

Kingston JSNA 2023 Themed Sections: Smoking, Respiratory Health and Air Quality in Kingston

Tobacco was the number one risk factor for adult ill health and death in Kingston for the latest 2019 Global Burden of Disease data. Air Pollution and Air Quality also arise as key risk factors for very young people and as part of the 'wider determinant' risk factors for all in the borough. In terms of the poor outcomes identified in the Kingston 'Top 5' causes of ill health and mortality, conditions related to these risks include: cancer, heart conditions, asthma, Chronic Obstructive Pulmonary Disease (COPD) and others. Some of the risks are interlinked - reduced physical activity due to smoking related ill health, housing overcrowding or poor housing conditions (such as damp and mould) linked to higher exposure to smoke and other asthma related risks. In this section, some of these aspects are considered:

Smoking:

Smoking is uniquely harmful, causing damage not only to smokers themselves but also to the people around them. Smoking is one of the main causes of health inequalities in England, with the harm concentrated in disadvantaged communities and groups¹.

Smoking is the leading cause of preventable illness and premature death nationally, killing around 64,000 people in England in 2019². In England in 2019 to 2020, there were an estimated 506,100 smoking-related admissions to hospital³, equating to almost 1,400 each day. One in four patients in a hospital bed is a smoker⁴. Smokers also see their GP 35% more often than non-smokers⁵.

A wide range of diseases and conditions are caused by smoking, including cancers, respiratory diseases, coronary heart and other circulatory diseases, stomach and duodenal ulcers, erectile dysfunction, infertility, osteoporosis, cataracts, age-related macular degeneration and periodontitis⁶.

There is a major implication for Adult Social Care related to smoking. Smokers in England on average need care when they are 63, ten years sooner than non-smokers. The analysis, by Landman Economics for ASH, finds that 1.5 million people need help with everyday tasks, such as dressing, walking across a room and using the toilet due to smoking⁷.

¹ Smoking and tobacco: applying All Our Health, April 2022, available from <https://www.gov.uk/government/publications/smoking-and-tobacco-applying-all-our-health/smoking-and-tobacco-applying-all-our-health> [accessed May 2023]

² Local tobacco control profiles for England: short statistical commentary , July 2021, available from <https://www.gov.uk/government/statistics/local-tobacco-control-profiles-for-england-july-2021/local-tobacco-control-profiles-for-england-short-statistical-commentary-july-2021> [accessed February 2022]

³ Statistics on smoking, England 2020, available from <https://digital.nhs.uk/data-and-information/publications/statistical/statistics-on-smoking/statistics-on-smoking-england-2020> [accessed February 2022]

⁴ BTS National Audit Reports, <https://www.brit-thoracic.org.uk/quality-improvement/clinical-audit/bts-national-audit-reports/> [accessed February 2022]

⁵ Towards a smoke free generation: a tobacco control plan for England, January 2020, <https://www.gov.uk/government/publications/towards-a-smoke-free-generation-tobacco-control-plan-for-england> [accessed February 2022]

⁶ National Institute for Health and Care Excellence (NICE), 'Smoking cessation: What are the harms caused by smoking?', last updated March 2023. [Link](#). Accessed: May 2023.

⁷ <https://ash.org.uk/media-centre/news/press-releases/over-1-5-million-people-need-social-care-because-of-smoking>

Smoking in Kingston

Smoking holds the greatest risk for morbidity, as well as mortality, for adults (20-69 years) in Kingston. A quarter of the risk of death for Kingston adults is due to smoking. In 2021 adult smoking prevalence within Kingston was about 1 in 10 adults (10.5% compared to 13% nationally). In Kingston people in routine and manual occupations have much higher smoking rates than others in Kingston - nearly 1 in 5 people in Kingston in these types of occupations smoke (18.5% in Kingston, compared to 24.5% nationally). Amongst people with long term mental health conditions in Kingston, nearly 1 in 3 of these smoke (28.7%)⁸.

As the data in the Top 5s JSNA 2023 document shows, tobacco was found to be the top (highest) risk factor for ill health and mortality for all adult age groups.

