Surrey Heartlands Integrated Care System

Surrey Downs, Guildford & Waverley, North West Surrey, East Surrey Place & associated partner organisations.

Evidence review for Area Prescribing Committee (APC)

Medicine details	
Name, brand name	There are currently 14 choices available in CCG's Plaque Psoriasis High-Cost Immune Modulator Treatment Pathway. Please see appendix 1 for details. Of these available, this application is for the use of the following in localised psoriasis: – Etanercept* – Infliximab* – Adalimumab* – Ustekinumab – Secukinumab – Ixekizumab – Guselkumab *available as biosimilars
Manufacturer	Various
Proposed indication	Background: 1. <u>NICE TA for psoriasis</u> There are several NICE TAs for biologics in psoriasis. The eligibility criteria include the use of 2 scales; the Dermatology Life Quality Index (DLQI, which needs to be >10) and the Psoriasis Area and Severity Index (PASI, which needs to be ≥ 10). The DLQI is designed to measure the health-related quality of life of adult patients suffering from a skin disease. The PASI is a quantitative rating score for measuring the severity of psoriatic lesions based on area coverage and plaque appearance. In localised psoriasis, the DLQI may be sufficient i.e., >10 to meet NICE criteria but because the PASI includes a measure of the body surface area affected, in localised psoriasis this may be much reduced, so the PASI score is not met. So, patients with severe psoriasis which is localised and adversely impacts the quality of the patient's life, are not eligible for treatment under the current NICE TAs. 2. <u>Current local commissioning policy for Hand and Foot psoriasis</u> In 2011, the APC approved the use of adalimumab and etanercept in hand and foot psoriasis. Therefore, this submission aims to renew and extend the existing policy for the use of adalimumab and etanercept in hand and foot psoriasis, to other defined high impact sites using a broader range

	of immunomodulator therapy. **Proposed indication:** **The use of immunomodulators in severe localised psoriasis.** Localised psoriasis may be called 'difficult-to-treat sites' or 'high impact sites' because the psoriasis may be severe at localised sites and associated with significant functional impairment, high levels of distress, can be resistant to treatment and can significantly reduce quality of life. Localised psoriasis is defined as severe psoriasis (as measured by a Physicians Global Assessment {PGA} and the Dermatology Life Quality Index {DLQI}) and limited to the following sites: – Head and neck – includes face and scalp – Nails – Genitals – Hands and feet – Flexures *Please note:* • *Treatment with immunomodulators for localised patients would be an option after patients have trialled and failed (or these options are contraindicated or not tolerated), all appropriate standard psoriasis treatments including topical treatments (vitamin D derivatives, tar preparations, dithranol, corticosteroids), PUVA treatment & systemic medications (methotrexate, acitretin, ciclosporin).* • *There are NICE TAs for the use of biologics in psoriasis – please see appendix 1.* • *The criteria for initiation and continuation will use appropriate assessment tools (as per the existing policy for the use of adalimumab and etanercept in hand and foot psoriasis, with the existing PGA amended to better define severity at the broader range of sites).*
Requested by	Dermatology Network

SUMMARY

Clinical Effectiveness

- There is no NICE guideline for the use of biologics in localised psoriasis.
- There are no recommendations from national decision-making groups i.e., NICE, SIGN, AWMSG, RMOC. It is not commissioned by NHS England.
- Consensus guidelines from both BAD and the AAD include localised psoriasis. BAD has given a strong recommendation.

The evidence for this application is based on:

1. A systematic review of 325 references by The American Academy of Dermatology (AAD) and published as consensus Joint AAD-NPF guidelines of care for the management and treatment of psoriasis with biologics (2019). See appendix 3 for grade of recommendation. This supports the use of etanercept, infliximab, adalimumab, ustekinumab, secukinumab, ixekizumab and guselkumab in scalp, head and neck (including scalp), nail and palmoplantar psoriasis.

2. The evidence review for the existing policy which supports the use of adalimumab and etanercept in hand and foot psoriasis.

3. Evidence from the evidence search from Surrey and Sussex Library and Knowledge Services, Surrey and Sussex Healthcare (SASH) NHS Trust, UK and further supports the use of biologics in localised psoriasis.

4. Evidence to support use of ixekizumab and secukinumab in genital psoriasis.

The evidence includes expert opinions, reviews, systematic reviews, network meta-analysis, comparative studies and observational studies and RCTs.

Safety

For full details, see individual SmPC.
Available at: https://www.medicines.org.uk/emc/

The BNF (Last Update: 07-Oct-2021) states that 'Biological drugs should be initiated and supervised only by specialists experienced in the diagnosis and management of psoriasis.

For guidance on biological therapies for the treatment of psoriasis, see NICE pathway: Psoriasis (available at: https://pathways.nice.org.uk/pathways/psoriasis).

Patient factors

- Patients with severe localised psoriasis are being denied access to immunomodulator therapy because the psoriasis is limited to a specific location, despite the severity and impact on their health and lives, because this was not considered by NICE.
- Patients may be given best supportive care until their condition deteriorates even further in order to meet the criteria set by NICE.
- Patients often feel ashamed, embarrassed, or self-conscious about their symptoms. Furthermore, genital psoriasis significantly affects sexual health.
- Some patients may be referred to supra-specialist tertiary centres where treatment is already commissioned.
- Other local areas already commission the use of immunomodulators in localised psoriasis (see below).

Cost implications

The cost depends on the choice of immunomodulators:

The current local commissioning policy for Hand and Foot psoriasis approved the use of the originator adalimumab and etanercept preparations in 2011.

Costs per patient per year at the time of approval were £9,155.64 for adalimumab and £9,295 for etanercept. Infliximab was NOT approved as the costs were substantially higher due to additional administration costs as it is an infusion and requires hospital attendance (£16,113.41).

Currently, the cost per patient per year (weighted average drug cost) ranges from approx. £3,600 – £10,500 depending on drug choice. Costs for infliximab are much higher because even with the subcutaneous preparation now available, there is a requirement for an initial infusion.

PAS prices are available as per each NICE TA. These are commercial in confidence. Prices may be discussed at the APC.

Please note:
Biosimilars for adalimumab, etanercept and infliximab are available. More biosimilars will be available over time hence reducing the drug costs.

Relevant guidance / reviews

1. **American Academy of Dermatology (AAD)**
   Joint AAD-NPF guidelines of care for the management and treatment of psoriasis with biologics (2019)
   354 articles were retained for final review based on relevancy and the highest level of available evidence.

   Clinical recommendations were developed on the basis of best available evidence, in regard to what are the efficacy, effectiveness, effect of switching, and adverse effects of the following biologic drugs used as monotherapy or in combination with other psoriasis therapies to treat moderate-to-severe psoriasis in adults.

   Summary of recommendations: see appendix 3 for full recommendations and grade of recommendation.

2. **British Association of Dermatologists:**
   The Guideline Development Group of the British Association of Dermatologists guidelines for biologic therapy for psoriasis 2017 and in their rapid update of 2020, gave a strong recommendation for the use of biologics in localised sites.

Likely place in therapy relative to current treatments

- Treatment with immunomodulators for localised psoriasis would be an option after patients have trialled and failed (or these options are contraindicated or not tolerated), all appropriate standard psoriasis treatments including topical treatments (vitamin D derivatives, tar preparations, dithranol, corticosteroids), PUVA treatment & systemic medications (methotrexate, acitretin, ciclosporin).
- The patient does not meet the PASI requirements for NICE TA treatment due to localisation of the psoriasis.
- There is a growing evidence base for the efficacy of immunomodulators in localised psoriasis.
- The Guideline Development Group of the British Association of Dermatologists guidelines for biologic therapy for psoriasis 2017 and in their rapid update of 2020, gave a strong recommendation for the use of biologics in localised sites.

