



# Cost-effectiveness of internet-based vs. group treatment in subthreshold depression

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## Introduction

Subthreshold depression: symptoms of depression, but not enough to meet the DSM-IV criteria for major depression

## Introduction

- Prevalence: 8-16% in people > 50 years of age
- Clinically relevant
- Risk factor for developing a major depressive episode

## Introduction

In earlier papers, we reported on the effectiveness of internet-based treatment compared to group treatment for subthreshold depression

## Introduction

Internet-based treatment was found to be at least equally effective compared to group treatment.

Beek et al. Psychological Medicine 2007; 37, 1797-1806.

Beek et al. Psychological Medicine 2008; 38, 635-640.

## Objective of the study

To estimate the cost-effectiveness of an internet-based intervention for subthreshold depression, by comparing it to an evidence-based group treatment.

## Methods

200 participants

mean age = 55 years, SD = 4.6

presenting with subthreshold  
depression (depressive symptoms  
not meeting the DSM-IV criteria of  
depression)

## Procedure

- Screening for depression
- Face-to-face interview with CIDI
- Randomization
- Baseline assessment
- Intervention
- (Post-treatment assessment)
- One-year follow-up



## Interventions

- Group cognitive behaviour therapy
- 10 group sessions with homework
- Evidence-based treatment
- Based on Lewinsohn's Coping With Depression course

## Interventions

### Color Your Life

Treatment at home

Self help, no support from therapist

Based on Dutch adaptation of  
Lewinsohn's Coping With Depression  
course

## Methods

Depressive symptoms were measured with the BDI.

Treatment response:

clinically significant change according to the definition of Jacobson & Truax (1991).

## Methods

Secondary cost-effectiveness analysis  
based on:

- direct medical costs,
- intervention costs,
- patients' out-of-pocket costs.

Not included: costs stemming from

## Results

Successful treatment response occurred in 63% of the participants who received the internet-based intervention as compared to 53% in group intervention.

## Results

### **Per participant intervention costs**

Internet-based treatment: € 323

Group treatment: € 1830

This includes participants' time, costs for travel, group leaders salaries, hosting for the website, etc.

## Results

| Health service type   | Direct medical costs | Direct non-medical costs |
|-----------------------|----------------------|--------------------------|
| General practitioner  | € 21.36              | € 11.74                  |
| Social worker         | € 45.38              | € 30.14                  |
| Physiotherapist       | € 24.06              | € 20.52                  |
| Antroposophic GP      | € 21.36              | € 11.74                  |
| Psychic/medium        | € 42.46              | € 21.05                  |
| Alternative therapist | € 42.48              | € 21.05                  |
| Psychologist          | € 131.14             | € 21.05                  |
| Medical specialist    | € 103.64             | € 21.36                  |

## Results

Pre- to post-treatment savings in costs by condition: means (standard deviations)

|                              | Internet CBT        | Group CBT           | Difference |
|------------------------------|---------------------|---------------------|------------|
| Antidepressants<br>hypnotics | € 11.33<br>(€ 43)   | € 4.08<br>(€ 50)    | € 7.25     |
| Other medical<br>costs       | € 294.18<br>(€ 572) | € 312.39<br>(€ 617) | - € 18.21  |
| Direct non-<br>medical costs | € 26.93<br>(€ 47)   | € 22.92<br>(€ 46)   | € 4.01     |



