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REPORT TO: Members' Library Service

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BY: Head of Development

SUBJECT: Joint Health Protection Plan 2016-18

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1   PURPOSE

1.1   To inform Members of the Lothian Joint Health Protection Plan 2016-18

2   RECOMMENDATIONS

2.1   Members are asked to note the content of this report and the approval by the Chief Executive of the Lothian Joint Health Protection Plan 2016-18.

3   BACKGROUND

3.1   The Council's Environmental Health Service undertakes investigations into a range of public health issues, e.g. food poisoning and certain gastrointestinal illnesses and communicable diseases, local contamination incidents, chemical spills etc, as well as undertaking local environmental monitoring and inspections. Much of this work is carried out in liaison with other agencies and council services, but there is particularly close partnership working between Officers of Environmental Health and NHS Lothian's Health Protection Team.

3.2   The Public Health etc (Scotland) Act 2008 provides the statutory framework for Local Authorities and Health Boards to protect public health as well as clarify their respective roles. The Act sets out the duties of Scottish Ministers, health boards and local authorities to continue to make provision to protect public health in Scotland

3.3   'Protecting public health' for the purposes of the 2008 Act means 'the protection of the community … from infectious diseases, contamination or other such hazards which constitute a danger to human health; and includes the prevention of, the control of, and the provision of a public health response to such diseases, contamination or other hazards'.

3.4   The Act places a duty on health boards and local authorities to designate 'competent' persons to undertake functions assigned to them under the

Act. The Act contains extensive powers for both local authorities and Health boards to carry out public health investigations.

3.5 A duty of co-operation is placed on health boards and local authorities in exercising the functions under the Act. Each health board must prepare a Joint Health Protection Plan for its area, and must consult the relevant local authority or local authorities in doing so.

Lothian Joint Health Protection Plan 2016-18

3.6 The Lothian Joint Health Protection Plan 2016-18 for NHS Lothian and Local Authorities has been produced in accordance with the Part 1 guidance for the Public Health etc (Scotland) Act 2008 from Scottish Government and is attached as Appendix 1 to this report. The Plan is a revision of the previous Plan which covered the period 2014-16.

3.7 The purpose of the Plan is to provide an overview of health protection (communicable disease and environmental health) priorities, provision and preparedness and to support the longstanding collaborative arrangements that exist between NHS Lothian and Local Authorities.

3.8 The key communicable disease and environmental health functions of NHS Lothian and Local Authorities are:

- To reduce preventable illness and death from communicable disease

- To identify potential outbreaks of communicable disease at an early stage so that effective control measures can be put in place as soon as possible

- To improve the ability to prevent further outbreaks

- To work with partner agencies to put in place measures for effective management of non-communicable disease public health incidents and health improvement measures to mitigate health impact of environmental hazards.

3.9 The Plan covers the NHS Lothian Health Board area, which includes the City of Edinburgh, East Lothian, Midlothian and West Lothian Councils.

3.10 NHS Lothian has the statutory responsibility to produce this Plan in consultation with the City of Edinburgh, East Lothian, Midlothian and West Lothian Councils.

3.11 The Plan has been written through a consultative process by a working group comprising NHS Lothian's Director of Public Health and Health Policy, Consultant in Public Health and the Chief Officer(s) of Environmental Health of the City of Edinburgh, East Lothian, Midlothian and West Lothian Councils.

3.12 This Plan is in the process of being approved by the Corporate Management Team of NHS Lothian, and is being reported to the relevant elected member forum of each Local Authority. It has been noted by NHS Lothian's Lothian Infection Control Area Committee (LICAC).

3.13 An action plan has been developed to ensure that this Joint Health Protection Plan is implemented. The steering group comprising the NHS Lothian's Director of Public Health and Health Policy, Consultant in Public Health and the Chief Officer(s) of Environmental Health of the City of Edinburgh, East Lothian, Midlothian and West Lothian Councils will keep the Plan under strategic review.

Implications for East Lothian Council

3.14 There is already close co-operation and formal liaison arrangements between NHS Lothian (Health Protection Team) and the Council's Environmental Health Services and it is envisaged that these arrangements will continue.

3.15 The functions undertaken by Environmental Health complement those undertaken by the NHS. Health Boards and Local Authorities have a duty to co-operate in pursuit of protecting and improving the health and wellbeing of the local population. Environmental Health advise on the development of laws, regulations and policies at local, national and international level and carry the major responsibility for local implementation and enforcement in the following areas:

- Air quality
- Noise and other statutory nuisances
- Recreational water quality
- Drinking water quality – particularly private supplies
- Food safety
- Food composition and nutritional information
- Living and working conditions
- Injuries at home and at work
- Contaminated land
- Pest control
- Public safety – events; skin piercing and tattooing; sunbeds, etc

3.16 An extended list of priorities and activities are listed at section 5.1.2 of the Plan.

3.17 The Council has a number of qualified and experienced Environmental Health Officers who meet the competent person designation required by the Act.

4   POLICY IMPLICATIONS

4.1   The work undertaken by the Environmental Health Service in conformance with this Plan contributes towards the East Lothian Plan Single Outcome Agreement:

http://www.eastlothian.gov.uk/downloads/file/9787/the_east_lothian_plan_single_outcome_agreement_2013

5   INTEGRATED IMPACT ASSESSMENT

5.1   The position statement of this report does not directly affect the wellbeing of the community or have a significant impact on equality, the environment or economy although the development of specific actions, such as the Air Quality Action Plan may require more detailed consideration of the integrated impact assessment process.

6   RESOURCE IMPLICATIONS

6.1   Financial – routine health protection work will be met within existing budget.

6.2   Personnel - Local Authority competent persons are designated from the Council's qualified Environmental Health Officers.

6.3   Other - None

7   BACKGROUND PAPERS

7.1   Lothian Joint Health Protection Plan 2016-2018

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LOTHIAN

JOINT HEALTH PROTECTION PLAN

NHS
Lothian

East Lothian
Council

·EDINBVRGH·
THE CITY OF EDINBURGH COUNCIL

Midlothian

West Lothian
Council

April 2016 – March 2018

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Foreword

This is the fourth Lothian Joint Health Protection Plan (JHPP), produced as a requirement under the Public Health etc (Scotland) Act 2008[1]. This plan has been prepared in close collaboration between NHS Lothian and the four Local Authorities of the City of Edinburgh, East Lothian, Midlothian and West Lothian.

The partners have realised some benefits from the first three plans, including better relationships and working arrangements which have resulted in improved joint incident and outbreak management, joint training and continuing professional development (CPD) sessions.

The first plan provided guidance for the introduction of systems, identified resources that are required for delivery of health protection in Lothian and mapped out key components for implementing the Public Health Act. The second plan also identified priorities for joint working. The third and fourth plans take joint working further, particularly on areas of shared concern such as air quality but will also strengthen the shared approach to quality improvement between NHS Lothian and the four Local Authorities, building on the lessons learned during incidents that took place between 2012-2016 (Appendix 1).

NHS Lothian's Public Health and Health Policy Directorate, of which the Health Protection Team (HPT) is a part of, already works closely with colleagues in Environmental Health at Lothian Councils in the investigation and management of cases involving communicable diseases and environmental hazards. The Public Health etc. (Scotland) Act 2008[1], which came about as a response to the International Health Regulation (IHR), the Human Rights Act[2] and emerging issues such as new infectious diseases and terrorism, has been helpful in clarifying roles and responsibilities in this existing arrangement.

Scotland's goals in reducing mortality and morbidity from communicable disease, reducing exposure to environmental hazards, improving health, wellbeing, the quality and sustainability of the environment are set out in the national and international policy documents[1,3–7]. These are echoed in the key objectives of the communicable disease and environmental health functions of NHS Lothian and Local Authorities, which are:

- To reduce preventable illness and death from communicable disease and environmental hazards

- To identify potential outbreaks of communicable disease at an early stage so that effective control measures can be put in place as soon as possible

- To improve the ability to prevent further outbreaks

- To work with partner agencies to put in place measures for effective management of non-communicable disease public health incidents and health improvement measures to mitigate health impact of environmental hazards

The Act has also provided an opportunity to develop our planning processes, linking local departmental plans and ensuring that our objectives match closely those of the wider NHS and Lothian Councils' planning systems.

Over the next two years we will continue to work towards meeting these objectives, reporting progress on an annual basis through the existing planning processes including the new community planning arrangements set out in the Community Empowerment Act[8].

The collaborative approach between NHS and Local Authorities was re-emphasised in the 2011 Scottish Government guidance on managing public health incidents[9]. The guidance clarifies the role of NHS Boards in sharing statutory responsibility for improving and protecting public health with Local Authorities and other partner agencies. Critical in this role is the joint formation of incident management teams, the provision of the necessary resources for management of incidents on a 24 hour basis and the continuous improvement of the quality of incident management. This guidance is currently under review.

Over the last five years, some key national health protection priorities have been restated in policy documents. These include the publication of the fourth edition of the Approved Code of Practice (ACOP) for the control of Legionella Bacteria in Water System[10], the VTEC/E coli O157 Action Plan for Scotland 2013-2017[11] which aims to reduce the incidence of this infection by setting strategic direction for key partners and emphasising collaborative roles. Additionally, NHS Scotland Resilience Guidance requires Chief Executives to ensure adequate preparedness for major incidents and emergencies[12].

This plan also supports key priorities identified in the Single Outcome Agreements (SOA)[3] for each of the Local Authority areas between the Councils, NHS Lothian and their other community planning partners, particularly in relation to the Scottish Government national outcomes for health improvement, reducing health inequalities and delivering quality public services.

We wish to continue to improve our knowledge and the quality of the service we provide for the population of Lothian and welcome comments on this plan – please send these to: health.protection@nhslothian.scot.nhs.uk

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1 Preface

This joint plan for NHS Lothian and Local Authorities has been produced in accordance with the Part 1 guidance for The Public Health etc. (Scotland) Act 2008[1]. This aims to:

- Provide clarity about which agency and persons have overall responsibility in protecting the public health, for example ensuring lessons learned from the fatal accident inquiry into the Central Scotland E. coli O157 outbreak[13].

- Ensure preparedness and enhance co-operation among agencies in combating major emergencies, for example bioterrorism and lessons from SARS.

- Resolve gaps and uncertainties in the adequacy of statutory powers that might be required for communicable disease control, particularly for emerging hazards, for example early interventions in avian or pandemic influenza.

- Update the principles and concepts underpinning public health legislation for the twenty-first century to reflect changes in public health ethics and values, new scientific developments and the response to globalisation.

Purpose of the plan

The purpose of the plan is to provide an overview of health protection (communicable disease and environmental health) priorities, provision and preparedness and to support the collaborative arrangements that exist between NHS Lothian and Local Authorities. A joint overall steering group will continue to oversee the plan's implementation.

Geographical extent of the plan

This plan covers the NHS Lothian Health Board area, which includes the City of Edinburgh, East Lothian, Midlothian and West Lothian Councils.

Statutory responsibility

NHS Lothian has the statutory responsibility to produce this plan in consultation with the City of Edinburgh, East Lothian, Midlothian and West Lothian Councils.

Authors

The plan has been written through a consultative process by a working group comprising NHS Lothian's Director of Public Health and Health Policy, a Consultant in Public Health Medicine and other staff members and the Chief Officers of Environmental Health of the City of Edinburgh, East Lothian, Midlothian and West Lothian Councils. This team also constitutes the steering group which oversees the implementation of the plan. The agency representatives at the steering group which developed the plan were:

Name	Designation
Mr Andrew Blake	Environmental Health and Trading Standards Manager, West Lothian Council
Mr Derek Oliver	Environmental Health Service Manager, East Lothian Council
Professor Alison McCallum	Director of Public Health and Health Policy, NHS Lothian
Dr Richard Othieno	Consultant in Public Health Medicine, NHS Lothian – Chair
Mrs Edel Ryan	Manager, Environmental Health, Midlothian Council
Mr Colin Sibbald	Food, Health and Safety Manager, City of Edinburgh Council
Mr Stephen Williamson	Food, Health & Safety Manager, City of Edinburgh Council

Governance Arrangements

This plan has been approved by the Board and Corporate Management Team of NHS Lothian, each of the Councils and the relevant elected member forum of each Local Authority. It has been adopted by NHS Lothian's Lothian Infection Control Advisory Committee (LICAC) and Healthcare Governance Committee (HCG).

Status

This plan is a public document and can be accessed by the public from NHS Lothian and Local Authorities' websites. Variations of this plan will be subject to consultation with the partner Local Authorities. This plan covers the period 2016-2018. This plan will be formally reviewed every two years.

2 Overview of the Lothians

2.1 Population

Lothian is a geographically diverse area covering approximately 700 square miles, with a population of 858,090. The largest population centre is the City of Edinburgh (population 492,680). The remaining area is split into East Lothian (102,050), Midlothian (86,210) and West Lothian (177,150)[14]. The gender ratio is 49% male to 51% female[14].

The age profile shows that mean age is 38, 16% are under 16 years, 66% are working age and 17% are pensionable age. The proportion of pensionable adults is highest in East Lothian (21%) and lowest in the City of Edinburgh Council (16%)[14]. **Figure 1** illustrates the current population profile by age and sex of Lothian[14].

Figure 1: Lothian estimated population by age and sex: Mid 2014
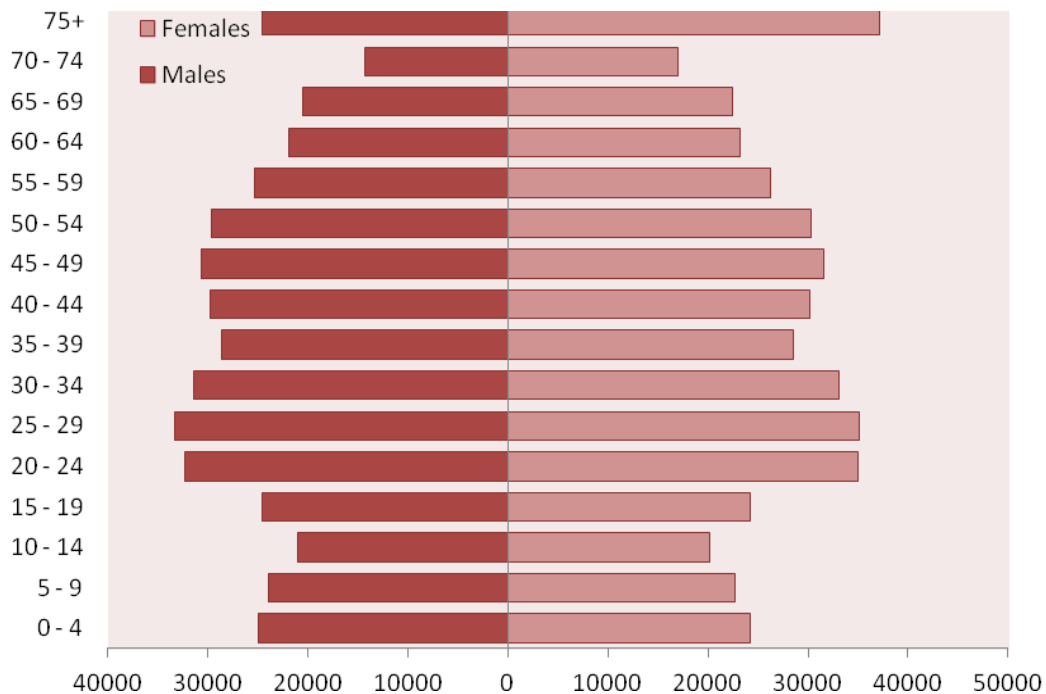
Source: National Records Scotland (NRS)[14]

The population growth rate in Lothian is higher than any other Scottish Health Board. By 2037, the population of Lothian is expected to have increased by 23% from 2012 base population, compared to a national increase of 8.8%. The population of City of Edinburgh Council is expected to increase the most, with a 28.2% increase projected by 2037, from 482,640 in 2012 to 618,978[15]. The population of older adults in Lothian is also expected to grow significantly in the next ten to fifteen years as people are living longer due to improvements in health[15].

The population of residents in the pensionable ages in Lothian is expected to rise by 35% in 2037. This rise will be most noticeable in West Lothian, which has traditionally had a younger demographic than other areas in Lothian but whose population of residents of pensionable ages is expected to increase by 47.3%. The working age population is projected to increase in all the Council areas by 2037, increasing the most in City of Edinburgh (28%)[14, 15].

Migration and ethnicity

The most recent data available for the ethnic make-up of Lothian is from the 2011 National Census. In 2011, the population of the Lothians was made up of predominantly 'White Scottish' (77.8%), 'Other White British' (9.6%), White Polish (2.0%) and 'Other White' (4.9%). The remaining groups made up 5.7%[16]. There has been a significant rise in the migrant population over the last ten years, with the highest increase reported in the City of Edinburgh Council area (**Figure 2**)[14].

