



9<sup>th</sup> June 2023

Committee Secretary

Senate Standing Committees on Community Affairs

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Electronic submission

Dear Committee,

**Ref: Senate Inquiry into Assessment and Support Services for people with ADHD**

The Applied Neuroscience Society of Australasia (ANSA) is a membership organization comprised of Health Professionals and researchers from Australia, Australasia and New Zealand, involved in the promotion of better mental health. ANSA promotes education and professional excellence in the areas of Applied Psychophysiology and Neurotherapy. Members of ANSA include psychologists, psychiatrists and other health practitioners who provide neurotherapy services, often in addition to other services including more traditional “talking therapies” and medication prescribing.

ANSA welcomes the opportunity to provide the Committee with this feedback and notes the Terms of Reference around “Barriers to consistent, timely and best practice assessment of attention deficit hyperactivity disorder (ADHD) and support services for people with ADHD”. We refer specifically to those of relevance to ANSA’s remit, below.

**Summary**

- *A growing number of Australian children, adults and families living with ADHD, want access to treatment options beyond medication.*
- *The inclusion of objective measures in assessment and diagnosis of ADHD is essential to improve accuracy and reliability of diagnosis*
- *EEG Neurofeedback is a viable, safe and effective evidence-based treatment for the symptoms of ADHD, and can be effectively used alongside, or as an alternative to medication.*
- *Increasing access to non-pharmacological approaches like neurofeedback would reduce demand and impact on wait times and costs for assessment (required for medication), which have increased significantly.*
- *The AADPA Clinical practice guidelines have failed to accurately assess or address the evidence for non-pharmacological approaches, and have not accounted for issues with the use of standard placebo assessment in neuromodulation.*



**(a) adequacy of access to ADHD diagnosis**

The wait times and prohibitive costs for psychiatric or paediatric assessment (necessary to access stimulant medication for ADHD) are well-documented. ANSA believes these wait times are made considerably worse for Australians with ADHD, by the lack of accessible non-medication alternatives to medication (see “b”, below). Because ADHD services within the public sector are almost non-existent, Australians must access services in the private practice market – seeing GPs, psychiatrists or psychologists in small-business settings. The increase in demand for ADHD assessment and treatment, with a very limited supply base (the workforce for those professions) has seen the cost of assessment increase significantly over recent years.

The reliance on clinical interview and observation means our assessment framework is flawed, and is subjective in nature. This negates the extensive evidence for more reliable diagnostic tools, including Continuous Performance Tasks (where the person’s responses including attention, concentration, distractability and impulsivity are accurately measured), and brainwave / EEG assessment as diagnostic tools with high validity and specificity for ADHD.

*A solution* to this would be allowing for treatment to be accessed after assessment by a broader range of health practitioners, including psychologists. The inclusion of an objective continuous performance task and brainwave analysis would increase diagnostic validity and accuracy. A further solution would be increasing access to non-pharmacological treatments for ADHD, to reduce demand for psychiatry and paediatrics for the purpose of prescription.

**(b) adequacy of access to supports after an ADHD assessment;**

*A growing number of Australian children, adults and families living with ADHD, want access to treatment options beyond medication. EEG Neurofeedback is a viable, safe and effective evidence-based treatment for the symptoms of ADHD, and can be effectively used alongside, or as an alternative to medication.*

While medication impacts predominantly on the *chemistry* of the body, including the brain, Neurofeedback (also called Neurotherapy, or EEG Biofeedback), aims to change the *circuitry* of the brain – its electrical activity. In EEG Neurofeedback training, brainwave activity is measured (usually in a practitioner’s office, with electrodes applied to the scalp), analysed, and the person supported through the use of feedback software, to change the patterns of neuronal firing that underpin their symptoms. There are decades of research<sup>1</sup> identifying particular brainwave patterns related to ADHD, and significant evidence suggesting that Neurofeedback can be a powerful way to change these brainwave patterns and reduce inattention, improving regulation of focus, impulsivity and emotional and behavioural functioning for people with an ADHD diagnosis. The impact of Neurofeedback on ADHD symptoms is long-lasting and extends well beyond the period for which Neurofeedback is provided. In contrast to many pharmaceutical treatments for ADHD, Neurofeedback does not cause significant adverse or side effects. For many Australians living with ADHD, as well as their parents and carers, Neurofeedback offers hope of significant improvement or remission in ADHD symptoms, especially for those concerned about potential side effects of pharmacotherapy, partial drug-responders, or those unable to access medication due to the need for multiple professionals, and the time and cost involved.



At present in Australia, there are hundreds of practitioners offering Neurofeedback services to children and adults with ADHD, however these are largely self-funded, meaning this support, and the pathway to recovery it offers, is only available to the wealthy.

