NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

Proposed Health Technology Appraisal

Solriamfetol for treating excessive sleepiness caused by narcolepsy or obstructive sleep apnoea

Draft scope (pre-referral)

Draft remit/appraisal objective

To appraise the clinical and cost effectiveness of solriamfetol within its marketing authorisation for treating excessive sleepiness caused by narcolepsy or obstructive sleep apnoea.

Background

Excessive sleepiness (also known as hypersomnia) means people struggle to stay awake and alert during the day, leading to an irrepressible need to sleep or unintended lapses into drowsiness or sleep. People with excessive sleepiness are likely to fall asleep during the day (often while eating or talking), regularly nap during the day but wake up feeling unrefreshed, and still sleep for long hours at night. Causes of excessive sleepiness include narcolepsy and obstructive sleep apnoea (OSA)[1]. Excessive sleepiness caused by narcolepsy or OSA can affect many aspects of daily life, including education, employment, driving, relationships and emotional health and general health.

Narcolepsy is a rare, disabling long-term brain disorder that causes a person to fall asleep at inappropriate times. It is estimated to affect at least 25,000 people in the UK, and is usually diagnosed between 20 and 40 years of age, although the symptoms often begin during adolescence. In people with narcolepsy, the brain is unable to regulate sleep and waking patterns normally, which can result in excessive daytime sleepiness, sleep paralysis, excessive dreaming, disturbed nocturnal sleep, sleep attacks (falling asleep suddenly and without warning) and cataplexy (temporary loss of muscle control resulting in weakness and possible collapse)[2].

OSA is a condition in which a person stops breathing for a short time when they are asleep because of a closing or narrowing of the throat[3]. The blocking of the airway leads to breathing difficulties which causes people to wake suddenly and subsequently interrupts sleep. Interruption of normal sleeping patterns leads to excessive daytime sleepiness, and reduced concentration and alertness[3]. An estimated 1.5 million adults it in the UK have OSA, but up to 85% are undiagnosed and untreated.[5] The prevalence of OSA increases with age, with around 15 to 20% of people 70 years or older estimated to have OSA[4,5].

Medicines used to treat the symptoms of narcolepsy include stimulants such as modafinil, dexamfetamine or methylphenidate; sodium oxybate; and

antidepressants such as selective serotonin reuptake inhibitors (SSRIs), serotonin–noradrenaline reuptake inhibitors (SNRIs) or tricyclic antidepressants. Pitolisant is another treatment option for people with narcolepsy (NICE evidence summary 8). Some of these medicines are not licensed for the treatment of narcolepsy and they vary in the evidence available for their effectiveness in treating narcolepsy.

Managing OSA may involve lifestyle changes such as losing weight, stopping smoking and limiting alcohol consumption[5]. Continuous positive airway pressure is recommended as a treatment option for adults with moderate or severe symptomatic OSA, and for adults with mild OSA who have symptoms that affect their daily activities and have not responded to lifestyle changes (NICE technology appraisal 139). Other treatment options for OSA include mandibular advancement devices and surgery[6]. Sleepiness associated with OSA can be treated with stimulants such as dexamfetamine, modafinil and methylphenidate.

The technology

Solriamfetol (brand name unknown, Jazz Pharmaceuticals) is a phenylalanine-derived, second-generation wake-promoting agent. Solriamfetol prevents the reuptake of dopamine and noradrenaline, and indirectly enhances dopaminergic and noradrenergic neurotransmission. It is administered orally.

Solriamfetol does not currently have a marketing authorisation in the UK. It has been studied in clinical trials compared with placebo in people with narcolepsy or OSA.

Intervention(s)	Solriamfetol
Population(s)	People with excessive sleepiness caused by narcolepsy or obstructive sleep apnoea

Comparators	• Modafinil • Dexamfetamine • Methylphenidate • Sodium oxybate Additionally for people with excessive sleepiness caused by narcolepsy: • Antidepressants (such as selective serotonin reuptake inhibitors (SSRIs), serotonin–noradrenaline reuptake inhibitors (SNRIs) or tricyclic antidepressants) • Pitolisant For people with excessive sleepiness caused by OSA: • Above treatments with or without continuous positive airway pressure
Outcomes	The outcome measures to be considered include: • sleepiness • sleep latency • adverse effects of treatment • health-related quality of life.
Economic analysis	The reference case stipulates that the cost effectiveness of treatments should be expressed in terms of incremental cost per quality-adjusted life year. The reference case stipulates that the time horizon for estimating clinical and cost effectiveness should be sufficiently long to reflect any differences in costs or outcomes between the technologies being compared. Costs will be considered from an NHS and Personal Social Services perspective.

