

Greater Glasgow and Clyde Joint Health Protection Plan 2018-2020

NHS Greater Glasgow and Clyde

East Dunbartonshire

East Renfrewshire

Glasgow

Inverclyde

Renfrewshire

West Dunbartonshire

Forward

The Public Health etc. (Scotland) Act 2008 requires NHS Boards, in consultation with Local Authorities, to produce a Joint Health Protection Plan which provides an overview of health protection (communicable disease and environmental health) priorities, provision and preparedness for the NHS Board area. Guidance on the content of joint health protection plans has been published by the Scottish Government.

This plan covers the period from 1 April 2018 to 31 March 2020. It will be reviewed regularly by the group throughout its duration to ensure the contents remain relevant and appropriate. Further plans will be published every two years.

It is a public document and is available to members of the public on the NHS Greater Glasgow and Clyde website [here](#) and on request. We hope that you will find this plan to be of interest, and of value, and that its production will contribute to protecting the health of the people who visit, work and live in Greater Glasgow and Clyde.

Dr Linda de Caestecker

Director of Public Health

NHS Greater Glasgow and Clyde

Signatories

Authority	Authorised signatory	Position	Approving committee	Date
NHS Greater Glasgow and Clyde	Linda de Caestecker	Director of Public Health	Public Health Committee	18 th April 2018
East Dunbartonshire	Evonne Bauer	Executive Officer	Place Neighbourhood and Corporate Assets Committee	9 th August 2018
East Renfrewshire	John Davidson	Prevention Services Manager	Cabinet	18th August 2018
Glasgow City	William Hamilton	Group Manager, Environmental Health	Environment, Sustainability and Carbon Reduction City Policy Committee	19 th March 2019
Inverclyde	Martin McNab	Head of Environmental & Public Protection	Environment & Regeneration	30 th August 2018
Renfrewshire	Mary Crearie	Director of Communities, Housing and Planning Services	Infrastructure, Land and Environment Policy Board	30th May 2018
West Dunbartonshire	Angela Wilson	Strategic Director, Transformation and Public Sector Reform	Corporate Services	16th May 2018

This plan has been prepared following the requirements set out in the Public Health etc. (Scotland) Act 2008. The seven signatory organisations have prepared this plan in collaboration and consultation. This plan is herewith referred to as the Joint Health Protection Plan (JHPP).

The purposes of the plan are:-

- i. To provide an overview of health protection priorities, provision and preparedness for NHS GGC and partner local authorities.
- ii. To outline the joint arrangements which NHS GGC and partner local authorities have in place for the protection of public health.
- iii. To improve the level of “preparedness” to respond effectively to a health protection incident and emergency.
- iv. To clarify the priorities for the period of the plan 2018 – 2020.
- v. To develop “learning” across the agencies.
- vi. To provide a mechanism for reviewing and recording outcomes and achievements.

The plan will be reviewed annually by representatives from Environmental Health and Health Protection and any necessary changes made and reported to the JHPP signatories. The plan will only be formally changed and updated every 2 years in accordance with legislative requirements.

Public Health

Public health, as defined by Acheson, and adopted by the Faculty of Public Health is “the science and art of promoting and protecting health and well-being, preventing ill-health and prolonging life through the organised efforts of society.”¹

Traditionally public health has been divided into three domains – health protection, health promotion and health services public health, supported by public health intelligence. Though the JHPP deals only with the first of the domains, the domains overlap, interact and provide mutual support in improving and protecting the public’s health.

Health Protection

Health Protection is a term used to encompass a set of activities within the Public Health function. It involves:

- Ensuring the safety and quality of food, water, air and the general environment
- Preventing the transmission of communicable diseases
- Managing outbreaks and the other incidents which threaten the public health.

The profile of Health Protection has increased significantly in recent years with issues such as immunisation, food borne infections, pandemic flu, healthcare associated infection and communicable diseases regularly being in the public eye. The quality of public protection from hazards demands a workforce, educated and trained to the highest standards².

Environmental health

Environmental Health has been defined as: "... that area of Public Health activity which strives to improve, protect & maintain health & well being through action on the physical environment and on life circumstances³."

¹ Independent Inquiry into Inequalities in Health: Report; The Stationery Office; 1998

² NHS Education Scotland <http://www.nes.scot.nhs.uk/education-and-training/by-theme/initiative/public-health/health-protection.aspx>

³ Old Report; 2006 (commissioned by Royal Environmental Health Institute of Scotland)

Overview of NHS Board and Local Authorities

NHS Greater Glasgow and Clyde

NHS Greater Glasgow and Clyde Health Board is responsible for the health needs of the population living within the Board's remit. The Board provides strategic leadership and performance management for the entire local NHS system in the Greater Glasgow and Clyde area and ensures that services are delivered effectively and efficiently. It is responsible for the provision and management of the whole range of health services in this area including hospitals, general practice, and public health. NHSGGC works alongside partnership organisations including Local Authorities and the voluntary sector. NHSGGC serves a population of 1.14 million and employs around 39,000 staff – it is the largest NHS organisation in Scotland and one of the largest in the UK.

NHSGGC contains some of the most and least deprived areas in Scotland. Population estimates (SAPE 2013) show that 36% of all NHSGGC residents (n=408,349) live in the most deprived areas as defined by the Scottish Index of Multiple Deprivation (SIMD)

Full details of the population of NHSGGC, including key indicators of health and social determinants of health, are included in the Director of Public Health's Biennial Report 2015-17.⁴

East Dunbartonshire

East Dunbartonshire lies to the north of Glasgow and has a population of 106,960. The Council covers a geographical area of 77 square miles and is in the mid-range of Scottish Local Authorities

Mid-2015 population estimates shows East Dunbartonshire with 61% of the population of working age, 17% under 16 years of age and 22% of pensionable age. Recent projections suggest that the population of East Dunbartonshire will decline by 6.8% over the next 25 years. Significantly the number of children (0-15 years) is projected to decrease by 13.4 % during this period, whilst the population of pensionable age is expected to rise by 25.4%. The working age population is predicted to decrease by 17.2%. The highest population increase will be seen in those aged 75 and over with a predicted increase of 93%.