Contribution of smoking to the Top 5 causes of ill health in Kingston:

Cardiovascular Disease (CVD)

Cardiovascular disease (CVD) is a general term for conditions affecting the heart or circulatory system. Cardiovascular diseases (CVDs), principally coronary heart disease and stroke, are the leading cause of global mortality and a major contributor to disability. Tobacco use is the leading behavioural risk factor for CVD. In the UK alone, there are 7.6 million people living with CVD, which contributes to around 163,000 deaths each year – or one death every three minutes. It is estimated that about 20,000 of these deaths – or 1 in 8 – can be attributed to smoking⁹. A stroke is a serious life-threatening medical condition that happens when the blood supply to part of the brain is cut off. Stroke is the fifth biggest killer in the UK, causing around 34,000 deaths each year¹⁰. Ischaemic heart disease and tracheal, bronchus and lung cancer, which can have links to tobacco use, are the number one and number two highest reasons for premature mortality (deaths before 70 years) in Kingston.

Chronic Obstructive Pulmonary Disease (COPD)

The UK has the 12th highest number of recorded deaths from COPD in the world, with around 1.2 million people currently living with diagnosed COPD¹¹. However, most people with COPD are not diagnosed until they are in their fifties or older and many more people may remain undiagnosed.

In Kingston, COPD was the sixth highest cause of death in adults aged 20-69 in 2019. COPD was in the top five causes of both morbidity and mortality in Kingston's older residents (70+ years). In terms of emergency hospital admissions for COPD (2016-2021), Norbiton ward scores over 100, thus having a higher than expected rate of COPD admission given its age profile¹².

⁸ PHE Fingertips 2021 available from <https://fingertips.phe.org.uk/profile/tobacco-control/data#page/4/gid/1938132900/pat/6/par/E12000007/ati/401/are/E09000021/iid/93454/age/168/sex/4/cat/-1/ctp/-1/yr/1/cid/4/tbm/1/page-options/car-do-0> [accessed May 2023]

⁹ ASH: Smoking, the Heart and Circulation, August 2021, available from <https://ash.org.uk/resources/view/smoking-the-heart-and-circulation> [accessed May 2023]

¹⁰ ASH: Smoking, the Heart and Circulation, August 2021, available from <https://ash.org.uk/resources/view/smoking-the-heart-and-circulation> [accessed May 2023]

¹¹ ASH: Smoking and Respiratory Disease, September 2020, available from <https://ash.org.uk/resources/view/smoking-and-respiratory-disease#:~:text=Although%20COPD%20can%20be%20the,or%20secondhand%20tobacco%20smoke%20exposure.&text=Cigarette%20smokers%20not%20only%20have,also%20a%20higher%20mortality%20rate> [accessed May 2023]

¹² OHID 'local health' tool; link.

Although COPD can be the result of exposure to occupational hazards and air pollution, it is predominantly caused by active or secondhand tobacco smoke exposure. Cigarette smokers not only have a higher prevalence of respiratory symptoms and lung function abnormalities but also a higher mortality rate¹³.

Evidence shows that:

- Current smokers are four times more likely to develop COPD.
- About half of cigarette smokers develop some sort of airflow obstruction and 10-20% develop clinically significant COPD.
- The risk of developing COPD is increased if a person smokes from a young age.
- 80% of COPD deaths are caused by smoking.
- Secondhand smoking is also a major independent risk factor for COPD¹⁴.

Quitting smoking once COPD has developed cannot reverse the progress of disease but can help to decelerate its worsening. Smoking cessation is more effective than all known pharmacological treatments for COPD and can also reduce the severity of COPD symptoms. However, the best way to prevent COPD is to have never started smoking¹⁵.

Asthma

Asthma is a chronic inflammatory disease that affects the airways and is characterised by respiratory symptoms such as wheeze, shortness of breath, chest tightness and cough that varies over time and in intensity, together with variable expiratory airflow limitation. In the UK, around 5.4 million people are currently receiving treatment for asthma; the equivalent of 1 in every 12 adults and 1 in every 11 children. In Kingston, the prevalence of asthma and other respiratory conditions (14.9%) in childhood (0 to 19 years) outweighs all other classes of disorder. In Kingston adults, asthma or other respiratory conditions are in the top five long term health condition categories in adulthood in Kingston in 2022 with 11,664 (9.5%) of residents.