A *solution* to this would be the inclusion of Medicare Rebates for treatment of ADHD using standard ADHD neurofeedback protocols, delivered by BCIA-A<sup>1</sup> accredited practitioners. This could occur within the Focussed Psychological Strategies delivered under the Better Access programme if ADHD were added to the list of health conditions treated under that programme, or could be added as a separate group of items. In a similar fashion to the Eating Disorder items currently included in the MBS, this could be based upon a collaborative team-based care approach, with rigorous assessment, prescribed treatment options, and outcome evaluation all a part of the programme. Such an approach would significantly reduce the burden of disease for the economy, and for the many Australians living with the effects of ADHD. ANSA would be happy to consult around the framework for such a programme, including Clinical Governance and workforce development and accreditation.

**(c) the availability, training and attitudes of treating practitioners, including workforce development options for increasing access to ADHD assessment and support services;**

Australians with ADHD often face significant delays and cost-barriers in accessing effective care, especially if they seek to access non-pharmacological therapies (either instead of, or as an adjunct to, medication). While ANSA is a small but growing group of psychologists, psychiatrists and other allied health and medical practitioners with training and interest in applied neuroscience, many Australian practitioners (in Medicine and Allied Health), learn very little, in their standard training, about the organ they are predominantly treating – the human brain. This limits their capacity to understand, refer, treat or assist in treatment planning that includes neuroscience-informed approaches like EEG neurofeedback. The assessment of brainwave activity, and the use of Continuous Performance tests are standard practice in the neurofeedback field, and supporting increased access to neurofeedback practitioners through the strategies outlined herein, would increase access to evidence-based assessment of ADHD, as well as a broader range of treatment options.

The field of EEG neurofeedback in Australia is small but growing, with emerging evidence of its efficacy across a range of diagnostic categories, and a growing awareness with health practitioners, that it impacts on symptoms in ways that other therapies do not. The equipment and training to become an accredited neurofeedback practitioner are expensive and the time commitment is considerable, which can be a limiting factor when most healthcare practitioners operate in small business settings.

A *solution* around the “knowledge base” issue would be working with each of the regulatory bodies for health practitioners working with ADHD (including General Practice, Psychiatry, Paediatrics, Psychology) to ensure that training pathways for those professions include adequate learning about functional neuroanatomy and neurophysiology, and to ensure that their required professional competencies include a capacity to assess, treat and monitor

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<sup>1</sup> Biofeedback Certification International Alliance – Australia is the Australian chapter of the international body which accredits the training and experience of neurofeedback practitioners.



conditions like ADHD with an understanding of brain function relevant to their respective fields.

*Possible solutions* to increase the workforce in effective neurotherapy could include the funding of BCIA-A to grow its reach in accrediting more existing providers, tax incentives for providers interested in offering neurofeedback (including instant asset write-off for equipment), rebates under the MBS for accredited providers (to incentivise training), the funding of ANSA to provide support for practitioners interested in adding neurofeedback to their clinical toolkit, and to increase awareness in health practitioners, of EEG neurofeedback as a treatment modality.

**(d) access to and cost of ADHD medication, including Medicare and Pharmaceutical Benefits Scheme coverage and options to improve access to ADHD medications;**

Australians with ADHD need and deserve affordable access to a range of treatment options and these should include, through the PBS and the MBS, access to pharmacological treatments, and the doctors who prescribe them. Additionally and importantly though, Australians with ADHD deserve access to non-pharmacological therapies including EEG neurofeedback.

**(e) the role of the National Disability Insurance Scheme in supporting people with ADHD, with particular emphasis on the scheme's responsibility to recognise ADHD as a primary disability;**

While the severity of ADHD symptoms and their impact can vary widely, at its worst, ADHD can have severe and profound effects on a person's ability to learn, study, work, play, parent, or participate in community life. The NDIS has a vital role to play in those impacted most by ADHD, by providing not only supports but true capacity-building. EEG neurofeedback is a powerful and effective way for NDIS participants to improve their abilities to concentrate, to think clearly, to plan and organise, to inhibit impulses and regulate emotion and behaviour.

**(f) the adequacy of, and interaction between, Commonwealth, state and local government services to meet the needs of people with ADHD at all life stages;**

In many ways ADHD is the Forgotten Disorder – rarely treated well within Commonwealth-funded primary care, and completely ignored by most State-funded health systems. The real divide in our health system which impacts Australians with ADHD, and the gap through which many “fall”, is the divide between public and private sectors – with a dearth of any publicly funded assessment or support options, appropriate diagnosis and treatment are all too often available only to those with capacity to pay.

*A solution* would be to establish a pilot programme within schools, or Headspace settings, with practitioners trained and equipped to provide a range of evidence-based therapies including EEG Neurofeedback This could easily be scaled across states or regions. Several school-run neurofeedback programmes overseas, and some in the Australian context, have shown promising results with significant return on investment for government, and benefits across a range of domains for participants.



