Time intervals from first symptom recognition to diagnosis of head and neck cancers: A study based on a patient survey and linkage to primary care and hospital medical records

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RESEARCH OBJECTIVES

• To quantify the time intervals between first symptom recognition and diagnosis for patients with head and neck cancer

• Explore the relationship between the time intervals and patient demographic, socio-economic status (SES) and clinical characteristics.
There are two components in this study:

- **A research administered questionnaire:**
  - Patients were identified from respiratory clinics, ear, nose and throat (ENT) and maxillofacial clinics within NHS Hull between 2013 and 2015.
  - 80 patients completed the survey

- **The medical records review:**
  - Data from 78 hospital records and 70 from GP records
Key variables

Patient questionnaire:
- Date of first symptom recognition, date decided to seek help for a health care professional and date of first contact with a health care professional
- Symptoms the participants had experienced
- Demographic characteristics (age, gender and relationship status)
- Socio-economic status (education, living status, employment status, Index of Multiple Deprivation (IMD))
- Smoking status and alcohol consumption.

Medical records:
- Date of first contact with a health care professional, date of referral to specialist, date of contact with specialist and date of diagnosis
- The number of co-morbidities
- Number of consultations following first consultation with a HNC symptom prior to referral or emergency presentation.
- The type cancer at diagnosis.
Overview of time points and calculated time intervals

- First symptom
- Decision to seek help
- First HCP visit
- Referral interval
- Hospital interval
- HCP referral
- First hospital visit
- Diagnosis

Patient interval
- Appraisal interval
- Help-seeking interval
- Primary care interval

Diagnostic interval
- Total interval
Overall median appraisal interval was 24 (0-55.5) days
• An appraisal interval of > 1 month = 20/76 (26%).

“How long did you feel that something was wrong (with you) before you realised this was something which you might need help with?”
• 31/80 (39%): Appraisal interval > 1 month.

Statistically significant difference by:
• Gender (p=0.030): males 3.1 times more likely to report an interval of > 1 month than females
• Ulceration of mouth and throat (p=0.021): > 1 month
• Persistent, pain in the throat for more than four weeks (p=0.048): > 1 month
“How long after that was it before you decided to go and see your doctor?”
  • 10/78 (13%): Help-seeking interval > 1 month.

Statistically significant difference for Ulceration of mouth and throat (p=0.020):
  • more likely to have an interval > 1 month than those without that symptom.
When asked which HCP the respondent first sought help from

- 72 (90%) said their GP or practice nurse,
- 6 (7%) from a dentist and
- 2 (3%) a hospital doctor.

<table>
<thead>
<tr>
<th>TIME INTERVALS</th>
<th>Median (IQR)</th>
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<tbody>
<tr>
<td>Primary care interval</td>
<td>46 (6-127)</td>
</tr>
<tr>
<td>Referral interval</td>
<td>9 (5-14)</td>
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<tr>
<td>Hospital interval</td>
<td>17 (8-36)</td>
</tr>
<tr>
<td>Diagnostic interval (1st HCP visit to diagnosis)</td>
<td>91 (33-174)</td>
</tr>
</tbody>
</table>
• Median interval of 46 (6-127) days.

• **Key findings:**
  
  o Longer intervals seen in those in rented accommodation compared to owner occupier/mortgage (p=0.023)
  
  o Symptoms:
    
    ▸ **Shorter** intervals: Lump in the neck, red/white patches in the mouth, ulceration, mouth swelling and tooth mobility
    
    ▸ **Longer** intervals: Pain, difficulty swallowing, ear problems, breathlessness and hoarseness
  
  o Multiple consultations (p<0.001):
    
    • 41/66 (62%) had 3 or more consultations
      
      • 3 or more consultations: longer intervals
  
  o Different HNCs (p=0.015)
    
    ▸ **Shortest** intervals: Oropharyngeal cancer
    
    ▸ **Longest** intervals: Hypopharyngeal and Laryngeal
• The median referral interval was 9 (5-14) days.

• From the hospital records,
  ○ 43/69 (62%) were referred as a GP urgent referral,
  ○ 16 (23%) as a GP non-urgent referral,
  ○ 7 (10%) by a dentist and
  ○ 3 (4%) as an emergency at hospital.
The median hospital interval was 17 (8-36) days.

There was a statistically significant difference for education level and hospital interval (p=0.007)

- **Longer** intervals seen in those with no formal qualifications (21 days (14-41))
- **Shortest** interval seen in those with a degree or higher qualification (7 days (0-14))
Median total interval was 111 days from first symptom to diagnosis:

- A quarter (25%) had a total interval of more than 209 days.
- A quarter of those in most deprived IMD groups had a total interval of more than 223 days, compared to 187 days in the most affluent groups,
  - Not statistically significant.
- Smokers had longer intervals than non-smokers and ex-smokers,
  - Not statistically significant.
Summary of findings

- **Appraisal interval >1 month:** 39%
  - Likely to report >1 month:
    - Male respondents
    - Ulceration of mouth and throat
    - Pain in the throat for more than four weeks

- **Help-seeking interval >1 month:** 13%.
  - Ulceration of mouth and throat (p=0.020): more likely to have a help-seeking interval of > 1 month than those without that symptom

- **Total median diagnostic interval:** 91 (33-174) days.
  - The **longest** interval: Primary care interval (46 days (6-127)).
  - Statistically significant associated with:
    - living status
    - multiple consultations
    - type of HNCs

- **The median total interval:** 111 days
  - 25% had a time interval of more than 209 days.
Conclusion

There are elements of SES that significantly impacts the length of the diagnostic intervals:

- Primary care (Living status)
- Hospital interval (Education)
THANK YOU