Single Technology Appraisal

Ruxolitinib for treating non-segmental vitiligo in people 12 years and over [ID3998]

Committee Papers

NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

SINGLE TECHNOLOGY APPRAISAL

Ruxolitinib for treating non-segmental vitiligo in people 12 years and over [ID3998]

Contents:

The final draft guidance issued in July 2024 and the appeal panel decision are available on the NICE website.

The following documents are made available to stakeholders:

1. **Post appeal response from the company**, Incyte

2. **Post appeal responses from the stakeholders**
    a. Vitiligo Society
    b. Vitiligo Support
    c. British Association of Dermatologists
    d. British Dermatological Nursing Group (BDNG)
    e. Dr Viktoria Eleftheriadou - Consultant Dermatologist, clinical expert nominated by British Association of Dermatologists

3. **EAG critique of the company post appeal response**, provided by Peninsula Technology Assessment Group (PenTAG)

Any information supplied to NICE which has been marked as confidential, has been redacted. All personal information has also been redacted.

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Patient Organisation Submission

About you

This submission in on behalf of Incyte Biosciences UK Ltd.

1.Your name	[redacted]
2. Name of organisation	Incyte Biosciences UK Ltd
3. Job title or position	[redacted]
4a. Brief description of the organisation (including who funds it). How many members does it have?	NA
4b. Has the organisation received any funding from the company bringing the treatment to NICE for evaluation or any of the comparator treatment companies in the last 12 months? [Relevant companies are listed in the appraisal stakeholder list.] **If so, please state the name of the company, amount, and purpose of funding.**	NA
4c. Do you have any direct or indirect links with, or funding from, the tobacco industry?	No
5. How did you gather information about the experiences of patients and carers to include in your submission?	NA

Following the upheld appeal for the above appraisal, you are invited to contribute any further information or comments that would help the committee in its discussion of the upheld points. Please include information on how people with different protected characteristics are differentially affected by vitiligo, and how this might affect the committee's consideration of the clinical and cost effectiveness of ruxolitinib cream.
Vitiligo is an autoimmune progressive disease characterised by depigmented patches of skin caused by a selective loss of epidermal melanocytes (Bergqvist and Ezzedine, 2020). The Fitzpatrick scale is a system for classifying skin colour based on how it reacts to the sun and the amount of melanin in the skin. In vitiligo, the protected characteristic of darker skin tone (e.g., Fitzpatrick 4-6 classified skin type) is associated with: • **Greater overall patient burden** A survey stratified 300 patients by skin type, including 66 patients with darker phototypes from Caribbean, South Indian, or Middle Eastern ancestry. The study found that the dark skin phototypes perceived a significantly greater difference in the burden of vitiligo on their daily life (Ezzedine et al., 2015). • **An increased importance of facial involvement** Skin phototype and cultural background impact patient perception of the disease; for instance, darker skin increases the contrast/visibility of lesions. Furthermore, in south Asian culture, individuals with vitiligo experience greater stigma due to historical and cultural factors (Merhi et al., 2023, Ezzedine et al., 2025). • **A greater mental health burden for patients** The mental health burden is significant in patients with vitiligo, with evidence to demonstrate that 79% experience psychiatric morbidity. The negative effects on daily activities are greater and rates of moderate-to-severe depression are higher in patients with a darker skin tone. The risk of anxiety and recurrent depressive disorder has been found to be around 72% higher in black and minority ethnic vitiligo populations, than in Caucasian populations (Ramakrishna and Rajni, 2014). • **Emotional burden is greater** A survey of 325 vitiligo patients, 54 of whom had skin type 4-6, found that the lifetime emotional burden was significantly higher in this population (Narayan et al., 2021).

- **Quality of life burden is higher**
  Utilising generic (SF-36) and dermatology specific quality of life measures, Linthorst Homan et al. (2009) found that patients with skin type 4-6 (n=62) experienced poorer physical functioning and significant impairment in psychosocial functioning compared with patients with skin type 1-3 (n=183). A larger study on the mental health and psychosocial quality of life burden in patients with vitiligo [skin type 4-6 (n=2096), skin type 1-3 (n=1445)] has demonstrated patients with darker skin tones have higher rates of diagnosed mental health conditions; are more likely to experience moderate-to-severe depressive symptoms; more frequently conceal their vitiligo with make-up or concealer; and have worse quality of life when assessed with the Vitiligo Impact Patient (VIP) scale (Bibeau K, 2022).

Measuring quality of life in vitiligo patients
The studies above and multiple others demonstrate that there is (a) a quality of life burden in patients with vitiligo and (b) those with Fitzpatrick skin types 4-6 experience a greater burden of quality of life impacts from the disease than those with skin types 1-3. The quality-of-life burden in vitiligo is best captured with disease specific measures because EQ-5D may not fully detect impairment of patients living with vitiligo. The lack of content validity of the EQ-5D instrument has been substantiated by a large ceiling effect observed in other clinical trials on vitiligo (Sach et al., 2021), this makes the ability to demonstrate the cost-effectiveness of treatments for the disease more complex and challenging. The TRuE-V clinical trials on ruxolitinib cream employed three specific measures:

(1) Dermatology life quality index (DLQI) - 10 questions about the impact of skin disease on quality of life over the last week

(2) Vitiligo-specific quality-of-life instrument (VitiQoL) - 15 questions each with a scale (higher scores correlate to poorer outcomes)

(3) Vitiligo noticeability scale (VNS) - assessing how 'noticeable' vitiligo patches are after treatment

Exploratory subgroup analysis

An exploration of the quality of life data from the TRuE-V clinical trials can provide useful insight into the patients experience of the disease and treatment. An exploratory post-hoc subgroup analysis has been performed on these quality of life measures estimating treatment effects in populations with Fitzpatrick skin types 4-6 to skin types 1-3. In the pooled data from TRuE-V1 and TRuE-V2 trials there were 188 patients with Fitzpatrick skin type 4-6 of whom 60 received vehicle cream and 128 received Ruxolitinib cream; and

486 patients with Fitzpatrick skin type 1-3, of whom 164 received vehicle cream and 322 received Ruxolitinib cream (Incyte, 2022a, Incyte, 2022b).

For continuous outcomes (i.e., VitiQoL Total Score and DLQI Total Score), a mixed modelling with repeated measures (MMRM) framework was used to estimate treatment differences between Ruxolitinib 1.5% cream and Vehicle at Week 24. Treatment, Skin Type (1-3, 4-6), Region (North America, Europe), Baseline Score, Visit and a Visit by Treatment interaction were included as fixed effects in the MMRM model, with subject included as a random effect. For dichotomous outcomes (i.e., VNS Score of 4 or 5), a logistic regression model was used to estimate an odds ratio at week 24; treatment and Baseline DLQI Score were included in this model.

Figure 1 presents the results of the analyses. Across each of the outcomes, point estimates consistently demonstrate a greater treatment effect for ruxolitinib cream in the subgroup of patients in the trial with skin type IV-VI compared to those in the overall population and those with skin type I-III. This is consistent with the hypothesis that patients with darker skin may attain greater improvement in patient reported outcomes than those with lighter skin. However, the wide and overlapping confidence intervals surrounding these point estimates demonstrate that the study was underpowered to assess these subgroup effects and that the difference in point estimates observed across subgroups may be due to chance. The post-hoc nature of the analyses must also be emphasised, in addition to the fact that no adjustments for multiplicity have been carried out. As randomisation was not stratified on this subgroup systematic error may also impact the results; however, notably baseline characteristics showed similar balance across treatment groups to that observed in the overall population suggesting this may not have impacted results greatly.

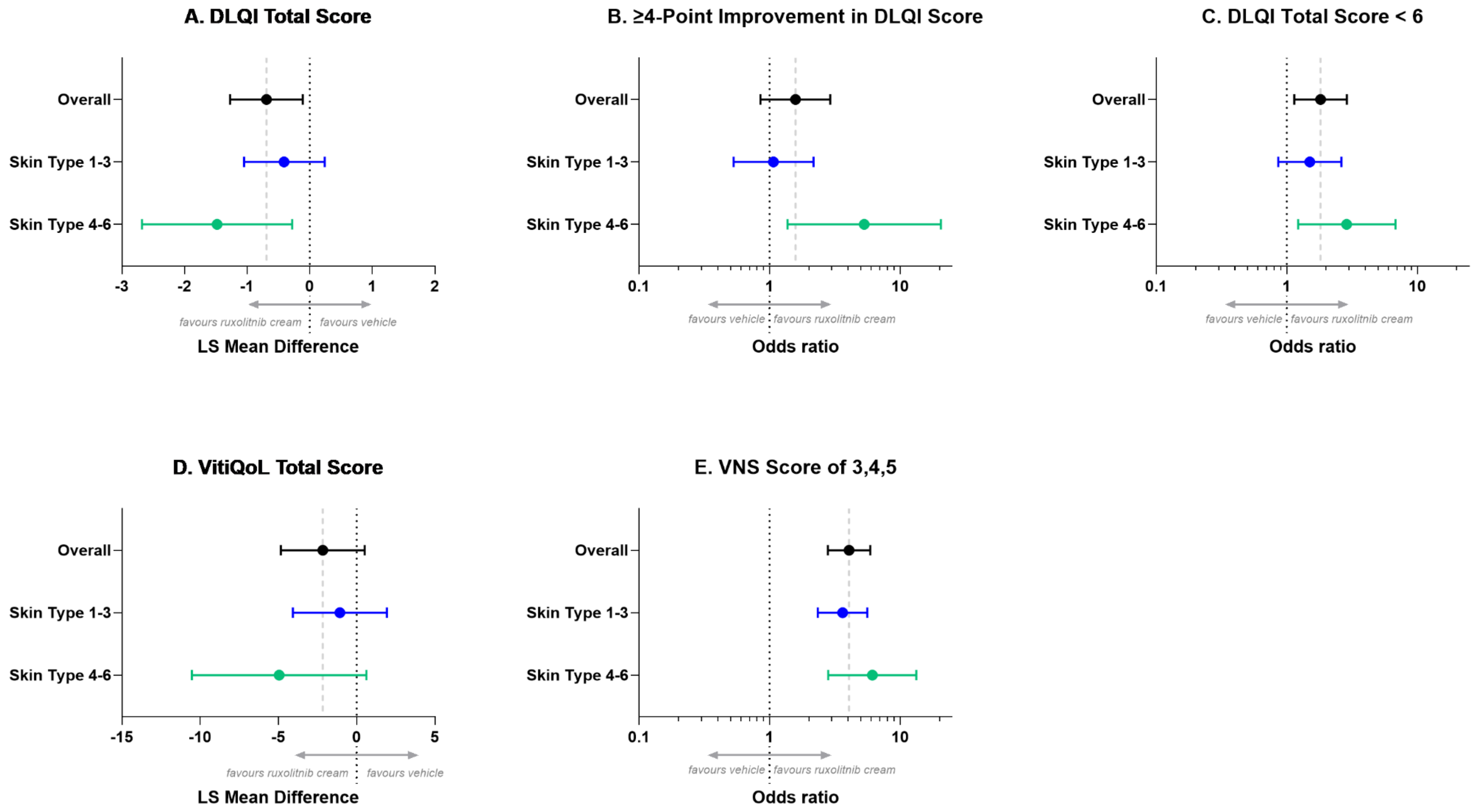

Figure 1. Subgroup analysis of quality-of-life measures at 24-weeks by Fitzgerald skin type

Update to cost-effectiveness results to support appraisal committee decision making

The evidence presented strongly supports the fact that vitiligo patients with darker skin tones are being impacted to a greater extent by the disease. Due to the high unmet patient need and lack of approved and/or effective treatment options in this space, Incyte Biosciences Ltd is keen to ensure all patients can access ruxolitinib cream. [redacted]

The base case considered by the committee to be most appropriate for decision making was ruxolitinib cream compared to no active treatment followed by NB-UVB. The ICER for this base case was £18,103; with the new PAS, the ICER will be £[redacted]. If the complex PAS is accepted by NHS England, then the ICER will be £[redacted]. To aid decision making for the committee, ICERs for the new PAS have also been calculated for the EAG tentative base case and NICE's plausible scenario ICER range.

Application of the complex PAS results in all ICERs now being within the range considered to be a cost-effective use of NHS resources, **with the exception of one extreme scenario** (S4) which considers no change to quality of life for patients following treatment, given the well-documented ceiling effect of the EQ-5D in vitiligo patients.

Scenarios	ICERs (£)		
	Company	**EAG**	**NICE plausible range**
Base case at ACM2	18,103	25,856	33,065 – 167,585
Base case with new simple PAS	[redacted]	[redacted]	[redacted]
Base case with new complex PAS	[redacted]	[redacted]	[redacted]*

*Exploratory base case results investigated within this range were based on those NICE considered at ACM2 and quoted in the FDG; with the new complex PAS these were: [S1] EAG tentative base case without utility capping + no response utility set as average of no response and baseline (0.819) £[redacted]; [S2] EAG tentative base case + no response utility average of no response and baseline £[redacted]; [S3] Company base case – no response utility same as baseline (0.881) £[redacted]; [S4] EAG tentative base case with utility capping + no response utility same as baseline £[redacted].

Summary

An overwhelming body of evidence demonstrates that vitiligo patients with darker skin tone, a protected characteristic of The Equalities Act 2010, experience a greater disease burden than those with lighter skin tone. Ruxolitinib cream is the first ever treatment to be licensed for vitiligo with currently available treatments showing only around 30-40% success rate. The TRuE-V clinical trials have demonstrated treatment with ruxolitinib cream was associated with substantial repigmentation of vitiligo lesions (Rosmarin et al., 2022). Despite the challenges of capturing cost-effectiveness given the shortcomings of EQ-5D, the ICER for ruxolitinib cream is well within the bounds of the cost-effectiveness threshold to be considered an effective use of NHS resources. Furthermore, there is likely to be a medical and social cost-offset in providing access to an effective treatment for a disease that negatively impacts quality of life and mental health. While vitiligo can impact anyone, the higher disease burden in those with darker skin tones means that failure to allow access to an effective treatment for the disease will clearly have greater impact for these patients specifically.

Clinician statements, as part of an ongoing study clinicians were requested to comment on the impact of vitiligo on quality of life and reflect on inequalities. No financial or other form of compensation was provided for this input. Conflict of interest (COI) declarations are provided with each response.

(1) Dermatology Registrar and sits in the Skin of Colour Training UK committee, Belfast Health and Social Care Trust

Dr Shahd Elamin, Dermatology Registrar, Northern Ireland

‘’The lack of effective treatment options for vitiligo is a significant challenge, not only for clinicians but, most importantly, for patients living with this highly visible condition. While vitiligo affects individuals of all ethnic backgrounds, it is particularly pronounced and distressing in those with darker skin tones, often leading to profound psychosocial consequences. Unfortunately, health inequalities are more prevalent in skin of colour

(SOC) populations, highlighting the urgent need for equitable access to better treatment options. Ruxolitinib cream has demonstrated effectiveness in managing vitiligo through robust phase 3 clinical trials. Licensing this treatment through the National Health Service (NHS) would ensure that all vitiligo patients, regardless of socioeconomic background, can access a proven therapy—promoting health equity and improving both the physical and psychological burden of this condition. As an advocate for improving UK SOC education through my role in the Skin of Colour Training UK committee, I am committed to enhancing care and outcomes for patients disproportionately affected by health disparities. With a strong personal interest in vitiligo, I will continue to champion the availability of Ruxolitinib and other emerging effective treatments within the NHS, ensuring that all patients receive the care they deserve.''

COI: No conflicts to declare

(2) Consultant Dermatologist currently working for Barts Health NHS Trust

Dr Alia Ahmed, consultant dermatologist

''Vitiligo disproportionately affects people with skin of colour. People with deep or richly pigmented skin are subject to unique challenges when they have a diagnosis of vitiligo. This includes cultural stigmatisation, discrimination and a cumulative impact on quality of life. Both males and females with vitiligo in the skin of colour group report - Stigma related to their diagnosis, where they are ostracized from their communities (due to fears around 'contagion') Relationship issues, where they are unable to enter into meaningful relationships due to discrimination. These problems are reported more by women. Economic issues, where they are unable to enter the workforce due to longstanding impact of mental health on education and ability to gain appropriate qualifications, leaving them reliant on state benefits Patients with skin of colour in the younger age group additionally face challenges as they often lack representation, have no role models, and are from socioeconomically deprived backgrounds. This inevitably impacts access to dermatological care and is further compounded by lack of treatment options It is thus imperative that people with skin of colour, from poorer backgrounds, young people and females have access to more options when it comes to vitiligo treatment.''

COI: Provided consulting services for Incyte

(3) Consultant Dermatologist at Barts Health (The Royal London Hospital and Whipps Cross University Hospitals NHS Trust)

Professor Tony Bewley

''For patients with skin of colour (and I see a lot of patients with skin of colour in my area of London) and for younger patients, living with vitiligo can be a truly devastating experience. My patients with SOC tell me that they are subject to discrimination because of their vitiligo both from others (employers, colleagues and the public), but also, and sadly, from their own communities. A treatment which has proven success in

managing patients with SOC who have vitiligo will be very important in the management of their skin, will help manage the psychological damage from living with vitiligo and may help towards deconstructing some of the discrimination which patients with vitiligo experience''.

