

Oral Cancer in Leicester City

- Dr Pawan Randev
- East Midlands Cancer Alliance Primary Care Lead
- LLR ICB Cancer Lead
- CRUK GP
- pawan.randev@nhs.net
- 20th November 2024

Mouth Cancer Action Month is a charity campaign run in November each year, by the Oral Health Foundation, which aims to raise awareness of mouth cancer and make a difference by saving thousands of lives through early detection and prevention.



The latest incidence rate for oral cancer cases in Leicester is 22.7 rate per 100,000 population. The Leicester rate is significantly higher than the national rate of 15.4 and is amongst the highest in the country. The mortality rate for oral cancer in Leicester is 9.2 per 100,000 population which is significantly higher than the England rate of 4.7 for the latest year. This is currently the highest rate reported amongst Local Authorities in England.



- 1. Mouth cancer risk factors, signs and symptoms**
- 2. Population mouth cancer and mouth cancer risk factors in Leicester City**
- 3. Opportunity to reduce incidence and mortality**

1. Mouth cancer risk factors, signs and symptoms



¹ University College London, London, UK

² University of Glasgow, Glasgow, UK
Correspondence to: R G Watt

Cite this as: *BMJ* 2023;383:p2907
<http://dx.doi.org/10.1136/bmj.p2907>

Published: 12 December 2023

Oral cancers are rising in the UK

Time to step up prevention, including more equitable access to dental care

Richard G Watt,¹ Anja Heilmann,¹ David I Conway²

Oral cancers are in the news in the UK. The mouth cancer action month in November and campaigning by an independent advocacy charity, the Oral Health Foundation, along with a personal account by high profile comedian Rhod Gilbert, have highlighted the increasing burden of this devastating and insidious disease.^{1 2} Patients often require substantial surgical and oncological treatment, affecting quality of life, and prognosis is uncertain.

Oral cancers include tumours of the oral cavity (mouth) and oropharynx (throat). For both types combined, over 475 000 new cases and 225 000 deaths were recorded globally in 2020.³ Oral cancer cases have risen over recent decades: between 2001 and 2019 in England, the age standardised incidence (per 100 000) for cancers of the lip, oral cavity, and pharynx rose from 6.6 to 10 for women and from 13.9 to 22 for men.⁴ Much of this increase is driven by oropharyngeal cancers.⁵

smokeless tobacco, a recognised risk factor for oral cancers.⁸

At the 75th World Health Assembly in May 2022, the World Health Organization highlighted the global public health importance of alcohol and agreed that a range of policy measures were urgently needed to combat alcohol harms.¹⁵ Despite supporting the WHO mandate on alcohol, the UK government has failed to take the necessary policy action.¹⁶ Measures on the pricing, availability, and marketing of alcohol are known to be effective in reducing alcohol harm but require strategic policy support from government.¹⁷

The UK's HPV school vaccination programme, launched in 2008, substantially lowered rates of infection and cervical cancer among younger women¹⁸ and will potentially provide protection against oropharyngeal cancer in the future; the extension of the vaccination programme to include



¹ University College London, London, UK

² University of Glasgow, Glasgow, UK
Correspondence to: R G Watt

Oral cancers are rising in the UK

Time to step up prevention, including more equitable access to dental care

Richard G Watt,¹ Anja Helmann,¹ David I Conway²

Mortality has also gone up. Cancer Research UK figures for head and neck cancers (including oral cavity, pharynx, and larynx) show that age standardised mortality has increased by 15% over the past decade and is projected to rise further.⁶ In England, death rates for cancers of the lip, oral cavity, and pharynx increased by about 25% for men and about 5% for women between 2013 and 2021.⁷ Around 50% of people with head and neck cancer survive for at least five years, with limited improvement observed in recent decades.⁵

have risen over recent decades: by 2019 in England, the age standardised (per 100 000) for cancers of the lip, oral cavity and pharynx rose from 6.6 to 10 for women and from 10 to 22 for men.⁵ Much of this increase is due to oropharyngeal cancers,⁵

the UK. The mouth cancer and campaigning with the Oral Health Commission, led by high profile figures, highlighted the rising and increasing

smokeless tobacco, a recognised risk factor for oral cancers.⁸

At the 75th World Health Assembly in May 2022, the World Health Organization highlighted the global public health importance of alcohol and agreed that

The main causes of oral cancers are tobacco and alcohol (especially in combination), with human papillomavirus (HPV) a major risk factor for oropharyngeal cancer.⁸ The burden of oral cancer is subject to socioeconomic inequalities.^{5,9} People with head and neck cancer from the most socioeconomically deprived areas, for example, have a 50% higher risk of death within three years after diagnosis than those in the least deprived areas.¹⁰

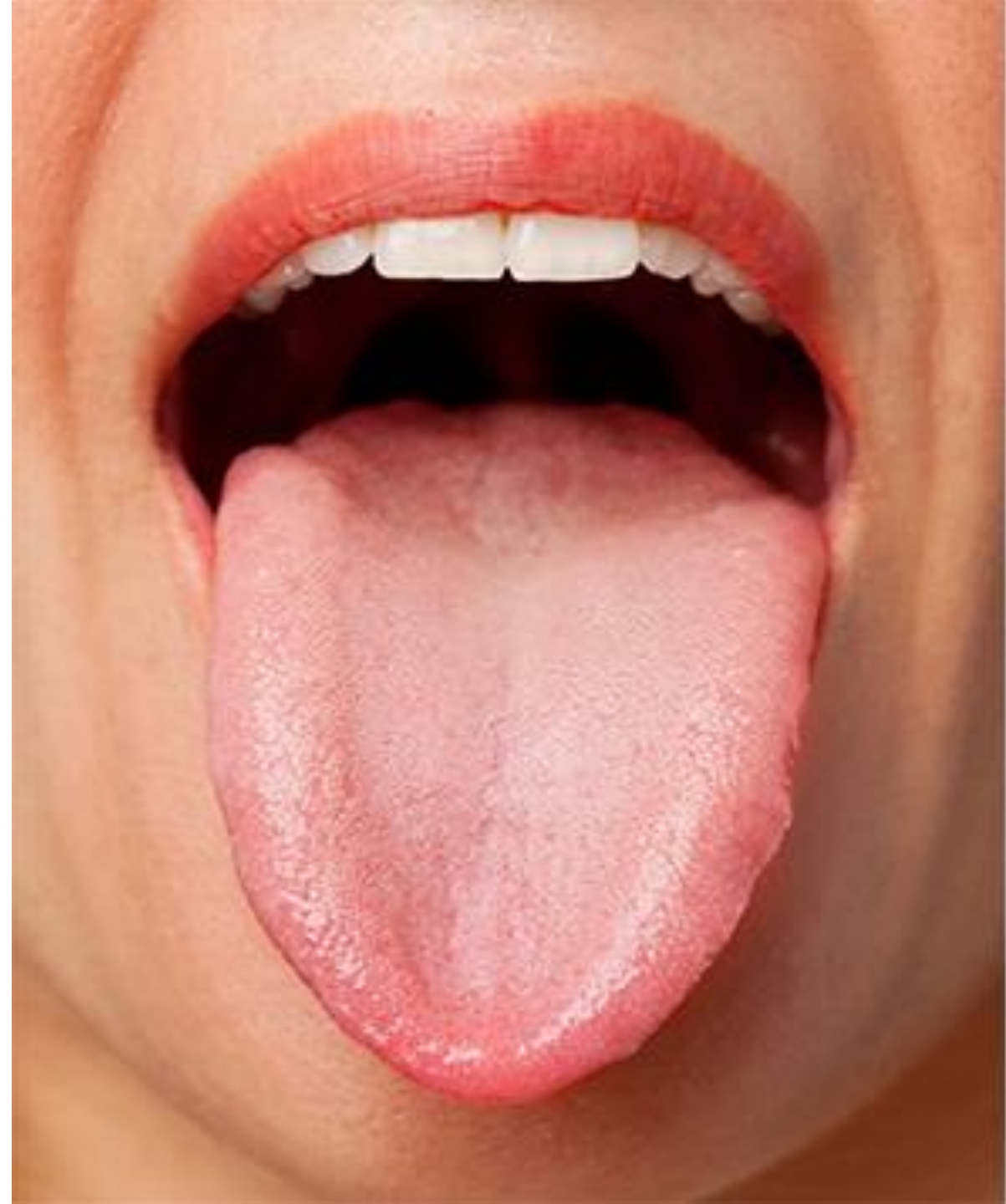
Mouth (oral cavity) cancer appears in areas including the lips, tongue or cheeks.



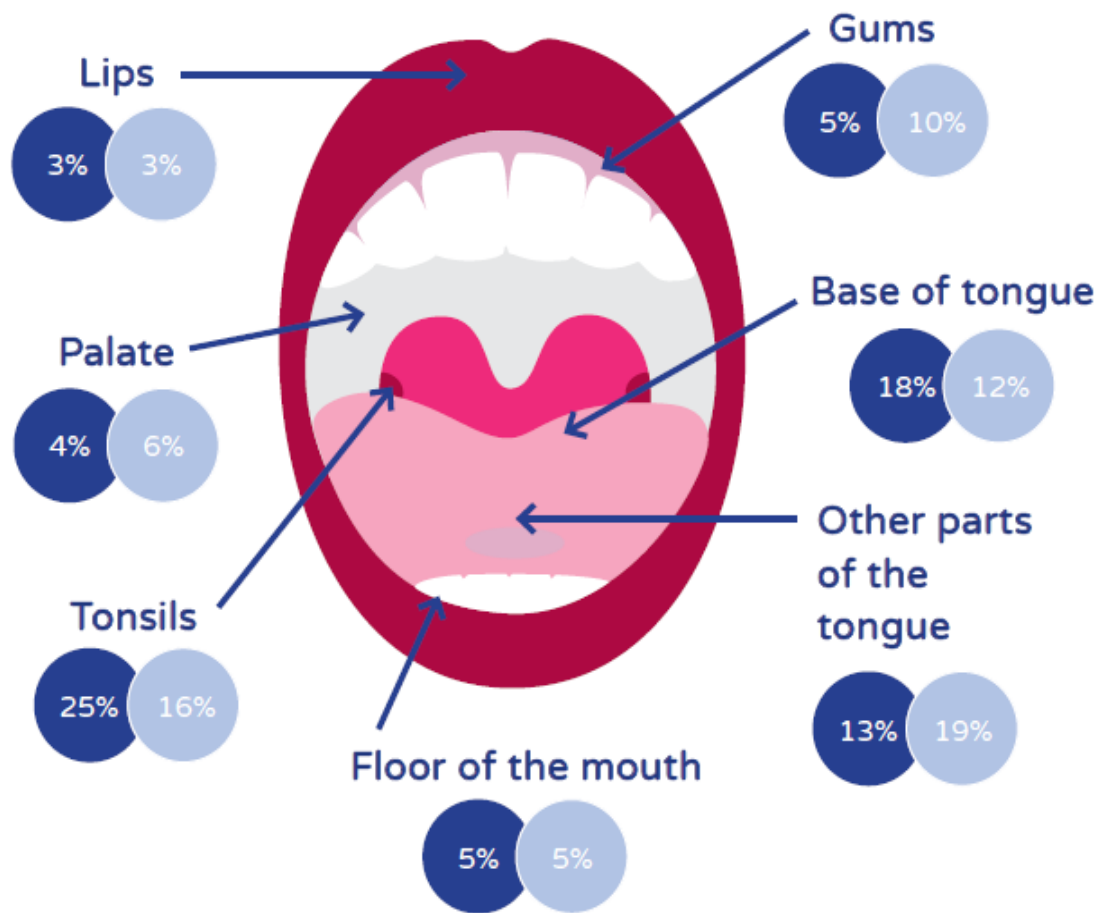
In the United Kingdom (and around the world), the number of people with mouth cancer has been growing considerably.

