NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

Interventional Procedures Programme

Professional Expert questionnaire

Before completing this questionnaire, please read Conflicts of Interest for Specialist Advisers.

Please respond in the boxes provided.

Please complete and return to: azad.hussain@nice.org.uk and IPSA@nice.org.uk

Procedure Name:	**Vagus nerve stimulation for treatment-resistant depression**	
Name of Professional Expert:	Dr Girish Kunigiri	
Job title:	Consultant Psychiatrist & ECT Lead	
Professional Regulatory Body:	GMC	X
	Other (specify)	☐
Registration number:	6096608	
Specialist Society:	General Adult Psychiatry	
Nominated by (if applicable):		

1 About you and your speciality's involvement with the procedure

1.1 Do you have adequate knowledge of this procedure to provide advice?

X Yes.

☐ No – please answer no more questions and return the form

Comments:

As ECT consultant lead and my interest in other treatments for severe depression I have attended various CPD events on newer treatments such as rTMS, VNS and Ketamine. Have reviewed literature related to VNS. Provide second opinion to complex patients with Severe Mental Illness not responding to usual pharmacological

and psychological interventions. I have developed the Trust pathway for rTMS and VNS.

1.2 Is this procedure relevant to your specialty?

X Yes.

☐ No - please answer no more questions. Please give any information you can about who is likely to be doing the procedure and return the form.

Comments:

VNS is applicable for patients with severe depression and I provide second opinion in the Trust for suitability for VNS.

1.3 Is this procedure performed by clinicians in specialities other than your own?

X Yes – please comment

☐ No

Comments:

Suitability for VNS for a patient is determined by the psychiatrist and the VNS implant is done by the neurosurgeon/ENT surgeon.

1.4 If you are in a specialty that does this procedure, please indicate your experience with it:

X I have never done this procedure.

☐ I have done this procedure at least once.

☐ I do this procedure regularly.

Comments:

As a psychiatrist I identify patients who are suitable for VNS following second opinion on complex resistant depression or Bipolar depression. Once identified VNS implant is by a neurosurgeon/ENT surgeon. I am trained to set the stimulus parameters for VNS and monitor such patients.

1.5 If your specialty is involved in patient selection or referral to another specialty for this procedure, please indicate your experience with it.

☐ I have never taken part in the selection or referral of a patient for this procedure.

☐ I have taken part in patient selection or referred a patient for this procedure at least once.

X I take part in patient selection or refer patients for this procedure regularly.

Comments:

As a psychiatrist and specialist interest in ECT and related treatments, I identify patients who are suitable for VNS following second opinion on complex resistant depression or Bipolar depression. Once identified VNS implant is by a neurosurgeon/ENT surgeon. I am trained to set the stimulus parameters for VNS and follow such patients.

1.6 Please indicate your research experience relating to this procedure (please choose one or more if relevant):

☐ I have done bibliographic research on this procedure.

☐ I have done research on this procedure in laboratory settings (e.g. device-related research).

☐ I have done clinical research on this procedure involving patients or healthy volunteers.

☐ I have had no involvement in research on this procedure.

X Other (please comment)

Comments:

I am full time clinician and my role is identifying suitability of patients for VNS and setting the stimulus parameters once VNS is implanted by the neurosurgeon. I have done the literature review, given presentation on VNS and I am the principle investigator from our Trust for the following study on VNS:

A Study to Assess Effectiveness and Efficiency of VNS Therapy in Patients With Difficult to Treat Depression. (RESTORE-LIFE): The primary objective of this study is to assess short, mid and long-term clinical outcomes in patients with difficult to treat depression (such as patients with treatment resistant depression) treated with Vagus Nerve Stimulation (VNS) Therapy as adjunctive therapy. (https://clinicaltrials.gov/ct2/show/NCT03320304).

1.7 Please estimate the proportion of doctors in your specialty who are doing this procedure (choose one):

☐ More than 50% of specialists engaged in this area of work.

