NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

Final appraisal document

Upadacitinib for treating active psoriatic arthritis after inadequate response to DMARDs

1 Recommendations

1.1 Upadacitinib, alone or with methotrexate, is recommended as an option for treating active psoriatic arthritis in adults whose disease has not responded well enough to disease-modifying antirheumatic drugs (DMARDs) or who cannot tolerate them. It is recommended only if they have peripheral arthritis with 3 or more tender joints and 3 or more swollen joints and:

- they have had 2 conventional DMARDs and at least 1 biological DMARD or
- TNF-alpha inhibitors are contraindicated but would otherwise be considered (as described in NICE's technology appraisal guidance on etanercept, infliximab and adalimumab for the treatment of psoriatic arthritis).

Upadacitinib is recommended only if the company provides it according to the commercial arrangement.

1.2 Assess the response to upadacitinib after 12 weeks of treatment. Only continue treatment if there is clear evidence of response, defined as an improvement in at least 2 of the 4 Psoriatic Arthritis Response Criteria (PsARC), 1 of which must be joint tenderness or swelling score, with no worsening in any of the 4 criteria. If PsARC response does not justify continuing treatment but there is a Psoriasis Area and Severity Index

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(PASI) 75 response, a dermatologist should decide whether continuing treatment is appropriate based on skin response.

1.3 Take into account any physical, sensory or learning disabilities, or communication difficulties that could affect the responses to the PsARC and make any appropriate adjustments.

1.4 Take into account how skin colour could affect the PASI score and make any appropriate adjustments.

1.5 These recommendations are not intended to affect treatment with upadacitinib that was started in the NHS before this guidance was published. People having treatment outside this recommendation may continue without change to the funding arrangements in place for them before this guidance was published, until they and their NHS clinician consider it appropriate to stop.

Why the committee made these recommendations

Upadacitinib is a biological DMARD. People with psoriatic arthritis that is not controlled well enough after 2 conventional DMARDs usually have biological DMARDs. Many of these are already recommended by NICE for treating psoriatic arthritis.

Clinical evidence shows that upadacitinib is more effective than placebo for treating active psoriatic arthritis and may be similarly as effective as adalimumab, another biological DMARD. But upadacitinib has not been directly compared with any other biological DMARD for this condition. The results of an indirect comparison are uncertain but suggest that upadacitinib is likely to work as well as other biological DMARDs.

The economic model showed that upadacitinib was not cost effective compared with some biological DMARDs for people who had not had a biological DMARD before. But it was cost effective for people who had had at least 1 biological DMARD or who

could not have TNF-alpha inhibitors. So upadacitinib is recommended for these people.

2 Information about upadacitinib

Marketing authorisation indication

2.1 Upadacitinib (Rinvoq, AbbVie) 'is indicated for the treatment of active psoriatic arthritis in adult patients who have responded inadequately to, or who are intolerant to one or more disease-modifying antirheumatic drugs (DMARDs). Upadacitinib may be used as monotherapy or in combination with methotrexate'.

Dosage in the marketing authorisation

2.2 The dosage schedule is available in the summary of product characteristics.

Price

2.3 The cost of 28 15-mg tablets of upadacitinib is £805.56 (excluding VAT; BNF online, accessed August 2021). The company has a commercial arrangement. This makes upadacitinib available to the NHS with a discount. The size of the discount is commercial in confidence. It is the company's responsibility to let relevant NHS organisations know details of the discount.

3 Committee discussion

The appraisal committee considered evidence submitted by AbbVie, a review of this submission by the evidence review group (ERG), NICE's technical report, and responses from stakeholders. See the committee papers for full details of the evidence.

The appraisal committee was aware that none of the issues were resolved during the technical engagement stage. It discussed issues 1 to 9, which were outstanding after the technical engagement stage.