COI: Ad Hoc consultancy / travel grant / lecturing fees: AbbVie, Almirall, Bayer, Bristol Myers Squibb, Beiersdorf, Galderma, Incyte, Janssen, Leo Pharma, Lilly, Novartis, Pfizer, Sanofi, UCB. Immediate Past President ESDaP. Advisor to APPGS. Advisory: Psoriasis Association, Changing Faces, ISG, NES. UK Rep EADV. EADV Grant 2016. Editor: practical psychodermatology and psychodermatology in clinical practice. Guidelines committees BAD

(4) Consultant Dermatologist and clinical research fellow with a PhD in skin disease and quality of life, Cardiff University Hospital

Dr Faraz Ali

''Vitiligo has a considerable impact on the quality of life of patients. Due to its visible nature it can impact several aspects of a patient's life: confidence, embarrassment, relationships, intimacy, day to day work and mood. Vitiligo is strongly associated with depression and can impact patient quality of life in the long term. Children can be impacted significantly in school due to bullying/ issues around self-confidence, but it may also impact older years as teenagers/ young adults. I have also seen older patients in clinics with considerable psychosocial impact. It is important to consider the impact on patients of skin of colour. Often vitiligo can be more obvious on darker skin types and together with social stigmas that may exist in some communities, the psychosocial burden can be considerable. Vitiligo in my opinion is an extremely distressing condition that impacts patients of all ages and skin types, but the burden is amplified in skin of colour and certain age groups.''

COI: No conflicts to declare

(5) Head of Sheffield Dermatology Research in the School of Medicine & Population Health at the University of Sheffield and am Honorary Consultant Dermatologist to both Sheffield Children´s Hospital NHS Foundation Trust and to Sheffield Teaching Hospitals NHS Foundation Trust

Professor Mike Cork

''Vitiligo has the greatest impact on patients with skin of colour as the lesions are much more obvious particularly on the face. In these ethnic groups facial vitiligo is even more likely to cause depression and be associated with increased rates of suicide. Facial vitiligo is a subgroup for which there are no currently available therapies. This is because TCS <topical corticosteroids> *of sufficient potency to treat vitiligo cannot be used on the face for a sufficient duration, to have any effect on the vitiligo. This is because the TCS are much more likely to cause significant adverse effects on the face because this has the thinnest skin on the body. TCS cannot therefore be used as a comparator treatment with new therapies when assessing treatment of vitiligo on the face. The skin in children is more vulnerable to the adverse effects of TCS and this adds to the problem of using TCS on the face.''*

COI: currently discussing the placement of Incyte clinical trials at SCH for vitiligo and other conditions

(6) Consultant Dermatologist at the St John's Institute of Dermatology at Guy's and St Thomas' Hospital

Dr John Ferguson

''I run a vitiligo clinic in the NHS at the St John's Institute for the skin in Central London, where I see roughly 15 vitiligo patients per week. The patients are a mixture of new and returning patients, evenly split between men and women. Roughly 10% of my patients are children and 70% have skin of colour. Vitiligo has a huge impact on this group. Patients with darker skin suffer more partly because the problem is more noticeable all year round. However, their distress is also driven by cultural stigma which is often manifests in anxiety, depression and poor quality of life. Although some patients do manage to live with vitiligo, many patients need psychological support and the vast majority do want treatment. Accessing new treatments is a source of hope for this group of people. Explaining to this group why they cannot have access to a new treatment is a huge challenge.''

COI: research support and travel expenses from Pfizer and has acted as a paid consultant and speaker for Incyte

(7) Advanced Nurse Practitioner - Medical and Specialist Dermatology at Guy's and St Thomas' NHS Foundation Trust

Aisling Clery

''Working closely with individuals affected by vitiligo in my role at an NHS specialist vitiligo clinic has underscored the profound impact this condition has on self-esteem, mental health, and social integration—especially for skin of colour. Skin of colour (SOC) refers to individuals of African, Latinx, Asian, Native Hawaiian, Pacific Islander and Indigenous descent. The depigmentation caused by vitiligo is often more pronounced on SOC, making the condition more visible and subject to greater societal stigma. Misconceptions about vitiligo within families and communities can further isolate those affected, contributing to experiences of discrimination, unwanted scrutiny, and, in some cases, social exclusion. The psychological burden extends beyond the visible symptoms, emphasising the need for a comprehensive approach that addresses both the medical and emotional challenges patients face. Currently available treatments, including topical corticosteroids and phototherapy, are beneficial to many patients, however, they also present significant barriers to effective management. While corticosteroids may provide some repigmentation, their long-term use is associated with adverse effects such as skin atrophy and irritation, limiting their viability as a sustained therapy. Protopic is an alternative topical therapy however in practice I have found this to be less effective. Phototherapy is very beneficial for some patients; however, it requires frequent clinical visits over an extended period—an impractical option for many individuals balancing work, family, and other commitments. As vitiligo is a chronic condition, with no cure, patients often feel like they spend a significant period of their life attending for phototherapy due to the nature of their skin depigmenting once ceasing phototherapy. This,

of course, varies from patient to patient. The limited accessibility and inconsistent efficacy of these treatments highlight an urgent need for more targeted, patient-friendly options. Advancing treatment options is critical not only to improve clinical outcomes but also to enhance overall patient well-being. Innovative therapies that consider diverse skin tones and lifestyles would facilitate better adherence, minimise treatment burden, and improve quality of life. Providing solutions that are more convenient and accessible would not only address the medical challenges of vitiligo but also help mitigate the stigma surrounding it, fostering greater acceptance and psychological resilience among those affected. Prioritising the development and approval of such treatments is essential in ensuring equitable and effective care for all patients.''

COI: Sponsorship received by Incyte, AbbVie and Novartis to attend conferences and for speaking at events

(8) Consultant Dermatologist, lead for phototherapy at Whipps Cross Hospital and President of Dermatology Section Royal Society of Medicine

Dr Anshoo Sahota

In my 25 years in that role I have been responsible for the phototherapy treatment of at least 20 patients per year with vitiligo. By definition those who have been referred for phototherapy have had insufficient response to topical therapy and have severe disease on cosmetically important areas of the body such as the face.

As you know, vitiligo disproportionately disadvantages people with skin of colour as it manifests as a visible difference and goes to the core of their self-identity. It has a high psychological impact leading to social avoidance and withdrawal from their community and the wider world. Phototherapy treatment itself is very time consuming and expensive both to the NHS and to the individual patients. My patients typically need three times weekly treatment and approx. 50-100 treatments to see if they respond to the treatment and in my experience only approx. 25% have a good response, the rest have no response or insufficient response. When I tell the patients who have not responded that I have to stop the treatment and that there is nothing else I can offer therapeutically, the patients are understandably devastated.

There is a pressing unmet need for new topical therapies as there have been no new products for at least 25 years. I would strongly support the use of ruxolitinib cream in the NHS for patients such as the ones I have seen in my practice for my whole career.

COI: No conflicts to declare

Are there any further equality issues that should be taken into account when considering this condition and the technology?

Key messages

In up to 5 bullet points, please summarise the key messages of your submission.	• There is unmet need for an effective and convenient treatment option for patients with vitiligo • Vitiligo has a greater burden of disease in patients with darker skin tones • Exploratory post-hoc subgroup analyses suggest the effect of ruxolitinib cream on quality of life may be greater in those with darker skin tones • Denial of access to an effective treatment when one is available has unequal consequences for darker skin tone patients who are protected group under the equalities act • Ruxolitinib cream offers a clinically effective treatment for all patients with vitiligo and the enhanced PAS/complex PAS removes uncertainty regarding cost effectiveness in all but the most extreme modelling scenarios that have been explored

Thank you for your time.

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NICE National Institute for Health and Care Excellence

Single Technology Appraisal

Ruxolitinib for treating non-segmental vitiligo in people 12 years and over [ID3998]

Patient Organisation Submission

Thank you for agreeing to give us your organisation's views on this technology and its possible use in the NHS.

You can provide a unique perspective on conditions and their treatment that is not typically available from other sources.

To help you give your views, please use this questionnaire with our guide for patient submissions.

You do not have to answer every question – they are prompts to guide you. The text boxes will expand as you type. [Please note that declarations of interests relevant to this topic are compulsory].

Information on completing this submission

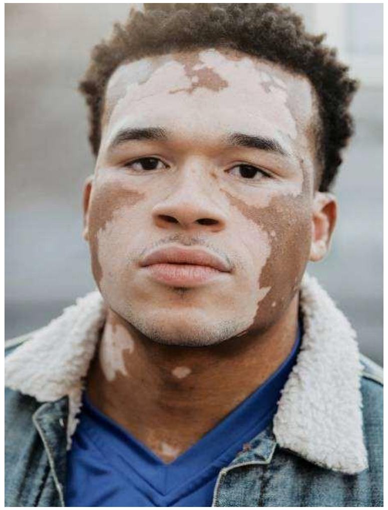
Please do not embed documents (such as a PDF) in a submission because this may lead to the information being mislaid or make the submission unreadable

We are committed to meeting the requirements of copyright legislation. If you intend to include **journal articles** in your submission you must have copyright clearance for these articles. We can accept journal articles in NICE Docs.

Your response should not be longer than 10 pages.

About you

1.Your name	[redacted]
2. Name of organisation	The Vitiligo Society
3. Job title or position	[redacted]
4a. Brief description of the organisation (including who funds it). How many members does it have?	The Vitiligo Society was **established in 1985**, and we are the only **national charity supporting people living with vitiligo in the UK**. Our Mission is to beat vitiligo by eradicating the psychological, social and physical effects that vitiligo has on people's lives, and by finding effective treatments and a cure. To achieve our mission, we focus on five priority areas of work: education, research, support, advocating for patients and campaigning for better awareness of the condition.  The charity has over **800 donating members** and **3000 newsletter subscribers**. Our closed support group has almost **7000 members** and we have a wider online following of **28,000 individuals** with **10,000 unique visitors** to our website **every month**. The charity is primarily **funded by donations** made by members and the wider public. We also receive ad hoc restricted grants from lottery funders, trusts, and pharmaceutical companies to undertake specific project work.
4b. Has the organisation received any funding from the company bringing the treatment to NICE for evaluation or any of the comparator treatment companies in the last 12 months? [Relevant companies are	In the interest of transparency, the charity has received the following funding from pharmaceutical companies in the **past 18 months**.  November 2023: £25,000 from Incyte Uk and £23,700 from Pfizer Uk to run a public awareness campaign. Funding has been used in line with the ABPI Code of Practice to engage external organisations to undertake campaign work on our behalf, under our guidance and instruction. Funding has been declared in line with transparency rules set by the ABPI. Neither

listed in the appraisal stakeholder list.] If so, please state the name of the company, amount, and purpose of funding.	pharmaceutical company has had editorial oversight or input into the content produced or the way it was shared. We have shared this as, although it was paid more than 12 months ago, the activity funded is still being delivered.
4c. Do you have any direct or indirect links with, or funding from, the tobacco industry?	No
5. How did you gather information about the experiences of patients and carers to include in your submission?	The Vitiligo Society issued a callout to the vitiligo community inviting individuals who specifically wanted to share their experiences and contribute to this submission. **Over 160 individuals** stepped forward and were provided with questions about their experiences and views, which has helped to guide our response. Some **anonymised quotations** from these people have been included in our submission.  A broader range of experiences and views from across the community have been included through various surveys in recent years: ● The Vitiligo Society instructed Social Change UK to conduct research on our behalf to help us gain more understanding of the physical, psychological and social implications of vitiligo in the UK. **The research involved 828 individuals**, 712 were people living with vitiligo and 116 were a relative or carer of a vitiligo patient. This research was published by The Vitiligo Society in November 2023 ● The Vitiligo Society **surveyed 304 individuals** between October 2010 and May 2011 to understand the effectiveness of treatments currently available to patients. ● We also drew on external, published research which is referenced in the appendix at the end of the submission A final draft of this submission was circulated to **The Vitiligo Society's Board of Trustees** to review and provide additional comments. Our Board of Trustees is entirely formed of people who either have **personal lived experience of vitiligo**, or close family members living with the disease.

Living with the condition

6. What is it like to live with the condition? What do carers experience when caring for someone with the condition?

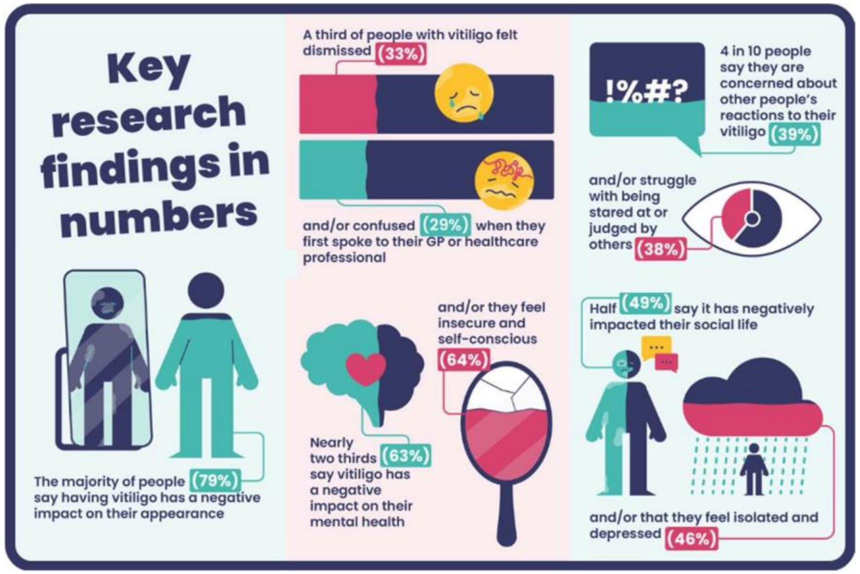
*“**Unpredictable and frightening**. I experience fear. How will my child’s vitiligo progress, how will she be accepted by peers and strangers…will she become **targeted, bullied, become isolated and suicidal** as others have experienced that we know personally… **It is heartbreaking to have a child with vitiligo** as you can’t fight their battles for them, you can’t stop other people’s reactions to differences, and even when I try so hard to build up her resilience and body image, is it enough?”*

*“**It has absolutely destroyed me.** I struggle every single day, to the point **I no longer want to be here**. I cry nearly every day and wish it would just go away.”*

Vitiligo is a **chronic autoimmune disease** and is widely considered to have one of the **most psychologically devastating effects on the skin** as it challenges societal norms related to skin pigmentation across various cultures. The impact of vitiligo is:

- **Physical**
- **Psychological**
- **Social**

These themes are explored in detail below:



Key research findings in numbers

A third of people with vitiligo felt dismissed (33%) and/or confused (29%) when they first spoke to their GP or healthcare professional

4 in 10 people say they are concerned about other people’s reactions to their vitiligo (39%) and/or struggle with being stared at or judged by others (38%)

The majority of people (79%) say having vitiligo has a negative impact on their appearance

Nearly two thirds (63%) say vitiligo has a negative impact on their mental health and/or they feel insecure and self-conscious (64%)

Half (49%) say it has negatively impacted their social life and/or that they feel isolated and depressed (46%)

Physical Impact

One of the most recognisable symptoms of vitiligo is the **loss of pigmentation to the skin** – which can appear anywhere but often begins in areas of friction or where skin is damaged – such as knees and elbows, eyelids, around the mouth and lips, and around the genitals.

In addition to the visible depigmentation of the skin, **some people living with vitiligo also experience some physical discomfort (32%)**[3]. Some patients report itchiness, dryness and painfulness, whilst others mention a heightened sensitivity in the affected areas. In some cases, these areas are more sensitive to sunlight, which results in burns, with some reporting that it can make the patches spread faster. Other physical health issues can be linked to vitiligo, even if these are not direct effects of the condition. For example, there is **a risk and potential for comorbidities, such as autoimmune diseases, diabetes, other skin conditions,**

and joint and connective tissue disorders like arthritis. Regular check-ups and talking to healthcare providers about these risks is a recommended part of treatment guidance but testing for these conditions is still not common practice for those diagnosed, and additional checkups are difficult to obtain - adding to the anxiety and frustration of the disease.

"[Vitiligo is] horrendous. ***Your self-confidence is shattered.*** *You never know where the next patch will come and how significant it may be. It's ruined my self-confidence…I have vitiligo on my eyes, breasts, bottom, hands and genital area.* ***I dread going on holiday*** *and it's become a* ***daily struggle."***

"It's hard to explain to children, both mine have it*. It affects their* ***mental health greatly but also physical health.*** *Spots need extra care during summer months as the* ***skin can become red and irritable."***

Psychological impact

People living with vitiligo often experience a range of psychological effects. For example,**79% reported it having a negative impact on their appearance,** and **63% on their mental health**. This also included a **significant reduction in their quality of life**, feelings of **isolation, sadness, frustration, stress, worry, difficulty in relationships, depression, anxiety, body image issues (46%), and lack of confidence. 41%** of those surveyed **struggled with their self-esteem** and **64% reported feeling insecure** or self-conscious about how their skin looks [3]. One of the most prominent psychological effects is low self-esteem, which can lead to negative thoughts about their appearance and patches, notably their characteristics, changes and spread, all which impact self-confidence. The **fear of being judged** or rejected due to appearance, and changes in normal routine (e.g., having to avoid sunlight), can also contribute to mental health conditions like depression and anxiety. **Social stigma** is a significant factor that can lead to social isolation due to avoiding social interactions and fearing negative reactions and comments from other people.

"In summer my 16-year-old son's vitiligo is VERY visible, and he is very conscious of it… ***I've cried myself to sleep some nights when I see the effect that vitiligo has on my son."***

"Since my vitiligo has worsened, I have ***developed social anxiety.*** *I used to feel good about myself but now my self-esteem is very low,* ***I have stopped dating completely."***

*"My life has been totally turned upside down… **not a day has passed where I have not woken up thinking about vitiligo** and going to sleep without thinking about vitiligo. I literally **dread each day,** the future and the chance that one of **my children inherit this awful condition."***

Social impact

Vitiligo can have a significant **impact on an individual's social life (49%),** often leading to **isolation** and **difficulties with social interactions**. Most participants mentioned negative reactions and misconceptions about the condition, such as comments like **"did you put bleach on your hands?"** or **"is it contagious if I touch you?"**. Some Individuals may experience the loss of friends and missed job opportunities due to fears of being judged and withdrawing from social gatherings (**29% reported noticing a negative impact in relationships with family and friends**). Another important social impact to mention relates to personal and intimate experiences. **37% noticed an impact on their intimate and romantic relationships**, such as dating and sexual encounters, which can also bring concerns regarding possible judgements and important conversations with partners[3].