☐ 10% to 50% of specialists engaged in this area of work.

X Fewer than 10% of specialists engaged in this area of work.

☐ Cannot give an estimate.

Comments:

There are 3 psychiatrists (including me) in my organisation who provide expert opinion for suitability for VNS and trained in setting the stimulus parameters. None of the psychiatrists do VNS procedure.

2 About the procedure

2.1 Does the title used above describe the procedure adequately?

X Yes

☐ No - If no, please suggest alternative titles.

Comments:

2.2 Which of the following best describes the procedure (choose one):

☐ Established practice and no longer new.

☐ A minor variation on an existing procedure, which is unlikely to alter the procedure's safety and efficacy.

X Definitely novel and of uncertain safety and efficacy.

☐ The first in a new class of procedure.

Comments:

It is a well established procedure in treatment of resistant epilepsy. In severe depression and bipolar depression, although preliminary research is in favour of VNS, it needs to be established in a larger sample.

2.3 What is/are the best comparator(s) (standard practice) for this procedure?

Pharmacological interventions and possibly maintenance ECT (electroconvulsive therapy).

2.4 Are there any major trials or registries of this procedure currently in progress? If so, please list.

Restore-Life which is multicentre trial on long term follow up of patients following VNS implant (see item 1.6 for details).

2.5 Please list any abstracts or conference proceedings that you are aware of that have been *recently* presented / published on this procedure (this can include your own work). Please note that NICE will do a comprehensive literature search on this procedure and we are only asking you for any very recent or abstracts or conference proceedings which might not be found using standard literature searches. You do not need to supply a comprehensive reference list but it will help us if you list any that you think are particularly important.

de Leon VC, Drysdale AT, Conway CR, et al. Predictors of response for VNS in treatment-resistant depression. Personalised Medicine in Psychiatry (2019; in Press).

3 Safety and efficacy of the procedure

3.1 What are the potential harms of the procedure?

Please list any adverse events and major risks (even if uncommon) and, if possible, estimate their incidence:

Adverse events reported in the literature (if possible please cite literature)

Voice alteration (70%), dyspnoea (30), pain (30), increased cough (30), incisional pain (30), paraesthesia (20), headache (20)

>20% have neck pain, pharyngitis, dysphagia, incision site reaction/pain, nausea, hypertonia and insomnia.

Anecdotal adverse events (known from experience)

Nil

Theoretical adverse events

Nil

3.2 Please list the key efficacy outcomes for this procedure?

Improvement/remission in depression
Cumulative remission rate
Reduction in all cause mortality
Reduction in suicidal ideation and half the suicide rate
Increased sexual functioning
Well tolerated
Cost effective

3.3 Please list any uncertainties or concerns about the *efficacy* of this procedure?

Nil

3.4 What clinician training is required to do this procedure safely?

VNS implant is done by qualified neurosurgeon or ENT surgeon. Psychiatrists who adjust and monitor the VNS implant parameters needs to have training (half day) followed by expert supervision on at least 2-3 sessions while adjusting the stimulus parameters in a patient.

3.5 What clinical facilities are needed to do this procedure safely?

VNS implant is done in theatres and VNS devise monitoring of parameters can be done in any out patient setting.

3.6 Is there controversy, or important uncertainty, about any aspect of the way in which this procedure is currently being done or disseminated?

Adjusting the VNS devise parameters is clinically driven.

4 Audit Criteria

Please suggest potential audit criteria for this procedure.

4.1 Beneficial outcome measures. This should include short and long term clinical outcomes, quality-of-life measures and patient related outcomes. Please suggest the most appropriate method of measurement for each and the timescales over which these should be measured:

The key aim for individuals with severe and chronic depression that have not responded to other treatments is to return to being able to function to the best of their abilities, with minimum depressive symptoms and maximum possible quality of life.