“Mouth cancer is a disease that does not discriminate. It can truly affect any one of us.”

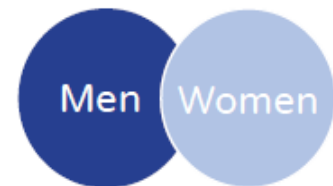
Dr Nigel Carter OBE
Chief Executive, Oral Health Foundation



Anatomy of mouth cancer



These illustrations show the percentage share of mouth cancer incidences for men and women.



- | | | |
|-----------------------------|----|-----|
| 1. Parotid gland | 4% | 8% |
| 2. Salivary gland | 1% | 2% |
| 3. Oropharynx | 6% | 4% |
| 4. Piriform sinus | 4% | 2% |
| 5. Hypopharynx | 4% | 3% |
| 6. Other parts of the mouth | 7% | 10% |



Modifiable risk factors



SMOKING



**SMOKELESS
TOBACCO**



**HEAVY
DRINKING**



**HUMAN
PAPILLOMAVIRUS
(HPV)**

Symptoms of mouth cancer 1/2



A tooth or teeth that become loose for no obvious reason or swelling of the jaw causing dentures to fit poorly

Unexplained, persistent swelling, lumps or bumps in the mouth, lips or neck that don't go away



Sore mouth ulcers that don't heal within several weeks

Symptoms of mouth cancer 2/2



**Unexplained,
persistent
numbness or an
odd feeling on the
lip or tongue**

**White or red
patches on the
lining of the
mouth or tongue**



**Changes in
speech, such as a
lisp**

2. Mouth cancer in Leicester City

Demographics of a “super-diverse” city

Minority ethnic people make up 59% and 51% of respective populations in UK's first 'super-diverse' cities

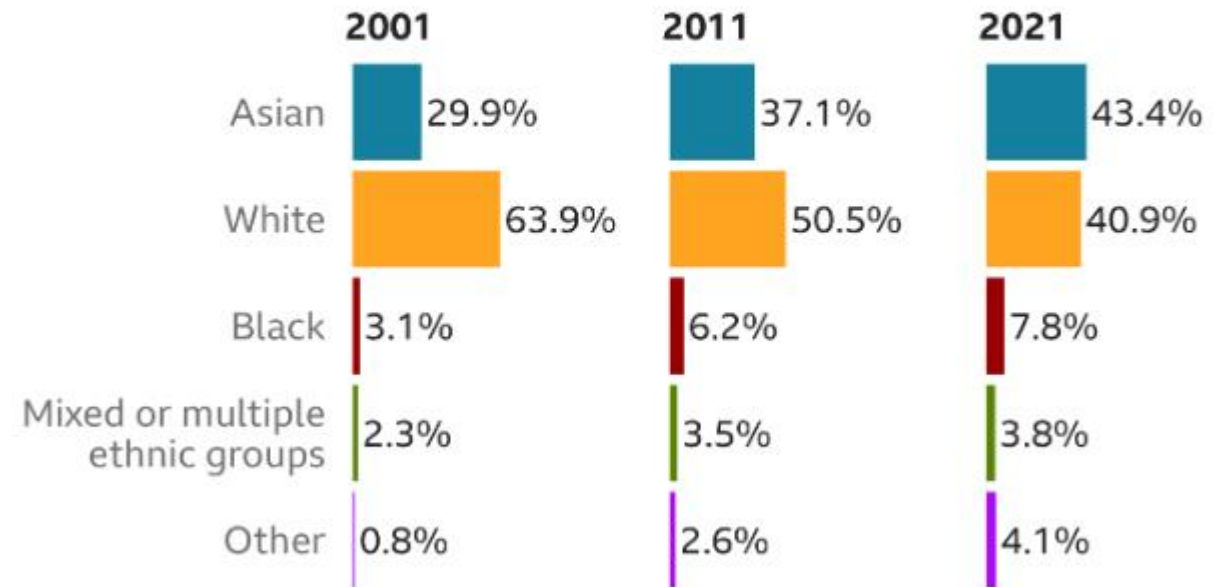


Shoppers at the Bullring market in Birmingham. A Labour councillor said the city's ethnic diversity was a 'veritable strength'. Photograph: Mike Kemp/In Pictures/Getty Images

Leicester and **Birmingham** have become the first “super-diverse” cities in the UK, where most people are from black, Asian or minority ethnic (BAME) backgrounds, according to the 2021 census.

A total of 59% of people in **Leicester** are from minority ethnic backgrounds, while 51% of Birmingham's population are people of colour, as are 54% in Luton, according to the data. Across England and Wales, 18% of people are BAME.

No ethnic group is in the majority in Leicester
Percentage population by broad ethnic group across the last three Censuses

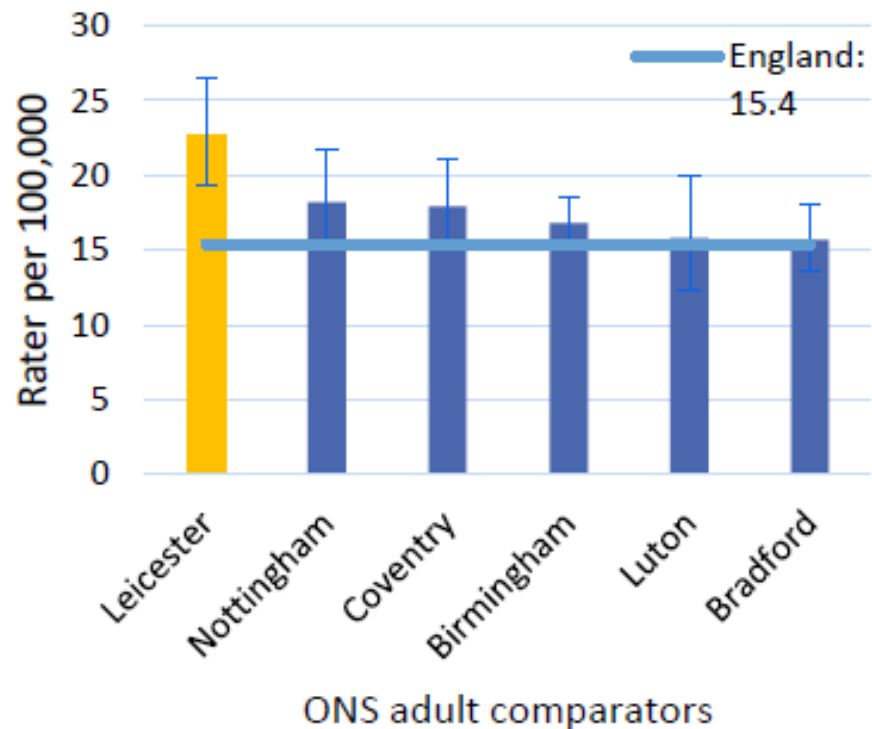


Source: Office for National Statistics

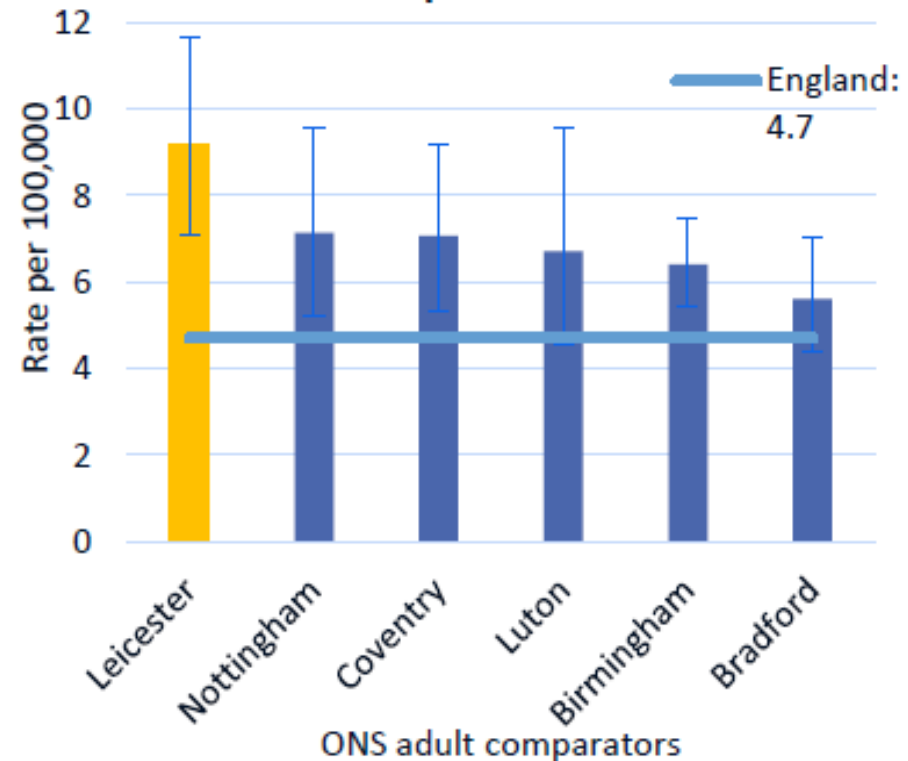


Leicester has unusually higher rates of mouth cancer and deaths caused by mouth cancer