Figure 2: Net Migration to Lothian by Local Authority Area: 2013/14
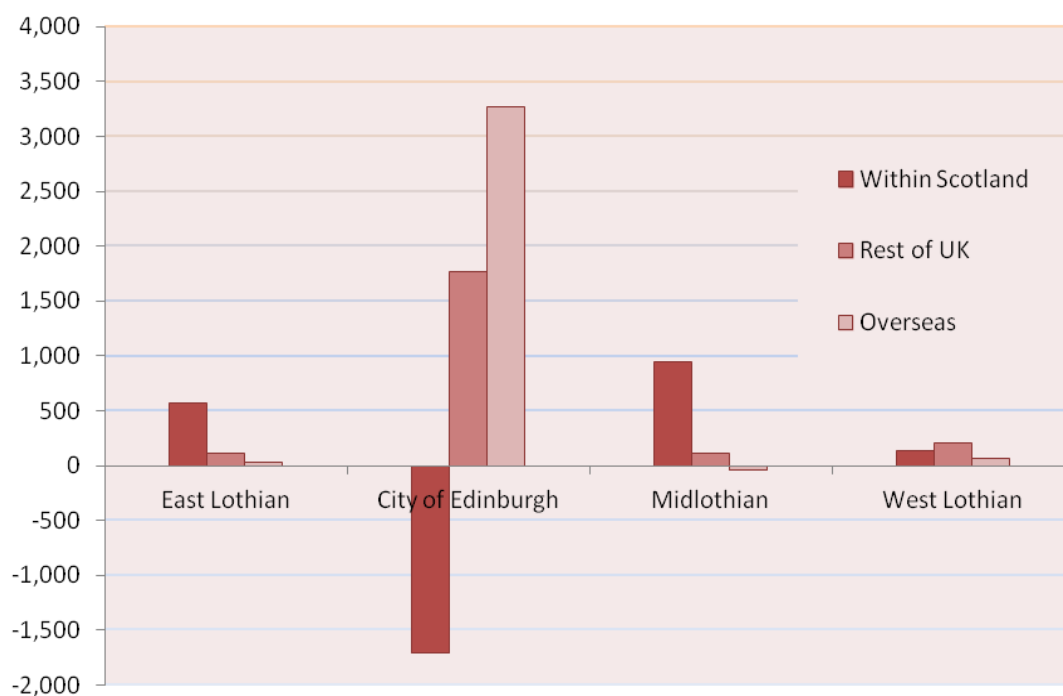
Source: National Records Scotland (NRS)[14]

Net migration figures have fluctuated over the past five years. East and West Lothian saw an increase up to 2008/09 but figures have generally since been decreasing. The migration rate increased steadily up to 2008/09 but has since decreased. On average between 2010-12 there was a net inflow of 6,631 people into City of Edinburgh per year, meaning that more people entered City of Edinburgh (30,137 per year) than left (23, 506 per year) (**Figure 2**)[17]. The Department of Work and Pensions collects information on the number of National Insurance Number allocations to overseas nationals. **Table 1** shows the five most common countries of origin associated with National Insurance numbers issued to overseas nationals in 2014 by council area. The data used to compile this information did not include dependants or adults who are not economically active[17].

Table 1: Countries of origin of persons seeking a National Insurance Number allocation in 2014

Council Area	Number of Countries of Origin	Top five most common countries of origin
East Lothian	23	Poland, Bulgaria, Ireland, Italy, Spain
Edinburgh, City of	88	Spain, Poland, Italy, India, Romania
Midlothian	17	Poland, Romania, Ireland, Italy, Spain
West Lothian	23	Poland, Hungary, Romania, Bulgaria, India

Source: National Records Scotland (NRS)[17]

Culture

Lothian hosts major cultural, educational and political establishments and events. These make the area an attractive place to live but can present challenges for health protection and emergency planning. These include:

- Edinburgh is the capital city, with the Scottish Parliament and Government, Holyrood Palace and Edinburgh Castle.

- A total of 250 primary schools including 22 independent and 17 complex and special needs schools which have primary departments.

- A total of 81 secondary schools including 18 independent schools which have secondary departments.

- Higher education institutions – Lothian has four universities and several college campuses, with a total student population of over 35,000.

- There are five teaching hospitals, with a staffing population of over 28,000.

- There are twelve annual international festivals, including the Edinburgh Festival, which bring many thousands of visitors to the city.

- There are major sporting events, such as rugby internationals, football matches, Open Golf championships and Commonwealth Games

- On occasion, Edinburgh, East Lothian and Midlothian host major world events such as the G8 Summit and Royal Events.

2.2 Transport

Lothian has a complex transport network linking it to major cities in the rest of Scotland and United Kingdom (UK). These include:

- Major trunk roads include A1, A720 (city bypass), M8, M9, A68 and A7.

- Edinburgh airport, Waverley and Haymarket railway stations and St Andrews Square bus station. These are destinations and connection points for many local and international travellers. The Borders Railway running from Edinburgh, through Midlothian to the Scottish Borders opened in September 2015 and it is anticipated that car journeys would be reduced by 60,000 peak trips per year, which would reduce carbon emissions and alleviate traffic and accidents on the A68 and A7 roads[18].

- Water transport – Lothian hosts the Leith Docks and Hound Point where many international vessels berth. It also has proximity to the Rosyth European Ferry Terminal.

- Lothian also has a canal that links Edinburgh and Glasgow. The canal is now largely used for recreational purposes.

- The Development of the first section of new tram system for the City of Edinburgh was completed in May 2014. Tram Line 1 is now operational between the city centre (York Place) and Edinburgh Airport. City of Edinburgh Council is now considering options for extending the line from the city centre to Leith. It is anticipated that the trams will contribute to the improvement of air quality in Edinburgh due to being zero-emissions at source and the modal displacement of a proportion of car and bus journeys

- Traffic pollution contributes to poor air quality. Air quality is monitored in all Lothian Local Authorities. There are five air quality management areas (AQMAs) in Edinburgh (the City Centre, Leith, Corstorphine, Inverleith, Glasgow Road); and three in West Lothian (Broxburn, Linlithgow and Newton) and one in East Lothian (Musselburgh). It is likely that further areas will be added or extended in the foreseeable future[19].

- Midlothian had one declared AQMA at Pathhead which has been revoked following an extensive period of work to install a new gas main and connection to central heating systems across all housing tenures in Pathhead and neighbouring villages which has led to a significant improvement to air quality.

- There were 398,828 licensed vehicles in Lothian by September 2015. Car ownership patterns reflect the provision of public transport. In 2015, there were 0.32 cars per head of population in the City of Edinburgh, whereas in East Lothian, Midlothian and West Lothian there were more than 0.42 cars per head of population[20].

Active Travel is central to the City of Edinburgh's Transport 2030 Vision and Local Transport Strategy 2014-19 (LTS)[21], as well as the Road Safety Plan for Edinburgh to 2020[22]. It is seen as a potential significant contributor to many Single Outcome Agreement (SOA) objectives including on health, environment and economic development. The City of Edinburgh Council is the only city in the UK to sign up to the Charter of Brussels for a 15% cycle mode share (Edinburgh currently has a cycle to work mode share of approximately 7%) by 2020 and having the highest walking mode share in Scotland (currently 34%). The city has a significant length of safe, off-road, cycle routes but there are gaps in the network between paths[23]. These are established in some locations and are in development in others. Considerable effort is

being devoted to promote walking and cycling to school children and young people. This is designed to address traffic congestion, in conjunction with work on preventing obesity and reducing the proportion of people who are inactive. Furthermore with more people walking, traffic congestion reduces; air quality improves; and the risk of respiratory diseases reduces and increases productivity thereby bringing additional economic benefits[21].

3   Disease Burden

The most common causes of death among the people of Lothian in the period 2013/2014 are listed in Figure 3. The physical environment plays a significant role in the causation of the top ten diseases which contribute to death in Lothian. Infectious disease processes feature as one of the top twenty causes of death in Lothian.

Figure 3: Causes of death (crude rates) in the Lothian during the financial year 2013/2014
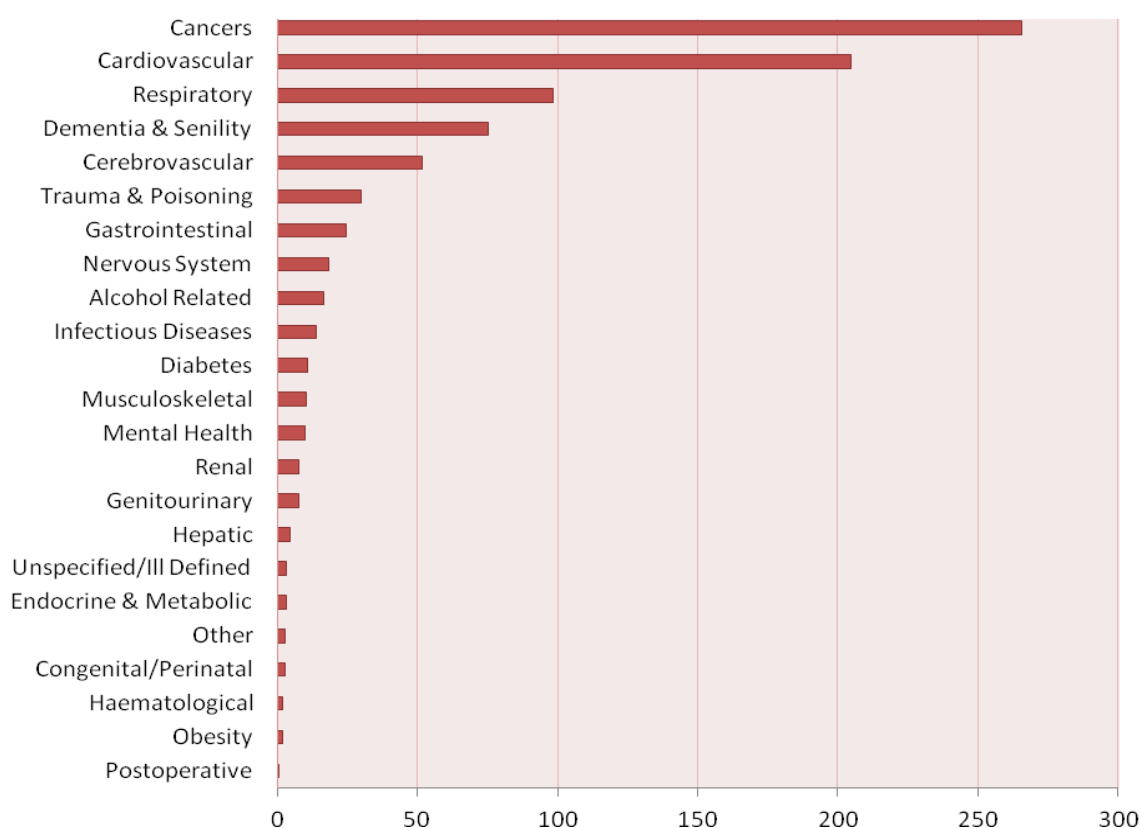
Source: GROS, NHS Lothian Health Intelligence Unit[24]

3.1   Communicable Diseases

The number of cases of notifiable diseases reported to the NHS Lothian HPT between 2013 and 2015 is shown in **Table 2**. Gastrointestinal diseases are the most common notifiable infectious diseases. Each case requires follow up by the HPT operational team and colleagues in Environmental Health, to ensure appropriate control measures are in place and to investigate the source of the infection.

3.1.1 Tuberculosis

In line with the TB notification data for Scotland, the number of active Tuberculosis (TB) cases in Lothian has fallen considerably in the last five years. In 2015 there was a historic low of 48 TB cases notified in Lothian (source provisional ESMI data, HPS) with over 80% born abroad in high TB incidence countries. In addition, TB remains a disease of social deprivation with a higher incidence in the more deprived areas of Lothian.

The steps required for the prevention and treatment of TB are set out in the national TB action plan[25] produced in 2011 and the international agreement to eliminate TB from Europe[26].

In Lothian TB cases are regularly jointly reviewed by the TB specialist nurses, clinical teams in primary and secondary care, microbiology and public health. Each TB case is interviewed by the TB specialist nurses to identify their close contacts and these contacts are followed up as they are also at increased risk of TB infection. In addition NHS Lothian has started to expand latent TB testing amongst those most at risk of developing active TB disease in line with the new 2016 NICE guidance[27].

Table 2: Number of notifications of notifiable diseases in NHS Lothian, 2013 – 2015

Notifiable Disease/Organism	2013	2014	2015
Campylobacter	996	1084	1091
Mumps	73	170	254
Salmonella	108	99	125
Cryptosporidium	74	64	101
Giardia	54	41	46
Tuberculosis(Resp)	34	40	24
Tuberculosis (Non-Resp)	42	20	24
Bacillary Dysentery	24	26	38
E. Coli O157	21	16	18
Whooping Cough	141	73	168
Meningococcal Infection	9	18	19
Rubella	<5	10	<5
Measles	9	17	21
Legionellosis	8	8	9

Vibrio cholerae	0	<5	0
Listeria monocytogenes	0	<5	<5
***E. Coli* (non 0157)**	13	9	16
Haemophillus influenza type B	0	<5	0
Grand Total	**1607**	**1700**	**1960**

Source: SIDSS V2,HPZone[28,29]
NB notifiable diseases are based on clinical notifications.

3.1.2 Vaccine preventable disease and vaccinations

Vaccine preventable diseases (for example, whooping cough (pertussis), measles, mumps and rubella) account for a small but significant proportion of notifications in Lothian. Each clinical notification and laboratory confirmed case is followed up by HPT to reduce the likelihood of further cases and offer vaccination if required.

There were no confirmed cases of measles or rubella in 2015 in Lothian. This is as a result of continuous efforts to maintain infant vaccine uptake at over 95%.

A significant outbreak of 341 cases of mumps occurred in Lothian from October 2014. Cases were initially identified within the student population with the outbreak originating in one University campus. Infection then spread to the general population in Lothian. The outbreak was declared over in July 2015.

Since 2012, Lothian, along with the rest of the UK, has experienced a large outbreak of whooping cough (pertussis). In October 2012, a maternal pertussis vaccination programme was introduced. This reduced the number of infant cases significantly. Whilst infants have been relatively protected by the maternal pertussis programme, the national outbreak has continued and in 2015 cases increased again. Uptake of maternal pertussis immunisation in Lothian at 65% is higher than national average but from 2016 further efforts will be made to improve on this including offer from an earlier stage in pregnancy.

These outbreaks demonstrate not only the importance of ensuring over 95% uptake of vaccines but demonstrate the importance of continuing improvement in vaccine quality and safety, including fit with circulating strains, preventing resistance and reviewing schedules in the light of changes of eg waning immunity, drift and shift.

Vaccination programmes
Childhood immunisation rates in NHS Lothian are amongst the highest in the UK for an urban population and close to the Scottish national average. By 2015, MMR uptake rates by five years of age in Lothian reached >95% uptake first dose and >90% second dose.

Whilst uptake of immunisation is generally excellent in Lothian, this is the result of continuous effort. Maintaining good uptake is especially challenging in inner city areas where there is frequent patient turnover and influx of new migrants. From 2013

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		Revision due: March 2018

Scotland undertook significant expansion of the national immunisation programme, including:

- Rotavirus vaccination was added to the routine childhood schedule from July 2013 and successfully implemented in Lothian with uptake (at nearly 94%) higher than national average.
- Meningitis B vaccination was successfully added to the routine infant immunisation schedule from September 2015.
- Meningitis C vaccination was introduced for adolescents in January 2014. This was given as part of the secondary school vaccination programme (concomitantly with the teenage booster) to pupils in S3. From January 2016 this was replaced by meningitis ACWY vaccine.
- A programme of meningitis vaccination for first time University entrants was implemented in August 2014 (meningitis C) and 2015 (meningitis ACWY).
- An emergency meningitis ACWY vaccination programme was undertaken for all 14-18 year olds from August 2015. This was to avert a potential epidemic of meningitis W disease following a sharp increase in the number of cases over the last two years in England. The first phase for young people aged 16-18 was implemented from August 2015 in primary care. The second phase with offer to all pupils in S3, S4, S5 and S6 was undertaken in spring term 2016.
- Shingles vaccination for 70 year olds with a phased catch up (up to age 79) was introduced from September 2013.
- Extension of the flu vaccination programme to all children aged 2-11 (aged 2-5 and not yet at school via GP and primary school aged children at school) (as detailed below).

Primary school vaccination programmes

In 2012 the UK Joint Committee on Vaccination and Immunisation (JCVI) recommended extension of the seasonal flu vaccination programme to all children aged 2-17. This programme was rolled out over three years using flu immunisation by nasal spray. By years two and three (autumn 2014 and autumn 2015) vaccination was offered to all 64,000 children in Lothian's 250 primary schools. Within the 10 week period from October (constrained time period due to vaccine availability) over 40,000 children were vaccinated (uptake 68% in 2014, 64% in 2015).

Delivering such a substantial programme within a 10 week period from week of 1 October before mid December is challenging. The whole programme is very much a collaboration between NHS Lothian, Local Authority Departments of Education and head teachers in schools. High uptake will reap benefits for the children themselves, the community and the schools with anticipated fewer absences during the winter period. This new programme highlights the importance of the school setting for delivery of immunisations and the crucial joint working between the Education sector and NHS Lothian.

Secondary school vaccination programmes

Uptake of teenage booster (given in S3) and HPV (for girls in S1 and S2) in Lothian is significantly below national averageFigure 4; Figure 6). Pupils who remain unvaccinated by S4 (and later) continue to be offered vaccination, with resultant substantial improvement in uptake by end S4. The overall rate however remains

significantly below the national average (Figure 5; Figure 6). The lower national uptake in 2014/15 is thought to be due to the decreased opportunities in schools for immunisation. Previously HPV vaccination required three vaccinations (and school nurses offered on five occasions in school). As that programme has bedded in, school nurses have gone into schools on fewer occasions and this is thought to have impacted on uptake of teenage boosters too.