A package of patient and clinician rated outcome measures specifically to measure the response to VNS Therapy is helpful, which includes:

- Clinical Global Impression scale (CGI)
- Warwick-Edinburgh Mental Well-being Scale (WEMWBS)
- Montgomery-Asberg Depression Rating Scale (MADRS)
- Hamilton Anxiety Scale
- EQ5D (standardized instrument for measuring generic health status)
- THINC-it cognitive assessment tool
- Sheehan Disability Scale (SDS)

These cover observed and reported symptoms, well-being, level of disability and quality of life as reported by patients and clinicians, as well as side effect burden.

4.2 Adverse outcome measures. This should include early and late complications. Please state the post procedure timescales over which these should be measured.

Complications due to surgical VNS implant include infection (soon after surgery) although rare.

5 Uptake of the procedure in the NHS

5.1 If it is safe and efficacious, in your opinion, how quickly do you think use of this procedure will be adopted by the NHS (choose one)?

X Rapidly (within a year or two).

☐ Slowly (over decades)

☐ I do not think the NHS will adopt this procedure

Comments:

Chronic severe depression is a very debilitating condition and has significant impact on individual quality of life and high health utilisation costs.

5.2 If it is safe and efficacious, in your opinion, will this procedure be carried out in (choose one):

☐ Most or all district general hospitals.

X A minority of hospitals, but at least 10 in the UK.

☐ Fewer than 10 specialist centres in the UK.

☐ Cannot predict at present.

Comments:

VNS implant is done in Theatres by Neurosurgeon and ENT surgeon.

5.3 If it is safe and efficacious, in your opinion, the potential impact of this procedure on the NHS, in terms of numbers of patients eligible for treatment and use of resources:

☐ Major.

☐ Moderate.

X Minor.

Comments:

VNS is an invasive treatment in psychiatry and is reserved for patients who have chronic resistant depression or Bipolar Depression who have not responded to standard pharmacological/psychological and/or ECT.

6 Other information

6.1 Is there any other information about this procedure that might assist NICE in assessing the possible need to investigate its use?

Comments:

VNS is used in Epilepsy for many years which significant benefit.

7 Data protection and conflicts of interest

7.1 Data Protection

The information you submit on this form will be retained and used by the NICE and its advisers for the purpose of developing its guidance and may be passed to other approved third parties. Your name and specialist society will be published in NICE publications and on the NICE website. The professional expert questionnaire will be published in accordance with our guidance development processes and a copy will be sent to the nominating Specialist Society. Please avoid identifying any individual in your comments.

☑ I have read and understood this statement and accept that personal information sent to us will be retained and used for the purposes and in the manner specified above. For more information about how we process your personal data please see our privacy notice

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7.2 Declarations of interest by Specialist Advisers advising the NICE Interventional Procedures Advisory Committee

Nothing in your submission shall restrict any disclosure of information by NICE that is required by law (including in particular, but without limitation, the Freedom of Information Act 2000).

Please submit a conflicts of interest declaration form listing any potential conflicts of interest including any involvement you may have in disputes or complaints relating to this procedure.

Please use the "Conflicts of Interest for Specialist Advisers" policy as a guide when declaring any conflicts of interest. Specialist Advisers should seek advice if needed from the Associate Director – Interventional Procedures. Conflicts of Interest for Specialist Advisers

Declarations of interest form			
Type of interest	**Description of interest**	**Relevant dates**	
		Interest arose	**Interest ceased**
Non Financial	Attended covnerence on VNS sponsored by Livanova (manufactures of VNS devices)	January 2018	Till date

* Guidance notes for completion of the Declarations of interest form

Name and role	Dr G Kunigiri Specialist Advisor to VNS treatment in resistant depression
Description of interest	Provide a description of the interest that is being declared. This should contain enough information to be meaningful to enable a reasonable person with no prior knowledge to be able to read this and understand the nature of the interest. Types of interest: **Direct interests**- Nil **Financial interests** - Nil **Non-financial professional and personal interests** – I have attended the conference related to VNS supported by Livanova (VNS device manufacturing company) both in UK and Europe. **Indirect interests –** Nil
Relevant dates	January 2018 till date
Comments	This field should be populated by the guidance developer and outline the action taken in response to the declared interest. It should include the rationale for this action, and the name and role of the person who reviewed the declaration.

