from their physicians regarding what they truly want from treatment (53)	65.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	
Outcome 7.3 Stress and anxiety would be reduced in patients with early RA due to a greater knowledge on their disease and better understanding from their physicians.	Indicator	Number of patients with early RA experiencing stress and anxiety (26,29,32,33,53)	1,214
	Proxy	Annual membership fee of ConArthritis association (68)	100.00 €
	Deadweight	100% - proportion of patients that demand more attention from their physicians regarding what they truly want from treatment (53)	65.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	
Outcome 7.4 Labor productivity would be lost in working patients with early RA when attending to workshops and lectures.	Indicator	Number of labor productivity hours that would be lost to courses/workshops for information on their disease (26,29,32,33,53)*	14,906
	Proxy	Average gain per normal working hour (55)	-15.27 €
	Deadweight	Proportion of patients with early RA that are already receiving training workshops regarding RA*	30.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	
Outcome 7.5 The couple relationship of patients with early RA would be improved due to a family planning campaign.	Indicator	Number of patients with early RA that are married (26,29,32,33,49)	5,037
	Proxy	Average divorce cost (69)	1,500.00 €
	Deadweight	n/a	0.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	
Outcome 7.6 The emotional status of female patients with early RA would improve due to the knowledge of the possibility of reconciling their illness with their family life.	Indicator	Number of female patients with early RA having their family planning affected by the disease (26,29,32,33,70)	1,994
	Proxy	Cost of 6 private psychology sessions*‡	420.00 €
	Deadweight	100% - proportion of female patients with rheumatological disease whose diagnosis affected their family planning (70)	30.00%
	Displacement	n/a	0.00%

Outcome	Breakdown of outcomes		
	Attribution	n/a	0.00%
		Total (€)	586,326.00 €
TOTAL OUTCOME FOR PROPOSAL 7			9,925,667.64 €

*Assumption. † Market price.

Table 30. Breakdown of outcomes for Proposal 8: Access to the rheumatologist without an appointment in case of outbreaks or decompensations.

Outcome	Breakdown of outcomes		
Outcome 8.1 Visits to the hospital emergency department due to RA complications would be avoided.	Indicator	Number of visits to the hospital emergency department that would be avoided if patients with early RA could attend the specialists practice without an appointment upon an outbreak or decompensation (26,29,32,33,38)*	103
	Proxy	Cost of a visit to the hospital emergency department (8–24)	181.90 €
	Deadweight	Proportion of patients with early RA that would attend the emergency department despite having the possibility to visit the rheumatologist without an appointment*	20.00%
	Displacement	n/a	0.00%
	Attribution	Proportion of return due to other proposals*	50.00%
		Total (€)	7,479.60 €
Outcome 8.2 The physical status of patients with early RA would improve due to the possibility of visiting the specialist without an appointment, given that unattended outbreaks could have consequences.	Indicator	Number of patients with early RA that would improve their physical status given an immediate access to a rheumatologist upon an outbreak or decompensation (26,29,32,33,38)*	103
	Proxy	Willingness to pay for 50% improvement in physical function (percentage of net salary) (55,56)	4,270.03 €
	Deadweight	Proportion of patients with early RA that would improve their physical status due to other types of activity*	30.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	307,269.16 €
TOTAL OUTCOME FOR PROPOSAL 8			314,748.76 €

*Assumption.

Table 31. Breakdown of outcomes for Proposal 9: Nursing practice in rheumatology for early RA.

Outcome	Breakdown of outcomes		
Outcome 9.1 The consumption of healthcare resources would be reduced in patients with early RA.	Indicator	Number of patients with early RA that would reduce their consumption of healthcare resources (26,29,32,33,39)	3,714
	Proxy	Cost savings on corticosteroids and primary care visits due to a nursing visit (71)	62.31 €
	Deadweight	n/a	0.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	
Outcome 9.2 Visits to the rheumatologist would be reduced in patients with early RA.	Indicator	Number of rheumatology visits that would be reduced regarding patients with early RA due to nursing visits (26,29,32,33,39,65,72)	4,456
	Proxy	Cost per consecutive visit to the specialist (8–24)	81.11 €
	Deadweight	n/a	0.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	
TOTAL OUTCOME FOR PROPOSAL 9			592,834.32 €

*Assumption.