4.2% of the population regarding themselves as being from a Black/Minority Ethnic Community (BME) according to figures from the 2011 Census.

East Dunbartonshire is, in the main, a prosperous area where employment rates are high and levels of crime fall significantly below the Scottish average. It is recognised as an excellent place to live based on health, life expectancy and school performance. That stated, there are pockets of deprivation where major inequalities exist and the quality of life falls below the national average. Within the authority,

⁴ http://www.nhsggc.org.uk/media/234486/nhsggc_ph_dphreport2015_population_of_nhsggc.pdf

seven data zones fall into the top 25% most deprived in Scotland. These data zones are located in Hillhead, Lennoxton, Auchinairn and Kirkintilloch West. SIMD ranks in the Hillhead area have improved with two datazones moving out of the 5% most deprived in Scotland and the majority of datazones showing less deprivation than in SIMD 2012. However, Hillhead remains the most deprived area in East Dunbartonshire. Recent analysis of local data further confirms a continuing gap in equalities between, our most and least deprived communities.

East Renfrewshire

East Renfrewshire covers an area of approximately 67 square miles and exhibits a diverse range of environments. East Renfrewshire is regarded as one of the best places to live in Scotland, however it is also an area of contrasts. While there are areas that are predominantly affluent and have high levels of employment and good health, there are also pockets of disadvantage and deprivation that are amongst the worst found in Scotland. Seven data zones in East Renfrewshire are in the 15% most deprived in Scotland, representing 6% of the population in East Renfrewshire. In 2016 population was estimated at 93,810, a 25% increase since 2001. It has the highest proportion of 10-14 and 15-16 year olds in Scotland. 6% of the population are from black and minority ethnic groups.

The built-up area of East Renfrewshire generally offers a good quality urban environment, and whilst it is predominantly residential, there are concentrations of other uses, such as business and industry. There is also a range of complementary uses in the residential areas, such as schools, shops and community facilities. There is a network of important, local urban green spaces comprising playing fields, woodlands, formal and informal parks along with amenity open spaces. These contribute positively to local amenity and the quality of life for residents. The past 10 years has seen significant new housing development in the Greenlaw area of Newton Mearns, accompanied by new schools, health centres and commercial development, all due to the apparent desirability of this area.

Glasgow City Council

Glasgow City Council is the largest of Scotland's 32 local authorities, providing essential frontline and support services to the people of Glasgow. Glasgow is the largest city in Scotland and the fourth largest in the UK. The current population of the city has risen to 606,340 after decades of decline. The birth rate in Glasgow has risen since 2007 and contributed to the rise in population. Glasgow has the most ethnically diverse population in Scotland. In 2011, 12% of the population were from an ethnic minority.

Although male life expectancy has increased to 73.4 and to 78.8 for female the average is still lower than Scotland as a whole. Indeed, in poorer parts of the city this is even lower. Male life expectancy is approximately 13.7 years lower in the 10% most deprived areas of Glasgow compared to the 10% of the least deprived.

The City continues to lose people to the surrounding areas who choose to commute to work in the city. This loss is compensated by immigrants from abroad. This is largely made up of asylum seekers, and migrants from European Union countries

such as Poland, Slovakia and the Czech Republic. However, this may change significantly after Brexit.

Inverclyde

Inverclyde covers an area of 61 square miles stretching along the south bank of the estuary of the River Clyde. Inverclyde is one of the smaller local authorities in Scotland with a population of 79,500. The main towns of Greenock, Port Glasgow and Gourock sit on the Forth of Clyde. The towns provide a marked contrast to the coastal settlements of Inverkip and Wemyss Bay, which lie to the south west of the area, and the villages of Kilmacolm and Quarrier's Village which are located further inland. Demographic trends have shown a marked decrease in population in recent years with the majority of those leaving being young. The most significant population increase in Inverclyde is projected for the age group 75 and over with an estimated increase of 68% by 2039. Inverclyde also has substantial areas of deprivation. In the Scottish Index of Multiple Deprivation 2016, 11 (9.6%) of Inverclyde's 114 datazones were in the 5% most deprived datazones in Scotland. Inverclyde has the second highest local share of the most deprived 20% of any authority in Scotland with obvious effects on general health and life expectancy in the area. Female life expectancy at birth (80.4 years) is greater than male life expectancy (75.4 years), but both were lower than the Scottish average. Male life expectancy at birth in Inverclyde is improving more rapidly than female life expectancy

Renfrewshire

Renfrewshire Council is situated to the west of Glasgow on the south bank of the River Clyde and covers nearly 103 square miles. To the west lies Inverclyde Council, to the south is North Ayrshire Council and East Renfrewshire is located to the south east. Renfrewshire has a population of over 174,000, making it the ninth largest council in Scotland in terms of its population. Paisley, with a population of around 77,000, forms the commercial and transport hub for Renfrewshire. The town of Renfrew lies to the north of Paisley and Johnstone to the west. Glasgow International Airport is located to the north of Paisley and is easily accessed from the M8 Motorway and Paisley Town Centre. It is one of Scotland's busiest airports. It is a key part of the transportation infrastructure of Scotland and is a major contributor to Renfrewshire's economy. Renfrewshire Council is committed to its role as a health improving organisation and recognises its responsibility in working with partners to improve the health of local communities. This focus is essential due to the significant health inequalities that exist in Renfrewshire, linked often, to levels of deprivation within communities. For example, life expectancy is lower in Renfrewshire than the Scottish average at 76.3 years for men and 80.6 years for women, compared with the national averages of 77.1 and 81.1 years respectively. This remains a considerable challenge for Renfrewshire given the strong links between social deprivation and ill health.

West Dunbartonshire

West Dunbartonshire comprises three main settlement areas, Clydebank, Dumbarton and Vale of Leven, which have developed along the rivers Clyde and Leven.

Within the boundaries of the Authority, the three large areas of water, the river Clyde, the river Leven and the southern extents of Loch Lomond combine to cover 2,505 ha. The urban areas of the Authority spread from the two rivers up to the foothills of the Kilpatricks, Dumbarton Muir and Carman, and cover a land area of 2,735 ha. The remaining 12,986 ha of the Authority area comprises greenbelt, farmland, foothills and the raised bogland of the countryside area.

