

An overview:

Skin Analytics' Equality and Health Inequalities Impact Assessment (EHIA)

Skin Analytics pathways are built for equality of access. Every patient deserves access to fast and effective skin cancer diagnosis regardless of their background - and we're working to make that happen.

skin
analytics

The NHS Equality and Health Inequalities Assessment is a framework to look at the potential positive and adverse impacts of a technology and propose strategies to amplify and address them respectively, based on at least 9 protected characteristics:

- Age
- Disability
- Gender
- Marriage and civil partnership
- Pregnancy and maternity (women before and after childbirth and who are breastfeeding)
- Race and ethnicity
- Religion and belief
- Sex
- Sexual orientation
- We have taken the initiative to consider a number of other factors too, including socioeconomic deprivation.

Some examples of the potential impact of DERM and our actions going forward

- DERM assessments do not discriminate – they are based on dermoscopic image alone and no demographic factors are taken into account. Across all protected groups, speed of access to care would be increased due to reduced waiting times relative to dermatologist appointments.
- As there are varied skin cancer incidence rates across protected characteristics, some groups may be more or less represented in training and validation data. As such, we will monitor and assess performance across all characteristics to identify any issues and look at potential training and validation data accordingly.
- Where possible, we will request that our partners collect data that is not currently available so all patients are represented when monitoring their accessibility to the Skin Analytics service and outcomes following DERM's assessment.

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Race and ethnicity

Traditional skin cancer pathways

- Skin cancer is less prevalent in richer skin. Less than 0.5% of skin cancer diagnosed in the UK is in Black and Asian patients[1] and 3.3% of urgent suspected skin cancer (USC) pathway patients are Black and Asian [2]. Accordingly, 3.5% of patients in our pathway are identified as having Fitzpatrick types 5 and 6 skin, the two richest tones on this 6-point scale, with all patients being able to access our pathways.
- 1 in 3 melanoma and SCCs are not found in the USC pathway [2] and 400,000 patients are currently waiting to be seen on these other pathways [3]. These diagnostic delays disproportionately affect Black and Asian patients - 48.9% of Black patients and 60.6% of Asian patients have their skin cancer diagnosed on the USC pathway compared to 67.3% of White patients [2,4] and delays in melanoma diagnosis of 2 weeks or more are linked with 20% reduced 5-year survival.[5]
- The conversion rate of USC referrals to skin cancer diagnosis in White patients (6.6%) is over 16 times that of Black (0.4%) and Asian patients (0.4%) [2] and the proportion of melanoma diagnosed at early stage (1 or 2) for Black and Asian patients is 79% and 86% respectively, compared to 94% or more in other groups [6].

Pathways using DERM

- DERM's latest real-world data shows that all melanoma, SCCs and BCCs assessed in patients with Fitzpatrick V and VI have been correctly identified and we continue to closely monitor these outcomes in our post-market surveillance. This was confirmed in two independent reports, which found that
 - 'differences in incidence across the Fitzpatrick skin type subgroups were not significant and all confirmed cancers were correctly classified in the group representing skin types 5 and 6' [7]; and
 - DERM appropriately ruled out melanoma 100% (95% confidence interval 99.4-100%) across 976 patients with Fitzpatrick types 5 or 6 skin [8].
- With DERM safely discharging patients from the USC pathway, conversion rates in Secondary Care patients have improved by 19-67%, patients can be reassured sooner and dermatology teams can have more time to see patients on other pathways where there is delayed diagnosis of skin cancers and delayed management of other inflammatory conditions.
- Melanoma on the palms of hands and soles of feet (acral lesions) and under the nails (subungual lesions) are of most concern in richer skin tones due to their poor prognosis. Acral and subungual lesions are not suitable for DERM assessment but are routed directly to a dermatologist review ensuring timely patient care and uncompromised service access.


Age

Traditional skin cancer pathways

- Older patients are more likely to have their skin cancers diagnosed on non-USC pathways and USC conversion rates are lower in younger age groups [2], both of which would again be helped by the additional capacity created from DERM discharges.

Pathways using DERM

- DERM is not suitable for use in patients under 18 but research and performance data show that DERM is accessible to all eligible age groups.
- The age group distribution of USC referrals and DERM pathway patients is comparable, with no statistically significant differences observed (Chi-squared test).
- Patient history can be captured before or during image capture appointments with healthcare professionals, ensuring digital skills are not a barrier to access.
- An independent evaluation has shown no differences in DERM performance by age group. “<60 years versus ≥60 years yielded similar pathway sensitivities” [7].



Age	% of USC referrals 2022/23, N=634,970	% of DERM pathway patients 2023, N=46,197
<50	25.0	33.2
50-59	14.8	16.7
60-69	17.7	17.6
70-79	22.8	19.2
80+	19.7	14.5

Disability

- Clinical staff involved in capturing patient history, consent and image capture ensures most patients with disabilities are supported to gather this information and where appropriate, can be directed to a face-to-face appointment if they require it.
- When DERM is deployed within a community setting, there are opportunities to improve access for patients with mobility challenges.

Deprivation





- Around 4,000 cases of melanoma skin cancer each year in England are linked with lower deprivation [9]. Greater deprivation is linked with lower USC referral and conversion rates and a lower proportion of skin cancers found on USC pathways [2]. As noted above, DERM can improve conversion rates and increase capacity to help address these issues.

Religion and belief

- The religion or belief status of patients may influence the ability to capture images of skin lesions. In these situations, we would encourage NHS partners to offer a chaperone or a same sex healthcare professional to capture the images.

For all protected characteristics, we continue to follow CORE20PLUS5 health inequalities best practice in deploying DERM.

Efforts to engage patients and community to understand our impact

-  Patient feedback from those who have used the service
-  Co-create patient-facing documentation with the charity MelaNoMore
-  CPD training on skin of colour dermatology for our clinical staff
-  Engagement with data diversity organisations

Clinical evidence and post-marketing surveillance

We recognise the anxiety felt when using technology on under-represented groups and take this very seriously. To ensure we provide – and can monitor – a service that is safe and efficient for all patients, we regularly conduct subpopulation analyses to make sure we understand how our pathways are impacting patients from all backgrounds.

If for any reason the characteristics of a particular mole or lesion render it not suitable for assessment by DERM (e.g. it is ulcerated or under the nails), the patient's case is automatically routed to a dermatologist assessment, ensuring timely and uncompromised access to care.



[DERM's performance](#)

Unfortunately, health inequalities are longstanding and deep rooted issues that need continued efforts across all organisations.

With healthcare organisations struggling globally, especially in dermatology, **we have to act now to change things** but in order to do so we need to understand the inequity that currently exists in our healthcare systems and identify the opportunities to provide more equitable care. That is why we are proud to be among the first health technologies to complete the EHIA, as it provides the framework for us to understand the potential positive and negative impacts our pathways can have for different patient groups and work collaboratively with NHS and other healthcare providers to ensure we do everything we can on both sides to **maximise the experiences and outcomes for all patients, regardless of their background.**

To discuss any of this document or to receive our full EHIA, please contact us at skin-analytics.com/contact-us/



References:

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