Table 32. Breakdown of outcomes for Proposal 10: Training on adherence and drug use in early RA.

Outcome	Breakdown of outcomes		
Outcome 10.1 Emergency department visits would be avoided due to improved adherence in patients with early RA.	Indicator	Number of hospital emergency department visits that would be avoided after improving adherence in patients with early RA (26,29,32,33,39)*	3,714
	Proxy	Cost of a visit to the hospital emergency department (8–24)	181.90 €
	Deadweight	Treatment adherent patients (73)	50.00%
	Displacement	n/a	0.00%
	Attribution	Proportion of return due to other proposals*	1.00%
		Total (€)	
Outcome 10.2 Rheumatology visits, especially unprogrammed ones, would be avoided.	Indicator	Number of rheumatology visits that would be avoided after improving adherence in patients with early RA (26,29,32,33,39,74)	1,485
	Proxy	Cost per consecutive visit to the specialist (8–24)	81.11 €
	Deadweight	Treatment adherent patients (73)	50.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	
Outcome 10.3 Pain and discomfort would be reduced in patients with early RA due to improved pharmacological adherence.	Indicator	Number of patients with early RA that would reduce their pain and discomfort, which affects their daily activities, due to improvement in pharmacological treatment adherence after receiving training sessions from specialized nursing (26,29,32,33,39,53)	2,451
	Proxy	Average cost of a two-week spa treatment †	420.00 €
	Deadweight	Treatment adherent patients (73)	50.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	
Outcome 10.4 Labor productivity hours of working patients with early RA would be lost to nursing visits.	Indicator	Number of labor productivity hours that would be lost to nursing visits for information on adherence and drug use (26,29,32,33,39,53)*	8,616
	Proxy	Average gain per normal working hour (55)	-15.27 €
	Deadweight	n/a	0.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	
Outcome 10.5 The burden of care for informal caregivers would increase due to the need to accompany patients with early RA to nursing visits.	Indicator	Number of hours that would be needed to accompany patients with early RA to nursing visits (26,29,32,33,39,61)*	6,512
	Proxy	Cost per hour of non-professional care (62)	-5.54 €
	Deadweight	n/a	0.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	
TOTAL OUTCOME FOR PROPOSAL 10			741,686.16 €

*Assumption. † Market price.

Table 33. Breakdown of outcomes for Proposal 11: Training and adherence regarding non-pharmacological aspects associated with the disease for patients with early RA.

Outcome	Breakdown of outcomes		
Outcome 11.1 Visits to primary care would be avoided in patients with early RA.	Indicator	Number of avoided visits to primary care as a result of attending group nursing workshops (26,29,30,32,33,39)	13,254
	Proxy	Cost of consecutive visits to primary care (8–24)	50.00 €
	Deadweight	n/a	0.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	
Outcome 11.2 The social relationships of patients with early RA and their friends would improve due to improved self-care.	Indicator	Number of patients with early RA that would improve their social relationships after attending workshops on non-pharmacological aspects (26,29,32,33,39,53)	1,188
	Proxy	Average annual cost per person on trips to visit family or friends (67)	134.50 €
	Deadweight	n/a	0.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	
Outcome 11.3 Self-care would improve in patients with early RA.	Indicator	Number of patients with early RA that would improve their self-care after attending workshops on non-pharmacological aspects (26,29,32,33,39)*	3,714
	Proxy	Average annual gym membership fee (75)	471.60 €
	Deadweight	Proportion of patients that already have a good self-care*	50.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	
Outcome 11.4 Labor productivity would be lost to nursing visits for information and adherence to non-pharmacological aspects in working patients with early RA.	Indicator	Number of labor productivity hours that would be lost to attending group nursing workshops (26,29,32,33,39,53)*	12,923
	Proxy	Average gain per normal working hour (55)	-15.27 €
	Deadweight	n/a	0.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	
Outcome 11.5 The burden of care would increase for informal caregivers when accompanying patients with early RA to group nursing workshops.	Indicator	Number of hours needed to accompany patients to group nursing workshops (26,29,32,33,39,61)*	9,768
	Proxy	Cost per hour of non-professional care (62)	-5.54 €
	Deadweight	n/a	0.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	
TOTAL OUTCOME FOR PROPOSAL 11			1,446,748.20 €

*Assumption.

