NICE National Institute for Health and Care Excellence

Resource impact summary report

Resource impact

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Resource impact summary report

This summary report is based on the NICE assumptions used in the resource impact template. Users can amend the 'Inputs and eligible population' and 'Unit costs' worksheets in the template to reflect local data and assumptions.

Recommendations

Deep Ensemble for Recognition of Malignancy (DERM, an artificial (AI) technology) can be used within teledermatology services in the NHS during the evidence generation period as an option to assess and triage skin lesions in adults referred to the urgent suspected skin care pathway. It can only be used:

- if the evidence outlined in the evidence generation plan is being generated (this is an obligation on Skin Analytics, and individual sites are not required to take part in additional evidence generation unless agreed with Skin Analytics)
- once it has appropriate regulatory approval including NHS England's Digital Technology Assessment Criteria (DTAC) approval.

Mitigate the potential risk of missed or delayed cancer diagnosis when using DERM during the evidence generation period by:

- doing a healthcare professional review for people with black or brown skin
- regular monitoring of DERM's performance to maintain accuracy (this is an obligation of Skin Analytics and individual sites are not required do any performance monitoring unless agreed with Skin Analytics)
- using additional protocols when necessary, such as:
  - a national governance framework to ensure local oversight of use of DERM
  - a healthcare professional review.

Resource impact (cash and capacity items)

A resource impact template has been developed to support the use of DERM in the NHS. The template uses the population on the urgent suspect cancer referral as a baseline. The template will calculate the cost of each of the alternative pathways based on this population to enable comparisons to be made of the cost of each of the different pathway options. The template is populated with assumptions for each pathway with assumed percentages for those discharged, reviewed in virtual clinics, seen in face-to-face clinics and those needing a biopsy or excision. These percentages will need to be reviewed by users to validate them against their local practice. Users should also review the unit costs used in the template and timings for each activity against their local practice. All blue highlighted cells in the template should be amended to reflect local practice. The referral pathways modelled are:

- face-to-face pathway
- teledermatology pathway
- DERM non-autonomous pathway
- DERM autonomous pathway.

Comparative evidence suggests that DERM may be able to identify a cancer lesion with similar accuracy to teledermatology or face-to-face dermatology assessment. Using automated DERM could identify more non-cancer lesions that do not need further review and so redirect more cases to non-urgent dermatology pathways compared with using teledermatology alone. The following are the benefits attributed to the implementation of DERM:

- reduces urgent skin cancer referrals
- frees up dermatology capacity to focus on treatment
- speeds up patient access to skin cancer diagnosis and treatment
- reduces the number of unnecessary biopsies
- supports workforce capacity.

However, the guidance states that it is unclear whether DERM could free up staff capacity within dermatology services for diagnosis of cancer, non-cancer and non-urgent

inflammatory skin conditions that need face-to-face assessment. Also, that further evidence is needed to better understand the effect of using DERM on clinical capacity for both urgent and routine dermatology services.

The evidence generation plan will inform a further review by NICE in the future.

The template will help organisations demonstrate the capacity impacts or benefits attributable to DERM. It highlights the following key metrics:

- cost associated with each referral pathway
- total clinic hours associated with each referral pathway (may help to assess whether DERM can increase staff capacity and benefit people with non-cancer dermatological conditions)
- the change in clinic hours and cost of DERM compared with face-to-face, and DERM compared with teledermatology.

Eligible population for DERM

Around 632,000 urgent suspected cancer referrals for skin took place in England in 2022 to 2023 according to the Cancer Waiting Times (CWT) urgent suspected cancer referrals dashboard (rate of 1.35 per 100,000 adults) and is estimated to have increased to around 720,000 in 2024 to 2025.

It is estimated that around 25% of lesions on the urgent suspected skin cancer pathway are not suitable for a DERM assessment.

Treatment pathway

The first assessment of a skin condition is done by a GP in primary care, to determine the appropriate referral pathway. NICE's guideline on the recognition and referral of suspected cancer describes the criteria for urgent referral of suspected skin cancer. Urgent suspect cancer skin lesions are seen either in a face-to face dermatology appointment or through teledermatology. Teledermatology services are used to remotely assess skin conditions from the digital images provided.

DERM can be used within teledermatology services in the NHS during the evidence

generation period as an option to assess and triage skin lesions in adults referred to the urgent suspected skin cancer pathway. Evidence suggests that DERM may be able to identify a cancer lesion with similar accuracy to teledermatology or face-to-face dermatology assessment. Using automated DERM could identify more non-cancer lesions that do not need further review and so redirect more cases to non-urgent dermatology pathways compared with using teledermatology alone. Further evidence is needed to better understand the effect of using DERM on clinical capacity for both urgent and routine dermatology services.

Key information

Table 1 Key information

Speciality	Cancer
Disease area	Skin cancer
Pathway position	Teledermatology
Programme budgeting category	PBC02X Cancers and tumours
Commissioner(s)	Integrated care boards
Provider(s)	NHS hospital trusts

About this resource impact summary report

This resource impact summary report accompanies the NICE guidance on artificial intelligence (AI) technologies for assessing and triaging skin lesions referred to the urgent suspected skin cancer pathway: early value assessment and should be read with it. See terms and conditions on the NICE website.

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