



HEALTH AND WELLBEING BOARD			
Report Title	Health Protection in Lewisham: An update		
Contributors	Brid Nicholson, Health Protection Programme Manager Dr Donal O'Sullivan, Consultant in Public Health Medicine	Item No.	7
Class		Date: 25 th March 2014	
Strategic Context	Health Protection is one of the three elements of the Public Health function, and overseeing health protection is one of the responsibilities of the Health and Wellbeing Board. Two of the Board's priorities are included in the work of the Health Protection Committee: Sexual Health and Immunisation.		

1. Purpose

1.1 In June 2013, Lewisham's Health and Wellbeing board approved a new local Health Protection Committee (HPC) to oversee the borough's additional mandated duties with respect to the control of infectious diseases (including healthcare associated infections) in the population.

1.2 The purpose of this paper is to update the Health and Wellbeing Board on arrangements and health protection work to date in Lewisham.

1.3 The terms of reference for the Health Protection Committee are presented for final approval (Appendix 1).

1.4 The paper also aims to Inform the Board of key areas of local health protection work as they are included in the Committee's work plan (Appendix 2).

2. Recommendation

Members of the Health and Wellbeing Board are recommended to:

2.1 Approve the amended terms of reference for the Health Protection Committee, noting in particular the changes to the Terms of Reference to take into account the requirement to link the work of the Borough Resilience Forum with the Health Protection Committee and the Health and Wellbeing Board.

2.2 Support priorities for action, and subsequent timescales, as detailed in the Committee's local work plan.

2.3 Agree reporting arrangements from the Health Protection Committee to the

Health and Wellbeing Board.

3. Policy Context

Health protection duties for local authorities

- 3.1. Health protection responsibilities for preventing, planning and responding to incidents require the local authority to oversee local issues and ensure arrangements are fit for purpose since April 2013.
- 3.2 These are in addition to long standing health protection statutory functions largely centred on environmental health.
- 3.3 In response to these new responsibilities, the Health and Wellbeing Board agreed to the establishment of a Health Protection Committee, chaired by the Director of Public Health, to provide an overview of health protection issues and ensure co-ordinated, close working arrangements between key agencies in accordance with national recommendations^{1,2}.

4. Background

- 4.1.1 A number of actions were recommended by the Health and Wellbeing Board during its meeting held in July 2013.
- 4.1.2 The Board asked for further work to be undertaken to ensure a better fit between the Committee's responsibility and accountability arrangements within the Council's new organisational structure, with no overlap in function or reporting with other Council committees or forums.
- 4.1.3 In particular, the issue of Emergency Preparedness, Resilience and Response (EPRR) was considered and discussed with the Emergency Planning Team. The most appropriate arrangement, it is proposed, is that the Borough Resilience Forum (BRF) should continue in its present form and that Health Resilience is dealt with as part of the business of the Forum. It has also been proposed that the Emergency Planning Team should become associate members of the Health Protection Committee and the team have agreed to provide regular updates on EPRR issues, as they affect the Public Health, to the Health Protection Committee and will attend meetings of the Committee as required. The Health Protection Committee will, similarly, provide regular updates on any Public Health EPRR issues to inform the BRF. The Director of Public Health is a member of both the Health Protection Committee, which he chairs, and the Borough Resilience Forum.
- 4.1.4 In discussions with the Emergency Planning Team, it became apparent that the Health and Wellbeing Board should also consider its own responsibilities in relation to EPRR. National guidance is to the effect that there should be direct links between the BRF, the HPC and the Health and Wellbeing Board

and that the priorities of all three should be aligned to the Borough Risk Register. It is proposed that the Health Protection Committee should be the means of assuring these links and the alignment of the work of the Board and the Committee with that of the Borough Resilience Forum, alerting the Health and Wellbeing Board and the Forum of any issues that need to be addressed. Should members require further information on this issue, a separate paper can be submitted to the Board.

- 4.1.5 All changes have been made as recommended by the Board and agreed with the Emergency Planning Team (Appendix 1).

5. Health Protection work plan

- 5.1 The Health Protection Committee provides a forum to assess health protection risks to the local population and provide assurance to the Health and Wellbeing Board about the adequacy of arrangements with regard to health protection.
- 5.2 To this end, the Committee met in November and January 2014 to discuss priorities for action and to agree a local work plan (Appendix 2).
- 5.3 An important event since the July 2013 paper to the Board was the publication in February 2014 of an Air Quality report for purposes of the Joint Strategic Needs Assessment (Appendix 3). This underpins the element of the Committee's workplan relating to control of Air Pollution. Members are asked to note, in particular, a current project using £240,000 secured via the Mayor's Air Quality Fund to improve local air quality and respiratory problems.
- 5.4 At present, the Committee's focus is to ensure robust processes are established around environmental health and healthcare acquired infection risks and be assured that all key partners are contributing to these processes.
- 5.5 The work plan will be reviewed quarterly at each Committee meeting and amended as necessary in response to new information or emerging threats.
- 5.6 Outstanding issues will be recorded on the Committee's risk register and reported to the Health and Wellbeing Board as appropriate.

6. Financial implications

- 6.1 None

7. Legal implications

- 7.1 National policy recommends the establishment of local health protection forums to oversee local health protection issues as best practice^{1,2}.

8. Crime and disorder implications

- 8.1 None

9. Equalities

- 9.1 Health protection is an issue relevant to all working and living in the borough of Lewisham. Issues such as TB and sexually transmitted infections disproportionately affect some local minority groups and higher rates of these infections exist in areas of higher deprivation.

10. Environmental implications

- 10.1 The Committee's workplan includes work that aims to improve the environment locally.

11. Conclusion

- 11.1 A Health Protection Committee has been set up in Lewisham in response to changes in the borough's mandated duties with respect to the protection of the health of the population.
- 11.2 The Committee has developed a local workplan which will be reviewed quarterly and amended in response to changing situations and new information.

Background documents

¹Department of Health (2012) Health protection and local government @ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/199773/Health_Protection_in_Local_Authorities_Final.pdf

²Health protection and local government @ http://www.local.gov.uk/c/document_library/get_file?uuid=123d1fe3-eb7a-44a0-9083-3aa481c6cb5b&groupId=10171

Appendix 1



LEWISHAM HEALTH PROTECTION COMMITTEE Terms of Reference

1.0 INTRODUCTION

Aim

Health protection seeks to prevent or reduce the harm caused by communicable diseases and minimise the health impact from environmental hazards such as chemicals and radiation.

The Health Protection Committee will provide a forum to assess health protection risks to the local population. Chaired by the Director of Public Health, the committee will act as the main group to review and monitor health protection activity. It will provide a forum to discuss, prioritise and monitor issues and manage them where possible. Issues will be escalated to the Health and Wellbeing Board as appropriate.

The Health Protection Committee will provide assurance to the Health and Wellbeing Board in Lewisham about the adequacy of prevention, surveillance, planning and response with regard to health protection issues.

The Committee will work with other partners including the local NHS Clinical Commissioning Group, Public Health England and environmental health colleagues to draw on existing experience and statutory powers.