Incidence rate for Oral Cancer
(ICD10: C00-C14), per 100,000
persons by ONS comparator group
2017-19

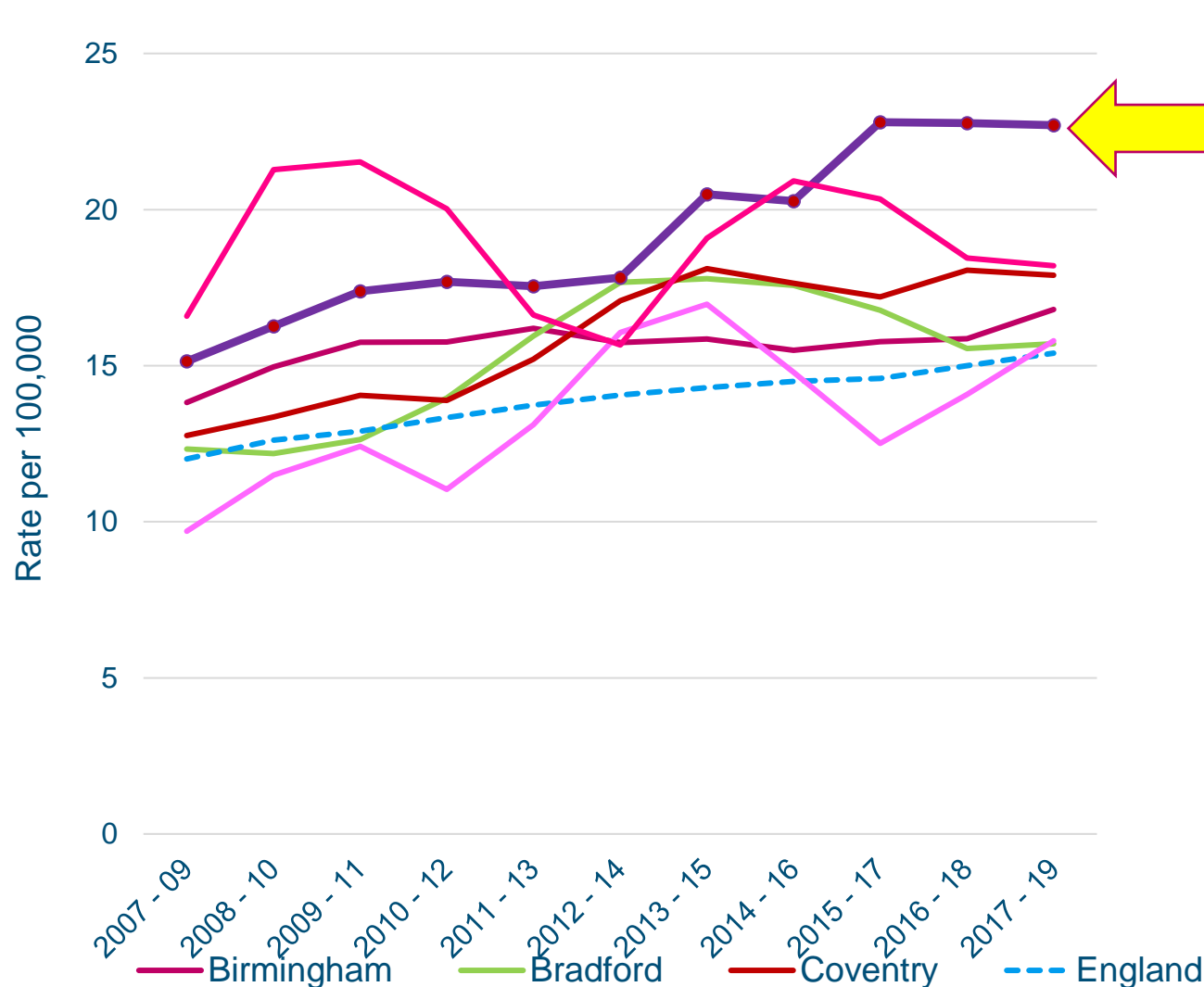


Mortality Rate for Oral Cancer
(ICD10: C00-C14) per 100,000
persons by ONS Comparator
Group 2017-19

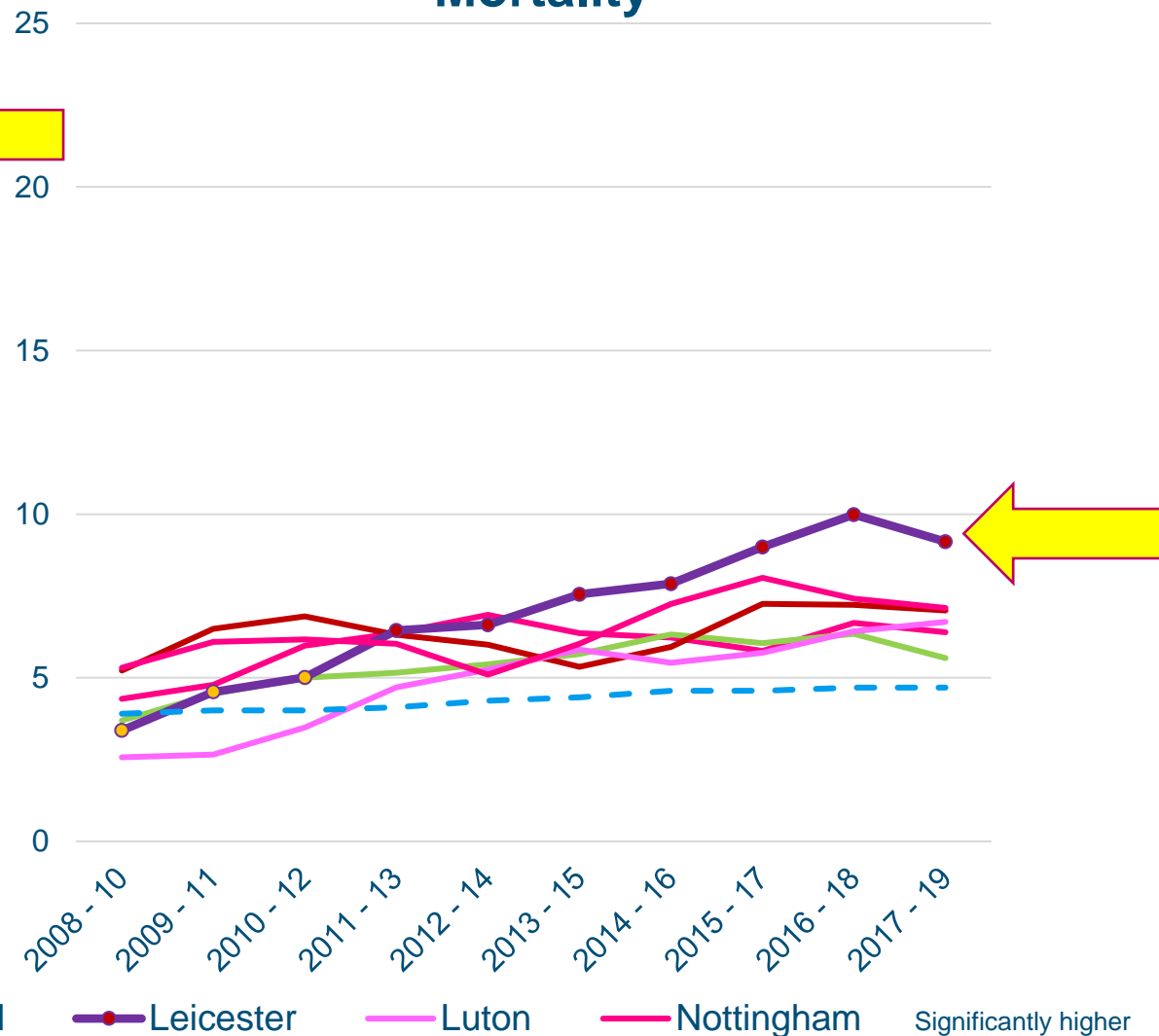


Leicester mouth cancer incidence and mortality has been increasing over time

Incidence



Mortality



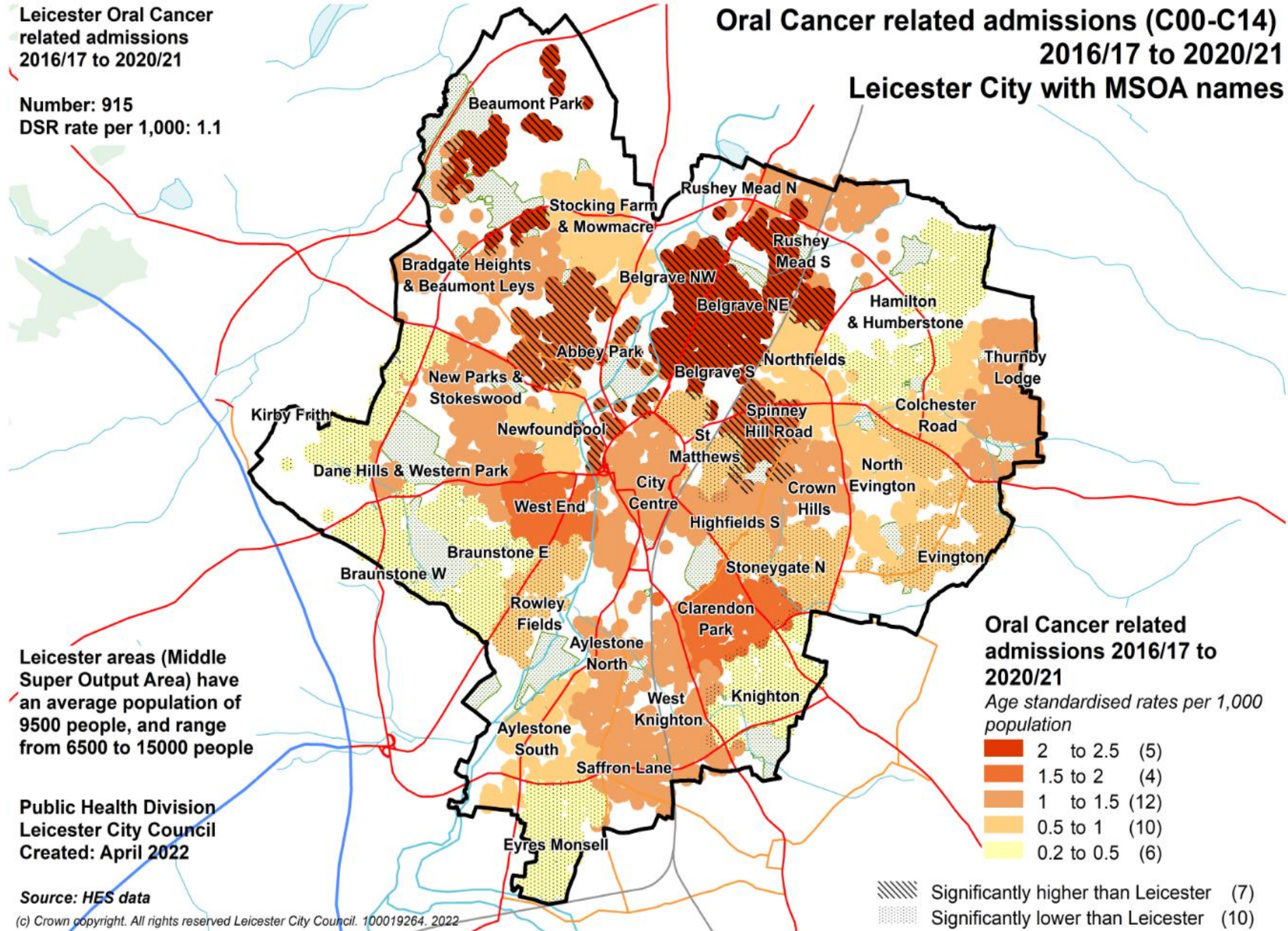
Sources: Fingertips – Office for health improvements and disparities (OHID)