Investigations into the reasons for this low uptake compared with other Board areas have highlighted the importance of promoting the value of immunisations with parents and pupils and aiming for much higher return of consent forms. A Lothian schools immunisation group has been established with representation from both NHS Lothian and local authority Departments of Education. Communication with schools has been stepped up with template text for emails, SMS messages, newsletters and internet sites to promote vaccination and return of consent forms. This has resulted in some improvement. The national HPV schedule has been reduced from three to two doses, and the election by NHS Lothian to offer this to be given as one dose in S1 and one dose in S2 will also hopefully lead to an improvement in uptake.

Uptake has been higher in schools where, through business managers, guidance teachers or others, they have been actively involved in return of consent forms. To achieve real improvements to protect the health of young people across Lothian we aim to build on and spread this joint working throughout Lothian.

Figure 4: Trend in teenage booster immunisation uptake rates for class year S3 in Lothian and Scotland, school year 2011/12 to 2014/15.
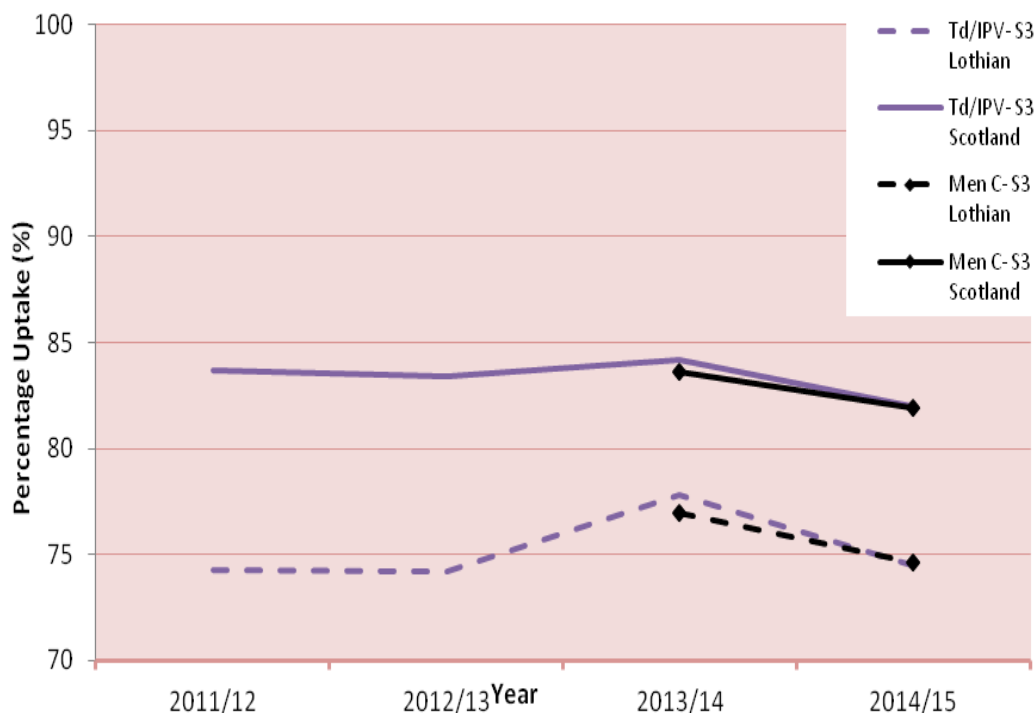
Men C= Meningitis C vaccine, Td/IPV= Tetanus, Diphtheria and Polio vaccine
Source: SIRS Immunisation System[30], Information and Statistics Division (ISD) Scotland[31]

Figure 5: Trend in teenage booster immunisation uptake rates for class year S4 in Lothian and Scotland, school year 2011/12 to 2014/15.
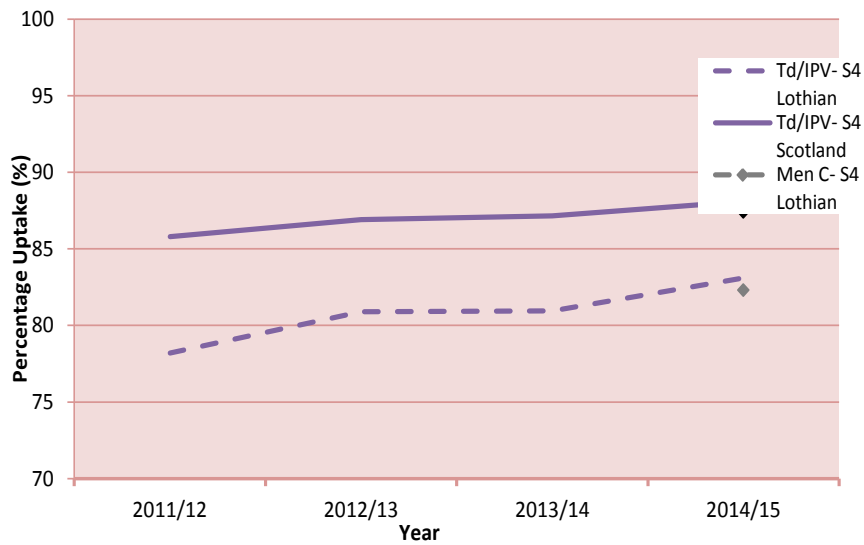
Men C= Meningitis C vaccine, Td/IPV= Tetanus, Diphtheria and Polio vaccine
Source: SIRS Immunisation System[30], Information and Statistics Division (ISD) Scotland[31]

Figure 6: Annual HPV immunisation uptake rates. S2 routine cohorts by the end of school year and one year later, Lothian 2008 – 2015.
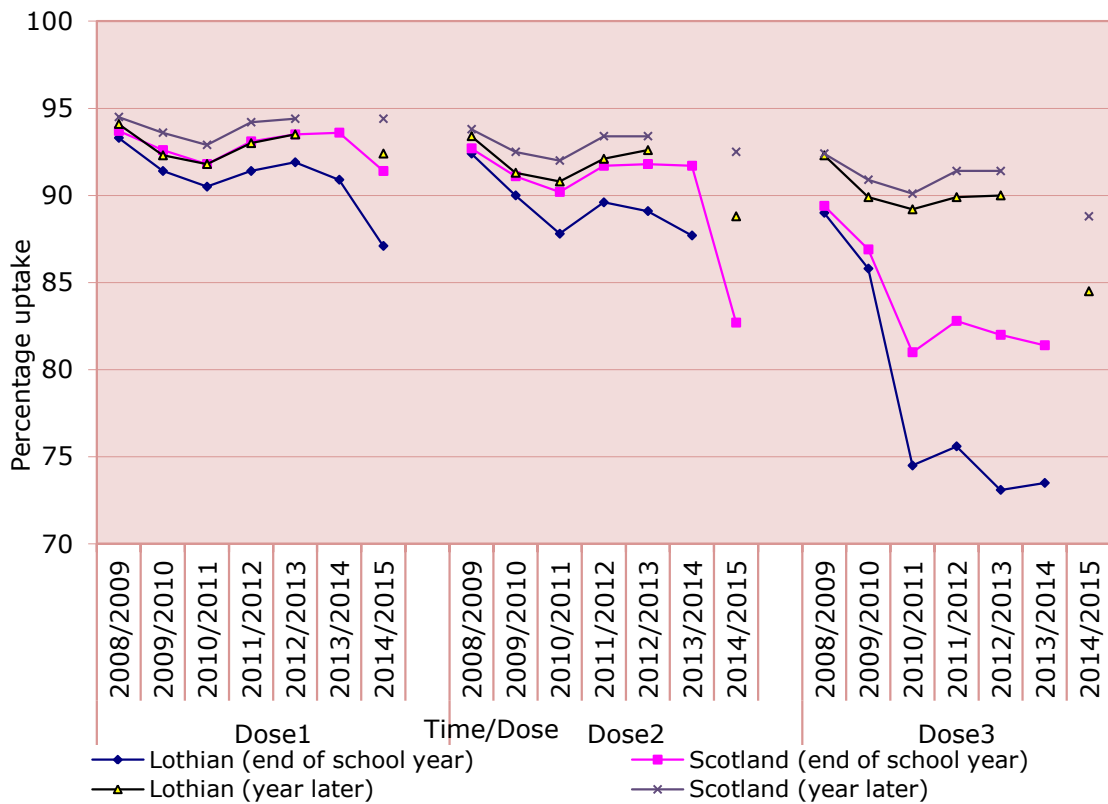
Source: SIRS Immunisation System[30], Information and Statistics Division (ISD) Scotland[31]

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3.1.3 Substance Misuse and Drug related deaths

Substance misuse presents a variety of health protection challenges including cases of infections, outbreaks, toxicity and drug related deaths. In recent years many life threatening outbreaks of infections have emerged in Scotland, which have required investigation and surveillance.   These include Clostridium novyi, anthrax, wound botulism and invasive group A streptococcus.

The number of drug-related deaths in Lothian has doubled over the last ten years (reflecting the national trend). According to official statistics[24] there were 105 recorded cases of drug-related death in Lothian in 2014 (most recent data). This is the highest Lothian total on record and accounts for 17% of all drug-related deaths in Scotland in 2014 (613 cases).

A drug-related death is defined as a death caused by a controlled drug (as listed under the Misuse of Drugs Act 1973[32]). Opiates/opioids are implicated in most cases of drug-related death (both nationally and in Lothian). In the majority of cases death is due to polydrug toxicity. Methadone is the substance most frequently implicated in a drug-related death in Lothian (57 cases in 2014). However, in recent years there has been a significant increase in heroin-related deaths in Lothian (46 cases in 2014 compared to only 12 cases in 2011).

Analysis of case data has led to the identification of the following profile of patients most at risk of a drug-related death in our region: single, unemployed males in their early forties with a history of long term polysubstance misuse (intravenous use), history of co-morbidities (particularly long term conditions such as Chronic Obstructive Pulmonary Diseases (COPD), experience of depression, mental health difficulties and/or history of non-fatal overdose.

Drug-related deaths are reviewed by multiagency teams in each of Edinburgh's recovery hubs. There are also case review groups for West Lothian and Mid & East Lothian. Representatives from these groups meet quarterly under the auspices of the Lothian Drug-related Death Reduction Steering Group to share learning and to the develop Lothian-wide approaches to addressing the risks associated with drug-related death. An action plan for 2016 is currently in operation.

3.2   Environment and Health

The European Public Health Association, in its 2011 report[33], noted that the environment is increasingly more complex and the link between health and environment has become so evident that it recommends immediate action by all governments and public health communities. According to the most recent WHO study[6], about 24% of the global burden of disease and 23% of deaths are attributable to environmental risk factors. In a country like Scotland, WHO estimates that the proportion of the total burden of disease attributable to environmental risk factors is about 14%. Of the total global burden of disease, WHO estimates that 5.7% was attributable to environmental exposure to chemicals, the largest contributors being indoor smoke from second-hand tobacco smoke, solid fuel use and outdoor air pollution.   The greatest impacts on health are on rates of cancers, cardiovascular disease, injuries and neuropsychiatric disorders[6].

3.2.1 Climate Change and Sustainable Development

There is substantial evidence that climate change is affecting many aspects of the world around us[34]. Weather patterns are shifting, extreme weather is becoming more commonplace and temperatures in most parts of the world are rising. Some of the health effect of climate change includes earlier seasonal appearance of respiratory symptoms and longer duration of exposure to aeroallergens. Climate change may exacerbate health risks and inequalities associated with building overheating, indoor air pollution, flooding damage, and water and biological contamination in the indoor environment, if adequate adaptation measures are not taken[35].

The impacts of climate change in Scotland is less severe than in many other parts of the world, however, the impacts for individuals, businesses and communities can be devastating[36]. Ensuring long term sustainability will depend on preparedness and resilience which can only be achieved when everyone accepts responsibility for their share of action and agree to work in partnership[36].

3.2.2 Air Quality

Evidence that poor air quality due to air pollution has both short and long-term adverse effects on health continues to accumulate. WHO defines air pollution as contamination of the indoor or outdoor environment by any chemical, physical or biological agent that modifies the natural characteristics of the atmosphere. Household combustion devices, motor vehicles, industrial facilities and forest fires are common sources of air pollution[37]. Exposure to air pollutants is largely beyond the control of individuals and requires action by agencies at the national, regional and international levels[37]. A multi-agency approach, engaging such relevant sectors as transport, housing, energy production and industry, is needed to develop and effectively implement long-term policies that reduce the risks of air pollution to health[38].

The Scottish Government has re-emphasised the importance of air quality and the impact on health in it's recently launched 'Cleaner Air for Scotland – The Road to a Healthier Future'[38], the new national strategy aiming to achieve cleaner air quality for Scotland. It emphasises the health implications of poor air quality and lays out a series of actions to be taken to bring about improvements. It is likely to bring about significant policy changes in a number of areas in which local authorities are involved or hold responsibility. The document lays down specific, timetabled actions for organisations.

3.2.3 The Social and Built Environment

Creating safe and positive environments for health requires us to think, plan and deliver in new and more effective ways[39]. The quality of the environment can vary between different areas and communities. There is evidence that people who are socially and economically disadvantaged often live in the worst environments[40,41]. Poor environment can affect people's health and wellbeing and can add to the burden of social and economic deprivation[41]. The causes of these inequalities are often complex and long-standing. Some of the environmental problems are due to the historical location of industry and communities; others are the result of the impacts of new developments such as increased traffic and urban planning which has not prioritised healthy built environments. Tackling environmental inequalities and ensuring that all people have access to a good

quality environment in the future is a continuing challenge. The responsibilities of Health Boards and Local Authorities are outlined in *Good Places, Better Health*[39].

The contribution of physical surroundings to the health of those living in our most deprived areas of society is significant, a view increasingly supported by the flow of evidence[42–45]. There are indications that there is no significant socioeconomic gradient in the level of known, direct environmental hazards to human health. Frequently though, less affluent communities are untidy, damaged and lacking in amenities. These factors create neighbourhoods which are often alienating and even threatening. This creates indirect environmental hazards to human health that act through a more complex causal pathway. This produces an unhealthy built environment that contributes to a cocktail of disadvantage inconsistent with health and wellbeing for adults and children[39].

Health outcomes are consistently poorer in communities with poor neighbourhood environments[40–43]. In *Equally Well*[4], the Health Inequalities Task Force highlighted the need to work to reduce further exposure to factors in the physical and social environments that cause stress, damage health and wellbeing and contribute to health inequalities. Improvement in housing, increasing physical activity or reducing traffic pollution can happen through collaborative working between NHS Lothian and Local Authority partners to identify opportunities for health improvement in areas such as land use planning, transport, housing and environment.

Lothian is within the central belt region of Scotland where unconventional gas extraction is under consideration. The Scottish Government has placed a moratorium on unconventional oil and gas extraction until the results of a full public consultation and programme of research work have been concluded[46]. As part of the research, the Scottish Government has commissioned a full public health impact assessment of the potential health impacts that might be associated with unconventional oil and gas extraction.

3.2.4 Improving the Environmental Health

In defining the role of health professionals, WHO identifies health institutions as highly visible, high-energy-use centres which can serve as models by reducing their own carbon emissions, improving health and saving money[47]. It recommends energy management, transport, procurement (including food and water), waste disposal, buildings and landscape, employment and skills, and community engagement as good practice areas which have been shown to improve staff health and morale, create healthier local populations, stimulate faster patient recovery rates and save money.

The responsibilities of environmental and public health professionals for protecting and improving the environment include responding to current incidents, events and situations and preventing avoidable hazards and the consequent risks to public health by intervening before exposure has occurred.

The functions undertaken by Environmental Health complement those undertaken by the NHS. Health Boards and Local Authorities have a duty to co-operate in pursuit of protecting and improving the health and wellbeing of the local population. Environmental Health advise on the development of laws, regulations and policies at

local, national and international level and carry the major responsibility for local implementation and enforcement in the following areas:

- Air quality
- Contaminated land sites
- Noise and other statutory nuisances
- Recreational water quality
- Drinking water quality – particularly private supplies
- Food safety
- Living and working conditions
- Injuries at home and at work
- Public safety - exposure to hazardous substances
- Skin piercing and sun-bed regulation

The NHS role is complementary and focuses on prevention, assessment, protection and mitigation of human exposure to environmental hazards and their health effects. In addition to food and water, these include:

- Chemicals, toxins, and poisons
- Ionising and non-ionising radiation – Electromagnetic Frequencies (EMF)
- Physical hazards – particulates, fibres and other factors related to the physical environment including climate change, extremes of heat, cold, flooding
- Accidental or deliberate or malicious release scenarios including Chemical Biological, Radiological and Nuclear (CBRN) warfare agents.

Systematic approaches are used to assess the potential positive and negative impact of developments on those who will be affected. The tools employed include: Health Impact Assessment; Strategic Environmental Assessment; Environmental Impact Assessment; screening of Pollution, Prevention and Control applications; the assessment of planning applications and investigating the health issues associated with contaminated land. These are essential elements of this work programme.

4 Health protection planning infrastructure

NHS Lothian and the Local Authority Environmental Health Department(s) have shared health protection plans and standard operating procedures (SOPs), some of which are developed jointly between the agencies, while others are produced nationally (Appendix 3). The plans are normally developed and reviewed every three years.

5 National health protection priorities

Scottish Government long term goals and priorities are aligned with those of the UK and Europe for protecting and improving health. Improvement in the environment is central to all these goals and priorities[5,37,48–50]. The WHO European Region is pursuing health as a key objective of policy making. This also includes a commitment to reducing disease inequalities in health outcomes across societies. The UK air quality strategy sets out a framework to achieve cleaner air that will bring health and social benefits to all its residents[48]. In its Health 2020 vision[51] the WHO European

Region sets out four priority areas of action, which include: investing in health through a life-course approach and empowering citizens; tackling Europe's major disease burdens of non-communicable and communicable diseases; strengthen people-centred health systems and public health capacity, including preparedness and response capacity for dealing with emergencies; creating supportive environments and resilient communities[5]. In 2007, the WHO's Commission on the Social Determinants of Health[52] set out the evidence for change and objectives for action, as did the recent Fair Society, Healthier Lives *Strategic Review of Health Inequalities in England post 2010*[53]. *Equally Well*[4] and *Good Places, Better Health*[39] have already established Scottish priorities in terms of tackling health inequalities and the importance of the links between environment and health.