2.0 DUTIES

1.	Working with all Directorates in the London Borough of Lewisham and with the Borough's NHS partners, the Committee will seek to ensure that arrangements are in place to prevent, reduce or manage health protection risks to the local population and will oversee the continual improvement and development of the health protection function in Lewisham
2.	Working with Public Health England and NHS England, the Committee will act as the principal means of achieving these aims in Lewisham
3.	The Committee will receive regular reports from Lambeth, Southwark and Lewisham's Infection Control Committee, Public Health England and the Immunisation Strategy Committee
4.	The Committee will report regularly to the Lewisham Health and Wellbeing board
5.	The Committee will ensure Health Protection issues in Lewisham are raised in the appropriate internal and external forums
6.	The Committee will ensure clear lines of communication with all appropriate agencies in planning and responding to health protection issues

8.	The Committee will ensure appropriate communication with all staff and the local population as necessary
9.	The Committee will report to the local Borough Resilience Forum as necessary and appropriate, particularly on Health Protection issues that may affect Emergency Preparedness Resilience and Response (EPRR). Similarly, the Borough Resilience Forum will provide regular updates on EPRR issues as they affect the Public Health to the Health Protection Committee.
10.	By these means, the Health Protection Committee will assure effective working links and the alignment of its own work and the work of the Health and Wellbeing Board with that of the Borough Resilience Forum, alerting the Health and Well Being Board and the Borough Resilience Forum of any issues that need to be addressed.
11.	The Committee will also ensure alignment of the priorities of the Committee itself, those of the Health and Wellbeing Board and of the Borough Resilience Forum to the Borough Risk Register, alerting both the Borough Resilience Board and the Health and Wellbeing Board of any inadequacies of the Borough risk register or plans to minimise risk.
11.	The Committee will present annual report to the Health and Wellbeing Board
11.	The Committee will identify risks and health protection priorities
12.	The Committee will escalate issues by exception to the Health and Wellbeing Delivery Group
13.	The Committee will ensure appropriate health protection related surveillance is in place (including sexual health surveillance).
14	The committee will maintain a health protection risk register for Lewisham and ensure the mitigation of risks

3.0 ACCOUNTABILITY

The Health Protection Committee will act as a sub-committee of the Health and Wellbeing Board (figure 1). The chair of the Health Protection Committee will raise issues to the Board as appropriate. The Committee will present an annual report to the Health and Wellbeing Board.

6.0 REPORTING ARRANGEMENTS INTO THE COMMITTEE (FROM A SUBCOMMITTEE)

1. To receive, on a quarterly basis, minutes and actions from the Lambeth, Southwark and Lewisham (LSL) Infection Control Committee and Lewisham's Immunisation Strategy Group.
2. Sign-off relevant actions from the LSL Infection Control Committee and Lewisham's Immunisation Strategy Group as appropriate.
3. To receive update reports on health protection issues from Public Health England.

7.0 QUORUM RULES (REQUIREMENT FOR A QUORUM)

50% of current membership. Vacant posts to be noted and excluded from quorum.

8.0 FREQUENCY OF MEETINGS

Quarterly

9.0 PROCESS FOR MONITORING THE ADHERENCE TO THE RULES SET OUT IN THESE TERMS OF REFERENCE

Monitoring adherence to the rules set out in the terms of reference will be carried out periodically by the Chair of the Committee.

10.0 REVIEW

The terms of reference (including membership) of this committee will be reviewed on a yearly basis

Appendix 2 Lewisham Health Protection Committee work plan 2013/14

Subject	Objective	Action	By whom	Progress	By when
Environmental health	Prevention and control of Infectious disease.	Monitor and work with PHE (HPU) in investigating ID trends and Individual investigations or high risk cases	David Edwards		Ongoing
	To raise awareness of noise induced hearing loss with members of public. And to raise awareness of noise nuisance teams ability to deal with statutory nuisance with a focus on domestic noise complaints.	Regular market stall surgeries within the 3 main markets in the borough providing guidance and literature to members of the public.	Michael Watkinson (Contact David Edwards)		Ongoing
	Prevention and control of pollution and protection of the living environment	Work in connection with: EA/PHE/Defra/GLA; with regards to control of pollution (air, land & noise). Current project £240,000 secured via Mayors Air Quality Fund to improve local air quality and respiratory problems	Anthony Murphy (Contact David Edwards)		Ongoing
	Promote safe development and well being for residents within the Borough, via the regeneration process	Work with Planning via the Local Development Plan, to ensure future development and regeneration is undertaken in accordance with statutory & environmental protection requirements	Anthony Murphy (Contact David Edwards)		Ongoing
	Raise standards and awareness of infection risks around high risk activities (such as skin piercing) in association with other partner organisations	Promote awareness of new National Guidance document across the borough and beyond. Assist Licensing in achieving standards with the Borough and investigating/regulating poor unacceptable practices.		Key Speaker promoting guidance at trade and practitioner event outside borough. Investigation of ID allegedly relating to skin piercing premises within borough.	Ongoing
	Legionella	Work in connection with HSE/PHE with regards to control of Legionella infections/outbreaks	David Edwards	Review of risk register (premises).	Ongoing

Subject	Objective	Action	By whom	Progress	By when
Healthcare acquired infections	Monitor MRSA bacteraemia and Clostridium difficile targets	Report quarterly to Health Protection Committee and LSL's Infection Control Committee	Brid Nicholson		Ongoing
	Undertake root cause analysis for each community acquired case of clostridium difficile and complete a post infection review for each case of MRSA bacteraemia	Process in place	Brid Nicholson		Ongoing
	Review C. difficile treatment advice in local antibiotic prescribing guidelines	Review guidance and ensure its dissemination and implementation in Lewisham	Mike Salter Donal O' Sullivan	Meeting held on 22 nd January	June 2014
	Regular review of local action to control C. difficile and to increase local clinician awareness as part of an LSL programme overall	Carry LSL action plan as part of sector group	Debbie Flaxman Brid Nicholson		Ongoing
	Ensure appropriate control of HCAI in Lewisham	Agreeing and implementation local programmes of HCAI in Trust and Primary Medical Care. Ensure annual report to the Health and Wellbeing Board and to LSL Infection Control Committee	Debbie Flaxman Brid Nicholson		Ongoing
Effective use of antibiotics	Ensure antibiotics are used appropriately, only when necessary and for the shortest effective time with full adherence	Ensure implementation of relevant DH plan	Mike Salter		Ongoing
Hepatitis C	Facilitate development of hepatitis C patient pathway	Distribute pathway to key stakeholders for consultation	Brid Nicholson		December 2014
Malaria	Improve notification rates in Lewisham	Request laboratory self audit to count number of cases reported against number of cases identified	Chris Stayte		June 2014
	Increase public awareness	Develop education programme for high risk groups in Lewisham	Jane de Burgh Brid Nicholson		July 2014

Subject	Objective	Action	By whom	Progress	By when
TB	Review performance of TB contract	Ensure robust key performance indicators are included in 2014/15 TB contract	Graham Hewitt		December 2014
	Match service specification with national template	Service specification template being developed by Public Health England. Request copy.	Sam Perkins		April 2015
	Ensure need for immigrant screening and BCG is addressed	Include in service specification			April 2015

Lewisham JSNA

Air Quality

The quality of the air in the local environment has an impact on the health of the public and ecosystems. There are several different gases which can occur in ambient air and which have been identified as having health impacts. These include nitrogen dioxide (NO₂), sulphur dioxide (SO₂) and ground-level ozone (O₃). In addition, very small particles of dust can be inhaled and reach the inner airways and lungs.

Breathing in polluted air is linked to respiratory illnesses including Chronic Obstructive Pulmonary Disease (COPD)¹ and asthma²; cardiovascular disease³; and neurological impairments⁴. In June 2012, the International Agency for Research on Cancer (IARC) confirmed that fumes from diesel engines are carcinogenic⁵. A study in 2013 has shown association between early exposure to traffic pollution and several childhood cancers⁶. Links have also been reported to diabetes and premature and low birth weight babies⁷. This can lead to restricted activity, hospital admissions and even premature mortality.

