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Tayside

Joint Public Health Protection Plan

2014-2016

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Introduction

The function of health protection services is the control of communicable diseases and environmental hazards to health. There are three key elements in the delivery of this function:

- Risk identification
- Risk management
- Risk communication

Like many public health services in Scotland, health protection services rely on coordinated strategic efforts between various organisations. The introduction of the Public Health etc (Scotland) Act 2008 updates and replaces legislation dating from as far back as 1897, directing this health protection effort. Public Health legislation places statutory roles on those who provide the health protection service, defining Competent Persons for the delivery of functions in relation to premises (led by the Local Authority) and persons (Lead by the NHS Board). Statutory duties and responsibilities include the surveillance and public health management of notifiable diseases, organisms and health risk states, and monitoring, control and management of environmental health hazards. In delivering these functions, Competent Persons have significant powers to require, or seek the Sherriff to enforce, restrictions on businesses and individuals, including for example closure of premises, decontamination, and quarantine of individuals.

The importance of this integration of effort is as great today as it has always been. The Public Health Act of 2008 required the development of Joint Public Health Protection Plans, setting out the arrangements in local areas for delivery of the Health Protection function. I am pleased to present Tayside's third JPHPP for the period 2014-2016, which has been written jointly by NHS Tayside, Angus Council, Dundee City Council and Perth and Kinross Council.

The plan provides an overview of health protection priorities, provision and preparedness within Tayside.

The plan describes how the Board and the Local Authorities deal with a range of health protection topics and outlines areas we have identified that require further work.

What the recent past demonstrates is that the health protection function is subject to sporadic and often unpredictable challenges. An overarching aim of this plan is for Tayside's health protection function to be robust to manage unforeseeable events.; ensuring there is sufficient capacity and resilience within Tayside is essential to this aim. A decline in core health protection resources within any party to this plan could affect the overall capacity within Tayside to react effectively to incidents.

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Director of Public Health
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April 2014

Executive summary

NHS Boards have a health protection function mostly relating to the control of infectious diseases and diseases arising from contact with substances hazardous to health. A significant proportion of the health protection function of boards relates to statutory duties. Other aspects of the function are the co-ordination of immunisation programmes, and working to reduce the burden of infectious disease in the community.

Similarly, local authorities have a health protection function, which is predominantly delivered through the local authority environmental health services. In practice, health board and local authority functions are co-ordinated to ensure that the health of people in Tayside is protected as effectively as possible from the range of infectious and environmental hazards to health.

The Public Health etc (Scotland) Act 2008 (hereafter referred to as 'The Act') consolidates and updates public health legislation relating to 'protecting public health from infectious diseases, contamination or other such hazards, which constitute a danger to human health.' Part 1 of the Act requires each health board area to develop a Joint Public Health Protection Plan (JPHPP) to provide an overview of health protection (infectious disease and environmental health) priorities, provision and preparedness.

Tayside's JPHPP for 2014-16 has been written jointly by NHS Tayside, Angus Council, Dundee City Council and Perth and Kinross Council and will be renewed every two years. The JPHPP provides an overview of the geography and demography of Tayside and identifies health protection risks associated with these specific features. The plan describes health protection activities in Tayside and the resources with which the health protection function is delivered.

The JPHPP recommends a number of actions to be delivered jointly between health protection partners across Tayside, in response to the following agreed priorities for 2014-16:

- Ensuring joint working arrangements to deliver an effective response (including out of hours), which is consistent with the provisions of the Public Health etc (Scotland) Act 2008
- Reviewing and revising existing protocols and emergency plans in accordance with the schedule at Appendix B
- Maximise opportunities for joint learning
- Learning from the incidents that have recently occurred in Tayside and elsewhere
- Joint working to implement national plans and policies

1.0 Overview of NHS Tayside and its three Local Authorities

2012 Population

In 2012, the estimated total population of Tayside was 411,749¹. The NHS Board is coterminous with the three local authority areas of Angus, Dundee City and Perth & Kinross, covering in total 7,527 sq km with mixed urban and highly rural population distribution (Table 1). Tayside's population accounts for approximately 7.7% of the Scottish population.

Table 1. NHS Tayside: Land Area, Population and Density, 30 June 2012

Administrative Area	Estimated Population 30 June 2012	Area ⁱ (sq km)	Density ⁱⁱ (Persons per sq km)
Tayside	411,749	7,527	55
Angus	116,210	2,182	53
Dundee City	147,800	60	2,470
Perth & Kinross	147,740	5,285	28

Source: NRS (formerly GRO(S)) Mid Year Populations Estimates, June 30th 2012 (2011 Census Based) - NHST Populations Table 8b

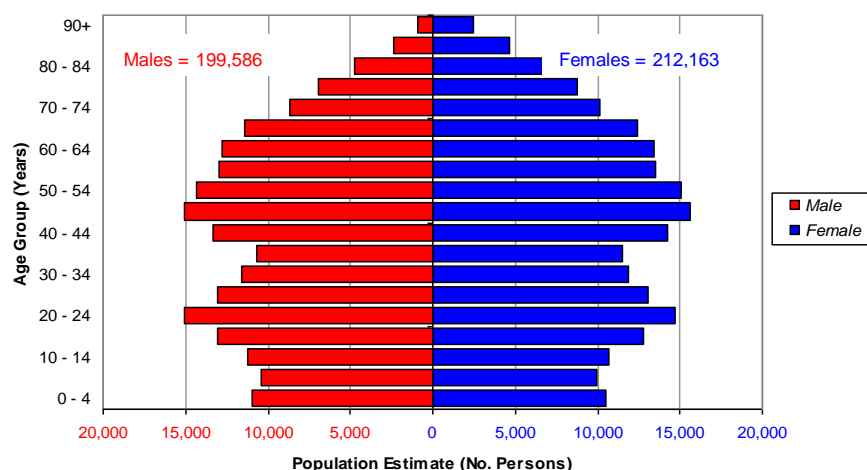
Notes:

i. Land areas were derived from Standard Area Measurements produced by the Office for National Statistics in January 2011. Figures may not add exactly because of rounding.

ii. Persons per sq km calculated using actual, not rounded areas.

In 2012, the overall gender distribution (all ages) within Tayside was 48.5% male and 51.5% female, however the gender proportions very much depend on the age band under consideration, as displayed in Figure 1.

Figure 1. NHS Tayside: Population Distribution by Age and Gender, 2012



Source: NRS (formerly GRO(S)) Mid Year Populations Estimates, June 30th 2012 (2011 Census Based)

As the Tayside population ages, the proportion of females to males also increases. For those aged 75+ years within the Tayside population in 2012, 60.2% were female compared with 39.8% males, while for those aged under 75 years, there was a 50.7% female and 49.3% male division.

¹ NRS (formerly GRO(S)) - Mid year population estimates, 2012 (2011 Census Based) 2014-16 Tayside Joint Public Health Protection Plan

While all three Tayside local authority areas are fairly similar in terms of age and gender distribution, due to Dundee's large student population, this Tayside local area has a greater proportion of 20-24 year olds year-on-year than its other Tayside counterparts. In 2012, this age group represented 10.9% of the Dundee population, compared with 5.2% of the population in both Angus and Perth & Kinross, aged 20-24 years.

As the Tayside population ages, a slight difference across the local authority areas emerges. In 2012, for those aged 60+ years accounted for 27.9% of the population within Angus and 27.8% in Perth & Kinross; a slightly higher proportion than across the Dundee City area (22.4%) for this elderly age grouping.

The 2012 mid-year population (411,749 persons) demonstrated an increase in 1,494 individuals (0.4% increase) from the 2011² estimate (410,255 persons).

2010 Based Population Projections

The currently available population projection figures are based on 2010 (2001 census based) estimates; these are unrevised³ in relation to the 2011 census. Updated projection figures are expected in spring 2014.

The 2010 based population projection figures estimated Tayside's population to be 408,540 in 2012, 0.8% lower than the current estimated population for this year.

From the 2010 based population projections, by 2015 the population of the Tayside is projected to increase by 3.5% (all ages), to 416,934 persons, with the proportion of the population aged over 65 years increasing by 11.9%⁴ to 86,223 individuals of that age. The projected increase in this older age group is most notable in Angus (15.4%) and Perth & Kinross (14.8%), compared with Dundee City (5.7%) by 2015. This increase is expected to continue, with a projected over 65 population of 117,499 in Tayside by 2035, a 52.6% increase from the 2010 population estimate (Source: 2010 base population projections - this may be a slight under estimation due to this outdated measure.)

Deprivation

The Scottish Index of Multiple Deprivation (SIMD 2012)⁵ is the Scottish Government's official tool as an area-based measure of deprivation, identifying small areas of multiple deprivation across Scotland in a comparative manner, with a focus on the 15% most deprived.

- Tayside Health Board had 64 data zones in the 15% most deprived, 6.6% of the National Share.
- 57.0% of Scotland's 15% most deprived (976) data zones are located in five local authorities: Glasgow (29.6% of the national share), North Lanarkshire (10.2%), Fife (5.9%), Dundee City (5.6%), and Edinburgh (5.5%).

² 2011 – Revised 2011 (2011 Census Re-Based) population estimate

³ While the 2012 population estimates are based on the 2011 census, with years 2002-2011 also having been revised in relation to the 2011 Census, currently the only available population projection figures are those based on 2010 unrevised (2001 Census based) population estimates. New population projection figures are expected for release in spring 2014, which will utilise the 2011 census based approach.