Leicester mouth cancer admissions a)

Areas with high rates include

- Belgrave
- Abbey Park,
- Newfoundpool
- Spinney Hill
- Beaumont Park

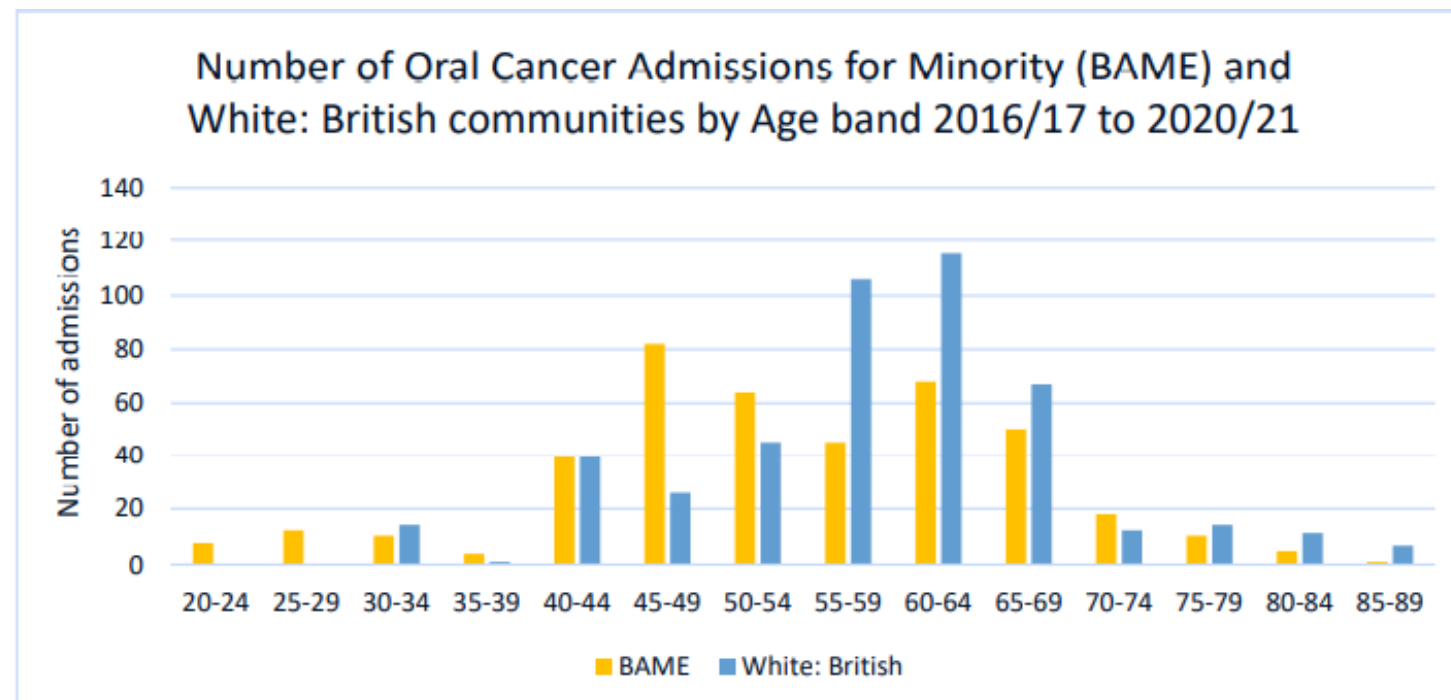
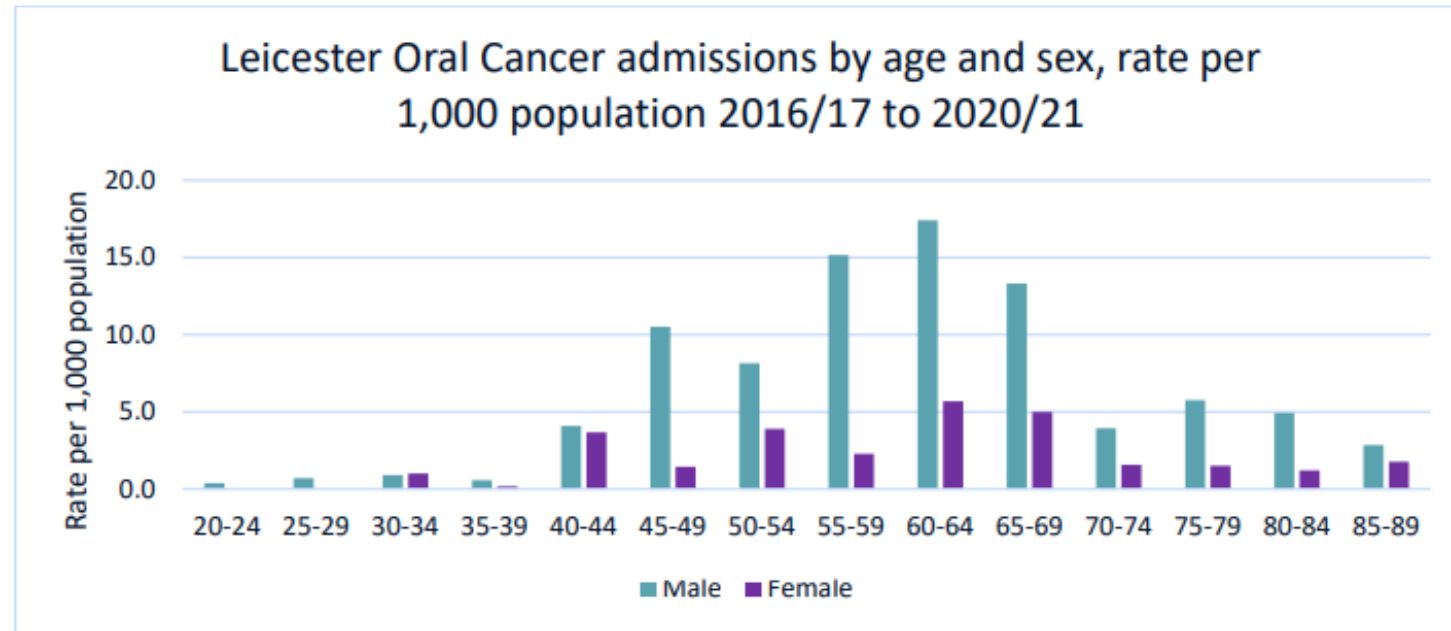
Some of these report low smoking prevalence.



Leicester mouth cancer admissions

b)

- Particularly high admissions for Leicester males 45-69 years old.
- Admissions are rare for residents younger than 40 years.
- Those from ethnic minority groups are more likely to experience an admission at a younger age.
- Those of White British ethnicity account for most admissions amongst those aged 55+ years