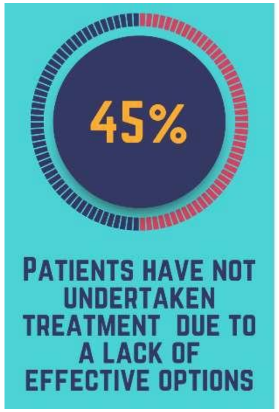
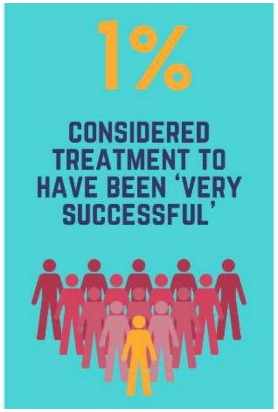
*"**My daughter** is young and partly oblivious to other people; however, I notice **people looking and staring** and commenting on it. It has a huge **potential to damage her confidence and** subsequently her **mental health** whilst she develops."*

*"At times **I hate myself…** [I] can't wear shorts or dresses, … **I dread the summer,** especially when people are wearing summer clothing, and I always look the odd one out… It has a **dreadful effect on my everyday life."***

*"It impacts my mental health as I see **other people say comments about my skin**…I have had people be hesitant & **reluctant to shake my hand."***

*"I even think about it **when having my photo taken,** like **not putting my arms around my children** because it will clearly show my white patches on the pictures."*

Current treatment of the condition in the NHS

7. What do patients or carers think of current treatments and care available on the NHS?	*"I've tried them, and **they didn't work.** There are **no more options** other than to 'live with it' which is something I can't bear the thought of."*    There are **three key themes** that emerge from feedback from patients regarding available NHS treatment and care: • **Treatments are either not offered or are difficult to access** • **Light therapy is too disruptive and can make vitiligo worse** • **Available treatments are not effective** These themes are explored in detail below: **Treatments are either not offered or are difficult to access** The treatment journey for individuals living with vitiligo is a diverse and constantly developing process. It often starts with the diagnosis, during which healthcare professionals may provide and introduce information about potential treatments. However, research has shown that this process may not always offer the level of reassurance and guidance people need. This is why people described their **treatment journey as a 'trial-and-error' process**, while exploring different treatment options. Almost all the participants (75%) expressed a shared desire for a cure for vitiligo, and 15% expressed being resigned from finding a cure[3]. Data from our research into experience of treatments shows that of the 290 participants **137 (45%) had not undertaken any treatment**. Patients informed us that this was because either they are **told no treatments are available**, or they are **warned that the available treatments are not effective**[6]. **48%** of patients said they still had **concerns about their vitiligo spreading** or progressing in the future[3]. *"Our care has been **totally inadequate.** Six years ago, when she [our daughter] was diagnosed we had one appointment with the GP who prescribed steroid drugs and said there was **nothing else he could do.** We have been **waiting for a dermatology assessment for over 18 months.**"* "**There isn't anything that seems to work.** I have been given creams, but they are **awful to use** and **don't seem to do anything**. They also can't be applied to my face, which is the main place that I am concerned about."

Light therapy is too disruptive and can make vitiligo worse

Treatments that combine creams with light therapy are generally reported by patients as being the most effective option in terms of repigmentation, however the **results are nearly always short-term**. The **disruption** of having to visit a clinical setting for light therapy means that most patients who are able to access the treatment feel that the **limited results did not justify the disruption to their lives**. These treatments also **present barriers to access** for many patients who are already at a disadvantage due to geographical location, lack of mobility, work, education, childcare commitments, or financial constraints.

*“**Current availability of treatments is lacking.** I haven’t had any treatment in years now, just because the hospitals haven’t been able to see me, and the waits are so long... you can only do the lamps at the hospital, that combined with creams and ointments are the only option”*

*“I have had **several rounds of NB UVB treatment** and even though the treatment is **gruelling** it does work, but **after a while the patches just come back.”***

*“Light therapy is **difficult to get** and also if you have a full-time job **it is not sustainable.**”*

*“**Light treatment escalated my white patches**. [I] wish I’d never agreed to it but I was **desperate** and still am.”*

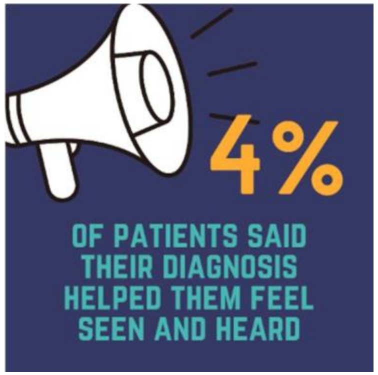
Available treatments are not effective

Insight from our online support groups have shown that most people who reach out to us feel **there are not any effective NHS treatments available for vitiligo.** Those that do experience repigmentation via the available treatment methods, report that this is **rarely permanent or wholly effective**. Within our community there is a **sense of desperation** for more effective treatments to become available. It’s not uncommon for people to be so desperate that **they purchase unapproved ‘treatments’** from the internet, and our support groups are often **targeted by individuals trying to sell ‘miracle cures’** to patients. This presents **a real danger** where patients are trying products that are **not regulated and potentially harmful**.

Only **71 individuals (24%)** surveyed **reported the occurrence of repigmentation that persisted after treatment**. A key figure is that of those surveyed **just 3 individuals (1%) marked that they considered their treatment to have been ‘very successful’** [6].

*“Last time I saw my dermatologist **he said I need to live with it.** It makes me feel like no one cares what I'm going through.”*

	*"They did their best but unfortunately **nothing works. I tried everything."*** *"**I do not feel the NHS are trying to actively look for new solutions**... after Protopic stops working **you are discharged and left to your own dark thoughts feeling like your life is over,"***
8. Is there an unmet need for patients with this condition?	*"**They can't explain why we've got it...** There is no cure, I do understand that. But **they don't give you any hope at all.** They're like 'we can try this cream, but **it's probably not going to work."*** *"The **wait times for diagnosis are extremely long** and which does not help with trying to manage spread earlier. **Mental health support is difficult to receive."*** **96%** **OF THOSE SURVEYED FELT THERE WERE UNMET NEEDS FOR PATIENTS WITH VITILIGO** Our research highlighted **5 areas of unmet need** for patients with vitiligo. Currently most patients must navigate this disease without: ● **A clear, informative diagnosis** ● **A timely referral to specialist services** ● **A clear treatment pathway** ● **Access to effective, licenced treatments** ● **Testing for other associated autoimmune diseases** These themes are explored in detail below: **A clear, informative diagnosis** While most people first learn about vitiligo through a GP or healthcare professional, their overall **experience with the diagnosis is often not reassuring or positive**. Patients describe feeling **uninformed, unsupported, unheard, distrustful, and/or pessimistic** when receiving the diagnosis. Similarly, other feelings such as **neglect, confusion, dismissal, and fear** were experienced to a lesser extent. It's very common for individuals to turn to a GP as their initial source of help and information, however patients report that the information received during this stage is **often perceived as not useful**, and the possible **psychological impact of this disease is not mentioned** or addressed by medical professionals. One prevalent issue is that **people often feel dismissed** and are being told that it is only a 'cosmetic condition', which can be invalidating and frustrating. Additionally, many vitiligo patients are **not referred to a dermatologist or a specialist** that could provide more information in relation to all aspects of the condition, leaving individuals feel dismissed & hopeless. Often being diagnosed only helps vitiligo patients understand what vitiligo is because they do a lot of research about it after being



diagnosed. Patients report that GP appointments in relation to vitiligo often lack certainty, reassurance and information about potential risks around related health conditions. In fact, **only 4% of surveyed participants said that their diagnosis helped them to feel seen and heard** by healthcare professionals[3].

*“This condition causes **mental health issues...recognition is needed** to stop this condition and mental health in its tracks.”*

*“I’ve **had to explain to doctors what vitiligo is** and then they say, ‘oh that’s fine you know **it doesn’t affect anything’.”***

A clear treatment pathway

Even after diagnosis, many people living with vitiligo do not feel that they possess an understanding of the condition. The **difficulty of finding information** related to vitiligo is one of the factors that contributes to this issue, and even those who are able to find information easily report **uncertainty surrounding the information’s accuracy**. Many **patients are not aware that there are treatment options**. For those that can find information the **process of treatment can vary significantly** depending on the type of vitiligo, location and colour of the patches, the extent of their vitiligo, as well as individual preferences, goals and needs. For instance, some individuals opt for treatments focused on repigmentation, aiming to restore the colour of the depigmented areas, and may explore options like topical corticosteroids, phototherapy, or advanced therapies such as an excimer laser or microskin.

Patients that are not properly informed by their healthcare professional can find **navigating treatment pathways to be stressful and difficult**. Treatment outcomes may take time to become evident and involve a **lengthy process of finding the right treatment**, trusting it, and using it constantly. This is why many people will choose to stop treating their vitiligo – **they give up hope.**

“An effective treatment and even a dermatologist appointment is not available for this condition”

*“I have **never been offered any treatment.”***

	Effective, licensed and accessible treatments A key unmet need in the community is access to licensed treatments. With the US and Europe approving Ruxolitinib for use and making it available to healthcare patients, **UK patients are feeling frustrated and abandoned**. Instead of one licensed treatment, patients are **left to navigate a selection of unlicenced options** which can be **emotionally challenging, time consuming, expensive, and often difficult to access**. It is generally accepted amongst the vitiligo patient community that NHS treatments are not effective, and that NHS care is not helpful. As a result, many patients look to other solutions such as private practitioners, the internet, psychological support and skin camouflage services. *“**How can there be treatment available in other countries which have proven positive effects and yet we cannot have it in the UK?** When I learnt about Ruxolitinib I was so unbelievably excited. And **when I saw it hadn’t been approved, I cried and cried and cried...**I don’t think that people with normal skin can ever understand how it feels.”* *“Treatment is available, but **we are deprived of something that can give us a meaningful life again….** I believe this treatment can be made available through the NHS.”* *“We need to be able to try Ruxolitinib. **It feels very unfair that a treatment exists, and that we are not able to access it.”***  **A timely referral to specialist services** A direct consequence of the lack of effective, licenced treatment options is **an unmet need for timely referral to counselling services, and suitable camouflage services**. Patients are having to **wait months and often years** to see their dermatologist and then when an initial treatment plan proves ineffective, they must wait even longer to obtain the psychological support they require. Patients also report to us that they are having to wait months to access camouflage services and are often faced with geographical and financial barriers when trying to access appointments. Patients with darker skin specifically report finding **camouflage services ineffective** as the options for darker skin tones are limited and ‘unnatural looking’. *“[there is a] **lack of a therapy** that can really address vitiligo and lack of understanding that vitiligo has a serious impact on the mental well-being of people who experience it. **You won't be able to understand it unless you have it”*** *“[There is] **little consideration for the emotional and mental impact** of living with this...I **have had to research everything myself.** Nothing I have come across or used has been recommended/shared or advised to me by the NHS.”*

	 **Testing for other associated autoimmune conditions** Vitiligo is often viewed as a 'skin condition', rather than being recognised as a chronic autoimmune disease. For this reason, patients are rarely tested for associated autoimmune diseases, despite treatment guidelines stating that this should form a part of the diagnosis process. This means that the discovery that there is **a risk and potential for comorbidities, such as other autoimmune diseases** is often made via online groups and chat rooms – causing panic, fear and further mistrust in NHS care. *"The NHS prescribes a cream and that's it…**they do not even test for possible other symptoms.** Autoimmune diseases can affect people in many ways."*

Advantages of the technology

9. What do patients or carers think are the advantages of the technology?	*"**Feeling completely helpless for a child is the worst thing**; it feels like hell…**Having these new medications coming** through and being developed **gives hope** but only to be crushed when it is then refused."*  Feedback from the patient community highlighted **5 themes** where **patients felt this technology had specific advantages**, especially when compared to other treatment options: • **Better real-world results** • **Giving hope to patients** • **A simple, accessible, licenced solution** • **Alleviate the financial burden on individuals desperate of a solution** These themes are explored in detail below: **Better real-world results** There is much to be learnt from real-world experiences of different treatments. We have relationships with patient support groups in the US and Europe where Ruxolitinib is currently available. We are told that members of these support groups have been **experiencing positive real-world results** in terms of facial repigmentation whilst using this treatment, especially by

comparison to other treatments currently available. Our **UK patient community is reading about that success** and is left **feeling increasing frustrated** knowing that there is something that is working for patients around the globe, but they are not able to access it.

"The results are promising for this new drug. *I think patients in the UK should be given the chance of using it like others in Europe."*

"Ruxolitinib could address a range of issues such as anxiety, low self-esteem and confidence *and would also help to support people financially* ***by removing dependency from purchasing make-up*** *and* ***reducing the stress and energy*** *that goes into applying make-up on a daily basis."*

Giving hope to patients

For many people in our community, it is the loss of pigmentation on their face that is the key cause of anxiety – especially when leaving the house or meeting people for the first time. This treatment **represents hope for many people** in our community. Whilst it may not be a cure and we recognise it won't alleviate all the social, psychological and physical impacts of vitiligo, it does have the potential to lessen these impacts and enable patients to be seen, heard, and to live with more confidence.

"It would be ***a life saver for a lot of new teenage sufferers*** *who have just found out they have it* ***and for long term sufferers*** *who have lived with it for a while."*

"It would give us hope *and belief that we have some control over this debilitating autoimmune condition."*

"Please give us… hope. People will give up on life, trust me they will. Please, please give us this cream."

A simple, accessible, licenced solution

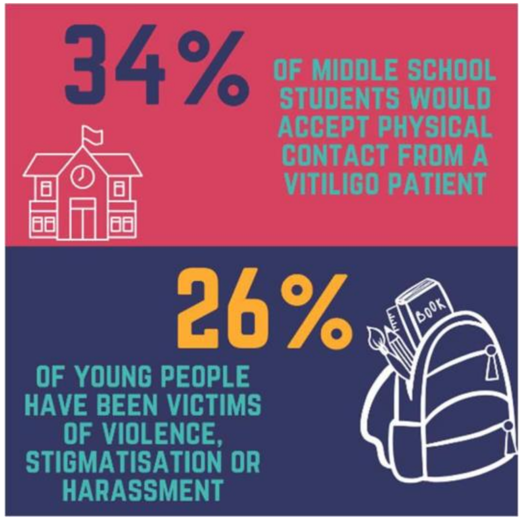
We know that the **treatment pathway is complex and confusing** for vitiligo patients and healthcare professionals to navigate, we believe that the introduction of a licenced treatment will help provide patients with both the hope of a new treatment but also **reinstate some confidence within the healthcare system** as there will be a treatment specifically licensed for their condition. In addition, it would **help tackle some of the inequalities created by the current comparator** to this technology (light therapy) which is not easily accessible for many groups of individuals.

	"It's effective. It's evidenced based treatment. It offers long term results. It is easy to take this treatment" ***"A genuine and accessible treatment option would finally be available." "A simple, effective home treatment"*** **Alleviate the financial burden on individuals desperate of a solution** The reality is that vitiligo patients are so **desperate for access to new treatments** that individuals are getting into **serious financial difficulties** in order to purchase this new treatment privately or turning to the internet a trusting to so-called 'miracle cures' that are advertised. This can be extremely harmful but also indicates the level of desperation that patients are feeling.  *"It would be **life changing** to my current way of life, not only for me but also for my partner. **I have to pay for my own private medication** to manage vitiligo, which is a **strain on our finances and** also our **relationship."*** *"There have been **many positive and encouraging stories from other countries** in this treatment and it being available via the NHS would **allow not just a select few to benefit** from this **very costly private treatment."***

Disadvantages of the technology

10. What do patients or carers think are the disadvantages of the technology?	As a patient support organisation, **we believe in choice**. Currently patients feel they have no choice, so regardless of the disadvantages listed below we feel it is important that this treatment be made **available to all those who might benefit** from it. The **3 key disadvantages** of this treatment that we have identified are: ● **Restriction to facial involvement:** We understand that the indication for this treatment is **restricted to non-segmental vitiligo**, and where **vitiligo is present on the face**. We are concerned by this restriction as we know that very **few patients are properly checked using a Wood Lamp to confirm the various locations where vitiligo is present**. This means that **small vitiligo legions on face may be missed**, and as a result **this treatment may not be considered** until the vitiligo on the face has become more visible. This delay in treatment could **negatively impact the effectiveness** of the treatment and result in **further psychological damage** to the patient.  ● **Restriction by age and type of vitiligo:** The **restriction to ages 12 and over** and **restriction for use in only non-segmental vitiligo** has caused concern amongst patients. Young people would especially benefit from access to the treatment given the increased burden the condition has on these patients. It should be noted that patients are equally impacted regardless of the type of vitiligo – so if any effectiveness has been shown for use with segmental vitiligo, then we believe those patients should also have the opportunity to access this treatment if they wish to try it. ● **Length of time to access a second line treatment:** We understand that Ruxolitinib is being considered as a second-line treatment option, meaning that it would only be available following a referral to a specialist clinics or hospital. Our concern is the **difficulty patients experience in securing a referral to a specialist**, and the **subsequent waiting time** many patients face. This means that in many cases patients will have been diagnosed for well over a year prior to being able to access this treatment, by which time their vitiligo may have progressed significantly causing **further emotional distress**.

