

# COVID-19 pandemic telephone two-week-wait referrals in Head and Neck cancer – How safe were they?: A retrospective cohort study

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## Abstract

**Key Points** 1. During the COVID-19 pandemic, NHS cancer referral guidance recommended a move from face-to-face clinics to telephone appointment. In this study, we reviewed the safety of telephone clinic for urgent 2-week wait cancer referrals. 2. In the 7 months study period during the COVID-19 pandemic, 1062 urgent 2-week wait cancer referrals were received in our regional head and neck specialist unit, reflecting a 7.3% decline compared to pre-pandemic data. 3. At 6-months follow-up, 98 (9.2%) patients received a new diagnosis of malignancy. 95 of them received their diagnoses promptly after their initial telephone clinic, whereas 3 patients received a delayed diagnosis. 4. There is a late diagnosis rate of 0.28% but we discussed in our cases that late diagnosis does not inevitably lead to worse clinical outcome or harm. 5. Telephone clinics will likely remain in some capacity after the pandemic, while telephone clinics are pragmatic means to maintain patient flow during the pandemic, they could result in risk of late diagnosis.

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### Key Points

1. During the COVID-19 pandemic, NHS cancer referral guidance recommended a move from face-to-face clinics to telephone appointment. In this study, we reviewed the safety of telephone clinic for urgent 2-week wait cancer referrals.
2. In the 7 months study period during the COVID-19 pandemic, 1062 urgent 2-week wait cancer referrals were received in our regional head and neck specialist unit, reflecting a 7.3% decline compared to pre-pandemic data.
3. At 6-months follow-up, 98 (9.2%) patients received a new diagnosis of malignancy. 95 of them received their diagnoses promptly after their initial telephone clinic, whereas 3 patients received a delayed diagnosis.
4. There is a late diagnosis rate of 0.28% but we discussed in our cases that late diagnosis does not inevitably lead to worse clinical outcome or harm.
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## Introduction

The coronavirus disease 2019 (Covid-19) pandemic presented an unprecedented challenge to the global medical community. Various strategies were implemented to limit disease transmission and to preserve resources for pandemic response. In March 2020, a recommendation was issued by NHS England to adapt telephone triage for the urgent suspected cancer two-week-wait pathway.<sup>1</sup>This was proposed in order to maintain sufficient levels of patient care whilst minimising in-person hospital attendances. As an adjunct, ENTUK – the

official membership body of British Otolaryngologists, had also advised the use of the Head and Neck Cancer Risk Calculator (HaNC-RCv2), a validated risk scoring system for head and neck cancer (HNC) based on patient demographics and symptomatology, to assist with the remote assessment process.<sup>2</sup>

The current HNC two-week-wait pathway was introduced in 2005 by the National Institute for Health and Care Excellence (NICE) in the UK.<sup>3</sup> On this pathway, general practitioners can refer patients with suspected HNC for fast-tracked specialist appointments. These appointments typically consist of physical examinations including flexible nasal endoscopy (FNE). Early in the pandemic FNE was classed as an aerosol generating procedure and as such examination in this manner was only targeted for those where it was deemed to alter management. The absence of physical examination of patients clearly raises concerns that telephone clinics would not be as robust in detecting HNC compared to traditional face-to-face clinics.

## Objectives

In this study, we evaluated our initial experience of adapting telephone clinics for the HNC two-week-wait patients and the referral outcome during the Covid-19 pandemic.

## Methods

### *Ethical Consideration*

The study was registered locally with the hospital clinical effectiveness department and compliant with the trust clinical governance policies.

### *Reporting Guideline*

This study was reported in accordance to STROBE guidelines.

### *Study Design and Setting*

This study was set in a regional specialist head and neck unit in the UK. The study period was from April 2020 to May 2021. A retrospective service evaluation of the HNC two-week-wait clinic was conducted. Anonymised clinical data in the specialist MDT-held database and clinic letters in electronic medical record were reviewed.

### *Patient Inclusion Criteria*

All patients referred on HNC two-week-wait pathway between April 2020 and November 2020 were identified. All patients received an initial telephone consultation and were followed up for six months. Patients who received a new cancer diagnosis presenting with head and neck symptoms at any point in this time were included in the study. Cases with cancers that were incidentally diagnosed that were unrelated to the index referral were excluded.

### *Main Outcome Measures*

Data were collected on patient demographics, site of primary cancer and outcome of initial phone clinic for the study group. The outcome of initial phone clinic was classified into three categories: urgent – urgent imaging and/or face-to-face appointments, non-urgent – watch and wait approach or offered deferred face-to-face appointments, and discharged. The Head and Neck Cancer Risk Calculator Score (HaNC-RCv2) was also derived for patients included in the study.<sup>2</sup>

## Results

In the seven months study period, a total 1062 patients were referred on the HNC two-week-wait pathway. The mean age was 58.9 (range 16-98). All 1062 patients received an initial telephone consultation and were able to be identified at six months follow up.

Ninety-eight (9.2%) patients received a new diagnosis of malignancy. The most common types of malignancy seen in the study cohort were cancer of the oral cavity (n=29), followed by lymphoma (n=18), larynx (n=10) and thyroid (n=8) (Figure 1). Ninety-five patients received positive cancer diagnosis following the first

telephone appointment, of which 69 patients had a diagnosis made primarily on imaging ordered following this appointment and 26 patients at a subsequent face-to-face appointment.