From the published West Dunbartonshire Social and Economic Profile 2017(1), the population of West Dunbartonshire at 2014 was estimated at 89,500. The population of West Dunbartonshire accounts for 1.7% of the total population of Scotland. In West Dunbartonshire in 2015 the number of people aged 16 and under decreased to 16,694 people, and the number of people aged 60 and over increased to 21,345 people. Area profiles for communities in West Dunbartonshire are found here -

<http://www.west-dunbarton.gov.uk/council/community-planning-west-dunbartonshire/your-community/community-profiles/>

West Dunbartonshire has life expectancy rates that are statistically significantly worse than the Scottish average, with the second lowest life expectancy at birth of all Scottish Local Authorities. Based on the most recent figures available (2013-15) life expectancy at birth for males and females in West Dunbartonshire is 74.8 years and 78.7 years respectively, lower than the Scottish average.

Health protection: planning infrastructure

Locally, the Public Health (Health Protection) Liaison Working Group (the “Med-Vet”) provides an area wide forum for discussion of the surveillance and investigation of infectious diseases (including outbreaks) and environmental hazards affecting, or with the potential to affect the health of, the general population, and to ensure that appropriate procedures are carried out during this process.

The group’s remit is:

- To provide an area wide multidisciplinary forum to monitor, report, discuss and recommend actions to protect the health of our population.
- Sharing of intelligence on infectious intestinal disease in humans and animals, and surveillance of environmental hazards in air, water and land which have the potential to impact or is already damaging to the health of our population
- To agree basic minimum standards for the investigation of infectious gastrointestinal disease in the human population, and ensure that appropriate follow up action takes place
- To monitor our performance against agreed standards
- To ensure outbreak control plans are fit for purpose
- To participate in exercises to ensure that all partners are familiar with appropriate responses
- To provide a forum for discussion of issues raised by the Scottish Government, Health Protection Scotland and other relevant bodies which will have a potential to impact on the above
- To monitor untoward events and outbreaks and ensure that our systems are modified appropriately

Membership is drawn from:

- Public Health Protection Unit (PHPU) Medical and Nursing Staff
- Environmental Health Representative from each Local Authority
- Animal Health
- Scottish Water
- Microbiology
- Drinking Water Quality Regulator
- Health Protection Scotland
- Scottish Environment Protection Agency
- Glasgow Scientific Services

The parties to the JHPP also participate through the Scottish Health Protection Network and the Regional and Local Resilience partnerships in health protection planning and guidance development.

Whilst the majority of health protection remains a statutory responsibility of the health board or local authority, some programmatic elements are delivered through joint working with new integrated authorities. Med-Vet will work with Health and Social Care Partnerships to ensure all parties are aware of the process for mobilising response to outbreaks or incidents.

There are a series of health protection plans that are prepared by the Health Board, singly or in partnership with Local Authorities and other agencies detailed in table 1. Additionally there are a further series of plans maintained by each local authority which follow in table 2. These plans are in addition to documents produced at a national level which guide health protection response, including *Managing Public Health Incidents*, *Scottish Waterborne Hazards Plan*, and *Scottish Framework for Exotic Notifiable Animal Disease*.

Plan	Owner	Last updated	Review date	Exercised
Outbreak response plan	Med-Vet Group	October 2015	October 2018	December 2017
Blue-green algae plan	Med-Vet Group	September 2017	September 2022 (Main plan) Annually (inland waters risk assessment)	N/A – as the plan is used regularly during the algal bloom season, exercising is not required.
Pandemic influenza	NHS GGC LRP	2016 2017	Ongoing	Exercise Silver Swan
Major incident	NHS GGC	2017	2018	Elements of plan tested during acute exercises, and Border Reiver
Mass casualty	SG Health Resilience	2015	Ongoing	October 2017 Exercise Border Reiver
Viral Haemorrhagic fever protocol	NHS GGC	2016	2018	Exercised extensively during development and implemented since
Glasgow Airport Port Health Procedures	Glasgow Airport Ltd	2014	2017	Exercised 2014 and 2015 (x2)
Port Health guideline	NHS GGC, Renfrewshire, Inverclyde	2017	2019	

	East Dunbartonshire	East Renfrewshire	Glasgow City	Inverclyde	Renfrewshire	West Dunbartonshire
Air quality statement	✓	✓	✓	✓	✓	✓
Single outcome agreement	✓	✓	✓	✓	✓	✓
Food and feedstuffs service plan	✓	✓	✓	✓	✓	✓
Local housing strategy	✓	✓	✓	✓	✓	✓
Private sector strategy	✓	✓	✓	under development	✓	✓
Pandemic influenza	✓	✓	✓	✓	✓	✓
Contaminated land strategy	✓	✓	✓	✓	✓	✓
Health and safety service plan	✓				✓	✓
Council emergency plan	✓		✓	✓	✓	✓
Council plan (corporate)	✓	✓		✓	✓	✓
Environment strategy and action plan			✓		✓	
Climate change strategy		under development	✓			✓
River Clyde flood management strategy		✓	✓		✓	
Joint health improvement plan	✓	✓			✓	✓
Fuel poverty strategy	✓	✓	✓		✓	✓
Community plan	✓	✓	✓		✓	✓
Carbon management strategy		✓	✓		✓	✓
Sustainability strategy		✓			✓	✓

Health protection activities

Local and national priorities

The Health Board and Partners are cogniscent of the priorities as stated from time to time by Scottish Government and chief professional officers. The Public Health Oversight Board, who are leading on the creation of the new national public health body, are also responsible for preparing an updated list of priority areas for public health action, including health protection. It is expected that these priorities will be agreed and published during the life of this plan.

Key priority areas that have been previously identified include:

- Pandemic influenza;
- Healthcare associated infections;
- Vaccine preventable diseases;
- Environmental exposures which have an adverse impact on health⁵ and
- Gastro-intestinal and zoonotic infections.