The Scottish Government now operates under a National Outcomes Framework(54) with a commitment to 'focus government and public services on creating a more successful country, with opportunities for all of Scotland to flourish, through increasing sustainable economic growth.'

In addition, the *Government Economic Strategy*[55] includes population growth as a key component of future sustainable economic development. Among the Scottish Government's five strategic objectives are commitments to a Scotland that is healthier, wealthier, fairer, safer, stronger and greener[55]. These objectives are linked to a series of outcomes and associated indicators. A concordat, agreed by the Convention of Scottish Local Authorities (COSLA), set the terms of a new relationship between the Scottish Government and local government. The development of a Single Outcome Agreement (SOA)[3] formed an important part of this relationship. The SOAs produced for each Local Authority[45–48] area contain an overview of how the local community planning partners (including the Local Authority and NHS Lothian) will promote the Scottish Government's fifteen National Outcomes[54] and how this link to local outcomes. The community empowerment act encourages local planners of services to promote better community engagement and participation which will lead to the delivery of better, more responsive services and better outcomes for communities[8]. Health Boards and Local Authorities commit to delivering these outcomes jointly:

- Our children have the best start in life and are ready to succeed.
- We live longer, healthier lives.
- We have tackled the significant inequalities in Scottish society.
- We have improved the life chances for children, young people and families at risk.
- We live our lives safe from crime, disorder and danger.
- We live in well-designed, sustainable places where we are able to access the amenities and services we need.
- We have strong, resilient and supportive communities where people take responsibility for their own actions and how they affect others.
- We value and enjoy our built and natural environment and protect it and enhance it for future generations.
- We reduce the local and global environmental impact of our consumption and production.

- Our public services are high quality, continually improving, efficient and responsive to local people's needs.

5.1 Local health protection priorities

5.1.1 NHS Lothian

Health protection priorities in Lothian are determined by international, national and locally identified potential hazards[4,5,11,48,60,61]. The national priorities are set by the Scottish Government. Local priorities are determined as part of the annual planning process during which hazards and potential hazards are identified. Prevention and mitigation are then allocated appropriate resources. The Chief Medical Officer for Scotland identified the 2008-2010 national health protection priorities listed below. These remain as key national health protection priorities and key area for local intervention.

- Healthcare Associated Infections (HAI) and antimicrobial resistance
- Vaccine preventable diseases and their impact on current and planned immunisation programmes
- A potential pandemic of influenza
- Environmental exposures which have an adverse impact on health
- Gastro-intestinal and zoonotic infections
- Hepatitis C and other blood borne viruses
- Tuberculosis
- Integrated Pollution Prevention and Control (IPPC)
- Strengthening surveillance
- Prevention of injuries

Health Improvement, Efficiency, Access to Services and Treatment (HEAT) targets are a core set of national objectives, targets and measures for the NHS. The targets are set for a three year period and progress towards them is measured through the Local Delivery Plan (LDP) process. Two of the targets relate to reduction in HAI and improvement in childhood immunisations. Under these targets NHS Lothian will focus its efforts towards:

- Further reducing HAI so that by March 2016/17 NHS Boards' staphylococcus aureus bacteraemia (including MRSA) cases are 0.24 or less per 1000 acute occupied bed days and the rate of Clostridium difficile infections in patients aged 15 and over is 0.35 cases or less per 1000 total occupied bed days.
- Improving childhood immunisations and vaccine uptake to 95% for all childhood primary and booster vaccinations by analysing uptake by practice regions and identify localised actions for improving uptake.

Specific programme priorities include:
- Pandemic Flu Plan: NHS Lothian maintains robust plans in conjunction with partner agencies involved with health and social care, including business continuity arrangements. NHS Lothian also actively targets at risk and occupational groups with seasonal flu vaccination.

- Influenza: to contribute to the reduction in the burden of disease from respiratory infections and their complications, ongoing surveillance of influenza continues and NHS Lothian will ensure arrangements are in place to offer vaccination to the Lothian population against this virus in line with national guidance on liability to benefit.
- HPV vaccine programme: to reduce the burden of HPV related disease, specifically avoidable death from cervical cancer, NHS Lothian continues to implement the HPV programme for girls (born on or after September 1993) in school.
- TB control and prevention: to prevent the spread of TB, and to reduce the burden of disease, particularly among people who have other illnesses, NHS Lothian is implementing the national TB action plan priorities including, high risk groups; exploring local ways of identifying new entrants, implementing local systems of case-finding for latent TB infection in these entrants; working with statutory and voluntary organisations and groups who regularly come into contact with new entrants to support GP registration; engaging with primary care teams to highlight the increased risk of TB amongst problem alcohol users, homeless and drug users.
- Viral hepatitis: to reduce the avoidable burden of ill-health and premature death, including liver failure. NHS Lothian will implement actions on hepatitis B and C outlined in the Scottish Government Sexual Health and Blood Borne Virus Framework through the NHS Lothian Hepatitis Managed Care Network (MCN).
- HIV action plan: to reduce the burden of avoidable infection and illness, NHS Lothian will develop an integrated care pathway that includes prevention, early diagnosis, effective care and treatment provision to implement HIV standards produced by Healthcare Improvement Scotland in 2011.

5.1.2 Local Authority Priorities

Local Authorities provide advice and guidance to businesses on what the law requires, conduct inspections, carry out accident investigations, respond to complaints and take enforcement action where appropriate. The delivery of these activities aligns with a wide range of national and local strategies, including:

- The Health & Safety Executive (HSE) new strategy document *'Helping Great Britain Work Well*[62] identifies six themes to protect people by management of risks in a proportionate and effective way, supporting innovation and increasing productivity. Local authority action will align with these themes. Priorities for LA interventions are prescribed in the National Local Authority Enforcement Code[63] and supplementary guidance.

- Food Standards Scotland recently consulted (March 2016) on a new Corporate Plan 2016-19 and Regulatory Strategy Document to deliver public safety through regulation of food industry. The final documents are awaited however local authorities will require to be mindful of these strategies in their annual Food Safety Planning process. This proposed strategy contained three key targets relating to food safety, eating for health and choice. These are addressed through routine enforcement and developing work with the Community Health [Care] Partnerships (CHP/CHCP) in promoting healthy eating choices in local catering establishments.

- *Good Places, Better Health. A New Approach to Environment and Health in Scotland* (Scottish Government 2008)[39]: this is an implementation plan looking at how the physical environment influences health. The Environmental Health contribution will be in protecting these environments.

- *A Children's Environment and Health Strategy for the UK* (Health Protection Agency)[60]: this is a strategy for protecting children's health, including ensuring that they are free from food and water based infection, noise, heavy metals and breathe clean air, all of which are core Environmental Health activities.

- Councils have their own Anti-Social Behaviour Strategy documents[64]. These recognise and value the importance of partnership working at various levels to tackle behavioural factors that impact on the health and resilience of local communities. Local Authorities contribute to tackling many of the environmental health issues impacting on people's wellbeing. This helps Local Authorities to fulfil their duty to improve quality of life including ensuring community safety, reducing injury, violence and self-harm as set out in the Local Government in Scotland Act 2003[65].

- The Approved Code of Practice (ACOP) 'The Control of Legionella Bacteria in Water Systems' (2013 fourth edition - also known as L8)[10] was published by the HSE. This revised edition seeks to both simplify and clarify the text; this is in part achieved by separating management responsibilities from the technical guidance which is now published separately. In particular the ACOP now requires duty holders to:

  - Carry out and document suitable and sufficient risk assessments
  - Implement a written Control Scheme
  - Appoint a competent person to manage the control of the risk system (Known as the responsible person)
  - Carry out periodic reviews of control measures
  - Specify the duties and responsibilities of those involved in the design, manufacture, import, supply or installation of water systems

- The Vero cytotoxin-producing Escherichia coli (VTEC)/E. coli O157 Action Plan for Scotland 2013-2017[11] aims to reduce the incidence of such infections by setting strategic direction for key partners each of whose collaborative roles in implementing a total of 86 recommendations are clearly identified. This replaced the 2001 Food Standards Agency (FSA) task force report. The role for NHS Lothian, though not explicit in the plan, involves collaborating with Local Authorities in identifying possible sources of VTEC and instituting measures for control during management of cases and incidents. For Scottish Local Authorities environmental health services this means addressing key transmission pathways with a particular focus on:

  - Issues connected to private water supplies and their potential to pose a health risk if they are not correctly installed maintained and protected from sources of contamination such as animal faeces

- Food sources which may pose a risk by focussing on the protection of ready to eat foods from raw, untreated or treated products which may contain E coli O157 whilst ensuring that consumers can make informed choices e.g. by the provision of point of sale information for unpasteurised cheeses sold loose, and
- By controlling contamination of the environment from animal faecal material at public places such as zoos, farm attractions and agricultural shows including ensuring that pasture is cleared of animal faeces both before and after recreational events involving animals.

The range of environmental health priorities are detailed in Table 3.

Table 3: Local Authority environmental health priority activities

Local authority priority activities	
Corporate and Business Advice – advising on local environmental health and public safety matters	Promotion of sustainable economic growth through business support and intervention Civic government licensing Advisor to Licensing Board
Emergency Planning – training for and responding to emergencies	Flood management Emergency planning preparedness Scientific services advice
Food safety - securing the hygienic standards of premises, and the compositional standards of food and water	Food Hygiene Inspections (cleanliness) Food Standards Inspections (composition) Food Sampling – Bacteriological Food Sampling – Chemical Food Alerts Labelling Food Information Regulations (FIR)Allergen awareness and control Food Hygiene Information Scheme, Eat Safe and Healthy Living Awards
Hazards – securing consumer and public safety issues	Petroleum Licensing Explosive Safety/Licensing Consumer/product Safety Anti-counterfeiting Chemical incidents New Psychoactive Substances
Housing – securing residential accommodation meets minimum standards	Housing Support Services Rough Sleeping Initiatives Housing Standards Issues Houses in multiple occupation Caravan Site Licensing Landlord registration
Public Health & Nuisance – investigation and enforcement of public health nuisances and concerns	General Public Health/nuisance Communicable Disease Investigation Pest control Port Health control Mortuaries, Cemeteries and Crematoria National assistance Act burials etc Smoking in public places

Occupational Health & Safety – securing health, safety and welfare standards in local workplaces	Accident Investigation Health and Safety Inspections & other interventions Register of cooling towers (Legionella) Sun bed regulationRegulation of tattooing and skin piercing
Pollution and contamination – environmental monitoring and investigation of incidents and concerns	Noise Control Contaminated Land Chemicals and oil spills Radiation Monitoring Air Quality Monitoring Vehicle emission testingConsultee on Planning Applications (Fumes, dust, noise impact of developments on health, contaminated land remediation)Environmental impact assessment
Water Quality – monitoring of drinking water and recreational water quality	Water Sampling – Private and Public supplies Swimming Pool Sampling Recreational water quality – coastal and inland waters
Animal Health investigation & enforcement of animal health and welfare standards	Animal Health and Welfare Animal Feed Stuffs Animal breeding and boarding Dog controls

6 Health protection risks/challenges unique to the Lothians

While there are shared health protection risks nationwide, Lothian also has its own unique ones. The Public Health etc. (Scotland) Act 2008[1] and other legislation provide a statutory basis for interventions and there is a shared risk assessment process with stakeholders. These stakeholders include Environmental Health and other appropriate Local Authority services, the police and fire services, the Scottish Ambulance Services (SAS), Scottish Water (SW) and the Scottish Environment Protection Agency (SEPA). The risks and challenges unique to Lothian and how they are managed are detailed in Table 4. In addition, Appendix 3 lists key health protection plans to manage incidents.

Table 4: Health protection risks/challenges unique to the Lothians

Unique Situation/Position	Risk/Challenges	Mitigation Measures
Host to several universities with large numbers of students in Halls of residence, flats and houses. For example, the University of Edinburgh has 16,000 students.	Increased opportunity for introduction and spread of infection. Increased use of houses in multiple occupation (HMO). And private sector residential accommodation	NHS Lothian works closely with universities regards monitoring and control of infection such as mumps and meningitis. Local Authorities regulate HMOs. Registration of private sector landlords and housing conditions including gas and electrical safety.
University centres for research including veterinary schools, nuclear	Bio-hazards, use of radio-active materials.	National arrangements are in place for the regulation and control of nuclear medicine and

Unique Situation/Position	Risk/Challenges	Mitigation Measures
medicine, biohazards and life sciences research and bio-research facilities, for example Pentland Science Park.		biohazards in the universities and hospitals.
Host to Scotland's Capital City, Holyrood Palace, and the Scottish Parliament and associated VIPs.	Increased potential for terrorist incidents.	Regional resilience partnership (RRP) has emergency plans for CBRN[66] incidents and major incidents. City of Edinburgh Council in liaison with key partner agencies, maintains the Edinburgh Major Incident Evacuation Plan.
Centre of culture which hosts annual festivals, Hogmanay /New Year celebrations, international events such as the G8 and major international sporting events (for example World Cup Sevens rugby and the Open Golf Championship), as well as associated VIPs.	Brings together populations from different parts of the world with a risk of new infection coming into the areas. There is potential risk of terrorism in large crowds.	Annual multi-agency plans are in place for such events. The Hogmanay plan is tested prior to the season starting. Appropriate plans are put in place for international events.
Port Health - Major local and international transport hubs in the local area including: Edinburgh Airport, Leith Docks, Hound Point terminal at South Queensferry.Waverley / Haymarket Train Stations. St Andrew's Bus Station.	There is a risk of imported infectious diseases from other countries.	NHS Lothian and City of Edinburgh Council have a port health response plan developed in collaboration with the airport authorities. Plans are underway for the development of other port health plans. International Health Regulations exist in the event of a serious infectious disease emerging locally.
Sites of potential flooding, for example River Esk, Almond, Water of Leith, Braid Burn, Burdiehouse Burn, Figgate Burn, River Tyne, Biel water, Brocks Burn and Linlithgow Mains.	Climate change is presenting a potential risk of Increased opportunity for displacement of individuals due to flooding, plus disease risk after any flooding incident.	Emergency flood response plans are in place. Flood Prevention Act duties are undertaken by Local Authorities.
Host to Torness Nuclear Power Station.	Risk of nuclear incident. Public concern.	Emergency plans are in place with partnership agencies.
Host to Addiewell (West Lothian) and Edinburgh prisons – includes vulnerable populations.	Prison population known to be at higher risk of hepatitis B. As a closed communal setting it is also at risk of communicable disease outbreaks. This population also has an increased burden of non-communicable disease.	NHS Lothian has close working relationship with prison staff for the provision of appropriate preventive measures and early intervention in incidents and outbreaks.
Breakdown of Water Supply system.	Potential risk of contamination of drinking water supply.	Considerable investment has been and continues to be made in the water supply infrastructure to improve quality and resilience.

Unique Situation/Position	Risk/Challenges	Mitigation Measures
		Robust monitoring and sampling regimes are in place to ensure quality.
Private water supplies in more remote rural communities across the area.	Risk of contamination with infection and chemicals.	Routine sampling and monitoring by Environmental Health with grant aid available to improve the quality of the water supply.
Coastal water quality along the Firth of Forth is critical to the high quality environment for residents and visitors.	These waters have a potential of flooding or being contaminated by agents such as oil spillage which could be a risk to public health. Breakdown of sewage infrastructure resulting in coastal water contamination. Major oil spill from tanker traffic in Firth of Forth	Multi agency emergency plans, including the Waste Water Incident Plan, Forth Ports Clearwater Forth Oil Spill Contingency Plan and City of Edinburgh Council Oil and Chemical Pollution Emergency Plan. Local monitoring by Local Authorities and SEPA.
Tourism is a major contributor to local economy	Loss of reputation if major public health incident	Incident management plans Food and water safety controls.
Potential emissions and incidents relating to industrial processes in the area including: distilling brewing; electricity generation; open cast mining and quarrying; cement manufacture.	Risk of major incidents and release of toxic chemicals. Increase air pollution from routine emissions. Legionella in cooling towers.	All the agencies have major incident plans which are regularly exercised. Local Authorities maintain cooling towers registers.
Legacy of an industrial history and the associated issues of contaminated land including ex-mining areas and former landfill sites.	Potential chemical environmental pollution. Complaints from communities with assertions of health risk.	Contaminated land issues are addressed either by enforcing conditions attached to planning consents or invoking the powers contained in part IIA of the Environmental Protection Act (EPA) 1990(67). Monitoring by the Local Authorities and investigation and control of incidents where there is potential human exposure.
West Lothian hosts the second largest poultry flock in Scotland in addition to, arable beef and dairy farming.	Potential animal health risks (for example bird flu and other zoonoses).	Disease contingency plans are in place with relevant partner agencies (East Lothian, Scottish Government, Police, Animal Health and Plant)
Substance misuse including novel psychoactive substances.	Substance misuse is a common cause of ill health, death and drug related crimes.	Most people with substance misuse problems are cared for by General Practitioners. Comprehensive range of multi-agency, evidence based prevention, treatment and care services in place coordinated through Alcohol and Drug Partnerships, Hepatitis action

Unique Situation/Position	Risk/Challenges	Mitigation Measures
		plans.
Air quality issues.	Increased risk of respiratory and cardiovascular diseases.	Local Authorities monitor air quality declaring Air Quality Management Areas (AQMAs) and developing action plans as appropriate.