Clinical need

Psoriatic arthritis substantially affects health-related quality of life

3.1 The patient and clinical experts explained that psoriatic arthritis is a lifelong condition that seriously affects people's quality of life. It can develop at a young age and affects all aspects of a person's life, including education, career, relationships and family life. The patient experts explained that symptoms such as fatigue, pain and associated comorbidities such as inflammatory bowel disorders, cardiovascular disease and diabetes, can have a substantial physical and psychological effect. The clinical and patient experts explained that people with psoriatic arthritis have symptoms ranging from mild, non-destructive disease to erosive and deforming arthritis with substantial effects on physical functioning. Symptoms can include swollen fingers and toes through to inflammation of larger joints such as elbows and knees, joints in the back, and tendonitis. Skin and nail psoriasis also affect quality of life. The committee concluded that psoriatic arthritis substantially affects health-related quality of life.

Clinical management

Clinicians and people with psoriatic arthritis would welcome an additional treatment option

3.2 The clinical experts explained that the main aim of treatment for active psoriatic arthritis is to control joint and connective tissue inflammation. This prevents joint damage progressing and the associated pain and disability. People will usually have treatment with non-steroidal anti-inflammatory drugs, corticosteroids and conventional disease-modifying antirheumatic drugs (DMARDs), such as methotrexate. In line with NICE's technology appraisal guidance on etanercept, infliximab and adalimumab, people are eligible for biological or small-molecule treatments if their disease is poorly controlled after 2 conventional DMARDs. Biological or small-molecule treatments include:

- tumour necrosis factor alpha inhibitor (TNFi) treatments such as etanercept and adalimumab
- interleukin (IL) inhibitor treatments such as secukinumab and ixekizumab (IL-17A inhibitors) and ustekinumab (an IL-12 and IL-23 inhibitor)
- tofacitinib
- apremilast.

The clinical experts explained that psoriatic arthritis is an unpredictable disease that can flare and change over time. Sometimes it responds to the first conventional DMARD, or to a second or third, or it may not respond at all. The clinical experts highlighted that because flares and periods of disease remission are common, the treatment pathway is not always the same. After conventional DMARDs, people will often switch among the different TNFi treatments, or to different IL modulators (ustekinumab, secukinumab and ixekizumab) or to tofacitinib. People with psoriatic arthritis would benefit from an additional treatment targeting a different inflammatory mediator if:

- their disease has not responded (or has stopped responding) to conventional DMARDs and other biologicals or small molecules or
- they need to stop their previous treatment because of side effects.

Upadacitinib is a selective and reversible Janus kinase (JAK) inhibitor that preferentially inhibits signalling by JAK1 or JAK1/3. Its selectivity for JAK1, compared with other JAK subtypes, provides upadacitinib with a degree of disease specificity that differentiates it from tofacitinib, the only JAK inhibitor currently approved in the UK for people with psoriatic arthritis. The patient experts explained that psoriatic arthritis is a lifelong disease for which treatments are often effective for a limited time. They further explained that many people with psoriatic arthritis want autonomy over their own health and so prefer oral treatments compared with treatments given by injection in a clinical setting. The

committee concluded that clinicians and people with psoriatic arthritis would welcome an additional treatment option.

Clinical evidence

Upadacitinib is clinically effective compared with placebo

3.3 The company submission identified 4 subpopulations and presented analyses for 3 of these:

- people whose disease is not adequately controlled by 2 conventional DMARDs but who have not previously had a biological DMARD (subpopulation 2)
- people whose disease is not adequately controlled by 2 conventional DMARDs or by at least 1 previous biological DMARD (subpopulation 3)
- people whose disease is not adequately controlled by 2 previous conventional DMARDs and the TNFi class of biological DMARD is contraindicated or not tolerated (subpopulation 4).

The efficacy and safety evidence for upadacitinib in psoriatic arthritis was based on the results of 2 pivotal trials, SELECT-PsA 1 and SELECT-PsA 2. SELECT-PsA 1, which provided evidence in support of upadacitinib in subpopulations 2 and 4, enrolled people who had not previously had treatment with biological DMARDs and randomised them to upadacitinib, adalimumab, or placebo. SELECT-PsA 2 provided evidence in support of the use of upadacitinib in subpopulation 3. It enrolled people who had previously been treated with biological DMARDs and randomised them to upadacitinib or placebo. The primary outcome of the trials was American College of Rheumatology (ACR) 20 response, which is a composite measure defined as an improvement of 20% in both the number of tender joints and the number of swollen joints, and a 20% improvement in 3 of the following 5 criteria: patient global assessment, physician global assessment, functional ability measure, visual analogue pain scale, and