In addition, the following were considered to be important to improve the delivery of health protection services by both the NHS and local authorities:

- Capacity and resilience of health protection services in responding to actual or potential significant threats to public health
- Developing means to assure the quality of health protection services
- Continuing professional development especially with regard to strengthening evidence based good practice
- Improving communications with the public on risks to health and securing a greater degree of involvement in health protection services

Actions on the key priority areas, and other health protection responsibilities include :

Pandemic influenza

A comprehensive suite of pandemic flu plans based on national and international guidance, frequent flu planning “exercises”, and lessons learned from the 2009 H1N1 pandemic, are continually updated to ensure readiness for future pandemics. A major national exercise of pandemic flu arrangements (*Silver Swan*) was carried out in 2016. PHPU have worked with partners across the health board on the plans for responding to the attendant increased demand for front line services while maintaining continuity of essential business during a pandemic. These plans support the West of Scotland multi-agency pandemic influenza planning process, which is lead by the Local Resilience Partnerships, close working with key partners ensuring a consistent and collaborative approach to planning.

⁵ These are referred to as “non-communicable hazards” in the remainder of the JHPP

Healthcare associated infection

Prevention and control of infection continues to have the highest priority within NHSGGC and the Board Infection Control Committee (BICC), in conjunction with clinical service providers, develops an annual infection prevention and control programme to co-ordinate and monitor all the detailed work of the infection control teams and committees in preventing and controlling infection through effective communication, education, audit, surveillance, risk assessment, quality improvement and development of policies and procedures. The programme addresses the national and local priorities for infection prevention and control and extends throughout healthcare, health protection and health promotion. PHPU and environmental health departments work alongside and support the Infection Prevention and Control Teams (IPCT). The Board's progress against the programme of work is reported in the infection control manager's annual report. The most up to date version of the IPC annual report, policies and Standard Operating Procedures (SOPs) can be accessed at: www.nhsggc.org.uk/infectioncontrol

Good practice in Infection Prevention and Control does not rest solely within the remit of our IPCT. Every member of staff has a professional responsibility to prevent healthcare associated infection and is accountable for their actions in relation to this.

Vaccine preventable diseases

Information on national immunisation programmes, including the timetable of routine childhood immunisations, can be found by visiting <http://www.immunisationscotland.org.uk/when-to-immunise/immunisation-schedule.aspx>

Approximately 375,000 people receive 625,000 doses of vaccine each year in NHSGGC, one of the highest immunisation uptake rates in the UK, giving protection against serious infections. The ongoing challenge is to encourage and maintain high uptake of vaccines in target groups across the health board area.

Uptake rates for routine childhood, HPV and teenage booster vaccines in the national programme are available from <http://www.isdscotland.org/index.asp>

Immunisation programmes in NHSGGC are coordinated by the Health Protection team providing leadership, programme management, education and training and support to primary care, children and families teams and school immunisation teams who administer the vaccines.

Scottish Government announced a Vaccination Transformation Programme (VTP) in early 2017, with the aim of ensuring the health of the Scottish public through the modernisation of the delivery of vaccinations, empowering local decision making and supporting the transformation of the role of the General Practitioner. The scope of the VTP includes all NHS vaccination programmes. It is expected that the vast majority of elements will be completed by 2021.

Non-communicable hazards

Non-communicable hazards are traditionally associated with a wide range of chemical and physical risk factors that may be present in the indoors or out of doors environment. Increasingly this area of public health is focusing on the wider health impacts of natural and built environment and on mitigating the impacts of climate change.

Exposures to chemical or physical agents differ in a number of ways from exposures in association with lifestyle or occupation, as follows:

- Concern is usually with low-level exposures which are difficult to measure and difficult to link to disease;
- Exposures often occur to complex mixtures rather than just to a single agent;
- It may be difficult to estimate historical levels of exposure;
- Measurement of small effects associated with low-level exposures on common diseases may be difficult and may be beyond the capability of epidemiology.
- Pathway of exposure may be uncertain or difficult to establish. Pathways include the inhalational, ingestion and dermal contact pathways.

Issues in non-communicable hazards in the area of NHS GGC include the following:

- **Air pollution** is an example of an environmental exposure with a well-known epidemiology, particularly in relation to particulate matter (PM10 and PM 2.5). Other pollutants of concern include nitrous oxides (NOx) and the “greenhouse gas”, carbon dioxide.

All local authorities have a duty to regularly review and assess air quality within their area and report the findings to the Scottish Government on an annual basis. Statutory air quality objective levels for specified pollutants are set out in the Air Quality (Scotland) Regulations 2000 and subsequent amendments. Where objective levels are not being achieved the area must be designated an Air Quality Management Area (AQMA) and an Air Quality Action Plan (AQAP) published, outlining action measures the Council are taking forward to improve air quality in those areas, leading to higher overall standards of air quality.

Glasgow City Council are partnering with Scottish Government to introduce the first Low Emissions Zone (LEZ) in Scotland, as part of a plan to introduce LEZs to Scotland’s four largest cities by 2020. The LEZ will cover the city centre and major arterial routes into the city, and will be introduced in a phased manner, starting with bus traffic.

- **Waste disposal:** Landfill has historically been a common way of disposing of domestic, industrial and hazardous waste, although the use of landfill for this purpose will decrease dramatically in the near future. The Scottish Government Zero Waste Strategy, first published in 2010, sets targets of 70% of waste to be recycled, and a maximum of 5% going to landfill, by 2025

200,000 tonnes of domestic waste from Glasgow City will be processed at the new Glasgow Recycling and Renewable Energy Centre, with 90% expected to be

diverted from landfill. Efforts to increase recycling and divert waste from landfill have also been successful in other local authority areas. These changes will not only improve amenity and reduce potential risks from waste, but will also have longer term benefits for the natural environment.

Figures on domestic waste disposal are published by SEPA and are available at <https://www.sepa.org.uk/environment/waste/waste-data/waste-data-reporting/household-waste-data/>.

- **Environmental asbestos exposure:** Asbestos is well established as an environmental risk factor with a widely accepted epidemiological framework for risk assessment. Asbestos has been widely used in the urban built environment and exposures may occur in a range of situations, including factory fires and demolition of blocks of flats. A study of the possible health effects of asbestos from the demolition of high rise flats in Glasgow has demonstrated that risks from such activities are extremely low, though precautionary environmental monitoring during works has been carried out.