7 Dealing with Public health incidents or outbreaks

Across the Lothians a number of health protection incidents and outbreaks of communicable diseases are dealt with each year. As reported in the Health Protection Team Annual Reports, there were 61 incidents in 2013/14 and 73 in 2014/15. About 15% of these incidents are related to HAI. Where necessary, these incidents and outbreaks have been managed within joint multi-agency and multi-disciplinary frameworks involving NHS Lothian and one or more of the four Local Authorities. Larger or more complex incidents may involve the Regional Resilience Partnership (RRP), Local Resilience Partnership (LRP) or the Scottish Government (SG), for example, the seepage of carbon dioxide into residential houses at Gorebridge in Midlothian in 2013/15, the Southwest Edinburgh Legionella outbreak in 2012, the Dalmeny Tank Farm incident of 2011 and the Pandemic Influenza outbreak in 2009. Some of the other incidents managed in the same period have been smaller in scale but have required specialist expertise and a considerable amount of resources to manage.

As part of the continuous improvement of incident and outbreak management, NHS Lothian, the Local Authorities and other partner agencies are revising and amending policies and practice. Lessons learned are disseminated actively to spread learning, including by debriefing meetings, final reports and review of the implementation of recommendations.

7.1 Emergency Planning and Business Continuity

NHS Lothian and Local Authorities are required to ensure it has effective arrangements in place to respond to emergencies and to manage business continuity disruptions, in accordance with the Civil Contingencies Act (2004)[68] and guidance including NHS Scotland's Preparing for Emergencies (2013)[12]. To do this NHS Lothian has established an executive level Resilience Committee which meets quarterly to lead and oversee resilience work. This comprises senior level representation from all areas of the organisation, including the Chief Executive. The committee has agreed a resilience work plan which includes quarterly reporting on resilience capabilities and a rolling programme of training, exercising and plan revision. This strategic level committee is supported by a Tactical Resilience Group and by management teams from across all NHS Lothian sites. The approach taken throughout this work is one of continuous improvement and staff engagement, to ensure resilience work remains focused on providing care and services.

In the last year NHS Lothian has updated its resilience governance structures bringing Business Continuity and Emergency Preparedness together in a single directorate,

under the Director of Public Health. Resilience staff have developed generic tactical and strategic resilience plans which can be used in a flexible way to address many different types of emergency. Subject specific planning and exercising has also taken place, notably to respond to the risks posed by Ebola and other communicable diseases.

Wider community risks are collated by partner agencies and regularly updated in the community risk register. Planning, exercising, and training for these risks takes place at national and regional levels. In a major incident, joint working is essential to ensure that the Scientific and Technical Advice to the Regional Resilience Partnership reflects the complementary expertise of public health, environmental health professionals and other agencies. NHS Lothian has taken part in three national pandemic exercises and has revised its pandemic plan in the light of these. It has held a multi-agency exercise to examine the management of a firearms incident on a hospital site. This involved over 100 staff, with participants from Police Scotland, Scottish Ambulance Service and Scottish Government. This is complemented by a series of regular, small scale Control Room exercises.

In the coming years NHS Lothian will focus on the integration of cross-site resilience responses with those in local departments and specialties, and on applying the lessons identified in recent exercise. There will also be an increased emphasis on business continuity arrangements while maintaining the ongoing exercise programme and joint work with external partners.

7.2 Out of hours response arrangements

7.2.1 NHS Lothian

NHS Lothian out of hours arrangement involves the provision of on call staff. Public Health and Health Policy provides a 24/7 response and there is a contacts directory and a call-out process from the Royal Infirmary Edinburgh (RIE) switchboard in the event of an emergency. In the case of major incidents and outbreaks such as an influenza pandemic situation, support from other parts of the organisation, for example, scientific and analytical staff in Lothian Analytical Services, for weekend reporting as and when required. NHS Lothian has a service level agreement with Public Health Intelligence at National Services Scotland for the provision of public health intelligence and analytical services. From 2014 this responsibility will be set out explicitly in the service level agreement. The on call team can be contacted out of hours on **0131 242 1000**.

7.2.2 Local Authorities

The four Local Authorities have emergency out-of-hours procedures in place. These are accessed through call centres within each authority. The FSS has lists of nominated contact officers for each authority in case of emergency food borne incidents. Contact centre details are:

- City of Edinburgh   **0131 200 2000**
- East Lothian Council   **01875 612 818**
- Midlothian Council   **0131 663 7211**
- West Lothian Council   **01506 280 000**

8 Resources and operational arrangements

NHS Lothian and the four Local Authorities in Lothian are committed to complying with the requirements stipulated in the 2011 Scottish Government guidance, on Management of public health incidents[9], the VTEC/E. coli Action Plan[11], NHS Scotland Resilience Guidance[12] and the revised Code of Practice (ACOP) for the control of Legionella Bacteria in Water System[10] as priority areas. This will include providing staff trained to the agreed standard that are able to participate in Incident Management Teams (IMTs). These documents require that partner agencies maintain a level of resources regarded as adequate for and the support required for preventing and managing public health incidents.

The local health protection work is linked to National health Protection Oversight group through sub-committees for different health protection area such as environmental public health, and Gastrointestinal disease and Zoonoses of the Health Protection Network (HPN). The HPN is seen as a Network of existing professional networks in Health Protection across Scotland, which aims to improve health protection services in Scotland, by bringing those working in this field together in ways which facilitate learning from each other in a structured manner. The Society of Chief Environmental Health Officers in Scotland has representatives on almost all the working groups reporting to the Scottish Health Protection Network Oversight Group of which it is also a member. The Society cascades and shares information through its various working groups and meetings. A schematic diagram of this network arrangement is included as Appendix 5.

8.1 Staffing

NHS Lothian and the four Local Authorities have each appointed competent persons and share competent persons lists, in accordance with the Public Health etc (Scotland) Act 2008[1].**Table 5** shows the numbers of competent persons appointed by each agency. Each of the agencies will maintain sufficient numbers of competent persons and update the lists as appropriate.

Table 5: Designated Competent Persons as designated under the Public Health etc (Scotland) Act 2008

Agency	NHS Lothian	City of Edinburgh	East Lothian	Midlothian	West Lothian
Designated competent persons	13	31	6	3	5

NB. These numbers may fluctuate

In addition to the designated competent persons, Local Authorities and NHS Lothian can call upon a number of other staff who work within the overall remit of their services to assist in the investigation of incidents if necessary and appropriate.

8.2 IT and communications technology

Information and Communications technologies are available to NHS Lothian and Local Authorities to facilitate health protection and environmental health work, including the management of incidents and outbreaks are set out below.

8.2.1 NHS Lothian Electronic Guidance and guidelines:

- NHS Lothian staff have access on the web e-library – the NHS electronic health library.
- NHS Lothian Public Health Staff who work out of hours are provided with a set of local guidance and guidelines for reference.
- NHS Lothian's HPT keeps a database of on-call guidance.
- SHPIR, the Scottish Health Protection Information Resource (Health Protection Scotland [HPS]) provides a suite of key nationally updated guidance.
- On-call staff have access to international travel advice and guidance via TRAVAX website.

Information Technology:
- Mobile phones and bleeps are issued to out of hours staff.
- Encrypted laptops and encrypted memory sticks are available for staff to take home when on-call.
- A standard operating procedure for establishing a telephone helpline within NHS Lothian is currently being developed by HPT and Telecommunication Department is nearing completion. This will ensure that a helpline can be set up rapidly, where it is considered appropriate to have an additional point of contact for the public during a an incident, to supplement NHS24.
- TRAK, the hospital patient management system, is used for accessing laboratory results and information relating to hospital patients.
- NHS Lothian SCI-store e-results, the Scottish Care Information System are used by GPs for notification to the board and storage of laboratory results used for managing patients.
- Scottish Environmental Incident Surveillance System (SEISS)[69] is a database of environmental health incidents in Scotland.
- Toxbase, a database that provides information on toxin and poisons for managing cases and incidents.
- The Scottish Infectious Disease Surveillance System (version 2) (SIDSS 2)[28].
- The Scottish Immune Recall System (SIRS)[30] is a database used as a call and re-call system immunisation programmes.
- Community Health Index (CHI) provides authorised members of staff patient identifier information which is used for tracing patients. Access is controlled by the Director of Public Health and Health Policy as Guardian of the CHI.
- The Electronic Communication of Surveillance in Scotland (ECOSS) is used for laboratory services notification to NHS Lothian Public Health Directorate and from the Directorate to HPS.
- The Airwave encrypted digital radio system was installed within NHS Lothian, in March 2011 with base sets, provided by Scottish Ambulance Service, located in our Emergency Departments. Two hand-held radios were issued by Scottish Government to Emergency Planning for use during a major incident.

- NHS Lothian is part of MTPAS, the Mobile Telecommunications Privileged Access Scheme. Under this scheme a Network Service Provider (NSP) a single special privileged access SIM cards (MTPAS SIMs) to Category 1 (including NHS Lothian) and 2 responders, as defined in the Civil Contingencies Act (CCA) 2004[68], to allow continued communication when there is a network congestion or shutdown.
- NHS Lothian together with other Scotland health boards have introduced and are now using HPZone-Scotland[29] – a secure web-based decision support system for the control, surveillance and management of cases and incidents of infectious diseases and environmental hazards.

8.2.2 Local Authorities

Local Authorities have databases with detailed information concerning business operations in their areas, including risk assessment of their compliance standard and addresses and contact details for all food businesses. These systems are capable of interrogation and can be used to produce specific premises lists subject to the coding structures used. Edinburgh and West Lothian use Authority Public Protection (APP) by Civica; East and Midlothian use the Uniform system by IDOX technology.

- Support for the two Airwave Terminals previously provided by Scottish Government to each Scottish Local Authority Emergency Planning/Business Continuity/Resilience Units has been withdrawn. The City of Edinburgh Council has a small number of Airwave Terminals for its own use. Police Scotland maintains a pool of Airwave Terminals that can be distributed to partner agencies in an emergency.
- The Airwave encrypted digital radio system has been adopted by the Local Authorities Emergency Planning and Business Continuity Services. Two hand-held radios were issued by Scottish Government to each Local Authority for Emergency Planning for use during a major incident. Additional handsets may be accessed in the event of an emergency
- A number of the Lothian Local Authorities have key personnel who are also part of MTPAS, the Mobile Telecommunications Privileged Access Scheme to allow continued communication when there is a network congestion or shutdown.

8.3   Scientific and Laboratory Services

The scientific and laboratory services which NHS Lothian and Local Authorities require for surveillance and management of public health incidents, which are currently available include:

- NHS microbiological and biological laboratories based at the Royal Infirmary of Edinburgh and the national reference laboratories.
- Edinburgh Scientific Services
- Scottish Water laboratories
- SEPA Laboratories
- National Reference Laboratories for Feed & Food in the UK
- Health Protection Scotland analytical and epidemiological support
- Scottish Poisons Unit

- Privately Contracted Laboratories

8.4 Collaborative Arrangements

Figure 7 is an illustrative summary of the joint working and areas of collaboration between NHS Lothian and the four Lothian Local Authorities. The details on specific areas of joint working are in Appendix 1.

NHS Lothian has collaborative arrangements and links with national organisations and groups and at international level through Health Protection Scotland (HPS) and the Scottish Government (SG) for dealing with communicable diseases and environmental Hazards. Locally, organisational arrangements are in place to facilitate good collaborative working between NHS Lothian, Local Authorities and other health protection partners, including Animal Health and Plant Services, Scottish Water and other utility companies, the FSS and SEPA. NHS Health Protection Joint Liaison Group implements most of the collaborative activities between NHS Lothian and the four Local Authorities. Lothian Infection Control Advisory Committee (LICAC) meets on a bi-monthly basis to review policies and infection control issues. Health protection incident review activities also take place in a number of committees and groups. At regional level emergency planning activities are coordinated by the East of Scotland Resilience Partnership and the constituent Fife, Forth Valley and Borders Local Resilience Partnerships.

A national Scottish Health Protection multi-disciplinary and multi-professional, network representing a wide range of stakeholders, including NHS and Local Authorities has recently been established. The Health Protection Network has the key functions of supporting the development of good practice in the prevention and control of both infections and environmental hazards in Scotland. NHS Lothian and Lothian local authorities (through the Society of Chief Environmental Health Officers) are represented in various subcommittees of the network where development of new guidance, standards for best practice and continuous professional development in health protection also takes place. The Lothian representatives to these committees often bring back learning to share with colleagues. Appendix 5 shows the structure of the health protection network and the oversight group.

Figure 7: Joint health protection activities between NHS Lothian and Lothian Local Authorities. (Illustrative rather than comprehensive)

LOCAL AUTHORITIES

Environmental impact assessment
Licensing
Contaminated land investigation
Safe housing

Health impact assessment
Healthcare associated infections investigation
Blood borne virus control

NHS LOTHIAN

Food & food hygiene standards
Public health nuisance control
Pest control

Teaching & Research

Occupational health & safety
Consumer protection against hazards
Health and safety at work

JHPP
Public health incident investigations & management
Port health incidents & international health regulations
Provision of mortuaries

Communicable & environmental disease prevention, investigation & control

Air quality monitoring
Recreational water monitoring
Noise control

Surveillance of diseases & incidents
Vaccinations of vulnerable populations

Smoking and substance misuse
Animal health and zoonotic diseases
Drinking water monitoring & investigation
Emergency Planning & Pandemic Influenza
Scientific & Laboratory investigations

8.5 Reviewing Health Protection Standard Operating Procedures (SOP) or guidance

The Directorate of Public Health and Health Policy has standard operating procedures for significant infectious diseases other hazards, outbreaks and major incidents. The HPT workplan includes reviewing standard operating procedures with partners. Those requiring review are identified based on their review date or the emergence of new national guidance.

Debriefs for significant incidents or major outbreaks are held to learn lessons from how they have been managed. These debriefs can be multi-agency and multi-disciplinary within the Directorate as appropriate.

The Local Authorities have standard operating procedures for a wide range of environmental health functions, including food safety and health and safety incidents. The two standard operating procedures, which are developed jointly between the Directorate of Public Health and the Local Authorities, are the sporadic food borne disease and gastrointestinal illness and the major outbreak plans.

NHS Lothian and the Local Authorities will continue to review operating procedures, including those that relate to the Public Health etc. (Scotland) Act 2008[1] duties (Appendix 2).

8.6 Staff Knowledge, Skills and Training

The following arrangements are in place for ensuring the maintenance of knowledge, skills and competencies for staff with health protection duties.

8.6.1 NHS Lothian

The Director of Public Health and Health Policy issues a weekly professional update that includes training opportunities, courses and conferences as well as updates on policy, evidence and key meetings.

Audit and peer review sessions on on-going public health projects and activities are part of the weekly information exchange meetings and CPD sessions held in the Directorate.

HPT organises, as a minimum, twice yearly on-call updates as part of regular continuing professional development (CPD) sessions within NHS Lothian's Directorate of Public Health and Health Policy. Additional related sessions, providing training and exercising for Emergency Planning, are also provided.

HPT will informs on-call staff of other training day courses and conferences organised regionally or nationally and all staff on-call are required to participate in an Emergency Planning exercise on an annual basis. All consultants and senior specialist Trainee registrars who are within two years of Certificate of Completion of Training (CCT) are required to have experience of chairing a Problem Assessment Group (PAG) or equivalent at least once in every two years, to take part in a suitable multi-agency exercise (see below) or multi-agency incident response at least one in every two years and to be familiar with current issues in the Health Protection Team (HPT). Ideally staff will be offered the opportunity to attend the HPS on call course whenever it runs. There are limited places available each year for Health Protection Scotland (HPS) on call and Scientific and Technical Advice Cell (STAC) training. NHS Lothian supports CPD requirements for registered medical and other public health and the knowledge and skills framework requirements for professional, scientific and support staff for whom formal registration requirements are not yet in place.

8.6.2 Lothian Local Authorities

All Local Authorities have procedures in place for annual review of staff development needs, including support for meeting professional CPD requirements where appropriate. Environmental Health staff are encouraged to attend training or update events organised by NHS Lothian, Health Protection Scotland (HPS), the Royal Environmental Health Institute of Scotland (REHIS), the Society of Chief Officers of Environmental Health in Scotland (SOCOEHS) and Food Standards Scotland (FSS), for example. All Local Authority staff working in food safety and food standards are required to meet minimum competency and the ongoing professional development requirements of the Food Law Code of Practice[61]. Similar formal requirements have been developed in relation to staff working in relation to occupational health and safety.

8.6.3 Joint Training

NHS Lothian and the Local Authorities keep training requirements under review, including developing joint training opportunities, particularly in relation to the Public Health etc (Scotland) Act 2008[1] duties (Appendix 2). In 2015 a refresher joint training session on the public health act was held covering a range of health protection scenarios requiring the invocation of public health orders.

An annual joint Continuing Professional Development (CPD) session has been established between NHS Lothian and the Local Authorities. These sessions are usually held in December and cover a review of significant outbreaks, incidents and events that have taken place in the course of the year.