erythrocyte sedimentation rate or C-reactive protein. A higher proportion of people achieved an ACR 20 response with upadacitinib compared with placebo at 12 weeks in both trials. Upadacitinib resulted in statistically significant and clinically relevant improvements when compared with placebo across a range of secondary outcomes. SELECT-PsA 1 demonstrated statistically significantly better efficacy for upadacitinib compared with placebo for the first 9 secondary ranked endpoints. SELECT-PsA 2 demonstrated statistically significantly better efficacy for upadacitinib compared with placebo in all of the ranked endpoints measured. Upadacitinib met statistical significance for non-inferiority compared with adalimumab and the committee considered that this could mean that upadacitinib is similar to adalimumab. The committee concluded that upadacitinib was clinically effective compared with placebo across a range of clinically important outcomes.

Network meta-analyses

Network meta-analyses are appropriate because of a lack of head-to-head trials with upadacitinib

3.4 The SELECT-PsA 1 trial provides direct evidence of the efficacy of upadacitinib compared with adalimumab and upadacitinib compared with placebo (assumed to represent best supportive care). No direct evidence is available to allow comparison of upadacitinib with 8 out of the 9 comparators. The SELECT-PsA 2 trial provides direct evidence for a comparison of upadacitinib compared with placebo. No direct evidence is available to allow comparison of upadacitinib with 5 of the 6 comparators. Clinical advice to the ERG was that adalimumab is commonly the first biological DMARD prescribed after at least 2 conventional DMARDs. The ERG explained that the lack of direct clinical evidence for all other active comparators meant that the company did network meta-analyses (NMAs). In the company submission, the NMA results for those who have not previously had treatment with biological DMARDs (subpopulation 2) were also assumed to apply to people for whom TNFi treatments are

contraindicated or not tolerated (subpopulation 4). But the ERG explained that the company presented no clinical evidence to suggest that the effectiveness of biological DMARDs for subpopulation 2 is the same as for subpopulation 4. The ERG also explained that there is no evidence from the NMAs to support the use of upadacitinib to treat the biological-experienced population who have received prior treatment with apremilast or tofacitinib. The committee noted that the company's approach was broadly similar to recent appraisals in the disease area, and concluded that the results from the NMAs should be taken into account for decision making.

The results of the NMAs are uncertain

3.5 To evaluate upadacitinib compared with comparator treatments, the company did NMAs for all main outcomes, for:

- people who have not had a biological DMARD (subpopulation 2)
- people who have had a biological DMARD (subpopulation 3).

The company NMAs for people who have not had a biological DMARD (subpopulation 2) generated indirect evidence to allow comparisons of the clinical effectiveness of upadacitinib compared with all the comparators. The ERG explained that there were several sources of heterogeneity between the studies included in the NMAs, such as disease duration, prior treatments, the extent of concomitant plaque psoriasis and disease activity. The NMAs showed that, overall, upadacitinib had broadly equivalent results compared with the current therapeutic options for people with psoriatic arthritis who have not had treatment with biological DMARDs. The ERG noted that the credible intervals around the observed effect point estimates were often wide, and it is therefore not possible to draw definitive conclusions about the relative efficacy of upadacitinib from the NMAs. The company NMAs for people who have had a biological DMARD (subpopulation 3) generated indirect evidence to allow comparisons of the clinical effectiveness of