Table 34. Breakdown of outcomes for Proposal 12: Comprehensive approach to care regarding other intangible aspects.

Outcome	Breakdown of outcomes		
Outcome 12.1 Healthcare costs associated with depression would be reduced.	Indicator	Number of patients with early RA and psychological distress that would improve their emotional status (26,29,32,33,41)	3,013
	Proxy	Annual direct healthcare costs associated with depression per person with depression (76)	405.82 €
	Deadweight	Proportion of patients who would have overcome their psychological distress in a year (41)	7.15%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	
Outcome 12.2 Labor productivity loss would be avoided in working patients with early RA and depression.	Indicator	Number of patients with early RA and psychological distress that would improve their emotional status (26,29,32,33,41,53)	1,748
	Proxy	Annual indirect healthcare costs associated with depression per person with depression (76)	1,631.52 €
	Deadweight	Proportion of patients who would have overcome their psychological distress in a year (41)	7.15%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	
Outcome 12.3 The emotional status of patients with early RA would improve due to psychological support.	Indicator	Number of patients with early RA and psychological distress that would improve their emotional status (26,29,32,33,41)	3,013
	Proxy	Average annual expenditure per person on leisure, entertainment, and culture (60)	636.80 €
	Deadweight	Proportion of patients who would have overcome their psychological distress in a year (41)	7.15%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	
Outcome 12.4 Sexual relationships of patients with early RA would improve due to psychology sessions.	Indicator	Number of patients with early RA that have difficulties in sexual/intimate relationships because of their disease (26,29,32,33,53)	2,763
	Proxy	Cost of six sessions of sexual therapy*‡	360.00 €
	Deadweight	n/a	0.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	
Outcome 12.5 Labor productivity would be lost to psychology sessions in working patients with early RA.	Indicator	Number of labor productivity hours hat would be lost to psychology sessions (26,29,32,33,41,53)*	13,982
	Proxy	Average gain per normal working hour (55)	-15.27 €
	Deadweight	n/a	0.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	
Outcome 12.6 Labor productivity would be lost to nursing visits in working patients with early RA.	Indicator	Number of labor productivity hours hat would be lost to nursing visits (26,29,32,33,53)*	7,453
	Proxy	Average gain per normal working hour (55)	-15.27 €
	Deadweight	n/a	0.00%

Outcome	Breakdown of outcomes		
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	-113,806.52 €
Outcome 12.7 Labor productivity would be lost to visits to the social worker in working patients with early RA.	Indicator	Number of labor productivity hours hat would be lost to a social worker visit (26,29,32,33,53,77)*	5,128
	Proxy	Average gain per normal working hour (55)	-15.27 €
	Deadweight	n/a	0.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	-78,298.88 €
Outcome 12.8 The burden of care would increase for informal caregivers when accompanying patients with early RA to psychology sessions.	Indicator	Number of informal care hours needed to accompany patients with early RA to psychology visits (26,29,32,33,41,61)*	10,568
	Proxy	Cost per hour of non-professional care (62)	-5.54 €
	Deadweight	n/a	0.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	-58,548.16 €
Outcome 12.9 The burden of care would increase for informal caregivers when accompanying patients with early RA to nursing visits.	Indicator	Number of informal care hours needed to accompany patients with early RA to nursing visits (26,29,32,33,61)*	5,633
	Proxy	Cost per hour of non-professional care (62)	-5.54 €
	Deadweight	n/a	0.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	-31,209.04 €
Outcome 12.10 The burden of care would increase for informal caregivers when accompanying patients with early RA to visits to the social worker.	Indicator	Number of informal care hours needed to accompany patients with early RA to social worker visits (26,29,32,33,61,77)*	3,876
	Proxy	Cost per hour of non-professional care (62)	-5.54 €
	Deadweight	n/a	0.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	-21,471.82 €
TOTAL OUTCOME FOR PROPOSAL 12			6,042,552.88 €

*Assumption. † Market price.

2.3. Established rheumatoid arthritis

Table 35. Breakdown of outcomes for Proposal 13: Treat-to-target strategies and tight control.