¹ <http://www.environment-health.ac.uk/publications/outdoor-air-pollution-and-respiratory-health-patients-copd>

² EPUK, 2010, COMEAP Revises Air Quality and Asthma Position <http://www.environmental-protection.org.uk/news/detail/?id=2701>

http://www.envirotech-online.com/news/air-monitoring/6/breaking_news/main_roads_are_a_main_cause_of_asthma_in_children/22125/

³ Tze Wai Wong et al, 1999, Air Pollution and Hospital Admissions for Respiratory and Cardiovascular Diseases in Hong Kong published in Occup Environ Medicine 1999;56:679-683
<http://oem.bmj.com/content/56/10/679.full.pdf+html>

⁴ <http://www.epa.gov/region7/air/quality/health.htm>

⁵ http://press.iarc.fr/pr213_E.pdf

⁶ Childhood Cancer and Traffic-Related Air Pollution Exposure in Pregnancy and Early Life. Heck et al. (2013) Environ Health Perspect 121:1385-1391

Available at <http://ehp.niehs.nih.gov/1306761/>

⁷ ClientEarth, The Health Impacts of Air Pollution <http://www.clientearth.org/health-environment/clean-air/the-health-impacts-of-air-pollution-1427>

What do we know?

Facts and Figures

- The Committee on the Medical Effects of Air Pollutants (COMEAP) speculated that it is reasonable to consider that air pollution may have made some contribution to the earlier deaths of up to 200,000 people in the UK (the number dying of cardiovascular causes) with an average loss of life of about two years per death affected, though that actual amount would vary between individuals.
- Air pollution is estimated to reduce life expectancy of every person in the UK by an average of 7-8 months with estimated equivalent health costs of up to £20 billion each year.
- It is estimated that 4,267 deaths in London in 2008 were attributable to long-term exposure to small particles^{8,9}. This figure is based upon an amalgamation of the average loss of life of those affected of 11.5 years.
- COMEAP estimate that for every 10µg/m³ increase in PM2.5, there is a 6% increase in annual all-cause death rates. Based on this estimate, there would be an additional 153 early deaths within the London Borough of Lewisham for every such rise.
- Some 40 million people in the 115 largest cities in the European Union (EU) are exposed to air exceeding WHO air quality guideline values for at least one pollutant¹⁰.
- Children living near roads with heavy-duty vehicle traffic have twice the risk of respiratory problems as those living near less congested streets¹¹.

⁸ Dr Brian Miller, 2010, Report on estimation of mortality impacts of particulate air pollution in London http://www.london.gov.uk/sites/default/files/Health_Study_%20Report.pdf

⁹ http://www.hpa.org.uk/webc/HPAwebFile/HPAweb_C/1317137020357

¹⁰ World Health Organisation, <http://www.euro.who.int/en/health-topics/environment-and-health/air-quality/data-and-statistics>

¹¹ World Health Organisation, <http://www.euro.who.int/en/health-topics/environment-and-health/air-quality/data-and-statistics>

Trends

The UK Air Quality Standards Regulations 2000, updated in 2010, sets standards for a variety of pollutants that are considered to be harmful to human health and the environment. These are based on EU limit values and are for a range of air pollutants, listed below:

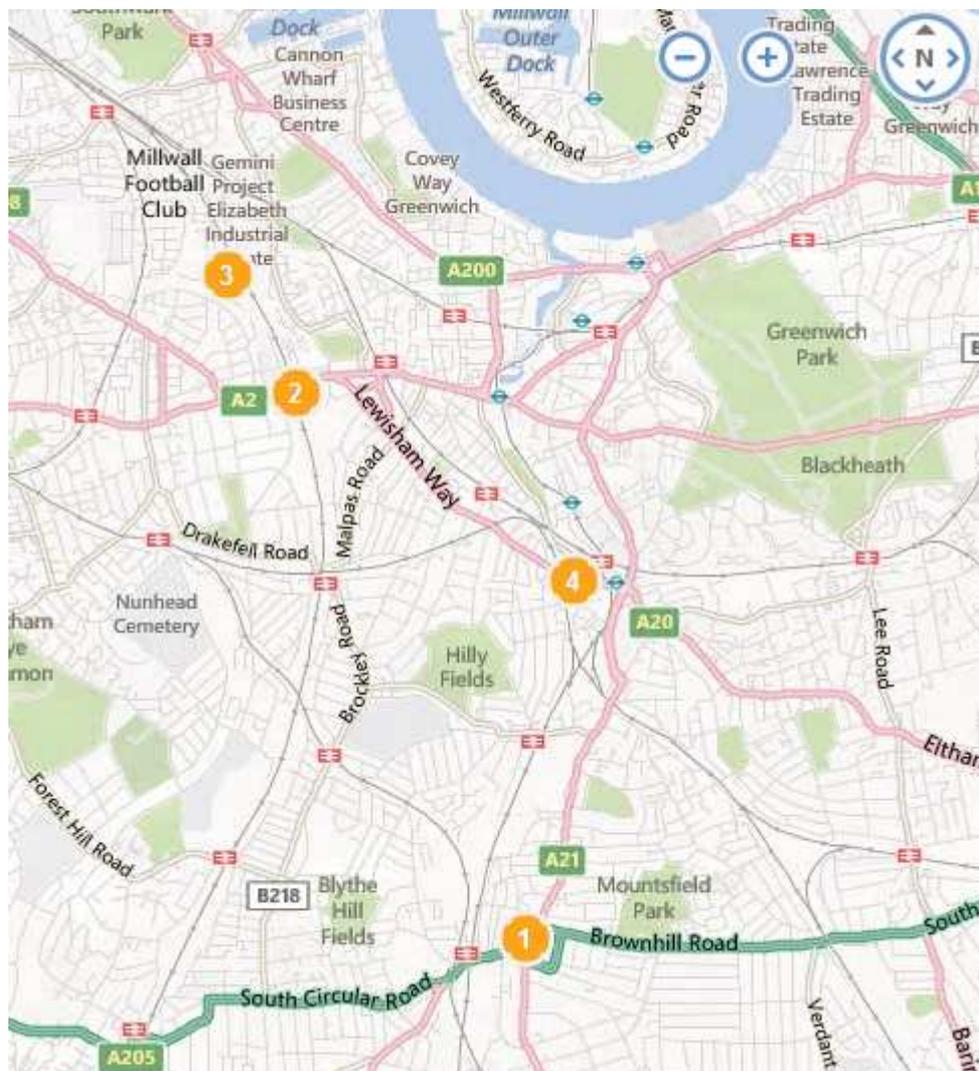
- Benzene
- Benzo(a)pyrene
- Carbon monoxide (CO)
- Lead
- Nitrogen dioxide (NO₂)
- Oxides of nitrogen (NO_x)
- Particulate matter (PM₁₀ & PM_{2.5})
- Sulphur dioxide (SO₂)
- Ozone

Of the pollutants included in the Air Quality Standards Regulations, monitoring of the following has been carried out within London Borough of Lewisham for several years:

- Carbon monoxide (CO)
- Nitrogen dioxide (NO₂)
- Ozone (O₃)
- Particulate matter (PM₁₀) i.e. particles with a diameter <10 microns
- Sulphur dioxide (SO₂)

Monitoring of particulate matter (PM_{2.5}) began at one location in 2012.

The map below shows the locations where automatic monitoring of air pollutants takes place within the London Borough of Lewisham:



Map 1: Locations of automatic Air Quality Monitoring Stations in London Borough of Lewisham

- | | |
|------------------------------------|-------------------------------|
| 1 = Broadway Theatre, Catford (UB) | 2 = New Cross Road (Roadside) |
| 3 = Mercury Way (Industrial) | 4 = Loampit Vale (Roadside) |

Lewisham 3 in Mercury Way started collecting data in 2010 and Lewisham 4 in Loampit Vale opened in 2012. A further site, located in Crystal Palace Parade, is just outside the borough boundary but was a collaborative project with neighbouring boroughs. This site was closed in July 2010 but data from the site up until this date has been included in this report.