Thank you very much for your help.

Dr Tom Clutton-Brock, Interventional Procedures Advisory Committee Chair

Mirella Marlow Programme Director

NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

Interventional Procedures Programme

Professional Expert questionnaire

Before completing this questionnaire, please read Conflicts of Interest for Specialist Advisers.

Please respond in the boxes provided.

Please complete and return to: azad.hussain@nice.org.uk and IPSA@nice.org.uk

Procedure Name:	**Vagus nerve stimulation for treatment-resistant depression**	
Name of Professional Expert:	Hamish McAllister-Williams	
Job title:	Professor of Affective Disorders	
Professional Regulatory Body:	GMC	☒
	Other (specify)	☐
Registration number:	3249563	
Specialist Society:		
Nominated by (if applicable):	Royal College of Psychiatrists	

1 About you and your speciality's involvement with the procedure

1.1 Do you have adequate knowledge of this procedure to provide advice?

☒ Yes.

☐ No – please answer no more questions and return the form

Comments:

I am a psychiatrists working in a highly specialised, tertiary level, affective disorders service where I provide advice and management for patients with complex and treatment refractory mood disorders. I have had experience over a number of years of using VNS for depression – identifying potential patients, liaising with

neurosurgical colleagues, and managing the settings of the VNS devices post-implantation.

1.2 Is this procedure relevant to your specialty?

☒ Yes.

☐ No - please answer no more questions. Please give any information you can about who is likely to be doing the procedure and return the form.

Comments:

Most definitely. Patients with severe and difficult to treat depression are managed (or should be) by psychiatrists. Once a VNS device is implanted, its monitoring and adjustment of setting needs to be done by clinicians involved in managing the patient's depression

1.3 Is this procedure performed by clinicians in specialities other than your own?

☒ Yes – please comment

☐ No

Comments:

Implantation of the device itself is performed by neurosurgeons or ENT surgeons.

1.4 If you are in a specialty that does this procedure, please indicate your experience with it:

☐ I have never done this procedure.

☐ I have done this procedure at least once.

☒ I do this procedure regularly.

Comments:

It is hard to define what "regularly" would be in this context. It is unlikely that any centre would ever get to the point of having dozens of patients with depression implanted with VNS per year. In the last 12-18 months, I have had three patients implanted. Our centre is looking to implant 6-10 per year.

1.5 If your specialty is involved in patient selection or referral to another specialty for this procedure, please indicate your experience with it.

☐ I have never taken part in the selection or referral of a patient for this procedure.

☐ I have taken part in patient selection or referred a patient for this procedure at least once.

☒ I take part in patient selection or refer patients for this procedure regularly.

Comments:

As above. I lead on VNS in our service. I accept referrals to assess patients for suitability for the intervention and then I manage the devices after implantation with the assistance of a senior nurse.

1.6 Please indicate your research experience relating to this procedure (please choose one or more if relevant):

☒ I have done bibliographic research on this procedure.

☐ I have done research on this procedure in laboratory settings (e.g. device-related research).

☒ I have done clinical research on this procedure involving patients or healthy volunteers.

☐ I have had no involvement in research on this procedure.

☐ Other (please comment)

Comments:

I have led on an analysis and write up of a paper (currently under review) regarding the efficacy of VNS for patients with bipolar depression. This utilised data held by the manufacturer of the devices (LivaNova) as part of their 5-year American registry study. This data was published in peer review paper (Aaronson et al. 2017 Am J Psychiatry 174(7):640-648.) that included data from both patients with unipolar and bipolar depression. The paper I have led on relates to just the sub-group of bipolar patients.