**(j) the viability of recommendations from the Australian ADHD Professionals Association’s Australian evidence-based clinical practice guideline for ADHD;**

An ANSA representative was a participant in the AADPA Guideline Development Group, and ANSA participated actively in the consultation before the final guideline was published. ANSA declined to endorse the Guideline, citing concerns about the manner in which some aspects of the Literature Review and Guideline Development process were undertaken, and about the Guideline’s portrayal of non-pharmacological areas of treatment. We are not satisfied that an accurate assessment of the Literature in some areas, including Neurofeedback, has been reflected in the Guideline, nor are we satisfied that the process of Guideline development was undertaken with consistently appropriate rigour or governance. An opportunity has thus been missed, in regard to ensuring Australian consumers and clinicians can rely upon this Guideline for a truly up-to-date appraisal of the current state of evidence in relation to ADHD interventions across both pharmacological and non-pharmacological domains.

There is not a direct mapping of pharmaceutical-style placebo-control in areas of neurophysiological regulation that involve brain training, and the Guideline process failed to recognise this. Even in placebo-controlled biofeedback studies, the brain is rewarded for regulating artefact and factors like muscle tension, and nervous system arousal in placebo groups – this reflects in the Literature as a smaller difference between the “control” and “treatment” groups which we might see in medication placebo – when the brain is encouraged to regulate itself through neurofeedback, there is no true “placebo”, and mainstream approaches to clinical trials rarely reflect this. The analysis of the Literature undertaken for the Guideline failed to account for this characteristic of neurophysiological research.

Further, the presentation of recommendations in the Guideline, could potentially be misleading for the lay public audience. For example, only 2 small Randomised Controlled Trials (RCTs) were identified related to ADHD Coaching, and the limited extent and poor quality of the Literature was noted in the body of the Guideline, however a recommendation was made on the basis of scant, emerging evidence, that Coaching “could be” considered as a support. Notwithstanding the translational difficulties and limitations of the Literature Review on neurofeedback discussed above, no recommendation was made on neurofeedback. A lay person (or even a health practitioner with limited understanding of neurophysiology and the impact of artefact-control on placebo mechanism) could conclude that this means there is more evidence to support Coaching than Neurofeedback, and this is not the case. ANSA considers this to be misleading, and it diminishes the utility of the Guideline for practical use.

We understand several other individuals and organisations have similarly expressed concerns about the process with which the Guideline was developed, and that these concerns have been expressed to the NHMRC.

The premise of the Guideline, wherein ADHD (and its assessment and treatment) was considered as a separate diagnostic entity, belies the clinical reality faced by consumers, carers and practitioners alike – that co-morbidity and complex interactions with a range of psychosocial factors and social determinants of health, are the norm rather than the exception



in ADHD<sup>ii</sup>. If we are to tackle the current and predicted future surge in ADHD presentations, we must look more broadly and address the range of causal pathways to these symptoms. ANSA supports the American Academy of Paediatrics in their call to action for patients with identifying co-morbid and causal factor including toxic stress, to be supported with “trauma-specific mental health interventions and approaches for those exhibiting neuropsychiatric symptoms that address toxic stress neurobiology, such as...neurofeedback”.

ANSA would welcome the opportunity to provide further information or speak in more detail with any member of the Inquiry Committee. We trust and hope that this Inquiry will be an opportunity for Australia’s response to the needs of consumers with ADHD to be truly innovative, accessible and effective.

Please direct any questions or requests for further information to:

Jillian Harrington FCCLP MAPS GAICD  
 President  
 Applied Neuroscience Society of Australasia

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**References (further references available upon request)**

Arns, M., Clark, C.R., Trullinger, M. *et al.* Neurofeedback and Attention-Deficit/Hyperactivity-Disorder (ADHD) in Children: Rating the Evidence and Proposed Guidelines. *Appl Psychophysiol Biofeedback* **45**, 39–48 (2020). <https://doi.org/10.1007/s10484-020-09455-2>

Arns M, de Ridder S, Strehl U, Breteler M, Coenen A. Efficacy of Neurofeedback Treatment in ADHD: The Effects on Inattention, Impulsivity and Hyperactivity: A Meta-Analysis. *Clinical EEG and Neuroscience*. 2009;40(3):180-189. doi:[10.1177/155005940904000311](https://doi.org/10.1177/155005940904000311)<sup>i</sup>

Enriquez-Geppert S, Smit D, Pimenta MG, Arns M. Neurofeedback as a Treatment Intervention in ADHD: Current Evidence and Practice. *Curr Psychiatry Rep*. 2019 May 28;21(6):46. doi: 10.1007/s11920-019-1021-4. PMID: 31139966; PMCID: PMC6538574.

Kerstin Mayer, Friederike Blume, Sarah Nicole Wyckoff, Luisa Leonie Brokmeier, Ute Strehl, Neurofeedback of slow cortical potentials as a treatment for adults with Attention Deficit-/Hyperactivity Disorder, *Clinical Neurophysiology*, Volume 127, Issue 2, (2016), <https://doi.org/10.1016/j.clinph.2015.11.013>.

<sup>ii</sup> Rachel Gilgoff, Tanya Schwartz, Mikah Owen, Devika Bhushan, Nadine Burke Harris; Opportunities to Treat Toxic Stress. *Pediatrics* January 2023; 151 (1): e2021055591. 10.1542/peds.2021-055591