Association of
British Healthcare Industries

24th April, 2008

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Dear Ms Sailie,

Re: Technology Assessment Report (TAR) on Spinal cord stimulation for chronic pain of neuropathic or ischaemic origin

Thank you for the opportunity to respond to the ScHARR PenTAG TAR report for this technology appraisal. Overall, we believe the report to be of a high methodological quality both in terms of the use of a systematic review approach and clarity of reporting.

On behalf of the combined industry, we would like to draw your attention to a number of particular issues that we believe warrant further consideration. These comments will be addressed under four main headings:

1. Clinical and cost-effectiveness of refractory angina (RA)
2. Cost-effectiveness modelling of complex regional pain syndrome (CRPS)
3. RCT data inclusion for peripheral vascular disease and relevant population identification (PVD)
4. Other considerations

1. Clinical and cost-effectiveness of refractory angina (RA)

Our main concerns regard the TAR's handling of RA:

a. Clinical definition, epidemiology and costs of RA

In a number of places the TAR refers to (and deals with) the indication RA as if it were general "angina". This is incorrect and could be misleading to the NICE appraisal committee. RA is a specific subgroup of angina that therefore has a very different overall epidemiological picture, impact on health and costs.

We would like to recommend the following sections of the TAR be revised to reflect this:

- Glossary (pg 1) - inclusion (& definition) of RA to be defined as in the ABHI submission

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Refractory angina (RA) is defined as the "occurrence of frequent angina attacks uncontrolled by optimal drug and/or surgical therapy, significantly limiting the patients' daily activities, and with the presence of coronary artery disease rendering percutaneous coronary intervention (PCI) or coronary artery bypass surgery (CABG) unsuitable" (Mannheimer et al, 2002).

- Epidemiology (pg 8 para 3) – clarification about specific prevalence of RA i.e. ~10% of all angina cases may be refractory (Mannheimer et al, 2002) [this figure is later acknowledged in the TAR pg 11, para 3].
- Cost of RA (pg 11 para 3) – it is known that health service costs of NeuP are higher than 'simple' chronic pain cases. It is therefore misleading to assume that the healthcare costs of the general angina population can be simply extrapolated to RA. At least a caveat to this assumption should be added.

b. Cost-effectiveness of SCS for RA

The ScHARR threshold analysis of SCS for RA (pgs 81-85 & 94-100) is based on a UK study examining a general angina population (Griffen et al, 2007). This analysis therefore assumes that the costs and QALYs of a general angina population can be applied to RA. We believe this assumption to be fundamentally flawed and inconsistent with the appropriate patient population.

Furthermore the TAR model assumes that CABG and PCI are two clinically appropriate interventions for the treatment of RA. This assumption is inconsistent with the aforementioned definition of RA, which states that both CABG and PCI are unsuitable treatments for patients with RA (Mannheimer et al, 2002).

An updated threshold analysis comparing SCS and CMM that uses UK costs and QALY data specific to the RA population is attached. We believe that the data included in the updated analysis more accurately represents the treatment alternatives and appropriate patient population as it is based on utility and cost data of RA patients within the UK (Campbell, et al, 2005; Campbell et al, 2001). The updated analysis has been validated by external experts.

In summary this revised threshold analysis shows that although the 6 year costs of CMM (i.e. £11-16K) are similar to those presented in the TAR, the TAR model substantially overestimates the QALYs of the CMM therapy. The TAR model estimates that CMM results in 6 year QALYs of 2.83 to 3.15, whereas the updated analysis estimates the CMM 6 year QALYs at 2.48. Therefore, the TAR model significantly overestimates the incremental QALYs SCS requires to be considered cost effective at £20K/QALY (i.e. revised model incremental QALYs is 0.21 vs. TAR model .38). Further, the revised analysis estimates the absolute utility of SCS required would be considerably less than the one estimated by the TAR (i.e. revised model absolute utility of +0.49 vs. TAR +0.63) to reach cost-effectiveness.

Interestingly the recent RA trials of Eddicks and Lanza (Eddicks, et al, 2007; Lanza, et al, 2005) estimate the absolute utility for SCS in patients with RA to be between .56 and .75, even higher than the updated threshold analysis predicts. The articles also report utility gains with SCS (compared to control of no SCS) of +0.104 and +0.40 respectively.