Recommendation to APC

RED as National Tariff excluded high-cost drugs (NTexHCD).

- Patients must meet the eligibility and continuation criteria outlined.

• Use of Blueteq® as for other NTexHCD. • NTexHCD already available at trust by Homecare as already in use for other NICE TAs.	
Medicine details **For full details, see individual summary of products characteristics (SmPC). Available at: https://www.medicines.org.uk/emc**	
Name and brand name	There are currently 14 choices available in CCG's Plaque Psoriasis High-Cost Immune Modulator Treatment Pathway. Please see appendix 1 for details. This application is for the use Etanercept* Infliximab* Adalimumab* Ustekinumab Secukinumab Ixekizumab Guselkumab *available as biosimilars
Licensed indication, formulation and usual dosage	For full details, see individual SmPC. Available at: https://www.medicines.org.uk/emc Indication: Each of the above is licensed in psoriasis. Formulation: Pre-filled syringes and pre-filled pens for subcutaneous injection would be used as provided by Homecare.
Summary of mechanism of action, and relevant pharmacokinetic	For full details, see individual SmPC. Available at: https://www.medicines.org.uk/emc
Important drug interactions	For full details, see individual SmPC. Available at: https://www.medicines.org.uk/emc
Monitoring requirements	1. See individual SmPC, available at: https://www.medicines.org.uk/emc/ 2. Patient must respond in line with the continuation criteria outlined for localised psoriasis.
Prescribing considerations	RED with Blueteq® forms for initiation and continuation.
Other considerations	**1. Existing commissioning policy for the use of adalimumab and etanercept in hand and foot psoriasis.** In 2011, the APC approved the use of adalimumab and etanercept in hand and foot psoriasis. At that time: • Infliximab was also considered but not approved as it was only available as an infusion which requires attendance at hospital (and associated charges). • Biosimilars were NOT available at that time. • Adalimumab and etanercept are available as sub-cutaneous pre-

filled pens/syringes which may be self-administered and available for delivery by home care companies.
- Other sites were not considered.

2. **The criteria for initiation and continuation will use appropriate assessment tools (as per the existing policy for the use of adalimumab and etanercept in hand and foot psoriasis, with the existing PGA amended to better define severity at the broader range of sites).**

Initiation and continuation criteria
This is taken from existing policy for the use of adalimumab and etanercept in hand and foot psoriasis.

Initiation:
Physicians Global Assessment (PGA) of 4 (severe) AND DLQI of more than 10.

Continuation: at 16 weeks
- Patient has maintained a 75% reduction (present score is 0 or 1) in the PGA
  OR
- Patient has maintained a 50% reduction (present score is 0,1 or 2) in the PGA AND a 5-point reduction in DLQI from when treatment started.

Funding will be continued for 12 months.

Assessment tools
This is an amendment of the existing PGA used in the adalimumab and etanercept in hand and foot psoriasis policy (see appendix 2), in conjunction with members of the Dermatology Network and Lead Clinician for this submission, to better define severity at the broader range of sites. There is a new agreed PGA for nail psoriasis as the existing PGA does not apply to nail psoriasis.

a. All localised sites except for nail psoriasis

A 5-point visual analogue scale of 0-4:

Score	Category	Description (as appropriate to the site)
0	Clear	No signs of psoriasis
1	Almost clear	Just perceptible erythema or just perceptible scaling
2	Mild	Light pink erythema or minimal scaling with or without pustules
3	Moderate	Dull red, clearly distinguishable erythema, diffuse scaling, some thickening of the skin, with or without fissures, with or without pustule formation
4	Severe	Deep, dark red erythema, obvious and diffuse scaling and thickening as well as numerous fissures with or without pustule formation

	b. PGA for nail psoriasis Nail Psoriasis Severity Index (NAPSI) is a numeric tool for evaluation of nail psoriasis. It evaluates the severity of nail bed psoriasis and nail matrix psoriasis by area of involvement in the nail unit. Each nail is divided into 4 quadrants and each quadrant is evaluated for the presence of the nail disease criteria which are: pitting, leukonychia, red spots, nail plate crumbling, onycholysis, splinter haemorrhage, oil drop, nail bed hyperkeratosis. For each criterion present a score of 1 is applied. Each quadrant can therefore have a maximum score of 8 and the totaled score of each quadrant gives a score for each nail (max 32). The NAPSI is used in clinical trials and due to its complexity, in a clinical setting the Dermatology Network members would prefer to use a physicians' global nail severity visual analogue score. This would be 5-point scale of 0-4 and graded as clear (0), almost clear (1), mild (2), moderate (3) or severe(4) and based on a review of the following:

Nail matrix:	**Nail bed:**
Pitting Leukonychia Red spots in the lunula Nail plate crumbling	Onycholysis Splinter haemorrhage Oil drop (salmon patch) Nail bed hyperkeratosis

Potential patient group (if appropriate to include)	
Brief description of disease[1]	Psoriasis is a skin condition that causes red, flaky, crusty patches of skin covered with silvery scales affecting 1–3% of the general population. Patients with psoriasis represent a heterogeneous population with individual disease expression – different degrees and severity of skin involvement. Psoriatic lesions in particular localisations such as the face, scalp, intertriginous or palmoplantar areas significantly reduce quality of life. Patients often feel ashamed, embarrassed, or self-conscious about their symptoms. Furthermore, genital psoriasis significantly affects sexual health.
Potential patient numbers per 100,000	It is difficult to ascertain the number of patients with localised psoriasis and of these, how many would require an immunomodulator. The Dermatology Network members estimated that there would be 1 patient per consultant per year with localised psoriasis, in whom they anticipate using immunomodulators. Further consultation at SASH suggested that this may be 2-3 patients per consultant per year. Please note that hospitals will see patients from CCGs other than those in the Surrey Heartlands ICS geography.
Outcomes required	Reduction in PGA score and DLQI to show that treatment has been

	effective, as per the continuation criteria.

Summary of current treatment pathway
There are established, standard treatment pathways for the assessment and treatment of psoriasis in primary care and in specialist settings. Treatment with immunomodulators for localised psoriasis would be an option after patients have trialled and failed (or these options are contraindicated or not tolerated), all appropriate standard psoriasis treatments including topical treatments (vitamin D derivatives, tar preparations, dithranol, corticosteroids), PUVA treatment & systemic medications (methotrexate, acitretin, ciclosporin). Currently, patients with psoriasis may be treated as follows: 1. Treatment pathway for patients with psoriasis that meets NICE TA criteria (including PASI score): The Plaque Psoriasis High-Cost Immune Modulator Treatment Pathway is available at: FINAL Psoriasis Biologic pathway Dec 20.pdf (res-systems.net) 2. Patients with hand and foot psoriasis may be treated as follows: Biologic treatment pathway for patients with hand and/or foot psoriasis. The use of adalimumab and etanercept in hand and foot psoriasis is available at: https://surreyccg.res-systems.net/PAD/Search/DrugConditionProfile/4160 Since 2011 when this limited localised psoriasis treatment was commissioned, there have only been 2 applications for use. This may be due to the Dermatology Network members experience that etanercept is less effective than the other biologics in psoriasis. Presently, for patients with localised psoriasis (other than those with hand and foot psoriasis where only adalimumab or etanercept may be used), there is no established pathway after the use of systemic medications such as methotrexate, acitretin, ciclosporin. There have been applications to the IFR process, however as there is a cohort of patients with localised psoriasis, it has not been deemed rare or exceptional. A request to develop an application to the APC has therefore been an outstanding action for several years. In the meanwhile, patients with severe localised psoriasis wait until their condition has deteriorated even further and spread to other sites in order to meet the PASI requirements in the NICE TA for psoriasis.

