NICE National Institute for Health and Care Excellence

Resource impact summary report

Resource impact

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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.

Recommendation

Nine artificial intelligence (AI) technologies can be used in the NHS while more evidence is generated to aid contouring for radiotherapy treatment planning in people having external beam radiotherapy. AI technologies must be used with healthcare professional review of contours.

The following technologies can only be used once they have Digital Technology Assessment Criteria (DTAC) approval:

- AI-Rad Companion Organs RT (Siemens Healthineers)
- ART-Plan (TheraPanacea, Oncology Systems; Brainlab)
- DLCExpert (Mirada Medical)
- INTContour (Carina Medical)
- Limbus Contour (Limbus AI, AMG Medtech)
- MIM Contour ProtégéAI (MIM Software)
- MRCAT Prostate plus Auto-contouring (Philips)
- MVision Segmentation Service (MVision AI Oy, Xiel)
- RayStation (RaySearch).

Two technologies are awaiting CE or UK Conformity Assessed (UKCA) mark approval so cannot be used yet:

- AutoContour (Radformation)

- OSAIRIS (Cambridge University Hospitals NHS Foundation Trust).

Because the guidance is an early value assessment, the resource impact tool is not directing organisations to assess the cost of full rollout of these technologies. If there is an unmet need, these technologies could be a solution. So, organisations may wish to identify the potential resource impact.

Manual contouring is the most common contouring method in standard care. Manual contouring of target regions is usually done by clinical oncologists. Contouring of Organs at Risk (OAR) may also be done by clinical technologists, dosimetrists or therapeutic radiographers.

Other contouring methods include atlas-based contouring and model-based segmentation, but these are not as widely used. Regardless of contouring method, contours should be reviewed before being used in treatment planning in line with guidance such as the Royal College of Radiologists guidance on radiotherapy target volume definition and peer review.

Because of a lack of robust data on current practice and other variables such as the costs and time involved in manual contouring, the size of the resource impact will need to be determined at a local level. So, a local resource impact template has been produced to assist organisations to estimate the resource impact.

To assess the impact users need to input the number of planning sessions for external beam radiotherapy that involve contouring together with the current and future practice for the approach to contouring. Users also need to review the grade of staff undertaking the contouring and input the time required by each job role for each approach to contouring. Any fixed or variable costs associated with AI technology for contouring also need to be input. Pay scale rates used can be adjusted.

Depending on current local practice, areas that may require additional resources and result in additional costs include:

- the AI contouring technology, including specific hardware or software and upgrades to support the technology
- time needed for training to support.

Implementing the guideline may:

- help healthcare professionals to produce contours more quickly
- decrease the time needed for healthcare professionals to review and edit structures
- improve consistency of contouring between people, standardise processes and improve adherence to national and international guidelines.

These benefits may provide savings to offset against technology costs.

Investment in these technologies would be by organisations delivering radiotherapy services, NHS hospital trusts. Radiotherapy services are commissioned by NHS England.

About this resource impact summary report

This resource impact summary report accompanies the NICE early value assessment on artificial intelligence (AI) technologies to aid contouring for radiotherapy treatment planning and should be read with it.

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