

# Neuroimaging reporting in dementia assessment

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## Introduction

NICE recommend structural brain imaging to assess for potential reversible causes of cognitive decline or to assist sub-typing dementia (1). Previous audits of structural neuroimaging for dementia assessments in BSMHFT highlighted variability in the quality reports. Though they importantly exclude or identify bleeds, space occupying lesions and strokes, there is often very limited information relevant to a potential dementia diagnosis. To address this the British Society of Neuroradiologists (BSNR) have developed comprehensive guidance – “The Proposed Structure Dementia Template for Routine Clinical Practice” (2), which can be used by reporting radiologists.

## Aim

We consulted with clinicians in the West Midlands requesting structural neuroimaging as part of a dementia assessment to (1) assess their understanding of the template and (2) what their information requirements were from a radiology report to assist a dementia assessment. This could guide the basis of a locally agreed minimum report template between clinicians and radiologists.

## Methods

### Standard

Using the BSNR template, a questionnaire was developed listing all reporting characteristics in the template. Clinicians were surveyed to rank these reporting characteristics with respect to whether they valued its inclusion in a radiology report, scaled from 1-3, with 1 being very important and 3 least important. Supporting and further comments were also sought.

### Population

Clinicians in the West Midlands who worked in an area where dementia assessment occurred, this included Psychiatrists and Geriatricians.

### Data collection and analysis

Questionnaires were returned to Dr Bentham. The data was collated and analysed using an excel spreadsheet.

## Results

23 questionnaires were returned (2 were excluded due to incorrect completion). Of the remaining, 17 were from Psychiatrists (13 Old Age) and 4 from Geriatricians.

The top reporting characteristics ranked by clinicians requesting structural neuroimaging were:

Not all technical terms from the dementia template were understood by clinicians (e.g. scheltens scale for medial temporal lobe atrophy and fazekas rating scales for white matter changes).

Not all clinicians had access to view structural neuroimaging.

The results highlighted quite a striking difference in requirements though overall there was some consensus on the most important elements.



(3rd) Medial temporal lobe atrophy

(5th) White matter changes

(7th) Differential diagnosis

(1st) Regional pattern of atrophy

(2nd) Abnormal for age?

(3rd) Cortical/lacunar infarcts or old haemorrhage(s)

(5th) Previous imaging?

(7th) Global scale of atrophy

## Discussion

The results indicated that clinicians often do not have access to view structural neuroimaging, lack interpretations skills and rely on the radiology report. The survey highlighted what clinicians value in a report and that not all terms in the BSNR template were understood by them, indicating a knowledge gap. Structured reports improve quality and developing a workable agreed template between clinicians and radiologists would reduce report variability. Addressing the knowledge gap will also enhance a clinician's understanding of the radiology report and provide them with more confidence to review neuroimaging they have requested (if they gained access to the images). A collaborative approach between clinicians and radiologists in the West Midlands to address this is proposed and would include an agreed reporting template and a rolling teaching programme covering basic dementia neuroradiology (including key anatomical structures). Clinicians would be able to enhance their knowledge further by attending the West Midlands Neurodegenerative Radiology meeting held at the Queen Elizabeth (QE) Hospital in Birmingham, which is now held virtually.

## Study limitations

- The relatively small number of returned questionnaires.
- The study was limited to West Midlands Deanery.

## References

- NICE Dementia: Assessment, management and support for people living with dementia and their carers, 20 June 2018.
- British Society of Neuroradiologists (BSNR Standard Sub-Committee)– Proposed structured dementia template for routine clinical practice – Good et al, August 2017.

## Next steps

Initial meetings have been held with key Neuroradiologists at the QE Hospital in January 2020 to discuss an agreed reporting template and a dementia neuroradiology teaching programme, aimed initially at higher trainees in Old Age psychiatry. This project was put on hold due to the coronavirus pandemic but will resume. A move to virtual learning/MDTs, secondary to covid restrictions, has the potential to widen participation in ongoing learning.