Evidence review
– Each of the biologics is licensed for the treatment of plaque psoriasis. They have therefore satisfied the requirements of the MHRA. – They each have a NICE TA for the treatment of plaque psoriasis but localised psoriasis is not mentioned (see appendix 1). Patients with localised psoriasis are excluded by default as they do not meet the required PASI score. Some commissioning organisations have local agreements for localised psoriasis (see 'Decisions of local Trusts DTCs and neighbouring APCs' section below). – There is no NICE guideline for the use of biologics in localised psoriasis. – The evidence for this application is based on: 1. A systematic review of a total of 325 references by the American Academy of Dermatology (AAD) to publish the Joint AAD-NPF (National Psoriasis Foundation) guidelines of care for the management and treatment of psoriasis with biologics (2019). This is available (with the full references which inform the recommendations)

may be found at: https://www.jaad.org/article/S0190-9622(18)33001-9/pdf The recommendations from the Joint AAD-NPF guidelines[2] re summarised below

2. The commissioned policy for the use of adalimumab and etanercept in hand and foot psoriasis and the evidence review with references is available at: FINAL Psoriasis Biologic pathway Dec 20.pdf (res-systems.net)
3. Individual trials from the evidence search from Surrey and Sussex Library and Knowledge Services, Surrey and Sussex Healthcare (SASH) NHS Trust, UK:

Evidence search.docx

4. Other individual trials to support use of biologics in genital psoriasis.

1. American Academy of Dermatology (AAD) Joint AAD-NPF guidelines of care for the management and treatment of psoriasis with biologics (2019)

Clinical recommendations were developed on the basis of best available evidence (total of 325 references), in regard to what are the efficacy, effectiveness, effect of switching, and adverse effects of the following biologic drugs used as monotherapy or in combination with other psoriasis therapies to treat moderate-to-severe psoriasis in adults:

- Etanercept
- Infliximab
- Adalimumab
- Certolizumab
- Ustekinumab
- Secukinumab
- Ixekizumab
- Brodalumab
- Guselkumab
- Tildrakizumab
- Risankizumab

354 articles were retained for final review based on relevancy and the highest level of available evidence.

Summary of recommendations: see appendix 3 for full recommendations and grade of recommendation.

Area	**Technology recommended**						
Moderate – severe condition	Etanercept	Infliximab	Adalimumab	Ustekinumab	Secukinumab	Ixekizumab	Guselkumab
Scalp	✓	✓	✓	✓	✓	✓	✓

Head and neck, including scalp					✓		
Nail psoriasis	✓	✓	✓	✓	✓	✓	✓
Palmoplantar		✓	✓	✓	✓		✓
Palmoplantar pustulosis					✓		
other subtypes (palmoplantar, pustular, or erythrodermic)				✓			

This supports the use of etanercept, infliximab, adalimumab, ustekinumab, secukinumab, ixekizumab and guselkumab in scalp, head and neck (including scalp), nail and palmoplantar psoriasis.

2. The evidence review for the existing policy

This supports the use of adalimumab and etanercept in hand and foot psoriasis.

3. The evidence search from Surrey and Sussex Healthcare NHS Trust

This is not limited to the use of biologics in localised psoriasis. Those related to this application are summarised here (see evidence review from SASH for further details and links to individual papers):

1. **Managing Scalp Psoriasis: An Evidence-Based Review. (2017)**

Wang Ting-Shun, Tsai Tsen-Fang
American Journal of Clinical Dermatology.
CONCLUSIONS: More controlled studies are needed for an evidence-based approach to scalp psoriasis.

2. **Small molecule inhibitors and biologics in treating nail psoriasis: A systematic review and network meta-analysis. (2021)**

Huang I.-Hsin, Wu Po-Chien, Yang Ting-Hua, Li Hua, Huang Yu-Ting, Cheng Ying-Chih, Kuo Po-Hsiu, Lee Ya-Han, Huang Yu-Chen, Tu Yu-Kang
Journal of the American Academy of Dermatology
CONCLUSION: Tofacitinib and ixekizumab presented the best efficacy for treating nail psoriasis in 10 to 16 weeks and 24 to 26 weeks, respectively.

3. **Biologics and small molecules in patients with scalp psoriasis: a systematic review. (2020)**

Alsenaid Adel, Ezmerli Mohammad, Srour Jerome, Heppt Markus, Illigens Ben M., Prinz Joerg C.
The Journal of Dermatological Treatment
Conclusion: Effective treatment of scalp psoriasis is essential for improving the quality of life of psoriasis patients. Both Biologics and small molecules proved efficacy. This review may help choosing the appropriate treatment in cases where scalp psoriasis is the main

complaint. A unified measurement tool for scalp psoriasis severity is needed to facilitate comparisons.

4. **Network meta-analysis comparing the efficacy of biologic treatments for achieving complete resolution of nail psoriasis. (2021)**
Reich Kristian, Conrad Curdin, Kristensen Lars Erik, Smith Saxon D., Puig Luis, Rich Phoebe, Sapin Christophe, Holzkaemper Thorsten, Koppelhus Uffe, Schuster Christopher
CONCLUSION: In patients with moderate-to-severe psoriasis and concomitant NP, ixekizumab has the greatest likelihood among approved biologics of achieving complete resolution of NP at week 24-26. Findings should be interpreted carefully because of inherent study limitations.

5. **Management of Nail Psoriasis.**
Rigopoulos Dimitrios
Dermatologic clinics 2021;39(2):211-220.
Nail psoriasis is a chronic nail disorder that requires personalized treatment. General prophylactic measures are suggested for all patients. Topical treatment is considered when treating a few-nail disease, with involvement of 3 or fewer nails, without joint involvement and without (or with mild) skin psoriasis. The ideal formulation should be ointment, solution, or foam. When moderate to severe skin psoriasis or psoriatic arthritis coexists, systemic treatment is suggested. This also should be considered when more than 3 nails are affected or significant impairment of quality of life is present. Conventional systemic agents, biologics, and small molecules are highly efficacious.

6. **Psoriasis: Recent progress in molecular-targeted therapies.**
Honma Masaru
The Journal of Dermatology 2021;
Psoriasis is a multifactorial recalcitrant inflammatory skin disease characterized by bothersome scaly reddish plaques especially on frequently chafed body parts, such as the extensor sites of the extremities and scalp. Nonetheless, through recent advance in molecular-targeted therapies including biologics and small-molecule inhibitors, even the severest symptoms of psoriasis and its comorbidities, such as psoriatic arthritis, can be excellently treated. The superb clinical effects lead to not only remarkable alleviation of symptoms but also a deep understanding of patients' impaired "quality of life" caused by this disease. Along with the development of novel treatment options targeting various specific molecules, such as proinflammatory cytokines and signal transduction-associated molecules, clinicians have thoroughly understood the molecular mechanism of psoriasis, and discovered that the IL-23/IL-17 axis mainly depending on Th17 cell function is a crucial pathogenesis of this disease. Accumulation of knowledge about the working mechanism and clinical effect of molecular-targeted therapies is indispensable for clinicians to establish a more refined therapeutic strategy for treating psoriasis.