Outcome	Breakdown of outcomes		
Outcome 13.1 Healthcare costs would be reduced due to remission of patients with established RA following DAS28 criteria.	Indicator	Number of patients with established RA who would achieve remission following DAS28 criteria as a consequence of the T2T strategy (26,29,32,33,38,78)	42,425
	Proxy	Difference in cost between a patient with moderate-high disease activity levels and a patient in remission (64)	3,322.37 €
	Deadweight	n/a	0.00%
	Displacement	n/a	0.00%
	Attribution	Proportion of return due to other proposals*	50.00%
		Total (€)	
Outcome 13.2 The control of patients with established RA would improve due to minimization of damage and preservation of physical function.	Indicator	Number of patients with established RA who are not adequately controlled and would be well controlled with the implementation of the T2T strategy (26,29,32,38,78)*	42,425
	Proxy	Willingness to pay for 50% improvement in physical function (calculated from the proportion of such willingness to pay over the annual salary) (55,56)	4,270.03 €
	Deadweight	n/a	0.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	
Outcome 13.3 Labor productivity would be lost to additional visits in working patients with established RA.	Indicator	Number of labor productivity hours that would be lost to additional visits (26,29,32,33,38,53,65)*	815,682
	Proxy	Average gain per normal working hour (55)	-15.27 €
	Deadweight	n/a	0.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	
Outcome 13.4 The burden of care would increase for informal caregivers when accompanying patients with established RA to additional visits.	Indicator	Number of informal care hours needed to accompany patients with established RA to these visits (26,29,32,33,38,61,65)*	616,543
	Proxy	Cost per hour of non-professional care (62)	-5.54 €
	Deadweight	n/a	0.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	
TOTAL OUTCOME FOR PROPOSAL 13			235,759,917.19 €

*Assumption.

Table 36. Breakdown of outcomes for Proposal 14: Coordination between primary care and specialized care for the treatment and follow-up of the patient.

Outcome	Breakdown of outcomes		
Outcome 14.1 Number of rheumatology visits would be reduced due to coordination between primary care and specialized care.	Indicator	Number of rheumatology visits that would be reduced in patients with established RA due to coordination with primary care (26,29,33,46)	11,583
	Proxy	Cost per consecutive visit to the specialist (8–24)	81.11 €
	Deadweight	100% - proportion of hospitals with patient monitoring from rheumatology only (46)	40.70%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	557,137.20 €
Outcome 14.2 Labor productivity loss would be reduced in working patients with established RA due to reductions in rheumatology visits.	Indicator	Labor productivity hours saved due to the reduction in rheumatology visits (26,29,33,46,53)	268,732
	Proxy	Average gain per normal working hour (55)	15.27 €
	Deadweight	n/a	0.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	4,103,536.03 €
Outcome 14.3 Burden of care would be reduced for informal caregivers of patients with established RA as the latter would not need to be accompanied to unnecessary visits.	Indicator	Number of informal care hours that could be avoided (26,29,33,46,61)	203,124
	Proxy	Cost per hour of non-professional care (62)	5.54 €
	Deadweight	n/a	0.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	1,125,308.32 €
TOTAL OUTCOME FOR PROPOSAL 14			5,785,981.55 €

Table 37. Breakdown of outcomes for Proposal 15: Equity in access to all available marketed drugs.

Outcome	Breakdown of outcomes		
Outcome 15.1 A low disease activity level would be maintained in patients with established RA.	Indicator	Number of patients with established RA that could reduce their direct healthcare costs upon a good treatment response (low disease activity level) (26,29,32,33,38,79)	23,055
	Proxy	Difference in the annual cost-consequence ratio to obtain a low disease activity level between anti-TNF and tocilizumab (80)	7,665.00 €
	Deadweight	Proportion of patients on second treatment with anti-TNF that presented a low disease activity level at 52 weeks (79)	23.00%
	Displacement	n/a	0.00%
	Attribution	Proportion of return due to other proposals*	50.00%
		Total (€)	68,036,497.24 €
Outcome 15.2 Labor productivity loss would be reduced in working patients with established RA due to maintaining a low disease activity.	Indicator	Number of working patients with established RA that could reduce their labor productivity loss due to maintaining a low disease activity level (26,29,33,38,53,79)	13,372
	Proxy	Labor productivity loss associated to the level of disease activity (81)*	1,300.56 €
	Deadweight	n/a	0.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	17,391,162.86 €
TOTAL OUTCOME FOR PROPOSAL 15			85,427,660.09 €

*Assumption.