Patient population

11. Are there any groups of patients who might benefit more or less from the technology than others? If so, please describe them and explain why.	*“Having **darker skin makes it more noticeable** and knowing that there is possible treatment for it but the NHS will not provide it is not only disappointing, but I feel it is **discriminatory to people of colour.”** *“**I worry a huge amount about my son's mental health**. He is **only 8**, but I can already **see the impact having a visible difference has on his confidence** and how he reacts when **people ask about his skin** and why it looks different.”*  Any patient, regardless of their demographics or extent of the vitiligo has the potential to suffer the extreme, negative socio and psychological effects associated with the condition, and would therefore benefit considerably from the addition of a new treatment option. There is a real lack of formal, published research relating to this area, however research we have conducted and our experience of supporting patients has shown that **those most severely affected by vitiligo are statistically more likely to have at least one the following four characteristics**: • **Have medium to dark skin colour** • **Belong to culturally diverse communities** • **Young people** • **People from low socio-economic groups** These themes are explored in detail below: **Those who have medium to dark skin colour** Data from our research and discussions from our support groups have identified that those who have medium to dark skin tone are **more likely to be negatively affected by their vitiligo** and have **a lower quality of life** as a result of the condition[3]. The **reasons behind this are complex**, but from our experience key factors include: ○ Skin depigmentation is **more noticeable** in darker skin tones. The appearance of vitiligo can have significant consequences on the quality of life for individuals with darker skin, attributed to the noticeable contrast[2]. ○ Camouflage service users with darker skin are more likely to find **the colour selection inadequate to conceal their patches**. ○ Individuals with darker skin also have a **higher likelihood of living in areas of higher indexes of multiple deprivation**; have **longer waits to access health care** and so treatments are less likely to be effective due to the time it takes to receive them. Research shows that early intervention results in greater treatment success with vitiligo patients (especially younger ones).

- This demographic is more likely to be **working in public facing jobs**, **facing social reactions and stigma on a daily basis**, which in turn affects their career and ability to excel in work environments.
- This demographic of individuals is **less likely to be able to easily travel to appointments**; less likely to **participate in clinical trials**; and are **more likely to have work patterns which prevent them from accessing treatments** based in clinical settings such as phototherapy.

*"I believe by not providing it to people of colour is **discriminatory and** potentially **falls foul of equality laws."***

Those who belong to culturally diverse communities (CDCs)

Again, understanding how CDCs are more severely affected by vitiligo **is not straight forward**. Key factors we are aware include:

- Individuals from CDCs are **more likely to have darker skin tones** (see above)
- Our experience is that CDCs are often **more tight-knit and closed to external influences** – this means they are more distrustful of national services such as healthcare, support services, and medical and scientific researchers. They are **less likely to engage in support groups** or to participate in clinical trials. **Family pressure and heightened social stigma** often results in individuals feeling more compelled to hide their vitiligo.
- We are aware of individuals from CDCs being **forced into arranged marriages** and **sent overseas** as they are **required to be matched with another individual with vitiligo**, again due to heightened social stigma surrounding the condition.

The psychosocial impact of vitiligo is underscored by the intricate interplay between visible differences and social stigma, which significantly affects an individual's self-esteem. **Thompson et al. (2010),** conducted a study of British South Asian women, delving into the experiences of living with vitiligo. The study emphasized that societal perceptions, cultural norms, and beauty ideals are pivotal in shaping the emotional landscape of individuals with vitiligo. The study found that **within specific cultural contexts**, the influence of unique cultural norms and societal beauty ideals becomes more pronounced, **intensifying the pressure on individuals to adhere to established appearance standards**. This increased emphasis on **conformity to cultural expectations** can further compound the marginalization experienced by those affected by vitiligo. Therefore, there is a growing urgency to establish support systems that are culturally sensitive and tailored to address these unique challenges effectively[1].

Another example of unique cultural challenges can be understood when exploring our relationship with the Indian vitiligo support group, the Shweta Association. Based in India, a key service the association provides is their Marriage Bureau:

> *“**Marriage Bureau** & Matrimonial Meets is **one of our most sought-after activities.** Up to the year 2015, more than 1500 boys and girls have registered and 950 marriages have been arranged successfully. We register **candidates having vitiligo** or candidates whose parents or other family members have vitiligo. However, we also welcome people who do not have Vitiligo but out of a **sense of social responsibility are willing to marry** our members.”*

The Shweta Associations work is not limited to supporting the marriages of those in India, but to **match those of Indian heritage who have vitiligo from around the globe**. Such is the stigma of the condition in this culture, that **families in the UK will send young people abroad to secure a marriage** match with another person diagnosed with the condition. This is often out of fear that without such action their child will never be able to get married or lead a normal life. For many patients in the UK with Indian heritage, **a diagnosis can mean the end of their life in this country**.

> *“Communities like mine are just very closed and **we keep matters to ourselves.** We won’t go looking for support from outside organisations.”*

Young People

Vitiligo has **especially strong effects on the mental health of 12-25 year olds**. Again, the reasons for this are not straight forward, but we have listed some key factors below:

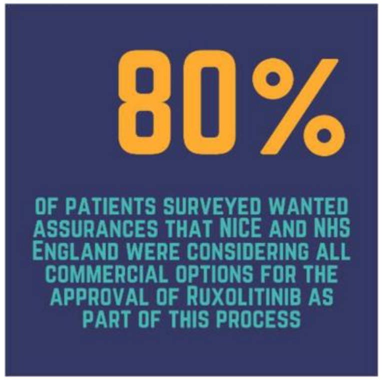
- Research[4] shows that **middle school students are the least informed and tolerant of people living with vitiligo**, yet puberty is a pivotal age in the acceptance of the disease by patients and those around them. Vitiligo remains unknown among young people (since only 30% of young people "know about vitiligo", while 51% said "they have heard of it"). This lack of awareness causes a stigmatisation of vitiligo, which appears particularly strong in middle school: **only 34% of middle school students would accept physical contact with a person suffering from the disease**, and **only 38% would agree to interact with them**.
- Furthermore, while **26% of individuals aged 12 to 25** who have suffered from a visible skin problem say they have been **victims of violence, stigmatisation or**

	harassment, and 20% of young people who know about vitiligo have witnessed a situation of stigmatisation.[4] ○ This stage of development often involves heightened insecurity. A staggering **76% of young people who participated in the study believe that the way society views people with vitiligo harms their mental health**.[4] ○ In addition, young people often struggle to adjust to the current treatment available with many reporting that **current treatments irritate their skin** or prove **too disruptive to their education** to be viable options for them. In addition to improved quality of life, this technology stands to benefit young people further as **research shows that the earlier the treatment intervention, the more effective and long lasting repigmentation is likely to be[5]**. Therefore, young people may have both the greatest burden to alleviate and stand the greatest chance of experiencing positive results, given that a significant portion of vitiligo patients are diagnosed at an early age. **People from Low Socio-Economic Groups (LSEGs)** From our support groups we have seen a trend that **those in more public facing jobs** such as hospitality, retail, teaching and care etc, **will often experience a great social impact from their vitiligo**. These roles are often linked to lower salaries and lower socioeconomic status and **face greater barriers in accessing treatment**, especially treatments that take place within a clinical setting. In addition, they are **less likely to be able to access private support** such as counselling, pay for private treatment, or afford effective camouflage products. Due to the difficulty in accessing healthcare, more and more vitiligo patients who can afford it, choose to access private support services and products. This means that **individuals from deprived areas are more likely to benefit from new treatments**, and they are most likely to be without access to psychological support and effective camouflage products. *"There are always equality issues in the world, but I feel it's so unfair that **this treatment isn't available unless you are rich.**"*

Equality

12. Are there any potential [equality issues](#) that should be taken into account when considering this condition and the technology?	In the previous section we highlighted that certain demographics of the vitiligo patient population are more likely to benefit from the treatment. We identified that those most severely affected by vitiligo are more likely to have the following characteristics: • **Have medium to dark skin colour** • **Belong to culturally diverse communities** • **Young people** • **People from low socio-economic groups** We also acknowledged that anyone can be severely physically, psychologically, socially affected by vitiligo. The above groups are statistically more likely to be adversely affected when compared to the general population. **We believe the that above section (question 11.) should be taken into consideration as these characteristics present significant equality issues when considering the technology.**

Other issues

13. Are there any other issues that you would like the committee to consider?	 80% OF PATIENTS SURVEYED WANTED ASSURANCES THAT NICE AND NHS ENGLAND WERE CONSIDERING ALL COMMERCIAL OPTIONS FOR THE APPROVAL OF RUXOLITINIB AS PART OF THIS PROCESS There are **four additional key issues** that we would like to highlight to the committed: • **Do trial populations reflect real world patients?** • **Current studies related to the mutation burden of narrowband UVB** • **The need to fully explore commercial negotiations fully.** • **Voices from our patient community** These issues are explored in detail below: **Do trial populations and data reflect real world patients?** We would like NICE to consider what we have presented as the real experience of current health care and the potential life changing benefits this treatment could have. We appreciate that NICE bases much of its decision on cost effectiveness analysis and scientific quality of life scales, but we ask that they **consider the real voices and experiences** that we have shared and **give appropriate weight to what we, as the community of patients, are saying.** We question from our knowledge of those communities who are most affected by vitiligo (and who are most likely to benefit from the treatment) was this population (CDCs, LSEGs, Young People and those with darker skin) adequately represented in clinical trial data? We know these groups would face the greatest barriers to

	participating in such research. We also know **these groups have not been represented adequately in this process** thus far, so we urge NICE to read the quotes and take note of the data included here. **Current studies related to the mutation burden of narrowband UVB** We note that the NICE commented in their draft guidance that **"it is uncertain how well ruxolitinib works compared with phototherapy because the company provided no evidence to support this comparison".** It may be worth noting that the **University of Southampton has recently conducted a study investigating the mutation burden of narrowband UVB (NB-UVB) in patients** with psoriasis and have found that, when the NB-UVB mutation burden is considered in the context of natural sun exposure**, NB-UVB looks more carcinogenic than previously estimated** (the manuscript is currently under review). Admittedly, this study has not tested for mutations in vitiliginous skin, and it is the risk of skin cancer in vitiligo is still unclear, but despite the JAMA Dermatol 2020 article by Bae et al not seeing a higher risk of skin cancer, it did report that **"the risk of actinic keratosis increased significantly for those who had undergone 200 or more NBUVB phototherapy sessions".** We understand from our Medical and Scientific Advisors that actinic keratoses have more mutations than the majority of internal cancers and melanoma, and we know from recent genetic work that some actinic keratoses can develop into squamous cell cancers, so researchers have suggested that **it may be just a matter of time before skin cancers are seen in vitiliginous patients who receive sufficient amounts of phototherapy**. **The need to fully explore commercial negotiations fully.** We are calling on NICE, NHSE, the Government and drug manufacturers to come together to **explore all options to enable timely and equitable patient access** to this new treatment. We remain concerned that without further commercial negotiation and flexibility we again risk a scenario where UK patients will not be able to access the first vitiligo treatment breakthrough, when it has already been deemed cost-effective in countries across Europe. It is **not sufficient that the Appraisal Committee take a judgement on cost effectiveness without fully exploring all funding avenues and options** as part of this ongoing processes. **We call on the Appraisal Committee to use this opportunity to work with the company to find a solution to make this treatment a via option for NHS use. Our community is not resilient enough to withstand another negative outcome from this NICE process.**

The voices from our patient community:

We want to give the final words of this response over to some of the 150 vitiligo patients who participated in our survey:

*"I've been waiting for a treatment opportunity like this **all my life** and **it's devastating** that it hasn't been made available."*

"If your own child had vitiligo, would you even consider whether to offer this treatment or not?** Probably not. You must **put the ethical and moral reasons** for approving this treatment **above all else."

"This cream is the only hope I have.** I know other treatments are under trials, but this will take years. By then it will be too late for some people. **This glimmer of hope keeps us going and you are taking it away from us."

"This condition ruined my life. I don't understand why anyone would prevent people accessing treatment that could change their lives."

*"This condition is **depressing, embarrassing and ridiculously difficult to hide**. Every few days **I scrub my skin raw** so I can put on fresh fake tan to cover it up. Even then**, I have to put on 2 layers of fake tan** to match up my normal skin… It's exhausting. My children often ask me what the first thing I'd buy if I won the lottery, and I always say I'd get my skin sorted out. If I had the money, I would buy it privately. If I didn't have to work or take care of my children, I would put myself forward for clinical trials - however they're too far away... I write this with tears streaming down my face because it's difficult to admit all of this. I just hope that ..that the decision to allow this treatment on the NHS is overturned so that me and all the others suffering from this, can be treated and be normal again."*

***"Do not underestimate the impact vitiligo has on an already crippled mental health service.** I work with children and young people with mental health needs as a therapist and am fully aware of how hard it is to access any support in both CAMHS and adult mental health services. **The cost of treatment for mental health support must be considered** when considering the cost of benefits of patients accessing ruxolitinib as well as the massive impact it would have on every person's quality of life who has vitiligo and wants to use the cream."*

	 ***"Vitiligo sufferers have been virtually ignored in terms of available treatments, despite the fact that this condition can have serious ramifications in terms of mental health, this needs to change in order to improve our quality of life."*** ***"You'll change people's lives.*** *I'm sure all members of the committee in one way or another remember what it was like to be a child and experience bullying in one form or another. Imagine that but not being able to do anything about your condition at all. Imagine* ***a fear so powerful you can't move*** *when you're asked to go swimming or out with your friends in the summer, to wear shorts or a t-shirt, the anxiety to go out, the looks, the questions, the remarks or sniggering behind your back.* ***You, the committee, have the power to completely eradicate this.*** *Please do this right thing and agree to provide this. At the very least for the young children who suffer from this."* ***"People with vitiligo must have the right to an effective treatment on the NHS. We have waited too long."***

Key messages

14. In up to 5 bullet points, please summarise the key messages of your submission.	• Vitiligo (and its associated symptoms) often has a significant impact on the lives of people with the disease and their close family. The **devastating social and psychological impacts** can also represent a risk of **decades, if not lifelong, mental health struggles**. In recent years vitiligo patients have campaigned for improved mental health referrals and camouflage options to be available on the NHS. **Demand for social and psychological support** from our charity **has increased tenfold**, suggesting severe limitations in the effectiveness, or access to, current treatments and wider healthcare & support services. • We are calling on NICE, NHSE, the Government and drug manufacturers to come together to **explore all options to enable timely and equitable patient access** to this new treatment. We remain concerned that without further commercial negotiation and flexibility we again risk a scenario where UK patients will not be able to access this first vitiligo treatment breakthrough, when it has already been deemed cost-effective in countries across Europe. It is **not sufficient that the Appraisal Committee take a judgement on cost effectiveness without fully exploring all funding avenues and options** as part of this ongoing processes. **Our community is not resilient enough to withstand another negative outcome from this NICE process.** • Ruxolitinib offers the only licenced treatment option for vitiligo patients, **representing hope** for those with the disease. • There exist **complex equality issues that should be taken into account** and explored fully when considering this condition and appraising this technology. • As a therapy that can be undertaken at home, **Ruxolitinib presents the best treatment option for patients when considering effectiveness and accessibility**. Many patients are currently at a considerable disadvantage in terms of ability to access preferred current treatments & care due to geographical location, lack of mobility, work, education, or childcare commitments, or financial constraints.

Thank you for your time.

Please log in to your NICE Docs account to upload your completed submission.

Your privacy

The information that you provide on this form will be used to contact you about the topic above.

Please select YES if you would like to receive information about other NICE topics - NO

For more information about how we process your personal data please see our privacy notice.

Appendix	1. Vitiligo linked to stigmatization in British South Asian women: a qualitative study of the experiences of living with vitiligo. Thompson AR, Clarke SA, Newell RJ, Gawkrodger DJ. Br J Dermatol. 2010;163:481-486. doi: 10.1111/j.1365-2133.2010.09828.x. [DOI] [PubMed] [Google Scholar]] 2. [Factors affecting responses on Dermatology Life Quality Index items among vitiligo sufferers. Kent G, al-Abadie M. Clin Exp Dermatol. 1996;21:330-333. [PubMed] [Google Scholar]] 3. Exploring perceptions and experiences with vitiligo. Social Change UK, prepared for The Vitiligo Society. November 2023. [Access HERE] 4. Vitiligo in young people: the results of an enlightening study. IFOP, prepared for the French Vitiligo Society and Baltasar Firm.2024. [Access summary webpage HERE] 5. Vitiligo: Current Therapies and Future Treatments Seneschal J, Boniface K. 2023 Dec 1;13 [PubMed] 6. Online Survey Treatment Results. Conducted by The Vitiligo 2011. Data is no longer available publicly but can be provided on request. 7. Ezzedine K, Eleftheriadou V, Jones H, et al. Psychosocial Effects of Vitiligo: A Systematic Literature Review. Am J Clin Dermatol.2021;22(6):757-774. [PubMed] 8. Thompson AR, Eleftheriadou V, Nesnas J. The mental health associations of vitiligo: UK population-based cohort study. BJPsych Open.2022 Oct 21;8(6):e190. [PubMed] 9. Eleftheriadou V, Delattre C, Khan I et al. Burden of Disease and Treatment Patterns Amongst Patients With Vitiligo: Findings From a National, Longitudinal Retrospective Study in the United Kingdom. B J Derm 2024 [PubMed]

Single Technology Appraisal

Ruxolitinib for treating non-segmental vitiligo in people 12 years and over [ID3998]

Patient Organisation Submission

Thank you for agreeing to give us your organisation’s views on this technology and its possible use in the NHS.

Following the upheld appeal for this appraisal, we are seeking your views to help with the committee reconsideration of the upheld appeal points.

Information on completing this submission

- Please do not embed documents (such as a PDF) in a submission because this may lead to the information being mislaid or make the submission unreadable
- We are committed to meeting the requirements of copyright legislation. If you intend to include **journal articles** in your submission you must have copyright clearance for these articles. We can accept journal articles in NICE Docs.
- Your response should not be longer than 10 pages.