⁴ NRS (formerly GRO(S)) - Projected populations Council and NHS Board Areas (2010-based)

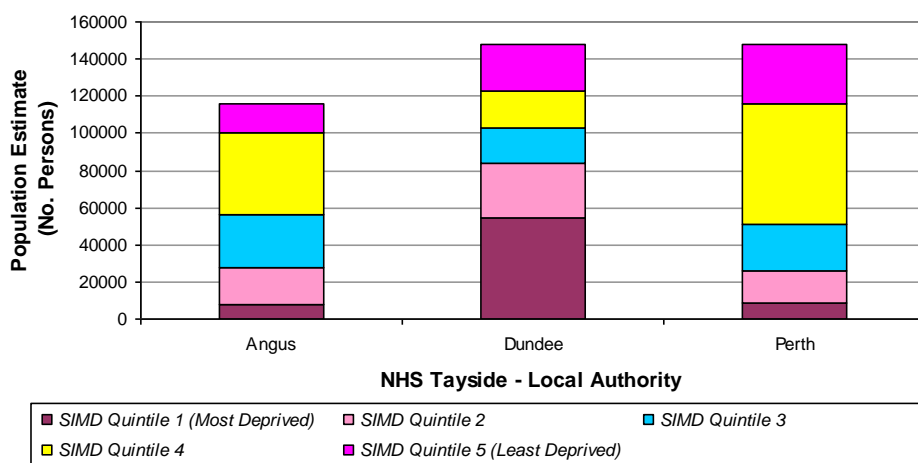
⁵ SIMD categorises Scotland into 6,505 data zones, each containing approx 350 households (average 800 people), providing a relative ranking for each data zone, from 1 (most deprived) to 6,505 (least deprived). The SIMD identifies deprived areas and not deprived individuals, so not everyone living in a deprived area is deprived, and not all deprived people live in deprived areas. Scottish Government – SIMD 2012

- Dundee City's share of Scotland's deprivation (5.6%; 55 data zones) can be compared with its Tayside counterparts, where Angus had 3 data zones (0.3% of the national share) and Perth & Kinross a further 6 data zones (0.6% of the national share) in the 15% most deprived.

Across Tayside's population during 2012, 17.2% were categorized as residents within data zones ranked in the 20% most deprived (SIMD Quintile 1), a similar proportion was found residing within the least deprived quintile (SIMD Quintile 5), accounting for 17.8% of the Tayside population. These can be compared with the highest population proportion across Tayside residing in SIMD Quintile 4, encompassing 31.2% of the Tayside population.

Figure 2 presents Tayside's local authority populations in 2012 by SIMD quintiles.

Figure 2 NHS Tayside: Population Distribution (SAPE 2012) by Local Authority and Deprivation Quintile (SIMD 2012)



Source: Small Area Population Estimates (SAPE), 2012 [NRS formerly GROS] and SIMD 2012 [Scottish Government]

Across Tayside's local areas:

- Dundee City recorded a much higher proportion of its population (36.8%, N=54,439) residing within the 20% most deprived (SIMD Quintile 1) compared with Angus (6.9%, N=8,004) and Perth & Kinross (5.8%, N=8,525).
- Perth & Kinross recorded the highest proportion (21.6%, N=31,957) of its population residing in the 20% least deprived (SIMD Quintile 5).
- The highest population proportion for both Angus and Perth & Kinross resided within SIMD Quintile 4, 38.2% (N=44,366) and 44.0% (N=64,983) respectively, in comparison Dundee City had 13.0% (19,181) of its population residing within this quintile. (Dundee City's highest population proportion was recorded within SIMD Quintile 1, 36.8%)

Ethnic Population

Over the last decade between the 2001 Census and 2011 Census, the non-white ethnic population within Tayside has increased by over 5,500 individuals to 13,294 (7,495 in 2001). The proportion of the total Tayside population, accounted for by this non-white ethnic population group, increased from 1.9% to 3.2% over the last decade.

Table 2 summarises the 2011 census figures for Tayside's ethnic groups, showing that at the time of the census, 'Asian' (inc. Scottish & British) recorded the largest non-white ethnic population group within Tayside (2.1% of the Tayside population; N = 8,611), followed in proportion by the 'African' (0.4% of the Tayside population; N = 1,527), and then both the 'Other -' and 'Mixed/Multiple -' ethnic population groups (0.3% of the Tayside population each; N = 1,241 & 1,420 respectively).

Table 2. Tayside's Ethnic Population Groups (Census 2011)

Administrative Area	All People	Ethnic Groups (Census 2011)						All Non-White Ethnic Groups
		White ^a	Asian, Asian Scottish or Asian British ^b	African ^c	Caribbean or Black ^d	Other Ethnic Groups ^e	Mixed or Multiple Ethnic Groups	
Tayside	409,709	396,415	8,611	1,527	495	1,241	1,420	13,294
		96.8%	2.1%	0.4%	0.1%	0.3%	0.3%	3.2%
Angus	115,978	114,468	921	125	75	125	264	1,510
		98.7%	0.8%	0.1%	0.1%	0.1%	0.2%	1.3%
Dundee	147,268	138,460	5,838	1,170	269	846	685	8,808
		94.0%	4.0%	0.8%	0.2%	0.6%	0.5%	6.0%
Perth & Kinross	146,652	143,676	1,852	232	151	270	471	2,976
		98.0%	1.3%	0.2%	0.1%	0.2%	0.3%	2.0%

Source: Census 2011 (www.scotlandscensus.gov.uk) Release 2A, Table KS201SC "Ethnic Group by Health Board and Council Area"

Notes

- a. Encompasses: White: Scottish; White: Other British; White: Irish; White: Gypsy/Traveller; White: Polish; White: Other White
- b. Encompasses: Pakistani, Pakistani Scottish or Pakistani British; Indian, Indian Scottish or Indian British; Bangladeshi, Bangladeshi Scottish or Bangladeshi British; Chinese, Chinese Scottish or Chinese British; Other Asian
- c. Encompasses: African, African Scottish or African British; Other African
- d. Encompasses: Caribbean, Caribbean Scottish or Caribbean British; Black, Black Scottish or Black British; Other Caribbean or Black
- e. Encompasses: Arab, Arab Scottish or Arab British; Other ethnic group

All three of Tayside's council areas have recorded increases in their non-white ethnic population groups between the 2011 and previous census. As displayed in Table 2, of Tayside's three council areas, Dundee City recorded the highest proportion of non-white ethnic groups within its own council area population (6.0% of the Dundee population; N = 8,808). Dundee City's non-white ethnic population accounted for 66.3% of Tayside's total non-white ethnic population, the largest contribution of Tayside's three council areas.

Adult Overseas Nationals Registered Within Tayside

National Insurance Number (NINo)⁶ Allocations to Adult Overseas Nationals entering the UK statistics are based on adult overseas (non-UK) nationals registering for a new National Insurance number for the purposes of work, benefits or tax credits and provide an indication of the number of new arrivals coming to a particular area.

In 2012/13, the majority of overseas nationals within Tayside were registered within Perth & Kinross, accounting for 49.9% (N=2,255) of Tayside overseas national population. In comparison, the overseas national individuals in Dundee City accounted for 26.1% (N=1,166) and in Angus 24.0% (N=1,071), of Tayside's total overseas nationals population. Between 2010/11 and 2012/13, both Angus and Dundee City have shown a steady decrease in the number of registrations of overseas nationals, with Perth & Kinross having recorded a decline in these registrations since 2008/09.

The 2012/13 proportions of Tayside's three local authorities overseas adults in terms of nationality shows that the majority of non-UK nationals registered within Tayside are from Poland (28.8% of the total Tayside overseas nationals population⁷). There is some variation between the three Tayside local authority areas in terms of country of origin of their overseas national population. Within both Perth & Kinross and Dundee City, the majority of their overseas nationals population were from Poland, 23.6% (N=275) and 35.5% (N=785) of their total overseas nationals population respectively. In comparison within Angus's overseas national population, those of Polish origin represented only 21.2% (N=227) of their non-UK population; the majority of the Angus overseas population were from Bulgaria, representing 30.0% (N=321) of the Angus overseas national population.

Urban Rural Classification

The 'Scottish Government Urban Rural Classification'⁸ provides a standard definition of rural areas across Scotland, distinguishing between urban, rural and remote areas across Scotland.

Across Tayside during 2011/12, the majority of the population (38.3%) resided within 'large urban areas' with a further 25.9% living within 'other urban areas'. In comparison, 5.1% of the Tayside population was living in 'remote rural areas', with a further 20.0% residing in 'accessible rural areas'.

Within Dundee 99.5% of the population were classified as living in 'large urban areas', while across Angus the majority of the population (52.9%) resided within 'other urban areas'. In comparison, in Perth & Kinross the majority of the population comprised of a combination of both those living in 'Other Urban Areas' and 'Accessible Rural', accounting for 31.0% and 34.0% of the Perth & Kinross population respectively.

Homelessness

⁶ Produced by the Department for Work and Pensions (DWP) Statistics

⁷ Collective total of Tayside's three local authority areas. A Tayside figure is not available from DWP.

⁸ **Large Urban Area:** Settlements of over 125,000 people. **Other Urban Areas:** Settlements of 10,000 to 125,000 people. **Remote Rural: Areas:** Settlements of less than 3,000 people and with a drive time of between 30 and 60 minutes to a settlement of 10,000 or more. **Accessible Rural:** Settlements of less than 3,000 people and within 30 minutes drive of a settlement of 10,000 or more.

Under the Homeless Persons legislation, housing authorities have statutory duties to assist those who are homeless or threatened with homelessness, which include providing accommodation in certain circumstances. Local authorities are required to assess each application.

During 2012/13, of Tayside's three local authority areas, Dundee City had 1,470 applications under the Homeless Person's Legislation, compared with Angus (792 applications) and Perth & Kinross (908 applications). During this period, 100% of those categorised as homeless were considered as priority homeless within each Tayside local authority.

Within Tayside over the last six years there has been a decline in the number of homeless applications. Between 2012/13 and the previous year, Angus has recorded the greatest decrease in the number of homeless applications, a reduction of 34.2% over the past year. In comparison, Dundee City and Perth & Kinross have showed a reduction to a lesser degree, a decrease in the number of applications by 8.9% and 7.2% respectively.