Carbon monoxide

Carbon monoxide monitoring was only carried out at the Crystal Palace site which closed in 2010. In 2010, prior to its closure, the maximum 8-hour running mean was 1.2mg/m³ compared to a target of **10**mg/m³ set in the National Air Quality Objectives. This period of monitoring confirmed that the air quality objective for Carbon Monoxide was achieved.

Location		2008	2009	2010
Crystal Palace 1, Crystal Palace Parade	Max 8 Hour	1.6	1.5	1.2
	Annual mean	0.4	0.4	0.4
	Max 1 Hour	3	2	1.8
	Data capture %	86	89	56

Table 1.1: Carbon monoxide monitoring data (Crystal Palace 1)

Nitrogen dioxide (NO₂)

The National Air Quality Objective for the NO₂ annual average is **40**µg/m³. The graph below shows the annual averages measured at automatic monitoring sites within the Borough for the years where data is available (see Map 1 for locations of monitoring sites).

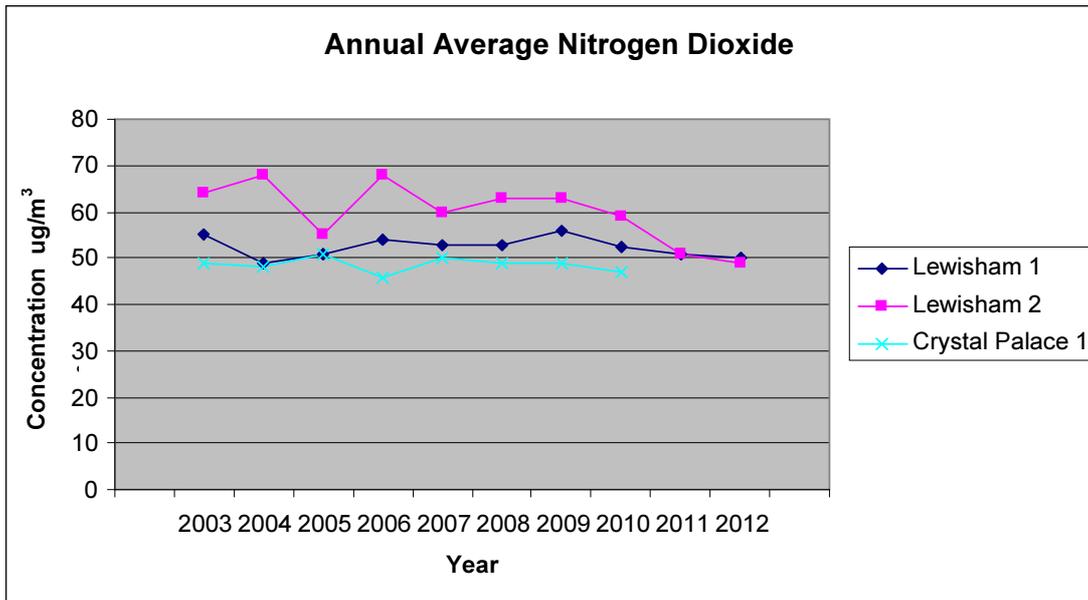


Fig 1.1: Trends in nitrogen dioxide annual averages

In addition to the automatic monitoring sites, London Borough of Lewisham also gather data on NO₂ concentrations using diffusion tubes which are passive monitors. These have a lesser degree of accuracy than the automatic monitors but provide indicative data that is used to calculate annual averages. Data is collected at 32 different locations around the borough, some close to busy roads (roadside) while others are located in residential areas or parks (background). The graphs below show the annual averages for NO₂ at both roadside and background locations.

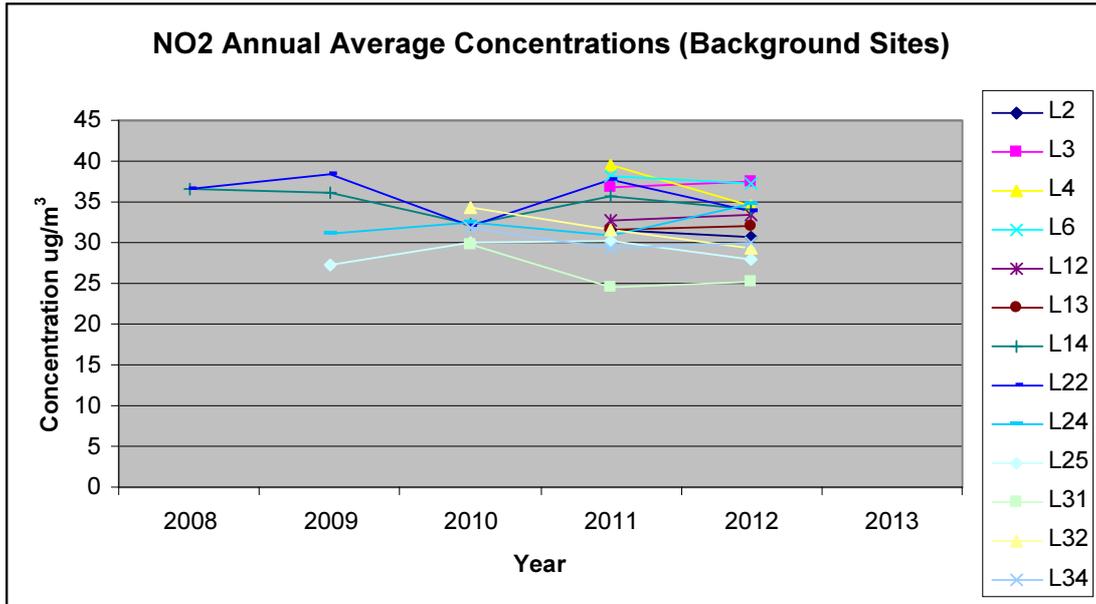


Fig 1.2: Trends in nitrogen dioxide annual averages at background sites (diffusion tubes)