9 Capacity and Resilience

9.1 NHS Lothian

NHS Lothian, in conjunction with Local Authorities and HPS, assessed the capacity and resilience of local health protection services in 2009. The assessment put a set of criteria into place and these were used to assess the status of health protection services. These criteria covered a number of areas, including: team composition; resources and education; communication mechanisms and technology; information management and facilities standards; policies; procedures; joint working and governance; on call and surveillance arrangements.

In the early part of 2011, NHS Scotland Resilience, following a review of emergency preparedness as part of a national audit of Health Boards, noted that there continues to be a proactive attitude towards emergency planning in NHS Lothian, which reaches through to the wider organisation.

NHS Lothian is developing more extensive mutual aid arrangement with neighbouring Health Boards and reciprocal appointment of Competent Persons as required by the Public Health etc. (Scotland) Act 2008[1].

NHS Lothian Health Protection Team staffing is constantly under review. A recent review noted that there was need for more staff, both consultant and nursing staff. As a result of this review there was an increase in nursing staff and the development of better ways of working is on-going.

9.2 Local Authorities

Each of the Local Authorities provides a core level of trained and competent staff to deliver a wide range of statutory environmental health duties. Local Authorities undertake their own service reviews on a regular basis. In addition they are subject to external scrutiny by the Food Standard Scotland (FSS) audit branch in relation to meeting the requirements of food safety legislation. Whilst historically, all of the Local Authorities have been able to provide health protection related services, there has been some contraction in areas of activity over recent years due to financial constraints.

The 2013 Audit Scotland Report - *Protecting Consumers*[70], raised concerns about the longer term sustainability of Trading Standards (TS) Services particularly at smaller Councils (classed as those with less than eight TS staff) and also looked at food safety services.

The report acknowledged that Food Services were, on the whole, currently better resourced than Trading Standards but raised concerns for both services about loss of experience and expertise and ensuring core competencies and training for the future.

The report recommended more formal joint working arrangements and shared service options as possible solutions. While the report did not address wider environmental health functions, (e.g., public health work, environmental monitoring & investigations, nuisance and housing standards work, health & safety enforcement etc), there are similar concerns about these service areas too.

9.3   Approach to regulation

We will develop a work programme to introduce new ways of working designed to minimise the adverse impact of deregulation on the ability of the Health Board and Local Authorities to comply with their duties to protect and improve the health and wellbeing of the population. In developing our priorities for action we will examine the population impact of potential adverse events against the level of risk they pose and the likelihood of occurrence. Used appropriately, regulation is an efficient, effective and equitable tool for improvement. We will introduce new interventions designed to improve performance and new tools to measure our achievements.

10 Public involvement and feedback

10.1 NHS Lothian

10.1.1   Patient and Public Involvement

In NHS Lothian, involving patients and the public means involving them in how health services are designed and delivered[71]. This is achieved by working in partnership with Local Authorities, the voluntary sector and other community groups when planning health services and health policies.

Patient and public involvement in NHS Lothian health protection takes place through seeking feedback from service users and patients and through a variety of conferences and working groups. For example, the Hepatitis C Action Plan sub-groups and LICAC have public representatives.

The HPT have carried out a number of feedback projects over the last two years. These include:

- A survey of care home managers views on the advice and support given by HPT during outbreaks of norovirus and influenza.

- Feedback from returnees who travelled to West Africa during the Ebola outbreak.
- Feedback from head teacher after a norovirus outbreak.

Learning from this feedback is used to improve our policies and practices in dealing with health protection issues. The HPT have a quality improvement team which co-ordinates this improvement work and meets on a monthly basis.

10.1.2 Staff and Partnership

The NHS Lothian Partnership Forum has been established as part of an area-wide employee relations framework that allows staff to influence how NHS Lothian works[72]. In health protection terms this forum provides the opportunity of early involvement and the ability to influence decision making on health protection issues which affect staff. Partnership involvement is considered essential when any incident moves from being a Problem Assessment Group (PAG) which is a professional assessment of a potential incident to an incident being declared and a formal Incident Management Team being established. One of the most obvious roles for Partnership is providing advice and helping to ensure high levels of understanding and uptake when staff screening is necessary as part of incident management.

10.2 Lothian Local Authorities

Local Authorities carry out a variety of client and community consultation and feedback activities, using the results to improve the efficiency and effectiveness of service delivery. However, for the purposes of the JHPP, the main area of cross-client contact by environmental health staff is the investigation of incidences of gastrointestinal infections outwith a hospital setting.

11 Monitoring and review

An action plan has been developed (Appendix 2) to ensure that this JHPP is implemented effectively. The plan will be kept under strategic review by the steering group comprising the Director of Public Health and Health Policy, NHS Lothian and the Chief Officer(s) of Environmental Health of City of Edinburgh, East Lothian, Midlothian and West Lothian Councils.

The detailed implementation of the plan (see action plan Appendix 2) including review of incidents, procedures, staff training will continue to be the responsibility of the NHS Health Protection Joint Liaison Group, which meets quarterly in Lothian.

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Appendix 1: Joint Health Protection Activities between NHS Lothian and Local Authorities

Priorities: We have specified what are the current deliverables for completion in 2016-18, what are for delivery in two to three years time or, for further in the future. These can be listed as:

- **Deliverables** - for the coming year with expected outcomes and milestones;
- **Developmental** - for a specific timescale beyond the coming year with expected outcomes and/or milestones listed and;
- **Directional** – Horizon scanning for future public health issues;
- **Sustainability** - We ensure that once targets are reached we can maintain that level.

Subject	Health Protection Issues	Local Authority Role	NHS Health Protection Role	Joint NHS/Local Authority role	Priority level
Emergency Planning					
Public health incidents	Ensuring the most effective protection of public through NHS and Local Authorities co-operation in investigation and control of outbreaks	Perform duties and functions defined under the Public Health (Scotland) Act. Assign appropriate staff and contribute resources required for the investigation and control of incidents and outbreaks.	Perform duties and functions defined under the new Public Health (Scotland) Act. Provide leadership for investigation of public health incidents and outbreaks. Exclude workers in high-risk occupations confirmed as having relevant infectious disease. Pay for exclusion of high risk workers.	Draw up joint plans for the investigation and control of incidents and outbreaks. Participate in incident and outbreak investigation, review and audits Participate in multiagency exercises and planning events.	**Deliverable**

Subject	Health Protection Issues	Local Authority Role	NHS Health Protection Role	Joint NHS/Local Authority role	Priority level
Port Health	Potential risk of importation of exotic infection from other countries. Increased potential for drug use. Lothian has major local and international transport hubs in the local area including: Edinburgh Airport, Leith Docks South Queensferry Hound Point terminal, Waverley /Haymarket Train Stations.	Inspection of ships for hygiene and vermin/pests Monitoring of water supplies. Enforcement of international health regulations, a designated port authority for the purpose of issuing ship sanitation etc. certificates.	Imposing appropriate Controls on ships and passengers when disease reported or suspected. Liaison with other agencies and health authorities.	Development of Joint operational plans. Response to airport call outs. Reducing risk of disease entering country via ports Ship Sanitation. Vermin control.	**Deliverable**
	Lothian is a centre of culture which hosts annual festivals, Hogmanay /New Year celebrations, international events such as the G8 and major international sporting events (e.g. Open Golf Championship, World Cup Sevens rugby), as	Work with the police to ensure safety at venues. Various licensing activities for entertainment, civic government, alcohol.	Ensure that Accident and Emergency department in hospitals have emergency plans to receive casualties. Work with other agencies to ensure adequate presence of first aiders.	Develop and test Hogmanay plans prior to the season starting. Monitor upcoming events and put in place appropriate plans for international and other large size	**Deliverable**

Subject	Health Protection Issues	Local Authority Role	NHS Health Protection Role	Joint NHS/Local Authority role	Priority level
Mass Gatherings	well as associated VIPs. This brings together populations from different parts of the world with a risk of new infection coming into the areas. There is potential risk of terrorism in large crowds.			events, e.g. carried out planning of mitigation measures for potential public health issues associated with the Commonwealth Games 2014.	
Climate change.	Climate change presents a potential risk of increased displacement of individuals due to flooding, plus disease risk and mental health problems after any flooding. Incident sites of potential flooding include River Esk, Almond, Water of Leith, Braid Burn, Burdiehouse Burn, Figgate Burn, River Tyne, Biel water, Brocks Burn and Linlithgow Mains.	Put in place emergency flood response plans dealing with displacement and remediation. Implement Flood Prevention Act duties.	Provide advice on potential health risk in the event of flooding. Ensure healthcare provision for vulnerable populations during flood incidents. Provide healthcare to the affected individuals Contribute to the Local Authority flood plans. Identify NHS Lothian sites that are vulnerable to flood	Participate in multiagency exercises and flood planning events. Participate in multiagency flood incident management. Develop plans in line with Scottish Govt Climate Change Adaptation framework 2012	**Sustainable**

Subject	Health Protection Issues	Local Authority Role	NHS Health Protection Role	Joint NHS/Local Authority role	Priority level
			risk and establish plans to mitigate the risk and ensure business continuity. Implement NHS Lothian Strategic Development strategy with actions to reduce carbon emissions		
Radiation - Ionising and non-ionising	Potential risk to public from radiation sources. Risk of nuclear incident. Risk of malicious release (terrorism). Sunbed use increasing cancer risk Radon accumulations increasing cancer risks.	Draw up a multi-agency off-site nuclear incident plan. Inspection and appropriate licensing of sun-bed operators. Monitor of radon gas in public building owned by the Local Authority and support families to monitor homes in potentially affected areas	Contribute to a multi-agency off-site plan. Monitor of radon gas in public building owned by the NHS and support families to monitor homes in potentially affected areas.	Participate in multiagency radiation exercises and planning events. Participate in multiagency radiation incident management.	**Deliverable**

Subject	Health Protection Issues	Local Authority Role	NHS Health Protection Role	Joint NHS/Local Authority role	Priority level
Good Places Better Health[10] (National Health Policy) issues					
Prison accommodation.	Lothian hosts two prisons – includes vulnerable populations. Increased risk of disease outbreaks such as hepatitis B, HIV and TB among prisoners.	Inspection of Prison kitchens under food safety and food standards legislation.	Develop close working relationship with prison staff for the provision of appropriate preventive measures and early intervention in incidents and outbreaks.	Participate in incident and disease outbreak investigation and control.	**Deliverable**
University accommodation.	Lothian hosts several universities with large numbers of students for example the university of Edinburgh has 16,000 students. Increased opportunity for introduction and spread of infection. Increase use of Houses in Multiple Occupation (HMO).	Regulation of HMOs. Investigation of housing standards issues. Protection of Private tenants through registration of private landlords.

Promote Landlord Accreditation to increase standards above the statutory minimum | Put in place plans to work with university authorities in monitoring and control of infection such as mumps and meningitis. | Investigate and manage incident of infections and outbreaks when they occur. | |

Subject	Health Protection Issues	Local Authority Role	NHS Health Protection Role	Joint NHS/Local Authority role	Priority level
Air quality.	Potential emissions and incidents relating to industrial processes in the area including: distilling and brewing, electricity generation, open cast mining and quarrying, cement manufacture etc. Risk of major incidents and release of toxic chemicals. Increase air pollution from routine emissions. Increased risk of respiratory and cardiovascular diseases.	Monitor air quality compliance with legislative standards. Declaration of Air Quality Management areas as appropriate and formulation of action plans. Respond to planning applications where air quality may be impacted Participate in the vehicle emissions and vehicle idling partnership	Contribute to the development of the national Air Quality Monitoring during major incidents. Ad hoc and advice on analyses of health impacts of air quality.	Participate in multiagency air quality exercises and planning events. Participate in multiagency air quality incident management. Consultation on air quality action plans.	

Subject	Health Protection Issues	Local Authority Role	NHS Health Protection Role	Joint NHS/Local Authority role	Priority level
Home Safety	Carbon monoxide poisoning. Fire risk. Safety of appliances. Risk from goods bought	Advice and complaint investigation about the safety of goods sold. Potential for surveys and test purchasing to check the safety of goods sold. Powers to seize unsafe goods.	Possibility of being asked for advice on potential risk to humans from products (e.g. those containing specific substances) Proactively offer advice to vulnerable populations in contact with clinical services e.g. children under 5. NHS Lothian also funds a range of child safety projects. Monitoring of accidents via routine data	Joint investigations as appropriate	**Developmental**

Subject	Health Protection Issues	Local Authority Role	NHS Health Protection Role	Joint NHS/Local Authority role	Priority level
Housing	Poor quality, energy inefficient housing is associated with respiratory ill health and winter mortality and fuel poverty. Overcrowding is associated with poor health. Housing design features may affect mental health, accessibility and risk of domestic injury.	Work in partnership with housing services to assess quality of housing with regard to the Tolerable Standard and to use statutory powers to secure improvement where funding permits or is of significant public health risk. Conduct the registration of Private Landlords scheme Develop and deliver the Local Housing strategy Deliver the Statement of Assistance in terms of housing	Support for health impact assessments of housing developments.	Health Impact Assessments of housing development and regeneration schemes. Tackling inequalities	Deliverable

Subject	Health Protection Issues	Local Authority Role	NHS Health Protection Role	Joint NHS/Local Authority role	Priority level
		improvements			
Contaminated Land	Lothian has a legacy of an industrial history and the associated issues of contaminated land including ex mining areas, former landfill sites etc. Potential chemical environmental pollution. Complaints from communities with assertions of health risk.	Identification of contaminated land and addressing problems found in accordance with national guidance contained in part IIA of EPA 1990.(guidance is not contained in statute also most issues of contamination are dealt with as part of the Planning process as part of redevelopment Monitoring of sites and investigation	Statutory consultee advising on risk to human from a wide variety of contaminants.	Investigation of assertions of risk and assessment of impact of remediation measures. Investigate contaminated land and take action to ensure health risks are eliminated or adequately reduced.	Developmental

Subject	Health Protection Issues	Local Authority Role	NHS Health Protection Role	Joint NHS/Local Authority role	Priority level
		and control of incidents where there is potential human exposure. Use a phased, risk based approach to the identification, investigation and remediation of contaminated land sites.			
Greenspace	High quality accessible green space is associated with better mental health and increased physical activity.	Open space strategy	Ad hoc advice on benefits of green space. Build into work on physical activity. Support for community gardening projects and greening of NHS estate.	Health impact assessments of green space proposals	Developmental
Transport	Transport can affect air quality, physical activity, injuries, access to health-promoting facilities, noise, community severance etc	Local Transport Strategy	Advice on health issues arising from transport policies and proposals	Health impact assessments of transport policy and strategy	Developmental
	Design of public spaces	Planning policies –	Advice on health	Health impact	Developmental

Subject	Health Protection Issues	Local Authority Role	NHS Health Protection Role	Joint NHS/Local Authority role	Priority level
Quality of Public Realm	may affect levels of physical activity, mental wellbeing, social cohesion etc.	formulation, implantation and monitoring	issues arising from planning proposals	assessment of planning policies	
Strategic Environmental Assessment	SEA includes consideration of Human Health		Offer ad hoc advice and support on health issues in SEAs	Joint work on scope of SEAs	Developmental
Equally Well[11] (Joint Work to Tackle the Social Determinants of Health Inequalities) – National Health Policy					
Infectious and Communicable Disease Control	Food poisoning. Legionella.	Investigation of potential sources, contacts and causes in partnership with NHS. Taking appropriate formal and informal action to ensure potential source is adequately dealt with.	Addressing medical needs of affected persons. Investigation of potential sources, contacts and causes with assistance of Local Authorities. Advising on potential control options. Exclude high-risk persons.	Developing SOPs, planning for incident management, managing and controlling outbreaks and incidents and surveillance. Review of incident management and learning lessons.	Deliverable

Subject	Health Protection Issues	Local Authority Role	NHS Health Protection Role	Joint NHS/Local Authority role	Priority level
		Hold register of cooling towers etc. Sampling of swimming pools to ensure no risk to users.		Exclude high-risk persons.	
Health and Safety at Work	Potential exposure to carbon monoxide from use of solid fuel appliances in commercial kitchens	Interventions, including inspections and formal action where appropriate, to ensure awareness of new HSE guidance to the catering trade and ensuring compliance to minimise risks to employees and neighbouring residents	Advice on health risks (Healthy Working Lives)	Joint investigations if incident of serious injury or public concern. HPT referral to LA if patient hospitalised with elevated CO levels.	**Deliverable**
Animal Health and zoonotic	Procedures supporting the control of BSE, bird flu, rabies, bovine TB etc.	Monitoring of controls on animal health. Appropriate formal and informal action to deal with	Working with Animal health to monitor the occurrence of zoonotic disease in livestock and domestic animals.	Investigation and control of incidents and outbreaks of zoonotic diseases.	**Deliverable**

Subject	Health Protection Issues	Local Authority Role	NHS Health Protection Role	Joint NHS/Local Authority role	Priority level
diseases		problems found. Monitoring of controls imposed as part of animal diseases, such as animal movement orders.	Advice on potential risk to human arising from animal health activities including outbreaks of animal diseases. Advice on vaccination to population at risk including travel abroad.		
Smoking, Alcohol & Substance Misuse	Smoking is the single largest preventable cause of premature mortality. Substance misuse is a preventable cause of ill health, death and drug related crimes.	Responsibility for ensuring goods are not sold to those under 18. Age Related Sales Tobacco, Cigarette, Lighter Refills Fireworks. No-smoking legislation implementation regarding smoking in public places. Licensing standards officer's	Follow up of individual cases of infection connected with substance misuse. Assess alerts about contaminated alcohol and new drugs causing potential ill health. Advise on appropriate measures to prevent and treat HIV, Hepatitis B and C. Develop and implement action plans through the HCV MCN.	Participate in disease incident and outbreaks related to substance misuse Underlying and long term issues addressed through planning and delivery of services in partnership through the Smoking & Health, Alcohol and Drug Partnerships (ADPs) and Community Safety Partnerships.	**Developmental**