Gastro-intestinal and zoonotic infections (GIZ)

There is close joint working between NHS GGC and LA Environmental Health professionals on GIZ, including through an agreed enteric investigation protocol, the outbreak control plan, and training events and exercises. Gastro-intestinal infections are the largest single group of infectious diseases that benefit from the joint working between the signatories of this plan. The Health Board and LA Environmental Health professionals work closely with colleagues from national agencies such as Food Standards Scotland, HPS, and animal health in responding to incidents and outbreaks, and the development of guidelines, including via the SHPN topic groups.

The WoS RRP has recently reformed their animal health sub-group to aid in the co-ordination of resilience activities in relation to zoonotic disease. In addition, national plans are available e.g. rabies, which are regularly exercised, and which support local preparedness for zoonotic infections

Escherichia coli O157 and other Shiga toxin-producing E. coli (STEC)

STEC (also known as verotoxic *E. coli*, VTEC) is the most serious enteric infection that is regularly notified to health protection services, with approximately 40 cases a year notified to PHPU. STEC require a rapid co-ordinated response to minimise risk of further transmission and to identify potential source. The Scottish VTEC Action Plan final reports will be published in the first half of 2018, and the revised Scottish STEC public health guidance and a new clinical management guideline are also being produced. Parties to the JHPP are involved in the development of these documents, which aim to reduce the risk of STEC across Scotland and ensure the best evidence based response from all agencies.

Bloodborne Viruses (BBV)

BBV policy and therefore activity is directed by the Scottish Government Sexual Health and Bloodborne Virus Framework 2015-2020.

Hepatitis C

- New drug therapies have radically changed hepatitis C prognosis, and for the majority of people infected, it can be cured with 12 weeks of treatment.
- Much of the Board's effort is focussed on finding and treating people to contribute to the WHO elimination targets.
- The Viral Hepatitis Managed Care Network co-ordinates and directs specific programmes around testing, treatment and care such as routine testing; case-finding of people who are lost to follow-up and developing appropriate models of care, including community outreach in Addictions settings.
- Prevention is focused on Injecting Equipment Provision to people who inject drugs.

HIV

- There is now very effective treatment which means that people living with HIV, who adhere to their medication can live long and healthy lives. People living with HIV who achieve and maintain an undetectable viral load are unable to transmit the virus to others. This is known as 'treatment as prevention' and is a key component of our prevention strategy.
- Two groups disproportionately affected by HIV are men who have sex with men and people from countries of high prevalence, mainly sub-saharan Africa.
- Prevention programmes are in place to raise awareness, encourage testing and prevent both initial and onward transmission. This includes a comprehensive Free Condom Service; Waverley Care have been commissioned to provide prevention and support interventions to people from African communities living in NHS GGC and there is a targeted clinical and health improvement programme aimed at men who have sex with men.
- PrEP (Pre-Exposure Prophylaxis) aimed at people who are HIV negative but at high risk of acquiring the infection is now available and is currently provided to prevent sexual transmission. PrEP for PWID is being considered.

Tuberculosis (TB)

Greater Glasgow and Clyde has the highest rate of TB in Scotland, at 12.9 per 100,000 population in 2016, representing 47% of all cases in Scotland. TB cases continue to fall, with a 50% decrease in NHS GGC – 236 cases in 2009 and 118 cases in 2016, compared to a 38% decrease since 2010 across Scotland as a whole. However, TB cases are becoming more complex, with about half of all cases requiring enhanced case management (ECM)

A new TB Framework, published October 2017, builds on the Scottish Government TB Action Plan, published in 2011. The TB Framework sets out the SHPN's strategy in relation to tuberculosis control for the period 2017-2021. Specifically, the Framework supports this by:

- Encouraging engagement with those most at risk of tuberculosis (defined in Appendix 1) to ensure that they are able to benefit from our NHS services
- Seeking to ensure that effective treatments, interventions, support and services are provided to people when they need them, while at all times working in partnership with our stakeholders to ensure that services provided are evidence based and appropriate
- Striving to ensure that people are able to maintain high levels of health, good relationships and positive wellbeing including adequate housing and nutrition.

The Framework can be found at

<http://www.hps.scot.nhs.uk/resourcedocument.aspx?id=6240>

Local Authority Environmental Health

Local health protection priorities carried out within local authorities by Environmental Health Officers and other professional staff are outlined below. Many are requirements of statute, in order to protect the health of individuals living and working in our communities.

- Improving air quality;
- Nuisance (including controlling environmental noise, antisocial behaviour noise, odours, sewage, waste water spillage etc);
- Communicable disease control;
- Investigating and control of contaminated land;
- Housing (including private sector, housing conditions, building disrepair);
- Drinking water quality;
- Pest control;
- Protecting health and consumer interests in relation to food by working with partner organisations and local business, implementing nationally set standards and minimising the risk of food poisoning incidences and outbreaks through inspection, training and initiatives; these activities include tackling the problem of food fraud, and an increasing focus on improving diet and nutrition.
- Maintaining the health of the working population through regulation of workplace safety and through inspection, awareness raising, training etc., and minimising the risk of ill health caused by occupational health exposures including stress,;
- Minimising the risk of exposure to environmental incivilities such as dog fouling, litter, illicit tipping, graffiti – there being a growing body of evidence that links stress to aspects of mental health and wellbeing, but also to physical disease- psychosocial dimension;
- Minimising the risk of environmental exposure to smoking devices, including secondary exposure through inspection, enforcement (e.g. preventing sale of tobacco to under 18s), awareness raising of smoking in public places legislation;
- Activities concerning alcohol consumption regulation through new licensing standards legislation – including enforcement, education and awareness raising work;
- Protecting the health, welfare and safety of the public through raising standards of premises licensed for these purposes;
- Promoting community health and well-being by protecting public health through educational and advisory services.

- Working with Scottish Water to support delivery of the 2015-2027 improvement plan (“Quality and Standard 4”)
- Activities related to animal health, including tick-borne diseases and the risk of rabies in imported animals, which remains very low due to existing control programmes.