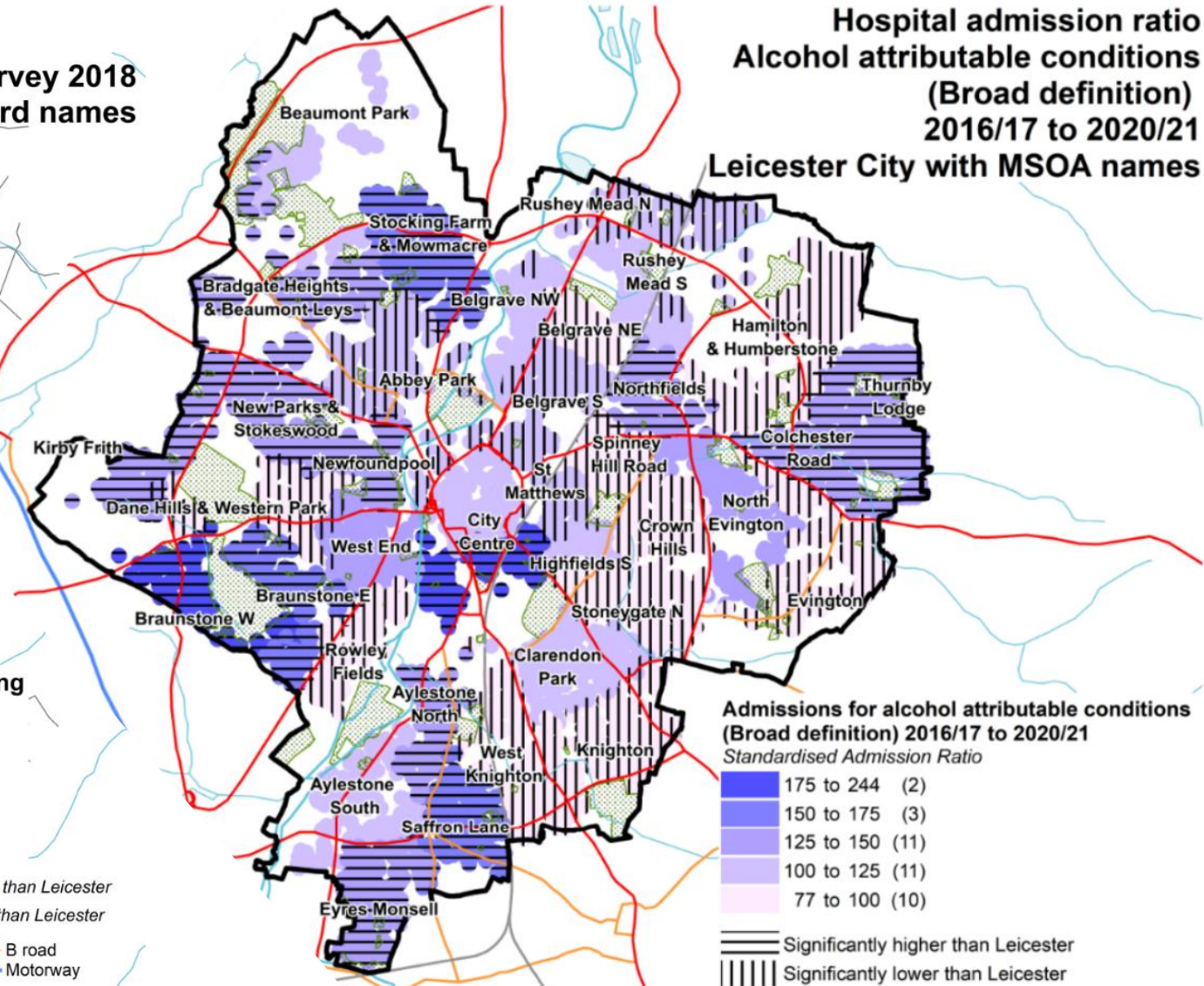
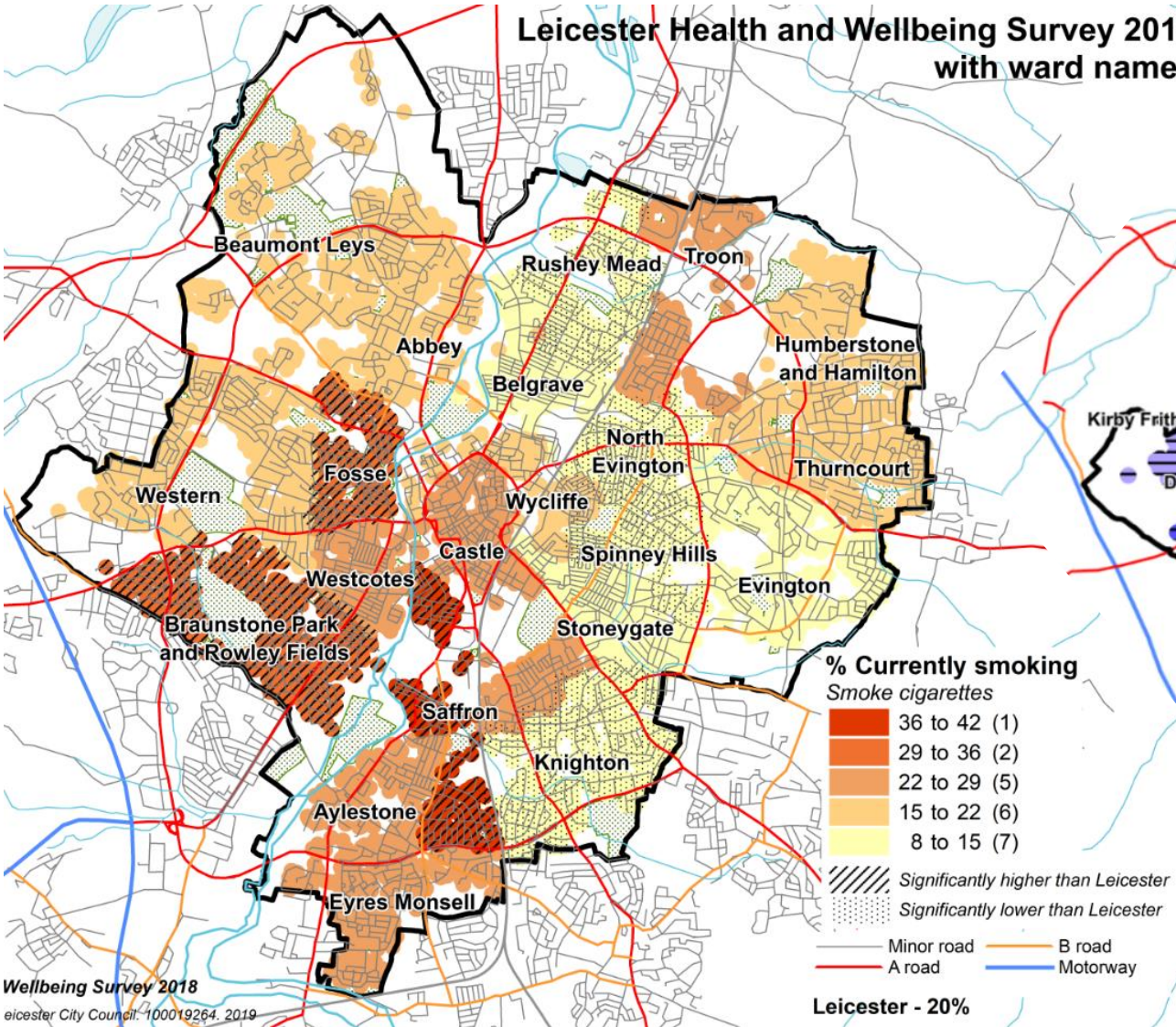


Smoking

Alcohol

Leicester Health and Wellbeing Survey 2018
with ward names

Hospital admission ratio
Alcohol attributable conditions
(Broad definition)
2016/17 to 2020/21
Leicester City with MSOA names

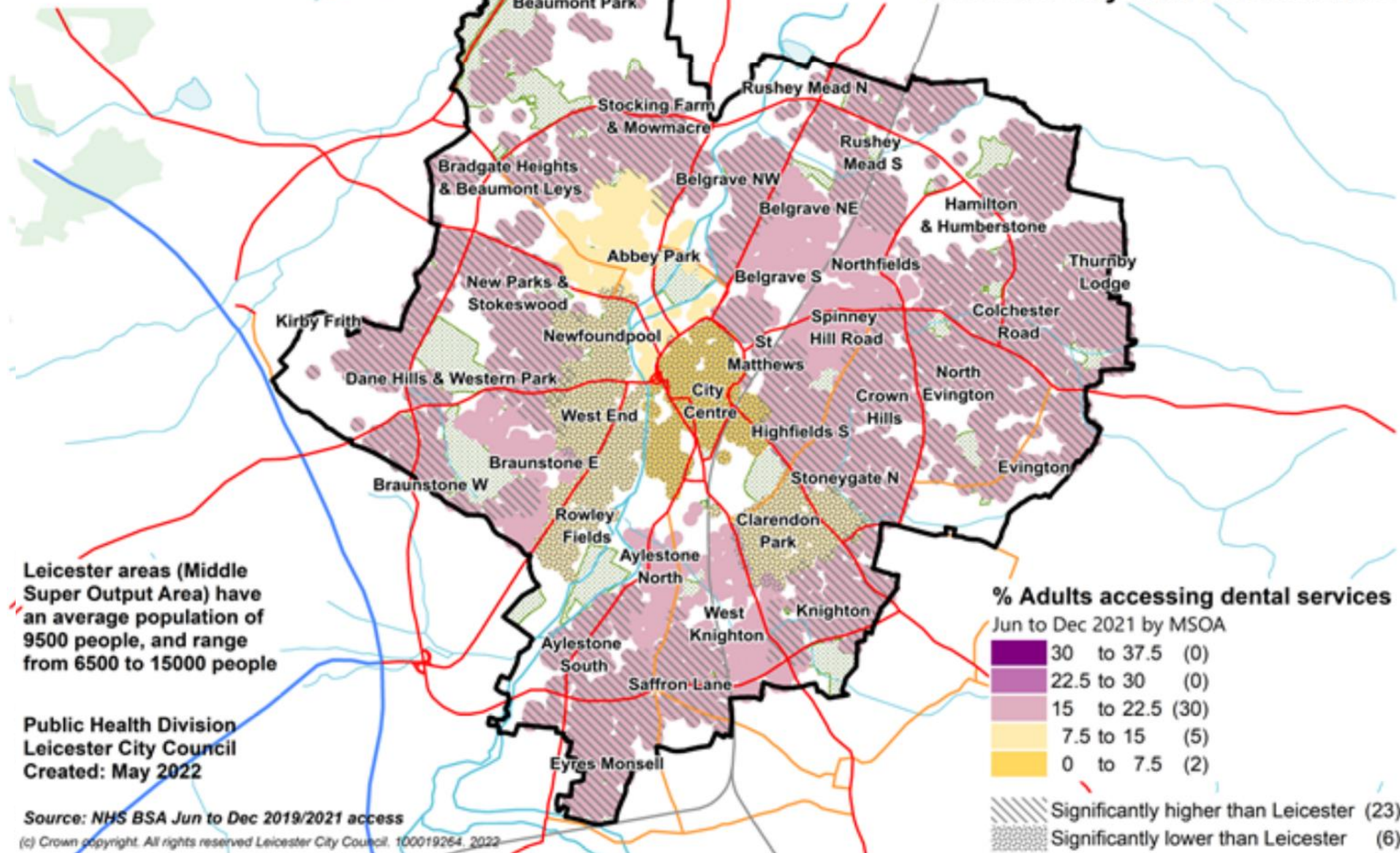


Leicester dental access

Number: 43,424

%:16.1% of adults

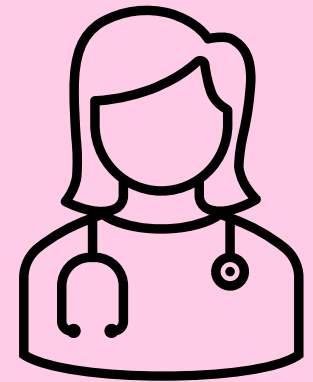
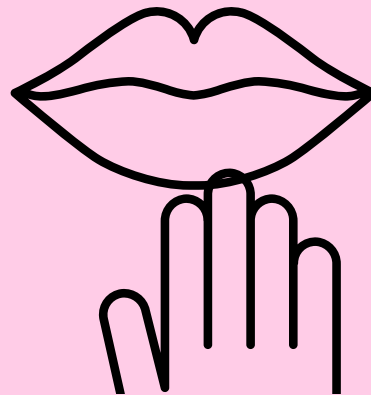
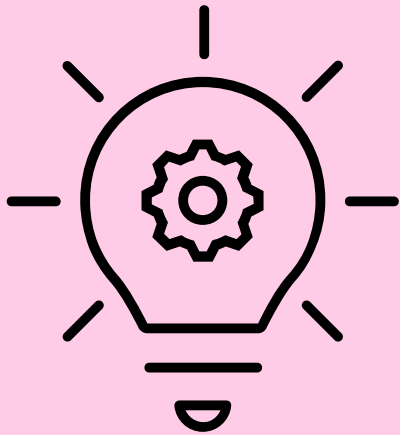
Leicester resident access to dental services Jun to Dec 2021. Leicester City with MSOA names