The airways of individuals with asthma are sensitive to a variety of triggers, including tobacco smoke. Exposure to cigarette smoke (directly or second-hand) is known to trigger the development of asthma and exacerbate symptoms. Worsening asthma symptoms and lung function changes can be reversed with smoking cessation. However, asthmatic patients who are more dependent, had late-childhood onset asthma but early smoking onset, find abstinence more difficult. Studies, summarised in a 2020 ASH report¹⁶ found:

- Adult smokers are at higher risk of developing asthma compared to adult non-smokers.
- The severity of asthma appears to be dependent somewhat on the duration of smoking, with a greater severity among those with a history of smoking one 20-pack of cigarettes a day for 20 years.

¹³ ASH: Smoking and Respiratory Disease, September 2020, available from <https://ash.org.uk/resources/view/smoking-and-respiratory-disease#:~:text=Although%20COPD%20can%20be%20the,or%20secondhand%20tobacco%20smoke%20exposure.&text=Cigarette%20smokers%20not%20only%20have,also%20a%20higher%20mortality%20rate> [accessed May 2023]

¹⁴ ASH: Smoking and Respiratory Disease, September 2020, available from <https://ash.org.uk/resources/view/smoking-and-respiratory-disease#:~:text=Although%20COPD%20can%20be%20the,or%20secondhand%20tobacco%20smoke%20exposure.&text=Cigarette%20smokers%20not%20only%20have,also%20a%20higher%20mortality%20rate> [accessed May 2023]

¹⁵ ASH: Smoking and Respiratory Disease, September 2020, available from <https://ash.org.uk/resources/view/smoking-and-respiratory-disease#:~:text=Although%20COPD%20can%20be%20the,or%20secondhand%20tobacco%20smoke%20exposure.&text=Cigarette%20smokers%20not%20only%20have,also%20a%20higher%20mortality%20rate> [accessed May 2023]

¹⁶ ASH: Smoking and Respiratory Disease, September 2020, available from <https://ash.org.uk/resources/view/smoking-and-respiratory-disease#:~:text=Although%20COPD%20can%20be%20the,or%20secondhand%20tobacco%20smoke%20exposure.&text=Cigarette%20smokers%20not%20only%20have,also%20a%20higher%20mortality%20rate> [accessed May 2023]

- Asthma patients who smoke have an impaired response to treatment, because smoking interferes with the action of inhaled corticosteroids. Parental smoking is a cause of asthma in children and the prevalence of asthma increases with the number of smokers in the home.
- Smoking during pregnancy has been associated with reduced lung function, increased risk of asthma and exercise-induced wheezing in offspring.
- Children who suffer from asthma, and whose parents smoke, are twice as likely to suffer asthma symptoms all year round compared to the children of non-smokers.
- A review by the Royal College of Physicians notes that household smoking increases the risk of asthma in children by about 50%¹⁷.

Stopping Smoking

Stopping smoking at any time has considerable health benefits, including for people with a pre-existing smoking-related disease¹⁸. For people using secondary care services, there are other advantages. These include: shorter hospital stays, lower drug doses, fewer complications, higher survival rates, better wound healing, decreased infections and fewer re-admissions after surgery. Smoking costs society an estimated £17bn each year through lost productivity, health and social care costs and smoking related fires¹⁹.

The NHS will be making a significant commitment to making England a smoke-free society, by supporting people in contact with NHS services to quit. By 2023/24, all people admitted to hospital who smoke will be offered NHS-funded tobacco treatment services. The model will also be adapted for expectant mothers, and their partners, with a new smoke-free pregnancy pathway including focused sessions and treatments. A new universal smoking cessation offer will also be available as part of specialist mental health services for long-term users of specialist mental health, and in learning disability services. On the advice of Office for Health Improvement and Disparities (OHID), this will include the option to switch to e-cigarettes while in inpatient settings²⁰.