7. **Secukinumab shows high and sustained efficacy in nail psoriasis: 2.5-year results from the randomized placebo-controlled TRANSFIGURE study.**
Reich K.
The British Journal of Dermatology 2021;184(3):425-436**.**
CONCLUSIONS: Secukinumab demonstrated strong and clinically meaningful efficacy for up to 2.5 years in nail psoriasis, with significant sustained QoL improvements and a favourable safety profile.

8. **Ixekizumab and Ustekinumab Efficacy in Nail Psoriasis in Patients with Moderate-to-Severe Psoriasis: 52-Week Results from a Phase 3, Head-to-Head Study (IXORA-S).**
Wasel Norman

Dermatology and therapy 2020;10(4):663-670.
CONCLUSIONS: Ixekizumab was superior to UST in the clearance of nail psoriasis, with earlier improvement continued through 52 weeks regardless of baseline nail severity.

9. **Localization of treatment-resistant areas in patients with psoriasis on biologics**
K F. Hjuler
The British Journal of Dermatology 2019;181(2):332-337.
Conclusions: In real-world clinical practice, the most common sites of recalcitrant psoriasis in patients treated with biologic agents are the anterior lower leg, posterior lower leg and elbows. Recalcitrant psoriasis in no specific area caused a greater impact on quality of life than any other area

10. **Real world data from the use of secukinumab in the treatment of moderate-to-severe psoriasis, including scalp and palmoplantar psoriasis: A 104-week clinical study.**
Rompoti Natalia
Dermatologic therapy 2019;32(5):e13006.
Several clinical studies demonstrated the safety and efficacy of the interleukin-17 inhibitor secukinumab in the systemic treatment of moderate-to-severe psoriasis, as well as psoriatic arthritis (PsA) in adults, whereas real-world data is limited. A single-center clinical study was performed to evaluate in real-world practice the efficacy of secukinumab up to Week 104 of treatment in moderate-to-severe chronic plaque psoriasis, including scalp and palmoplantar involvement, according to Physician Global Assessment (PGA), PASI75/90/100 and scalp, and palmoplantar PGA. Drug survival, the safety profile of secukinumab, and patient's quality of life were also assessed during a 2-year observation period. Out of 83 patients included, 56.3% were biologic-naive, and 94% had scalp, 25.3% palmoplantar, and 43.9% joint involvement. At Week 16, PASI75/PASI90/PASI100 were observed in 83.8/70.0/46.3%, respectively. Scalp and palmoplantar PGA were rapidly improved, with 98.7 and 95.5%, respectively, reaching clear/almost clear skin at Week 16. After 104 weeks, drug survival was 74.5%. A significant improvement of the quality of life was observed. Biologic-naive patients without coexisting PsA benefited the most. Real-world data demonstrated secukinumab efficacious in chronic plaque psoriasis, including specific locations such as scalp and palmoplantar psoriasis with a safety profile similar to that in clinical trials.

11. **Pharmacotherapeutic approaches for treating psoriasis in difficult-to-treat areas.**
Kivelevitch Dario
Expert opinion on pharmacotherapy 2018;19(6):561-575.
INTRODUCTION: Despite great therapeutic advancements in psoriasis, four notable difficult-to-treat areas including the scalp, nails, intertriginous (including genitals), and palmoplantar regions, pose a challenge to both physicians and patients. Localized disease of these specific body regions inflicts a significant burden on patients' quality of life and requires an adequate selection of treatments., AREAS COVERED: This manuscript discusses appropriate therapies and important treatment considerations for these difficult-to-treat areas based on the available clinical data from the literature., EXPERT OPINION: Clinical trials assessing therapies for the difficult-to-treat areas have been inadequate. With the first biological clinical trial for genital psoriasis pending publication, it is with hope that other biological agents will be evaluated for region-specific psoriasis. A greater understanding of the genetic and immunologic aspects of regional psoriasis, as well as identification of unique biomarkers, will further guide management decisions. For example, the recent discovery of the IL-36 receptor gene for generalized pustular psoriasis may prove valuable for other forms of psoriasis. Ultimately, identification of the most beneficial treatments for each psoriasis subtype and difficult-to-treat area will provide patients with maximal quality of life.

12. **Scalp psoriasis: report of efficient treatment with secukinumab.**
Pistone G.
The Journal of dermatological treatment 2018;:1-10.
Psoriasis is a chronic inflammatory skin disease affecting 2-3% of the population in the world. The scalp is the most common, and frequently the first site of disease involvement. Occasionally it may be the only localization of psoriasis. Treatment of scalp psoriasis is often unsatisfactory, due to limited available topical therapy and reduced efficacy of some systemic drugs. Biologic therapies are recommended for severe psoriasis, resistant to topical treatment, but evidence from randomized, controlled studies is lacking regarding effectiveness on scalp-localized lesions. Several clinical studies have shown the efficacy of secukinumab on plaque psoriasis, and some encouraging experience suggest the use in difficult sites such as the scalp; this article reports effective treatment with secukinumab of a series of patients with plaque and scalp psoriasis.

13. **Secukinumab improves scalp pain, itching, scaling and quality of life in patients with moderate-to-severe scalp psoriasis.**
Feldman Steven R.
The Journal of dermatological treatment 2017;28(8):716-721.
DISCUSSION/CONCLUSIONS: Secukinumab in moderate-to-severe scalp psoriasis reduces scalp pain, itching, and scaling and improves patients' QOL.

14. **Sustained response with ixekizumab treatment of moderate-to-severe psoriasis with scalp involvement: results from three phase 3 trials (UNCOVER-1, UNCOVER-2, UNCOVER-3).**
Reich Kristian
The Journal of dermatological treatment 2017;28(4):282-287.
CONCLUSION: Ixekizumab was efficacious in treating scalp psoriasis in patients with moderate-to-severe psoriasis, with most patients achieving complete or near-complete resolution of scalp psoriasis and maintaining this response over 60 weeks.

15. **Scalp psoriasis and biologic agents: a retrospective, comparative study from a tertiary psoriasis referral centre.**
Fotiadou C.
Journal of the European Academy of Dermatology and Venereology : JEADV 2016;30(12):2091-2096.
CONCLUSIONS: All four biologic agents yielded significant improvement in both scalp and skin lesions. Ustekinumab and infliximab exhibited the greatest efficacy, which was clinically meaningful from the early stages of the study. Adalimumab and etanercept followed, yielding satisfactory improvement rates.

This supports the use of biologics in scalp and nail psoriasis.

16. Other individual trials to support use of biologics in genital psoriasis.

<u>Biologics in psoriasis:</u>

1. **Biological therapy in genital psoriasis in women.**
Martina Burlando, Astrid Herzum, Luca Carmisciano, Emanuele Cozzani, Aurora Parodi,
DISSAL Department of Dermatology, Ospedale Policlinico San Martino, Genoa, Italy
First published: 08 October 2019

Genital psoriasis (GenPs) is a frequent manifestation of psoriasis, causing distress,

especially in women. We prospectively studied a population of 74 psoriatic women with severe and generalized psoriasis eligible to biologic therapy, to examine which biologic therapy is more effective on GenPs and to study possible associations between PASI severity and GenPs. Overall, 25/74 (34%) had GenPs: 6 received Ixekizumab, 7 Ustekinumab, 8 Adalimumab, 2 Secukinumab, 1 Etanercept, 1 Certolizumab. Therapies were administered based on PASI severity, independently from the presence of GenPs. Side effects, PASI score, sPGA-G scale for GenPs were recorded at time 0 and after 6 month of therapy. The mean sPGA-G scale value was 2.8 before treatment. After biologic therapy, all patients except one, improved of at least one point. Mostly, patients treated with anti-IL17 (Secukinumab, Ixekizumab) and anti-IL12/23 (Ustekinumab) improved. Mean PASI ranged from 10 to 16.3 before treatment. After 6 months of therapy, 4 anti-TNFalpha patients, 6 anti-IL17 and 1 anti-IL12/23, reached PASI 90. At time 0, no correlation between PASI and sPGA-G was visible (Pearson r = 0.10, p = .620). From our data, GenPs apparently responds favorably to IL17A inhibitors, but further studies, based on larger numbers of patients, are needed.