Other considerations	If the evidence allows the following subgroups will be considered: • people with underlying narcolepsy • people with underlying OSA. Guidance will only be issued in accordance with the marketing authorisation. Where the wording of the therapeutic indication does not include specific treatment combinations, guidance will be issued only in the context of the evidence that has underpinned the marketing authorisation granted by the regulator.
Related NICE recommendations and NICE Pathways	Related Technology Appraisals: Continuous positive airway pressure for the treatment of obstructive sleep apnoea/hypopnoea syndrome (2008). NICE Technology Appraisal 139. Review date: TBC. Guidelines in development: 'Sleep disordered breathing'. Expected publication date, August 2020. Related Interventional Procedures: Hypoglossal nerve stimulation for moderate to severe obstructive sleep apnoea. NICE interventional procedures guidance 598. Soft-palate implants for obstructive sleep apnoea. NICE interventional procedures guidance 241. Related Evidence Summaries: Narcolepsy with or without cataplexy in adults: pitolisant. NICE evidence summary 8. Related NICE Pathways: Neurological conditions (2014) NICE pathway Respiratory conditions (2015) NICE pathway
Related National Policy	NHS England (2018) Highly specialised services 2017 NHS England (2017) Next steps on the five year forward view NHS England (2017) Manual for prescribed specialised services 2017/18 Chapter 128 NHS England (2016) Clinical Commissioning Policy: Sodium oxybate for symptom control of narcolepsy with cataplexy (children) NHS England (2014) NHS Five year forward view

	NHS England (2017) Manual for Prescribed Specialised Services 2017/18. Department of Health and Social Care, NHS Outcomes Framework 2016-2017 (published 2016): Domain 2. https://www.gov.uk/government/publications/nhs-outcomes-framework-2016-to-2017

Questions for consultation

Which treatments are considered to be established clinical practice in the NHS for excessive sleepiness caused by narcolepsy or OSA?

- Is pitolisant used in clinical practice to treat excessive sleepiness caused by narcolepsy or OSA (outside its marketing authorisation)?
- For people with excessive sleepiness caused by OSA, would solriafemtol be considered in addition to, or as an alternative to, continuous positive airway pressure?
- For people with excessive sleepiness caused by OSA, would additional interventions (such as lifestyle changes, mandibular advancement devices or surgery) be relevant comparators?
- Have all relevant comparators for solriamfetol been included in the scope?

Are the outcomes listed appropriate?

Are the subgroups suggested in 'other considerations' appropriate?

- Are there any other subgroups of people in whom solriamfetol is expected to be more clinically effective and cost effective or other groups that should be examined separately?
- Is it appropriate to appraise solriamfetol as a single technology appraisal and consider the underlying conditions (narcolepsy and OSA) as subgroups within one population?

Where do you consider solriamfetol will fit into the existing NICE pathways, Neurological conditions and Respiratory conditions?

NICE is committed to promoting equality of opportunity, eliminating unlawful discrimination and fostering good relations between people with particular protected characteristics and others. Please let us know if you think that the proposed remit and scope may need changing in order to meet these aims. In particular, please tell us if the proposed remit and scope:

- could exclude from full consideration any people protected by the equality legislation who fall within the patient population for which solriamfetol will be licensed;

- could lead to recommendations that have a different impact on people protected by the equality legislation than on the wider population, e.g. by making it more difficult in practice for a specific group to access the technology;

- could have any adverse impact on people with a particular disability or disabilities.

Please tell us what evidence should be obtained to enable the Committee to identify and consider such impacts.

Do you consider solriamfetol to be innovative in its potential to make a significant and substantial impact on health-related benefits and how it might improve the way that current need is met (is this a 'step-change' in the management of the condition)?

Do you consider that the use of solriamfetol can result in any potential significant and substantial health-related benefits that are unlikely to be included in the QALY calculation?

Please identify the nature of the data which you understand to be available to enable the Appraisal Committee to take account of these benefits.

To help NICE prioritise topics for additional adoption support, do you consider that there will be any barriers to adoption of this technology into practice? If yes, please describe briefly.

NICE intends to appraise this technology through its Single Technology Appraisal (STA) Process. We welcome comments on the appropriateness of appraising this topic through this process. (Information on the Institute's Technology Appraisal processes is available at http://www.nice.org.uk/article/pmg19/chapter/1-Introduction).

References

1 NHS (2017) Excessive daytime sleepiness (hypersomnia). Accessed September 2018.

2 NHS (2016) Narcolepsy: overview. Accessed September 2018

3 Mason M, Welsh EJ and Smith I. (2013) Drug therapy for obstructive sleep apnoea in adults (review). Cochrane Database of Systematic Reviews 5.

4 McMillan A, Bratton DJ, Faria R *et al*. (2015) A multicentre randomised controlled trial and economic evaluation of continuous positive airway pressure for the treament of obstructive sleep apnoea syndrome in older people: PREDICT. Health Technology Assessment, No. 19(40): 1-188

5 Obstructive Sleep Apnoea (OSA) (2015). British Lung Foundation. Accessed September 2018.

6 NHS (2016) Obstructive sleep apnoea: treatment. Accessed September 2018.