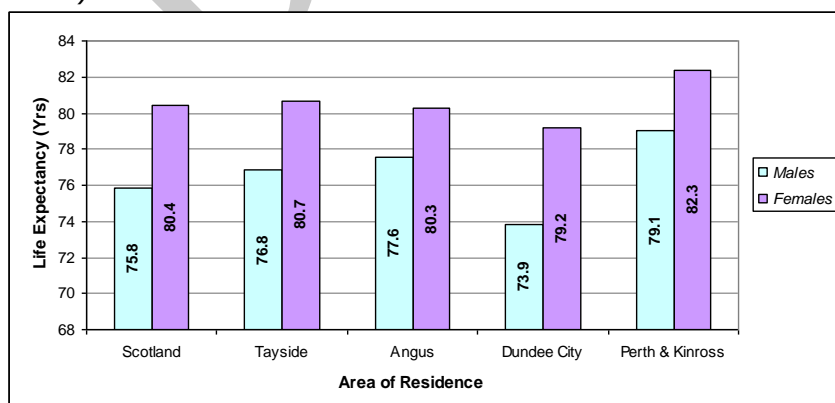
Life Expectancy & Healthy Life Expectancy

'Life Expectancy' (LE) is an estimate of how many years the average person might be expected to live, commonly based on life expectancy at birth, which is the average number of years a newborn infant can expect to live if current mortality rates continue to apply. In comparison, 'Healthy Life Expectancy' (HLE) is an estimate of how many years they might live in good health.

The current life expectancy at birth for Tayside residents is 76.8 years for males and 80.7 years for females (2008-2010 based). These figures are slightly higher than the Scottish life expectancy estimates for both genders, but remain lower than other nations.

Figure 3 summarises the life expectancy for Tayside males and females by local authority. Within each local Tayside area, there is a relative inequality of life expectancy between men and women; this is common across the developed world.

Figure 3. Life Expectancy at Birth (in Years) by Area of Residence (2008-2010 Based)



Source: Life Expectancy, NRS (formerly GROS(S)) and National Statistics

Figures from 2005-2009 showed that there were variations in life expectancy across Intermediate Geographies within each local authority area.

Angus Local Authority: Male life expectancy ranging from 70.3 years (Arbroath Harbour) to 80.6 years (Forfar East), a difference of 10.3 years. Life expectancy for females ranging from 74.6 years (Brechin East) to 85.9 years (Monifieth West), a difference of 11.3 years.

Dundee City Local Authority: Male life expectancy ranging from 65.8 years (Kirkton) to 85.6 years (West Pitkerro), a difference of 19.8 years. Life expectancy for females ranging from 73.8 years (The Glens) to 85.8 years (Balgay), a difference of 12 years.

Perth & Kinross Local Authority: Male life expectancy ranging from 71.6 years (Central, North & South Inch) to 81.9 years (Western Edge), a difference of 10.3 years. Life expectancy for females ranging from 77.7 years (Central, North & South Inch) to 84.0 years (Burghmuir & Oakbank and Milnathort & Crook of Devon), a difference of 6.3 years.

Life expectancy measures address nothing regarding the quality of life. Taking health status into account allows a measure of quality to be added to the length of life and gives an estimate of healthy life expectancy.

This is the latest period available for Healthy Life Expectancy figures is 1999-2003 based⁹.

Tayside's male population are estimated to have a healthy life expectancy of 68.1 years, and their female counterpart's a healthy life expectancy of 71.8 years. These Tayside residents are expected to spend 6.0 years and 7.4 years respectively in 'not healthy' health during their life.

Of Tayside's three Community Health Partnerships (CHPs)

- Both genders within Perth & Kinross CHP have the highest healthy life expectancy, 70.8 years for males¹⁰ and 74.2 years for females, each with the shortest period expected to be spent in 'not healthy' health (5.1 years and 6.2 years respectively).
- Dundee City CHP has the longest period of 'not healthy' health of Tayside's three CHPs, with 7.2 years for males and 9.2 years for females (healthy life expectancy of 64.6 years and 68.8 years respectively).
- Angus CHP male population have the healthy life expectancy of 69.4 years, while females are slightly higher at 72.7 years, with an expected 5.5 years and 6.5 years respectively in 'not healthy' health during their life.

Tayside Local Authorities Angus Council

⁹ The most robust HLE estimates are based on SAH measured in the Scotland Census. The most currently available data is for HLE at birth for the 5-year period 1999-2003 (based on 5 years of data on deaths and population estimates, and SAH from the 2001 Census). Unfortunately as 2001 was the first Census to ask about SAH, comparable HLE data cannot be calculated for previous years. It is also worth noting that as the 2011 Census used the new SAH question, future HLE estimates based on this will be comparable to the new annual time series from 2009, but not comparable to the old HLE estimate based on the 2001 Census. The next update is due Autumn 2014, after the 2011 Census data are released.

¹⁰ Of all Scottish CHPs, 'Perth & Kinross', 'East Dunbartonshire' and 'Aberdeenshire' have the highest male healthy life expectancy (70.8 years) 1999-2003 based figures.

Angus covers an area of 2,182 sq km and in 2012 had an estimated population of 116,210 (population density 53 persons per sq km). People aged 65+years make up 20.9% (N=24,234) of the population in 2012, of these 45.8% are of 75+years. In 2012 it is estimated that 59% of the Angus population were of working age¹¹ and 24% of pensionable age¹².

While the 2010 based projection figures estimate the Angus under 65years population will decrease by 2035, a reduction of 9.8%, the 65+years is projected to increase by 59.9%, with "All Ages" projected to increase by 4.3% in total.

Angus also has a significant number of migrant workers.

The area comprises the largely remote and rural Angus Glens, small market towns and busy coastal towns, including two harbours. The coastal towns contain around half the Angus population. There are approximately 400 private water supplies, serving about 1000 premises, including a hospital. Approximately 10% of these supplies serve a public or commercial building or a domestic population of 50 or more persons. Carnoustie regularly hosts major golf tournaments, including 'The Open' twice in the past 10 years. In 2014, Angus will host shooting competitions as part of the Commonwealth Games. There will also be a large open air concert in Montrose.

Dundee City

The Dundee City area covers 60 sq km, and is geographically the smallest local authority area in Scotland. With an estimated resident population of 147,800 in 2012, the population density of Dundee City is 2,470 persons per sq km, the second largest density in Scotland after Glasgow City (3,407 persons per sq km), and is considerably higher than it's Tayside counterparts .

Dundee City has a slightly different population structure due to the sizeable number of the full time student population compared with the other two Tayside local areas, being home to the University of Dundee, the University of Abertay and Dundee & Angus College. In 2012, it was estimated that 83.0% (N=122,657) of the Dundee City population were under 65years, with an estimated 43.5% of the total population aged between 15-44years (N=64,347). With 65% of the 2012 population considered as of working age and 19% of pensionable age.

The 2010 based projection figures estimate Dundee City's under 65years population will increase slightly by 2035 (1.3%), in comparison the 65+years is projected to increase by 30.7%, with "All Ages" projected to increase by 6.5% in total.

Dundee City is bordered by Perth and Kinross to the west and by Angus to the north and east. The City continues to serve as the regional centre for this area and for northeast Fife. The city is a major employment and retail centre. It is estimated that approximately 400,000 people of working age reside within one hour's drive of the city centre¹³. The proportion of Dundee's population whose lives are affected by poverty and who are classed as socially excluded is almost the highest in Scotland.

Perth and Kinross

¹¹ Working age at 30 June 2012 is defined as men aged 16 to 64 and women aged 16 to approximately 61 years and 56 days.

¹² Pensionable age at 30 June 2012 was 65 for men and approximately 61 years and 57 days for women.

¹³ [Dundee Economic Profile January 2010](#). Dundee City Council, City Development Department

Perth and Kinross is the fifth largest geographical area in Scotland covering 5,285 sq km, with a 2012 estimated population of 147,740 (population density 28 persons per sq km). In 2012, 21.0% (N=30,973) of the Perth & Kinross population were estimated to be of 65+years, of these 52.4% are of 75+ years. In 2012 it is estimated that 59% of the Perth & Kinross population were of working age and 24% of pensionable age.

Perth & Kinross has the highest projected population growth across Tayside's three local areas, with an expected increase of 32.1% (All Ages) between 2010 and 2035¹⁴. The extent of the projected population increases vary across the age groups; 00-14years are projected to increase by 32.5%, with the 15-64years by 21.6%, in comparison to the 65+years, projected to increase by 66.1%, thus placing increasing demands on services and infrastructure supporting these age groups.

Perth and Kinross also has the third highest level of migrant workers in Scotland, after Edinburgh and Glasgow. It is a diverse area comprising many discrete communities, each with its own distinct challenges and opportunities, with almost one third of the population living in the City of Perth.

At the other extreme, remote communities like Kinloch Rannoch pose many challenges in terms of access to, and delivery of, essential services including basic infrastructures such as water supplies. There are approximately 2000 private water supplies in Perth and Kinross, mainly located in the northern part of the area. As in Angus, approximately 10% of these supplies serve a public or commercial building or a domestic population of 50 or more persons. In terms of employment the service sector is the main employer with tourism the fastest growing sector overall. Approximately two million tourists per year visit the area.