2. **Clinical evidence of therapy for genital psoriasis by biologic agents**
   Sokolovskiy E.V.1, Kokhan M.M.2
   First Pavlov State Medical University of Saint Petersburg
   Ural Scientific Research Institute of Dermatovenerology and Immunopathology
   Issue: Vol 97, No 2 (2021) Pages: 50-55. Available at:
   https://vestnikdv.ru/jour/article/view/1217
   Abstract
   Data in the scientific literature on the use of biologic therapy in localized forms of psoriasis elucidate mostly the problems of treatment of palmoplantar, scalp psoriasis and nail psoriasis. At the same time, the number of scientific data on the effect of biological therapy on genital psoriasis is extremely limited. Important that the quality of life on patients with genital psoriasis has very low level, which indicates a significant influence on the psychological and social well-being. At the same time, the limited number of therapeutic approaches makes this problem even more urgent. Unfortunately, special clinical trials for such patients are rather an exception. Ixekizumab has been reported an effectiveness for patients with anogenital psoriasis. New data on the comparative efficacy of ixekizumab and secukinumab give hope us for new opportunity for the treatment of genital psoriasis.

Ixekizumab and secukinumab:

Ixekizumab is currently the only medication with FDA labelling specifically mentioning genital psoriasis. This was approved in 2018. It is not currently licensed in the UK for genital psoriasis.

A recent study (number 1 below) has shown ixekizumab to have high efficacy specifically for genital psoriasis, with rapid improvement seen as early as 1 week into treatment. This medication significantly improves genital lesion appearance, genital itch, sexual health, and quality of life and may be a promising solution for patients suffering from recalcitrant genital.

1. **Efficacy and safety of ixekizumab in a randomized, double-blinded, placebo controlled, phase 3b clinical trial in patients with moderate to-severe genital psoriasis.**
   Ryan C, Menter A, Guenther L, et al.
   Presentation at Winter Clinical Dermatology Conference, Kaanapali, HI, USA.
   Jan 12-17, 2018
   https://pubmed.ncbi.nlm.nih.gov/29747232/
   Abstract
   Genital psoriasis (GenPs) is a frequent manifestation of psoriasis, causing distress, especially in women. We prospectively studied a population of 74 psoriatic women with

severe and generalized psoriasis eligible to biologic therapy, to examine which biologic therapy is more effective on GenPs and to study possible associations between PASI severity and GenPs. Overall, 25/74 (34%) had GenPs: 6 received Ixekizumab, 7 Ustekinumab, 8 Adalimumab, 2 Secukinumab, 1 Etanercept, 1 Certolizumab. Therapies were administered based on PASI severity, independently from the presence of GenPs. Side effects, PASI score, sPGA-G scale for GenPs were recorded at time 0 and after 6 month of therapy. The mean sPGA-G scale value was 2.8 before treatment. After biologic therapy, all patients except one, improved of at least one point. Mostly, patients treated with anti-IL17 (Secukinumab, Ixekizumab) and anti-IL12/23 (Ustekinumab) improved. Mean PASI ranged from 10 to 16.3 before treatment. After 6 months of therapy, 4 anti-TNFα patients, 6 anti-IL17 and 1 anti-IL12/23, reached PASI 90. At time 0, no correlation between PASI and sPGA-G was visible (Pearson $r = 0.10$, $p = .620$). From our data, GenPs apparently responds favorably to IL17A inhibitors, but further studies, based on larger numbers of patients, are needed.

2. **A Randomized Controlled Ixekizumab Vs Secukinumab Trial to Study the Impact on Sexual Activity in Adult Patients with Genital Psoriasis**

Nawaf AlMutairi &Bayoumy Ibrahim Eassa

Available at: https://www.tandfonline.com/doi/abs/10.1080/14712598.2021.1843629

ABSTRACT

Introduction: There is limited data on the effects of biologic therapies on genital psoriasis and sexual activity. Recently, Ixekizumab was reported to be effective.

Aim: To compare the efficacy of ixekizumab and secukinumab for the treatment of genital psoriasis and sexual inadequacy in adult patients with moderate-to-severe psoriasis.

Patients and methods: We assessed adult patients with moderate-to-severe psoriasis having genital involvement. They were randomly assigned in a 1:1 ratio to receive either ixekizumab (80 mg/2 weeks after 160-mg initial dose) or secukinumab (300 mg subcutaneous injection at Weeks 0, 1, 2, 3, and 4 then every 4 weeks). The severity was assessed using Genital Psoriasis Symptoms Scale (GPSS), and impact on sexual health by evaluating the Massachusetts General Hospital-Sexual Functioning Questionnaire (MGH-SFQ).

Results: Twenty eight patients on ixekizumab, and 26 on secukinumab showed improvement in genital psoriasis symptoms, beginning week 2 (GPSS total and individual items), and from week 4 onwards, improvement in sexual activity was seen with both drugs.

3. **Secukinumab in moderate-to-severe plaque psoriasis: a multi-center, retrospective, real-life study up to 52 weeks observation**

Marco Galluzzo ORCID Icon,Marina Talamonti ORCID Icon,Clara De Simone,Simone D'Adamio,Gaia Moretta,Sara Tambone,

Published online: 06 Jun 2018. Available at:
https://www.tandfonline.com/doi/full/10.1080/14712598.2018.1481503

ABSTRACT

Objectives: To evaluate efficacy and safety of the anti-IL-17 drug secukinumab in a real-life large cohort of patients with moderate-to-severe plaque psoriasis in Central Italy.

Methods: Multicenter, retrospective study with an observation period of up to 52 weeks. Efficacy was assessed by Psoriasis Area and Severity Index (PASI) score; clinical and laboratory examinations were performed at baseline and at weeks 4, 12, 24, 36, and 52.

Results: A 90% and a 100% PASI score reduction (PASI90 and PASI100) were reported in 67.5% and 55% of patients at week 12, respectively. A rapid improvement of skin lesions was observed particularly in young patients and in patients naïve to biologics: at week 4, the achievement of PASI90 and PASI100 was higher in younger patients (odds ratio [OR] 0.95, and 0.95; p = 0.003, and 0.005, respectively); PASI90 was achieved by 42.0% of patients naïve to biologics and by 17.0% of patients with prior exposure to

biologics (PBT) (OR 0.24; p = 0.001); and PASI100 was reached by 25.5% of naïve patients and 9.8% of PBT (OR 0.28; p = 0.015).The drug was well tolerated.
Conclusion: Secukinumab was effective in this real-life analysis, with rapid clinical improvement and long-term maintenance of results.
Please note: Patients with a baseline PASI <10.0, who presented involvement of sensitive areas such as the face, scalp, hands, or genital areas, thus affecting their QoL, were also considered eligible for secukinumab treatment.

