EE405

TRIAL-BASED COST-EFFECTIVENESS OF "PARTNER IN BALANCE", A BLENDED DEMENTIA CAREGIVER SUPPORT PROGRAM

THE ANALYSIS PLAN & BASELINE RESULTS

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BACKGROUND

› Informal caregivers are essential in dementia care.

› Many experience caregiver burdens[1] and insufficient support[2].

› Blended care interventions are potentially cost-effective strategies to support caregivers[3].

PARTNER IN BALANCE

› Blended e-health program[4] guided by a Partner in Balance coach.

› Enhancing caregiver self-management & empower caregivers.

› Significant increases self-efficacy, mastery, and quality of life[5].

TRIAL DESIGN (2022-2027)

Goal: Collect cost-effectiveness data to guide reimbursement decisions.

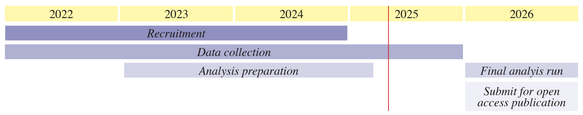
Design: Pragmatic cluster RCT.
Intervention (PiB) vs. usual care.

Participants: 116 Informal caregivers of early-stage dementia.

Recruitment: By local Dutch care professionals in primary care.

Follow-up: 0, 3, 6, and 12 months.

Trial status:



SOURCES

1 Sallim AB, et al. Prevalence of mental health disorders among caregivers of patients with Alzheimer disease. J Am Med Dir Assoc. 2015
2 Jonsson L. The personal economic burden of dementia in Europe. Lancet Reg Health Eur.
3 Boots LM, et al. A systematic review of Internet-based supportive interventions for caregivers of patients with dementia. Int J Geriatr Psychiatry. 2014
4 Boots LM, et al. Development and initial evaluation of the web-based self-management program "partner in balance" for family caregivers of people with early stage dementia: an exploratory mixed-methods study. JMIR Res Protoc. 2016
5 Boots LM, et al. Effectiveness of the blended care self-management program "Partner in Balance" for early-stage dementia caregivers: study protocol for a randomized controlled trial. Trials. 2016
6 Faria R., et al. A guide to handling missing data in cost-effectiveness analysis conducted within randomised controlled trials. Pharmacoeconomics. 2014

ANALYSIS PLAN

Full detailed plan

EFFECTS

Cost-Utility → QALYs (PwD + caregiver)
→ *EQ-5D-5L based utility*
Calculated with the area-under-the-curve approach

Cost-Effectiveness → Caregiver self-efficacy self-management
→ *CSES-CM*

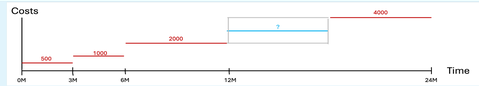
COSTS

Costs (societal perspective)
→ *Resource Utilization in Dementia (RUD)*

- Care professionals visits
- Hospital and ER care
- Home care
- Accommodation costs
- Informal caregiver time *(proxy good method (home care))*
- Productivity losses *(friction cost approach)*

TIME CORRECTIONS

(1) Recall period correction *(costs)*
→ *using lineair interpolation*



(2) Time horizon correction *(QALYs & costs)*
→ *Costs & QALYs in the final time frame (6-12 months) were adjusted so the trial period ends exactly 12m after baseline*
→ *To provide a consistent time horizon for all participants.*

MISSING DATA

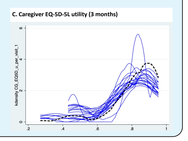
Handling of missings

› Following the guidance from Faria et al[6].

(1) Missing data description
- missingness of data at the visit, endpoint, and item level.
- missing data pattern *(is missingness intermittent or monotone?).*
- missing data classification using logistic regressions *(is missingness associated with baseline or observed values?).* *(→ is it MAR, MNAR, or MCAR?).*

(2) Handling missing data
- using multiple imputations (MI).
- chained equations using predictive mean matching and stratified by study arm.
- imputation on the endpoint level *(i.e. utility score).*
- predictors: baseline characteristerics *(i.e. caregiver age)*, effects & costs.

(3) Post-imputation diagnostics
- convergence check & impossible value check & correlation check.
- distribution of imputed vs. observed values.



INCREMENTAL DIFFERENCE

Incremental costs, QALY, and effects were calculated using a mixed GLM

› Outcomes *(i.e. costs)* as dependent variables, baseline outcomes & trial arm as independent variables
› Adjusted for potential baseline differences & clustering.

HANDLING UNCERTAINTY

Bootstrapping using 5000 replications

WILLINGNESS TO PAY THRESHOLD

WTP of €42,000/QALY (combined for PwD *(€64,000/QALY)* and caregiver *(€20,000/QALY)*)

BASELINE RESULTS (n=112)

70 years old (SD=10)
73% is female
83% lives together with PwD
82% are spouses
67% are the only caregivers involved in the care situation

Informal caregiver

Quality of life (EQ-5D-5L) utility-score of 0.81 (0.13)
Medical care costs* €226 (398)
Productivity losses* €65 (267)
Self-efficacy (CSES-CM) 27.7 (8.9)
scale ranges from 5-50, higher score, greater self-efficacy

76 years old (SD=7)
37% is female
Dementia severity (QDRS cognition) 4.0 (SD=1.9)** (MCI phase)

Person with dementia

Quality of life (EQ-5D-5L) utility-score of 0.66 (0.23)
Medical care costs* €547 (688)
Informal care costs* €2,071 (2,980)
Accommodation costs* €2 (16)

TOTAL *(PwD + informal caregiver)*

Total costs (societal)*	Total utilities (EQ-5D-5L)
€2,911 (3,660)	1.48 (0.29)

*costs in the last 30 days
**significant difference at the 0.05 level

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ALZHEIMER CENTRUM LIMBURG
ZonMw this research is funded by
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Let's connect!