2.0 Health protection: National and local priorities

2.1 National priorities

In his annual report for 2012, The Chief Medical Officer for Scotland identified key challenges and priorities in relation to communicable diseases:

- **Gastro intestinal and foodborne infections:** *The global food industry maintains complex transnational foods chains which are hard to regulate and can contribute to local and international incidents. Of 1,604 food and environmental contamination incidents in the UK in 2012 50% involved food originating from outside the UK*
<http://www.food.gov.uk/multimedia/pdfs/incidents-report-2012.pdf>. *Out of an estimated total of around one million cases of foodborne disease each year in the UK, Campylobacter is considered to be responsible for around 460,000 cases, 22,000 hospitalisations and 110 deaths, and 80% of infections are estimated to be foodborne.*
- **Travel and international health:** *In 2012 there were an estimated 3.6 million journeys made by travellers from Scotland. Imported infections included the first confirmed case of Crimean Congo fever virus to occur in the UK.*
- **Environmental factors:** *Environmental factors are estimated to account for 14% of the UK's disease burden and 23% of worldwide deaths.*
http://www.who.int/quantifying_ehimpacts/national/countryprofile/unitedkingdo

¹⁴ 2010-2035 projected population increase: Angus by 4.3% and Dundee by 6.5% (2010 Based Projection Estimates)
2014-16 Tayside Joint Public Health Protection Plan

[m.pdf](#)

http://www.who.int/quantifying_ehimpacts/publications/preventingdisease.pdf

- **Emerging and re-emerging infections:** Zoonoses (infectious diseases that can be transmitted from animal to humans), account for 61% of all human infections including established infections such as Campylobacter, Salmonella, Cryptosporidia, VTEC /Ecoli O157; and, potentially emerging problems such as Hepatitis E, Hantavirus, Lyme disease, Avian Influenza and rabies; Antimicrobial resistance such as carbapenemase producing Enterobacteriaceae is recognised by the European Centre for Disease Control as a significant threat to public health in Europe; Epidemic infections - 2012 saw the re-emergence of pertussis infection, plus, the largest outbreak Scotland has ever seen of Legionnaires disease; Pandemic infections - in 2012 a further 32 cases and 20 deaths brought the global total of cases of avian influenza A(H5N1) to 610 with 360 deaths.
- **Resilience and emergency preparedness:** Scotland needs to predict and respond to established and emerging global health threats posed by infectious diseases, environmental hazards, natural disasters and bioterrorism. Delivery of effective Health Protection services requires development of the workforce, standards, protocols and governance structures to maintain quality, and, preparation for major disruptive challenges involves clear emergency planning. For example, following the very large 2011 outbreak in Germany of the novel infection E Coli 0104:H4, associated with fenugreek sprouts, the threat of an emerging zoonotic or foodborne infection may be considered for the national risk register along with pandemic influenza.

Source: annual Report of the Chief medical officer 2012-Population Health and Improvement Science. Dec 2013
<http://www.scotland.gov.uk/Publications/2013/12/7881/6>

The CMO also highlighted trends and changes in relation to vaccine preventable diseases, Hepatitis C and HIV, Tuberculosis, Legionnaires' disease, Healthcare Associated Infection and Antimicrobial resistance.

Recommendations from the CMO report in relation to control of communicable diseases were:

- To become technologically smarter particularly around surveillance (e.g. TB, Anti-Microbial Resistance), communication of risk (e.g. Travel, Lyme disease, Legionella) and in linking case and outbreak management to national guidance and quality assurance. This will involve close integration of human and animal information sources and expertise, within the broader context of trade, travel and the environment.
- To develop and implement national programmes and multiagency action plans such as the extended immunisation programme, the Sexual Health and Blood Borne Virus Framework, A TB Action Plan for Scotland, the VTEC/E Coli 0157 Action Plan, and the Scottish Antimicrobial Action Plan.
- To maintain the capacity and resilience to deliver quality assured services for Scotland that are flexible enough to deal with all kinds of disruptive challenges, from infectious disease outbreaks to terrorist attacks or flooding. This requires the development of innovative approaches which promote priority setting, linkages between policy areas, effective governance, quality

assurance and collaborative working between statutory agencies, the private sector, the voluntary sector and communities.

Source: annual Report of the Chief medical officer 2012-Population Health and Improvement Science. Dec 2013

<http://www.scotland.gov.uk/Publications/2013/12/7881/6>

2.2 Specific features of areas of Tayside associated with health protection risk

The geography of Tayside results in certain risks associated with particular features of the local area. The community risk register lists a number of health risks for which a response is required across the Category 1 responders in Tayside e.g. Pandemic Influenza . Tayside also hosts a number of COMAH (Control of Major Accident Hazards) sites and major pipelines (Shell and BP). Plans are in place to address these risks, but these plans require regular review to take account of learning from actual incidents and exercises.

Local authorities have a major role in health protection mainly discharged through their environmental health (EH) services. Within each of the three Councils there is a common set of core functions carried out by all the EH services. However, there can be significant variations between Councils in the range of activities carried out by their EH services for the following reasons:

- Many other Council functions have an underlying health protection purpose and as a result may be allocated to the EH function in one Council but not in another.
- Specific features within the different local authority areas may produce particular demands (e.g. major facilities or events).
- The demands and expectations within different communities also shape EH service delivery.

These factors are outlined below for each Council area:

Angus

There are many rural communities in Angus including a significant population of migrant workers, in common with Perth & Kinross. The standard of residential accommodation for these workers has been a concern especially where caravans are used. The coastal location of Angus carries particular significance for health protection because of its harbour at Montrose. Shell and BP Onshore Pipeline Systems are located in Angus.

Again in common with Perth & Kinross, Angus regularly hosts a number of major outdoor events, including 'The Open' golf tournament and Angus has a thriving tourist industry. Campsites throughout the area may be associated with, for example, *E.coli* 0157 risk from the use of livestock fields.

Other health protection risks and challenges relate to:

- The potential for chemical and biological contamination of private water supplies – affecting permanent and temporary residents of the area
- Montrose harbour – port health issues e.g. ammonium sulphate storage
- The health of migrant workers – the issues are described extensively in publications relating to this area

- Agricultural and rural exposure to environmental pathogens resulting in a range of infectious diseases e.g. *Cryptosporidium*, *E.coli* O157, Lyme disease
- Wastewater Treatment Works at Hatton, including pumping stations
- Local hazards and nuisances e.g. large populations of gulls in urban areas
- A recent increase in proposals for the construction of wind farms and large individual wind turbines with potential nuisance/health effects
- There has been an upsurge in premises using biomass boilers which, although contributing greatly towards reducing carbon dioxide emissions, can also produce particulate matter as a product of combustion, if insufficient filtration incorporated into plant design

Dundee

Dundee is a wholly urban area with a relatively high population density and high levels of deprivation. It has the biggest percentage of flatted property per head of population in Scotland, which results in a wide range of environmental health problems requiring resolution.

The city's industrial legacy means that there are many former industrial sites zoned for development. Screening for contaminated land with a view to remediation is a major Environmental Health function.

Dundee, like a number of other local authorities has a range of measures in place to improve its air quality since it has air quality targets for PM₁₀ and NO₂ which are not being met in the city centre and around major arterial routes. The city is listed by Audit Scotland as one of twelve Scottish Councils which have air quality problems.

Dundee City Council is the Port Authority for the city's seaport and Riverside Airport, with both facilities accommodating international traffic.

Dundee's large number of temporary residents includes students from across the UK and international locations. Infectious diseases common to other areas of the world can therefore present in temporary residents. A good example of this is the small but significant number of cases of Tuberculosis infection that occur amongst temporary residents.

Being a regional centre it has a relatively high number of workplaces and commercial activities requiring regulation.

Dundee has one top tier Control of Major Accident Hazards (COMAH) site.

Perth & Kinross

There are many rural communities in Perth & Kinross. The working and residential environments are associated with an increased exposure to farm and wild animals, soil and untreated water sources. Agricultural and rural exposure to environmental pathogens may result in a range of infectious diseases e.g. *Cryptosporidium*, *E.coli* O157, Lyme disease.

Amongst the agricultural workers of Perth & Kinross there are a large number of migrant workers and travellers. The specific health needs of these groups are well described in the scientific literature. In relation to health protection, specific health needs result from the infection risk associated with poor standards of accommodation, transient use of primary health care services and imported infections.

Potential exists for the chemical and biological contamination of private water supplies affecting permanent and temporary residents of the area. An estimated 7,175 people are exposed annually to the risk of infectious diseases including *E.coli* O157 and *Cryptosporidium* resulting from private water sources.

There are a number of COMAH sites throughout Perth & Kinross. Port health related issues are relevant to Perth harbour.

The thriving tourist industry of Perth & Kinross results in many visitors to the area. These visitors may develop infections typically associated with holiday populations e.g. Norovirus. Perth & Kinross hosts one of the largest annual music festivals in Scotland, T in the Park, with campsite facilities providing accommodation to an estimated 65,000 people over four days. Potential risks at T in the Park include outbreaks of communicable disease and are well described in the planning documented for this event. Other large commercial gatherings include the Perth Game Fair and Rewind Festival at Scone Palace.

2.3 Health protection priorities and activities in Tayside

NHS Tayside's health protection activities

The broad roles of the NHS Tayside Health protection team are as follows:

- Surveillance, prevention and control of communicable diseases, infection and environmental health;
- Provision of specialist advice and support to primary care, hospitals, and other relevant organisations such as care homes and nurseries, and agreeing with them how health protection should be delivered locally;
- Investigation and management of a full range of health protection incidents (including outbreaks of diseases like meningitis and food poisoning)
- The conduct of clinical audit, research, teaching and undertaking of continuous professional development relating to health protection

Topic areas include:

- Immunisation;
- Blood borne viruses;
- Respiratory infections (including TB and pandemic influenza planning);
- Gastrointestinal and waterborne infections;
- Infection control in the non-NHS community;
- Port health;
- Environmental health;
- Resilience Planning

Local authority activities

The main areas of local health protection activities carried out by Environmental Health and other professionals within local authorities are outlined below. Many are requirements of statute, in order to protect the health of individuals living in working in or visiting our communities.

- Effective enforcement of housing, (including caravans) public health and pollution control legislation to reduce the effects on health of poor housing standards, statutory nuisances poor air quality, unwholesome drinking water, contaminated recreational waters or other hazards

- Dealing with pest infestations, including the provision of pest control services
- Controlling environmental noise/ antisocial behaviour noise
- Identification, investigation and control of contaminated land
- Identification, investigation and action to reduce air pollution
- Pandemic flu operational planning particularly in the context of business continuity in respect of the maintenance of critical Local Authority services
- Risk assessment, sampling and improvement of private water supplies to protect users from the risk of waterborne infections or diseases
- Effective enforcement of health and safety at work legislation to protect workers and those affected by work activities
- Effective enforcement of food safety legislation using inspection and sampling programmes to protect consumers from unsafe food supplies
- Inspections of ships and aircraft to protect crew and passengers, as well as potential communicable disease affecting local population
- Effective response to any notified diseases or food poisoning cases to identify and limit the spread of infection where necessary
- Minimising the risk of exposure to environmental incivilities such as dog fouling, illicit tipping and graffiti
- Minimising the risk of environmental tobacco smoke/ secondary exposure through inspection and the enforcement of smoke free legislation
- Regulation of sales of under age products e.g. tobacco, alcohol
- Regulation of alcohol sales through new licensing standards legislation – including enforcement, education and awareness raising work
- Domestic refuse collection and recycling services
- Disposal of human remains where no relatives, or other persons, are in a position to do so.