4. **Ixekizumab improved patient-reported genital psoriasis symptoms and impact of symptoms on sexual activity vs placebo in a randomized, double-blind study.**

Yosipovitch G, Foley P, Ryan C J Sex Med 2018;15:1645–1652. Available at:
https://www.sciencedirect.com/science/article/pii/S1743609518311664
Abstract
Introduction: Genital psoriasis (GenPs) is common and distressing for patients, but is often not discussed with physicians, and no previous clinical trials have assessed the effects of biologics specifically on GenPs and its associated symptoms.
Aim: To report results for novel patient-reported outcomes (PROs) for the assessment of symptoms and the sexual impact of GenPs before and after treatment in the IXORA-Q study. Methods: IXORA-Q (NCT02718898) was a phase III, randomized, double-blind, placebo-controlled study of ixekizumab (80 mg/2 weeks after 160-mg initial dose) vs placebo for GenPs. Men and women ≥18 years old with moderate-to-severe GenPs and body surface area (BSA) ≥1% were assessed through 12 weeks. Main Outcome Measure: GenPs symptoms were assessed using the 8-item Genital Psoriasis Symptoms Scale (GPSS), Genital Psoriasis Sexual Frequency Questionnaire (GenPs-SFQ), and Genital Psoriasis Sexual Impact Scale (GPSIS) (validation data presented in the supplemental materials), and the Dermatology Life Quality Index (DLQI) item 9. Results: For patients receiving ixekizumab (N = 75) vs placebo (N = 74), statistically significant improvement in GenPs symptoms were seen from week 1 onward (GPSS total and individual items, all P < .005). Sexual activity avoidance owing to GenPs symptoms (GPSIS) decreased significantly with ixekizumab from week 4 onward (all P <.005), whereas impact of sexual activity on GenPs improved significantly with ixekizumab at weeks 2–8 (all P < 0.05). Ixekizumab resulted in significant improvement vs placebo by week 1 onward in limitations on frequency of sexual activity owing to GenPs (GenPs-SFQ item 2). Sexual difficulties caused by skin (DLQI item 9) decreased significantly with ixekizumab from week 2 onward (all P < .001). Clinical Implications: Both GenPs symptoms and impact on sexual activity improved rapidly and significantly with ixekizumab vs placebo through 12 weeks in patients with moderate-to-severe GenPs and BSA ≥1%. Strength & Limitations: To our knowledge, this is the first phase III, randomized, placebo-controlled, double-blinded clinical trial to evaluate the effect of any treatment on the symptoms and sexual impact related to GenPs. The study did not include an active comparator owing to the lack of any well-established treatment for moderate-to-severe GenPs, and the period assessed herein was of relatively short duration. Conclusion: These validated PRO measures may aid in future clinical studies of GenPs and in facilitating discussions of GenPs symptoms and their impact between patients and clinicians.

5. **Ixekizumab improves secondary lesional signs, pain and sexual health in patients with moderate-to-severe genital psoriasis**

J.F. Merola,P.-D. Ghislain,J.N. Dauendorffer,A. Potts Bleakman,A.J.M. Brnabic,R. Burge,E. Riedl
First published: 09 January 2020 Available at:
https://onlinelibrary.wiley.com/doi/full/10.1111/jdv.16181
Abstract
Background. Epithelial surface disruption in genital psoriatic lesions may manifest as

erosions, fissures and/or ulcers, causing pain and significantly impacting a patient's sexual health. Objective. To evaluate the impact of erosions, fissures and/or ulcers in genital psoriatic lesions on pain and sexual activity in patients with moderate-to-severe genital psoriasis (GenPs) and treatment responses to ixekizumab vs. placebo until Week 12. Methods. This post hoc subgroup analysis of patients presenting with and without erosions, fissures and/or ulcers in genital lesions from a phase IIIb multicentre, randomized, double-blind, placebo-controlled study (IXORA-Q; NCT02718898) in 149 adults with moderate-to-severe GenPs treated with subcutaneous ixekizumab (80 mg every 2 weeks; n = 75) or placebo (n = 74) evaluated outcomes for clinician-rated GenPs severity (static Physician's Global Assessment of Genitalia; sPGA-G) and patient-reported genital pain and itch (Genital Psoriasis Symptoms Scale; GPSS) and sexual health (Genital Psoriasis Sexual Frequency Questionnaire; GenPs-SFQ). Results. At baseline, 38% (n = 57) of patients presented with genital erosions, fissures and/or ulcers independent of overall body surface area involvement (<10% or ≥10%). These signs were associated with higher scores for disease severity (sPGA-G) and pain (GPSS) but not sexual health (GenPs-SFQ). Complete resolution of these signs was observed in 62% of ixekizumab-treated patients (25% for placebo) at Week 1 and 83% (21% for placebo) at Week 12. Patients treated with ixekizumab reported significant improvements in pain, itch, disease severity and sexual health over 12 weeks compared to placebo and irrespective of the presence/absence of genital erosions, fissures and/or ulcers at baseline. Conclusion. Ixekizumab led to rapid and sustained resolution of erosions, fissures and/or ulcers and significant improvements in GenPs severity, genital pain and sexual health. Ixekizumab may help to improve the well-being of patients with GenPs.

This supports the use of secukinumab and ixekizumab in genital psoriasis.

Equity / Stakeholder views (if relevant)	
Decisions of local Trusts DTCs and neighbouring APCs	**1. North Central London** High-Cost Drug Treatment Pathway for Psoriasis – June 2020. High Impact Site Psoriasis Adalimumab, apremilast or dimethyl fumarates may be considered in people psoriasis where the PASI is <10 when the following criteria are met: • Physicians Global Assessment (PGA) of severe or very severe. • At least one localised, high impact and difficult to treat site. • DLQI ≥ 15 • Psoriasis cannot be controlled with optimised standard systemic therapy: o Acitretin o Ciclosporin o Subcutaneous methotrexate **2. NHS Kent and Medway CCG** **Clinical criteria for special populations** **Nails**: NAPSI score of 30/80 or 60/160 + DLQI > 10 **Scalp**: Scalp PASI > 20 + DLQI > 10 **Palmar plantar**: ppPASI 24/48 or 48/96 + DLQI >10 **Flexural**: Failure of conventional Tx, physician global assessment score > 3 (range 1-4) + DLQI > 10 **The scores above have been extrapolated for severe disease based on NICE PASI and DLQI thresholds for treatment* *Please note: this policy does not define or limit which biologics may be used but sits alongside the organisation's pathway for use of biologics in psoriasis.*