upadacitinib compared with all the comparators. The NMAs showed that, overall, upadacitinib had broadly equivalent results compared with the current therapeutic options for people with psoriatic arthritis who had had prior treatment with biological DMARDs. Upadacitinib also had the highest probability of achieving a Psoriatic Arthritis Response Criteria (PsARC) response compared with other therapeutic options. The ERG explained that it was not possible to account for between-trial heterogeneity because of the small number of trials in the biological-experienced network. The credible intervals around the observed effect point estimates were often wide, so it is not possible to draw definitive conclusions about the relative efficacy of upadacitinib from the company NMA results. Despite these limitations, the ERG considered that the company's approach was methodologically appropriate, and that there is no alternative approach that would reduce the uncertainty around the results. The company emphasised that extensive sensitivity analyses were used to explore the assumptions and methods used in both the biological-naive and biological-experienced NMAs, and this provides greater confidence in the results. The committee agreed with both the company and the ERG that these limitations are unresolvable, that the appropriate approaches have been used and that there are no alternative approaches to consider. The committee concluded that upadacitinib has similar effectiveness to other therapeutic options for treating people with psoriatic arthritis after conventional DMARDs, but that the results of the NMA are highly uncertain.

Economic model

The model does not reflect NHS clinical practice but is appropriate for decision making

3.6 The committee noted that the company's model was based on that used in NICE's technology appraisal guidance on certolizumab pegol and secukinumab for the treatment of psoriatic arthritis. Using a Markov structure to capture all costs and outcomes associated with upadacitinib

and the comparators, the model included up to 2 lines of active treatment before best supportive care. The company assumed an assessment for response to treatment after 12 weeks for upadacitinib. The committee noted this was consistent with the approach taken in previous NICE technology appraisals models. The ERG confirmed that the model structure was consistent with previous models used in NICE technology appraisals for psoriatic arthritis. But, using a limited number of active treatment lines may not represent NHS clinical practice. The number of treatment options (including best supportive care) that are available for the biological-naive, biological-experienced and TNFi-contraindicated populations are 9, 5 and 5, respectively. The committee recalled that because of the range of treatments and because the disease is varied and unpredictable there is no standard treatment sequence in the NHS (see section 3.2). People will almost always start treatment with conventional DMARDs such as methotrexate, and then move onto biological DMARDs if their disease is not adequately controlled. But the exact sequence of treatments is determined by the course of the disease for each person. The company agreed with the ERG that these are inherent limitations in the economic model, but emphasised that this was a standard model accepted in previous technology appraisals for psoriatic arthritis. The committee agreed that the model is limited in how accurately it represents the number and sequence of treatments used in clinical practice. But, the committee noted that it was consistent with previous NICE technology appraisals for psoriatic arthritis. The committee concluded that the model structure does not reflect NHS clinical practice but is appropriate for decision making. The committee also concluded that technology appraisals in the future should take into account the number and sequence of treatments used in clinical practice.

The company's model does not reflect the treatment sequence for the TNFi-contraindicated population

3.7 The ERG was aware that in NHS clinical practice, the TNFi-contraindicated population generally have more than 1 line of treatment,

and best supportive care is generally not an appropriate first-line treatment option for this population. The cost-effectiveness results for the TNFi-contraindicated population should therefore be identical to the biological-naive population who had ustekinumab as a second-line treatment (after excluding TNFi treatments as first-line options). The ERG explored this as a scenario, but this did not alter the overall conclusions on the cost effectiveness of upadacitinib in the TNFi-contraindicated population. The company agreed that the scenario analysis done by the ERG was appropriate. The committee agreed with the company and ERG, and concluded that the model does not accurately reflect the treatment sequence for the TNFi-contraindicated population that would be seen in NHS clinical practice. The committee also concluded that the ERG's approach for modelling the treatment sequence for the TNFi-contraindicated population was more appropriate.

The clinical-effectiveness data in the model is derived from different sources for HAQ-DI conditional on PsARC

3.8 The health assessment questionnaire-disability index (HAQ-DI) is the quality-of-life measure used in the company's economic model. The company's model cost-effectiveness results are driven by PsARC response and HAQ-DI reduction conditional on PsARC. Therefore, the strength of the clinical-effectiveness evidence for these outcomes is central to the credibility of the cost-effectiveness results. The ERG identified several limitations with the implementation of HAQ-DI in the company's economic model. First, results for HAQ-DI conditional on PsARC were not available from the company NMAs for several comparators, and so these were sourced from previous technology appraisals in psoriatic arthritis. For the biological-naive population, these were results for certolizumab pegol, ixekizumab, secukinumab, and tofacitinib. For the biological-experienced population, these were ixekizumab, secukinumab (300 mg only), and tofacitinib. While the ERG recognises that no other sources of HAQ-DI change conditional on PsARC response are available, it explained that using results from