Unique health protection risks and challenges within NHSGGC

Glasgow 2018

Glasgow 2018 European Championships will be held the 1st – 12th August 2018. Six groups of events, involving 3025 athletes, and a total of 8500 participants, including officials and others. Eight venues across the Greater Glasgow and Clyde area will be used for three groups of sports (aquatics, cycling and gymnastics), with rowing and triathlon taking place in Lanarkshire, and golf in Ayrshire. NHS GGC and NHS Lanarkshire will share health role in the multi-agency command centre.

Contaminated land

The issue of contaminated land causes considerable public anxiety not only because of effects on health but because of possible effects on housing markets. Contaminated land may represent a risk factor for health in local populations although the nature and scale of the risk depend on the type of contamination. The contamination is usually the result of historical use of land for industrial purposes. In Glasgow, substantial amounts of land are contaminated with chromium as a result of the operations of the former chromium industry in the area. Several epidemiological studies have been carried out in the affected areas, and to date no detrimental effects on health have been demonstrated. Similarly, West Dunbartonshire have addressed areas of contamination through local development plans, redeveloping sites along the Clyde waterfront, including the former John Brown’s shipyard and adjoining sites, collectively identified as Queens Quay in Clydebank, the Carless site in Old Kilpatrick, the Exxon site in Bowling and Dumbarton waterfront.

Port health

Within the Board area there is a large international airport (Glasgow International airport) and a large seaport (Greenock), as well as smaller seaports. Glasgow Airport has direct flights to many international destinations including Europe, the Middle East and the Americas. Port of Greenock operates year round as a major freight terminal, and between April and October has increasing numbers of cruise ships. West Dunbartonshire provides for Port Health at its Clydebank port location at Rothesay Dock, receiving commercial shipping.

There are long established plans between NHSGGC and Renfrewshire Council for Glasgow Airport, and with NHSGGC and Inverclyde for dealing with incidents involving the Port of Greenock. These plans regularly reviewed and updated. Plans will be reviewed to ensure contingency and public health resilience for the Clydebank port.

There has been an expectation that aircraft and port regulations will be updated since the introduction of the Public Health etc (Scotland) Act 2008. The desire to develop these alongside updates in other UK jurisdictions, has delayed this review. Current plans and arrangements will be reviewed and updated if necessary as a result of any changes to the regulations.

Migrant health

There is a long history of migration into the West of Scotland, with communities developing over many decades and generations. This inward movement continues, and Greater Glasgow and Clyde includes some of the most ethnically diverse communities in Scotland, with an increase in the BME population from 3.6% in 2001 to 7.5% in 2011, well above the Scottish national average. Some of the migrant groups and the communities they live in are more vulnerable than the general population, due to a number of factors including deprivation and living conditions, prior access to healthcare (including vaccination), barriers to accessing services (such as culture, language, stigma), limited social networks and isolation, and their own lived experiences. Recent health protection issues related to these challenges include a mumps outbreak, and environmental cleansing problems and infestations. These vulnerable communities require additional support of public health services compared to more settled populations.

COMAH Sites

Within the NHS GGC boundary there are six upper tier COMAH (Control of Major Accident Hazards) sites. In accordance with COMAH legislation, each of these sites has a multi-agency off-site incident management plan. These plans are developed by resilience partners, which include the Board and relevant LAs, as well as emergency services and other agencies. These plans are updated and tested on a regular basis in accordance with the relevant legislation.

The sites are

- Provan gasworks (Glasgow)
- NuStar-Clydebank terminal (West Dunbartonshire)
- Chivas Brothers Dumbuck (West Dunbartonshire)
- Chivas Brothers Dalmuir (West Dunbartonshire)
- Beam Suntory and John Dewar and Sons Ltd, Westthorn Site (Glasgow)
- Diageo, Blythwood (Renfrewshire)

Additionally, NHS GGC have a mutual aid agreement in place with NHS Highland to provide initial response and subsequent support for incidents relating to HMS Naval Base Clyde (Faslane/Coulport).

Significant incidents and outbreaks in recent years

Situation	Dates	Description
Commonwealth Games	2014	Glasgow hosted the Commonwealth games in 2014, with nearly 5000 athletes competing in 16 venues across four NHS board areas. Learning from London 2012 and a broad multiagency approach produced a series of reporting and response protocols to ensure potential health protection challenges were met. Key events included a Norovirus outbreak in the athletes village, and testing of a few athletes from West Africa for suspected ebola (testing negative)
Ebola in West Africa	2014-2016	During the West Africa ebola epidemic, staff from many disciplines and all the agencies involved in health protection responded to a confirmed case of ebola virus disease, as well as a number of suspected cases, including the monitoring of a large number for contacts of these cases, and of travellers returning from West Africa. The success of this response was due to a significant effort in preparation, training and exercising the response. Staff from the Board area continue to be closely involved in preparation and development work to further improve capabilities in the event future cases of infectious disease of high consequence
Port Health call outs	2016-2017	Renfrewshire Council EHD and NHS GGC PHPU jointly responded to a number of Port Health call outs to Glasgow International Airport. Each situation requires individual risk assessment, and advice given includes personal hygiene, environmental cleaning and other aspects of infection control. No wider threat to public health was identified in these incidents.
Cryptosporidium associated with swimming pools	2016	There were two outbreaks associated with different swimming pools/leisure facilities in the Board area. Investigations centre around the filtration systems, as cryptosporidium is not affected by chlorination. Learning from these incidents has been fed into the SHPN GIZ group, who are considering producing new national guidance.