	3. South East London Joint Medicines Formulary High Impact Sites not meeting NICE criteria: Biologic therapy may be considered in people with psoriasis where the PASI <10 if all the following criteria are fully met: • The psoriasis is severe at localised, high impact and difficult to treat sites such as the face, scalp, palms, soles, flexures and genitals • It cannot be controlled with topical therapy or optimised standard systemic therapy • It has significant impact on physical, psychological or social wellbeing • Associated with significant functional impairment and/or high levels of distress 1. Measures or severe scalp disease must be confirmed by documenting ≥30% of scalp surface area affected and a PGA of severe. A Psoriasis Scalp Severity Index (PSSI) score of ≥20 (0-72 scale) may also be used although it is recognised that this is not currently widely used in clinical practice. 2. Measure of severe palm/sole disease or other high impact sites may utilise an adjusted PASI score to assist with assessing response from baseline. A NAPSI score may be used for severe nail disease or a ppPASI >20 for palmoplantar pustulosis. 3. Optimised standard systemic therapy includes ciclosporin and subcutaneous methotrexate to recommended doses as tolerated for at least 3 months. Consider acitretin in the context of palmoplantar disease. Long term ciclosporin cannot usually be used to control disease beyond one year 4. Significant impact as measured by a DLQI >10 and or/depression attributable to psoriasis *Please note: this policy does not define or limit which biologics may be used but sits alongside the organisation's pathway for use of biologics in psoriasis.* Not found for: – NHS Brighton and Hove CCG – NHS Crawley and NHS Horsham and Mid Sussex CCG – NHS South West London Medicines Optimisation Group – NHS North West London Medicines Optimisation Group – Greater Manchester Medicines Management Group
Recommendations from national / regional decision-making groups	There are no specific recommendations for localised psoriasis treatment from NICE, SIGN, AWMSG or RMOC. **NICE** Localised psoriasis has not been considered in the psoriasis systematic biological therapy for psoriasis pathway or in the individual NICE TAs for immunomodulators in psoriasis. Available at: Systemic biological therapy for psoriasis https://pathways.nice.org.uk/pathways/psoriasis#path=view%3A/pathways/psoriasis/systemic-biological-therapy-for-psoriasis.xml&content=view-index **Scottish Intercollegiate Guidelines Network (SIGN)**

	The 'Diagnosis and management of psoriasis and psoriatic arthritis in adults' available at: https://www.sign.ac.uk/our-guidelines/diagnosis-and-management-of-psoriasis-and-psoriatic-arthritis-in-adults/ states that: 'Scalp and nail involvement is a common but therapeutically challenging aspect of psoriasis management. When present, facial, flexural or intertriginous psoriasis can be similarly difficult to manage. In severe disease, systemic therapy (see section 7.3.1) or biologic therapy (see section 7.3.2) may be considered'. However, no specific recommendations are given. **All Wales Medicines Strategy Group (AWMSG)** None found. **Regional Medicines Optimisation Group (RMOC)** None found. **NHS England Specialist Commissioning:** NHS E do not currently commission the use of biologics in localised psoriasis. However, there are recommendations from: 1. **The American Academy of Dermatology (AAD) Joint AAD-NPF guidelines of care for the management and treatment of psoriasis with biologics (2019)[2]** (see the evidence section above) . 2. **British Association of Dermatologists:** The Guideline Development Group of the British Association of Dermatologists guidelines for biologic therapy for psoriasis 2017 and in their rapid update of 2020, gave a strong recommendation for the use of biologics in localised sites[3,4] 'Offer biologic therapy to people with psoriasis requiring systemic therapy if methotrexate and ciclosporin have failed, are not tolerated or are contraindicated and the psoriasis has a large impact on physical, psychological or social functioning (for example, a DLQI or cDLQI of >10 or clinically relevant depressive or anxiety symptoms) and one or more of the following disease severity criteria apply: • the psoriasis is extensive (defined as BSA >10%, or a PASI ≥10) • the psoriasis is severe at localised sites and associated with significant functional impairment and/or high levels of distress (for example nail disease or involvement of high-impact and difficult-to-treat sites such as the face, scalp, palms, soles, flexures and genitals)'.
Stakeholder views	This submission has been made in conjunction with the Dermatology Network. The members agreed on the following: The proposal is for the use of immunomodulators in localised psoriasis. The proposed policy will extend the use of the existing policy for the use of adalimumab and etanercept in hand and foot psoriasis by: 1. The availability of a greater number of medicines so as to select the

	most appropriate (not limited to just adalimumab or etanercept). 2. One line of therapy (sequential use may be considered in the future but evidence is limited). 3. The psoriasis is classified as severe. 4. The PGA used in the current hands and feet policy will be used but amended to better define severity at the broader range of sites) – see appendix 2. 5. Initiation and continuation criteria are the same as the existing policy: Initiation: Physicians Global Assessment (PGA) of 4 (severe) AND DLQI of more than 10. Continuation: at 16 weeks Patient has maintained a 75% reduction (present score is 0 or 1) in the PGA OR Patient has maintained a 50% reduction (present score is 0,1 or 2) in the PGA AND a 5-point reduction in DLQI from when treatment started. Funding will be continued for 12 months. 6. The Dermatology Network members estimated that there would be 1 patient per consultant per year with localised psoriasis, in whom they anticipate using immunomodulators. Further consultation at SASH suggested that this may be 2-3 patients per consultant per year. 7. The localised sites are defined as – Head and neck – includes face and scalp – Nails – Genitals – Hands and feet – Flexures
CCG priorities	This has been requested from members of the Dermatology Network for several years.

Health economic considerations	
Cost per year per patient	The cost depends on the choice of immunomodulators. The current local commissioning policy for Hand and Foot psoriasis approved the use of the originator adalimumab and etanercept preparations in 2011. Costs per patient per year at the time of approval were £9,155.64 for adalimumab and £9,295 for etanercept. Infliximab was NOT approved as the costs were substantially higher due to additional administration costs as it is an infusion and requires hospital attendance (£16,113.41).

	Currently, the cost per patient per year (weighted average drug cost) ranges from approx. £3,600 – £10,500 depending on drug choice. Costs for infliximab are much higher because even with the subcutaneous preparation now available, there is a requirement for an initial infusion. PAS prices are available as per each NICE TA. These are commercial in confidence. Prices can be discussed at the APC. *Please note:* *Biosimilars for adalimumab, etanercept and infliximab are now available. More biosimilars will be available over time hence reducing the drug costs.*
Alternative treatments cost per patient per year	– The Dermatology Network members estimated that patients with severe localised psoriasis unable to access immunomodulator therapy will have to wait until their condition has deteriorated even further and spread to other sites in order to meet the PASI requirements in the NICE TA for psoriasis. – Patients are given best supportive care in the meanwhile. See psoriasis overview, available at: https://www.medicinescomplete.com/#/content/bnf/_155920033?hspl=psoriasis – Costs of treatment (e.g., emollients, coal tar and topical vitamin D and vitamin D analogue preparations), will be considerably less than the costs for immunomodulators but patients are not being treated effectively.
Other financial considerations (if relevant)	Patients will be managed through existing homecare arrangements to the benefit of the patient and provider.

References

1. NHS. Psoriasis. Available at: https://www.nhs.uk/conditions/psoriasis/ <accessed 5.8.21>

2. American Academy of Dermatology (AAD). Joint AAD-NPF guidelines of care for the management and treatment of psoriasis with biologics (2019). Available at: https://www.jaad.org/article/S0190-9622(18)33001-9/pdf <accessed 19.8.21>

3. British Association of Dermatologists guidelines for biologic therapy for psoriasis 2017. Available at: https://www.bad.org.uk/shared/get-file.ashx?id=5835&itemtype=document <accessed 17.8.21>

4. British Association of Dermatologists guidelines for biologic therapy for psoriasis 2020: a rapid update*C.H. SmithiD,1Z.Z.N. YiuiD,2T. Bale,3A.D. Burden,4L.C. CoatesiD,5,6W. Edwards,7E. MacMahon,8S.K. MahiliD,1A. McGuire,9R. Murphy,10,11,12C. Nelson-Piercy,13C.M. Owen,14R. Parslew,15O.A. Uthman,16R.T. WoolfiD,1L. ManounahiD,17M.C. EzejimoforiD,17L.S. ExtoniD,17and M.F. Mohd MustapaiD17on behalf of the British Association of Dermatologists' Clinical Standards Unit. Available at: https://onlinelibrary.wiley.com/doi/10.1111/bjd.19039 <accessed 17.8.21>

Bibliography:

Acknowledgements:

Evidence search: Evidence for biologic drugs in the body Alison McLaren (9 April 2021). East Surrey Hospital, UK: Surrey and Sussex Library and Knowledge Services.

