

SUPPLEMENTARY MATERIALS

Figure S1. Sample selection procedure.

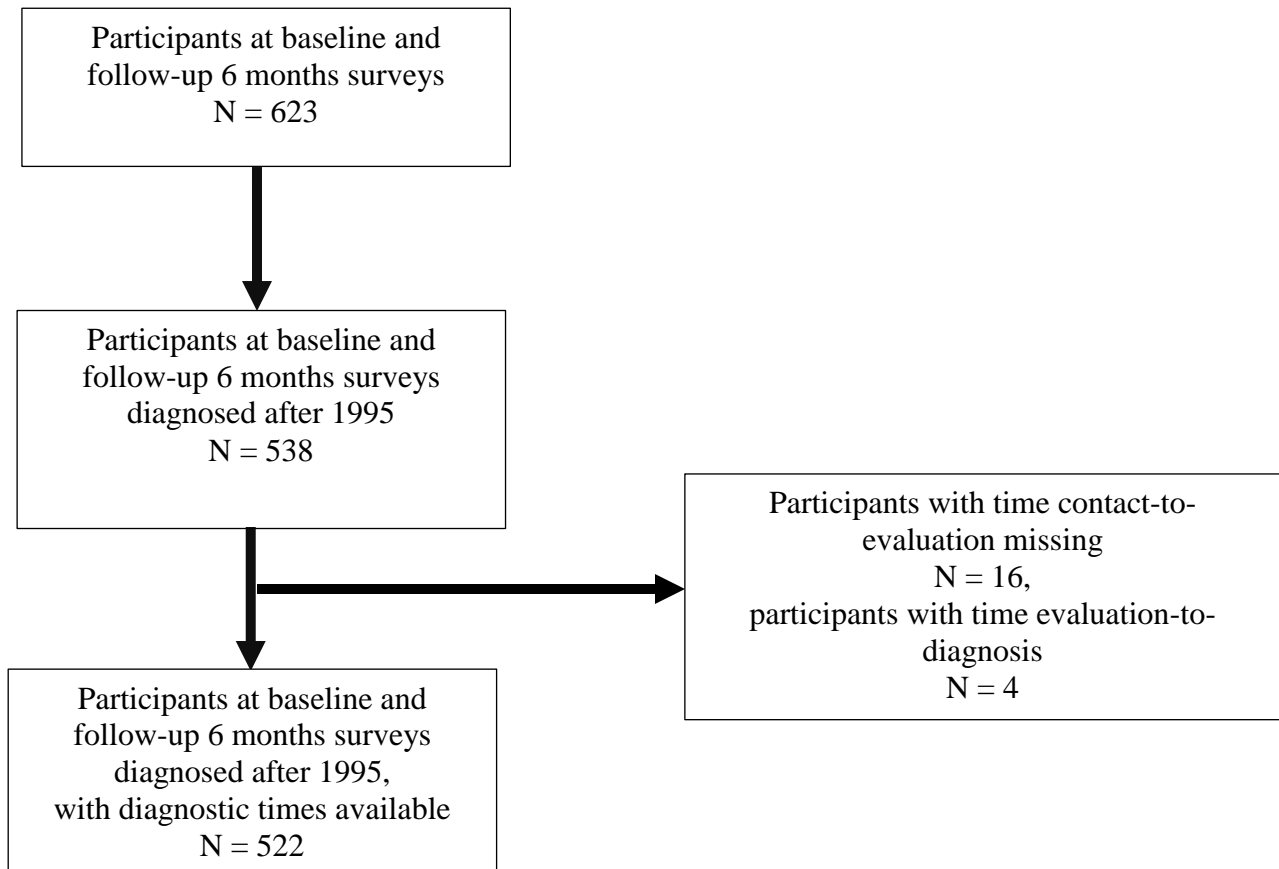
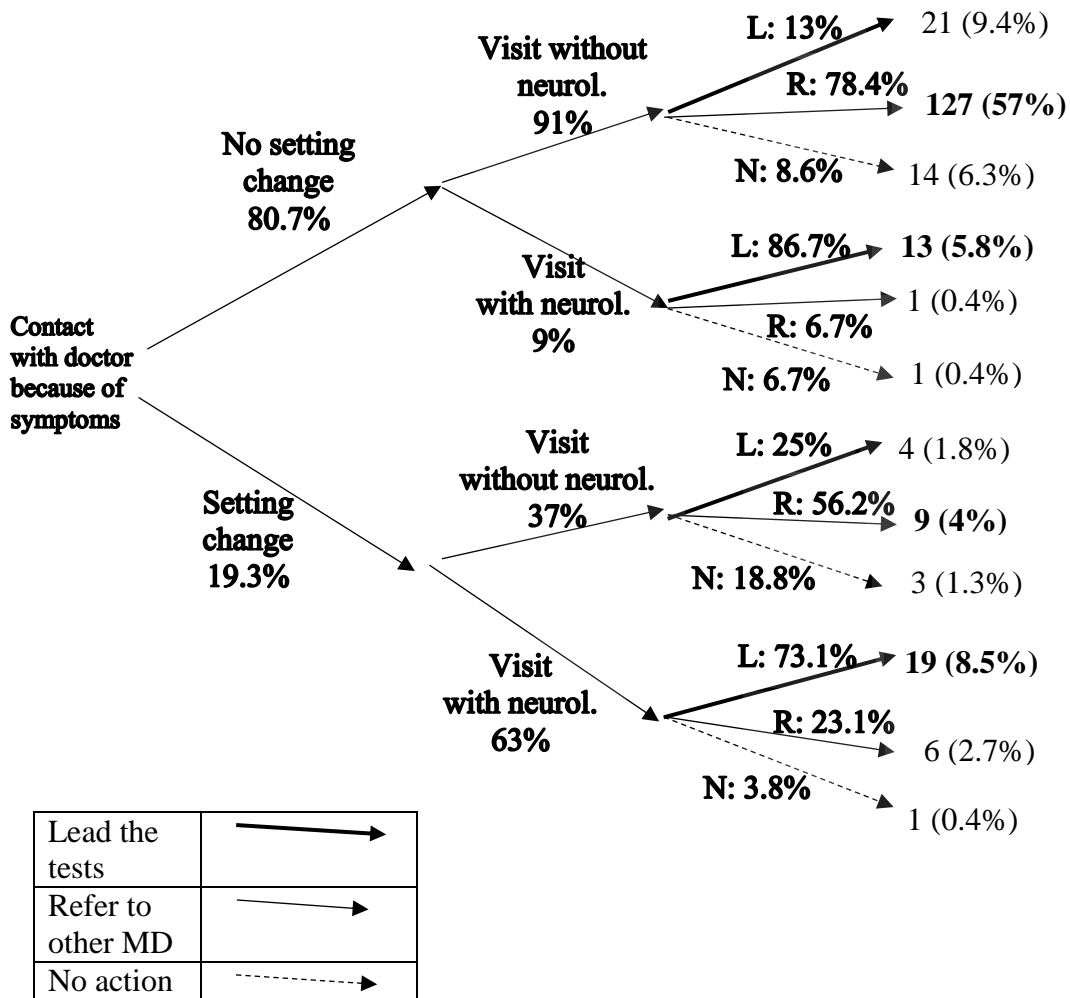