¹⁷ ASH: Smoking and Respiratory Disease, September 2020, available from <https://ash.org.uk/resources/view/smoking-and-respiratory-disease#:~:text=Although%20COPD%20can%20be%20the,or%20secondhand%20tobacco%20smoke%20exposure.&text=Cigarette%20smokers%20not%20only%20have,also%20a%20higher%20mortality%20rate> [accessed May 2023]

¹⁸ OHID Guidance: Smoking and Tobacco: Applying all our Health, April 2022
<https://www.gov.uk/government/publications/smoking-and-tobacco-applying-all-our-health/smoking-and-tobacco-applying-all-our-health> [accessed May 2023]

¹⁹ ASH, Press Release: Smoking costs society £17bn - £5bn more than previously estimated, January 2022
<https://ash.org.uk/information-and-resources/reports-submissions/reports/10-high-impact-actions/> [accessed February 2022]

²⁰ NHS Long Term Plan 2021, available from <https://www.longtermplan.nhs.uk/online-version/chapter-2-more-nhs-action-on-prevention-and-health-inequalities/smoking/> [accessed May 2023]

Smoking Cessation

Nicotine is extremely addictive and most smokers find it hard to give up without help. Only about 5% of unaided quit attempts result in smokers giving up for good but effective smoking cessation support can increase the chances of success fourfold²¹.

Stop smoking support is a highly cost effective measure to improve health. In the UK, stopping smoking has been the single biggest factor in reducing deaths from heart disease, preventing nearly 30,000 heart disease deaths between 1981 and 2000²².

The UK offers the world's most comprehensive support for smokers to quit. Stop Smoking Services have been established throughout the country and in England are now under local authority control. These services offer practical support and pharmaceutical treatments on prescription to help smokers to quit²³. In Kingston, 'Kick It' have been providing the smoking cessation service since 2012.

General Practice and Community Pharmacy

Primary care is easy to access as most people are registered with a General Practice (GP), and around 1.6 million people visit community pharmacies every day in England²⁴.

Kick It will support stop smoking interventions in GP practices and community pharmacies. This will include the development of care pathways, training and support for staff within these organisations to enable the delivery of stop smoking advice for patients and monitoring of performance.

Air pollution and health:

Air pollution negatively impacts health across the life course, including before birth. Exposure to air pollution, indoors and outdoors, over a long period of time, reduces people's life expectancy²⁵. Air pollution contributes to the development of cardiovascular and respiratory diseases, and can cause lung cancer. Evidence of links between exposure to air pollution and a wider range of health effects, such as intrauterine impacts, adverse birth outcomes, poor early life organ development, diabetes, reduced cognitive performance, and increased dementia risk continues to build. Outer London has the greatest number of premature deaths from air pollution as it is home to a higher proportion of older adults who are more vulnerable to air pollution, and is also home to over half of the 500,000 Londoners who live with asthma and are more vulnerable to the impacts of air pollution²⁶. The 2019 Global Burden of Disease (GBD) Study provides a tool to quantify health loss from hundreds of diseases, injuries, and risk factors. The top five causes of mortality in Kingston in 2019 (as ranked by the number of deaths), morbidity (as ranked by Disability-Adjusted Life Years [DALYs] - one DALY is equal to one year of healthy life lost) and risk factors were analysed from GBD data. In Children (0-19 years) in Kingston in 2019, asthma was in the top 5 causes of disease with air pollution in

²¹ Smoking Cessation and Treatment, available from <https://ash.org.uk/category/information-and-resources/smoking-cessation-treatment/> [accessed February 2022]

²² Smoking Cessation and Treatment, available from <https://ash.org.uk/category/information-and-resources/smoking-cessation-treatment/> [accessed February 2022]

²³ Smoking Cessation and Treatment, available from <https://ash.org.uk/category/information-and-resources/smoking-cessation-treatment/> [accessed February 2022]

²⁴ "Quality criteria for young people friendly health services - GOV.UK." 19 May. 2011, <https://www.gov.uk/government/publications/quality-criteria-for-young-people-friendly-health-services> [accessed 8 October 2021]

²⁵ [Chief Medical Officer's Annual Report 2022 Air pollution - GOV.UK](#)

²⁶ [London Health Burden of Current Air Pollution and Future Health Benefits of Mayoral Air Quality Policies](#)

the top 5 risk factors for ill health²⁷. Data from NHS Digital, Hospital Episode Statistics (HES), showed that in the period 2017/18 to 2020/21, asthma was in the top 5 reasons for in-patient hospitalisation in 5-19 year olds in Kingston²⁸.