different sources without appropriate adjustments adds uncertainty to the company's cost-effectiveness results. The company agreed with the ERG that no alternative data sources or approaches were possible. It explained that while this introduces some uncertainty, this represents a pragmatic approach that enabled reasonable effectiveness estimates and incremental cost-effectiveness ratios (ICERs) to be generated for all comparators. It noted that the same approach was accepted by the committee in the recent NICE technology appraisal guidance on tofacitinib for treating active psoriatic arthritis after inadequate response to DMARDs. The committee concluded that the identified limitations in the NMAs are common to previous technology appraisals for psoriatic arthritis and cannot be resolved.

HAQ-DI progression in the model is implemented in a similar way to recent appraisals for psoriatic arthritis

3.9 The ERG identified a discrepancy in how the company describes the modelling of HAQ-DI over time in its evidence submission, and the way in which it has been implemented in the company's economic model. The company stated that, in line with the model on which all recent technology appraisals for psoriatic arthritis have been based (see section 3.6), people whose disease responds to a first- or second-line biological DMARD, have a HAQ-DI score that is constant until the treatment is stopped. At that point it increases (deterioration in function) instantly to their baseline score. HAQ-DI then increases in line with the natural history (the rate of increase for people who did not respond to treatment). But this does not align with how it has been implemented in the company's model. In the company's model, when a responder to a biological DMARD stops treatment, their HAQ-DI score increases instantly to a value between their baseline value and the HAQ-DI score for non-responders to a biological DMARD. Those who are classed as non-responders to a biological DMARD have a HAQ-DI score that has already been increasing in line with natural history since the start of the model. The HAQ-DI score then converges with the rate of increase for non-responders, rather than

progressing in parallel to that rate. The clinical experts explained that it is clinically plausible for HAQ-DI to increase over time while a person is having active treatment. In part, this is because HAQ-DI increases slowly over time for everybody, whether or not they have psoriatic arthritis. But, it is also possible that a person whose psoriatic arthritis is responding to active treatment may still develop some joint damage. Or that existing joint damage is getting worse because of use of that joint over time. In addition, HAQ-DI might also be expected to increase over time because of the presence of comorbidities. However, the clinical expert further explained that when active treatment is stopped, it would be expected that the HAQ-DI gradient should be better than natural history, rather than worse. The committee agreed that the model should rebound to baseline, as previous models in this area do. Following the first appraisal committee meeting, the company explained that they considered the implementation to be appropriate and consistent with Markov models used in previous technology appraisals for psoriatic arthritis. NICE sought informal advice from an assessment group who developed the original model and who were the ERG for recent technology appraisals for psoriatic arthritis (The Centre for Reviews and Dissemination [CRD] and Centre for Health Economic [CHE] Technology Assessment Group [TAG] at the University of York). They and the ERG for this appraisal agreed that the company's approach was inconsistent with the most recent accepted approach used in the NICE technology appraisal guidance on guselkumab for treating active psoriatic arthritis after inadequate response to DMARDs (from now on referred to as TA711). NICE provided the company with a technical solution to resolve this issue in a similar way to the approach used in TA711 provided by CRD/CHE TAG at the University of York. The company implemented this solution and provided a revised model. The ERG for this appraisal confirmed that the company's revised model using the technical solution reflected the approach used in TA711. The committee concluded that HAQ-DI progression in the model is

implemented in a similar way to recent appraisals for psoriatic arthritis and was acceptable for decision making.

Increasing HAQ-DI conditional on PsARC while responding to treatment does not affect cost effectiveness

3.10 At submission, the company did not present a scenario in which the effect of HAQ-DI increases for people whose disease responds to a biological DMARD while having treatment. The ERG had suggested to the company that results from such a scenario would have been informative. The company responded that this situation was not clinically plausible. Clinical expert opinion to the company suggested that it was implausible because people experiencing disease progression at the natural history rate would quickly be swapped to an alternative treatment because of a lack of response. Clinical expert opinion provided at the technical engagement stage confirmed that increasing HAQ-DI in a person responding to treatment would be an unusual scenario, and usually related to a parallel comorbidity rather than to psoriatic arthritis disease progression. Following the first appraisal committee meeting, the company provided this scenario analysis. The ERG was satisfied that it did not meaningfully affect the cost-effectiveness results. The committee concluded that given the lack of effect on the results, this did not need be considered further.