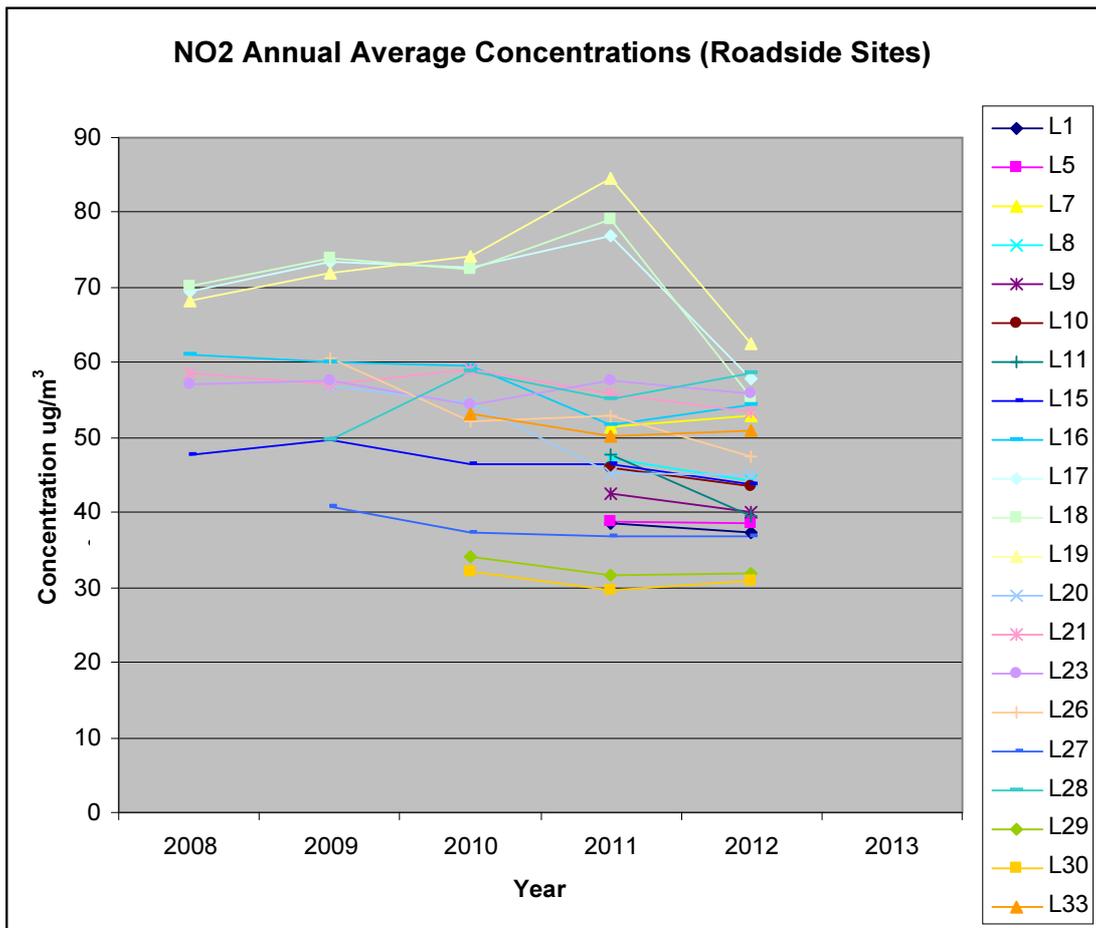


Fig 1.3: Trends in nitrogen dioxide annual averages at roadside sites (diffusion tubes)

Background Sites		Roadside Sites	
L2	Bronze Street, SE8	L1	Chubworthy Street, SE14
L3	Grove Street, SE8	L5	Lee High Road, SE12
L4	Plough Way, SE8	L7	Bell Green, SE6
L6	Le May Avenue, SE12	L8	Stondon Park, SE23
L12	Hilly Fields, SE13	L9	Ladywell Road, SE13
L13	Mayow Road, SE26	L10	Whitburn Road, SE13
L14	Boyne Road, SE13	L11	Sparta Street, SE10
L22	Ringstead Road, SE6	L15	Lewisham Road, SE13
L24	Hazelbank Road, SE6	L16	Loampit Vale, SE13
L25	Stanstead Road, SE23	L17-L19	New Cross Road (same location), SE14
L31	Howson Road, SE4	L20	Hatcham Park Road, SE14
L32	Clyde Street, SE8	L21	Brockley Rise, SE23
L34	Dartmouth Road, SE26	L23	Catford Hill, SE6
		L26	Shardloes Road, SE14
		L27	Lawn Terrace, SE3
		L28	Baring Road, SE12
		L29	Sangley Road, SE6
		L30	Perry Vale, SE23
		L33	Lewisham High St, SE13

Ozone

Ozone is not included in the system of Local Air Quality Management owing to its trans-boundary nature. Responsibility for achieving the Objectives therefore rests at national level. Within the London Borough of Lewisham, ozone is monitored only at Lewisham 1 in Catford. The data is utilised by the national government for comparison against the national objective. The objective is no more than 10 days within a year when the maximum rolling 8-hour mean exceeds **100**µg/m³.

Site ID	Location		2008	2009	2010	2011	2012
Lewisham1	Broadway Theatre, Catford	Data capture %	99	99	99	100	99
		Max rolling 8-hourly mean	113	81	78	97	121
		No. of days max rolling 8-hour mean > 100 µg/m ³	6	0	0	0	15

Table 1.2: Ozone monitoring data (Lewisham 1)

Particulate Matter (PM₁₀)

The National Air Quality Objective for the PM₁₀ annual average is **40**µg/m³. The graph below shows the annual averages recorded at the borough's monitoring sites for those years where data is available.

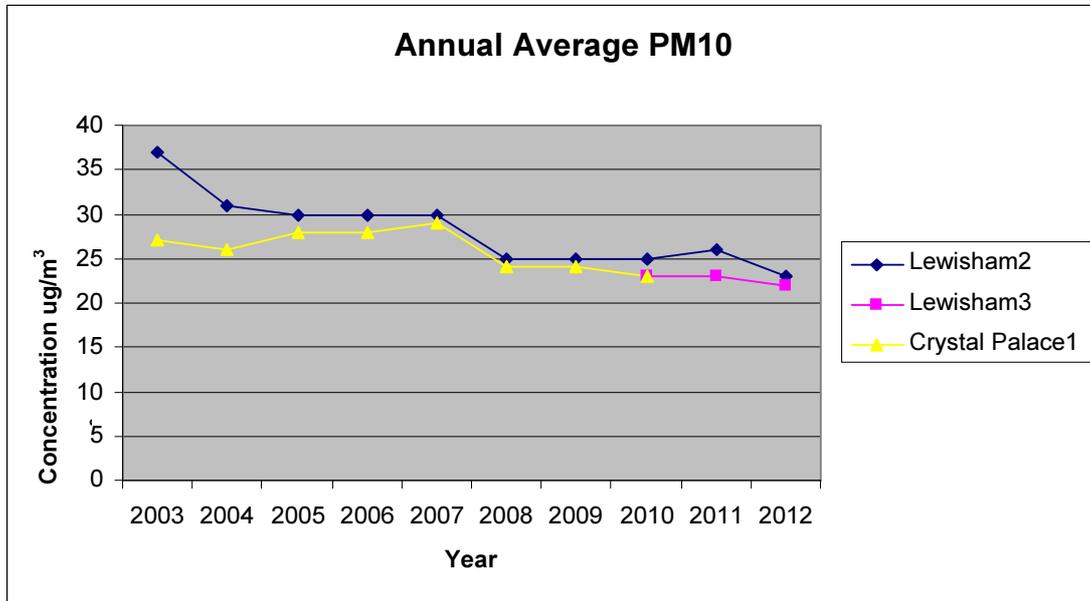


Fig 1.4: Trends in PM₁₀ annual averages

Sulphur dioxide (SO₂)

There are several short-term objectives for sulphur dioxide which set a maximum number of exceedences that may occur annually. At each of the monitoring sites and for all of the objectives, no exceedences have occurred in recent years. Therefore, in order to show trends, the graph below shows the maximum 15-minute mean for each year.

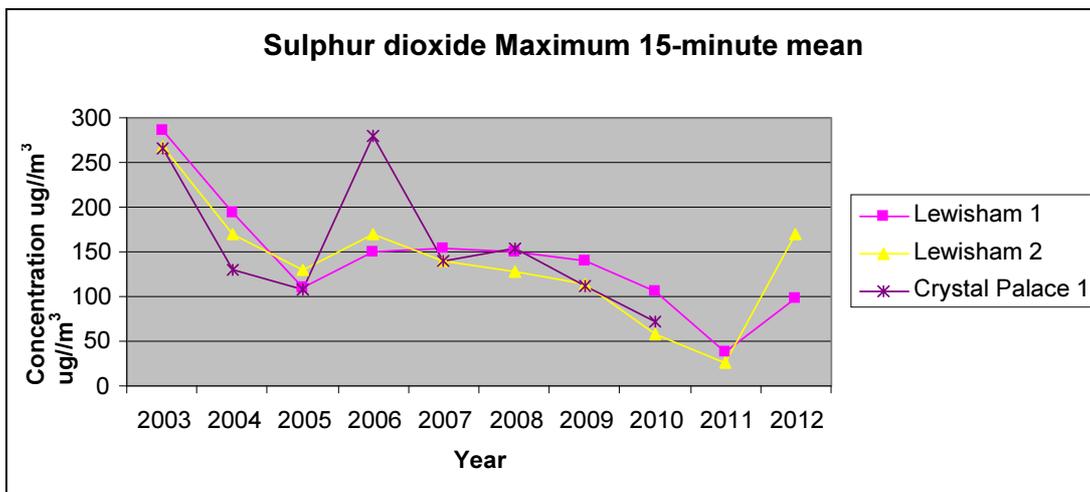


Fig 1.5: Trends in SO₂ maximum 15-minute means

Targets

The European Union has issued an air quality Directive that sets standards for a variety of pollutants that are considered harmful to human health and the environment. These standards, which are based on WHO guidelines, include limit values, which are legally binding and must not be exceeded. The EU Directive, including the emission concentration limit values, has been transposed into English law by the Air Quality Standards Regulations and a national strategy developed. The table below shows the objectives that are set in the UK National Air Quality Strategy for the different pollutants that occur in ambient air:

Pollutant	Concentration		Date to be achieved by
	Concentration	Measured as	
Benzene	16.25 $\mu\text{g}/\text{m}^3$	Running annual mean	31.12.2003
	5.00 $\mu\text{g}/\text{m}^3$	Running annual mean	31.12.2010
1,3-Butadiene	2.25 $\mu\text{g}/\text{m}^3$	Running annual mean	31.12.2003
Carbon monoxide	10.0 mg/m^3	Running 8-hour mean	31.12.2003
Lead	0.5 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2004
	0.25 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2008
Nitrogen dioxide	200 $\mu\text{g}/\text{m}^3$ not to be exceeded more than 18 times a year	1-hour mean	31.12.2005
	40 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2005
Particles (PM ₁₀) (gravimetric)	50 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 35 times a year	24-hour mean	31.12.2004
	40 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2004
Sulphur dioxide	350 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 24 times a year	1-hour mean	31.12.2004
	125 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 3 times a year	24-hour mean	31.12.2004
	266 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 35 times a year	15-minute mean	31.12.2005

Table 2.1 Air Quality Objectives included in Regulations for the purpose of Local Air Quality Management in England.

These National Air Quality Objectives have been set in regulations which implement European Union Directives on ambient air quality. The EU Directives set limit values for the pollutants which take into account relevant World Health Organisation standards, guidelines and programmes. The limit values are legally binding on the member states and must not be exceeded.

A new European Union directive on ambient air quality and cleaner air entered into force in June 2008. This merges together four earlier directives and one Council decision.

Performance

Concentrations of each of the pollutants included in the Air Quality Standards Regulations have been monitored and/or estimated then compared to the relevant standards (objectives). The table below lists each of the pollutants with the relevant objective and whether or not the objective was met in the most recent year for which data was available (2012).

Pollutant	Concentration		Measured as	Achieved in LBL (Y/N)
Benzene	16.25 $\mu\text{g}/\text{m}^3$		Running annual mean	Y
	5.00 $\mu\text{g}/\text{m}^3$		Running annual mean	Y
1,3-Butadiene	2.25 $\mu\text{g}/\text{m}^3$		Running annual mean	Y
Carbon monoxide	10.0 mg/m^3		Running 8-hour mean	Y
Lead	0.5 $\mu\text{g}/\text{m}^3$		Annual mean	Y
	0.25 $\mu\text{g}/\text{m}^3$		Annual mean	Y
Nitrogen dioxide	200 $\mu\text{g}/\text{m}^3$ not to be exceeded more than 18 times a year		1-hour mean	N
	40 $\mu\text{g}/\text{m}^3$		Annual mean	N
Particles (PM ₁₀) (gravimetric)	50 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 35 times a year		24-hour mean	Y
	40 $\mu\text{g}/\text{m}^3$		Annual mean	Y
Sulphur dioxide	350 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 24 times a year		1-hour mean	Y

	125 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 3 times a year	24-hour mean	Y
	266 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 35 times a year	15-minute mean	Y

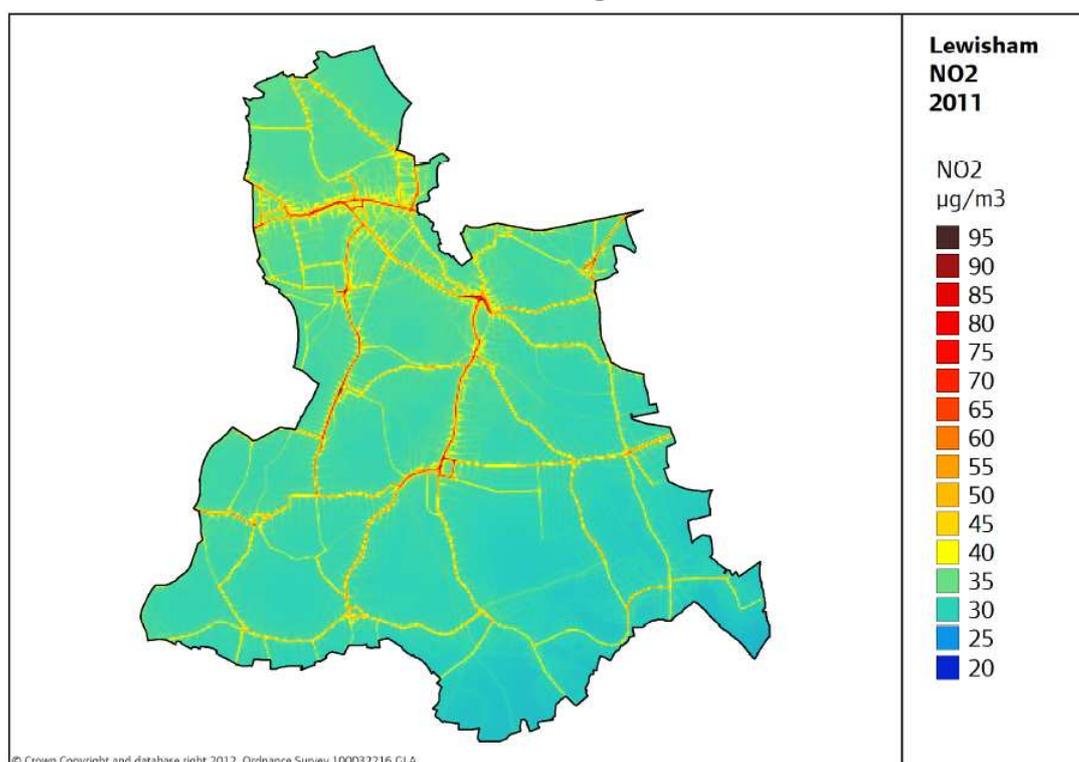
From the above table, it can be seen that the objectives were not met for only one of the pollutants; NO_2 . These are called 'exceedences'. Exceedences of the annual average objective occur at many roadside locations within the borough while exceedences of the 1-hour mean objective only occur adjacent to those roads that are the most busy and congested. All background sites where monitoring of nitrogen dioxide is undertaken show compliance with both objectives.

To help put the situation in Lewisham in a regional context, the highest 24-hour average for NO_2 measured at the New Cross monitoring station in 2012 was $99\mu\text{g}/\text{m}^3$. The highest reading recorded at any monitoring station in London was $268\mu\text{g}/\text{m}^3$.