In 2003, RBK designated the whole of the borough as an Air Quality Management Area (AQMA) due to predicted exceedances of the National Objectives for nitrogen dioxide and (NO₂) and particulate matter (PM₁₀). Our Air Quality Action Plan sets out the steps we will take to improve air quality.

The Air Quality Standards Regulations 2010 re-established the national air quality objectives (annual average) for NO₂ and PM₁₀ at 40 µg/m³ and for PM_{2.5} at 25 µg/m³.

In 2021 the WHO updated its recommended guidelines for air pollutants. For PM_{2.5} it tightened the recommended annual average guideline to 5µg/m³, while retaining 10µg/m³ as an interim guideline which the Mayor of London has committed to meet by 2030 (the legal annual average limit is 25µg/m³). For nitrogen dioxide (NO₂) the WHO tightened the recommended annual average guideline to 10µg/m³ (the previous WHO guideline was 40µg/m³ which is currently the legal annual mean limit set in the National Objectives).

Kingston has 40 diffusion tubes sited across the borough. These diffusion tubes passively sample the concentration of NO₂ and are used to monitor average air pollution levels and provide data for the calculation of the monthly average²⁹.

2021 data presented after adjustments for “annualisation” and for distance to a location of relevant public exposure shows that three sites demonstrated annual mean NO₂ levels that exceeded the annual mean objective of 40 µg/m³

See <https://www.kingston.gov.uk/downloads/file/1964/kingston-annual-air-quality-report-2021>

Air quality is also monitored at three automatic monitoring roadside sites in the borough at Tolworth Broadway, Cromwell Road and Kingston Vale. The automatic monitoring stations at Tolworth Broadway and Cromwell Road recorded breaches of the annual NO₂ mean objective of 40 µg/m³ from 2015 to 2019, however only the Cromwell Road monitor recorded a breach in 2021. Whilst Tolworth Broadway and Kingston Vale remained below (better) than the objective in 2021, all three sites remain above the WHO guideline limit (10 µg/m³).

In RBK, PM₁₀ levels were below (better) the national air quality objective of 40 µg/m³ in 2021³⁰. However, concentrations at all monitoring sites in the borough remain higher than the updated WHO standard (15 µg/m³) highlighting the need for more action on reducing PM emissions in the Borough and throughout London. Currently there is one PM_{2.5} monitor at Tolworth Broadway however this is too newly-installed to derive reliable data. It should be noted that there is no safe level of exposure which doesn't impact on health. Therefore, further reduction of NO₂ or PM concentrations below air quality standards is likely to bring additional health benefits³¹. Further PM_{2.5} monitoring would also enhance understanding of air quality in Kingston and any changes that may result from the planned ULEZ expansion.

Air pollution affects everyone who lives and works in London; however, children, the elderly, and people with pre-existing health conditions are most vulnerable. People on low incomes or from ethnic minorities are also more affected by poor air quality, partly because they often live

²⁷ <https://www.healthdata.org/gbd/2019>

²⁸ <https://digital.nhs.uk/data-and-information/data-tools-and-services/data-services/hospital-episode-statistics>

²⁹ <https://www.kingston.gov.uk/advanced-information-air-quality>

³⁰ <https://www.kingston.gov.uk/downloads/file/1964/kingston-annual-air-quality-report-2021>

³¹ [Air Quality In Kingston-Upon-Thames: A Guide For Public Health Professionals](#)

in the more polluted areas of London³². Without action, the cost to the health and care system in London is estimated to be £5.49 billion by 2050³³. It's estimated that in 2019 in London, 61,800 to 70,200 life years lost (the equivalent of around 4,000 deaths) were attributable to long-term exposure to air pollution.³⁴ For 2021, the fraction (%) of mortality attributable to long-term exposure to particulate matter in RBK was 6.2% compared to 5.5% for England and air pollution: fine particulate matter in 2020 in Kingston was 9.1µg/m³ compared to 7.5µg/m³ for England³⁵.