2.4 Local priorities for health protection work in Tayside for 2014-16

Priority area	Actions
Ensuring joint working arrangements to deliver an effective response (including out of hours), which is consistent with the provisions of the Public Health etc (Scotland) Act 2008	Local authorities to formalise and implement a robust on-call arrangement for appropriate personnel where it is not yet provided
Reviewing and revising existing protocols and emergency plans in accordance with the schedule at Appendix B	See Appendix B
Maximise opportunities for joint learning	Provide opportunities for joint CPD Share learning from participation in the national WINCL (Where Is Norovirus Control Lost?) project investigating norovirus transmission
Learning from the incidents that have recently occurred in Tayside and elsewhere	Hot debriefs of incidents Make incident management reports available to share learning and good practice
Joint working to implement national plans and policies	Identify joint actions to implement the VTEC action plan Implementing the TB Action Plan for Scotland Continue to implement the new national immunisation programmes Implement HP Zone within the national programme for roll-out of the system, ensuring partners are kept informed of and involved in changes in ways of working and communicating Engage with Regional Resilience Partnerships

3.0 Health Protection Resources and Operational Arrangements

3.1 NHS Tayside Health Protection Team staffing

The NHS Tayside health protection function is continuously operational 24/7. In hours (Monday to Friday) a small multidisciplinary team operates to deliver the full range of services. The out of hours service is covered by an on call medical team where a Consultant in Public Health Medicine (CPHM) is always on call and at times there is also a Specialist Registrar on call. A voluntary out of hours agreement is informally in place with a small number of administrative staff.

Table 1 Monday to Friday (In Hours) Health Protection Team

Designation	FTE
(Consultants in Public Health Medicine (Health Protection))	2.2 plus occasional cover from other CsPHM
Specialist Nurses (Health Protection)	3.0
Personal Assistants	2
Surveillance/Notification Assistants	1.5

Table 2 Out of Hours Health Protection Team

Designation	Periods covered
Consultants in Public Health Medicine	24/7 evenings and weekends
Specialist Registrars in Public Health Medicine	Evenings & weekends for 3 days per week only
Specialist Nurses (Health Protection)	None
Personal Assistants	None

A Consultant in Pharmaceutical Public Health provides *ad hoc* input on health protection issues when required. The Health Protection Team also benefits from access to the Public Health Officer Team who provide research, evaluation and database management expertise.

NHS Tayside Competent Persons

Nine Consultants in Public Health Medicine/Consultants in Public Health are designated as NHS Competent Persons under the provisions of the Public Health etc (Scotland) Act 2008.

3.2 Roles and responsibilities

Consultants in Public Health Medicine (CPHM)

The CPHM role is:

- *Surveillance*: Monitoring the health of the population and the hazards and exposures affecting it.
- *Investigation*: Investigating why and how people fall ill because of exposure to hazards and what can be done to prevent this.
- *Risk assessment*: Estimating the probability of the health of a community being damaged from exposure to a hazard
- *Risk management*: Putting in measures that reduce the risk of exposure to hazards and the impact they have on health.

- *Risk communication:* Informing the public and other stakeholders about the risks to their health and what the individually or collectively can do to reduce these.

The CsPHM provide public health advice to other professionals, to patients and relatives, staff and the public from an NHS base, home or other agency site. A CPHM leads the management and coordination of the public health response, in liaison with local NHS senior management, others e.g. other NHS Board areas, Health Protection Scotland, Scottish Government and other national agencies. A Consultant in Public Health Medicine convenes an incident/outbreak management team on the basis of clinical judgement in order to ensure protection of the public health. CsPHM participate in local emergency planning arrangements including Regional Resilience Partnerships (RRP) and Scientific and Technical Advisory cell (STAC) arrangements.

Specialist Nurses (Health Protection)

The Specialist Nurses also provide public health advice to a wide range of other professionals, to patients and relatives, staff and the public from an NHS base, home or other agency. This includes health protection issues including communicable diseases, infection control, immunisation and environmental health, implementing the public health response in relation to health protection incidents and leading strategically on the control of communicable disease through agreed projects and in relation to broad policy areas in Tayside.

The Specialist Nurses take a lead role in the initial investigation of confirmed, probable and possible cases of communicable disease and infection (e.g. meningococcal disease, measles) and in the local control of specific outbreaks (i.e. gastro intestinal infections in care homes). The Specialist Nurses take a lead role in providing advice and information and training to NHS professionals, local authority, private and voluntary organisations, educational establishments and the general public on health protection issues including communicable disease, environmental health, infection control and immunisation. The Specialist Nurses are members of and participate in regional and national health protection networks/groups.

Surveillance Notification Assistants

The Surveillance Notification Assistants receive verbal, written and statutory notifications of infectious diseases, record these in appropriate databases, produce local returns on notifications through national systems for monitoring of disease trends.

Health Protection Administrative and Clerical Staff

The health protection administrative and clerical members of staff provide a comprehensive administrative and secretarial support service to CsPHM and other professional staff within the Directorate of Public Health. This includes assisting staff in managing their working day and acting as the identified contact point for all callers to the office, by telephone or in person, dealing with non-clinical enquiries, resolving difficulties and advising on the proper channels of communication to ensure that they minimise inappropriate interruptions whilst maintaining the continuity of the needs of staff and outside agencies.

3.3 Tayside Local Authorities' staffing

Angus Council

Angus Council has 17 full time equivalent (FTE) competent persons as designated under the Public Health etc (Scotland) Act 2008; in addition to two other Environmental Health Officer there are also 7 officers, a Dog Warden and an Animal Health Inspector who contribute to public health protection functions.

Dundee City Council

The planned provisional staffing complement for the period of this Health Protection Plan includes 18 FTE Environmental Health Officers (EHOs) including 3 managers (meeting the definition of competent persons under the Public Health etc (Scotland) Act 2008).

There are a further 22 FTE staff who contribute to public health protection functions, including; Food Safety Officers, Pest/Animal Control Technicians and Licensing Standards Officers.

Perth & Kinross Council

Perth and Kinross has 8.6 FTE competent persons as designated under the Public Health etc. (Scotland) Act 2008. In addition there are a further 21.3 FTE officers who contribute to public health protection functions.

Comment [k1]: The numbers here don't add up to those in the table. There may be clear reasons for this but just to confirm please

3.4 Tayside Scientific Services

This laboratory is part of Dundee City Council and provides comprehensive scientific services to the Tayside Local Authorities, private business and government agencies. It does not interface with the general public, but provides a support service to local authority departments such as Environmental Health and Trading Standards. Their services include analysis and examination of air quality, contaminated land, and microbiological and chemical examination of food and water supplies. The work of the lab contributes greatly to the work of the Local Authorities within Tayside NHS area both in day-to-day terms and in outbreak or major incident situations.

3.5 Tayside Local Authorities Out of Hours Arrangements

Each local authority has an out of hours facility, which holds contact details for key staff. This information is held by:

- NHS Tayside Health Protection Team
- Emergency Planning- contact lists are kept by all senior officials
- Food Standards Agency- Food Alert Contact Team

In only one area of Tayside are officers on a formal on-call rota. In the other two areas, the contact list system relies on officers identified on the list being available if contacted. To facilitate availability, contact lists contain the names of a number of officers for each local authority area.

3.6 Tayside staffing for delivery of the health protection function

Employing body	Designation	WTE		
		2010-12	2012-14	2014-16
NHS Tayside	CPH/CPHM	6.7	6.7	7.3
	Specialist nurses (health protection)	3	3	3
Angus Council	Environmental health staff (all grades)	30	28	TBC (24-28 expected)
Dundee City Council	Environmental health staff (all grades)	47	40	40
Perth and Kinross Council	Environmental health staff (all grades)	37.9	31.9	31.9

3.7 Maintaining knowledge and skills

NHS Tayside

All consultant medical staff are required to maintain their skills and professional registration, and to record continuing professional development (CPD) activities and undergo annual appraisal, in keeping with current General Medical Council (GMC) guidelines.

Specialist Registrars are required to undergo annual assessment of progress with training in order to ensure that skills are being developed appropriately.

The Specialist Nurses (Health Protection) are required to maintain their skills and professional registration and to record continuing professional development (CPD) activities and undergo annual appraisal, in keeping with the current Nursing and Midwifery Council (NMC) guidelines.

Local Authorities

Local Authority professionals all have an Employee Review and Development process, or equivalent, on an annual basis. There is ongoing training ensuring that staff have the necessary skills and competencies on a wide range of public health and environment matters, including health protection. In addition, officers regularly attend national Liaison Groups on matters of food, health & safety, pollution, public health, housing, smoking and port health.

3.8 Capacity and resilience

Capacity can be defined as having sufficient resources and capability in an organisation with responsibility for Health Protection to enable them to discharge their remit, including the response to increasing pressures on their services¹⁵.

Resilience is about the sustainability of a response over a period of time (e.g. 48 hours)⁸. For example a complex disease outbreak may require the core investigatory team to work intensively for long hours over many days. To cope with this pressure therefore it may be necessary to operate a shift or rota system. Sufficient capacity to do so is therefore required. This means that staff called in from other functions to support the response will have to be trained and prepared in advance for this role.

Maintaining and building capacity and resilience depends on adequate resources being available. A decline in core health protection resources within any party to this plan could affect the overall capacity within Tayside to react effectively to incidents. It is essential that all parties maintain and develop plans to ensure that there is sufficient health protection capacity, including the ability to effectively react to incidents. This includes maintaining and reviewing existing business continuity plans.