1.7 Please estimate the proportion of doctors in your specialty who are doing this procedure (choose one):

☐ More than 50% of specialists engaged in this area of work.

☐ 10% to 50% of specialists engaged in this area of work.

☒ Fewer than 10% of specialists engaged in this area of work.

☐ Cannot give an estimate.

Comments:

The treatment is a highly specialised one. There are only a handful of psychiatrists in the UK involved with using it.

2 About the procedure

2.1 Does the title used above describe the procedure adequately?

☒ Yes

☐ No - If no, please suggest alternative titles.

Comments:

Note: "Treatment Resistant Depression" remains the most commonly used terminology for the patients involved. However, it is important to be aware that there is a move to replace this with the terminology "Difficult to treat depression" for both semantic and conceptual reasons (see Rush AJ, Aaronson ST, Demyttenaere K. "Difficult-to-treat depression: A clinical and research roadmap for when remission is elusive." Aust N Z J Psychiatry. 2019 Feb;53(2):109-118)

2.2 Which of the following best describes the procedure (choose one):

☐ Established practice and no longer new.

☐ A minor variation on an existing procedure, which is unlikely to alter the procedure's safety and efficacy.

☐ Definitely novel and of uncertain safety and efficacy.

☐ The first in a new class of procedure.

Comments:

I can't choose between either option 1 or 2. The surgical implantation of the VNS device is established practice. Over 100,000 patients have been implanted worldwide for treatment resistant epilepsy. It could be argued that it is just a minor variation using the identical surgical procedure but in a different patient population. In terms of treatment resistant depression, there have been around 5,000 patients implanted worldwide and the treatment has had European approval (CEA) since 2001. It has been used sporadically in Europe since then, with rates in the UK being very low (<10 patients/year across the whole country). Initially, the low rate of use was due to a very limited evidence base for efficacy, but also problems in securing funding for the procedure (all were done under IFRs). The publication of 5 year follow up data in 2017 (Aaronson et al. 2017 Am J Psychiatry 174(7):640-648.) has led to a resurgence of interest in the treatment. Use continues to be limited by funding problems.

2.3 What is/are the best comparator(s) (standard practice) for this procedure?

There is no single best comparison. This is primarily because the positive effects of VNS appear to build over a time scale of years. This is very different to any other specific treatment used for depression. In the recent registry study, VNS was

compared with ongoing “Treatment as usual” (TAU). This seems the most appropriate comparator.

2.4 Are there any major trials or registries of this procedure currently in progress? If so, please list.

Yes. A randomised controlled trial is just staring in the USA (The “RECOVER” study). In Europe there is currently a registry study underway (“RESTORE-Life”). All, or at least most, sites utilising the treatment in the UK are recruiting patients into RESTORE-Life. Both are run by the company (LivaNova).

2.5 Please list any abstracts or conference proceedings that you are aware of that have been *recently* presented / published on this procedure (this can include your own work). Please note that NICE will do a comprehensive literature search on this procedure and we are only asking you for any very recent or abstracts or conference proceedings which might not be found using standard literature searches. You do not need to supply a comprehensive reference list but it will help us if you list any that you think are particularly important.

Aaronson et al. 2018 Poster presented at ECNP examining the effect of VNS in patients on maintenance ECT. The importance of this small case series is that it points to a particular group of patients for whom alternative treatments are desperately needed, and who may respond to VNS particularly well.

3 Safety and efficacy of the procedure

3.1 What are the potential harms of the procedure?

Please list any adverse events and major risks (even if uncommon) and, if possible, estimate their incidence:

Adverse events reported in the literature (if possible please cite literature)

Voice alteration – very approximately 70% at 12 months, 50% at 24 months

Dyspnea – ditto - 30% and 20%

Pain – ditto - 30% and 10%

Increased cough – ditto - 30% and 10%

Incision pain – ditto - 30% and 5%

Parasthesia – ditto - 20% and 5%

Headache - ditto – 20% and 15%

See Berry SM, et al Med Devices (Auckl). 2013;6:17-35

Anecdotal adverse events (known from experience)

Generaly well tolerated. It is possible to assess this in the clinic when setting the device parameters and hence adjusting these if there is an issue before the patient leaves.