1.Your name	[redacted]
2. Name of organisation	Vitiligo Support UK
3. Job title or position	[redacted]
4a. Brief description of the organisation (including who funds it). How many members does it have?	We are one of the two patient support charities registered with the Charity Commission with a legal remit to operate in England & Wales. We are funded entirely by voluntary donations obtained from the public and donations for collaborative work with partner charities and organisations such as the Centre for Appearance Research at the UWE and the British Dermatological Nursing Group; however, due to low running costs and the fact that all those who work for the charity do so voluntarily, we operate on a low income. Since our establishment eight years ago, we have gained 4,200 members via our closed community on Facebook, and 1,524 on X (previously Twitter); social media activity is not the focus of our charity, and we have instead worked with organisations in helping formulate and clarify patient rights and means of access to a treatment pathway. Our charity exists because we believe, and have also first-hand experience, that vitiligo patients desperately require access to sound, clinical- and data-based advice on how to access the current treatment pathways in the NHS. We also note that paid membership models frequently lead to the majority of, or all contributions being used for maintenance of the administrative functions of a charity, and due to the extremely generous donations of time, resources, expertise and collaboration we can operate without these costs.
4b. Has the organisation received any funding from the company bringing the treatment to NICE for evaluation or any of the comparator treatment companies in the last 12 months? [Relevant companies are listed in the appraisal stakeholder list.] **If so, please state the name of the company, amount, and purpose of funding.**	No, we remain independent.

4c. Do you have any direct or indirect links with, or funding from, the tobacco industry?	No.
5. How did you gather information about the experiences of patients and carers to include in our submission?	We are in constant communication with patients and carers via our membership and surveys undertaken with our membership to ensure that their experiences of inequality specifically in relation to this appeal, and of managing this disease in the current clinical environment, are reflected in our submission.

It is our understanding that the provisions of the Equality Act 2010 ("the Act") apply in full to the deliberations and outcomes of NICE's decision-making process. In addition, the protected characteristics exist as the legislature recognised the need for protections in society, including the operation of statutory bodies, for groups of people who have additional needs that should be met, in the decision-making process, in the way services are provided, and the way in which these groups are treated in the public domain.

How these inequality issues were considered in the technology appraisal committee meeting and are to be addressed now must fully reflect both the legal and social importance of these issues, specifically, those people who are included in the protected characteristics in the Act.

Therefore, if the actual process of considering "cost effectiveness" is designed to be a balance between the price charged by the company and the effectiveness of the technology in providing a solution to an identified clinical need, we contend that these equality issues should be considered one by one in all committee meetings and the PSGs present at that part of the appraisal should be advised that this represents an important legal compliance issue, both before and during the meeting.

The current discussions of whether specific groups are affected by equality issues is fraught for PSGs with the risk of a reduced or as NICE puts it, "optimised" recommendation. PSGs generally represent a very wide range of patients with a specific condition and have access to individual groups represented by the protected characteristics contained within the mass of their membership. However, their legal remit contained within their charitable objectives may not permit the exclusive representation of a single group of patients with protected characteristics.

In relation to this inequality question, two specific groups were identified as not having been paid adequate attention in the decision-making process.

We believe that their specific needs amount to a sufficient reason for a full further consideration as to whether ruxolitinib offers a better solution for patients than the existing treatment pathway with which it was compared, a course of treatment with narrowband uvb in a hospital setting.

In addition, it is important to acknowledge that vitiligo is a disease with a very significant psychosocial impact[1].

Vitiligo also carries a significant risk of concomitant autoimmune diseases that may not be diagnosed in a timely fashion due to the dismissal of vitiligo patients in primary care. In relation to the psychological component in vitiligo, we contend that "*Within the academic community, the term "psychological" is often misinterpreted as something distinct from biological processes. However…we agree with the view almost collectively accepted within modern cognitive neuroscience, that psychological mechanisms are inherently brain-based and fundamentally integrated within the biological domain*."[2]

We believe that the acknowledgement of the role of psychological factors in a disease should not diminish its physiological complexities but should contribute an expanded understanding of its multifaceted nature.

We emphasise that this disease's clinical importance and psychological impact is dismissed by clinicians at all stages in a patient's pathway, "*Vitiligo may be under-reported, in part because of misconceptions that it is a cosmetic disease*"[3];

Echoed by the experiences of patients who form part of our membership:

"I was told there's nothing that can be done and to wear sunscreen all year round";

"I was just given an information print from computer. That's it!!";

"Completely dismissed by dermatology and told there is no treatment available. Consultation lasted approx. 3 mins";

"The dermatologist told me to try fake tan and we live in a world where we are vain. She then discharged me"[4].

In this appeal, the protected characteristics of race and age are of relevance. The outcome that we seek is that the appraisal process acknowledges the additional burden of this disease and obtaining treatments for this disease on these groups and then can find a way of recommending it for prescription on the NHS.

In addition, we believe that it should be acknowledged that "cost-effectiveness" should balance the actual cost with the significant need of this ignored population, and that the Equality Act 2010 requires these groups to given additional weighting in any equation that balances quality of life (in the lived-experience sense) against the cost of this treatment.

Race as a protected characteristic

Incidence:

We would expect that race, because it represents an expanded group of affected patients, to be given specific and extended consideration in any decision on treatment.

Research has shown that there is a substantially increased incidence of vitiligo amongst ethnic groups, with researchers noting that "*Clinicians should be aware of the markedly increased incidence of vitiligo in people belonging to Asian, Black, Mixed/multiple and Other groups*."[5]

Impact and Stigmatization:

It must be recognised that whilst the psychological impact of vitiligo does not follow an algorithmic pathway, those with skin of colour may experience an increased impact due both to the visibility of the condition and the stigmatization that may follow diagnosis.

There is an additional impact on patients because of their race which is not only due to increased visibility but is also because of stigmatization within cultures.

Race is identity, and to be different through diagnosis with vitiligo may mean that the individual is excluded from the normal patterns and rhythms of that community, e.g., **"***Experiences of stigmatization were often perceived to be associated with cultural values related to appearance, status, and myths linked to the cause of the condition***"**[6].

Understanding the depth of impact of culture on experience of the disease is vital, because "*[t]his stigma leads to exclusion, impacting marriage prospects and causing abuse, job loss, and career impediments".* Additionally, because of stigma a diagnosis might be delayed, leading to missed treatment opportunities among the already limited available options for vitiligo[6].

In addition, research has noted that "*Many global cultures and societies place a profound significance on appearance, esthetics, and pigmentation. Any condition that affects appearance may be fraught with loss of privilege, opportunities, and often upward societal mobility"*[6]*,*

and that *"Societies that have a cultural preference for specific skin tones often perceive pigmentation as a passport to society, and perceived defects are often devastating*"[6]

Research:

We believe that an additional significant issue to consider is whether there is adequate representation of the full range of the Fitzpatrick skin types in the research relied on to support impact or quality of life assessments. Thus, we ask whether a fully representative understanding of the dermatological response to treatments or the inherent impact of this disease have historically been obtained, *"[t]his bias could result in a limited understanding of the distinct requirements and difficulties encountered by individuals with darker skin who are affected by vitiligo*"[7].

General issues with access to dermatology:

Race has an additional, very real and significant impact on access to healthcare.

In this country, there are shortfalls in several clinical specialisms and the roles filled within them, but this situation is exacerbated in dermatology. The British Association of Dermatologists ("BAD"), in its BAD Workforce Strategy 2024 (September 2024; Transformation and Quality Improvement Unit) identified that "*49 UK trusts reporting [are] consultant vacancies, and many others with a shortfall in other grades of clinical and non-clinical staff. This is coupled with rapidly increasing year-on-year Dermatology referral rates"* and concluded that it *"is clear that demand for our services is outstripping the capacity of our workforce to deliver care*".

When dermatology is actually accessed, the response is very inadequate, as evidenced by patient comments from our members:

"[I] had to chase up my last referral and was just over 2.5 years as they forgot to complete the referral twice";

"I rang to see where I was on list and was told I needed to go back to GP and only if vitiligo had got worse would I be seen";

"I…waited over 3 years. I only then got seen because the NHS worked with some Private companies to catch up on backlog";

"I was diagnosed three years ago, after constantly telling the GP I believe I have vitiligo, I've seen Dermatology once and tried Tacrolimus which didn't work for me, I've now been waiting almost two years to see Dermatology again in hope something can help me. I absolutely hate my skin and I dread the warmer weather when it's on show again"[4].

Vitiligo patients may well have to wait longer for access (although this decision frequently made by clinicians is not based on any scientific evidence that the treatment of vitiligo is not a viable solution to patients' expressed need) because of the widespread assumption that it is not worth treating or that its impact is purely cosmetic. This assumption is so widespread that it formed the title of a research study[1].

Deprivation:

Due to the impact of deprivation on ethnic minorities, identified as also being at higher risk of having vitiligo, these patients may find it almost impossible to access dermatology, to be represented in data from hospitals or to be given access to research studies.

Areas inhabited by ethnic minorities in England and Wales are more likely to be categorized as deprived, *"[I]n 2019, people from all ethnic minority groups except the Indian, Chinese, White Irish and White Other groups were more likely than White British people to live in the most overall deprived 10% of neighbourhoods in England"* and these areas *"that are identified as deprived are also likely to experience a lack of 'social infrastructure', such as access to services and community resources including* ***health services****, shops and leisure facilities*"[9] (our highlight).

Travel poverty:

We believe that travel poverty is a significant issue for <u>all</u> patients, particularly in rural or coastal areas, and so should be weighted in consideration as to whether regular attendance at a hospital (two to three times a week over a year) is a viable treatment for patients with vitiligo.

Travel poverty comprises not only the difficulties that may be encountered in paying for regular fares to, for example, phototherapy units if this course of treatment is prescribed but also the paucity of services in deprived areas that would allow such access.

Summary:

We believe that there is a legal burden of compliance with the Equality Act 2010 that requires these protected characteristics are taken into account by NICE. A decision should be made approving this treatment for all vitiligo patients to reduce this substantial patent inequality in relation to race and the general inequalities that we set out in the section below.

Age as a protected characteristic

We contend that more work needs to be completed to fully factor the impact of NICE's decision on this protected group. This group comprises children and young people ("young people") aged 12 and older.

The impact of social media:

The widespread use of social media to communicate creates new and unique vulnerabilities amongst this group not previously encountered and we contend not fully understood or taken into account.

Young people inhabit a very different world from that previously experienced by most of us, including access to social media *("an October 2021 survey found that 91 percent of 15- to 16-year-olds used social media, and 87 percent had their own social media profile…Social video network TikTok, which is very popular with younger social media users, was used on average 97 minutes per day by kids in the UK."*[10]).

This confirms that the most significant means of communicating and interacting for young people is a video-based network. Inevitably, this means that young people's appearance will be an integral part of their presentation and form the basis of judgments made about them by other users. There is a significant concern that the use of social media has increased suicidal ideation, death by suicide and the incidence of bullying ("*…lifetime cyberbullying victimization rates ranged from 20.8% to 40.6% and offending rates ranged from 11.5% to 20.1%"*[11]).

Additionally, "*smartphone and social media use among teenagers relates to an increase in mental distress, self-harming behaviors, and suicidality*"[12]

Psychological impact of disease:

Severe skin diseases that affect and change appearance are known to be associated with an increased risk of psychiatric disorders and may have a significant impact on patients' psychological state, social relationships and everyday activities.

For example, it is reported that "*Children with vitiligo experience depression, anxiety and guilt, body image concerns, and conflicts of acceptance–rejection among peers.*"[13]

This psychological burden of disease is carried by both young people and by their carers. Parents and carers in our membership have commented:

"my daughter's dermatology appointment was today and she has been diagnosed with vitiligo...the lady wasn't the nicest and didn't answer all my questions and I came out really upset and I don't really know why...I cried for hours today, will she lose pigment in her hair and lips like I read, is it possible she has something wrong with her thyroid or diabetes? I'm worried that when she grows up, she will be bullied for her skin";

“Recently, a new boy has come into her class who asked what was wrong with her skin, she's a little shy so just said it's just my white patches and left it at that. However, he's started making really snarky comments about it, you know the sort of thing like ergh I'm not sitting next to her in case I catch it or he won't use the same pens, those type of silly things”;

“My youngest daughter has vitiligo on her head and it’s caused a patch of hair to turn white. It didn’t used to bother her but other students at school are starting to make unkind comments…I don’t know what to say to her to make her feel better when the other children are so unkind.”[4]

If a parent or carer wishes to find dermatology-based psychological support for their young person, there are currently only six psychodermatology services listed on the website for Psychodermatology UK[14]. Three of these services are based in London, and only one provides services for paediatric patients (also in London). In a report in 2019 on psychodermatology services in the UK, the authors reported that, “*There is a noticeable variation in the type of clinic, team members, frequency of the clinic and available psychological or psychiatric support*”[14].

It is therefore very unlikely that a child/young person will receive specific psychodermatology support for their disease. In addition, the chances that they can access Child and Adolescent Mental Health services in their area are also slim.

In fact, “*A survey of almost 14 000 young people found that 44% waited more than a month for mental health support, 26% of which have attempted to take their own life while waiting for support. Probable mental health disorders in those aged 17–19 years increased from 1 in 10 (10.1%) in 2017 to 1 in 4 (25.7%) in 2022.*”[15]

Access to dermatology:

Young people face the same difficulties as adults in gaining access to secondary care for long-term hospital-based treatments for their vitiligo.

Young people also face an **additional difficulty**, anecdotally reported by patients to us, of persuading doctors in primary care to specifically prescribe tacrolimus or pimecrolimus, because of their unlicensed status in relation to vitiligo. Whilst this is recommended by the Primary Care Dermatology Society[17], a block exists for many young patients in accessing this common treatment for facial vitiligo, the area that causes the most significant impact on appearance.

Pursuit of a course of narrowband uvb phototherapy causes a significant disruption to education, thus limiting it as a viable choice for young people.

If young people elect to pursue a course of phototherapy, they must risk the additional burden of missing time in education. A course of narrowband uvb, provided by a hospital unit, requires the commitment of a year in time, with at least two appointments a week.

Evidence shows that missing school during the critical years of education has an impact on grades achieved, with data illustrating that “*shows that pupils with no absence are 1.1 times more likely to achieve level 4 or above, and 1.4 times more likely to achieve level 5 or above, than pupils missing around one week in each key stage 2 year due to overall absence*”[18].

Even with the early access provided by most phototherapy units, a patient must add together the travel time to the hospital, waiting time and then onward travel time to assess the impact of absence. Absence can easily amount to half a school day a week, and over a ten-week school term, this then accumulates to five missed whole day school sessions.

A treatment such as ruxolitinib that has the capacity to improve school access and thereby academic achievement for an entire group of patients would be immensely beneficial to that patient group. Attending one outpatient appointment perhaps only once per six months amounts to a significantly lower impact on education than the multiple appointments currently required.

Summary:

Access to an innovative, effective and accessible treatment is of great importance to these groups within the population, as well as for the public who experience this uniquely difficult and impactful disease. These specific groups of patients also add a considerable responsibility to the considerations of NICE and this committee. We ask that NICE consider approval of this drug in relation to these issues of inequality, where current access to treatment is obstructed and excluded, and consider the facility of accessing this treatment to represent a very significant, if not overwhelming, argument in favour of its approval. **The issue of cost is open to negotiation; however, the issues of discrimination experienced by these unique groups are almost impossible to surmount.**

8 Are there any further equality issues that should be taken into account when considering this condition and the technology?

Inequality in the process:

We contend that there is an inherently inequitable flaw in the actual appraisal process, up to and including the appraisal committee meeting. A patient support group ("PSG") completing the form ID3998 may read that "NICE is committed to promoting equality of opportunity, eliminating unlawful discrimination and fostering good relations between people with particular protected characteristics and others" and not understand that "protected characteristics" in fact refers to a specific piece of legislation. Nor may they understand that "the equality legislation" **primarily** applies to the Equality Act 2010, whilst additional Statutory Instruments may have subsequently been prepared and come into force under that legislation.

If this question is to be answered fully, adequately and with an understanding of the scope of the legislation and how it may overlap with the patients who are being supported by these groups, then this question should list the protected characteristics. Not all patient support groups are created equal, and whilst the NICE committees may be used to encountering sophisticated, super-funded PSGs, it must be recognised that these are not the only bodies operating to support patients and trying to represent their significant unmet clinical needs in this process.

If the process is one based on appraisal, and not on an adversarial process, PSGs must be helped in every way possible to represent their patients' needs and legal rights. To that end, the protected characteristics that are to be considered should be listed in full on every occasion that equality is mentioned by NICE in its public-facing paperwork.

National inequality:

We are very concerned that the operation of NICE, specifically its level of funding, is causing situations of national inequality within Europe and globally in relation to English and Welsh patients' access to innovative treatments and technologies. In relation to ruxolitinib, there are patients within Europe who are now using this topical treatment, but we are still waiting for a national decision to approve its prescription.

For example, we refer to the interview with Paul Hudson, CEO of Sanofi, *"...more new medicines need to be made available on the NHS because this incentivises pharma companies to conduct clinical trials and invest in the UK. He notes that of the £400m programme, only 5% was allocated to access to new medicines. The government is aware of the issues, Hudson says, "but it's a systemic overhaul that's needed". Tellingly, Sanofi only spends €20m a year on R&D in the UK, while it invested €3.6bn in research and manufacturing in Europe over the past two years.*"[19]

The process of deciding on which medicines will be made available to the UK population is creating a situation of inequality, where global companies are reducing their investment in this region, and innovations are slowed by the negative decisions relating to new treatments.

Inequality within the NHS

Clinical:

We contend that there is a substantial unaddressed situation of inequality within the NHS concerning dermatology as a clinical specialism. There is a longstanding workforce crisis, and currently "A recent BAD workforce survey identified 49 UK trusts reporting consultant vacancies."[2] This means that all patients with skin diseases experience long waits for access to care.