Subject	Health Protection Issues	Local Authority Role	NHS Health Protection Role	Joint NHS/Local Authority role	Priority level
		interventions regarding age verification policy and responsible drinking.			
Noise Control	Anti social behaviour. Exposure to occupational noise. Exposure to nuisance noise which may affect health.	Powers to issue fixed penalty notices for anti-social activities. Powers to investigate and control noise nuisance generally through statutory nuisance legislation of licensing regime. Powers of H&S enforcement where excessive noise may be encountered in the workplace	Advice on health effects on humans arising from noise-producing activity.-producing activity.	Provide public health advice on incidents	Sustainable
	Activities Including: Alcohol, Street Trading Tattooing & Skin Piercing Petroleum.	Monitoring of alcohol licensing via licensing standards officers	Advice on health risks of activities, the impact of alcohol on population health and	Underlying and long term issues around alcohol misuse addressed	Developmental

Subject	Health Protection Issues	Local Authority Role	NHS Health Protection Role	Joint NHS/Local Authority role	Priority level
Licensing	Alcohol related health harm and community safety linked to availability. Spread of infection such as hepatitis B and C and sexually transmitted diseases.	Licensing monitoring and inspection of street traders, tattooists, skin piercers and petroleum storage. Dealing with complaints and taking appropriate informal or formal action.	the link with outlet density. Advice on implementing the public health principle in alcohol licensing including on licensing conditions and/or options to control problems and arising from incidents	through planning and delivery of services in partnership through the Alcohol and Drug Partnerships (ADPs) and Community Safety Partnerships.	
Pest Control	Vermin — potential to spread disease. Insects — disease spread potential, can arise from unhygienic conditions with human health risk.	Inspection of area for vermin and pests taking appropriate informal or formal action to address problems found. Treating of vermin and insects (discretionary).	Advice on potential risk to humans from a variety of pests.	Investigation and control of pest related diseases.	**Developmental**
Dog Control	Stray dogs — safety and potential for disease spread Dog fouling — potential to spread disease. Dangerous dog threat or attack.	Uplift of stray dogs Enforcement of fouling and dangerous dog Legislation Promote responsible dog	Advice on potential risk to humans from dog fouling Linkages to promotional work on best practice and other dog related	Investigation and control of zoonotic disease related to dogs.	**Developmental**

Subject	Health Protection Issues	Local Authority Role	NHS Health Protection Role	Joint NHS/Local Authority role	Priority level
	Noise nuisance from excessive barking	ownership to minimise Barking, fouling and poor control.	issues.		
Public Health Nuisances	Variety of statutory nuisance conditions affecting local residents / community.	Monitor area and respond to complaints with regard to statutory nuisance issues such as dirty houses, unhygienic living conditions, drainage problems, odour problems, etc.	Advice on risks and effects on the health of occupants and other relevant persons.	Follow up complaints and investigate nuisance that affect public health.	Developmental
Houses in Multiple Occupation & Private Sector Rental Accommodation	Nuisance and health effects on occupants from poor living conditions and disrepair Overcrowding, fire, safety.	Licensing of HMOs and registration of Private Landlords. Monitor local housing for defects and respond to complaints. Inspect for compliance Enforce against unlicensed/unregistered	Advice on risks and effects on the health of occupants and other relevant persons Advice on risks to health of Occupants.	Joint investigation as appropriate for HMO related public health incident	Developmental

Subject	Health Protection Issues	Local Authority Role	NHS Health Protection Role	Joint NHS/Local Authority role	Priority level
		Premises.			
Health & Safety at Work.	Illness or injury to persons.	Enforcement of Health and Safety legislation: to reduce the incidence of accidents and ill health at work in partnership with the HSE. This involves adherence to inspection/sampling programme, participation in national campaigns and other interventions as directed by HSE and investigation of accidents and complaints.	Advice on health risks (Healthy Working Lives)	Explore the link between Local Authority health and safety investigations/ intervention planning to NHS accident/ emergency data.	**Developmental**
Water Supplies	Old reservoirs and water treatment plants in need of development. Risk from consumption of contaminated water	Regulation and monitoring of private water supplies and ensuring national	Work with Scottish Water to ensure regular sampling and monitoring of supply and distribution	Investigation of water related infections and contaminants of drinking water	Deliverable

Subject	Health Protection Issues	Local Authority Role	NHS Health Protection Role	Joint NHS/Local Authority role	Priority level
	supplies. Lead in Water Guidance relating to WHO standards 2012.	standards are met. Administer grant assistance scheme for improvement of private water supply quality.	system Advice on medical aspects of risk to individuals and groups.	supply. A Health Protection Joint Liaison Subgroup on private water supply.	
Food Safety	Reduction in food poisoning Ensure food ingredients are safe and food appropriately labelled to ensure vulnerable people are protected (e.g. — allergens)	Inspection of food premises Inspection of production facilities for hygiene and composition. Sampling of food to check for compliance with standards. Promotion of good hygienic practice. Promotion and information on labelling/composition	Advice on medical aspects on request. Linkages to promotional work on hygienic practices and other food related issues. Expert advice on potential health effects arising from conditions found.	Investigation and control of food borne infectious disease incidents and outbreaks	
Food Hygiene & Food Standards	Food is a potential vehicle for transmission of infectious diseases.	Implement an effective inspection programme based on a risk based approach including	Promote hand washing practice and food hygiene to members of the general public during incidents.	Participate in investigation of incidents and outbreaks of food borne and gastrointestinal	

Subject	Health Protection Issues	Local Authority Role	NHS Health Protection Role	Joint NHS/Local Authority role	Priority level
		adherence to inspection/sampling/ audit programmes, provision of food hygiene and food safety training to business community, There is adoptive not required participation in national campaigns as promoted by FSA, investigation of food-borne illnesses, investigation of complaints and provision of information to the public on good food hygiene practice via local publicity campaigns e.g. Food Safety Week.		infections.	

Subject	Health Protection Issues	Local Authority Role	NHS Health Protection Role	Joint NHS/Local Authority role	Priority level
Diet & Nutrition					
TB services	Increasing numbers of TB cases, drug resistance, poor compliance amongst vulnerable groups such as people who are homeless, or with problematic alcohol and/or drug use.	Provision of housing to vulnerable groups Investigation of accommodation standards	Identify, investigate and treat cases and contacts, offer BCG vaccination. NHS Lothian is currently implementing Scotland TB plan and the piloting and evaluating of a web based TB surveillance system for Scotland.	Investigation and management of TB incidents.	**Deliverable**
Sexual Health and HIV Services	Preventing spread of sexually transmitted infections	Licensing of sex shops / establishments Teaching about sexual health and relationships.	Diagnosis, counselling and treatment of cases.	Joint planning for sexual health and HIV – strategy development HIV treatment and care – joint agreement for Milestone House.	**Deliverable**
Care Settings & Health Improvement, Efficiency, Access Treatment (HEAT) Targets					
	There is a risk of patients	Food hygiene	NHS Lothian has	Investigation of	**Deliverable**

Subject	Health Protection Issues	Local Authority Role	NHS Health Protection Role	Joint NHS/Local Authority role	Priority level
HAI	who are free from infection acquiring it from care institutions when they get admitted for other reasons.	inspections of hospital catering. Expert support and advice for HAI	plans to achieve a reduction of the rate of *Clostridium difficile* infections in patients aged 15 and over to 0.25 cases or less per 1,000 total occupied bed days by 2014/15. To further reduce HAI so that by 2014/15 NHS Lothian's *staphylococcus aureus* bacteraemia (including MRSA) cases are 0.24 or less per 1,000 acute occupied bed days.	incidents/ outbreaks	
Childhood Vaccinations	There is a risk of vaccine preventable diseases to re-emerge or cause outbreaks when the population vaccination coverage is low. Recent examples have been outbreak of measles and mumps.	Education – school and further employment, work with local businesses	NHS Lothian has a childhood immunisation programme that aims to vaccinate at least 95% of children according to national schedules (2011 uptake of MMR at 24 months was	Reservoirs of infection	**Deliverable**

Subject	Health Protection Issues	Local Authority Role	NHS Health Protection Role	Joint NHS/Local Authority role	Priority level
			93.5%).		
Human Papilloma Virus (HPV) Vaccine Programme:	HPV infection is responsible for the development of almost all cases (90+%) of cervical cancer. effective against the two strains. HPV vaccines are s of the virus. The HPV vaccine for girls aged 12 to 13 years is aimed at protection against 70% of cervical cancers.		NHS Lothian continues to implement the HPV programme with catch up for S4, S5 and girls who are out of school.		**Deliverable**
Viral Hepatitis	Prevention of BBV in drug users, increasing testing in high risk groups, ensuring immunisation policies in place for hepatitis B in at risk groups, collaborative working to ensure patients supported through assessment and treatment for hepatitis C	Regulation of tattooing and other high risk activities	NHS Lothian actions outlined in the Scottish Government Sexual Health and Blood Borne Virus framework are being implemented through the NHS Lothian Viral Hepatitis Managed Care Network (MCN).	Social worker involvement in hepatitis MCN Joint working via alcohol and drug action teams	**Deliverable**
Pandemic Influenza	A pandemic is one of the most severe national challenges likely to affect Scotland and Lothian.	Develop local plans for response and recovery from a pandemic.	NHS Lothian continues to identify, treat and monitor cases of influenza	Participate in Local and Regional Resilience Partnership	**Sustainable**

Subject	Health Protection Issues	Local Authority Role	NHS Health Protection Role	Joint NHS/Local Authority role	Priority level
	Proportionate planning and drawing on lessons learnt from H1N1 is essential for mitigation of the potential impact of a pandemic.		A(H1N1) and will ensure arrangements are in place to offer vaccination to the Lothian population against this virus as appropriate.	pandemic planning process.	
Information sharing (NHS & Local Authorities) & Joint Analysis	Sharing information is essential for effective implementation of health protection interventions.		NHS Lothian has arrangement for ensuring that Health professionals employed or contracted have the training and support necessary to allow them to balance their responsibilities for patient confidentiality, with public safety and health protection when sharing information.	Regularly review effectiveness of arrangement for information sharing between NHS Lothian and Local Authorities.	**Deliverable**
Provision of Mortuaries	Improper or delayed disposal of dead bodies can result in spread of infection	Arrangement for disposal of dead under National Assistance Act provisions.	Advice on health risks in relation to contaminated/ infected bodies.	Joint investigations as necessary	**Developmental**

Subject	Health Protection Issues	Local Authority Role	NHS Health Protection Role	Joint NHS/Local Authority role	Priority level
		Make arrangement for provision of mortuary services			

Appendix 2: Joint Health Protection Action Plan

Ref Section	Action	Responsibility	Timescale	Outcome	Priority Level
1	The steering group will continue to oversee the implementation of the plan.	DPH/Chief EHO and Lead CPHM	On-going	Regular review of planned activities	Deliverable
1	Ensure implementation and compliance with all the requirements within the act	DPH/Chief EHO and Lead CPHM and respective teams	Annual	Implement all aspects of the new act according to the law.	Deliverable
2.2	Investigate of assertions of risk and assessment of impact of remediation measures.	DPH/Chief EHO and Lead CPHM	On-going	Adequate risk assessment and risk management carried out	Deliverable
2.2	Investigate contaminated land and take action to ensure health risks are eliminated or adequately reduced.	DPH/Chief EHO and Lead CPHM	Annual	Adequate risk assessment and risk management carried out	Deliverable
2.2	Carry out health impact assessments of greenspace, transport policy and strategy proposals, planning policies and joint work on scope of SEAs	DPH/Chief EHO and Lead CPHM	On-going	HIA reports available to inform policy and planning	Developmental
4.1	Health Impact Assessments of housing development and regeneration schemes.	DPH/Chief EHO and Lead CPHM	Annual	HIA reports available to inform housing policy	Developmental
4.1	Address underlying and long term issues through planning and delivery of services in partnership through the Smoking & Health, Alcohol and Drug Partnerships (ADPs) and Community Safety Partnerships.	DPH/Chief EHO and Lead CPHM	Annual	Declining substance misuse rates and associated long term issues	Sustainable
4.1	Investigation and control of pest related diseases	DPH/Chief EHO and Lead CPHM	Annual	Reduced pest	Deliverable

Ref Section	Action	Responsibility	Timescale	Outcome	Priority Level
	zoonotic disease related to dogs.			incidents and zoonotic diseases	
4.1	Follow up complaints and investigate nuisance that affect public health.	DPH/Chief EHO and Lead CPHM	Annual	Reduced complaints associated with nuisances.	Deliverable
4.3	Reduce risk of disease entering country via ports by responding to airport call outs, ship sanitation inspection and vermin control.	DPH/Chief EHO and Lead CPHM	On-going	Prompt response to port health call out	Sustainable
4.3	Develop and test emergency plans for mass gathering including national and international events such as games and sports and the Hogmanay plans prior to the season starting.	DPH/Chief EHO and Lead CPHM	On-going	Event health emergencies adequately handled	Sustainable
4.3	Participate in multiagency climate change mitigation emergency plans such as flood plans. Develop plans in line with Scottish Govt Climate Change Adaptation framework 2012	DPH/Chief EHO and Lead CPHM	On-going	Continuous mitigation of environment impact arising from climate change	Deliverable
4.3	Participate in multiagency radiation exercises and planning events.	DPH/Chief EHO and Lead CPHM	Two-yearly	Staff capacity and resilience for response to radiation incidents improved	Deliverable
4.3	Participate in multiagency air quality exercises and planning events and consultations on air quality action plans.	DPH/Chief EHO and Lead CPHM	Annual	Effective response to air quality incidents	Deliverable
4.4	Ensure that lessons learnt from incidents and outbreak informs the development and review of plans.	DPH/Chief EHO and Lead CPHM and respective teams	Annual	Plans and SOPs are suited to local needs.	Deliverable
4.2.2	Joint planning for sexual health and HIV – strategy development	DPH/Chief EHO and Lead CPHM	Annual	Joint sexual health and HIV strategy	Deliverable

Ref Section	Action	Responsibility	Timescale	Outcome	Priority Level
	HIV treatment and care – joint agreement for Milestone House.			in place and used.	
4.2.2	Involve social workers in hepatitis Managed Clinical Networks. Joint working via alcohol and drug action teams	DPH/Chief EHO and Lead CPHM	Annual	Social workers participate in Hepatitis MCN	Deliverable
4.2.3	Participate in multiagency exercises and planning events.	DPH/Chief EHO and Lead CPHM	Annual	Continuous improvement of staff capacity and resilience	Deliverable
5	Exercise joint plans for the investigation and control of incidents and outbreaks. and audits	DPH/Chief EHO and Lead CPHM	Dec 2016	Plans in place and applied	Deliverable
5.1	Share lists of competent persons as required by the act	DPH/Chief EHO and Lead CPHM	Annual	Agencies have up-to-date lists of competent persons for Lothian	Deliverable
5.2, 5.3	Ensure the acquisition and use of appropriate information technology for the investigation and management of outbreaks and incidents	DPH/Chief EHO and Lead CPHM and respective teams	Annual	Accurate recording and reporting of incidents and outbreaks. Timely availability of epidemiological information.	
5.1	Appoint and review competent persons list.	DPH/Chief EHO and Lead CPHM	Annual	Sufficient numbers of competent persons within agencies	Deliverable
5.5	Hold major incident plan exercise (joint LA/ NHS Lothian) Regularly exercise key health protection plans including GI and food incidents and the major incident plan.	PH/EHO/Med/Vet /SW liaison group	Annual	Update of plans based on exercises. Staff trained during exercises.	Deliverable
5.5	NHS Lothian and the Local	Health Protection	Annual	Staff working	Deliverable

Ref Section	Action	Responsibility	Timescale	Outcome	Priority Level
	Authorities will keep Standard Operating Procedures (SOPs) under review, including developing and reviewing procedures up-to-date in relation to the Public Health etc (Scotland) Act 2008 duties.	Joint Liaison group		with updated SOPs	
5.5	Review Lothian JHPP (2016-18)	DPH/Chief EHO and Lead CPHMNHS	April 2018	Revised plan in place and up-to-date.	Sustainable
5.6	Developing joint training opportunities, particularly in relation to the Public Health etc (Scotland) Act 2008 duties.	DPH/Chief EHO and Lead CPHM Health Protection Joint Liaison group	Annual	Joint training taking place.	Deliverable
5.6.2	NHS Lothian and the Local Authorities will keep training requirements under review, including for competent persons and investigator knowledge and skills, developing joint training opportunities, particularly in relation to the Public Health etc (Scotland) Act 2008 duties.	Health Protection Joint Liaison group	Annual	List of training requirement in place and shared with staff	
6	Assess capacity and resilience to provide health protection services in Lothian	DPH/Chief EHO and Lead CPHM NHS Lothian and Local Authorities	Annual	NHS Lothian and Lothian Local Authorities have sufficient numbers of competent persons and investigators for both in and out of hours interventions	
6.3	Explore and identify new ways of working in response to revised approach to regulation.	DPH/Chief EHO and Lead CPHM NHS Lothian and Local Authorities	Annual	New ways of working identified and applied.	
7	Develop and implement public involvement activities	Health Protection Joint Liaison	Annual	Review of plans with	