## Results

Incremental cost-effectiveness ratio

$$(C1 - C0) / (E1 - E0)$$

$$(655 - 2170) / (63 - 53) = \text{€ } 151.50$$

## Results

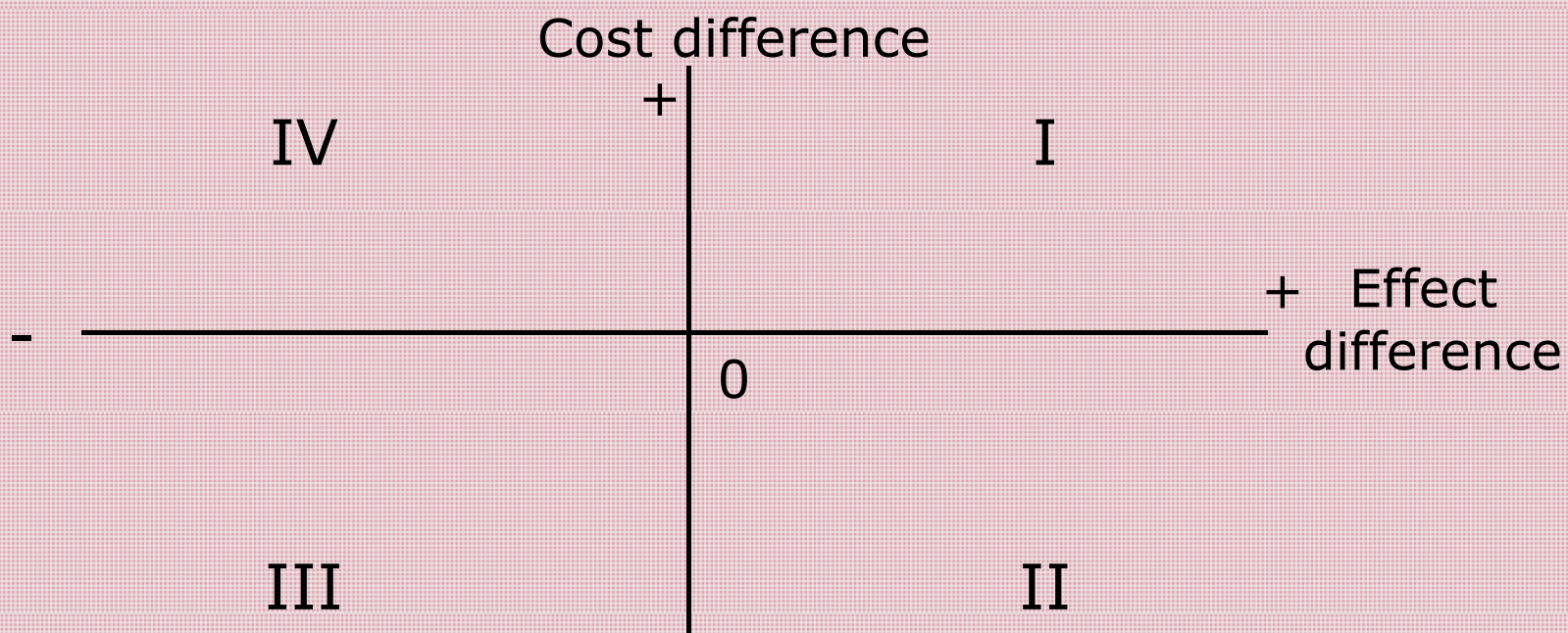
Incremental cost-effectiveness ratio

For each case of clinically significant change that is reached by offering internet based treatment instead of group treatment, a saving of €151.50

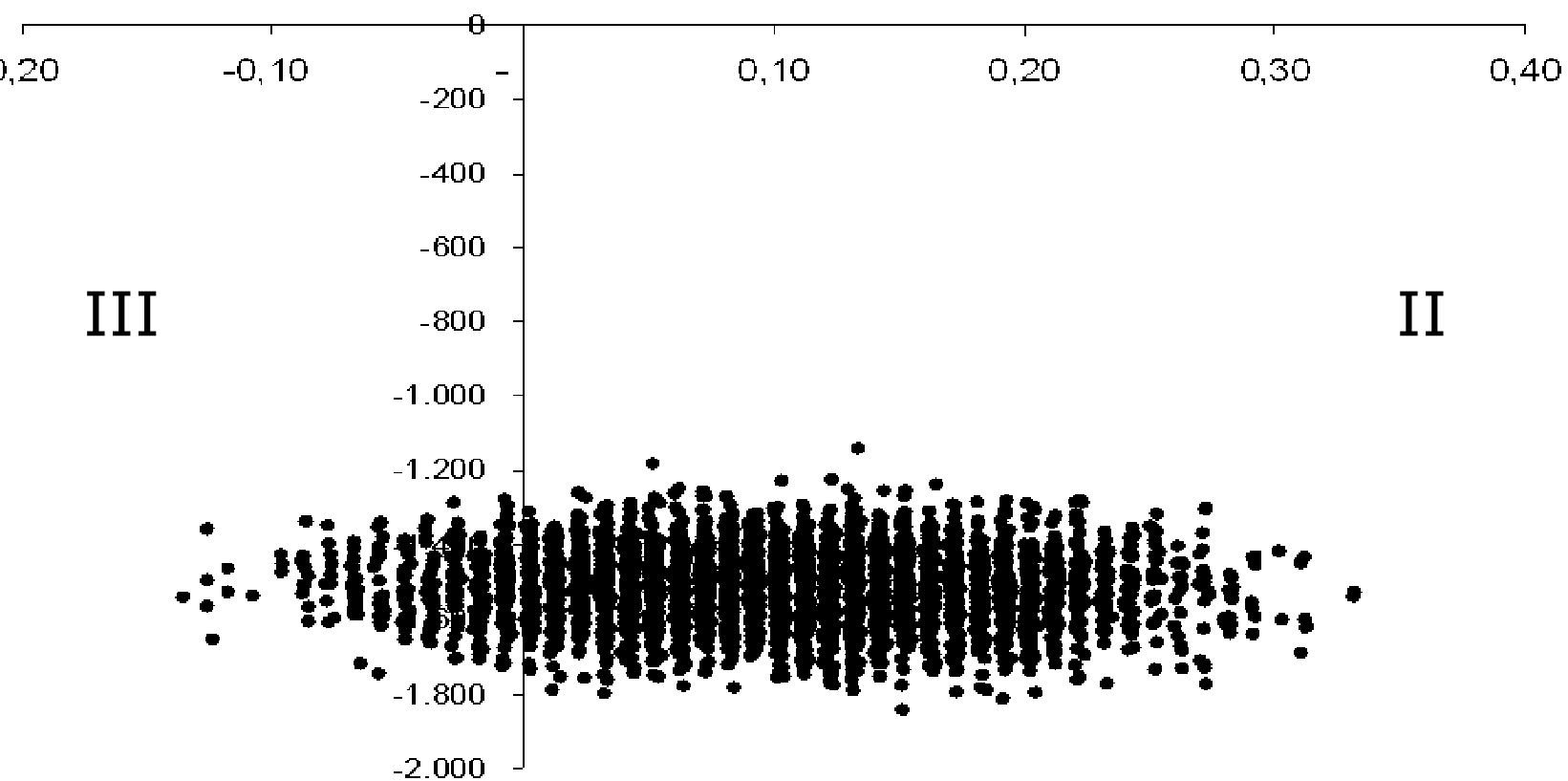
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# Results

## Cost-effectiveness plane



# Results



## Results

### Cost-effectiveness plane

94% of the dots are in the lower right-hand quadrant

Internet-based treatment generates better health effects against lower costs

6% probability that internet-based is

## Discussion

Clinically significant change:

63% vs. 53%

Costs of internet-based treatment  
compared to group treatment:

€ 323 vs. € 1830

Incremental cost-effectiveness ratio

= - € 151.50

## Limitations

We did not incorporate costs of production losses

We were faced with attrition and missing data

Time span = 1 year

## Conclusions

Internet-based treatment combines gains in health with cost savings compared to group treatment.



# Thank you for listening!

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