

Skin Analytics Case Study

West Suffolk
NHS Foundation Hospital

Background

The Dermatology team at West Suffolk NHS Foundation Trust (WSFT) worked in partnership with Skin Analytics, to deliver a service for suspected skin cancer. Skin Analytics is a solutions partner that uses AI products to enable innovative Dermatology pathways within the NHS. WSFT and Skin Analytics have partnered together since October 2021 seeing over 5300 patients.

Challenge

Over the last 6 years, there has been an almost 30% increase in 2-week wait dermatology referrals nationally. This rise combined with the impact of COVID-19 has resulted in a considerable backlog in skin cancer pathways [1]. It is expected that cancer referrals will continue to rise [2], particularly in East Anglia where there is a relatively high incidence of skin cancer cases due to its large agricultural workforce and ageing population. Historically, WSFT have looked at solutions including upskilling GPs and teledermatology for RTT, but referrals have remained high due to sub-par image quality and low adoption.

Solution

In collaboration with the local ICS, WSFT and Skin Analytics deployed an AI based service to address the backlog and help to reduce delays in skin cancer detection and treatment, without the need of additional face to face clinics. Within the WSFT pathway, the AI, Deep Ensemble for the Recognition of Malignancy (DERM) provides an immediate classification, re-directing low-risk lesions to be reviewed by a Skin Analytics dermatologist. The dermatologist confirms if the lesion is safe to be discharged while high-risk lesions are available immediately to be reviewed by the WSFT dermatologists virtually. Triaging patient care in this way provides effective management in a timely manner and ensures patients are seen in the appropriate clinic whether that be Dermatology, Plastic Surgery or Oculoplastic Surgery.

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“Patients saw their GP with a suspected skin cancer and within a few days attended the photography clinic. 3 days later they were informed that they did not have skin cancer. They were relieved how quick the service was and anxiety was greatly reduced by the prompt response.”

**Karen McKinnon Senior Operational Manager/
Clinical Lead for Specialist Medicine & Lead
Cancer Nurse**

Performance

From 22nd April 2022 to 11th April 2023

Pathway sensitivity to malignant lesions

100%

CI: 97.5% - 100%

Negative Predictive Value for skin cancer

99.9%

CI: 98.9% - 100%

Benign specificity

70.8%

CI: 67.4% - 74%

Sensitivity targets

>95% for melanoma and squamous cell carcinoma (SCC)

>90% for basal cell carcinoma (BCC)

Impact

5,335

Patients seen through pathway

338

Cancers found

65%

Patients avoided a 2WW F2F dermatology appointment

4.9 days

Average waiting time reduction for patients to have their first appointment after their referral

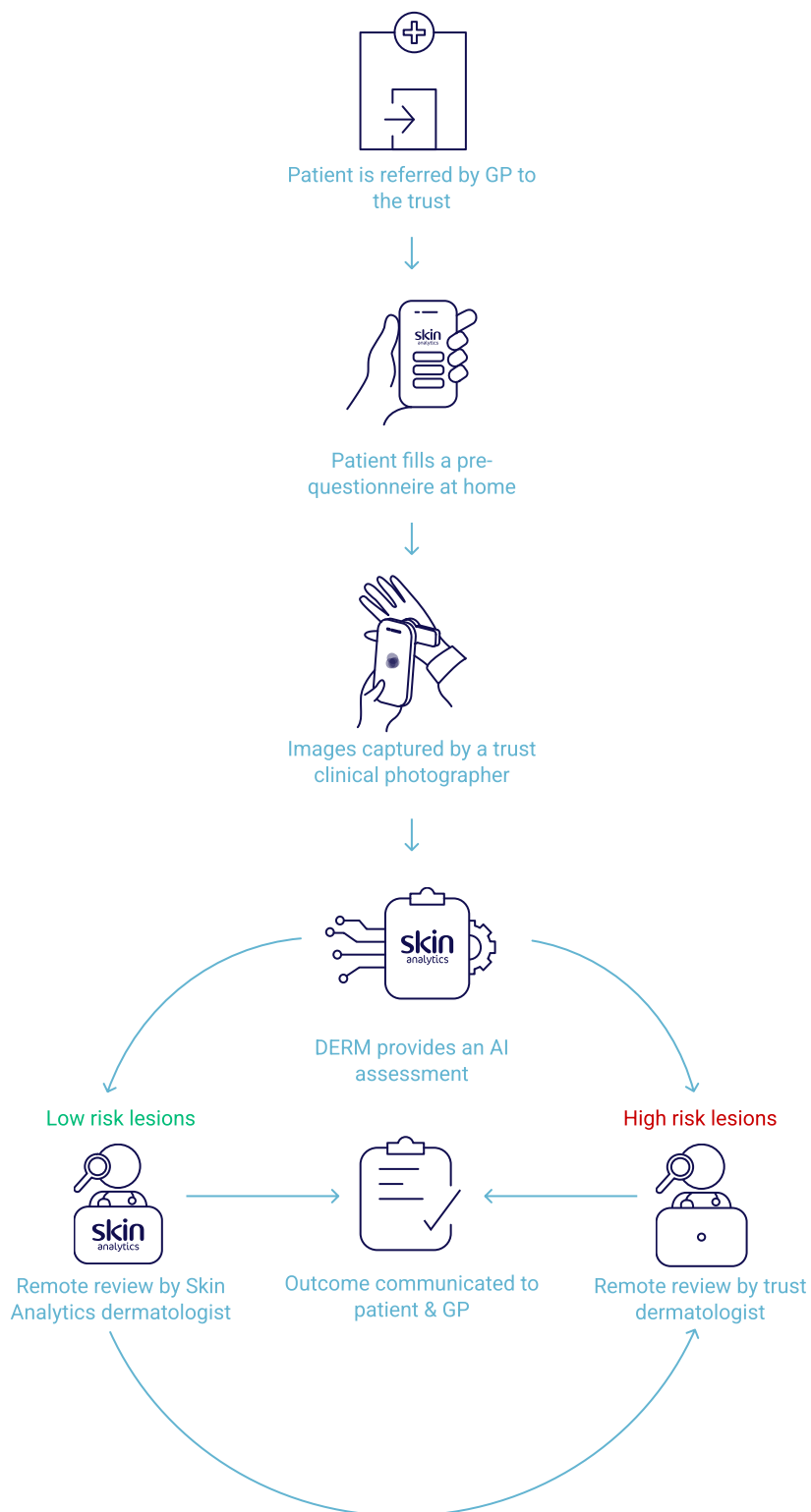
75%

More patients seen within 14 days of their referral

From September 2021 to April 2022

Pathway

Clinical pathways are individually designed in partnership with NHS sites. With the UKCA Class IIa approval and continued high performance of DERM, West Suffolk and Skin Analytics plan to remove the remote review by a Skin Analytics Dermatologist to drive further efficiencies in the pathway and enable quicker discharge for benign cases.



References

- [1] BAD Patient Hub. 2022. New data shows a record 224,000 skin cancers in England in 2019 - BAD Patient Hub. [online] Available at: <<https://www.skinhealthinfo.org.uk/new-data-shows-a-record-224000-skin-cancers-in-england-in-2019/>> [Accessed 19 July 2022].
- [2] England.nhs.uk. 2022. [online] Available at: <<https://www.england.nhs.uk/wp-content/uploads/2022/04/B0829-suspected-skin-cancer-two-week-wait-pathway-optimisation-guidance.pdf>> [Accessed 19 July 2022].