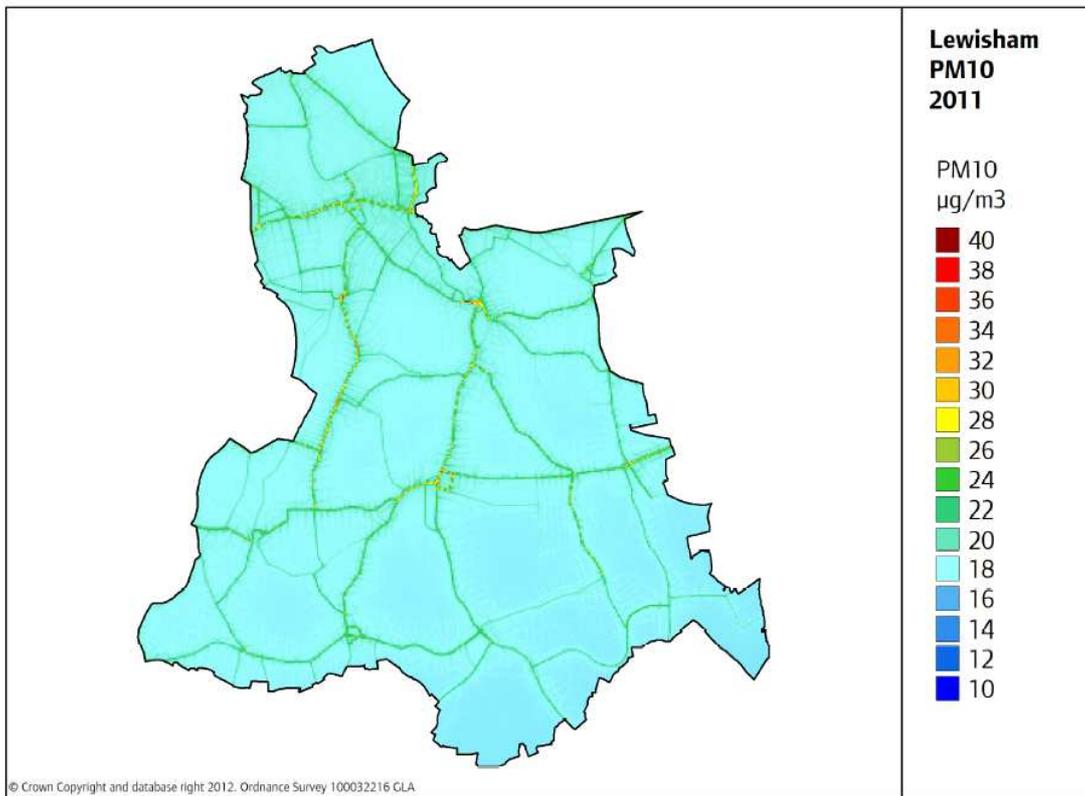
Exceedences of the 24-hour mean objective for PM_{10} have occurred previously but not since 2003.

The maps below show the modelled concentrations of nitrogen dioxide and PM_{10} for 2011 within the borough of Lewisham.

NO2 concentrations in London Borough of Lewisham 2011



PM10 concentrations in London Borough of Lewisham 2011



Local Views

Air quality is of significant concern to many local people and the subject often generates headlines in the national and local media. The 2010 Londoner Survey¹² found that pollution from traffic was the top environmental concern for Londoners.

There is no measure of local attitudes towards air quality within the borough that is carried out on a regular basis. Progress on air quality is reported to DEFRA and the GLA on an annual basis and these reports are available for viewing on the Council website. These reports are required to be produced according to a prescribed template and the content is fairly technical. Possibly as a result of this, they rarely generate feedback from members of the public. However, from conversations and calls to the local authority, we know that people are concerned about local air pollution.

Local views are gathered through consultation on specific issues and/or during community engagement events. A consultation on parking regulations within the borough was carried out in 2012 which included questions on public attitudes towards encouraging low emission vehicles using fiscal incentives. In addition, a local consultation was carried out within the Crofton

¹² The Annual London Survey carried out in early 2010, <https://www.london.gov.uk/get-involved/annual-london-survey/annual-london-survey-2010>

Park / Forest Hill area on the designation of a new Air Quality Management Area. The responses from the latter consultation showed overwhelming support for a larger geographical area to ensure that air quality could be managed on a wider scale.

National and local strategies

The National Air Quality Strategy

The Environment Act 1995 put into legislation a requirement for a national strategy to be developed to tackle poor air quality and thereby reduce the associated risks to human health and the environment. Consequently, on March 12th 1997, the National Air Quality Strategy was published, with commitments to achieve new air quality objectives throughout the UK by 2005. A review of the Strategy was published in January 2000 and the most recent version was produced in July 2007.

The Air Quality Strategy aims to protect health and the environment without imposing unacceptable economic or social costs. It sets out standards and objectives for the 8 main health-threatening air pollutants in the UK. The standards are based on an assessment of the effects of each pollutant on public health. They are based on recommendations by the Expert Panel on Air Quality Standards, The European Union Air Quality Daughter Directive and the World Health Organisation. Local Authorities are responsible for seven of the eight air pollutants under Local Air Quality Management (LAQM).¹³ The pollutant that is not covered by LAQM is ozone which is tackled at a national level.

Mayor's Air Quality Strategy

The Mayor of London is also required to keep under review an Air Quality Strategy for the Greater London area. The most recent version of the Mayor's Air Quality Strategy entitled 'Clearing the Air' was published in December 2010. The Strategy contains policies and proposals that aim to improve air quality across the Greater London area and thereby seek to ensure that the limit values for all pollutants in the area are achieved.

Lewisham Air Quality Action Plan

Although the London Borough of Lewisham does not have an Air Quality Strategy for the borough, much of the area has been declared an Air Quality Management Area. Where an Air Quality Management Area is declared, the local authority is required to develop an Action Plan containing measures that seek to address the particular air quality problems identified. London Borough of Lewisham published an Air Quality Action Plan in January 2008 containing 21 measures that will help to reduce the levels of NO₂ and PM₁₀ within the 5

¹³ Taken from www.air-quality.org.uk

Air Quality Management Areas declared. Although the Action Plan is for these 5 Air Quality Management Areas, the measures implemented will deliver air quality benefits across the whole of the borough.

Current Activity and Services

For the areas declared as Air Quality Management Areas, a single Air Quality Action Plan is in place. This details all the measures that London Borough of Lewisham Environmental Protection Team are implementing or intending to do so in order to reduce the levels of NO₂ and PM₁₀.

However, many of the measures will not tackle solely the Air Quality Management Areas since any improvements to air are likely to benefit a much wider area.

A Progress Report is submitted to DEFRA each year outlining the progress made with each of the measures in the Action Plan. These reports are available to view on the [Air Pollution](#) pages of the Lewisham Council website. The measures which have been targeted within 2012-13 are as follows:

- Measures to increase awareness on air quality issues including promotion of the air pollution alert service AirTEXT and methods to help people reduce their exposure such as Walkit.com;
- Measures to Encourage the Use of Cleaner Technology and Alternative Fuels through the promotion of the uptake of electric vehicles and installation of infrastructure to support their recharging;
- Promotion of Walking through improvements to the walking environment including signage, lighting and surfacing;
- Promotion of Cycling through cycle training, security marking and repair workshops.
-
- Measures to Manage Parking through a review of the Parking Strategy including consideration of financial incentives for low emission vehicles.
-
- Measures to Reduce Emissions from Domestic Buildings through offering energy efficiency measures and advice.

In addition, London Borough of Lewisham is looking at ways to improve community engagement and provide information to residents about air quality. Therefore, the website has been amended to provide contact forms for various air quality issues with the associated relevant information. This is intended to be a mutual exchange of information to help the local authority improve its services with regards to air quality.

What is this telling us?

What are the key inequalities?

Air pollution can often travel some distance away from the source of emissions. Particulate matter, especially, can travel substantially so that concentrations within London are affected by emissions from mainland Europe as well as dust from the Sahara. However, the largest source of emissions within the borough of Lewisham is motor vehicles and, consequently, the areas of poorest air quality are adjacent to the busiest roads.

As the properties alongside busy roads tend to be cheaper and/or rented accommodation, it tends to be those from the lowest socio-economic groups who live in these areas and are, therefore, exposed to higher levels of air pollution. A close link has been shown between areas of high deprivation and pollution.