3.9 Information Technology and Communications Technology

NHS Tayside

NHS Tayside uses the following systems to support the health protection function. All these systems are available during office hours, and many can be accessed on call and can be used in an outbreak or incident.

NHS Tayside Information Technology and communications technology	Use
BT (British Telecom) landline, mobile phones, on call pagers and 3 sets of teleconferencing equipment	Day-to-day (including on call) communications and teleconferencing
Access to video-conferencing facilities off-site	Video-conferencing including teaching
Microsoft packages including Word, Excel, used on desktop and laptop computers	Communications, data collection including outbreak management, filing, presentations. Laptops (with email, internet)
Internet	Investigations, communications, research.
CHI (Community Health Index)	Patient demographic data
SIDSS (Scottish Infectious Disease Surveillance System) National Database	Notifications of Infectious Diseases reported to Health Protection Scotland
Disease notification local database	Record of notifications
ECOSS (Electronic Communication of Surveillance in Scotland)	Reporting mechanism for notifiable and reportable organisms
ESMI (Enhanced Surveillance of Mycobacterial Infections in Scotland)	National surveillance database for TB
Information board	Can be written on and used in an incident or as a teaching or presentation facility.
Television Mobile phones including MTPAS	Enables staff to keep up-to-date with media messages and communications during an incident or outbreak.

¹⁵ Definitions sourced from Health Protection Scotland (personal communication, March 2010)
2014-16 Tayside Joint Public Health Protection Plan

IT (Information Technology) and Communications Technology available to Local Authorities in Tayside

Each Local Authority has access to the following:

1. Emergency Planning centres and facilities
2. Geographical Information System (GIS)
3. Civica IT system linked to Address Gazetteer. The capacity of this system provides:
 - a. data base for all premises within EH jurisdiction
 - b. handling of all service requests including communicable diseases
 - c. planning of inspection programmes
 - d. sampling database(e.g. food samples)
 - e. production of data reports
 - f. mail merge
 - g. multi access points in Council premises including emergency planning centre
4. All staff equipped with mobile phones and cameras
5. All staff equipped with PC and internet access

4.0 Health protection: planning infrastructure

Joint plans for the Tayside local resilience partnership and regional resilience grouping are held on Scriptstore:

<http://civilcontingencies.dundee.gov.uk/>

Parts of this site are password protected.

4.1 Health Protection Plans

A number of health protection plans have been produced for Tayside (Appendix B). These require to be regularly updated and exercised.

4.2 Local authority health protection plans

Single Outcome Agreements and the service planning process

The Scottish Government and local government share an ambition to see Scotland's public services working together with private and voluntary sector partners, to improve the quality of life and opportunities in life for people across Scotland.

This shared ambition is pursued through Single Outcome Agreements in a drive towards better outcomes. These agreements between the Scottish Government, local authorities and Community Planning Partnerships (CPPs) set out how each will work in the future towards improving outcomes for the local people in a way that reflects local circumstances and priorities, within the context of the Government's National Outcomes and Purpose.

The Scottish Government's priorities, to be reflected in SOAs, can be summarised as follows:

- Wealthier and Fairer Scotland
- Healthier Scotland
- Safe and Stronger Scotland

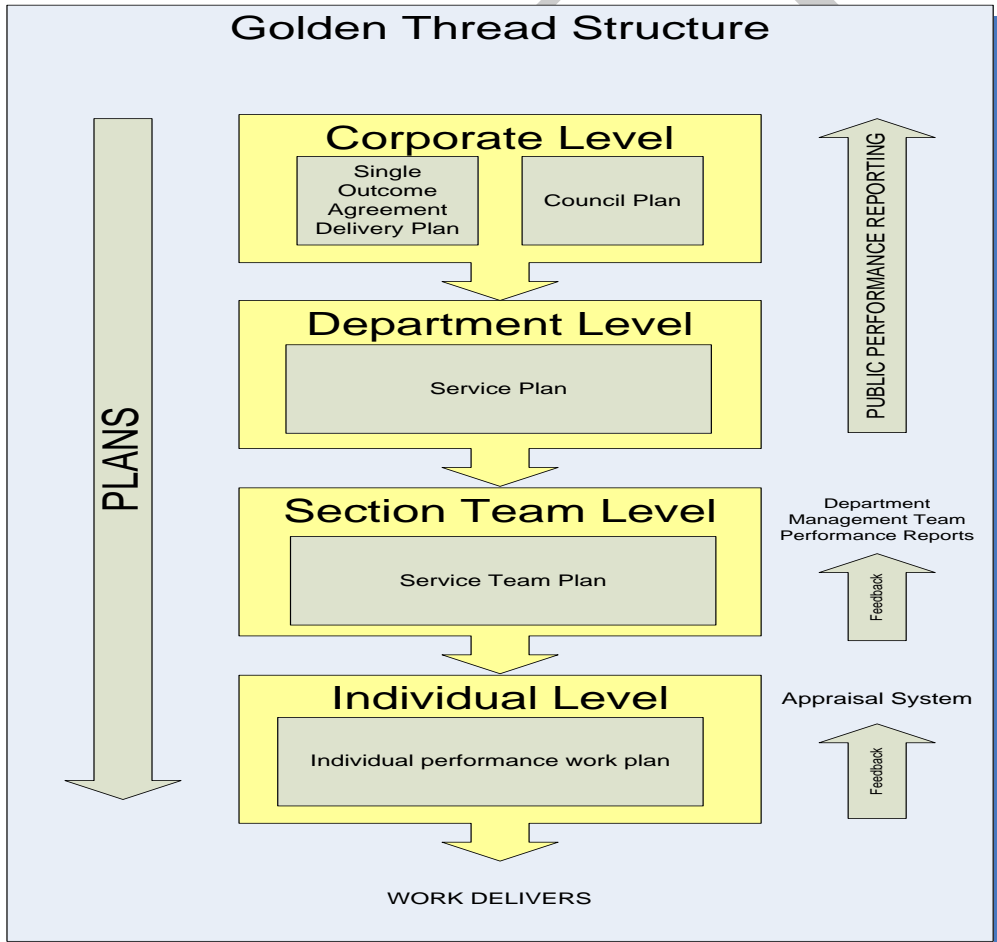
- Smarter Scotland
- A Greener Scotland

In Tayside each Council has signed Single Outcome Agreements (SOAs). In the case of Dundee City Council this was made through the vehicle of the multi agency Dundee Partnership. The Community Plan for Dundee 2005-2010 currently under review describes how Dundee City Council, Scottish Enterprise Tayside, NHS Tayside, Tayside Police, academic institutions and representatives of the private, community and voluntary sectors have all agreed to work together to make Dundee a better place.

Each Council also produces Council Plans linked to SOAs. Individual service plans link with these higher-level strategic objectives providing a clear link between these and service delivery. This is illustrated in Figure 4.

Local authorities have a wide range of plans which connect with health protection. The strongest links are contained in the respective departmental service delivery plans for environmental health.

Figure 4 Local Authority Planning Links



4.3 Joint working arrangements

Tayside Health Protection Network

This group is made up of representatives from the Environment Services departments of each of the Tayside Local Authority areas, Consultants in Public Health Medicine (Health Protection), the Advanced Specialist Nurse (Health Protection) for Tayside, consultant Microbiologists and the NHS tayside Emergency Planning Officer. The group is Chaired by the Director of Public health and has a remit to ensure that NHS Tayside working in partnership with statutory and non-statutory organisations fulfils its governance responsibilities for health protection. Meetings are held twice yearly.

Gastro-Intestinal Liaison Group

This Group has a remit to ensure that the main stakeholders responsible for health protection take a consistent approach in the reporting, investigation, monitoring and control of notifiable infectious disease across Tayside. Membership includes NHS Tayside, the three Local Authorities and Tayside Scientific Services.

Joint Tayside and Fife Water Group

This group has a remit to ensure that NHS Tayside working in partnership with other statutory organisations fulfils its responsibility to take appropriate action in protecting and informing the public on the risks associated with public and private water supplies and blue-green algae (BGA) (Cyanobacteria). Membership includes NHS Tayside, the three Local Authorities, SEPA and Scottish Water. The group produces a monitoring and action plan for BGA on an annual basis setting out the arrangements in place to control the risks associated with BGA in water supplies.

Communicable Diseases- National Pregnancy Screening Programme

The programme offers screening to all pregnant women for HIV, rubella, syphilis and hepatitis B. Screening, diagnosis and treatment, and follow up are required to be in line with NHS QIS Pregnancy and Newborn Screening Clinical Standards (October 2005) and relevant Managed Clinical Network (MCN) standards.

Women's Health/Microbiology Liaison Group

A multidisciplinary group with representation from midwifery, obstetrics, microbiology, virology and public health meet regularly to discuss a range of issues relating to communicable diseases in pregnancy. The group also discusses issues on pregnancy screening for communicable diseases, when relevant.

Other groups that support and promote the work of health protection include *Tayside Immunisation Steering Group*, the NHS Tayside Seasonal Influenza Vaccination Strategic Governance Group,

Tayside Blood Borne Virus and Sexual Health Managed Care Network (BBVSHMCN) ***<http://www.bbvmcntayside.scot.nhs.uk/>***

This is a multi agency accredited managed care network charged with implementing and monitoring delivery of the Scottish Sexual Health and BBV Framework 2011-15 (<http://www.scotland.gov.uk/Publications/2011/08/24085708/0>), the Hepatitis C Action Plan (<http://www.scotland.gov.uk/Publications/2008/05/13103055/0>) and the HIV Action plan (<http://www.scotland.gov.uk/Resource/Doc/293178/0090440.pdf>). Representation includes NHS Tayside, Voluntary Sector agencies, and Local Authorities. Subgroups take

forward specific areas of work in relation to Prevention, Hepatitis, HIV, Sexual Health and Audit.

