NHS
Chelsea and Westminster Hospital
NHS Foundation Trust

skin analytics

The clinical value of AI teledermatology:
Transitioning from pilot to sustainable standard practice

Background

In June 2021, Skin Analytics were recipients of a Phase 4 award for the AI in Health and Care Award, in collaboration with the Accelerated Access Collaborative (AAC) in partnership with the National Institute for Health Research (NIHR). The award was to evaluate Skin Analytics AI as a medical device (AIaMD), DERM, in NHS pathways, supported by an independent evaluation into the health economics for scale across the NHS.

Chelsea and Westminster Hospital NHS Foundation Trust (CWFT) partnered with Skin Analytics to implement a skin cancer pathway using DERM to build on their already award-winning teledermatology service.

Since launching, the service has undergone extensive post-market surveillance and health economic modelling. The pathway has continued to enhance efficiency: skin cancer conversion rates have increased by 67% and 37% of cases have been eligible for discharge following DERM assessment, all whilst maintaining clinical value and safety.

This has driven the Trust to transition from pilot to a sustainable, standard practice.

Challenge

CWFT had experienced rising demand in Urgent Suspected Skin Cancer (USSC) referrals.

- In 2021, the year before the pilot, referrals increased by 175%, equating to 7,000 that year
- >90% of these referrals did not result in a diagnosis of melanoma or squamous cell carcinoma, meaning scarce dermatology time was being spent with patients with benign lesions rather than with patients who require urgent treatment

This sustained increase in demand had an impact on Trust performance. Given that over 1 in 3 skin cancers are found in non-urgent referral pathways, increasing numbers of patients were at risk of delayed diagnosis and treatment as ever more resources were reallocated to USSC appointments.

This also had an impact on non-cancer activity, with less dermatologist time available to see and treat patients with inflammatory, often debilitating skin conditions who are on routine pathways. As a consequence, the Trust had to resort to costly solutions, including waiting list initiatives and insourcing, which are unsustainable and prevent further investment in and development of the existing service.

Solution

CWFT wanted a solution that addressed their backlog and reduced delays in skin cancer detection and treatment, without the need for additional face-to-face clinics. The Trust deployed Skin Analytics' AI powered teledermatology platform into their existing pathway.

Prior to attending an imaging hub, patients receive an SMS containing a link to fill out a medical history questionnaire. At the hub, the patient's medical and lesion history is confirmed and images of their suspicious mole or skin lesion are captured by a Medical Photographer using an iPhone and dermatoscope. These images are uploaded to the Skin Analytics platform for DERM to make an assessment:

- Patients with benign lesions have their results communicated to them and are discharged.
- For patients with suspected malignant or premalignant lesions, the case is immediately available for a Trust Dermatologist review.

For the duration of the pilot, cases deemed eligible for discharge by DERM were reviewed by a Skin Analytics Dermatologist. Having proven the safety and effectiveness of the technology, this additional step will be removed for standard practice.

> "Deploying AI into this pathway was a natural next step but one that took significant input across the Trust and from our AI partner. Unlocking the potential of AI requires a strong partnership as we work to support clinicians to get better outcomes for patients.

Mike Wright
Innovation Business Partner
Chelsea and Westminster Hospital
NHS Foundation Trust

skin-analytics.com

Impact
2022 - 2024

>8,000
CWFT patients seen

94%
of patients avoided an urgent F2F appointment

10%
reduction in biopsies

'Good' teledermatology already in place?
CWFT implemented DERM to build on the efficiency of their already award-winning teledermatology service. **Adding AI has driven this impact and unlocked further value.**

13%
reduction in routine follow up appointments

67%
increase in skin cancer conversion rates

37%
of cases demonstrated as able to be autonomously discharged following DERM assessment

Clinical performance

We're proud to pioneer a market leading approach to performance monitoring for DERM. Scan to see.

Pathway

Clinical pathways are individually co-designed with our NHS partners. With UKCA Class IIa approval and continued high performance of DERM, CWFT and Skin Analytics will remove the remote review by a Skin Analytics Dermatologist as they transition to standard practice. This will drive further pathway efficiencies and enable patients with benign lesions to be discharged more quickly.

GP referral

Image capture

DERM

AI assessment

BENIGN

MALIGNANT/ PREMALIGNANT

Remote review by Skin Analytics Dermatologist

Results communicated to patient

Remote review by Trust Dermatologist

NIHR | National Institute for Health Research

Accelerated Access Collaborative

NHS