	Name	Role	Date
Prepared by	Tejinder Bahra	Lead Commissioning Pharmacist	
Reviewed by:			

Declaration of interests:

Name	Date	Declaration of interest	Detail
Tejinder Bahra	Nov 2021	None	

Appendix 1: NICE TA for the use in psoriasis

NICE TA	Technology	Publication date
TA103	Etanercept and efalizumab for the treatment of adults with psoriasis	July 2006
TA146	Adalimumab for the treatment of adults with psoriasis	June 2008
TA134	Infliximab for the treatment of adults with psoriasis	Jan 2008
TA574	Certolizumab pegol for treating moderate to severe plaque psoriasis	April 2019
TA575	Tildrakizumab for treating moderate to severe plaque psoriasis	April 2019
TA511	Brodalumab for treating moderate to severe plaque psoriasis	March 2018
TA180	Ustekinumab for the treatment of adults with moderate to severe psoriasis	March 2017
TA596	Risankizumab for treating moderate to severe plaque psoriasis	August 2019
TA521	Guselkumab for treating moderate to severe plaque psoriasis	June 2018
TA350	Secukinumab for treating moderate to severe plaque psoriasis	July 2015
TA442	Ixekizumab for treating moderate to severe plaque psoriasis	April 2017
TA475	Dimethyl fumarate for treating moderate to severe plaque psoriasis	Sept 2017
TA419	Apremilast for treating moderate to severe plaque psoriasis	Nov 2016
TA723	Bimekizumab for treating moderate to severe plaque psoriasis	Sept 2021

Appendix 2:

a. The PGA used in the existing hand and foot policy

Score	***Category***	***Description***
0	*Clear*	*No signs of plaque psoriasis*
1	*Almost clear*	*Just perceptible erythema and just perceptible scaling*
2	*Mild*	*Light pink erythema with minimal scaling with or without pustules*
3	*Moderate*	*Dull red, clearly distinguishable erythema with diffuse scaling, some thickening of the skin, with or without fissures, with or without pustule formation*
4	*Severe*	*Deep, dark red erythema with obvious and diffuse scaling and thickening as well as numerous fissures with or without pustule formation*

b. The amended PGA for use in all localised sites except nail psoriasis

Score	**Category**	**Description**
0	Clear	No signs of psoriasis
1	Almost clear	Just perceptible erythema or just perceptible scaling
2	Mild	Light pink erythema or minimal scaling with or without pustules
3	Moderate	Dull red, clearly distinguishable erythema or diffuse scaling, some thickening of the skin, with or without fissures, with or without pustule formation
4	Severe	Deep, dark red erythema or obvious and diffuse scaling and thickening as well as numerous fissures with or without pustule formation

c. The PGA for use in nail psoriasis

The Nail Psoriasis Severity Index (NAPSI) is used in clinical trials and due to its complexity, in a clinical setting the Dermatology Network members would prefer to use a physicians' global nail severity visual analogue score.

This would be 5-point scale of 0-4 and graded as clear (0), almost clear (1), mild (2), moderate (3) or severe(4) and based on a review of the following:

Nail matrix:	**Nail bed:**
Pitting Leukonychia Red spots in the lunula Nail plate crumbling	Onycholysis Splinter haemorrhage Oil drop (salmon patch) Nail bed hyperkeratosis

Appendix 3: American Academy of Dermatology (AAD). Joint AAD-NPF guidelines of care for the management and treatment of psoriasis with biologics (2019)

1. Summary of recommendations: moderate to severe scalp psoriasis

Number	Recommendation	Grade*
1.4	Etanercept is recommended as a monotherapy treatment option in adult patients with moderate-to-severe plaque psoriasis affecting the scalp	A
2.6	Infliximab can be recommended as a monotherapy treatment option in adult patients with moderate-to-severe plaque psoriasis affecting the scalp	B
3.6	Adalimumab can be recommended as a monotherapy treatment option in adult patients with moderate-to-severe plaque psoriasis affecting the scalp	B
4.6	Ustekinumab can be used as monotherapy for use in adult patients with moderate-to severe plaque psoriasis affecting the scalp	C
5.5	Secukinumab can be recommended as a monotherapy treatment option in adult patients with moderate-to-severe plaque psoriasis affecting the head and neck, including the scalp	B
6.4	Ixekizumab can be recommended as a monotherapy treatment option in adult patients with moderate-to-severe plaque psoriasis affecting the scalp	B
8.3	Guselkumab is recommended as a monotherapy treatment option in adult patients with scalp, nail, and plaque-type palmoplantar psoriasis	A

2. Summary of recommendations: nail psoriasis

Number	Recommendation	Grade*
1.5	Etanercept is recommended as a monotherapy treatment option for use in adult patients with moderate-to-severe plaque psoriasis affecting the nails	A
2.5	Infliximab can be recommended as a monotherapy treatment option in adult patients with moderate-to-severe plaque psoriasis affecting the nails	B
3.5	Adalimumab is recommended as a monotherapy treatment option in adult patients with moderate-to-severe plaque psoriasis affecting the nails	A
4.5	Ustekinumab can be recommended as a monotherapy treatment option for use in adult patients with moderate-to-severe plaque psoriasis affecting the nails	B
5.6	Secukinumab is recommended as a monotherapy treatment option in adult patients with moderate-to-severe plaque psoriasis affecting the nails	A
6.6	Ixekizumab can be recommended as a monotherapy treatment option in adult patients with moderate-to-severe plaque psoriasis affecting the nails	B
8.3	Guselkumab is recommended as a monotherapy treatment option in adult patients with scalp, nail, and plaque-type palmoplantar psoriasis	A

3. Summary of recommendations: palmoplantar

Number	Recommendation	Grade*
2.4	Infliximab can be recommended as a monotherapy treatment option in adult patients with moderate-to-severe plaque psoriasis affecting the palms and soles (plaque-type palmoplantar psoriasis)	B
3.4	Adalimumab is recommended as a monotherapy treatment option for adult patients with moderate-to-severe plaque psoriasis affecting the palms and soles (palmoplantar psoriasis)	A
4.4	Ustekinumab can be used as monotherapy for adult patients with moderate-to-severe plaque psoriasis affecting the palms and soles (plaque type palmoplantar psoriasis)	B
4.7	Ustekinumab can be used as monotherapy for use in adult patients with	C

	other subtypes(palmoplantar, pustular, or erythrodermic) of moderate-to-severe plaque psoriasis	
5.7	Secukinumab is recommended as a monotherapy treatment option in adult patients with moderate-to-severe palmoplantar plaque psoriasis	A
5.8	Secukinumab can be recommended as a monotherapy treatment option in adult patients with moderate-to-severe palmoplantar pustulosis	B
8.3	Guselkumab is recommended as a monotherapy treatment option in adult patients with scalp, nail, and plaque-type palmoplantar psoriasis	A

* Clinical recommendations were developed on the basis of best available evidence and ranked as follows:

A. Recommendation based on consistent and good quality patient-oriented evidence.
B. Recommendation based on inconsistent or limited-quality patient-oriented evidence.
C. Recommendation based on consensus, opinion, case studies, or disease-oriented evidence