Background
Head and Neck Cancer (HANC) is the eighth most common cancer type in the UK, accounting for approximately 3% of all cancers in the UK, with an incidence of 5,500 cases annually. The peak age range for head and neck cancer diagnosis is between 65–69 years in both males and females, with over 95% of all cases being in individuals over the age of 40 years.1 Management of head and neck cancer typically entails an extensive multidisciplinary approach combining input from oral and maxillofacial surgery, ENT surgery, oncology, radiology, restorative dentistry, and specialties. The management may include treatment by surgery, chemotherapy, radiotherapy, or a combination of modalities. The majority of patients receive surgery followed, in approximately 60% of cases, by radiotherapy. Guidance from the British Association of Head and Neck Oncologists states that all patients whose oral cavity, teeth, salivary glands, and jaws will be affected by treatment should have a pre-treatment dental assessment. The aim is to render the patient dentally fit prior to starting treatment. It enables to plan for extractions of doubtful prognosis teeth in the radiotherapy fields and also plan for restoration of remaining teeth.

Patients requiring treatment for HANC often have poorly maintained dentitions and high levels of dental disease, including caries and periodontal disease.2 Special consideration is given to teeth in the radiotherapy fields, teeth with poor prognosis or apical pathology and strategically important teeth. This assessment should be done as early as possible to maximise the time available for treatment.3 Unfortunately, owing to the complexities of cancer diagnosis, treatment and management, this is challenging.4

The Northern Ireland HANC multidisciplinary team convened weekly for case discussions. Those HANC patients who require pre-radiotherapy dental referral are referred to the Centre for Dentistry Belfast.

This study wanted to:

- Examine the presence of dental diseases such as caries, periodontal disease, and apical pathology in these patients.
- Examine the urgent treatment needs of these patients i.e. Did these patients require restorations or extractions, and if so, how many?
- Compare and contrast the levels of dental disease and also treatment needs in the under 60 years old age group and the 60 years or older age group.

Results
134 dentate HANC patients attended for pre-radiotherapy dental assessment in 2019.

- 90 (67.2%) patients were male and 44 (32.8%) patients were female.
- The age range was 31–81 years old.

In total, there was apical pathology on 48 teeth in the 60 years old age group.

- There was a mean of 1.84 teeth with apical pathology for those patients under 60 years old who demonstrated apical pathology.
- There was no statistically significant differences in the presence of carious teeth in the under 60 years or older age group.
- There was a mean of 2.18 teeth with apical pathology for those patients 60 years old or older who demonstrated apical pathology.

Conclusions
HANC patients attending for pre-radiotherapy assessment have high levels of dental disease and treatment needs. The patients in the 60 years or older age group are more likely to have caries, more likely to require extractions, and more likely to have apical pathology compared to those patients in the under 60 years age group.

Given the high prevalence of pre-existing dental disease amongst head and cancer patients, prompt dental assessment and treatment intervention is vital. This can be challenging due to the complexities of cancer diagnosis and multidisciplinary management.

References

Statistical Analysis
57.8% of the under 60 years age group had pre-radiotherapy caries compared to 78.6% of the 60 years old or older age group. (p=0.016)
43.8% of the under 60 years age group required Root Canal Treatment (RCT) compared to 65.7% of the 60 years or older age group. (p=0.011)
40.6% of the under 60 years old age group had at least one tooth with apical pathology compared to 61.4% of the 60 years or older age group. (p<0.05)
No statistically significant differences in the percentage of patients in the under 60 years age group and the 60 years or older age group with pre-radiotherapy periodontitis or patients who require restorations or RCT prior to radiotherapy. (p>0.05)

There were also no statistically significant differences in the number of carious teeth, the number of teeth with apical pathology, the number of teeth to be extracted, and the number of teeth to be restored prior to radiotherapy in the under 60 years age group and the 60 years or older age group. (p=0.05)

Conclusions
HANC patients attending for pre-radiotherapy assessment have high levels of dental disease and treatment needs. The patients in the 60 years or older age group are more likely to have caries, more likely to require extractions, and more likely to have apical pathology compared to those patients in the under 60 years age group.

Given the high prevalence of pre-existing dental disease amongst head and cancer patients, prompt dental assessment and treatment intervention is vital. This can be challenging due to the complexities of cancer diagnosis and multidisciplinary management.