Disease-specific:

We consider there to be a profound inequality between skin diseases, which has been confirmed and exacerbated by this decision. Vitiligo is treated unequally as a disease, a fact that is reflected in the longer waits for access to secondary care, or subsequent secondary care-based treatments, and

the general dismissal of patients when they finally encounter a dermatologist, encapsulated in the following comments from patients who we asked what their experience was of accessing secondary care: "*When I initially saw a dermatologist ... I waited over 18mths for the appointment. He basically told me that I knew more about Vitiligo than he did, not something you want to hear when you're desperate for help*"; "*Dermatologist not interested. Said that there was no point in light therapy as it would go freckly at best and wouldn't last. They said there is a medication to take away all pigment but that this was for dark skinned people. Told it's not possible to have vitiligo on my lips (I have!)";* "*My GP referred me immediately based on a telephone consultation and some pictures I'd emailed to the practice. I think it was almost a year later before I saw a dermatologist. The dermatologist was very dismissive and basically said nothing we can do. She did prescribe a steroid cream but was not optimistic about it doing anything.*" **These different inequalities may not be protected under the Act. They may not be the subject of statutory interventions. However, when considering the lives of patients in England and Wales and the impact of disease, these structural and institutional inequalities contribute to the very poor health outcomes for patients with vitiligo. In addition to the specific statutory protections addressed in the first section, they should factor into the considerations of NICE in relation to this first-in-class treatment for our disease.**

Key messages

In up to 5 bullet points, please summarise the key messages of your submission.	• Vitiligo is a skin disease treated unequally in terms of access to treatment and this inequality has an even more significant impact on groups with protected characteristics under the Equality Act 2010. • The decision-making process of NICE as a national body appears to be flawed in relation to the consideration of groups with protected characteristics and we believe is not compliant with the Equality Act 2010. • All vitiligo patients suffer to a greater or lesser degree because of their disease, and this psychological impact should be considered in the same terms as any physiological impact; however, the impact on the two specific groups of race and age contains additional dimensions that should have been fully considered in the technology appraisal process for ruxolitinib. • Consideration of ruxolitinib for use in an extremely underserved population did not properly factor in the current state of dermatology as a specialism within the National Health Service, which creates an additional bar on vitiligo patients' access to treatment. • We are not alone in observing that the limited deliberations and decisions of NICE also have a wider national impact, affecting our global status as a centre for health research and clinical innovation.

Thank you for your time.

Please log in to your NICE Docs account to upload your completed submission.

Your privacy

The information that you provide on this form will be used to contact you about the topic above.

Please select YES if you would like to receive information about other NICE topics - YES or NO

For more information about how we process your personal data please see our privacy notice.

Footnotes:

[1] Vitiligo is not a cosmetic disease; Khaled Ezzedine, Vaneeta Sheth, Michelle Rodrigues, Viktoria Eleftheriadou, John E. Harris, Iltefat H. Hamzavi, Amit G. Pandya. *Journal of the American Academy of Dermatology*, 2015; Quality of life in people with vitiligo: a systematic review and meta-analysis. Morrison B, Burden-Teh E, Batchelor JM, Mead E, Grindlay D, Ratib S. *British Journal of Dermatology,* 2017.

[2] Pathophysiological, Neuropsychological, and Psychosocial Influences on Neurological and Neuropsychiatric Symptoms of Post-Acute COVID-19 Syndrome: Impacts on Recovery and Symptom Persistence, Alex Malioukis, R Sterling Snead, Julia Marczika, Radha Ambalavanan. *Biomedicines*, 2024.

[3] Vitiligo prevalence and quality of life among adults in Europe, Japan and the USA. K. Bibeau, A.G. Pandya, K. Ezzedine, H. Jones, J. Gao, A. Lindley, J.E. Harris. *Journal of the European Academy of Dermatology and Venerology*, 2022

[4] Verbatim report of survey conducted 14 February 2024 amongst the membership of Vitiligo Support UK and evidence provided by individual members.

[5] The lifetime risk and impact of vitiligo across sociodemographic groups: a UK population-based cohort study. Viktoria Eleftheriadou, Alia Ahmed, John Nesnas, Ranjit Nagra. *British Journal of Dermatology*, January 2025: “namely, “There were substantial differences in lifetime incidence across ethnic groups, listed by Office for National Statistics criteria [Asian 3.58% (95% CI 3.38–3.78); Black 2.18% (95% CI 1.85–2.50); Mixed/multiple 2.03% (95% CI 1.58–2.47); Other 1.05% (95% CI 0.94–1.17); and White 0.73% (95% CI 0.71–0.76)].”.

[6] Vitiligo: Patient stories, self-esteem, and the psychological burden of disease. PE Grimes, MM Miller. *International Journal of Women’s Dermatology* 2008

[7] Estimating the burden of vitiligo: a systematic review and modelling study. Jennifer Akl, Solam Lee, Hyun Jeong Ju, Rosa Parisi, Ji Yoon Kim, Jae Joon Jeon, et al. *The Lancet* June 2024.

[8] British Association of Dermatologists guidelines for the management of people with vitiligo. V. Eleftheriadou, R. Atkar, J. Batchelor, B. McDonald, L. Novakovic, J.V. Patel, J. Ravenscroft, E. Rush, D. Shah, R. Shah, L. Shaw, A.R. Thompson, M. Hashme, L.S. Exton, Mohd Mustapa, L. Manounah and the British Association of Dermatologists’ Clinical Standards Unit. *British Journal of Dermatology* 2021.

[9] Report of the UK Parliament: Challenges facing disadvantaged and deprived communities.

Graeme Atherton and Laura Webb. 2024.

[10] Report by Laura Ceci for Statista, January, 2024.

[11] Social Media and Suicide: A Public Health Perspective, David D Luxton, Jennifer D June, Jonathan M Fairall *American Journal of Public Health*. 2012.

[12] The Impact of Social Media on the Mental Health of Adolescents and Young Adults: A Systematic Review

Abderrahman M Khalaf, Abdullah A Alubied, Ahmed M Khalaf, Abdallah A Rifaey. *Cureus* 2023.

[13] Addressing Emotional Issues in an Adolescent with Vitiligo and Early Child Sexual Abuse—Therapeutic Challenges

Harshini Manohar, Rajendra Kiragasur Madegowda, Shekhar P Seshadri. *Indian J Psychol Med.* 2021.

[14] https://www.psychodermatology.co.uk/. Accessed February 2025.

[15] Waiting- list interventions for children and young people using child and adolescent mental health services: a systematic review. Althea Z Valentine, Sophie S Hall, Kapil Sayal, Charlotte L Hall. *BMJ Mental Health*, December 2023

[16] Report of the Children’s Commissioner, Children’s mental health services 2022-23, published March 2024 and accessed February 2025.

[17] Primary Care Dermatology Society Clinical Guidance on Vitiligo, Vitiligo, accessed February 2025.

[18] The link between absence and attainment at KS2 and KS4 2013/14 academic year; Research Report of the Department for Education.

[19] ‘The UK is at the back of the race of turtles’: Sanofi’s boss on the need to develop new medicines; interview, *The Observer*, Julia Collewe, 15 October 2024.

[20] British Association of Dermatologists Workforce Strategy; September 2024; Transformation and Quality Improvement Unit

NICE National Institute for Health and Care Excellence

Single Technology Appraisal

Ruxolitinib for treating non-segmental vitiligo in people 12 years and over [ID3998]

Patient Organisation Submission

Thank you for agreeing to give us your organisation’s views on this technology and its possible use in the NHS.

Following the upheld appeal for this appraisal, we are seeking your views to help with the committee reconsideration of the upheld appeal points.

Information on completing this submission

- Please do not embed documents (such as a PDF) in a submission because this may lead to the information being mislaid or make the submission unreadable
- We are committed to meeting the requirements of copyright legislation. If you intend to include **journal articles** in your submission you must have copyright clearance for these articles. We can accept journal articles in NICE Docs.
- Your response should not be longer than 10 pages.

About you

1.Your name	[redacted]
2. Name of organisation	British Association of Dermatologists
3. Job title or position	Consultant Dermatologists
4a. Brief description of the organisation (including who funds it). How many members does it have?	The BAD is a not-for-profit organisation whose charitable objectives are the practice, teaching, training, and research of dermatology. It works with the Department of Health, patient bodies and commissioners across the UK, advising on best practice and the provision of dermatology services across all service settings. It is funded by the activities of its members.
4b. Has the organisation received any funding from the company bringing the treatment to NICE for evaluation or any of the comparator treatment companies in the last 12 months? [Relevant companies are listed in the appraisal stakeholder list.] **If so, please state the name of the company, amount, and purpose of funding.**	No.
4c. Do you have any direct or indirect links with, or funding from, the tobacco industry?	No.
5. How did you gather information about the experiences of patients and carers to include in your submission?	Multiple peer reviewed publications (literature systematic review), vast experience in treating patients with vitiligo

Following the upheld appeal for the above appraisal, you are invited to contribute any further information or comments that would help the committee in its discussion of the upheld points. Please include information on how people with different protected characteristics are differentially affected by vitiligo, and how this might affect the committee's consideration of the clinical and cost effectiveness of ruxolitinib cream.

Currently, there is an unmet need for licensed and effective treatment options for vitiligo that would be easily accessible for those who wish to treat their vitiligo. Currently available (off-label) treatment options for vitiligo are often unsatisfactory, which result in anxious and disappointed patients to seek alternative options such as questionable food supplements, unsafe topical and oral treatments sold online, restrictive diets, and risky procedures. Almost 1 in 5 patients with vitiligo require antidepressants or anxiolytics in the first year following diagnosis to help them cope with the negative impact that vitiligo has on their psychological well-being (https://doi.org/10.1192/bjo.2022.591).

Vitiligo is a debilitating and psychologically devastating skin disease. Several recent systematic reviews on the psychological effects of vitiligo have shown that the prevalence of most psychosocial comorbidities in vitiligo patients was significantly higher vs healthy individuals. Vitiligo patients are severely affected by depression, anxiety, stigmatisation, relationship difficulties and suicidal ideation (https://doi.org/10.1007/s40257-021-00631-6; https://doi.org/10.1192/bjo.2022.591; https://doi.org/10.1111/j.1365-2133.2010.09828.x).

As healthcare professionals, we treat patients of all demographics: there are, however, several groups of people with the following protected characteristics, which may be differently affected. Our clinical experience and observations are reinforced by several studies published in high-impact dermatological journals:

1) **Adolescents**
A subgroup associated with a significantly higher psychological burden includes adolescents. Age is a protected characteristic under the Equality Act 2010 - Section 5. Adolescence is a period characterised with heightened peer influence, social evaluation, and a strong drive for acceptance (https://doi.org/10.1177/0963721417738144). During this developmental stage, the brain undergoes significant changes, particularly in regions involved in social cognition and emotional processing. The medial prefrontal cortex, involved in self-reflection and social comparison, continues to develop (https://doi.org/10.1038/s41386-021-01137-9). The dorsal anterior cingulate cortex and anterior insula, linked to social pain and rejection sensitivity, are increasingly active (https://doi.org/10.1016/j.tics.2010.11.004; https://doi.org/10.1038/srep42010). The amygdala, known for its involvement in emotion processing, particularly fear (https://doi.org/10.1016/j.neubiorev.2016.07.030), and the ventral striatum, associated with reward processing and social validation (https://doi.org/10.3389/fnins.2013.00233), undergo significant maturation during adolescence (https://doi.org/10.1016/j.neubiorev.2016.07.030). Given these developmental changes, it is not surprising that adolescents with vitiligo experience significant psychological effects associated with the condition.

Vitiligo is visible on all skin tones but is much more pronounced in darker skin (a protected characteristic under the Equality Act 2010 - Section 9). The strong contrast between pigmented and depigmented skin can increase self-consciousness and anxiety in young people and may contribute to social exclusion. The link between psychological stress, mental health, and skin conditions, including vitiligo, is well documented (https://doi.org/10.1192/bjo.2022.591; https://doi.org/10.1186/1477-7525-1-58; APPGS 2020, http://www.appgs.co.uk/wp-content/uploads/2020/09/Mental_Health_and_Skin_Disease2020.pdf). While vitiligo can cause stress and anxiety, chronic stress may, in turn, exacerbate vitiligo symptoms, creating a self-perpetuating cycle of worsening physical and psychological health (APPGS report, 2020).

Without appropriate treatment, adolescents with vitiligo risk a cycle of worsening mental health, social isolation, and disease progression. Therefore, providing effective treatment options could help improve both psychological/psychosocial well-being and overall quality of life.

As vitiligo develops before the age of 20 in about 50% of patients, making the treatment available for children is particularly important (https://doi.org/10.1111/bjd.20596; https://doi.org/10.1007/s40257-021-00631-6; https://doi.org/10.1192/bjo.2022.591; https://doi.org/10.1111/j.1365-2133.2010.09828.x). There is also emerging evidence that treatment is more effective if commenced early, especially in children with darker skin tones (https://doi.org/10.1111/pde.14775).

2) **People with darker skin tones and people of British South Asian heritage**
The risk of most psychosocial comorbidities is reported to be higher amongst people with darker skin tones, as the condition is more noticeable, and there may be additional forms of stigmatisation and marginalisation associated with such changes in skin tone (https://doi.org/10.1192/bjo.2022.591; https://doi.org/10.1111/j.1365-2133.2010.09828.x). People with darker skin tones may experience greater psychological impact, in part because lesions may be more noticeable and also due to sociocultural factors and a lack of understanding about the condition, which can contribute to stigmatisation, social isolation, and psychological stress (https://doi.org/10.1007/s40257-021-00631-6).

Recent findings from two large retrospective observational studies using UK Clinical Practice Research Datalink and Hospital Episode Statistics databases demonstrated that adults with vitiligo in the UK have an increased risk of subsequently being diagnosed with new onset depression (25%) and anxiety (23%), and that this risk does indeed appear to be greatest in those of non-white ethnicity (up to 72% risk increase for recurrent depressive disorder). This is important, as there is evidence for vitiligo being associated with stigmatisation in people of British South Asian heritage. Almost 1 in 5 patients with vitiligo require antidepressants or anxiolytics in the first year after diagnosis to help them cope with the negative impact that vitiligo may have on their psychological well-being (https://doi.org/10.1192/bjo.2022.591).

A large-scale, UK population-based study (https://doi.org/10.1093/bjd/ljae282) provided important new evidence on the epidemiology of vitiligo, with an estimated, overall lifetime incidence of the condition of 0.92%. In other words, estimates of lifetime incidence suggest that 1 in 109 people will develop vitiligo over their lifetime.

Importantly, lifetime incidence is substantially increased in minority ethnic groups, in particular for those of Asian ethnicity (1 in 28 people). Together with the marked, negative impact of vitiligo on health and work outcomes, these findings highlight the importance of making the treatment available to people with vitiligo, who bear additional psychological burden, and are at risk of developing mental health disorders.

Those from backgrounds that are likely to be affected more significantly are increasing in numbers, according to the latest UK census data, and may face the most stigma:

- *"The next most common high-level ethnic group was "Asian, Asian British or Asian Welsh" accounting for 9.3% (5.5 million) of the overall population, this ethnic group also saw the largest percentage point increase from 2011, up from 7.5% (4.2 million people)."*
- *"Black, Black British, Black Welsh, Caribbean or African: African" (2.5%, 1.5 million in 2021, up from 1.8%, 990,000)".*

Also, those of mixed-race background are increasing massively:

- *“The 2021 census showed a further 40% increase in the number of people identifying as being from ‘mixed/multiple ethnic groups’ since 2011.”*

With NHS England no longer commissioning camouflage clinics anymore, these patients particularly are further disadvantaged in terms of accessing care.

In addition, there is evidence from dermatology clinic patients across 17 European countries that stigmatisation varies not only with the type and severity of the skin condition, but also that socio-demographic and psychological variables influence the levels of stigmatisation felt by those with skin conditions (https://doi.org/10.2340/actadv.v103.6485).

Finally, referral guidelines for people with vitiligo (https://www.bad.org.uk/referrals/vitiligo/), which were developed based on the British Association of Dermatologists guidelines for people with vitiligo 2021, with input from patient representatives, recommend that people with vitiligo, who are psychologically affected by the condition, should be referred to secondary care for specialist input. These referral guidelines recognise that vitiligo affects people of all skin tones and can be psychologically devastating, regardless of the patient’s skin colour.

Are there any further equality issues that should be taken into account when considering this condition and the technology?

Several studies examined the impact of childhood vitiligo. Childhood vitiligo has great emotional impact on the quality of life of both patients and caregivers (https://doi.org/10.1186/s41687-020-0186-2). Children with vitiligo usually avoid or restrict sport activities and often lose vital days in school (https://doi.org/10.1186/1477-7525-1-58). Vitiligo that begins in childhood can be associated with significant psychological trauma that may have a long-lasting effect on self-esteem and social development (https://doi.org/10.1111/j.1365-2133.2008.08788.x).

Low income is an additional equality issue that must be taken into consideration. Income has a direct impact on the accessibility and affordability of current treatments for vitiligo, such as phototherapy. Phototherapy requires attending clinical appointments in person and the treatment often needs to be prolonged, comprising of hospital visits two to three times a week for several weeks, usually at least 12 weeks, and in some cases up to one year (https://www.bad.org.uk/pils/vitiligo/). Therefore, people with low-income background may face financial and logistical barriers, with some (e.g. from remote areas) needing to travel far to larger cities to receive treatment. Having a more accessible topical treatment can help address this issue as it may reduce the reliance on or need for phototherapy.

N.B. Primary Care Dermatology Society statements of support:

- **Statement 1**

  "My experience with vitiligo patients is varied often depending on the site and extend of their vitiligo. E.g. I have a 13 year old girl skin type 5 who has just got a solitary patch on her thigh and is not (yet) very troubled by it. Patients who have extensive involvement carry a huge psychosocial burden especially when face and hands are involved.

  I hear stories from patients that are finding it difficult entering into relationships and building trust due to experiences of rejection. Professionally it is also often experienced as a set back and not achieving full potential due to stigma involved and many professions with frontline positions just not being open to employ or progress people with vitiligo.

  With limited consultation times it is not always possible to explore the issues resulting from having a skin condition like vitiligo in depth and the main part is spend on management rather than a holistic assessment hence we may not always get the full picture of the impact of their disease."