We would suggest that this revised analysis is presented to the appraisal committee for their consideration. We believe the revised analysis is a more appropriate analysis as it is based on what we believe to be a more plausible data set and assumptions, i.e. UK RCTs that have directly assessed costs and utility (using EQ-5D) in RA patients.

2. Cost-effectiveness modelling of complex regional pain syndrome (CRPS)

The TAR's modelling of CRPS is broadly consistent with the approach used in the submitted ABHI model, however, we note that the TAR base case ICER for CRPS is somewhat less favourable (~£25K/QALY) than the ABHI estimate although the results of the probabilistic analysis is similar (i.e. probability of >70% of that SCS is cost effective @ £20K/QALY.

In essence, it seems that the key driver of the difference in model results is that ScHARR have indirectly sourced utilities for CRPS from a UK cross sectional study in NeuP (McDermott et al, 2006) whereas the ABHI model utilised costs and utilities from the PROCESS study (pg. 76). For note, the PROCESS study results are now published and as such no longer need to be considered as AIC (reference supplied).

Looking at the utility values that ScHARR have applied to the optimal vs. sub-optimal pain relief states i.e. 0.67/0.62 vs. 0.46/0.41 (i.e. difference of 0.21/0.23), they have effectively reduced the utility difference as compared with those observed in the PROCESS data. This enables a direct comparison of CMM and SCS (i.e. 0.34) and explains the lower cost per QALY. We believe the reason for this difference should be made clear to the appraisal committee at their meeting.

3. RCT data inclusion for peripheral vascular disease and relevant population identification (PVD)

We fully understand that the decision of what PVD population will benefit most from treatment with SCS is problematic. We believe that the clinical review is comprehensive, however, the Cochrane review of SCS and PVD has not been considered due to the selection criteria applied. We would advise consideration of this Cochrane review as it is a high quality systematic review of the literature PVD clinical liteature. The abstract of this review (attached to the document) states "Patients suffering from inoperable critical leg ischemia (CLI) ultimately face a major amputation. Spinal cord stimulation (SCS) has been introduced as a possible treatment option. This paper presents the best available evidence from a systematic review on the effectiveness of SCS in these patients and discusses the indications for SCS therapy. A meta-analysis of six controlled trials, including 444 patients, showed 11% (95% confidence interval: _0.02 to _0.20) lower amputation rate after 12 months compared to those treated with optimum medical treatment. In addition, SCS patients required significantly fewer analgesics and showed a significant clinical improvement. These positive effects have to be weighed against the higher costs and (generally minor) complications of SCS. TcpO2 measurements were found to be useful in selecting the most respondent patients, yielding a 12-month limb salvage of up to 83%. Hence, SCS should be considered as a possible treatment option in patients with CLI, particularly if their foot TcpO2 is between 10 and 30 mmHg." (J Pain Symptom Manage 2006;31:S30--S35. _ 2006) This Cochrane review, based on 6 well performed trials with 450 patients in total, concluded that the amputation free interval after 1 y was significantly lower in the SCS-patient group.

4. Other considerations

- The cost-effectiveness results are reported for the base-case analysis and also for:
    a. Variations in longevity
    b. Variations in prices
    c. Simultaneous variations of price and longevity

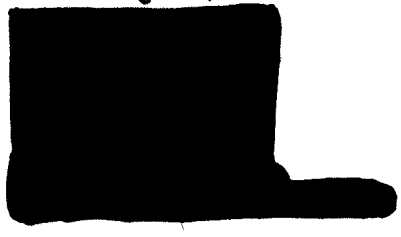
  We believe that these two parameters, the most sensitive in the analysis, should only be looked at simultaneously as they are interdependent.

- The comment on sensitivity to battery life (pg.109 para 4) should add a caveat that at an average battery life (2 to 4-years depending on indication FBSS vs. CRPS) SCS is cost effective. Different devices have different longevities, dependant on whether they are rechargeable or non rechargeable. However, the data shows that at 2 to 4 years all devices are cost-effective.

- The average cost of SCS should include all three company price submissions which have now been received by the institute. As indicated on page 85, the device price used by the Assessment Group model is the middle value from list prices communicated by 2 SCS manufacturers (Boston Scientific and Medtronic – see Appendix 9).

Please feel free to contact us regarding these comments should you have further questions,

Kind regards,



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