Situation	Dates	Description
Manganese (Royal Alexandra Hospital)	2016	The root cause of the water quality incident at the RAH was the seasonally high manganese level in local water supply with a number of external and internal factors contributing. Scottish Water provided tankered water to the hospital during the incident and additional monitoring and treatment stage have been introduced at the RAH site. The relevant water treatment works has been upgraded to include manganese removal. The DWQR published their findings of the incident in April 2017 and learning from this incident is being taken forward by Health Facilities Scotland
Unexploded WWII ordinance	2016	A WW2 mine was found 80 metres off the Gourock outdoor Pool at a depth of 13 metres. A partial evacuation & road closure was carried out to enable RN bomb disposal to tow the device to a safe distance offshore. The device was then detonated in a controlled explosion.
Salmonella outbreaks	2014 - 2017	In recent years there have been four significant outbreaks of salmonella, two linked to restaurants, a third to a retail food business, and one with hospitality provision at a sporting event. Two of these outbreaks were subsequently linked to a Europe-wide outbreak which was traced back to a specific egg producer and distributor in Eastern Europe.
Pigeon paramyxovirus	2017	The Scottish Government implemented an Avian Influenza Prevention Zone on 6 December 2016 due to concerns about Avian Influenza being brought into the UK by migrating birds from continental Europe. In January 2017 Renfrewshire Council worked with APHA following discovery of 5 dead birds (4 wild, 1 captive) in petting area in a local park. Avian influenza was considered as a potential causative organism, especially given the heightened concern at that time. Testing demonstrated that pigeon paramyxovirus had caused the fatalities, and as a precautionary measure, culling of remaining birds in that area was undertaken to prevent possibility of further spread in the local bird populations.

Situation	Dates	Description
Psittacosis	2015 and 2016	<p>There have been two incidents of human infection, involving a total of six confirmed or suspected cases of psittacosis. In both incidents disease was confirmed in birds the human cases had contacts with, and there were links to pet shops. However, all cases also had alternative exposures to parrots or other potential source species, and no confirmed source could be determined. The response to these incidents is complex, involving a number of local, Scottish and UK agencies, as well as the owners, retailers and breeders. The learning from these incidents, and those in other boards, has informed the creation of new national guidance on role of animal health agencies in non-statutory zoonoses, which is currently under development</p>

Health protection: resources and operational arrangements

Staffing and ICT resources

“Competent person” is a designation under the Public Health etc (Scotland) Act 2008 and subsequent regulations, and indicates an individual designated by the health board or local authority, who is empowered to use the relevant powers listed under the Act. In NHS GGC there are 13 individuals who are designated as competent persons, supported by a further ten staff members (including TB specialist nurses, civil contingencies planning unit and support staff). Table 3 demonstrates the numbers of competent persons and other staff in each local authority as full time equivalents. Staffing resource may fluctuate during the period covered by the plan.

	Competent persons designated under the Public Health etc (Scotland) Act 2008 (FTE)	Others who contribute to public health protection functions (FTE)
<i>Glasgow City</i>	28	61
<i>East Dunbartonshire</i>	10	13
<i>West Dunbartonshire</i>	12.1	8.5
<i>East Renfrewshire</i>	8	2
<i>Renfrewshire</i>	16	18
<i>Inverclyde</i>	9	9

All partners have access to IT equipment relevant to their roles, including desktop and laptop computers, mobile telephones and email. In common with all other NHS territorial boards, PHPU uses the HPZone case and incident management system to manage workflow and to act as the formal record of PHPU response. Additional statistical and epidemiological software and tools are available in PHPU to assist in outbreak response.

Out of hours/oncall arrangements

NHS GGC

NHS GGC maintain a 24/7 public health service. During office hours (Mon-Fri 9am to 5pm) duty HPNS or CPHM can be contacted via the PHPU office. Outside office hours the on-call public health services can be accessed via the NHS GGC switchboard. There is a CPHM available at all times, and they are able to mobilise additional resource in accordance with incident management plans.

East Dunbartonshire

During office hours (Monday to Friday 9am to 5pm) Environmental Health staff can be contacted on 0300 123 4510 and by email on environmental.health@eastdunbarton.co.uk. Out of hours a member of the management team can be contacted by telephoning the above number

East Renfrewshire

This Service has the following arrangements in place for the provision of cover outwith routine working hours: from 15.55hrs on Fridays until 08.45hrs on Sundays, extended by 24 hours on public / bank holiday weekends, one EHO is available over the full year including all public holidays. Six EHOs (all designated Competent Persons) work on-call hours on a rotational basis. The on-call officer is contacted via a dedicated mobile phone number by staff from East Renfrewshire Council's 24hr Ring and Report Helpline. The on call officer can contact the Environmental Services Manager (or the Principal Officer/Team Leader in his absence) at any time for advice when calls are received. Depending on the circumstances, the Environmental Services Manager may decide to attend or draft in additional EHOs. The Environmental Services Manager has a list of current emergency contact numbers should such circumstances arise. Our Head of Service and Environmental Services Manager are available at all times in terms of the current GGCNHS Outbreak Control Plan. We are also contributors to the Civil Contingency Service and a cascade system is available on a 24hr a day, 7 day a week basis.

Glasgow City

A call centre responds to calls 24/7 and during office hours (Mon-Fri, 9am-5pm) information will be forwarded to Environmental Health Officers.

Environmental Health Officers are available at weekends (9am-5pm) and there is usually at least one EHO available between 5pm and 3.30am every night. The call centre will forward information to the appropriate officers at weekends and after 5pm. Between 3.30am and 9am the call centre will direct all emergency calls to one of three Assistant Managers or the Group Manager.

Inverclyde

Office hours are 8:45 – 16:45 Monday to Thursday and 8:45-16:00 on Friday. Out of hours contact in the event of an outbreak or incident is by direct contact with either the Head of Safer & Inclusive Communities, the relevant Service Manager or the Food & Health Team Leader who is the authority's lead food officer. For emergencies and incidents which extend beyond a single service response the council's Civil Contingency Service provide a 24/7 response which would include the activation of a Council Incident Officer (CIO) to manage the council's response.

Renfrewshire

Renfrewshire Council Environment & Communities operates an emergency on call service. Outside of office hours a mobile telephone number is manned 24 hours for response to health protection emergencies. This is staffed by EHOs on a rotational basis and all officers are listed as Competent Persons. The on call service covers Port Health emergencies at Glasgow Airport which are responded to jointly by Renfrewshire Council EHOs and Consultants in Public Health Medicine from NHSGGC. Renfrewshire Council has an Emergency Contacts Directory which lists all appropriate persons in Renfrewshire Council for contact in an emergency

West Dunbartonshire

WDC has a system of emergency contact (phone and email) for Environmental Health in the event of public health incidents and emergencies arising out-of-hours. This system provides for contact of senior officers with capacity to initiate a service response. During normal working hours, email and phone contacts are maintained. Emergency and normal hours contact details are routinely updated internally and are provided and updated through the Med-Vet Group

Standard Operating Procedures

The PHPU within NHS Greater Glasgow and Clyde and the six local authorities have Standard Operating Procedures (or similar) which are subject to regular review. Many of these relate to health protection, food safety and food hygiene. SOPs are subject to regular audit.