- **Statement 2**

  "I work in a diverse ethnic population of 350,000 individuals. Vitiligo, a challenging condition, not only due to the limited effective treatments but also the significant visual impairment it causes, affects people of all ages. We receive referrals for vitiligo cases involving individuals of any age. Patients often experience distress, feeling singled out in nurseries, schools, or their communities, and they may be embarrassed and self-conscious. It is not uncommon for patients presenting with vitiligo to be depressed, anxious, agoraphobic, or even suicidal.

  Managing vitiligo patients of all ages presents significant challenges. While cosmetic camouflage may provide temporary relief, patients often require more robust treatment options, but our current treatment choices are limited. Assuring and managing patients with vitiligo, regardless of their age, can be arduous. The condition may not be severe enough to warrant a 1-to-3 year course of *phototherapy. Additionally, phototherapy for children can be problematic unless they have sufficient maturity, and there are also longer-term risks associated with prolonged exposure to ultraviolet light at these ages.*

In the past week alone, I consulted with a 9-year-old girl and her parents regarding peri-ocular vitiligo, a 19-year-old with patchy vitiligo on their face and neck, both of whom have skin of colour (skin type 5), a young 6-year-old with white skin (skin type 2) with peri-ocular and peri-oral vitiligo, and an East Asian patient with patchy generalized vitiligo (skin type 4). All of these patients are follow-up cases. They had previously been treated and failed with routine topicals as per the BAD guidelines and were referred back when they heard about a new topical agent. For some of them, this was their second or third attempt at using the standard topical agents.

Vitiligo is a challenging condition to treat, especially for the younger patients. When I meet with the children, they appeared happy and smiling, minimizing or denying any struggles or challenges they face. However, their parents' eyes revealed a different story. All parents want the best for their children, and these were no different.

The 19-year-old is currently adjusting to university life. At home and at school, they gradually gained acceptance of their vitiligo. Now, he is a young person living in a different city with new surroundings, and is acutely aware of their distinctiveness.

It is not every week that I will have 4 patients with vitiligo. I do not run a specialist pigmentation clinic but referrals are increasing as awareness of the condition grows. As a society, we still have a long way to go in terms of acceptance. Given the significant psychosocial morbidity associated with vitiligo, it is a condition that deserves more research and the development and deployments of effective treatments, especially when showing greater efficacy than current standard treatments."

Key messages

In up to 5 bullet points, please summarise the key messages of your submission.	• Vitiligo is a highly visible, debilitating and psychologically devastating skin disease, which usually appears in the young population. • There is no licensed treatment for vitiligo available on the NHS, and currently available (off-licence) treatment options for vitiligo are often unsatisfactory, which prompts patients to seek alternative methods of treatment that may pose risks to their health. • There is an urgent need for an efficacious, topical treatment for vitiligo, which would not require multiple hospital visits over long periods of time and could be prescribed to both children (12+) and adults as soon as they are diagnosed with vitiligo, should they wish to pursue treatment. • Several groups of people with the following protected characteristics are more likely to be severely psychologically and socially affected by vitiligo: o Adolescents o People with darker skin tones and people of British South Asian heritage • Making topical ruxolitinib available to people with vitiligo, who are psychologically and/or socially affected, regardless of their skin colour or heritage, is of paramount importance. The availability of a licensed topical treatment may partially address the needs of people who are marginalised due to their a) darker skin in which the disease is more visible, b) low income and c) geographical locations, making long-term hospital treatments inaccessible to them.

Thank you for your time.

Please log in to your NICE Docs account to upload your completed submission.

Your privacy

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Single Technology Appraisal

Ruxolitinib for treating non-segmental vitiligo in people 12 years and over [ID3998]

Patient Organisation Submission

Thank you for agreeing to give us your organisation's views on this technology and its possible use in the NHS.

Following the upheld appeal for this appraisal, we are seeking your views to help with the committee reconsideration of the upheld appeal points.

Information on completing this submission

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- We are committed to meeting the requirements of copyright legislation. If you intend to include **journal articles** in your submission you must have copyright clearance for these articles. We can accept journal articles in NICE Docs.
- Your response should not be longer than 10 pages.

About you

1.Your name	[redacted]
2. Name of organisation	British Dermatological Nursing Group (BDNG)
3. Job title or position	CEO
4a. Brief description of the organisation (including who funds it). How many members does it have?	The BDNG is a membership organisation for nurses working in dermatology in the UK and Ireland. The organisation is a registered charity (No 1133259). Currently the BDNG has 3322 members. We are funded by membership fees, educational events fees, sales of exhibition stands at educational events and corporate sponsorship from pharmaceutical companies.
4b. Has the organisation received any funding from the company bringing the treatment to NICE for evaluation or any of the comparator treatment companies in the last 12 months? [Relevant companies are listed in the appraisal stakeholder list.] **If so, please state the name of the company, amount, and purpose of funding.**	Funding received from Incyte as follows £13,000 – Corporate Sponsorship £11,250 – Exhibition Stand at BDNG educational events
4c. Do you have any direct or indirect links with, or funding from, the tobacco industry?	None
5. How did you gather information about the experiences of patients and carers to include in your submission?	**No**

Following the upheld appeal for the above appraisal, you are invited to contribute any further information or comments that would help the committee in its discussion of the upheld points. Please include information on how people with different protected characteristics are differentially affected by vitiligo, and how this might affect the committee's consideration of the clinical and cost effectiveness of ruxolitinib cream.

On behalf of the members of the British Dermatological Nursing Group and dermatology nurses across the UK, we are writing to highlight the significant impact of vitiligo on the lives of those affected, particularly individuals with darker skin tones.

While vitiligo occurs with equal prevalence across all skin types, its visible nature in people with darker skin tones leads to disproportionate psychological, social, and cultural impacts. In these individuals, the stark contrast between depigmented patches and natural skin tone makes the condition highly noticeable, often resulting in stigmatisation, exclusion, and profound emotional distress.

Cultural misconceptions and biases regarding vitiligo contribute to significant societal stigma. This can manifest as ostracisation, reduced opportunities for social engagement and even workplace discrimination. The impact extends beyond the skin, with many affected individuals experiencing diminished self-esteem, anxiety, depression, and other mental health challenges. For people with darker skin, vitiligo is often not just a medical condition but a deeply life-altering experience with far-reaching consequences.

As dermatology nurses, we see firsthand how the physical and psychological toll of vitiligo is exacerbated by a lack of effective treatments and support pathways. Many patients feel invisible in conversations about care, with limited representation in research and clinical guidelines. The introduction of new treatments, particularly those that target the condition's physical manifestations, would represent a transformative step in improving the lives of people with vitiligo. These treatments have the potential to not only restore pigmentation but also reduce stigma, rebuild confidence, and improve mental well-being. Psychodermatology services are limited in the UK and these patients are not offered sufficient support needed, if treatments could be offered this would greatly reduce the psychological burden associated with vitiligo.

We urge National Institute for Health and Care Excellence to prioritise the approval and inclusion of innovative therapies for vitiligo in clinical guidelines. Doing so would promote health equity, address the disproportionate burden borne by people of colour, and empower healthcare professionals to provide holistic, patient-centred care. As the 2010 equalities act states, Race is a protected characteristic. Skin of colour patients are currently not offered sufficient treatments for this condition and are discriminated against. In this document age is also a protected characteristic and patients are affected often at a young age, thus at a disadvantage early and the associated psychological burden this condition can cause.

As dermatology nurses, we are committed to advocating for improved outcomes for all patients with skin conditions. By recognising the unique challenges faced by those with vitiligo, particularly within minority ethnic communities, we can ensure that our healthcare system reflects the diverse needs of the UK population and delivers care that is inclusive, equitable, and effective.

We include two BDNG members testimonials to support this submission

Statement from Member 1

Working closely with individuals affected by vitiligo in my role at an NHS specialist vitiligo clinic has underscored the profound impact this condition has on self-esteem, mental health, and social integration—especially for skin of colour. Skin of colour (SOC) refers to individuals of African, Latinx, Asian, Native Hawaiian, Pacific Islander and Indigenous descent. The depigmentation caused by vitiligo is often more pronounced on SOC, making the condition more visible and subject to greater societal stigma. Misconceptions about vitiligo within families and communities can further isolate those affected, contributing to experiences of discrimination, unwanted scrutiny, and, in some cases, social exclusion. The psychological burden extends beyond the visible symptoms, emphasising the need for a comprehensive approach that addresses both the medical and emotional challenges patients face.

Currently available treatments, including topical corticosteroids and phototherapy, are beneficial to many patients, however, they also present significant barriers to effective management. While corticosteroids may provide some repigmentation, their long-term use is associated with adverse effects such as skin atrophy and irritation, limiting their viability as a sustained therapy. Protopic is an alternative topical therapy however in practice I have found this to be less effective. Phototherapy is very beneficial for some patients; however, it requires frequent clinical visits over an extended period—an impractical option for many individuals balancing work, family, and other commitments. As vitiligo is a chronic condition, with no cure, patients often feel like they spend a significant period of their life attending for phototherapy due to the nature of their skin depigmenting once ceasing phototherapy. This, of course, varies from patient to patient. The limited accessibility and inconsistent efficacy of these treatments highlight an urgent need for more targeted, patient-friendly options.

Advancing treatment options is critical not only to improve clinical outcomes but also to enhance overall patient well-being. Innovative therapies that consider diverse skin tones and lifestyles would facilitate better adherence, minimise treatment burden, and improve quality of life. Providing solutions that are more convenient and accessible would not only address the medical challenges of vitiligo but also help mitigate the stigma surrounding it, fostering greater acceptance and psychological resilience among those affected. Prioritising the development and approval of such treatments is essential in ensuring equitable and effective care for all patients.

Statement from Member 2

Working with patients who have vitiligo has highlighted how deeply this condition affects self-esteem, mental health, and social acceptance, especially for people of colour. Because vitiligo causes a loss of skin pigment, it is often more visible on darker skin tones, leading to greater stigma in many cultures where even family and community members may misunderstand the condition. This stigma can make daily life challenging, with patients facing discrimination, unwanted attention, or even exclusion. Beyond the physical symptoms, the emotional toll is significant, making it crucial to address both the medical and psychological needs of those affected.

Current treatment options, such as topical steroids and phototherapy, have limitations that make effective management difficult for many patients. Topical steroids can have significant side effects, especially with long-term use, including skin thinning and irritation. Phototherapy, while effective for some, requires frequent clinic visits over several months, which is not always feasible for individuals with demanding jobs and busy lives. Expanding treatment options is essential—not just to improve medical outcomes but to provide solutions that fit patients' diverse needs. A targeted, more convenient treatment designed with different skin tones and lifestyles in mind would ensure better access to

care, helping to reduce stigma and improve both physical and emotional well-being. Submission provided by Emmanuel Toni, Advanced Nurse Practitioner, Teena Mackenzie, Nurse Consultant, Sarah Copperwheat, Nurse Manager and Lisa McGovern, Nurse Consultant.
Are there any further equality issues that should be taken into account when considering this condition and the technology?

Key messages

In up to 5 bullet points, please summarise the key messages of your submission.	• The significant impact of vitiligo on the lives of patients, particularly individuals with darker skin tones • The visible nature in people with darker skin tones leads to disproportionate psychological, social, and cultural impacts • Cultural misconceptions and biases regarding vitiligo contribute to significant societal stigma • Nurses see firsthand how the physical and psychological toll of vitiligo is exacerbated by a lack of effective treatments and support pathways • This treatment would represent a transformative step in improving the lives of people with vitiligo

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Single Technology Appraisal

Ruxolitinib for treating non-segmental vitiligo in people 12 years and over [ID3998]

Patient Organisation Submission

Thank you for agreeing to give us your organisation’s views on this technology and its possible use in the NHS.

Following the upheld appeal for this appraisal, we are seeking your views to help with the committee reconsideration of the upheld appeal points.

Information on completing this submission

- Please do not embed documents (such as a PDF) in a submission because this may lead to the information being mislaid or make the submission unreadable
- We are committed to meeting the requirements of copyright legislation. If you intend to include **journal articles** in your submission you must have copyright clearance for these articles. We can accept journal articles in NICE Docs.
- Your response should not be longer than 10 pages.

About you

1.Your name	**Viktoria Eleftheriadou**
2. Name of organisation	Vitiligo Clinical And Research CEntre (Vitiligo CARE) for adult and paediatric patients Royal Wolverhampton NHS Trust
3. Job title or position	Consultant Dermatologist and Associate Professor
4a. Brief description of the organisation (including who funds it). How many members does it have?	NHS Vitiligo CARE is tertiary referral centre, where evidence-based treatment options and cutting-edge trials are offered to people with vitiligo. We receive referrals from across the UK and conduct multiple research projects in collaboration with national and international partners.
4b. Has the organisation received any funding from the company bringing the treatment to NICE for evaluation or any of the comparator treatment companies in the last 12 months? [Relevant companies are listed in the appraisal stakeholder list.] **If so, please state the name of the company, amount, and purpose of funding.**	No
4c. Do you have any direct or indirect links with, or funding from, the tobacco industry?	No
5. How did you gather information about the experiences of patients and carers to include in your submission?	Personal and professional experience treating people with vitiligo (children and adults) for over 15 years. Conducting national and international research projects with people of vitiligo gathering their views and experiences on living with vitiligo and treating this condition. Multiple peer reviewed publications (Literature systematic reviews).

Following the upheld appeal for the above appraisal, you are invited to contribute any further information or comments that would help the committee in its discussion of the upheld points. Please include information on how people with different protected characteristics are differentially affected by vitiligo, and how this might affect the committee's consideration of the clinical and cost effectiveness of ruxolitinib cream.

There is a significant need for accessible, licensed, and effective treatment options for vitiligo. Current treatments, particularly off-label options, often fail to deliver satisfactory results, leaving many patients feeling frustrated and seeking alternative solutions. These alternatives can include unregulated dietary supplements, unsafe topical or oral treatments, restrictive diets, and even risky procedures. As a result, nearly one in five vitiligo patients require antidepressants or anxiolytics within the first year of diagnosis to cope with the psychological challenges associated with the condition. https://doi.org/10.1192/bjo.2022.591

Vitiligo is a debilitating skin condition that can have a profound psychological impact. Recent systematic reviews on the psychosocial effects of vitiligo have revealed that individuals with the condition experience a significantly higher prevalence of psychosocial issues compared to healthy individuals. Patients with vitiligo are particularly vulnerable to depression, anxiety, stigmatization, relationship challenges, and suicidal thoughts. https://doi.org/10.1007/s40257-021-00631-6; https://doi.org/10.1192/bjo.2022.591; https://doi.org/10.1111/j.1365-2133.2010.09828.x)

As a Consultant Dermatologist, I provide care to patients from diverse demographics. However, certain groups with specific protected characteristics are affected differently. My clinical experience and observations are supported by numerous studies published in high-impact dermatological journals.

1) **People with darker skin tones and people of British South Asian heritage**

The risk of psychosocial comorbidities is reported to be higher in individuals with darker skin tones, as vitiligo is more visible, and they face additional forms of stigma related to changes in skin tones. (https://doi.org/10.1192/bjo.2022.591; https://doi.org/10.1111/j.1365-2133.2010.09828.x.)

People with darker skin tones may experience greater psychological impact, in part because lesions may be more noticeable, and also because of sociocultural factors and a lack of understanding about the condition, which can contribute to stigmatisation, social isolation, and psychological stress. (https://doi.org/10.1007/s40257-021-00631-6)

Recent findings from two large retrospective studies using the UK Clinical Practice Research Datalink and Hospital Episode Statistics databases reveal that adults with vitiligo in the UK face a higher risk of developing new-onset depression (25%) and anxiety (23%). This risk is particularly pronounced in individuals of non-white ethnicity, with a 72% increased risk of recurrent depressive disorder. This is especially significant given the evidence that vitiligo is associated with stigmatisation among individuals of British South Asian heritage. (https://doi.org/10.1192/bjo.2022.591)

A large-scale, UK population-based study (https://doi.org/10.1093/bjd/ljae282) has provided valuable new insights into the epidemiology of vitiligo, estimating an overall lifetime incidence of the condition at 0.92%. This suggests that 1 in 109 people will develop vitiligo during their lifetime.

Importantly, the lifetime incidence is significantly higher in minority ethnic groups, especially among those of Asian ethnicity, where the risk rises to 1 in 28 people. Given the considerable negative impact of vitiligo on health and work outcomes, these findings underscore the need to make effective treatment options available to those with vitiligo, who also bear an additional psychological burden and face an increased risk of developing mental health disorders.

Additionally, evidence from dermatology clinic patients across 17 European countries shows that stigmatisation varies not only with the type and severity of the skin condition, but also with socio-demographic and psychological factors. These variables play a significant role in influencing the levels of stigmatisation experienced by individuals with skin conditions. (https://doi.org/10.2340/actadv.v103.6485).

Finally, referral guidelines for people with vitiligo (https://www.bad.org.uk/referrals/vitiligo/), which were developed based on the British Association of Dermatologists guidelines for people with vitiligo 2021, with input from patient representatives, recommend that people with vitiligo, who are psychologically affected by vitiligo, should be referred to secondary care for specialist input. These referral guidelines recognise that vitiligo affects people of all skin tones and can be psychologically devastating, regardless of the patient’s skin colour.

2) **Adolescents**

A subgroup associated with a significantly higher psychological burden includes adolescents. As vitiligo develops before the age of 20 in about 50% of patients, making the treatment available for children is particularly important (https://doi.org/10.1111/bjd.20596; https://doi.org/10.1007/s40257-021-00631-6; https://doi.org/10.1192/bjo.2022.591; https://doi.org/10.1111/j.1365-2133.2010.09828.x).

There is also emerging evidence that treatment is more effective if started early, especially in children with darker skin tones (https://doi.org/10.1111/pde.14775).