Figure S2. Decision tree, from contact of a doctor because of symptoms, until the decisions on the clarification tests are taken. Sample: N = 223 (regression analysis sample diagnosed in 2011-2018). Action missing in 4 (1.8%) participants. L = lead the tests, R = refer to other medical doctor, N = no action.



Numbers in bold, at the right side of the figure, are the most frequent action for each node.

Table S1. Descriptive table of the first diagnostic process steps.

Physician contacted	Physician visited	Where the first visit took place (ER included into Hospital)	Number of repetitions among all follow-up 6-months survey (N = 623)	Number of repetitions among participants in the regression sample (N = 522)
GP	GP	Private practice	252	226
GP	GP	Hospital	67	58
GP	Neurologist	Private practice	39	34
Neurologist	Neurologist	Private practice	36	22
Ophthalmologist	Specialist	Private practice	33	28
GP	Neurologist	Hospital	23	15
Ophthalmologist	Specialist	Hospital	22	20
Neurologist	Neurologist	Hospital	21	14
Ophthalmologist	Neurologist	Hospital	15	12
GP	Specialist	Hospital	14	11
ER	Neurologist	Hospital	12	10
ER	Specialist	Hospital	12	10
ER	GP	Hospital	11	10
Other Specialist	Specialist	Private practice	8	6
GP	Specialist	Private practice	8	8
Ophthalmologist	Neurologist	Private practice	7	6
Other Specialist	Neurologist	Private practice	5	5
Other Specialist	Specialist	Hospital	5	3
Neurologist	GP	Private practice	4	4
Other Specialist	Neurologist	Hospital	4	4
Other Specialist	GP	Private practice	4	3
ER	Neurologist	Private practice	3	2
Neurologist	Specialist	Private practice	3	3
Other Specialist	GP	Hospital	3	3
Ophthalmologist	GP	Private practice	2	2
Neurologist	GP	Hospital	2	1
ER	GP	Private practice	1	1
ER	Specialist	Private practice	1	1
Neurologist	Specialist	Hospital	1	0

ER= Emergency room, GP= general practitioner.

The rows written in bold constitute together the 90% of all different pathways.

Table S2. Frequency of appearance as first symptoms for a list of 20 MS-specific symptoms.

Symptom	All participants completing follow-up 6 months (N = 623)	Participants included in the regression sample (N = 522)
Gait p.	194 (31.1%)	164 (31.4%)
Visual p.	230 (36.9%)	184 (35.2%)
Bladder dysf.	69 (11.1%)	58 (11.1%)
Balance p.	169 (27.1%)	142 (27.2%)
Bowel dysf.	47 (7.5%)	38 (7.3%)
Epileptic seizures*	9 (1.4%)	7 (1.3%)
Dizziness	123 (19.7%)	108 (20.7%)
Dysarthria	38 (6.1%)	29 (5.6%)
Paresthesia	377 (60.5%)	316 (60.5%)
Dysphagia*	15 (2.4%)	11 (2.1%)
Weakness	178 (28.6%)	152 (29.1%)
Paralysis	159 (25.5%)	133 (25.5%)
Fatigue	201 (32.3%)	174 (33.3%)
Pain	78 (12.5%)	66 (12.6%)
Spasticity	57 (9.1%)	47 (9%)
Tics*	26 (4.2%)	23 (4.4%)
Tremor*	35 (5.6%)	25 (4.8%)
Sexual dysf.	38 (6.1%)	35 (6.7%)
Memory p.	48 (7.7%)	43 (8.2%)
Depression	64 (10.3%)	53 (10.2%)

p. = problems, dysf. = dysfunction.

*Symptom excluded from the variable selection for both the regression models, as occurring in less than 5% of the population of the regression sample.

Table S3. Features of participants with a RRMS start compared with those with PPMS.

		RRMS start	PPMS
N		438	51
Diagnosis time period	1996 to 2000	66 (15.1%)	9 (17.6%)
	2001 to 2010	183 (41.8%)	25 (49%)
	After 2010	189 (43.2%)	17 (33.3%)
Age at onset	(20,30]	152 (34.7%)	0 (0%)
	(5,20]	27 (6.2%)	3 (5.9%)
	(30,40]	131 (29.9%)	16 (31.4%)
	(40,50]	97 (22.1%)	18 (35.3%)
	(50,70]	15 (3.4%)	10 (19.6%)
	NA	16 (3.7%)	4 (7.8%)
Sex	female	330 (75.3%)	29 (56.9%)
	male	108 (24.7%)	22 (43.1%)
Decision tree, first 2 steps	No setting change, first visit w/o neurologist	309 (70.5%)	30 (58.8%)
	No setting change, first visit with neurologist	38 (8.7%)	5 (9.8%)
	Setting change, first visit w/o neurologist	31 (7.1%)	3 (5.9%)
	Setting change, first visit with neurologist	60 (13.7%)	13 (25.5%)
Decision tree, last 2 steps	First visit w/o neurologist, no action	30 (6.8%)	1 (2%)
	First visit w/o neurologist, refer to other MD	256 (58.4%)	24 (47.1%)
	First visit w/o neurologist, lead the tests	52 (11.9%)	7 (13.7%)
	First visit with neurologist, no action or refer to other MD	27 (6.2%)	6 (11.8%)
	First visit with neurologist, lead the tests	70 (16%)	11 (21.6%)
	NA	3 (0.7%)	2 (3.9%)
Living in mountainous area	No	377 (86.1%)	42 (82.4%)
	Yes	59 (13.5%)	8 (15.7%)

