Reviewer's report

Title: Cost-Effectiveness of Evidence-Informed Leg Ulcer Care with Compression Therapy: Results from the Canadian Bandaging Trial

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Reviewer: Peter Makai

Reviewer's report:

The authors have written an interesting paper on the comparing SSB and 4LS bandaging for the treatment of venous leg ulcers. The study has an interesting conclusion. It's been a pleasure to review it, however there are a few issues needing clarification.

Major revisions.

1. My first concern with the article would be the use of the comparator. The main purpose of a cost-effectiveness study is to determine if the additional benefits of a new intervention warrant its additional costs. Since high compression therapy is best practice, I wonder if it can be considered standard care in a Canadian setting. The spread of best practice is notoriously slow in most healthcare systems, therefore it is questionable if either SSB or 4LB can be seen as standard care in a Canadian setting. While it is plausible that both SSB or 4LB are more effective than standard care, standard care (whatever it may be in a Canadian setting) may also be substantially cheaper. A comparison of these two types of compression therapy with standard care would greatly aid decision-makers reading this paper in determining the value for money of both types of compression therapy.

2. My second concern is with the sensitivity analysis. In table 1, there seems to be a lot more variation in the price of a typical SSB system than a 4LB, yet in table 5 you detail the effect of varying prices of the 4LB system. It would be more appropriate to include the results of a univariate sensitivity analysis of SSB as well. Additionally, varying the perspective of the evaluation is not part of a sensitivity analysis, as you state on p.5, it simply informs different decision-makers.

3. You state that at the time of analysis, there were no EQ-5D tariffs available for Canada. In the meantime, the valuation for the Canadian EQ5D tariffs has become available. Since Canadians systematically value more severe states lower than in the US, it is questionable if using the Canadian tariffs would lead to the same conclusions. Recalculating QALY-s, ICERS and CEAC, or a table describing the EQ5D states at least at baseline (possibly on other measurement points) would go a long way in addressing the relevancy of this concern, as well as a more thorough discussion of this point.
4. In the effectiveness study, you have used the SF-12 to measure Quality of life. From the SF-12, it is possible to calculate the SF-6D. I would be interested in the reasoning behind the choice for using the EQ-5D, especially in light of the fact that the EQ-5D generally has ceiling effects, and the SF-6D generally does not. From the averages on the graph it seems that a number of patients may have indicated full health at the end of the study on one or more EQ-5D dimensions, which begs the question if you have underestimated the health benefits.

5. Another interesting point would be a discussion on to which degree generic Qol-instruments are sensitive enough to discriminate between patients with healed and non-healed ulcers. The graph seems to show that having a venous ulcer leads to better or same quality of life as a healed ulcer, at least in the SSB group.

6. I would be interested behind the reasoning relying solely on the participants in collecting healthcare use. Were participants knowledgeable enough about their disease to report healthcare use from complications of unhealed leg ulcers, for example? This may be an interesting point of discussion. You conclude that there is a very small difference between the QALY-s for SSB and 4LB within a year. That is true for a large number of interventions evaluated only within a year. It would be interesting to explore or at least discuss the long-term effects of choosing a compression system on Qol over a longer time period. I would be interested if healing 15 days faster may translate to higher Qol and more QALYs, or a different cost-structure in the long-run.

Minor revisions

1. Having different perspectives in the same table (Table 5) as the univariate sensitivity analysis seems inappropriate.

2. The tables detailing healthcare use could use some more detail. I would be interested if costs occurred at allied health professionals (physiotherapy for example) did not change, what kind of hospital costs were made, what specialists were seen, what costs were caused by the ulcer, and what costs were caused by complications, etc.

Discretionary revisions

1. Extrapolation beyond the trial data may be possible using decision-analytic modelling, which may give more definitive conclusions on the choice of bandage. Such models have been developed for venous leg ulcers, such as this one: Iglesias, Cynthia P, Claxton, Karl, Comprehensive decision-analytic model and Bayesian value-of-information analysis: pentoxifylline in the treatment of chronic venous leg ulcers., Pharmacoeconomics, 2006; 24(5):465-78

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable
Statistical review: Yes, and I have assessed the statistics in my report.