Modelled data from 2019 on air pollution for 5 care homes, 7 hospitals and medical centres, 66 schools and 1 nursery in Kingston-upon-Thames shows that all are within the PM_{2.5} legal limit (25µg/m³), all but 8 schools exceed the interim WHO guideline (10µg/m³) and all settings exceed the final WHO guideline limit (5µg/m³). For NO₂, the data showed all settings fell within the legal limit (40µg/m³), 4 schools exceeded the interim WHO guideline (30µg/m³) and all exceeded the final WHO guideline limit (10µg/m³)³⁶. Full datasets can be found in the [London Atmospheric Emissions Inventory \(LAEI\) 2019](#)

Road vehicles are the leading source of nitrogen dioxide within London and tackling high polluting vehicles will have a positive impact on the air quality within Kingston. Road vehicles produce 64% of the Boroughs NO₂, 33% of PM₁₀ and 26% of PM_{2.5} emissions (source: 2016 LAEI).

The best way to improve air quality is to remove or limit the source of pollution. The introduction of ULEZ will improve air quality because it incentivises the replacement of older, more polluting vehicles with more modern vehicles that have lower emissions of harmful pollutants. However the quickest way to secure reduction in pollution will result from behaviour change, and the movement towards active travel solutions such as walking, cycling or public transport or investment in ultra low emission vehicles.

The list below has been put together to highlight recommendations that have been identified from this needs assessment.

Smoking Recommendations

1. RBK Public Health to commission the Smoking Cessation service to target the groups identified in the Health Inequalities section where the smoking prevalence is high compared to the rest of the smoking population in Kingston. These include those who work in routine and manual occupations, who are pregnant, who have mental health conditions, who live in social housing and who are dealing with substance misuse
2. RBK Public Health to follow any updated guidance with regard to the safety of e-cigarettes in regard to commissioning of local support for smoking cessation for those trying to quit smoking
3. RBK Public Health to continue to have a Smoking Cessation Service in Kingston because stop smoking support is a highly cost effective measure to improve health
4. RBK Public Health to commission the Smoking Cessation service to review the primary care offer and look at ways to increase patient uptake
5. RBK Public Health and the Smoking Cessation service to work with Kingston Hospital on the smoking part of the NHS Long Term Plan
6. The Kingston Smoking Cessation service to work with Health Visiting, Maternity, Housing, Mental Health Services and Adult Social Care.

³² [Air Pollution and Inequalities in London: 2019 Update](#)

³³ [World's first Ultra Low Emission Zone to save NHS billions by 2050 | London City Hall](#)

³⁴ [London Health Burden of Current Air Pollution and Future Health Benefits of Mayoral Air Quality Policies](#)

³⁵ [Fraction of mortality attributable to particulate air pollution](#) (accessed 03/03/2023)

³⁶ [London Atmospheric Emissions Inventory \(LAEI\) 2019](#)

Air Quality Recommendations:

1. RBK to continue to work towards the aims and objectives set out in the Air Quality Action Plan 2021-2026.
2. RBK to continue to share clean air messages to raise awareness of the harm caused by poor air quality and how individuals can take action to reduce their emissions
3. RBK to continue to share key stakeholder (NHS, UKHSA, London Mayor) messages regarding high pollution forecasts and how residents can minimise risk to their health when air quality is poor
4. RBK to continue to promote Active Travel in the borough alongside the Healthy Streets and other initiatives
5. RBK to continue to support regular Car Free Days / temporary road closures in high footfall areas
6. RBK to continue to work towards reducing pollution in and around schools in the borough and promote sustainable transport options to get to and from school