	NA	2 (0.5%)	1 (2%)
Place of first visit	Private practice	284 (64.8%)	41 (80.4%)
	Hospital	151 (34.5%)	10 (19.6%)
	NA	3 (0.7%)	
First symptoms	Gait p.	127 (29%)	27 (52.9%)
	Visual p.	165 (37.7%)	7 (13.7%)
	Bladder p.	46 (10.5%)	7 (13.7%)
	Balance p.	120 (27.4%)	15 (29.4%)
	Bowel p.	30 (6.8%)	3 (5.9%)
	Dizziness	95 (21.7%)	10 (19.6%)
	Dysarthria	27 (6.2%)	2 (3.9%)
	Paresthesia	270 (61.6%)	24 (47.1%)
	Weakness	120 (27.4%)	22 (43.1%)
	Paralysis	107 (24.4%)	17 (33.3%)
	Fatigue	145 (33.1%)	19 (37.3%)
	Pain	53 (12.1%)	6 (11.8%)
	Spasticity	32 (7.3%)	14 (27.5%)
	Sexual dysf.	28 (6.4%)	6 (11.8%)
	Memory p.	38 (8.7%)	2 (3.9%)
	Depression	43 (9.8%)	4 (7.8%)
Socioeconomic status	Medium	172 (39.3%)	20 (39.2%)
	Low	14 (3.2%)	3 (5.9%)
	High	235 (53.7%)	23 (45.1%)
	NA	17 (3.9%)	5 (9.8%)
Education level	Mandatory education/apprenticeship	177 (40.4%)	28 (54.9%)
	School leaving certificate	43 (9.8%)	1 (2%)
	Higher professional education	73 (16.7%)	8 (15.7%)
	University degree	127 (29%)	13 (25.5%)
	NA	18 (4.1%)	1 (2%)
Living situation	With partner only	160 (36.5%)	30 (58.8%)
	With partner & children	165 (37.7%)	12 (23.5%)
	Alone	79 (18%)	7 (13.7%)
	Other	33 (7.5%)	2 (3.9%)

	NA	1 (0.2%)	
Language region of Switzerland	German	370 (84.5%)	41 (80.4%)
	French	49 (11.2%)	7 (13.7%)
	Italian	17 (3.9%)	2 (3.9%)
	NA	2 (0.5%)	1 (2%)
MS diagnosed in older relatives	Yes	43 (9.8%)	4 (7.8%)
	No	374 (85.4%)	43 (84.3%)
	NA	21 (4.8%)	4 (7.8%)
Swiss citizenship	Yes	410 (93.6%)	45 (88.2%)
	No	28 (6.4%)	6 (11.8%)
Typology of residence	Urban	246 (56.2%)	28 (54.9%)
	Urban - Rural	123 (28.1%)	11 (21.6%)
	Rural	67 (15.3%)	11 (21.6%)
	NA	2 (0.5%)	1 (2%)
Time contact-to-evaluation	Within 1 month	312 (71.2%)	17 (33.3%)
	More than 1 month	126 (28.8%)	34 (66.7%)
Time evaluation-to-diagnosis	Within 6 months	353 (80.6%)	31 (60.8%)
	More than 6 months	85 (19.4%)	20 (39.2%)

p. = problems, dysf. = dysfunction

Figure S3. Logistic regression model on contact-to-evaluation time, restricted to the participants with RRMS start. (N = 469)