Table 38. Breakdown of outcomes for Proposal 16: Nursing practice in rheumatology for established RA.

Outcome	Breakdown of outcomes		
Outcome 16.1 The consumption of healthcare resources would be reduced in patients with established RA.	Indicator	Number of patients with established RA that would reduce their consumption of healthcare resources (26,29,32,33,39)	103,081
	Proxy	Cost savings on corticosteroids and primary care visits due to a nursing visit (71)	62.31 €
	Deadweight	n/a	0.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	
Outcome 16.2 Rheumatology visits would be reduced in patients with established RA.	Indicator	Number of rheumatology visits that would be reduced in patients with established RA due to nursing practice (26,29,32,33,39,65,72)	123,698
	Proxy	Cost per consecutive visit to the specialist (8–24)	81.11 €
	Deadweight	n/a	0.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	
TOTAL OUTCOME FOR PROPOSAL 16			16,455,659.78 €

Table 39. Breakdown of outcomes for Proposal 17: Training on adherence and drug use in established RA.

Outcome	Breakdown of outcomes		
Outcome 17.1 Emergency department visits would be avoided due to improved adherence in patients with established RA.	Indicator	Number of hospital emergency department visits that would be avoided after improving adherence in patients with established RA (26,29,32,33,39)*	103,081
	Proxy	Cost of a visit to the hospital emergency department (8–24)	181.90 €
	Deadweight	Treatment adherent patients (73)	50.00%
	Displacement	n/a	0.00%
	Attribution	Proportion of return due to other proposals*	4.00%
		Total (€)	9,000,143.37 €
Outcome 17.2 Rheumatology visits, especially unprogrammed ones, would be avoided due to improved adherence of patients with established RA.	Indicator	Number of rheumatology visits that would be avoided after improving adherence in patients with established RA (26,29,32,33,39,74).	41,223
	Proxy	Cost per consecutive visit to the specialist (8–24)	81.11 €
	Deadweight	Treatment adherent patients (73)	50.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	1,672,192.02 €
Outcome 17.3 Pain and discomfort would be reduced in patients with established RA due to improved pharmacological adherence.	Indicator	Number of patients that would reduce their pain and discomfort, which affects their daily activities, due to improvement in pharmacological treatment adherence after receiving training sessions from specialized nursing (26,29,32,33,39,53)	68,034
	Proxy	Average cost of a two-week spa treatment †	420.00 €
	Deadweight	Treatment adherent patients (73)	50.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	14,287,069.00 €
Outcome 17.4 Labor productivity hours of working patients with established RA would be lost to nursing visits for training on pharmacological aspects.	Indicator	Number of labor productivity hours that would be lost to nursing visits for information on adherence and drug use (26,29,32,33,39,53)*	239,149
	Proxy	Average gain per normal working hour (55)	-15.27 €
	Deadweight	n/a	0.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	-3,651,799.58 €
Outcome 17.5 The burden of care for informal caregivers would increase due to the need to accompany patients with established RA to nursing visits.	Indicator	Number of hours needed to accompany patients with established RA to nursing visits*	180,763
	Proxy	Cost per hour of non-professional care (62)	-5.54 €
	Deadweight	n/a	0.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	-1,001,429.11 €
TOTAL OUTCOME FOR PROPOSAL 17			20,306,175.70 €

*Assumption. † Market price.

Table 40. Breakdown of outcomes for Proposal 18: Training and adherence regarding non-pharmacological aspects associated with the disease for patients with established RA.