5.0 Delivering the health protection function in Tayside 2012/2013

5.1 Notifiable diseases and organisms

These notifications all apply to Tayside residents. Numbers refer to individual disease/organism notifications not individual people. For *B. pertussis*, measles, mumps, tuberculosis and meningococcal infection there was in some cases both notification as a disease by a clinician and as an organism by a laboratory.

Table 1: Notifiable Diseases notified to Public Health in 2013 (2012, figures shown for comparison)

DISEASE/ORGANISM	Notified as a disease		*Notified as an organism	
	2013	2012	2013	2012
Aeromonas	#n/a	n/a	15	10
Brucellosis	<5	0	0	0
Campylobacter spp	n/a	n/a	560	627
Cholera/Vibrio cholera	0	0	0	<5
Clinical Syndrome due to E.coli O157 / VTEC (including E coli O157)	0	<5	21	18
Clostridium difficile	n/a	n/a	144	200
Cryptosporidiosis	n/a	n/a	21	56
Giardia lamblia	n/a	n/a	12	17
Haemolytic Uraemic Syndrome (HUS)	<5	0	**	
Haemophilus influenzae Type B	0	0	0	9
Hepatitis A	n/a	n/a	<5	<5
Hepatitis B (acute or chronic)	n/a	n/a	29	30
Hepatitis C	n/a	n/a	211	199
Hepatitis E	n/a	n/a	<5	5
Legionella	7	0	8	<5
Lyme disease (Borrelia burgdorferi)	n/a	n/a	18	16
Measles	37	5	8	0
Meningococcal infection	6	8	7	8
Mumps	59	181	23	115
Necrotising Fasciitis/ Streptococcus pyogenes (Invasive group A Strep)	<5	0	19	15
Paratyphoid/Salmonella paratyphi	0	0	0	<5
Bordetella pertussis (whooping cough)	57	266	72	160
PVL-positive Staphylococcus aureus	n/a	n/a	26	19
Rubella	0	5	0	0
Salmonella spp (other than typhi/paratyphi)	n/a	n/a	67	42
Shigella spp (dysentery)	n/a	n/a	<5	8
Tuberculosis (all forms)	6	10	14	19
Typhoid/Salmonella typhi	0	0	0	<5

*These columns show all instances where the organism concerned was identified by a laboratory.

** See clinical syndrome due to E coli O157 above

Under the provisions of the Public Health etc (Scotland) Act 2008 some organisms are notifiable when identified in a laboratory but not on clinical suspicion alone.

5.2 Significant Incidents and Outbreaks 2011-2013

In any one year, a number of incidents and outbreaks occur: These vary in severity and in the degree to which new lessons are learned about how services can better respond in the future. Early lessons can be learned during ongoing 'hot reviews' as an incident develops or at the close of an incident. 'Hot reviews' enable matters to be dealt with, which do not require the in depth study needed to produce a report. Very often such lessons can be very valuable if captured fresh and often concern issues such as communication. This can be useful when final reporting of such incidents is delayed, for example due to outstanding legal considerations.

For the purpose of the JPHPP, significant incidents and outbreaks refer only to those for which an Incident Management Team (IMT) meeting was required. In 2013 there were 17 such significant incidents or outbreaks managed through multiagency IMT led by the Health Protection Team. Of these, 8 involved respiratory pathogens, 4 involved gastrointestinal pathogens, and one related to a vaccine preventable pathogen..

Respiratory Communicable Diseases

TB cases again required significant investigative and control effort. In addition, the Annual Report on progress with the TB Action Plan for Scotland revealed a number of areas for improvement in this area of Health protection work in Tayside, in particular around audit of contact tracing and targeting preventive and case finding work amongst higher risk populations.

In Tayside, the winter season of 2012/13 was characterised by an unusually large number of substantial outbreaks of Influenza in care homes, especially in Perth and Kinross. This placed high demands on care home staff and management, primary care, and out of hours services. Care homes had to be closed to admissions and transfers, placing strain on health and social care services. Learning from these outbreaks indicates a need for improvements in winter planning, including staff influenza vaccination in this sector, training needs amongst care home staff, and developing resilience amongst front line services to respond to spikes in demand.

Communicable Gastro-intestinal Diseases

The NHS Tayside Health Protection Team and staff from the three local council environmental services work closely to investigate cases and outbreaks of infection associated with potentially food or water-borne organisms. The Health Protection Team provides ongoing surveillance of all reported cases of gastroenteritis. Surveillance includes identifying any possible links between cases, determining possible cause and quantifying incidence rates. Information gathered by Environmental Health Officers during interviews with cases of gastrointestinal disease forms a vital part of the epidemiological surveillance function.

During 2012-13 there were many outbreaks and cases of food and water borne infection. These peaked, as usual, in late summer and were frequently the result of infection imported from overseas when patients returned from their summer holidays. Several outbreaks were, however, associated with more local transmission and were often associated with the hospitality industry.

Not reflected in the figures for notifiable diseases and organisms, however, are the many outbreaks of norovirus managed by the Health Protection Team. These are most commonly associated with care settings and therefore, as with outbreaks of acute respiratory illness, do impact significantly on other health and social care services. Collaborative working between NHS Infection Control and Prevention services, Local Authorities, private providers and public health is essential to provide a full response to these risks. NHS Tayside HPT is co-ordinating the participation of care homes in the Scotland-wide 'WINCL' project. WINCL is a multi-centred enhanced surveillance / audit project which aims to improve our understanding of norovirus outbreaks in care settings.

E coli O157 and other Verotoxigenic E coli (VTEC) continue to feature in significant incidents and outbreaks. These pathogens are of particular public health importance because of their ease of transmission and the risk of serious lifelong morbidity from complications such as Haemolytic Uraemic syndrome (HUS). Throughout 2014-16, NHS Tayside and Local Authority colleagues will be working with other agencies to implement the VTEC Action Plan for Scotland.

Environmental incidents

In 2011/12, NHS Tayside and local authority partners collaborated in the investigation and management of a large outbreak of Pontiac fever centred on a hospitality venue. This was a resource intensive and complex investigation. The main lessons learned will be incorporated into the national review of the management of legionella incidents.

Atypical Legionella species, in particular Legionella longbeachae were also a focus of IMT, at a national and local level. National guidance was produced for the public to try and reduce the risk of L longbeachae, focussing on its prevalence in compost and other garden materials. The HPT and Environmental Health Officers worked together to investigate Tayside cases and contributed to the national investigation and response.

Environmental contamination episodes continue to arise. In 2012, NHS, local authority, Scottish Water, HSE and others collaborated to contain and investigate an accidental chemical contamination of a water supply in a higher education institution. Individual health effects were minor. The learning points from this incident related to the regulation and investigatory powers and responsibilities of Local Authorities, the HSE, and Scottish Water in respect of the affected premises. The institution undertook an internal investigation of events that led up to the incident and put in place a number of measures to prevent recurrence.

In 2013 an outbreak of cryptosporidium associated with Perth Leisure Pool was investigated and measures were put in place to prevent further infection and future contamination. National agencies have been asked to support the promotion of hygiene awareness amongst the public to prevent contamination from pool users.

5.3 Healthcare associated Infections

NHS Tayside continues to carry out surveillance of healthcare associated infections in line with guidance from the Chief Medical Officer.

Emerging challenges include carbapenemase-producing enterobacteriaceae (CPE), especially amongst people who have received healthcare outside the UK.

Outbreaks of Multidrug resistant *Acinetobacter* have also been reported in Scotland, affecting in particular patients in HDU and ITU.

5.4 Vaccine preventable diseases and immunisation programmes

Childhood immunisation programme

Major changes in the childhood vaccination programme were introduced in 2013 and will be fully implemented throughout 2014-16.

Uptake rates for diphtheria, tetanus, polio, pertussis, *Haemophilus influenzae* type B, meningococcal group C and pneumococcal vaccines in children up to 24 months in NHS Tayside all continue to be above 95%, as does the uptake of MMR (Measles, Mumps, Rubella) by the age of 6 years.

Seasonal Influenza

The programme for vaccination of priority groups against seasonal influenza has been expanded in 2013 to include children of early school age and some pre-school cohorts. Further expansion will continue throughout 2014-16 so that this vaccine will be offered to all children aged under 16, along with other established risk groups:

- At risk 6 months to 65 years
- Pregnant women
- Household contacts of people with compromised immune systems
- Over 65's
- Frontline health and social care workers

Varicella Zoster vaccination

This is a new vaccination programme that will offer Varicella Zoster vaccine to people aged 70 to 79 years. The first phase of the campaign commenced in September 2013, targeting 70 and 79 year olds, and it will be progressively rolled out to other age cohorts.

MMR catch-up campaigns

Ongoing concern about cases of measles amongst inadequately vaccinated people has prompted a catch-up campaign for youngsters aged 10-17, which was launched in April 2013. NHS Tayside and other Scottish Health Boards have written to all young adults identified as having received one or no measles containing vaccines to recommend they attend their GP to receive an additional dose(s).

A further campaign has targeted health boards to ask that they ensure adequate vaccination of healthcare workers.

Maximal protection against measles, mumps and rubella requires 2 doses of vaccine.

5.5 Planning for emergencies, including potential pandemic of influenza

NHS Tayside and Local Authority colleagues have been engaged in implementing the changes in Emergency Planning structures across Scotland. Tayside is now part of the North of Scotland Regional Resilience Partnership alongside Grampian and Highlands and Island health board areas. The Local Resilience Partnership arrangements will continue to address local issues while regionally work is underway to review plans and share good practice

Embedding these new arrangements and exercising emergency response plans within the new structures will be an important element of health protection work throughout 2014-2016

Significant challenges for health protection in Tayside in 2014 will be the Commonwealth Games in July/August, with shooting events being hosted in Angus, and the Ryder Cup in Perth and Kinross in September 2014.

T in the Park, held annually in Perthshire, is an event that has progressively increased in size in recent years (now in the region of 90,000 participants), with associated demands on health, local authority, police and other public services. The HPT will ensure systems are in place for early identification of outbreaks of communicable disease, working alongside local authority colleagues.