Several studies examined the impact of childhood vitiligo. Childhood vitiligo has great emotional impact on the quality of life of both patients and caregivers. Children with vitiligo usually avoid or restrict sport activities and often lose vital days in school. (https://pmc.ncbi.nlm.nih.gov/articles/PMC7082438/)

Vitiligo that begins in childhood can be associated with significant psychological trauma that may have a long-lasting effect on self-esteem and social development. (https://pubmed.ncbi.nlm.nih.gov/18717679/)

Are there any further equality issues that should be taken into account when considering this condition and the technology?
Topical Ruxolitinib is the first and only licensed treatment for adults and children with vitiligo. Topical Ruxolitinib has received FDA, EMA, MHRA approvals and is available (on national healthcare systems) to patients abroad for months to years (e.g. for two years in the USA). It is unfair to our patients that topical Ruxolitinib is not accessible in England, while it is accessible to other nations. This practice creates an unjust disparity, which affects people's lives.

Key messages

In up to 5 bullet points, please summarise the key messages of your submission.	• Vitiligo is a highly visible and psychologically devastating skin disease, often developing in younger individuals. • There is no licensed treatment for vitiligo available on the NHS, and currently available (off-licence) treatment options for vitiligo are often unsatisfactory. • There is an urgent need for an efficacious, topical treatment for vitiligo, which would not require multiple hospital visits over long periods of time and could be prescribed to both children (12+) and adults as soon as they are diagnosed with vitiligo, should they wish to pursue treatment. • Certain groups of people with protected characteristics are more likely to experience severe psychologica and social impacts from vitiligo including: ○ Adolescence ○ People with darker skin tones and people of British South Asian heritage • Making topical Ruxolitinib available to people with vitiligo, who are psychologically and/or socially affected, regardless of their skin colour or heritage is crucial.

Thank you for your time.

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Ruxolitinib for treating non-segmental vitiligo in people 12 years and older [ID3998]

EAG appraisal of the company's response following appeal

April, 2025

Produced by	Peninsula Technology Assessment Group (PenTAG) University of Exeter Medical School
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CONTENTS

1. INTRODUCTION

An appeal hearing following the negative recommendation for ruxolitinib was held on 11 October 2024. Three appeal points relating to vitiligo's impact on young people and people with darker skin, and how health equality issues were considered by the committee and discussed in the FDG, were upheld at the appeal hearing. Specifically:

- Incyte 1(a)4: **The committee has failed to give an adequate explanation of how it has complied with the Equality Act 2010** (*regarding whether the committee provided adequate explanation on how it had considered the inequality issues including vitiligo's impact on young people and people with darker skin as noted in section 3.20 of the FDG, and why the appraisal committee did not consider there to be any relevant equality issues*)
- Vitiligo Society 1(a)3: **NICE failed to act fairly by giving notice of only 13 days to make a Phase 2 written submission (***so potentially this limited its ability in preparing written submission regarding the impact of vitiligo on children and young people***) ,** and
- Vitiligo Support UK 2.1: …**treatment of health inequalities in the FDG was unreasonable in that, first, it did not reflect the discussion that took place** *(in relation to the committee's consideration on vitiligo's impact on people with darker skin tone, as well as young people)*

In this document, the EAG set out to:

- Review and critique the additional analysis and information submitted by the company and patient groups, following the appeal hearing.
- Verify whether the company has included all the committee's preferred assumptions discussed at the second appraisal committee meeting (ACM2) in its most recent analysis applying the most recent patient access scheme (PAS) discount and arrangements for dosing of ruxolitinib.
- Advise any further analysis or approach which the EAG considers appropriate or plausible regarding addressing vitiligo's impact on young people as well as people with darker skin.

In Section 2, the EAG present the additional information presented by the company and patient organisations about potential equality considerations relevant to the appraisal. In Section 3, the EAG appraise the company's economic analyses following the committee discussion at ACM2 and the new PAS.

2. ADDITIONAL INFORMATION SUBMITTED BY THE COMPANY AND STAKEHOLDERS

In addition to the submission from the company, submissions were received from four patient organisations and one clinical expert (note – this expert was also an advisor to the EAG and a co-author on the EAG report).

The company submitted evidence relevant to the potential differential impact on ruxolitinib for people with vitiligo and darker skin tone. This included a narrative summary of evidence related to the disease impact of vitiligo in people with a darker skin tone, including evidence to suggest that those with darker skin tone experience greater overall impacts of the disease. This included an increased mental health burden, emotional burden, quality of life burden, and a greater impact of the condition affecting the face. These claims were consistent with submissions from other stakeholders in response to the appeal, in addition to those discussed in ACM2. During its original appraisal, the EAG received advice that those with lighter skin tones may also experience significant burden from the disease, and that skin tone was therefore not a perfect determinant of disease burden. However, on the basis of the evidence and submissions received, the EAG considered there to be evidence that people with darker skin tone may experience greater disease burden.

The company submitted revised subgroup analyses from the TRuE-V1 and TRuE-V2 trials (N=674, of whom 188 [27.9%) had darker skin tone as defined as a Fitzpatrick score of 4 to 6). The analysis differed from the original company submission (CS), where participants with darker skin tone were defined as having a Fitzpatrick score of 3 to 6 (a departure from the NICE scope). In the original analysis in the CS, the analysis did not show a difference in outcome according to skin tone, which the EAG suggested may be due to the broader definition of darker skin tone that was used. In the revised analysis, the company submitted forest plots of the difference in two disease-specific quality of life outcomes (Dermatology Life Quality Index [DLQI] and the Vitiligo-specific quality-of-life instrument [VitiQoL]) and the Vitiligo Noticeability Score (VNS) according to skin tone. Subgroup analysis was not presented for change in facial vitiligo specifically, i.e. as assessed using the F-VASI measure.

As described by the company, the forest plots showed an increased treatment effect of ruxolitinib in the subgroup of participants with darker skin tone, though 95% confidence intervals were wide and overlapping for all outcomes, particularly for the VitiQoL and the VNS. As stated in the EAG report, the EAG was unable to identify a minimal clinically important difference (MCID) in the quality-of-life outcomes that could be used to determine whether differences between the subgroups were clinically meaningful in terms of impact on participants. However, the magnitude of effect for DLQI was large, suggesting that it was plausible that people with darker skin tones experienced a greater quality of life benefit from treatment ruxolitinib (for context, the SmPC, the original EAG report, and the EAG appraisal to the company response to draft guidance after ACM1, all noted that there was no meaningful change in DLQI for the overall trial population following treatment). The results for VNS suggested that there was an increased chance that people with darker skin tones would report that their vitiligo was slightly less noticeable, a lot less noticeable, or no longer noticeable (as indicated by a score of 3, 4 or 5 on the VNS, respectively; note that in the original CS, results for the VNS were rather reported for a score of 4 or 5 only).

Of the submissions received by patient organisations and a clinical expert, all described a greater burden of disease for people with darker skin tone, all described a greater burden of disease for young people, one described a greater burden of disease in people in public facing jobs, which they suggested may disproportionately affect those from lower socioeconomic groups, and all described there being an unmet need for an effective treatment for vitiligo

In addition, one patient organisation highlighted concerns about the restriction on the licence for ruxolitinib to people with vitiligo on the face and people over the age of 12 years. Two organisations raised concerns about the requirement for ruxolitinib to be prescribed in secondary care, due to difficulties accessing secondary care, which was discussed by the committee previously.

3. EAG REVIEW AND CRITIQUE OF ADDITIONAL ANALYSIS AND INFORMATION

Following an appeal hearing held on 11 October 2024, the company submitted a new cost-effectiveness model with a revised Patient Access Scheme (PAS) discount along with an upper limit on the number of tubes of ruxolitinib cream that the NHS would pay per year per patient (details provided below). As a result, the company has updated its cost-effectiveness analyses. The appeal points that were upheld do not relate to any of the following analyses, therefore the critique in this section refers to a review of the additional evidence submitted by the company post-appeal, and whether the committee's preferred assumptions at the second Appraisal Committee Meeting (ACM2) are reflected in the updated economic model.

3.1. Review and critique of additional analyses submitted by the company

The cost-effectiveness model submitted by the company post-appeal contains only two changes; one being an increase in the simple PAS discount, and the other being a larger (structural) change whereby [redacted]. The company made changes in its version of the model as opposed to the EAG's previous model. Therefore, the impact of these changes could be directly compared to the company's previous base case analysis, however a direct comparison to the EAG's prior (tentative) base cases was not possible.

3.1.1. Change 1 – Revised simple PAS discount

Using the company's previous PAS discount of [redacted]%, the list price of £[redacted] for a 100g tube of ruxolitinib was reduced to £[redacted] per tube. The company assumed that there was no dispensation or administration cost associated with ruxolitinib, meaning that the combined acquisition, dispensation and administration cost for the intervention was equal to £[redacted] per 100g tube with a simple PAS discount. The EAG previously highlighted that this may underestimate costs on the intervention arm of the analysis. Assuming a daily dose of [redacted]g (the log-transformed dose based on exposure time, as used in the revised company base case), the cost of treatment per 28-day cycle was £[redacted].

In the newly submitted model, the list price of ruxolitinib remained the same at £[redacted] for a 100g tube, however the new simple PAS discount was increased to [redacted]%. The company still assumed that no dispensation or administration costs would be associated with ruxolitinib, meaning that the combined acquisition, dispensation and administration cost for the intervention in the updated model was £[redacted]. When the [redacted]g daily dose was used in the post-appeal model, the cost of treatment per model cycle reduced to £[redacted] per 28-day cycle. Despite this, the mean daily dose in the latest economic model did not reflect the committee's preferred assumptions to include the mean daily dose of the trial.

The application of the simple PAS discount remained the same between submitted model versions (i.e., there were no issues with the application of the discount itself). This discount fed into all subsequent analyses, inherently implying that the company was positioning ruxolitinib cream as a treatment to be used in a secondary-care setting (i.e., where a PAS discount could be applied). This issue was discussed in ACM2 and it was noted in the Final Draft Guidance that this positioning was anticipated by the committee.

3.1.2. Change 2 – [redacted]

[redacted] The EAG assumed that these options were informed by clinical feedback the company received, which was provided in response to Draft Guidance from a clinician in Germany. The German clinician stated that "*patients on average will use 5 to 6 tubes of ruxolitinib 1.5% cream per year*" (Response to DG, pg. 4). To note, this estimate was not necessarily reflective of a UK population, and the treatment pathway in Germany may differ. Following this feedback, [redacted]

It was also noted in the company's response to Draft Guidance that the model estimated that patients would use around [redacted] tubes of ruxolitinib 1.5% cream per year. This calculation was still reflected in the existing model, however only when the [redacted]g log-transformed dose was employed ([[redacted]g / 100g] x 28 = [redacted] tubes per 28-day cycle; [redacted] tubes per year). When the mean daily dose correctly reflects the committee's preferred assumption, i.e., a daily dose of [redacted]g from the pooled TRuE-V studies excluding outliers (Response to DG, pg. 14), the number of tubes used per year increased to [redacted].

[redacted]

[redacted]

Some patients would be expected to potentially undergo re-treatment. The model does not explicitly account for a patient moving to re-treatment within the same year that they were treated in the maintenance setting. This means that the model likely over-estimates costs slightly if the complex PAS was strictly adhered to, though the EAG did not consider this minor issue to be of material importance for decision making.

[redacted]

Ultimately, while it was beyond the remit of the EAG to determine if this complex PAS was possible to implement, the EAG highlighted a number of issues that would need to be resolved in order for such a rule to be practically used in NHS practice. The company's revised base-case ICER using both components of the proposed PAS discount was £[redacted]. To obtain the same ICER using only a simple PAS discount, the equivalent PAS would be approximately [redacted]%. [redacted]

3.2. Inclusion of the committee's preferred economic assumptions at ACM2

The Final Draft Guidance issued by NICE described the committee's preferred assumptions as discussed in prior ACMs. These are summarised below:

- With respect to dosing:
  - Section 3.11: "The committee concluded that the mean dose of topical ruxolitinib alone from the pooled TRuE-V trials should be used in the model, using appropriate methods to account for any missing data."
  - Section 3.12: "The committee concluded it was most appropriate to use the dosing estimate from TruE-V that excluded the outliers rather than the estimate calculated using the lognormal distribution."
- With respect to re-treatment:
  - Section 3.13: "The committee agreed with concerns about the costs and benefits associated with retreatment, because the costs were approximately equivalent to 1 month of treatment (at the initiation phase), but benefits were modelled to potentially last for multiple years. It concluded that the model did not accurately capture the likely reality of retreatment in clinical practice or ultimate disease course. It considered this structure likely biased in favour of ruxolitinib cream because of the minimal costs, but this was unclear because the clinical evidence of an appropriate maintenance dose is not available."
- With respect to F-VASI 90:
  - Section 3.14: "The committee considered that the company's estimate of the proportion of people achieving F-VASI 90 at year 2 was plausible, but it was uncertain how this estimate was derived. It concluded that the uncertainty behind this key driver of the model interacts with the issue of retreatment (see section 3.13), because it describes the proportion of people who would potentially benefit from retreatment/maintenance of treatment."
- With respect to phototherapy:

  - Section 3.15: “The committee concluded that the company’s updated assumptions on phototherapy were reflective of clinical practice for people with vitiligo.”
- With respect to psychological support and NHS dermatology attendance:
  - Section 3.16: “At consultation, the company updated its disease management assumptions in line with the committee’s preferences. Monitoring in secondary care by a dermatologist for people with vitiligo that did not respond to treatment was reduced to 15%, and all health states included 15% of people accessing psychological support services. The committee concluded that these disease management assumptions were more aligned with expected clinical practice for people with vitiligo.”
- With respect to utility values:
  - Section 3.17: “… So, [the committee] could not make a decision on its preferred assumptions. But it noted that scenarios that reduced the range of utility values substantially increased the cost-effectiveness estimates.”
- With respect to adverse events:
  - Section 3.18: “So, the committee concluded that the impact of incorporating utility and cost implications for adverse event data was uncertain, but the cost-effectiveness analysis may be more sensitive to any disutility associated with adverse events”

Several of the topics described above, and other general points discussed throughout the Final Draft Guidance, were aligned in the company’s and the EAG’s most recent preferred base-case analyses and were subsequently deemed suitable by the committee following the revised submission. These included the modelling and choice of comparators, assumptions surrounding the use of phototherapy, and the proportion of patients achieving an F-VASI 90 response by Year 2.

Despite the company addressing some of the EAG’s and committee’s preferred assumptions in prior model versions, some of the committee’s preferred assumptions proved outstanding and some issues could not be addressed. Due to the nature of the disease and treatment pathway (in addition to the way that these have been modelled), uncertainty therefore remained. Any instances of uncertainty that remained, or any of the committee's preferred assumptions that were not incorporated into the latest model version, are discussed throughout this section.

3.2.1. Remaining concerns and uncertainty in the model

The model structure was not updated following the previous committee meeting, therefore previous concerns regarding the model structure remained. However, the committee noted that further changes to the model structure would not resolve these issues and that the model was fit for decision making.

3.2.2. Preferred assumptions that the company did not address

As previously discussed, the mean daily dose used in the company's post-appeal model was [redacted]g of ruxolitinib cream. As per the Final Draft Guidance, "*the committee concluded that the mean dose of topical ruxolitinib alone from the pooled TRuE-V trials should be used in the model, using appropriate methods to account for any missing data*" (FDG, pg. 14), deeming this method (while excluding the outliers) more appropriate "*than the estimate calculated using the lognormal distribution*." (FDG, pg. 15). Therefore, the EAG set the mean daily dose to [redacted]g, as preferred by the committee.

3.2.3. Issues that were not resolved in the previous meeting

The committee preferred the EAG's scenario analysis to change the utility value for the 'no response' state and explore with and without capping of utility values to general population levels and concluded that the evidence of benefit of responding to treatment was highly uncertain (FDG, Section 3.17). Given that the committee did not express a specific preference for utility values, a range of scenarios remained pertinent to decision making.

The committee also expressed concerns about how re-treatment was operationalised and whether it reflected how ruxolitinib cream would be used in clinical practice, which it concluded could not be captured in the ICER calculation (FDG, Section 3.19). The company's revised model did not contain any edits to capturing re-treatment.

3.3. Cost-effectiveness results

In its updated results, the company applied its revised PAS to the following results:

- Company's base-case at ACM2.
- EAG's base-case at ACM2.

- NICE plausible ICER range, stated in Section 3.19 of the FDG.

As previously described, and as was the case when the EAG critiqued the company's model provided in response to the draft guidance following ACM1, the company's revised analysis was produced in a version of the model where the EAG's previous analyses had been removed. For this reason, the EAG could only provide a tentative preferred base-case analysis, starting from the company's revised base-case analysis. However, the EAG was able to verify the ICERs presented in the company's response document by hard-coding over values in the provided model file.

The EAG considered that the ICERs presented in the table prepared by the company to summarise the key results for decision making. These ICERs are presented again in Table 1 for ease of reference. The EAG highlight for completeness that its base-case analysis presented at ACM2 was a tentative analysis, and that there remains substantial uncertainty in the model used to generate these results.

Table 1: Results for decision making

Scenarios	**ICERs (£)**		
	Company	**EAG**	**NICE plausible range**
Base case at ACM2	18,103	25,856	33,065 – 167,585
Base case with new simple PAS	[redacted]	[redacted]	[redacted] - [redacted]
Base case with new complex PAS	[redacted]	[redacted]	[redacted] - [redacted]

Abbreviations: ACM2, second Appraisal Committee Meeting; EAG, External Assessment Group; ICER, incremental cost-effectiveness ratio; NICE, National Institute for Health and Care Excellence; PAS, Patient Access Scheme.

3.4. Assessment of ruxolitinib for people with darker skin tone, as well as young people

For completeness, the EAG considered that no further analyses could be undertaken to specifically address the impact of vitiligo on young people or people with darker skin, as no additional data or information has been provided by stakeholders to support subgroup-specific analyses.