PND58: AN ECONOMIC EVALUATION ATTACHED TO A SINGLE-CENTRE, PARALLEL GROUP, OPEN LABEL, RANDOMISED CONTROLLED TRIAL OF AN THREE DAY INTENSIVE SOCIAL COGNITIVE TREATMENT (CAN DO TREATMENT) IN PATIENTS WITH RELAPSING REMITTING MULTIPLE SCLEROSIS AND LOW DISABILITY

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Objective

To evaluate the cost-effectiveness and cost-utility of the Can Do Treatment (CDT) which aims to improve self-efficacy and establish autonomy in patients with relapsing remitting multiple sclerosis (RRMS) and low disability at 6 months. The CDT, an intensive social cognitive program contains various sessions provided in one weekend to patients and partners by a multidisciplinary team of neurologists, psychiatrists and other professionals aiming to identify and reduce ‘’stressors’’ which they experience due to RRMS in their daily life.

Methods

This trial based economic evaluation was performed from a societal perspective in the Netherlands from January, 2013 to April, 2016. RRMS patients were randomly assigned to either CDT or care as usual patients who had the option to receive CDT after the controlled study phase (control). The Dutch guidelines for performing economic evaluations in health care were followed. Both health-care (e.g. hospital admission, specialist visits, drugs) and non-health care costs (e.g. travel expenses, productivity losses) were taken into account, measured by means of online questionnaires. The incremental cost utility ratio in the cost per Quality Adjusted Life Years (QALYs) using the EQ-5D-5L and the incremental cost effectiveness ratio was expressed in cost on Control subscale of the Multiple Sclerosis Self-Efficacy Scale (MSSES Control). A willingness-to-pay threshold of €40,000 cost/QALY was used to define cost-effectiveness. Bootstrapping, sensitivity and subgroup analyses were performed to determine the robustness of the findings. All costs reported are expressed in Euros (€); the year 2014 is used as a reference year.

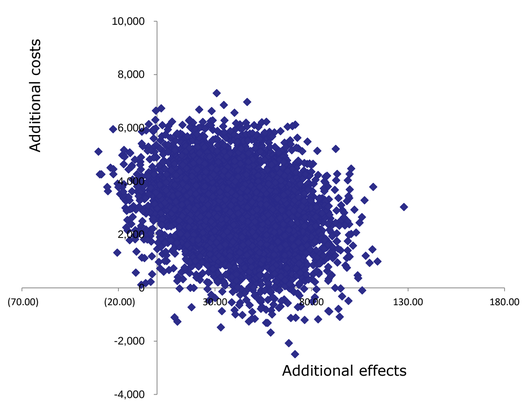

Figure 1. Cost effectiveness plane with bootstrapped ICERS; societal costs and MSSES Control at 6 months.

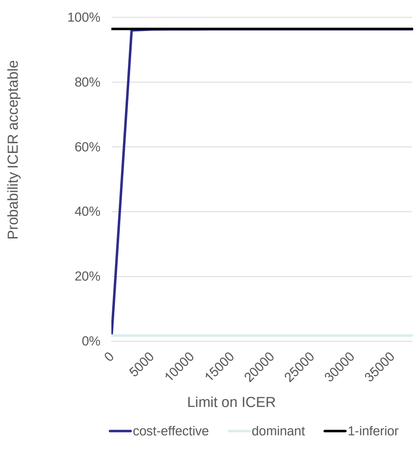

Figure 2. Cost-Effectiveness Acceptability curve for the societal costs and MSSES Control at 6 months.

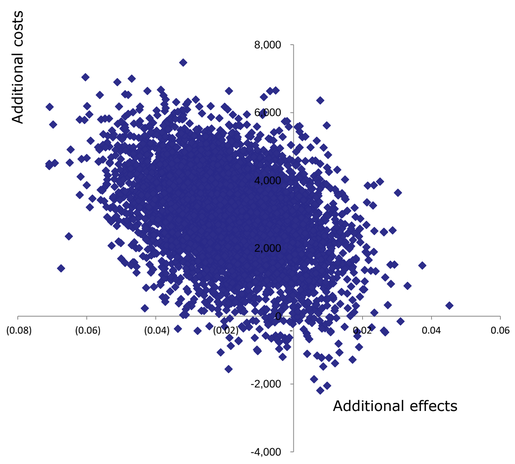

Figure 3. Cost effectiveness plane with bootstrapped ICURS: societal costs and Dutch QALY (EQ-5D-5L) at 6 months.