3. Opportunity to reduce incidence and mortality

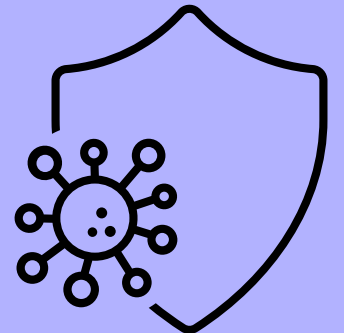
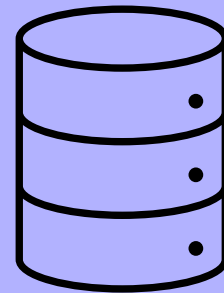
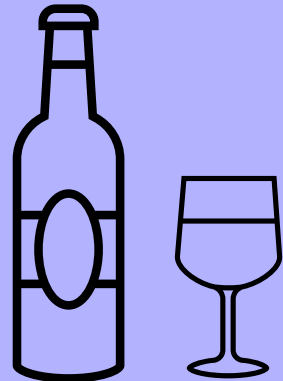
Strategic priority 1: Improve awareness of signs and symptoms of mouth cancer

- Raise awareness of signs and symptoms amongst patients and the public
- Promote self-checks
- Support health professionals to make mouth cancer diagnoses



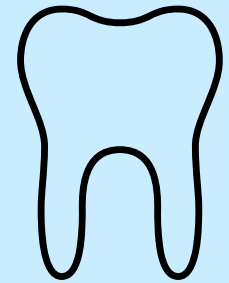
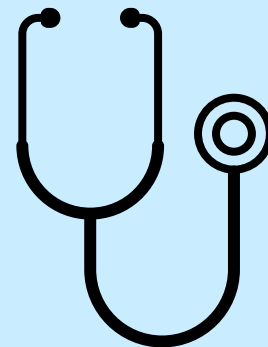
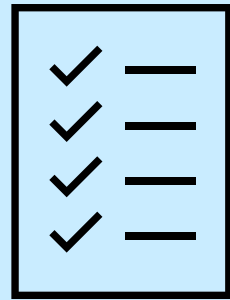
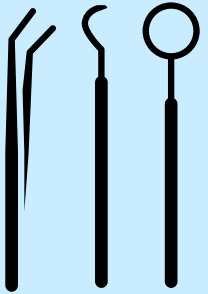
Strategic priority 2: Reduce prevalence of risk factors for mouth cancer

- Reduce prevalence of smoking and communicate mouth cancer risks to people who smoke and ex-smokers
- Reduce prevalence of harmful levels of alcohol consumption
- Raise awareness of the link between smokeless tobacco and oral cancer
- Improve uptake of human papilloma virus vaccination



Strategic priority 3: Improve access to medical and dental advice on symptoms

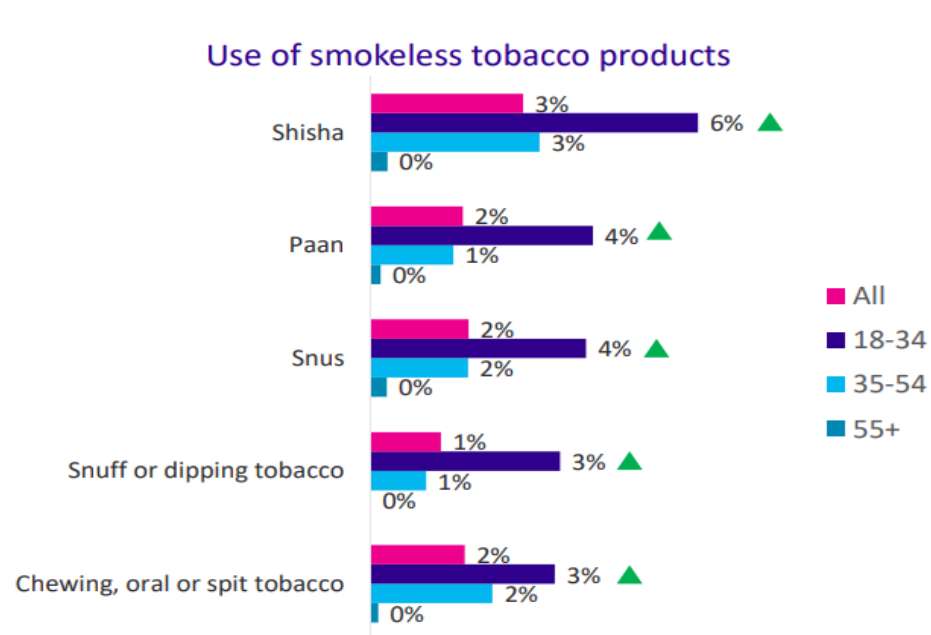
- Encourage attendance of regular dental check-ups
- Communicate the steps required to register with a dentist
- Increase awareness that doctors, as well as dentists, can diagnose mouth cancer
- Create options for dental access for those who are unable to register with a dentist



Population Awareness of potential mouth cancer – Risk Factors

Local Cancer Awareness Measure

While the use of smokeless tobacco products is low, younger respondents and those from a higher social grade the most likely group to have ever used them, with Shisha being the most common



	Ethnic minority	White
Shisha	6% ▲	2%
Paan	7% ▲	1%
Snus	2%	2%
Snuff	3% ▲	1%
Chewing tobacco	3%	1%

	ABC1	C2DE
Shisha	4% ▲	2%
Paan	2% ▲	1%
Snus	2% ▲	1%
Snuff	2% ▲	1%
Chewing tobacco	3% ▲	1%

Q1a - How often do you use the following products?
Base: All N=2386 (Ethnic minority N=324; White N=2062; 18-34 N=695; 35-54 N=835; 55+ N=856; ABC1 N=1243; C2DE N=1143)

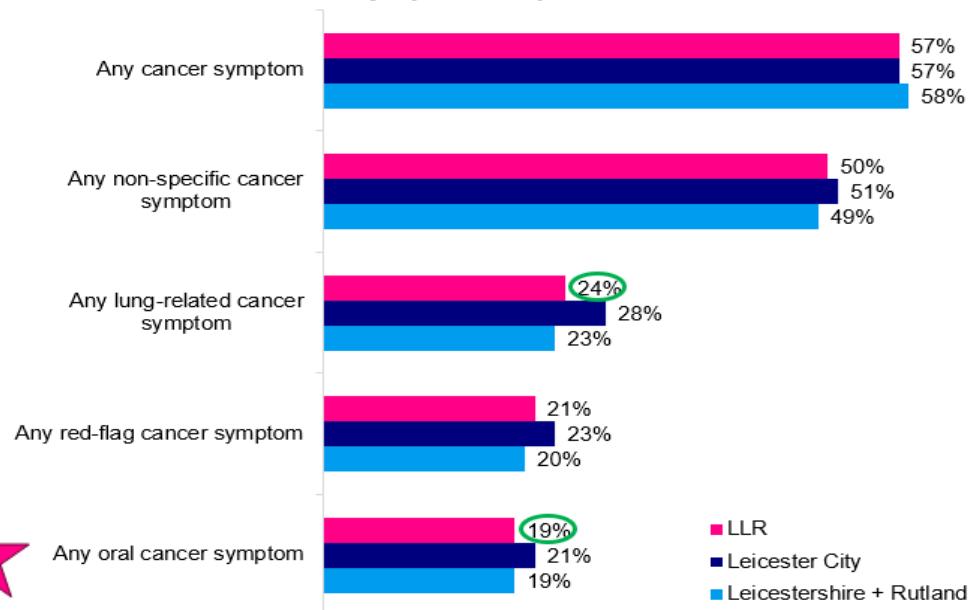
▲ Show statistically significant differences between groups
▼

Population Awareness of potential mouth cancer – Risk Factors

Local Cancer Awareness Measure 2024

Just over half reported experiencing any potential cancer symptom, with around 1 in 4 identifying a potential lung-related cancer symptom and 1 in 5 identifying any potential red-flag cancer symptom

Potential symptoms experienced in last 6 months



Respondents from an ethnic minority background were significantly more likely than respondents from a White background to report they have experienced any potential cancer symptom (59% vs 49%), with 48% of respondents from an Asian background who reported this.

Women were also more likely than men to say they have experienced any potential cancer symptom (63% vs 52%) and any non-specific potential cancer symptom (55% vs 44%).



Population Awareness of potential mouth cancer – Risk Factors

State of Mouth Cancer UK Report 2024

Awareness of the major signs and symptoms of mouth cancer, by region

	UK average	East Anglia	London	Midlands	North East	North West	Northern Ireland	Scotland	South East	South West	Wales	Yorkshire
Lumps and swelling in the head, neck or mouth	43%	50%	32%	44%	41%	43%	41%	47%	44%	46%	53%	46%
Non-healing mouth ulcers	42%	44%	29%	42%	38%	42%	48%	48%	41%	49%	52%	50%
Red patches in the mouth	38%	40%	33%	34%	27%	36%	50%	41%	36%	41%	47%	48%
White patches in the mouth	32%	35%	21%	29%	27%	32%	32%	40%	29%	36%	40%	45%
Persistent hoarseness	26%	32%	18%	22%	22%	30%	41%	27%	25%	28%	41%	27%



Facts about...

MOUTH CANCER

The 2 minute self-examination that could save your life!



All you need
is a **mirror**,
a **good light
source** and **clean
fingers**.

Check yourself once a month using our simple 2 minute self check guide.

1. FACE - Look for swellings you have not noticed before and inspect your skin. Turn your head from side to side, stretching the skin over the muscles making lumps easier to see.

2. NECK - Run your fingers under your jaw and feel either side of your neck. Are there any swellings?

3. LIPS - Pull your upper lip upwards and bottom lip downwards. Look inside for any sores or changes in colour.

4. GUMS - Examine your gums feeling around the gum for anything unusual.

5. CHEEKS - Open your mouth and pull your cheek away one side at a time. Look for any red or white patches. Check for ulcers, lumps or tenderness.