Outcome	Breakdown of outcomes		
Outcome 18.1 Visits to primary care would be avoided in patients with established RA.	Indicator	Number of avoided visits to primary care as a result of attending group nursing workshops (26,29,30,32,33,39)	367,897
	Proxy	Cost of consecutive visits to primary care (8–24)	50.00 €
	Deadweight	n/a	0.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	
Outcome 18.2 The social relationships of patients with established RA and their friends would improve due to improved self-care.	Indicator	Number of patients with established RA that would improve their social relationships after attending workshops on non-pharmacological aspects (26,29,32,33,39,53)	32,986
	Proxy	Average annual cost per person on trips to visit family or friends (67)	134.50 €
	Deadweight	n/a	0.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	
Outcome 18.3 Self-care would improve in patients with established RA.	Indicator	Number of patients with established RA that would improve their self-care after attending workshops on non-pharmacological aspects (26,29,32,33,39)	103,081
	Proxy	Average annual gym membership fee (75)	471.60 €
	Deadweight	Proportion of patients that already have a good self-care*	50.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	
Outcome 18.4 Labor productivity would be lost to nursing visits for information and adherence to non-pharmacological aspects in working patients with established RA.	Indicator	Number of labor productivity hours that would be lost to attending group nursing workshops (26,29,32,33,39,53)	358,723
	Proxy	Average gain per normal working hour (55)	-15.27 €
	Deadweight	n/a	0.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	
Outcome 18.5 The burden of care would increase for informal caregivers when accompanying patients with established RA to group nursing workshops.	Indicator	Number of hours needed to accompany patients to group nursing workshops (26,29,32,33,39,61)*	271,145
	Proxy	Cost per hour of non-professional care (62)	-5.54 €
	Deadweight	n/a	0.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	
TOTAL OUTCOME FOR PROPOSAL 18			40,158,262.32 €

*Assumption.

Table 41. Breakdown of outcomes for Proposal 19: Extension of specialized care working hours.

Outcome	Breakdown of outcomes		
Outcome 19.1 Labor productivity would be lost in patients with established RA due to the implementation of the sliding schedule.	Indicator	Number of labor productivity hours saved due to the sliding schedule (26,29,32,33,53)*	41,375
	Proxy	Average gain per normal working hour (55)	15.27 €
	Deadweight	n/a	0.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
TOTAL OUTCOME FOR PROPOSAL 19		Total (€)	631,799.23 €

*Assumption.

Table 42. Breakdown of outcomes for Proposal 20: Comprehensive, multidisciplinary, and individual approach, ensuring access to other healthcare professionals.

Outcome	Breakdown of outcomes		
Outcome 20.1 The physical function of patients with established RA would improve due to attending physical therapy.	Indicator	Number of patients with established RA that should attend physical therapy (26,29,32,33,49)	80,254
	Proxy	Willingness to pay for 50% improvement in physical function (calculated from the proportion of such willingness to pay over the annual salary) (55,56)	4,270.03 €
	Deadweight	n/a	0.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	
Outcome 20.2 The functional ability of patients with established RA would improve due to attending occupational therapy.	Indicator	Number of patients with established RA that have a functional limitation (class III and IV) that could improve their functional ability due to occupational therapy (26,29,32,33,50,51)	43,742
	Proxy	Annual cost for one hour per day of a professional caregiver for support with daily activities (62)	2,022.10 €
	Deadweight	n/a	0.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	
Outcome 20.3 An adequate BMI would be maintained in patients with established RA due to dietetic and nutrition sessions.	Indicator	Number of patients with established RA that would stop having obesity (26,29,32,33,49,52)	24,163
	Proxy	Average annual gym membership fee (75)	471.60 €
	Deadweight	n/a	0.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	
Outcome 20.4 Labor productivity would be lost to rehabilitation in working patients with established RA.	Indicator	Number of labor productivity hours that would be lost due to this visit (26,29,32,33,53)*	206,876
	Proxy	Average gain per normal working hour (55)	-15.27 €
	Deadweight	n/a	0.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	
Outcome 20.5 Labor productivity would be lost to physical therapy in working patients with established RA.	Indicator	Number of labor productivity hours that would be lost due to this visit (26,29,32,33,49,50,53)*	2,048,072
	Proxy	Average gain per normal working hour (55)	-15.27 €
	Deadweight	n/a	0.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	
Outcome 20.6 Labor productivity would be lost to occupational therapy in working patients with established RA.	Indicator	Number of labor productivity hours that would be lost due to these visits (26,29,32,33,50,51,53)*	710,371
	Proxy	Average gain per normal working hour (55)	-15.27 €
	Deadweight	n/a	0.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	