Results based on psoriasis severity are relevant

3.11 The company did not present evidence of clinical effectiveness by presence of concomitant psoriasis. The committee recalled that in previous psoriatic arthritis appraisals results were presented by psoriasis subgroup. But the company and ERG did present the cost-effectiveness results by presence of concomitant psoriasis (no psoriasis, mild to moderate, moderate to severe) by using a combination of body surface area and psoriasis area and severity index (PASI) scores. The ERG considered that this approach was appropriate. The committee concluded that results based on psoriasis severity were relevant for consideration.

Cost-effectiveness estimates

Because of the uncertain evidence, the ICER needs to be at the lower end of the acceptable range

3.12 NICE's guide to the methods of technology appraisal notes that above a most plausible ICER of £20,000 per quality-adjusted life year (QALY) gained, judgements about the acceptability of a technology as an effective use of NHS resources will take into account the degree of certainty around the ICER. The committee will be more cautious about recommending a technology if it is less certain about the ICERs presented. Because of the high level of uncertainty in the clinical and economic evidence, the committee agreed that an acceptable ICER would be at the lower end of the acceptable range (that is, around £20,000 per QALY gained).

Cost-effectiveness results differ by subpopulation

3.13 Because upadacitinib and the comparators have commercial arrangements, the exact ICERs are confidential and cannot be reported here. The company provided cost-effectiveness results for each subpopulation and by psoriasis severity:

- For people who have not had a biological DMARD: the fully incremental cost-effectiveness analysis showed that upadacitinib was dominated (that is, upadacitinib was more costly, with fewer benefits) in all psoriasis severity. In the pairwise analysis, the committee noted upadacitinib was dominated by either infliximab or etanercept, or infliximab alone. The pairwise ICER compared with adalimumab was also above £20,000 per QALY gained. However, compared with many other technologies, upadacitinib either dominated (that is, it is more effective and cheaper), had ICERs below £20,000 per QALY gained or had ICER's above £20,000 per QALY lost in the situation where there was a south-west quadrant ICER (that is, when upadacitinib was less effective than the comparator).

- For people who have had a biological DMARD: the fully incremental cost-effectiveness results showed that the ICER for upadacitinib compared with best supportive care was less than £20,000 per QALY gained in all the psoriasis severity subgroups. In the pairwise analysis, upadacitinib was either dominant (that is, cheaper and more effective), or had an ICERs more £20,000 per QALY lost where there was a south-west quadrant ICER compared with all other active comparators.
- For people for whom TNFi treatments are contraindicated: the fully incremental cost-effectiveness results (based on the ERG's scenario where ustekinumab is given as second line treatment) showed that the ICER for upadacitinib compared with tofacitinib was less than £20,000 per QALY gained in people with no concomitant psoriasis or mild to moderate psoriasis. In people with moderate to severe psoriasis upadacitinib dominated (that is cheaper and more effective) all the other active comparators. In the pairwise analysis, upadacitinib was either dominant (that is, cheaper and more effective), had ICERs below £20,000 per QALY gained compared with all other active comparators.

Conclusion

Upadacitinib is not recommended for people who have not had a biological DMARD before

3.14 The committee was aware that clinicians and people with psoriatic arthritis would welcome an additional treatment option. It was aware there were already several treatment options available and recommended by NICE for each of subpopulations (see section 3.2) and therefore agreed that it was important to consider fully incremental analyses to assess value for money as outlined in NICE's guide to the methods of technology appraisal 2013. The committee noted that for the people who have not had a biological DMARD, the fully incremental analysis showed that upadacitinib would not be the most cost-effective option when taking into account what it considered an acceptable ICER range representing value for money for the NHS (see section 3.12). Pairwise analysis showed that upadacitinib

might be cost effective against some but not all options currently available in the NHS. The committee considered that the pairwise analysis results had limited relevance in this appraisal because all the comparators were relevant and therefore the fully incremental analysis was the most appropriate use. The committee acknowledged that although previous technology appraisals for psoriatic arthritis may have considered the differences in benefits and costs as small, it was not the case now because of the availability of biosimilars, and changes to confidential arrangements. The committee concluded that upadacitinib was not a cost-effective use of NHS resources for people who have not had a biological DMARD and so was not recommended in this subpopulation.

