Author's response to reviews

Title: Costs of the 'Hartslag Limburg' Community Heart Health Intervention

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Author's response to reviews: see over
**Reaction to reviewers' comments**

**Reviewer Jonathan Mant**

Comment 1
The results section of the abstract would be more informative if it referred to the total population size (180,000), and that the costs represented 5 years of the programme, including both set-up costs and running costs. Also, it would be useful to add a few words summarising how the other 90% of the costs were met.

Reaction to comment 1
The suggested additions to the abstract do indeed increase the informative value of the abstract.

Changes made related to comment 1

Original result section

Results: The economic costs of the activities of the programme were about €900,000. €555,000 was spent on interventions to change people’s exercise patterns, €250,000 on improving nutrition, €50,000 on smoking cessation, and €45,000 on life-style in general. The coordinating agency contributed about 10% to the costs of the interventions.

Adjusted result section (page 2, paragraph 3)

Results: The economic costs of the interventions that were implemented within the 5 year lasting Hartslag Limburg (n=180,000) programme, were calculated to be about €900,000. €555,000 was spent on interventions to change people’s exercise patterns, €250,000 on improving nutrition, €50,000 on smoking cessation, and €45,000 on life-style in general. The coordinating agency contributed about 10% to the costs of the interventions. Other institutions that were part of the Hartslag Limburg network and external subsidy providers accounted for the other 90% of the costs.

Comment 2
There is now much detail about the Hartslag Limburg programme, but it is not explicitly stated how the interventions listed in table 1 came to be agreed upon.

Reaction to comment 2
This information was indeed lacking in the previous version of the article.

Changes made related to comment 2

A section was added explaining the way the interventions came to be agreed upon.

Added text (page 7 paragraph 3 and 4):

The choices about which interventions to implement came about in a variety of ways. The most occurring were the following: (1) The coordinating agency or one of the other partners proposed an intervention, which was preferably evidence based. Together with one of the local health committees its value was discussed and the best way to implement the intervention was determined. When necessary partners or ‘external’ institutions were approached to collaborate in the implementation (2) The health committees explored the needs and wishes of the target-population. Based on this information, existing interventions were implemented or new ones were developed. When cooperation of institutions or organisations was needed, these were approached (3) Agencies outside the network contacted the coordinating agency of Hartslag Limburg with a suggested intervention. Together with the coordinating agency or a local health committee, the suggested intervention was evaluated on its merit for Hartslag Limburg and its attainability. In case of a positive attitude towards the intervention, implementation followed.

The similarity between these ways is that they were based on the observed needs within the community and on the expertise of the various implementers about the methods to reach the inhabitants in the region.
Reviewer Sylvie Perreault

General reaction on comments
Reading your reaction and critically re-examining our paper, we agree that major revisions will improve the quality of the paper. Because of these major changes we cannot always refer to sections that were omitted or added very precisely.

The most substantial changes were made to
1) The introduction chapter, which is more concise and gives a better justification of the study's objective compared to the previous draft.
2) The method chapter. To increase the clarity of the methodology, sub-sections are added, the chapter is reworded and lacking information is added.
3) The discussion chapter. This chapter now focusses mainly on validity, reliability and generalisability.
4) Changes to the layout were made: we started with an introduction chapter about the relevance of the study. Then we added a background chapter, which contained backgrounds of the Hartslag Limburg program. In the previous version, this information was in the method chapter. However, we think it is better to focus the method section on the methodology of the cost-calculation instead of on backgrounds of the intervention program.

Furthermore, the revised manuscript was edited on the English language by a translating agency

Comments introduction section
Introduction needs to be more focussed and shortened
Reaction to comments on the introduction section
The essence can indeed be written down shorter.

Changes made related to comments on the introduction section (see pages 4 and 5)
Instead of shortening the sections you referred to, we rewrote the introduction section in order to not only make it more concise, but to also justify the study’s objectives better.

Comments method section

Comment 1
Section cost-calculation needs to be reworded in order to have a clear picture of how the cost calculations were done. Subsections need to be added for clarification and clear reading.

Reaction to comment 1
The method section does indeed not give a clear description of the cost-calculation. A clear structure is lacking and the information is not always complete.

Changes made related to comment 1 (see pages 8 to 11)
The method section is re-written. The structure is changed: subsections are added that relate to the steps that have to be taken in cost-calculations, namely identification, quantification and valuation. Furthermore information is added to clarify the way the costs are calculated

Comment 2
Thereafter, they should discuss about of the relevance and generalisability of the cost calculation.

Reaction to comment 2
The relevance of the cost-calculation and its generalisability are indeed important issues. We think however that these discussing these issues better fits into the introduction and the discussion chapter.

Changes made related to comment 2
The introduction was rewritten as to better clarify the relevance of the study (see introduction chapter, especially page 4 paragraphs 3 and 4, page 5 paragraph 1)

The generalisability of the cost-calculation is discussed in the discussion chapter (see discussion chapter, especially page 14 last paragraph and page 15 paragraph 1 and 2)
Generalisability: Using average price levels instead of the actual price levels used within the Hartslag Limburg campaign makes the costs applicable to all parts of the Netherlands, and even to other countries with a price level comparable to that in the Netherlands. Generalisation to other countries is facilitated by the fact that we have provided a detailed overview of the necessary material and staff input. Generalisation is thus a matter of linking local prices to the necessary material and personnel resources (which are not expected to differ much between regions or even between developed countries).