Outcome	Breakdown of outcomes		
Outcome 20.7 Labor productivity would be lost to dietetic and nutrition sessions in working patients with established RA.	Indicator	Number of labor productivity hours that would be lost due to this visit (26,29,32,33,49,53)*	95,990
	Proxy	Average gain per normal working hour (55)	-15.27 €
	Deadweight	n/a	0.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	
Outcome 20.8 The burden of care would increase for informal caregivers that would accompany patients with established RA to additional visits.	Indicator	Number of informal care hours needed to accompany patients with established RA to these visits (26,29,32,33,61)*	6,098,418
	Proxy	Cost per hour of non-professional care (62)	-5.54 €
	Deadweight	n/a	0.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	
Outcome 20.9 The burden of care would increase for informal caregivers of patients with established RA due to a comprehensive and multidisciplinary approach.	Indicator	Number of informal care hours that could be avoided (26,29,32,33,61)*	8,131,225
	Proxy	Cost per hour of non-professional care (62)	5.54 €
	Deadweight	n/a	0.00%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	
TOTAL OUTCOME FOR PROPOSAL 20			407,046,914.10 €

*Assumption.

Table 43. Breakdown of outcomes for Proposal 21: Encourage the role of associations as a complementary element to the benefits of the National Health System.

Outcome	Breakdown of outcomes		
Outcome 21.1 Visits to the emergency department would be avoided due to the active attitude of patients with established RA.	Indicator	Number of patients with established RA that would reduce their visits to the hospital emergency department due to a change in attitude from passive to active (26,29,32,33,82,83)*	8,796
	Proxy	Cost of a visit to the hospital emergency department (8–24)	181.90 €
	Deadweight	n/a	0.00%
	Displacement	n/a	0.00%
	Attribution	Proportion of return due to other proposals*	50.00%
		Total (€)	
TOTAL OUTCOME FOR PROPOSAL 21			799,969.49 €

*Assumption.

Table 44. Breakdown of outcomes for Proposal 22: Disability awareness: coordination of health and social care, and general social support.

Outcome	Breakdown of outcomes		
Outcome 22.1 If patients with established RA had a recognized disability level of at least 33%, labor productivity would improve in those unemployed as they would be able to access a job position which is reserved for people with disability.	Indicator	Number of patients with established RA, unemployed, without recognized disability level, that could have access to a job position which is reserved for disabled people (26,29,32,33,42)*	4,434
	Proxy	Gross annual earnings per worker and year (84)	19,906.07 €
	Deadweight	Proportion of patients who have had contact with social work (49)	36.70%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	
Outcome 22.2 If patients with established RA had a recognized disability level of at least 33%, labor productivity would be maintained in those employed, by keeping their current job position or gaining access to a job position which is reserved for people with disability.	Indicator	Number of patients with established RA without recognized disability, employed, that could keep their job position or access a job position which is reserved for disabled people (26,29,32,33,42,53)*	14,233
	Proxy	Gross annual earnings per worker and year (84)	19,906.07 €
	Deadweight	Proportion of patients who have had contact with social work (49)	36.70%
	Displacement	Proportion of displacement that would be generated if patients changed their current job position for a job position which is reserved for disabled people (salary replacement)*	100.00%
	Attribution	n/a	0.00%
		Total (€)	
Outcome 22.3 Labor productivity would be lost to social work visits in patients with established RA.	Indicator	Number of labor productivity hours that would be lost to visits (26,29,32,33,42,53)*	142,331
	Proxy	Average gain per normal working hour (55)	-15.27 €
	Deadweight	Proportion of patients who have had contact with social work (49)	36.70%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	
Outcome 22.4 The burden of care would be reduced for informal caregivers of patients with established RA regarding their social needs.	Indicator	Number of informal care hours that could be avoided (26,29,32,33,61)*	938,218
	Proxy	Cost per hour of non-professional care (62)	5.54 €
	Deadweight	Proportion of patients who have had contact with social work (49)	36.70%
	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	
Outcome 22.5 The burden of care for informal caregivers of patients with established RA would increase when accompanying them to	Indicator	Number of informal care hours needed to accompany patients with established RA to this visit (26,29,32,33,61)*	156,370
	Proxy	Cost per hour of non-professional care (62)	-5.54 €
	Deadweight	Proportion of patients who have had contact with social work (49)	36.70%

Outcome	Breakdown of outcomes		
the social worker visit.	Displacement	n/a	0.00%
	Attribution	n/a	0.00%
		Total (€)	-548,360.41 €
TOTAL OUTCOME FOR PROPOSAL 22			57,238,960.18 €

*Assumption.

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