Theoretical adverse events

3.2 Please list the key efficacy outcomes for this procedure?

Depressive symptoms
Quality of life

3.3 Please list any uncertainties or concerns about the *efficacy* of this procedure?

The major problem was a “negative RCT” published in 2005 (Rush et al. Biol Psychiatry. 2005 Sep 1;58(5):347-54). In this study “active” VNS failed to separate out from implanted but not turned on VNS on the primary outcome (Hamilton Rating Scale for Depression). However, there are a number of issues with this study:

- The primary outcome was assessed after just 10 weeks treatment. We mow know that it is necessary to wait at least 6 months, and ideally 12 months, to assess the efficacy of the treatment
- The VNS settings were sub-optimal, based on subsequent data, in over half the patients
- Despite these two issues, the treatment was significant superior to the control on secondary measures of mood.

Patients included in the RCT were then followed up in an open study and compared with a similar, non-randomised, group of patients. Those receiving VNS had better outcomes (George et al. Biol Psychiatry. 2005 Sep 1;58(5):364-73.) However, the fact that the patients were not randomised to the two groups, plus the comparator group was recruited separately and at a latter date, led to concerns about the data.

Since this time there two main developments with regards to the efficacy of VNS for depression have been the publication of a meta-analysis (Berry et al. Med Devices (Auckl). 2013;6:17-35.) and the 5 year registry data (Aaronson et al. 2017 Am J Psychiatry 174(7):640-648.)

3.4 What clinician training is required to do this procedure safely?

In terms of the management of the device post implantation training in the programme of the device is needed. This is supplied by the company. It takes a couple of hours.

3.5 What clinical facilities are needed to do this procedure safely?

Aside from the actual surgery, the subsequent management of the device can be done in standard psychiatric outpatient clinics. No particular facilities are required.

3.6 Is there controversy, or important uncertainty, about any aspect of the way in which this procedure is currently being done or disseminated?

There is controversy as to the funding of the procedure. There are a couple of mental health Trusts who have agreed to fund it and at least one CCG. However, mostly it continues to be funded by IFRs. This is at odds with the funding of VNS for epilepsy which is funded by NHS England.

An additional controversy is under what circumstances the treatment can be provided. NICE guidance [IPG330] has been that the "procedure should be used only with special arrangements for clinical governance, consent and audit or research". There is debate as to whether the procedure should be able to be used outside of research studies.

4 Audit Criteria

Please suggest potential audit criteria for this procedure.

4.1 Beneficial outcome measures. This should include short and long term clinical outcomes, quality-of-life measures and patient related outcomes. Please suggest the most appropriate method of measurement for each and the timescales over which these should be measured:

The RESTORE-Life registry study provides a very comprehensive set of "audit" measures of mood and quality of life. The protocol can be supplied if required.

4.2 Adverse outcome measures. This should include early and late complications. Please state the post procedure timescales over which these should be measured.

Minimum 12 months, ideally 24 months. This is because many of the adverse effects are minor and subside over time.

5 Uptake of the procedure in the NHS

5.1 If it is safe and efficacious, in your opinion, how quickly do you think use of this procedure will be adopted by the NHS (choose one)?

☒ Rapidly (within a year or two).

☐ Slowly (over decades)

☐ I do not think the NHS will adopt this procedure

Comments:

…but with the proviso that it is adopted just in highly specialised unit, at least in the first instance.

5.2 If it is safe and efficacious, in your opinion, will this procedure be carried out in (choose one):

☐ Most or all district general hospitals.

☒ A minority of hospitals, but at least 10 in the UK.

☐ Fewer than 10 specialist centres in the UK.

☐ Cannot predict at present.