6. TONGUE - Gently pull out your tongue and examine one side then the other. Look for swellings, ulcers or changes in colour. Examine the underside of your tongue.

EARLY DETECTION IS KEY!

7. FLOOR AND ROOF OF MOUTH - Tilt your head back and open your mouth. Then lift your tongue up and look at the floor of the mouth. Observing changes in colour, ulcers or swellings.



Symptoms

- An ulcer or white or red patch anywhere in the mouth that does not heal within three weeks
- A lump or swelling anywhere in the mouth, jaw or neck that persists for more than three weeks
- Difficulty swallowing, chewing or moving the jaw or tongue
- Numbness of tongue or other area of the mouth
- A feeling that something is caught in the throat
- A chronic sore throat or hoarseness that persists more than six weeks
- Unexplained loosening of teeth

Risk Factors

- Smoking or chewing tobacco is the main cause of mouth cancer
- Drinking alcohol excessively can increase your risk
- Drinking and smoking together can increase likelihood of mouth cancer by 30 times
- Poor diet is linked to a third or all cancer cases
- Human Papilloma Virus, transmitted through oral sex, is a large risk factor
- Exposure to the sun is a cause of skin cancer which can affect the mouth

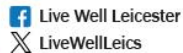
If you'd like to reduce your risk of mouth cancer by quitting smoking or cutting down on alcohol, call Live Well Leicester for support on 0116 454 4000.

To make a donation or for FREE information visit www.mouthcancerfoundation.org

Advice Line: 01924 950 950 • Head Office +44 (0) 208 940 5680
Alternatively you can email info@mouthcancerfoundation.org



livewell.leicester.gov.uk



The Mouth Cancer Foundation is a registered charity (No. 1032242) dedicated to saving and improving the lives of everyone affected by head and neck cancer. Support can play a pivotal role in meeting the psychological needs of patients. The charity offers free information and resources to patients, carers, survivors and professionals.



We can help to reduce your risk of MOUTH CANCER.

Quit smoking or cut down on alcohol with Live Well Leicester.

Call 0116 454 4000

OR

Email: livewell@leicester.gov.uk

#MouthCancerAwareness





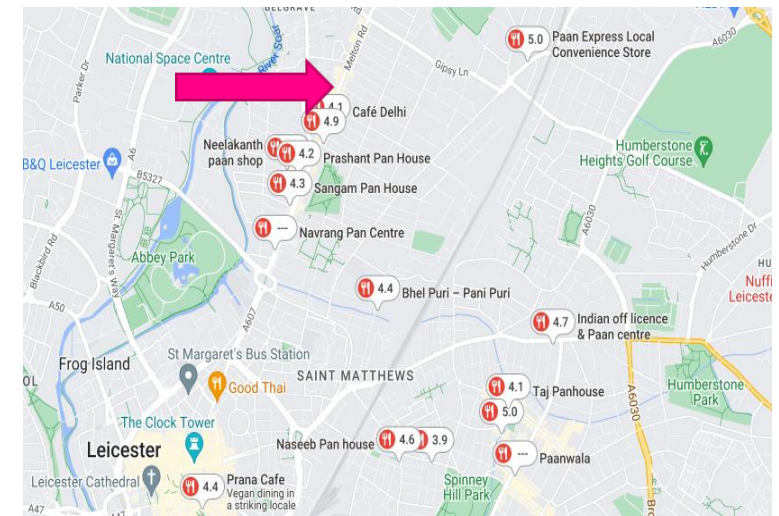
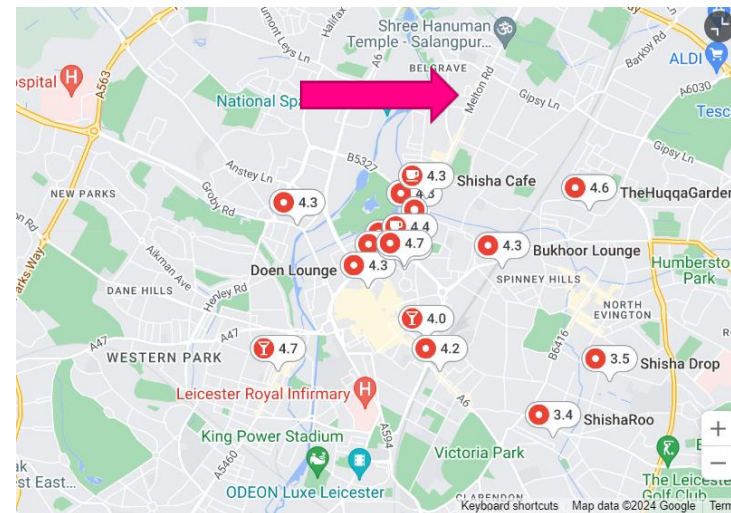
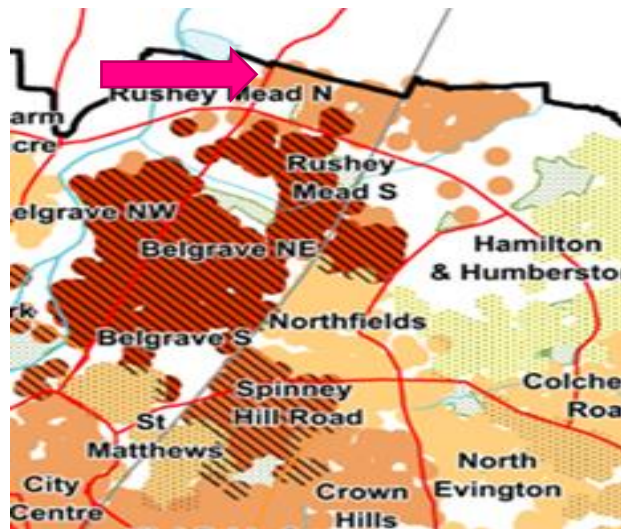
How to self-check

Videos showing how to self-check are available here:
<https://www.dentalhealth.org/spotthesigns>



Prevalence of Risk Factors

- Leicester Medical Student project on Shisha
- Shisha – Literature review with development of social media assets and structured training for Year 4 using CRUK Oral Cancer Toolkit
- Paan Cafes



Training health professionals to identify potential mouth cancer

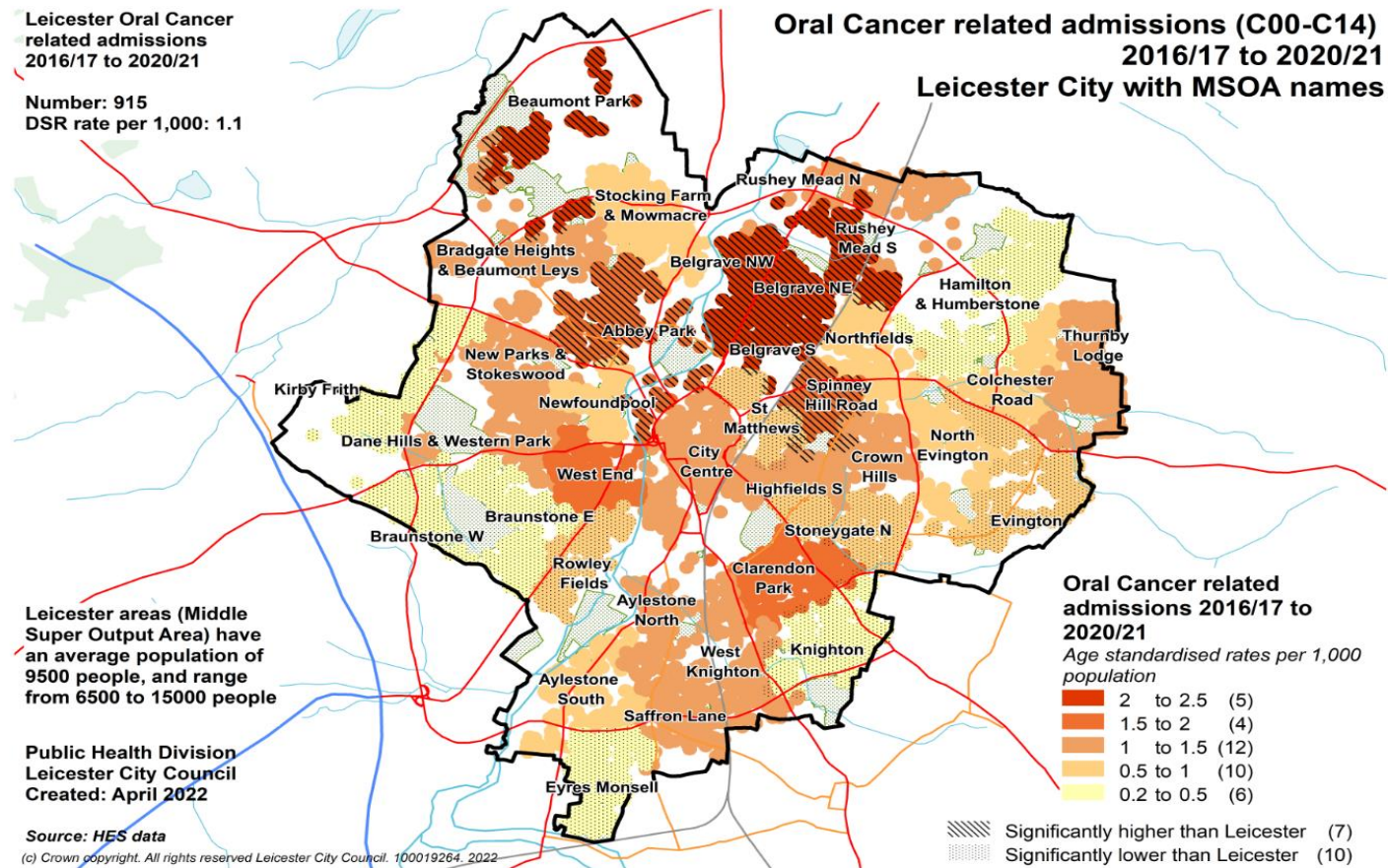
- GPs/Trainees (GP trainer groups, supported by fellowship GP)
- ★ • Community Pharmacists (targeted training)
- Physician associates in Primary Care
- Advanced nurse practitioners in Primary Care

Where UK adults would seek advice when exhibiting symptoms associated with mouth cancer

Doctor	81%
Dentist	38%
A&E	20%
Pharmacist	14%
Google	11%
Family member	8%
Friend	5%
Social media	3%
Colleague	2%
Nobody	3%



Training health professionals to identify potential mouth cancer – Community Pharmacists



Training health professionals to identify potential mouth cancer – Community Pharmacists

Open access

Original research

BMJ Open Qualitative interview study exploring the early identification and referral of patients with suspected head and neck cancer by community pharmacists in England

Andrew Sturrock ¹, Susan M Bissett ², Marco Carrozzo ³, Rachel Lish,⁴ Debora Howe,^{5,6} Sue Mountain,⁷ Michael Nugent ⁸, James O'Hara ⁹, Philip M Preshaw ¹⁰, Adam Todd ¹¹, Scott Wilkes ¹²

To cite: Sturrock A, Bissett SM, Carrozzo M, *et al.* Qualitative interview study exploring the early identification and referral of patients with suspected head and neck cancer by community pharmacists in England. *BMJ Open* 2023;**13**:e068607. doi:10.1136/bmjopen-2022-068607

► Prepublication history and additional supplemental material for this paper are available online. To view these files, please visit the journal online (<http://dx.doi.org/10.1136/bmjopen-2022-068607>).