Comment 3
Page 9, para 4: they are talking about regular interviews; they should add information about the method used for the regular interview (telephone, questionnaire, etc), what about the number of interviews?

Reaction to comment 3
We agree that only mentioning that costs were gathered via 'interviews' is quite vague. Besides the fact that there is not enough information about the kind and frequency of the interviews it was not correct to say that 'the costs are gathered via interviews', as it were the inputs that were collected this way. Even more important, we realize that only mentioning the use of ‘interviews’ in the estimation of the necessary resources, will even give a wrong picture of how a reliable estimation of the necessary personnel and material resources was made. The estimation of the necessary resources was primary based on documentation material, like budgets, hour registrations of the staff, plans of action, evaluation reports and accounts. The meetings (or interviews) with a health education specialists involved in implementing the interventions had the aim to estimate the resources that are necessary for an intervention to be successfully implemented based on this information.

Changes related to comment 3
We adjusted the text, in order to explain the methodology better. The question refers to the quantification phase, for which a sub-section is added in the revised version of the methods section.

Original text
The costs were based on the expenditures within Hartslag Limburg and gathered via regular interviews with a health education specialist who was involved in implementing the interventions.

Adjusted text (page 10, section 3.2)
In the quantification phase, an overview of all the material and staffing input involved (both in kind and in quantity) was drawn up for every single intervention. The overview was based on documentation, like budget statements, registrations of hours worked by staff, plans of action, evaluation reports and accounts. After an intervention had been implemented, we verified whether the actual input was in agreement with the anticipated input. This was done in regular meetings (once every two months) with health education specialists involved in implementing the interventions. This information was used for an accurate estimation of the resources that were necessary for the intervention to be successfully implemented.

Comment 4
Page 10, para 4: subsidies for…. give more details

Reaction to comment 4
We explained about the subsidies

Changes made related to comment 4
We added more details about the subsidies

Original text
…. subsidies.

Adjusted text (page 10 line 6)
Monetary input or input in kind that was received from other institutions (subsidies, sponsors)....

Comments result section

Comment 1
Line 256 needs to be with previous paragraph

Reaction to comment 1
It is true that line 256 belongs to the previous paragraph

Changes made related to comment 1 (see page 12 paragraph 1)
The text is replaced, so that it belongs to the previous paragraph.

Comment 2
Page 11, line 268 and other, I do not understand the discussion at this point

Reaction to comment 2
The information is indeed not relevant.

Changes made related to comment 2
The following lines are removed:

This was a completely new intervention, involving a public-private partnership in which a butcher participated in the intervention. The intervention is described in more detail elsewhere (van Assema, in progress).

Comment 3
Page 12, line 281 to 286: such as CE, this is a discussion and a result.

It concerns the following text:

Although insight into the CE of these individual programs would be of great interest because of the high costs incurred, it was not possible to calculate the CE of these individual programs. The reason for this is that Hartslag Limburg is very complex (i.e. the large amount of interventions performed simultaneously), which makes it impossible to assign effects of the program to individual interventions.

Reaction to comment 3
In essence, the section you referred to is meant as a discussion issue and placing this discussion issue in the result section is not correct.

Changes made related to comment 3 (see page 13 last paragraph, page 14 first paragraph)
For the above-mentioned reason, we replaced these lines to the discussion section.

Comment 4
Page 12, line 286-292: they are discussing about the behavioural change, they need to describe the effect (give some number etc), why there is no method section about the effectiveness measured, is this a valid measurement?

It concerns the following text

In order to gain some insight into the effectiveness of these expensive programs however, two of them were evaluated separately. Effects in terms of behavioural change or intended behavioural change were examined concerning the interventions ‘Exercise TV’ and ‘Tasty and Healthy’ using questionnaires. These evaluations indicated that the ‘Exercise TV’ seemed to be able to change behaviour, while the intervention ‘Tasty and Healthy’ in its current form was not.

Reaction to comment 4
In fact, this information is not relevant for the present article.
Changes made related to comment 4
We removed the section.

**Comments regarding the discussion section**
The discussion section needs to be shortened and needs to have a concise focus about the results according the variability, the validity and the transferability. How these results can be used for the estimation of cost-effectiveness

Reaction to comments on the discussion chapter
You are right to state that the discussion of aspects like validity, reliability and transferability is underexposed. Because of its importance, we decided to focus the discussion chapter addressing these issues and shorten the section about cost sharing substantially.

Changes made regarding the discussion chapter
The discussion chapter is rewritten and re-organised. Its primary focus is now on validity, reliability and generalisability aspects. The 'cost-sharing part' is considerably shortened in length.

The question how the results can be used for the estimation of the cost-effectiveness is the subject of a forthcoming article of the cost-effectiveness of this program. It is thus not further explained in the present article