There will be a large open air concert in Montrose during May 2014, featuring Status Quo. Somewhere in the region of 5000 people will attend.

6.0 Mutual aid arrangements

A Mutual Aid Agreement (MAA) is defined as an agreement between organisations, within the same sectors and across boundaries, to provide assistance and additional resources during an emergency which may go beyond the resources of an individual organisation¹⁶.

A MAA for the three Local Authorities is in place and was agreed through the Tayside Strategic Co-ordinating Group (Tayside SCG).

Joint working arrangements between the various agencies in Tayside are in place through the Tayside Local Resilience Planning structure. Police Scotland, Fire and Rescue Scotland, Scottish Ambulance Service and NHS Tayside have formal mutual aid arrangements within their sector of operation.

Regulation 3 of the Civil Contingencies Act (CCA) 2004 (Contingency Planning) (Scotland) Regulations 2005 provides that Category 1 responders, which have functions exercisable in a particular police area in Scotland, must co-operate with each other in connection with the performance of their duties under section 2(1) of the CCA.

¹⁶ Definition sourced from Preparing Scotland (section 7)
<http://www.scotland.gov.uk/Resource/Doc/94471/0022783.pdf>

7.0 Health protection: public involvement and stakeholder feedback

NHS Tayside has a long and established network of public partners who participate in a wide variety of engagement activities around development and improvement of NHS services. One of their key roles is their involvement in the Healthcare Associated Infection Public Partnership Group (PPGs) network. Members regularly meet with professionals around infection control issues and contribute to development of strategic and communication plans. PPGs also conduct hand hygiene and cleaning audits. They share information, for example on hand hygiene awareness-raising with the wider public at information stands both within and outwith NHS premises and also seek public views and opinions on services. Is this relevant to the JPHHP? Do we have an HPT colleague who is on this group or is this about the ICT specifically?

PPGs also contribute to discussion and debate on an individual issue basis.

The minutes of the Tayside Health Protection Network feed into the NHS Tayside Improvement and Quality Committee which has a Public Partnership Group representative as a member and as such is able to comment on their content.

The Health Protection Team has invested significant time in re-developing its intranet site, which now includes the facility to raise health protection queries via a dedicated e-mail link. NHS Tayside is re-developing its internet site and once this is complete, all relevant intranet content will be made available on this public facing portal. It is planned that members of the public and other stakeholders will be able to feedback comments to the HPT via these sites.

Through the NHS Tayside Public Partnership Forum, the Health Protection Team will be engaging in further discussions with public partners to discuss the role of Health protection in Tayside.

The Health Protection Team will make all incident management reports available on the intranet and internet (Appendix A), unless the IMT agrees that this is not appropriate for a particular incident.

8.0 Recommendations

The plan describes an overview of health protection priorities, provision and preparedness within Tayside and describes how the Board and the Local Authorities deal with a range of health protection topics. Below are topics that have been identified that require further work, which will form the basis of our plans within the period 2014-16:

- 1 Ensuring joint working arrangements to deliver an effective response (including out of hours), which is consistent with the provisions of the Public Health etc (Scotland) Act 2008
 - Local authorities to formalise and implement a robust on-call arrangement for appropriate personnel where it is not yet provided
- 2 Reviewing, revising and exercising existing protocols and emergency plans in accordance with the schedule at appendix B
- 3 Maximise opportunities for joint learning:
 - Provide opportunities for joint CPD

- Share learning from participation in the WINCL project investigating norovirus transmission
- 4 Learning from the incidents that have recently occurred in Tayside and elsewhere
- Hot debriefs of incidents
 - Make available incident management reports
- 5 Joint working to implement national plans and policies:
- Identify joint actions to implement the VTEC action plan
 - Implementing the TB Action Plan for Scotland
 - Continue to implement the new national immunisation programmes
 - Implement HP Zone within the national programme for roll-out of the system, ensuring partners are kept informed of and involved in changes in ways of working and communicating
 - Engage with Regional Resilience Partnerships

Tayside's Joint Public Health Protection Plan is a public document and is available to members of the public on NHS Tayside's Directorate of Public Health website at www.taysidepublichealth.com and on request from:

Directorate of Public Health
NHS Tayside
King's Cross
Cleington Road
Dundee DD3 8EA

Telephone: 01382 596987
Fax: 01382 596985
E-mail: publichealth.tayside@nhs.net

Appendix A: Reporting of Health protection incidents and outbreaks

It is good practice for a full report to be prepared and agreed by the IMT and made available to appropriate agencies. There should also be a presumption in favour of public access to incident reports. The report should consider the effectiveness of the investigation and management measures taken as well as describing the incident. Where appropriate it should contain targeted recommendations.

National guidance is provided in the document -“Management of Public Health Incidents Guidance on the Roles and Responsibilities of NHS led Incident Management Teams revised in October 2011. <http://www.scotland.gov.uk/Publications/2011/11/09091844/0>. This national guidance is reflected locally in the Tayside Health Protection Major Incident Response Plan.

Reporting of public health incidents and outbreaks should be in the format of an SBAR (Situation, Background, Assessment, Recommendations) report, or a formal Incident report and Minimum Dataset as recommended by Scottish Government and the Health Protection Network (Management of public health incidents: Guidance on the roles and responsibilities of NHS led Incident Management Teams. 2011.)

It may be necessary to delay or limit the circulation of the report pending legal action. Legal advice should be sought in such cases. In situations where pending or ongoing legal or enforcement action makes it impossible to produce a report within the designated timescale, this should be notified to the relevant governance and oversight committees. Consideration should be given to producing a brief ‘lessons learned’ statement, if necessary with input from organisational legal advisers.

Reports should be completed within 3 months of the closure of the incident/outbreak.

IMT reports and incident SBARs will be presented to the NHS Tayside Public Health Clinical Governance committee for assurance that processes are in place to disseminate learning and to ensure plans are in place for any internal improvement work. The Chair of the IMT or PAG will be responsible for ensuring all further actions identified in the report for NHS Tayside Public Health / Health Protection are completed.

Completion of actions and recommendations by other agencies, including Local Authority partners should be monitored through committee(s) of the individual agencies involved.

Summaries of incidents/outbreaks and agreed actions will be presented to NHS Tayside Clinical Quality Forum, which then reports to NHS Tayside Improvement and Quality Committee (Board governance committee). This reporting will form part of the annual Health Protection report to I&Q.

Summaries and key learning points from incident and outbreak reports will be presented within other reports, such as the Director of Public Health’s Annual Report.

IMT reports and incident SBARs will generally be placed on the NHS Tayside intranet Health Protection website, and on the NHS Tayside Public Health internet site for public access. These reports would also be made available through FOI requests or in less formal engagements with members of the public or other interested parties. So that it can be placed in the public domain, the report should not contain any commercially sensitive or person identifiable information.

Appendix B: Programme for review and exercise of plans

Name of plan	Description	Last review	Due review	Lead person	Last exercised	Due exercise	Lead person
NHS Tayside health protection manual	Departmental guidance for public health management of individual cases, incidents and outbreaks			KL/DC/JH/SH	n/a	n/a	n/a
NHS Tayside health protection major incident response plan	<p>The objectives of this plan are to ensure prompt action to:</p> <ul style="list-style-type: none"> Recognize a major incident or outbreak of food poisoning or communicable disease with serious consequences for the population of Tayside; Define its important epidemiological characteristics and aetiology; Stop its further spread; Prevent its recurrence; Maintain satisfactory communication with external agencies with a legitimate interest in the outbreak. 	09/13	08/14	JH	26/03/14	03/16	JH
Public Health resilience and business continuity plan	Sets out the procedures to be followed in the event of a loss of facilities, staff or communications.		12/13	12/15	26/03/14	03/16	LM
NHS Tayside pandemic influenza preparedness response plan	<p>The objectives for the NHS Tayside Plan are to:</p> <ul style="list-style-type: none"> Reduce the impact of the 	10/13	10/14	JH	02/14	02/16	JH

	<p>influenza pandemic on morbidity and mortality in Tayside, through delivery of appropriate and timely disease prevention, and the organisation of NHS care;</p> <p>Make provision for the appropriate NHS care of large numbers of ill people and dying people in Tayside;</p> <p>Provide accurate, timely and authoritative advice and information to professionals, the public and the media.</p>							
NHS Tayside mass vaccination plan	<p>The objectives for the NHS Tayside Plan include making arrangements to implement mass vaccination for the population of Tayside when required for any pathogen. This plan needs to be updated in the light of the recent experience of the H1N1 pandemic.</p>							
Blue Green algae monitoring and action plan	<p>An annual plan has been produced each year since 2001 by NHS Tayside in partnership with all three local authority departments of environmental health, Scottish Water, SEPA and Dundee University. The plan sets out inspection and monitoring frequencies for water bodies at risk</p>	03/13	03/14	JH	Na	Na		JH

	of developing algal blooms and details multi-agency actions in various scenarios relating to cyanobacteria and is reviewed each year.						
NHS Tayside CBRN response plan	Includes arrangements to deal with accidents, radiation and chemical incidents, incidents involving the deliberate release of chemical, biological, radiological or nuclear agents (CBRN). These are continually updated and tested regularly.						
Scottish waterborne hazard plan	This Plan was developed as a multi-agency approach to the management of waterborne hazards within Scotland, and is led by Scottish Water with involvement of NHS Boards, Local Authority and Environmental Health and Emergency Planning Departments and Health Protection Scotland. It provides guidance for dealing specifically with waterborne hazards to enable a consistent approach to be adopted by staff in all the relevant agencies across Scotland, and is updated nationally every	10/13	Tbc	SW/HPS	2011	04/14	JH

	year.							
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A comprehensive list of plans for each of Tayside's Local Authorities can be accessed via the following hyperlinks:

Angus Council

<http://www.angus.org.uk/documents.cfm>

Dundee City Council

<http://www.dundeecity.gov.uk/cplanning/plans/>

Perth & Kinross Council

<http://www.pkc.gov.uk/Council+and+government/Community+planning+--+working+in+partnership/>

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