Received 23 September 2022
Accepted 13 February 2023

ABSTRACT

Objective To explore pharmacists' perceptions of, and attitudes towards, the early identification and referral of patients with signs and symptoms indicating potential diagnosis of head and neck cancer (HNC) in community pharmacy settings.

Design Qualitative methodology, using constant comparative analysis to undertake an iterative series of semistructured interviews. Framework analysis facilitated the identification of salient themes.

Setting Community pharmacies in Northern England.

Participants 17 community pharmacists.

Results Four salient and inter-related categories emerged: (1) Opportunity and access, indicating frequent consultations with patients presenting with potential HNC symptoms and the accessible nature of community pharmacists; (2) Knowledge gap, indicating knowledge of key referral criteria, but limited experience and expertise in undertaking more holistic patient assessments to inform clinical decision

STRENGTHS AND LIMITATIONS OF THIS STUDY

- ⇒ The early detection of cancer is a worldwide health priority. There is limited research into the role of pharmacists in this context; this is the first qualitative study that has explored the role of community pharmacists in the early identification and referral of head and neck cancer.
- ⇒ Semistructured interviews provided rich qualitative data exploring community pharmacists' experiences in practice.
- ⇒ An iterative process of concurrent data collection and constant comparative analysis facilitated the simultaneous exploration, refinement and enrichment of key themes.
- ⇒ All participants were recruited from English community pharmacies, limiting the transferability of findings to different healthcare systems.

Where UK adults would seek advice when exhibiting symptoms associated with mouth cancer

Doctor	81%
Dentist	38%
A&E	20%
Pharmacist	14%
Google	11%
Family member	8%
Friend	5%
Social media	3%
Colleague	2%
Nobody	3%

Training health professionals to identify potential mouth cancer – Community Pharmacists

- 17 Pharmacies in Red Zones and 10 on edges
- Mixture of Independents/Chains
- Many have Gujarati/Hindi speaking staff
- Alliance, ICB and Dental PH involvement
- Links to Pharmacy First programme with additional training
- Blended training – Free FTF, online webinars and video
- Aim to signpost to GP or Dentist
- Professional group by email
- Evaluate numbers examined and outcomes

Oral Cancer Toolkit

Improve your ability to prevent and detect oral cancer



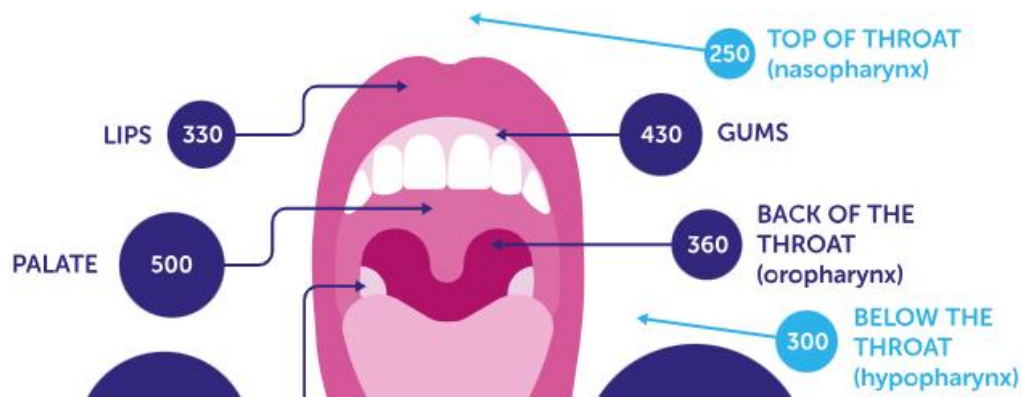
HOME EXAMINATION PREVENTION LESION RECOGNITION REFERRAL CASE STUDIES QUIZ RESOURCES

WHAT IS ORAL CANCER?

Oral cancer refers to mouth cancer, which can start in different parts of the mouth, including the lips, gums or soft sides of the mouth, and oropharyngeal cancer, which starts in the oropharynx and includes tonsil cancer and cancer in the back part of the tongue.

HOW COMMON IS ORAL CANCER?

Average number of **cases reported per year** in the UK (2010-2012) in different parts of the mouth:



How is **Oral Cancer presented** to GPs and Dentists?

Watch a discussion around diagnosis, referral and initiating difficult conversations with your patients.



Preventing oral cancer

What are the key risk factors for oral cancer and how can it be prevented?



How to recognise oral



When should you refer a

2 Minute Examination Video



Head and Neck Modules – 10 minute

What we'll cover

- Introduction to head and neck cancer
- Risk factors
- Symptoms
- Referrals
- Case study
- Useful resources

What we'll cover

- Introduction to oral cancer
- Signs and symptoms
- Referral guidelines
- Oral assessment in the clinic
- Case studies
- Useful resources

Head and Neck Module – 60 minutes



Dashboard

Logout

Courses

Podcast

About Us +

Resources +

Contact Us

Head and Neck Cancer

Early Diagnosis

This course aims to support primary care professionals in recognising potentially indicative symptoms of head and neck cancer and in effective clinical decision making when referring patients on a suspected cancer pathway. You will be presented with a patient story and interviews in different formats, alongside specialist discussion, and a range of activities to reinforce key learning points.

[Access Course](#)

HaNC-RC v.2 (2019)

Symptom Based Risk Calculator for Head And Neck Cancer Referrals v2

Please select options from the list based on presence or absence of given symptoms, signs, demographics and social history in your patient as appropriate. All symptoms should be present for 3 weeks or more, apart from stridor which is an acute presentation. Press "Calculate" to obtain the probability value for head and neck cancer. An urgent suspicion of cancer (2 weeks) referral will be recommended if probability is $\geq 7.1\%$, the optimal threshold point for this model. Routine referral is recommended for thresholds less than 2.2%. For moderate risk probabilities (2.2%-7.09% an urgent-6 weeks referral is recommended). The abstract of the paper on which this calculator is based can be found [here](#).

Please enter patient Age * e.g. 21

Please select Gender *

Male

Female

Unintentional Weight loss No Yes

Odynophagia (Pain on swallowing) No Yes

Smoking status

Oral Ulcer No Yes

Alcohol status

Oral Swelling No Yes

Hoarse voice

Unexplained unilateral otalgia (unilateral ear pain with normal ear examination) No Yes

Benign conditions:



Fordyce spots



Mucocele



Fibroepithelial polyp



Geographic tongue



Hairy tongue



Mandibular tori

Malignancies



Squamous cell carcinoma



Squamous cell carcinoma



Squamous cell carcinoma



Squamous cell carcinoma of the left lower lip on a background of actinic changes

Any Questions/Feedback



Additional direction?

Re: Oral cancers are rising in the UK

Dear Editor

Suspected oral cancer referrals to head and neck surgeons are generally higher from areas of socioeconomic deprivation where lifestyle risk factors like smoking and alcohol consumption are traditionally more prevalent and where current NHS dental provision is poorest (“dental deserts”) (1). Referrals from dentists tend to result in earlier stage disease at diagnosis (2).

Arguably because of the comparative ease of access to clinical assessment through general medical practitioners in primary care, oral cancers in England have been shown to originate from general medical practices more than from general dental practices (2) particularly those based in socioeconomically deprived areas where dental provision is worse. Research (3) suggests that up to 380,000 patients a year see their General Practitioner (GP) with dental problems, rather than a dental professional.

08 February 2024

Paula T Bradley

GP

Jennifer Deane, Research Assistant,
Newcastle University, UK James O’Hara,
Consultant Otolaryngologist Head and
Neck Surgeon Newcastle Upon Tyne
Hospital Foundation Trust, UK Matt
Kennedy, Consultant Oral Maxillo Facial
and Head and Neck Surgeon Newcastle
Upon Tyne Hospital Foundation Trust,
UK Vinicius C. Carrard, Associate
Professor (Oral Pathology and
Medicine), School of Dentistry, Federal
University of Rio Grande do Sul, Porto
Alegre, Rio Grande do Sul, Brazil /
Graduate Program in Epidemiology,
TelessaúdeRS-UFRGS, Federal
University of Rio Grande do Sul, Porto

Additional direction?

Re: Oral cancers are rising in the UK

08 February 2024

Dear Editor

Paula T Bradley

A systematic review showed high levels of agreement between teledentistry and clinical consultation when it comes to oral lesions.⁵ Electronic sharing of high resolution smartphone photographs of the oral cavity with specialists has been successfully implemented and outcomes published.⁶

GPs increasingly request patient photographs. Camera phone technology is ubiquitous and required for suspected skin cancer referrals in some English NHS regions.⁷

Reducing mouth cancer risk for refugees and asylum seekers

- Asylum seekers and refugees tend to have poorer oral health and limited access to oral healthcare^{1,2}
- Smoking prevalence, diet and being less likely to brush regularly may also increase oral health risks for these individuals²
- We would therefore like to explore how, for this population we can:
 - Increase awareness of signs and symptoms
 - Support with navigating UK health system
 - Improve health literacy
 - Create an approach that could be replicated to address other health needs

1. Keboa MT, Hiles N, Macdonald ME. The oral health of refugees and asylum seekers: a scoping review. *Globalization and Health*. 2016 Dec;12:1-1.

2. Public Health England (unpublished). Leicester asylum seeker and refugee oral health model of care programme evaluation