The Med-Vet Group has produced a joint protocol for the epidemiological investigation and surveillance of infectious intestinal diseases which is followed by both the Board and the local authorities. It describes how PHPU and colleagues in the local authorities deal with cases of infectious intestinal diseases such as salmonella and E coli O157.

Maintaining knowledge and skills

NHS GGC

All medical staff who take part in duty rota are required to maintain their skills and record continuing professional development (CPD) activities with the Faculty of Public Health (FPH) or alternative Royal College. FPH carry out random audits of members' CPD returns. Maintenance of CPD records is also checked at yearly appraisals carried out in the Board. This is in keeping with current General Medical Council (GMC) requirements on revalidation and appraisal for doctors.

Similar arrangements are in place for HPNS, in accordance with the Agenda for Change Knowledge and Skills Framework process and nursing revalidation.

Local authorities

The local authority Environmental Health professionals all have a staff Performance Development Review, or equivalent, on an annual basis. This means ongoing training to ensure staff have necessary skills and competencies on a wide range of public health and environment matters, including health protection. In addition, there are specific requirements, defined by external agencies, for food enforcement officers and for other environments health functions. Many environmental health professionals also take part in the voluntary scheme organised by the Royal Environmental Health Institute of Scotland (REHIS) scheme of CPD, and can gain and maintain Chartered Status as an Environmental Health Officer.

Local authority Environmental Health participate in several liaison groups, e.g. West of Scotland Food Liaison Group, West of Scotland Health and Safety Liaison Group, Public Health and Housing Working Group and the Central and West of Scotland Pollution Control. At these liaison groups, new legislation, guidance, consultation documents, common issues of interest and difficulties that authorities are experiencing are discussed and common approaches determined. These groups also provide a network where Environmental Health Professionals can contact other group members outwith meetings for advice and information.

Health protection services: capacity and resilience

In recent years the public health system in Scotland has undergone significant scrutiny, including through the Public Health Review, published February 2016. Further assessment and review is anticipated as we move to a single national public health body in 2019, and new local arrangements thereafter. There is also an ongoing review of the NHS health protection out of hours arrangements across Scotland to ensure a resilient, safe, effective and sustainable service going forwards.

In Greater Glasgow and Clyde area there are a number of emergency plans that are reviewed, exercised and updated on a regular basis, which are detailed earlier in this plan.

PHPU works closely with the NHS GGC Civil Contingencies Planning Unit. All signatories to this plan are members of the multi-agency West of Scotland Regional Resilience Partnership and the appropriate Local Resilience Partnership(s).

Four local authorities are members of a Joint Civil Contingencies Service (CCS). This is based in Paisley and covers East Renfrewshire, Inverclyde, Renfrewshire and West Dunbartonshire Council areas

A memorandum of understanding exists between the West of Scotland NHS Boards (NHS Ayrshire & Arran, NHS Dumfries & Galloway, NHS Greater Glasgow & Clyde, NHS Highland (for Argyle and Bute) and NHS Lanarkshire) to provide mutual aid in public health emergency situations.

In addition, NHS Ayrshire & Arran, NHS Dumfries & Galloway, NHS Greater Glasgow & Clyde and NHS Lanarkshire have agreed to work together to provide appropriate personnel to form a Scientific and Technical Advice Cell (STAC) to advise the West of Scotland Regional Resilience Partnership in emergency situations.

A similar memorandum of understanding exists between the thirteen Local Authorities of the West of Scotland Regional Resilience Partnership. This enables councils to support each other during emergencies if required

Health protection: public involvement and feedback

There are a number of different ways that the health board and local authorities consult and engage regularly with the public. These include follow up telephone calls regarding public satisfaction with services; customer feedback questionnaires - such as pest control or environmental health premise inspections; Citizens' Panel surveys etc. Below are some examples of public involvement and feedback exercises within the signatories to this plan.

- A sample of service users are contacted and their views on the level of satisfaction obtained. The Council's Facebook page is also used to provide information on Council services, including Environmental Health. Residents can then use this to raise local issues with the Council
- Environmental Health consults, engages and encourages participation in service improvement, and satisfaction levels are gauged through direct face to face contact, community engagement events, directed survey and open invite through web services and social media.
- Peer support and patient engagement programme for adults attending for HIV Treatment and Care
- Direct public involvement through lay representatives on formal bodies and working groups, for example infection control committees.

Outline work plan

In addition to the day-to-day strategic and reactive health protection work undertaken by the partner agencies, which have been outlined in this plan, the following list outlines activities will be taken forward over the life of this plan by the partner agencies and the wider “Med-Vet” group. The Med-Vet group will develop detailed plans and timescales for each of these objectives.

- Exercise, review and update the area Outbreak Control Plan, its supporting documents and procedures
- Similarly, to review the enteric protocol and generic enteric form, to ensure they are aligned to current practice, and audit performance in management of enteric cases
- Implement any recommendations from the publication of VTEC Action Plan final report and the updated *E. coli* public health guidance
- Develop regular individual and team training and other learning opportunities to support the development of environmental health and public health protection workforce
- Strengthen and harmonise where possible mechanisms for patient and public involvement in health protection activity
- Work with Health and Social Care Partnerships to ensure all parties are aware of the process for mobilising response to outbreaks or incidents.
- Carry out preparatory work as appropriate as we move to a new national public health body in 2019, and develop new local arrangements by 2021 as laid out in the Scottish Government Health and Social Care delivery Plan.
- Review any changes necessary to this plan, ways of working or other activities to ensure alignment with the new public health priorities when published
- Review the JHPP after one year and a produce a final report at the end of the lifespan of this plan to demonstrate progress against these activities.