Three patients, all of whom scored low risk on HaNC-RCv2 were offered non-urgent follow up after their initial phone clinics, but were subsequently diagnosed with cancer. This yields a late diagnosis rate of 0.28%. The three cases received deferred telephone appointment at 4-weeks, 6-weeks, and 3-months respectively (Figure 2).

The three cases with a late diagnosis were: a 62F diagnosed with lung adenocarcinoma who presented with a hoarse voice, an 83F diagnosed with laryngeal squamous cell carcinoma who also presented with a hoarse voice, and a 60M diagnosed with non-Hodgkin's lymphoma of the base of tongue who presented with feeling of something stuck in throat. (Table 1)

In terms of HaNC-RCv2 of the study cohort, 80% (n=78) were classed as high risk and 20% (n=20) were classed as low risk.<sup>1</sup>In particular, all three cases with late diagnoses were classed as low risk in the study.

## Discussions

The number of two-week-wait referrals to our regional specialist unit during the study period saw an decline of 7.3% compared to pre-pandemic data.<sup>4</sup> This trend conforms with other studies, which also showed a decrease in urgent HNC referrals during the pandemic.<sup>5,6</sup> The trend is likely results from limited access to primary care and altered health-seeking behaviours during Covid-19.<sup>7</sup>

Nine percent (9.2%) of patients referred on the two-week-wait pathway were diagnosed with cancer. This conversion rate is comparable to that in current literature which is reported to be between 6 % and 11.8%.<sup>8-10</sup> Recent studies have observed a national downwards trend of the HNC two-week-wait conversion rates, this is suggested to be mainly due to an increase in the number of two-week-wait referrals from the community.<sup>8</sup> This reflects the trend seen in our regional unit with a rise in the number of two-week-wait referrals over the years, outside pandemic times. There are concerns that this trend could potentially overwhelm secondary specialist services.<sup>11</sup>

In our study, despite pandemic disruption, 100% of the urgent referrals were able to be accommodated within 14 days without significant impact on the waiting times of routine referrals. It is possible that telephone clinics are more efficient than traditional face-to-face appointments and result in an improved patient flow.<sup>12,13</sup>

Historically the most common types of malignancy diagnosed from the HNC urgent pathway have been cancer of the oral cavity, lymphoma, laryngeal and thyroid cancer.<sup>10,14</sup> The same pattern was observed in this study. This may suggest that covid-19 has not caused any major deviations from the pre-pandemic HNC referral patterns.

Under the current two-week-wait pathway, patients with cancer should receive their initial diagnosis within 28 days of the initial referral.<sup>10</sup> With this rule in mind, three cases in the study cohort were diagnosed outside of this window and therefore are considered to be late diagnoses. There is limited data on the late or missed diagnosis rate of the HNC two-week-wait pathway. Recent communication from ENTUK suggests that telephone consultations are 1.4% more likely to result in a missed cancer diagnosis compared to face-to-face consultations.<sup>1</sup> A recent 16-weeks prospective study suggested that the late diagnosis rate of HNC two-week-wait pathway was 0.6% overall.<sup>15</sup> This is comparable to the 0.28% found in our study.

The inability to perform physical examinations and diagnostic flexible nasoendoscopes during telephone consultations is unequivocally a major reason why these cases were missed. It could be speculated that the missed cases would otherwise have been diagnosed by direct visualisation in a face-to-face consultation.

Interestingly, two out of the three missed cases had presented with hoarse voice. A recent study has shown there is limited value in assessing voice disorders over the phone.<sup>16</sup> Clinicians can easily misjudge the severity of hoarseness during a telephone consultation and offer these patients deferred appointments. Future studies

could look at associations between presenting symptoms and late diagnoses in the urgent HNC telephone clinics on a larger scale.

Late diagnosis does not inevitably lead to worse clinical outcome. Among the late diagnoses in the study, only one case, with a longer time to follow up, required escalated intervention due to late diagnosis, overall prognosis was however deemed to be unaffected. The other two cases although managed outside the 31/62 days pathway did not receive altered or escalated treatment. This is likely accounted for by the closer follow-up reviews to their first appointments at 4 and 6-weeks.

The limitation of the study lies within the relatively small sample group. Only three late diagnoses were identified which makes any further analysis into factors associated with late diagnoses not meaningful. A larger sample group could be obtained by extending the study period. However, this would defeat the purpose of the study as part of the objectives was to evaluate the impact of Covid-19 on the HNC two-week-wait pathway. Whilst it was not the objective of this study to determine the predictive accuracy of HaNC-RCv2 since this has already been covered by multiple studies.<sup>17–19</sup> It is interesting to observe that 20% of the study cohort with a positive cancer diagnosis were stratified as low risk including all three of the late diagnosis cases.

Although cases of Covid-19 are on the decline, telephone clinics will likely remain in some capacity after the pandemic. This study reported the initial experience of adapting telemedicine for the HNC urgent referral pathway and found a small proportion of cancer cases were missed. Clinicians will be mindful that telephone clinics while a pragmatic means to maintain patient flow during the pandemic, could result in risk of late diagnosis and harm compared to traditional face-to-face appointments.

## Tables and Figures

Figure 1: Site of primary cancer diagnosed in the study group

Figure 2: Graphical representation of study cases in HNC two-week-wait pathway

Table 1: Study patients with delayed cancer diagnoses

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