A recent study by the think tank Policy Exchange sought to quantify the inequalities experienced. The research found the following:

- 5-10 year old children living in the 10% of areas with the lowest air quality in London are nearly 50% more likely than the London average to be on free school meals.
- People living in the 10% of the areas with the lowest air quality are over 25% more likely than the London average to be on income support.

As highlighted in the 2010 Marmot Review¹⁴, individuals in deprived areas experience more adverse health effects at the same level of exposure compared to those from less-deprived areas. This is, in part, because of a higher prevalence of underlying cardio-respiratory and other diseases, as well as greater exposure to air pollution as a result of homes being situated nearer to busy congested roads and with fewer green spaces.

Studies also show that the greatest burden of air pollution usually falls on the most vulnerable in the population, in particular, the young and elderly. The link between health inequalities and pollution is complex.¹⁵

Individuals particularly at risk also include those with existing respiratory problems and chronic illnesses such as asthma and chronic obstructive pulmonary disease (COPD). There are approximately 690,000 asthma sufferers in London and 230,000 individuals suffering from COPD.¹⁶

¹⁴ <http://www.instituteofhealthequity.org/projects/fair-society-healthy-lives-the-marmot-review>

¹⁵ http://uk-air.defra.gov.uk/reports/cat09/0701110944_AQinequalitiesFNL_AEAT_0506.pdf

¹⁶ www.london.gov.uk/publication/mayors-air-quality-strategy

The Health Effects Institute (HEI) panel concluded that the evidence is sufficient to support a causal relationship between exposure to traffic-related air pollution and exacerbation of asthma. It also found suggestive evidence of a causal relationship with onset of childhood and asthma, non-asthma respiratory symptoms, impaired lung function, total and cardiovascular mortality, and cardiovascular morbidity, although the data are not sufficient to fully support causality.¹⁷

What are the key gaps in knowledge and/or services?

Although we have information on the current levels of air quality and studies demonstrate a link between air pollution and ill-health, there are still a number of gaps in our knowledge.

The main areas in which further information is needed are:

- the effects of different types of air pollution on hospital admissions and mortality
- the quantitative impacts on pollutant concentrations from individual measures in order to identify those that are the most effective.

What is coming on the horizon?

The move of Public Health into Local Authorities facilitates the integration of considerations of the wider determinant of health into the planning and delivery of local authority services. The Public Health Outcomes Framework is a set of indicators compiled by the Department of Health to measure how effectively the activities of each local authority are addressing the determinants of health. Within four domains, there are a total of 68 indicators. One of these indicators is Air Pollution.

Following on from a recent "Review and Assessment" of air quality within the borough, a Detailed Assessment was carried out which involved modelling the concentrations of NO₂ within an area around Crofton Park and Forest Hill. This area was identified as having concentrations of NO₂ above the limit values in the Air Quality Standards Regulations, being an area where members of the public are exposed and which had not already been declared as an Air Quality Management Area. Consequently, a new Air Quality Management Area will be declared to cover the areas of exceedences as a minimum.

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<http://www.comeap.org.uk/images/stories/Documents/Statements/asthma/does%20outdoor%20air%20pollution%20cause%20asthma%20-%20comeap%20statement.pdf>

Following the declaration of the new Air Quality Management Area, an Action Plan will be put in place setting out the measures that will be implemented to reduce concentrations of NO₂ in this area. It is intended that the Air Quality Action Plan that currently exists for the 5 already-declared Air Quality Management Areas will then be reviewed and updated.

What should we be doing next?

The aim is to ensure that public health is protected by ensuring that no individuals are exposed to unhealthy levels of air pollution concentrations.

Therefore, we need to reduce exposure to air pollution but, more importantly, reduce emissions at source. While LB Lewisham aims to ensure that we achieve compliance with the prescribed limit values for all pollutants, we will strive to go beyond this and continue to improve air quality in all areas. In this way, we aim to protect even the most vulnerable individuals from the potential health impacts from air pollution.

No one measure is going to deliver the necessary reductions so a package of measures need to be implemented which requires co-operation and input from a variety of stakeholders. Furthermore, as some pollutants are brought into the borough from outside our area of jurisdiction, there are limitations to what can be achieved.

However, we need to ensure that the sources of air pollution that are emitted within the borough area and, therefore, within our remit, are controlled.

Therefore, we need to:

- Reduce emissions from transport by providing a range of sustainable alternatives with readily available information on the options, leading by example to promote cleaner technology and alternative fuels and using fiscal options to encourage cleaner vehicles while deterring the most-polluting;
- Reduce emissions from industry through providing advice and information to industrial operators while taking appropriate enforcement action where necessary;
- Reduce emissions from heating by supporting the uptake of energy-efficiency measures;
- Ensure that new developments do not result in increased air pollution nor place people in areas of poor air quality;
- Educate, encourage and advise people to change polluting modes of behaviour and reduce their exposure to harmful levels of air pollution.

Certain measures to improve air quality have significant co-benefits for health. These are listed below:

Motor traffic is responsible for air pollution and so measures that encourage people to use sustainable transport, such as walking and cycling would have the following benefits:

- Create an environment that is more pleasant to walk and cycle, hence increasing physical activity levels
- Reduce risks of injury and death from road traffic collisions
- Reduce noise pollution which also enables people to open windows to buildings thus reducing the costs of air conditioning
- Reduce community severance, increase community cohesion and social interactions
- Contribute to reducing the urban heat island effect (This effect is explained by the Met Office).¹⁸

Greater number of trees and vegetation:

- Reduce risks from localised flooding
- Contribute to urban cooling and help to contribute to reducing the urban heat island effect
- Provide shade to enable people to keep cool and out of direct sunlight in sunny weather
- Improve mental health and wellbeing
- Improve resilience to climate change. Information on climate change is available at the Met Office website.¹⁹

Improving the energy efficiency of homes would reduce emissions from heating systems, which would have the additional benefits of:

- Reducing fuel bills, thus reducing fuel poverty (which is the situation where households are required to spend more than 10% of their income to heat their homes to an appropriate temperature)
- Reduces likelihood of damp and mould occurring, which aggravate respiratory disease

Reduce the number of falls in the home (falls are more likely to occur in cold homes due to poor blood circulation).

Indoor Air Pollution

Research indicates that people may spend up to 90% of their time indoors, so in addition to consideration of the air quality outside, indoor air quality of our homes and workplaces is also important.²⁰

In the UK, sources of indoor air pollution include domestic gas combustion from cooking and heating, cleaning agents, tobacco smoke, mould,

¹⁸ Met office, Urban Heat Islands, <http://www.metoffice.gov.uk/services/climate-services/case-studies/urban-heat-islands>

¹⁹ Met office, What is Climate Change, <http://www.metoffice.gov.uk/climate-guide/climate-change>

²⁰ P511 (2001) Polluton: Causes, Effects and Control Eds Roy M Harrison

condensation and asbestos. Tobacco smoke is an important source of indoor air pollution, exposure to second hand smoke can cause lung cancer in adults who do not smoke. It can also cause asthma in children who have not shown symptoms of asthma before.²¹

In urban areas outdoor air pollution may affect indoor air quality. Indoor air quality can be improved through source control, filtration and ventilation.²² it is possible to install filtration to reduce ingress of outdoor air pollution. There are European standards for filtration applicable for non residential buildings. At home individuals can improve indoor air quality by not smoking at home, and other actions such as keeping types of houseplants known to improve air quality and ensuring there is adequate ventilation and extraction when cooking and using cleaning products.

²¹ United States Environmental Protection Agency, Health Effects of Exposure to Second Hand Smoke. <http://www.epa.gov/smokefree/healtheffects.html>

²² Air Quality in Lewisham: A guide for Public Health Professionals, Mayor of London 2012.