Upadacitinib is recommended for people who have tried a biological DMARD or when TNFi treatments are contraindicated

3.15 The committee agreed that the cost-effectiveness results using a fully incremental or pairwise analysis for people who have had a biological DMARD before or when TNFi treatments are contraindicated were within the range it would normally consider a cost-effective use of NHS resources. Therefore, it concluded that it could recommend upadacitinib, alone or with methotrexate as an option for treating active psoriatic arthritis in adults whose disease has not responded well enough to DMARDs or who cannot tolerate them, only if:

- they have peripheral arthritis with 3 or more tender joints and 3 or more swollen joints (otherwise known as active psoriatic arthritis)
- if they have had 2 conventional DMARDs and at least 1 biological DMARD or TNFi treatments are contraindicated but would otherwise be considered (as described in NICE's technology appraisal guidance on etanercept, infliximab and adalimumab for the treatment of psoriatic arthritis).

Other factors

Clinicians should consider factors that may affect PsARC and PASI and make any clinical adjustments needed

3.16 The committee considered that the recommendation to stop treatment based on an inadequate PsARC response (in NICE's technology appraisal guidance on etanercept, infliximab and adalimumab for the treatment of psoriatic arthritis) was also appropriate for upadacitinib. It noted that some people may have physical, sensory or learning disabilities or communication difficulties that could affect their responses to components of the PsARC, and concluded that this should be taken into account when using the PsARC. The committee was also aware that the PASI might underestimate disease severity in people with darker skin. The committee concluded that, when using the PASI, healthcare professionals should take into account skin colour and how this could affect the PASI score and make the clinical adjustments they consider appropriate.

4 Implementation

4.1 Section 7 of the National Institute for Health and Care Excellence (Constitution and Functions) and the Health and Social Care Information Centre (Functions) Regulations 2013 requires clinical commissioning groups, NHS England and, with respect to their public health functions, local authorities to comply with the recommendations in this appraisal within 3 months of its date of publication.

4.2 The Welsh ministers have issued directions to the NHS in Wales on implementing NICE technology appraisal guidance. When a NICE technology appraisal recommends the use of a drug or treatment, or other technology, the NHS in Wales must usually provide funding and resources for it within 2 months of the first publication of the final appraisal document.

4.3 When NICE recommends a treatment 'as an option', the NHS must make sure it is available within the period set out in the paragraphs above. This means that, if a patient has active psoriatic arthritis after inadequate response to DMARDs and the doctor responsible for their care thinks that upadacitinib is the right treatment, it should be available for use, in line with NICE's recommendations.

5 Review of guidance

5.1 The guidance on this technology will be considered for review 3 years after publication. The guidance executive will decide whether the technology should be reviewed based on information gathered by NICE, and in consultation with consultees and commentators.

Megan John
Chair, appraisal committee
December 2021

6 Appraisal committee members and NICE project team

Appraisal committee members

The 4 technology appraisal committees are standing advisory committees of NICE. This topic was considered by committee D.

Committee members are asked to declare any interests in the technology to be appraised. If it is considered there is a conflict of interest, the member is excluded from participating further in that appraisal.

The minutes of each appraisal committee meeting, which include the names of the members who attended and their declarations of interests, are posted on the NICE website.

NICE project team

Each technology appraisal is assigned to a team consisting of 1 or more health technology analysts (who act as technical leads for the appraisal), a technical adviser and a project manager.

Luke Cowie
Technical lead

Vicky Kelly
Technical adviser

Gavin Kenny
Project manager

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