Ref Section	Action	Responsibility	Timescale	Outcome	Priority Level
	and how their contribution can be used for improving health protection in all agencies.	group		consideration of public in-put.	
7	Arrangements for mutual aid and support within Lothian. Develop a more formal agreement to enable an expert EHO from another authority to provide lead advice in an incident	DPH/Chief EHO and Lead CPHM NHS Lothian and Local Authorities			
7	Establish a process for asking for additional support for EHO teams through the DPH / Clinical Lead for health protection.				
7	We will also need to develop criteria for peer review of different local authorities and given the increasing complexity of responsibilities held at department level, criteria for declaring a professional conflict of interest and asking an expert or EHO with regulatory responsibility from another area to take over.	DPH/Chief EHO and Lead CPHM NHS Lothian and Local Authorities			
7	Agree ground rules for behaviour and providing support/buddying etc.	DPH/Chief EHO and Lead CPHM NHS Lothian and Local Authorities			
7	Update the information sharing agreements.	DPH/Chief EHO and Lead CPHM NHS Lothian and Local Authorities			

Appendix 3: Key health protection plans for the Lothian area

Shared Plans	Last Review Date	Next Review Date
Police Scotland Major Incident Plan	N/A	Under development
East of Scotland Regional Resilience Partnership Generic	05/2011	05/2012

Shared Plans	Last Review Date	Next Review Date
Emergency Plan (maintained by SCG Co-ordinator)		
East of Scotland Regional Resilience Partnership Pandemic Influenza (maintained by SCG Co-ordinator)	05/2010	Under review
East of Scotland Regional Resilience Partnership Community Risk Register	04/2011	Under review
East of Scotland Regional Resilience Partnership Public Communications Plan	05/2011	05/2012
East of Scotland Regional Resilience Partnership Animal Health Plan	05/2010	Under review
The City of Edinburgh Council Emergency Plan (General Plan for the Council's response to Serious Emergencies or Major Incidents).	07/2014	04/2016
The City of Edinburgh Council Pipelines Emergency Plan (Statutory Requirement under the Pipelines Safety Regulations)	03/2015	04/2016
Edinburgh Site Specific Response Plan (maintained by Police Scotland on behalf of East of Scotland Regional Resilience Partnership)		
NHS Borders Pandemic Influenza Plan	02/2009	Under review
The City of Edinburgh Council BP Dalmeny Installation Off Site Plan (Statutory Requirement under the Control of Major Accident Hazards Regulations)	12/2014	12/2016
Joint Port Health Plan	2009	2018
Police Scotland Severe Weather plan	07/2011	Under Review
Scottish Waterborne Hazard Plan	07/2010	Under Review
The City of Edinburgh Council Flooding Emergency Plan (Under review.)	Under Review 2015	Under Review
Sporadic food and gastrointestinal infection incidents plans	2009	2018
Blue Green Algae in Inland Waters Assessment and Control etc. Plan	2009	2010
Shared Waste Water Incident Plan	2009	Under Review
The City of Edinburgh Oil & Chemical Pollution Emergency Plan	03/2015	03/2017

NHS Lothian	Last Review Date	Next Review Date
NHS Lothian Major Outbreak Plan for Lothian	2015	2017
NHS Lothian Incident Management Plan- Public health	2014	Under review
Contingency Plan for Pandemic Influenza: Strategic Policy	2012	Under review
NHS Lothian and Port Health Authority Procedure for cases of illness in vessels arriving at Leith and other anchorages in Lothian.	2012	Under review
NHS Lothian and Port Health Authority Procedure for cases of illness in aircraft arriving in Edinburgh	09/2010	Under review
Drug and Alcohol Plan		
The Sexual Health and Blood Borne Virus Framework	2014	2015
A TB Action Plan for Scotland	2014	Under Review
NHS Lothian Standard Operating procedures for specific diseases including meningitis, E.coli O157.	Ongoing	Ongoing

City of Edinburgh Council	Last Review Date	Next Review Date
The City of Edinburgh Council Emergency Plan (General Plan for the Council's response to Serious Emergencies or Major Incidents).	07/2014	04/2016
The City of Edinburgh Council Pipelines Emergency Plan (Statutory Requirement under the Pipelines Safety Regulations)	03/2015	04/2016
The City of Edinburgh Council BP Dalmeny Installation Off Site Plan (Statutory Requirement under the Control of Major Accident Hazards Regulations)	12/2014	12/2016
Edinburgh Flooding Emergency Plan (The City of Edinburgh Council)	Under review 2015	Under review
Corporate Business Continuity Plan	04/2015	04/2017
Business Continuity Pandemic Flu Plan	Under review 2015	Under review
The City of Edinburgh Oil & Chemical Pollution Emergency Plan	03/2015	03/2017
Corporate Severe Weather Resilience Plan	11/2015	10/2016

West Lothian Council	Last Review Date	Next Review Date

West Lothian Council	Last Review Date	Next Review Date
West Lothian Major Incident Plan	2013	2016
Severe Weather Plan	2015	2017
Major Accident Hazard Pipelines Emergency Plan	2013	2016
Control of Major Accident Hazard Off Site Emergency Plan	2014	2017
Livingston Shopping Centre Emergency Plan	2009	Under review

East Lothian Council	Last Review Date	Next Review Date
Business Continuity Plan	2012	Under review
Torness Off Site Emergency Plan	2012	Under review
Corporate Emergency Plan	2012	Under review
Chemical Incident Response	2009	
Oil Pollution Plan	2009	Under review
Severe weather response plan	2013	Under review
Pipeline Plan		
Rabies Emergency Plan	2009	Under review

Midlothian Council	Last Review Date	Next Review Date
Midlothian Registered Care Homes Stage 2 Plan	2014	2016-17
Midlothian Council Business Continuity Plans (Midlothian Council Services)	2016	2018
Midlothian Council Emergency Procedures(*now incorporating Recovery Plan)	2016-currently under review	2017-18
Fuel Plan	2012	2016-17
Midlothian Pandemic Flu Plan	2014	2016-17
Pipeline Emergency Plan	2016	2018
Midlothian Council Food Service Plan	2016	2017
Severe Weather Plan	Dec 2015	2017
Animal Diseases Plan	Currently under review	

Midlothian Council	Last Review Date	Next Review Date
Midlothian Registered Care Homes Stage 2 Plan	2014	2016-17
Midlothian Council Business Continuity Plans (Midlothian Council Services)	2016	2018
Midlothian Council Emergency Procedures(*now incorporating Recovery Plan)	2016-currently under review	2017-18
Fuel Plan	2012	2016-17

Appendix 4: Significant public health incidents or outbreaks 2014-2015

NHS Lothian

Business Continuity:

Incident/Outbreak	Improvement to plans
Pandemic Flu	
Chemical / radiological and biological	
Carbon dioxide ongoing release at a housing estate in Gorebridge multiagency issue	Joint working plans to be updated and debrief performed, final report with recommendations on joint working
Large fire in a building containing asbestos in West Lothian	
Noise level complaint about wind turbines	HPT improved their complaints procedure and the procedures for dealing with difficult clients on the phone
Sealed canister of potassium cyanide found in an Edinburgh Street.	
Various Mercury spillages at a GP practice and a private residence.	
Chemical incident in a factory.	
Possible cyanide poisoning.	
Concerns of health problems arising from former steel works in west Lothian.	
Chemical incident on old SPS land.	
Avian flu incident at a Midlothian APHA lab.	Joint working with the lab and Avian flu policy to be re written
Food	
E.Coli 0157 outbreak linked to the Hydro in Glasgow.	
Antifreeze poisoning linked to an old whisky bottle.	
Salmonella outbreak linked to a Glasgow football ground.	
Increase in GI Illness in returning soldiers.	Improved links with the Army medical Personnel
E.coli outbreak linked to a Fife restaurant. E.coli cluster linked to a Turkish wedding.	
Specific Diseases	
Legionella Longbeachae cases	This led to HPS releasing a press statement on safe use of compost, Legionella guidance also updated by health Protection Network

Incident/Outbreak	Improvement to plans
Ebola preparedness started in July 2015	Multiple policies written, joint working with various agencies including EHO's GP HPS etc. Lothian policy written on what we
Scarlett Fever outbreak linked to a school camp	
Possible cases of MERS-CoV reported	Development of policies between agencies
Large increase in Group A streptococcal infections in injecting drug users	Joint liaison with a number of agencies, development of specific guidance and information
Monitoring of returning workers from high risk Ebola countries	
Large number of Influenza A outbreaks in care homes with multiple deaths	Development of local sop
Increase in atypical meningococcal presentation	
Large number of norovirus outbreaks in schools	Development of the CEC norovirus toolkit
Health Care Acquired Infections (HAI)	
Increase in infections linked to birthing pools	
Dental infection control incident	
Pseudomonas at the RHSC	
Case of confirmed Ebola in a Glasgow resident	

Blood Borne Viruses	
Hep c transmission at a gp practice	
Tuberculosis	
Multiple TB meetings for hospital in patients	
Vaccine Related	
Large mumps outbreak in the university populations in Lothian	Promotion of the MMR vaccine among University students
Port Health	
Airport incident which required a joint visit to an aircraft	Port health plan to be finalised

City of Edinburgh Council:

Incident/Outbreak	Improvement to plans
Environmental (EIA)	
In the Autumn of 2014 there were a number of outbreaks of Norovirus associated with Edinburgh Primary Schools. Environmental Health and NHS Lothian HPT worked with Schools and Facilities Management to establish good operating procedures for schools to assist in the management and control of the virus in an educational setting.	A Norovirus tool kit was developed for use in CEC schools.
In the Winter of 2014/15 Environmental Health reviewed its airport procedures and officer training with regard to dealing with possible cases of EVD and other VHF incidents at the airport and in the wider community.	Link to revised procedure for cases of illness in aircraft arriving in Edinburgh (Procedure under review)
Cryptosporidium cases linked to farm visitor attraction in West Edinburgh Spring 2015. Site visits by CEC EHOs and HSE. Improvements implemented, no associated cases since.	
Giardia case associated with private water supply in South Edinburgh. Water sampling did not show any positive results and boil notice lifted. However, some improvements to this private water supply identified.	
Carbon Monoxide risks associated with increased use of solid fuel (charcoal) appliances in commercial kitchens. Advice letters sent to potentially relevant premises. Investigations of complaints and formal notices served where elevated CO levels in neighbouring flats. New HSE guidance (published late 2015) on the subject also drawn to attention of relevant premises.	Topic included in CEC 2015/16 health and safety intervention and inspection strategy and will be included 2016/17 too.
Outbreak of gastroenteritis linked to bowling club. Liaison with LA out with Lothian regarding outside caterer and follow up questionnaires by HPT. No causative organism identified.	
Concerns about increased rat population in defined area of city centre. Project late 2015 targeting service lanes including surveys, baiting by CEC pest control, EHO enforcement work targeting defects, refuse presentation, private land attracting or harbouring rats	

West Lothian Council:

Incident/Outbreak	Improvement to plans
Environmental (EIA)	
Water	
Food	
Specific Diseases	

East Lothian Council:

Incident/Outbreak	Improvement to plans
Chemical / radiological and biological	
Unexploded WW2 grenades Incident at Macmeery school(2013)	Review of procedures undertaken
Investigation of Legionella in garden compost (2013)	
Environmental (EIA)	
Various localised oil pollution incidents 2012-13	Review of local harbour oil spill response arrangements

Midlothian Council:

Incident/Outbreak	Improvement to plans
Leak of grouting material into the water – Linked to work being carried out on railway	
Major gas leak in Midlothian which caused evacuation and road closures in the local area	

Appendix 5: Scottish Health Protection Network (SHPN)
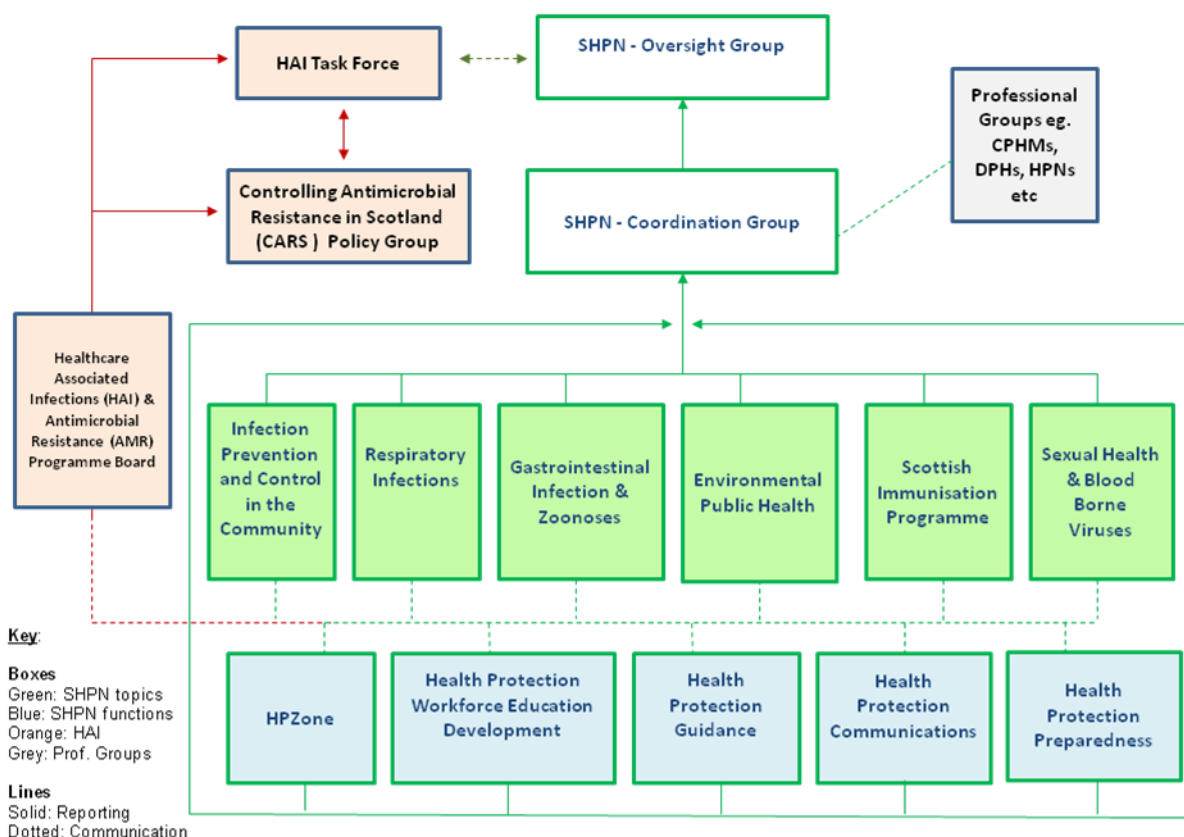
Appendix 6: List of Acronyms

ACOP	Approved Code of Practice
AIPG	Avian & Influenza Pandemic Group
APP	Authority Public Protection
AQMA	Air Quality Management Area
BBV	Blood Bourne Viruses
CBRN	Chemical Biological, Radiological & Nuclear
CEC	City of Edinburgh Council
CHI	Community Health Index
CNS	Central Nervous System
COPD	Chronic Obstructive Pulmonary Diseases
COSLA	Convention of Scottish Local Authorities
CPD	Continuing Professional Development
CPHM	Consultant in Public Health Medicine
DPH	Director of Public Health

EC	European Commission
ECOSS	Electronic Communication of Surveillance in Scotland
EHO	Environmental Health Officer
ELC	East Lothian Council
EMF	Electromagnetic Field
EPA	Environmental Protection Act
EU	European Union
FSA	Food Standards Agency
FSS	Food Standards Scotland
GROS	General Register Office for Scotland
HAI	Healthcare Associated Infection
HCG	Healthcare Governance Committee
HEAT	Health Improvement, Efficiency, Access Treatment
HIV	Human immunodeficiency virus
HMO	House in Multiple Occupation
HPS	Health Protection Scotland
HPT	Health Protection Team
HPV	Human Papiloma Virus
HSE	Health and Safety Executive
IHP	International Health Regulation
IMT	Incident Management Team
JCVI	Joint Committee on Vaccination and Immunisation
LBSCG	Lothian and Borders Scottish Co-ordinating Group
LDP	Local Delivery Plan
LICAC	Lothian Infection Control Advisory Committee
LRP	Local Resilience Partnership
MC	Midlothian Council
MCN	Managed Clinical Network
MMR	Measles, Mumps Rubella
MRSA	Methicillin Resistant Staphylococcus Aureus
MTPAS	Mobile Telecommunications Privileged Access Scheme
NHS	National Health Service
NSP	Network Service Provider
PAG	Problem Assessment Group
REHIS	Royal Environmental Health Institute of Scotland
RIE	Royal Infirmary of Edinburgh
RRP	Regional Resilience Partnership
SARS	Severe Acute Respiratory Syndrome
SAS	Scottish Ambulance Service
SEISS	Scottish Epidemiology Infection Surveillance System
SEPA	Scottish Environment Protection Agency
SG	Scottish Government
SHPIMS	Scottish Health Protection Information Management System
SHPIR	Scottish Health Protection Information Resource
SIDNEY	Scottish Infectious Diseases Notification Electronic eYe
SIDSS	Scottish Infectious Disease Surveillance System
SIRS	Scottish Immunisation Recall System

SOA	Single Outcome Agreement	
STAC	Science and Technical Cell Course	
STI	Sexually transmitted infections	
SW	Scottish Water	
TB	Tuberculosis	
TS	Trading Standards	
Vetech		
VIP	Very important person	
WHIP	Worcestershire Health Informatics Programme	
WHO	World Health Organisation	