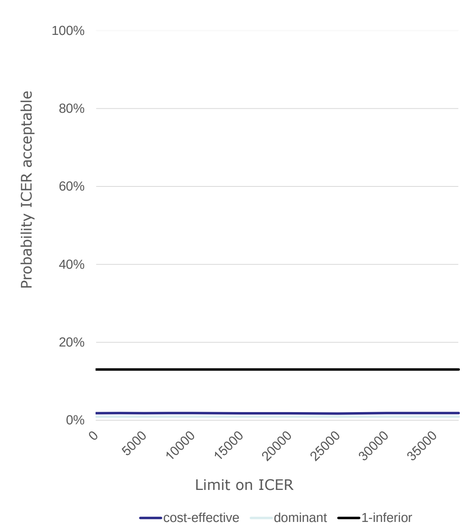

Figure 4. Cost-Effectiveness Acceptability curve for societal costs and Dutch QALY (EQ-5D-5L) at 6 months.

Abbreviations and additional information
ICER(s): incremental cost-effectiveness ratio(s), ICUR(s): incremental cost-utility ratio(s), QALY(s): Quality Adjusted Life Year(s), Control subscale of the Multiple Sclerosis Self-Efficacy Scale (MSSES Control), CDT: Can Do treatment, Control: Care as usual, EQ-5D-5L: five-level EuroQol, Short-Form health state Six-Dimension: SF-6D, *all factors: anxiety, depression, health distress, stressors or relation problems. Northwest quadrant: CDT less effective and more costly compared to control, Southwest quadrant: CDT less effective and less costly compared to control, Northeast quadrant: CDT more effective and more costly compared to control, Southeast quadrant: CDT more effective and less costly compared to control.

Results

The two groups of 79 patients showed comparable baseline characteristics (data not shown). The base case ICUR is situated in the northwest (Inferior) quadrant due to losses in QALY and higher societal costs for the CDT group (-.02/€2,948). The ICER is situated in the northeast quadrant (€72 (40.74/€2,948)) due to a higher MSSES Control and higher societal costs in the CDT group. In general, the base case, bootstrap analyses (*figures* 1-4), sensitivity and subgroup analyses (table 1) confirm the base case findings. However, when the SF-6D is used as an outcome, there is a high probability that the ICUR is situated in the same quadrant as where the MSSES Control is situated.

Table 1. Incremental cost-effectiveness ratios, Incremental utility-ratios and cost-effectiveness plane distributions between control group and CDT group (n =158, follow up 6 months).

	Patients (Control/ CDT)	ICER	Δeffect / Δ cost	North west (Inferior)	South west	North east	South east (Dominant)
Base case: MSSES Control							
Societal perspective & MSSES Control	79/79	€72	40.74/€2,948	4	0	95	2
Sensitivity analyses							
Health care perspective & MSSES Control	79/79	€77	40.74/€3,137	4	0	96	0
Societal perspective minus 1000 € intervention costs & MSSES Control	79/79	€48	40.74/€1,948	4	0	89	7
Subgroup analyses							
Societal perspective with completers (increase of > 75 MSSES Control)	17/40	€149	19.83/€2,963	26	2	67	6
Societal perspective & MSSES Control & all factors*	61/68	€101	32.73/€3,292	10	0	88	2
Per protocol analysis	72/74	€75	36.33/€2,724	6	0	91	3
	Patients (Control/ CDT)	**ICUR**	**Δeffect /Δ cost**	**North west (Inferior)**	**South west**	**North east**	**South east (Dominant)**
Base case: QALY							
Societal perspective & Dutch QALY (EQ-5D-5L)	79/79	Inferior	-0.02/€-2.948	87	10	1	1
Sensitivity analyses							
Health care perspective & Dutch QALY (EQ-5D-5L)	79/79	Inferior	-0.02/€3.317	89	11	0	0
Societal perspective minus 1000 € intervention costs & Dutch QALY (EQ-5D-5L)	79/79	Inferior	-0.02/€1.948	83	9	5	3
Societal perspective & UK QALY (EQ-5D-5L)	79/79	Inferior	-0.02/€2.948	89	9	1	1
Societal perspective & UK QALY (SF-6D)	79/79	€862.667	0.00/€2.948	17	81	0	2
Subgroup analyses							
Societal perspective & Dutch QALY (EQ-5D-5L) & all factors*	61/68	Inferior	-0.02/€3.292	83	15	1	1
Societal perspective & UK QALY (SF-6D) & all factors*	61/68	€831.113	0.01/€1.693	16	82	0	2
Per protocol analyses	72/74	Inferior	-0.02/€2.724	86	10	2	1

Conclusion

When using QALY as an outcome, CDT is not a cost-effective alternative in comparison care as usual. However, when using self-efficacy as an outcome, there is a high probability that CDT is cost-effective. Based on the current results, the value of implementing CDT for RRMS patients with low disability is debatable. An extended follow up period for economic evaluation is warranted. Sensitivity analyses using SF-6D as an outcome is highly recommended for future research in this field.

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