Comments:

At the present time the centres are in Dundee, Newcastle, Leicester, Avon & Wiltshire, Southampton, London. Others are potentially developing. The number is likely to be around 10-12.

5.3 If it is safe and efficacious, in your opinion, the potential impact of this procedure on the NHS, in terms of numbers of patients eligible for treatment and use of resources:

☐ Major.

☐ Moderate.

☒ Minor.

Comments:

It is likely to be a small number of patients e.g. 10-20 per centre/year. The health economics suggest that this will lead to NHS cost savings.

6 Other information

6.1 Is there any other information about this procedure that might assist NICE in assessing the possible need to investigate its use?

Comments:

7 Data protection and conflicts of interest

7.1 Data Protection

The information you submit on this form will be retained and used by the NICE and its advisers for the purpose of developing its guidance and may be passed to other approved third parties. Your name and specialist society will be published in NICE publications and on the NICE website. The professional expert questionnaire will be published in accordance with our guidance development processes and a copy will be sent to the nominating Specialist Society. Please avoid identifying any individual in your comments.

√ I have read and understood this statement and accept that personal information sent to us will be retained and used for the purposes and in the manner specified above. For more information about how we process your personal data please see our privacy notice

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7.2 Declarations of interest by Specialist Advisers advising the NICE Interventional Procedures Advisory Committee

Nothing in your submission shall restrict any disclosure of information by NICE that is required by law (including in particular, but without limitation, the Freedom of Information Act 2000).

Please submit a conflicts of interest declaration form listing any potential conflicts of interest including any involvement you may have in disputes or complaints relating to this procedure.

Please use the "Conflicts of Interest for Specialist Advisers" policy as a guide when declaring any conflicts of interest. Specialist Advisers should seek advice if needed from the Associate Director – Interventional Procedures. Conflicts of Interest for Specialist Advisers

Declarations of interest form			
Type of interest	**Description of interest**	**Relevant dates**	
		Interest arose	**Interest ceased**
Personal Financial interest	I have received hospitality in terms of accommodation and meals from the manufacturer of the VNS devices,	Intermittent since 2016	ongoing

	LivaNova, while attending advisory board meetings and professional meetings		
Non-personal financial interest	Honoraria due for my attending advisory board meetings or giving talks at LivaNova meetings have been paid to Newcastle University	Intermittent since 2016	ongoing
Personal non-financial interest	I am the lead author of a paper on VNS in bipolar disorder, using data from LivaNova. I am an author on a number of papers that at least tangentially are relevant to the use of VNS, e.g. in providing guidance on when such treatments should be used and guidelines on managing difficult to treat depression. I am working on further papers directly or indirectly related to VNS	Intermittent since 2017	ongoing

* Guidance notes for completion of the Declarations of interest form

Name and role	Insert your name and your position in relation to your role within NICE
Description of	Provide a description of the interest that is being declared. This

interest	should contain enough information to be meaningful to enable a reasonable person with no prior knowledge to be able to read this and understand the nature of the interest. Types of interest: **Direct interests** **Financial interests** - Where an individual gets direct financial benefits from the consequences of a decision they are involved in making. *For examples of financial interests please refer to the policy on declaring and managing interests.* **Non-financial professional and personal interests -** Where an individual obtains a non-financial professional or personal benefit, such as increasing or maintaining their professional reputation, from the consequences of a decision they are involved in making. *For examples of non-financial interests please refer to the policy on declaring and managing interests.* **Indirect interests -** Where there is, or could be perceived to be, an opportunity for a third party associated with the individual in question to benefit. A benefit may arise from both a gain or avoidance of a loss.
Relevant dates	Detail here when the interest arose and, if applicable, when it ceased.
Comments	This field should be populated by the guidance developer and outline the action taken in response to the declared interest. It should include the rationale for this action, and the name and role of the person who reviewed the declaration.

Thank you very much for your help.

Dr Tom Clutton-Brock, Interventional Procedures Advisory Committee Chair

Mirella Marlow Programme Director