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CURRENT NOTES

Botulism alert for people who inject drugs

49/0101 NHS Greater Glasgow and Clyde's Public Health Protection Unit, Police Scotland and HPS are currently investigating two probable cases of botulism in drug injecting heroin users. Both patients are from the Greater Glasgow and Clyde area and are receiving treatment in Glasgow hospitals. The cause of these infections is being investigated with the focus on the use of a contaminated batch of heroin.

All drug injecting heroin users are being urged to be extremely alert to the possibility of such infections and to seek urgent medical attention from Accident and Emergency if they experience any early symptoms such as blurred or double vision, difficulty in swallowing and speaking and/or inflammation at the injection site. [Source: NHSGGC News Alert, 1 January 2015. http://www.nhsggc.org.uk/content/default.asp?page=s1192_3&newsid=18875&back=s1192]

Further to this, the Norwegian Public Health Institute (Folkehelseinstituttet – FHI) has reported (on 29 December) a similar case of clinically probable botulism in a person who had injected heroin intramuscularly. [Source: FHI News Release, 29 December 2014. http://www.fhi.no/eway/default.aspx?pid=239&trg=Area_7069&Main_6157=6263:0:25,6551&MainContent_6263=7069:0:25,6551&Area_7069=6178:113446::0:7070:1:::0:0]

While there is as yet no information indicating a link between the Scottish and Norwegian cases and any common source (i.e. contaminated heroin), the public health messages in both locations are equally pressing.

Avian influenza A(H5N1) in Egypt

49/0102 Avian influenza A(H5N1) has been circulating in Egypt since its introduction in 2006 and has been the source of sporadic human infections. The number of cases reported in Egypt for 2014 (12) is higher than last year (four) but at similar levels as 2012 (11). Given this increase, and that eight cases by date of onset were reported in November, the European Centre for Disease Prevention and Control (ECDC) has assessed the potential changes in the risk to public health in the EU/EEA and to European citizens in a new rapid risk assessment.

The current risk status of this epidemic remains unchanged. In addition, given the circulation of the virus is in areas which are not very popular as tourist destinations, the risk of EU citizens in Egypt being infected is considered to be extremely low.

The total number of human cases due to A(H5N1) is decreasing - 2014 had the lowest number of cases reported since the first cases in 2003. The most affected countries cumulatively (from February 2003 to 14 December 2014) are Indonesia and Egypt, with Egypt and Cambodia reporting most cases in 2014. Human infections remain rare and these influenza A(H5N1) viruses do not currently appear to transmit easily among people.

The rapid risk assessment on avian influenza A(H5N1) in Egypt can be accessed at http://ecdc.europa.eu/en/publications/Publications/Avian-influenza-rapid-risk-assessment-Egypt-Dec-2014.pdf. [Source: ECDC News Release, 23 December 2014. http://ecdc.europa.eu/en/press/news/Pages/News.aspx]

The most recent HPS information on influenza and other respiratory viruses circulating in Scotland and internationally can be accessed at http://www.hps.scot.nhs.uk/resp/influenzareports.aspx.

Ebola – update

49/0103 A confirmed case of Ebola was diagnosed in Glasgow on 29 December. According to UK and Scottish protocols for anyone diagnosed with Ebola, the patient was transferred to the high level isolation unit in the Royal Free Hospital, London, as quickly as possible. This is where the facilities, staff and systems are in place to ensure the best quality and safest care.

The patient is a health care worker who had been helping to combat the disease in West Africa who had returned to Scotland from Sierra Leone via Casablanca to London Heathrow on Royal Air Maroc, then from Heathrow to Glasgow on a British Airways flight, arriving at around 11.30pm on 28 December. The patient was admitted to hospital early in the morning of 29 December after feeling unwell and was placed into isolation at 7.50am. According to Scottish and UK protocols, all possible contacts with the patient were to be investigated with anyone deemed to be at risk being contacted and closely monitored. However, as this case had been diagnosed in the very early stages of the illness, the risk to others was considered extremely low. [Sources: Scottish Government News Releases, 29 & 30 December 2014. http://news.scotland.gov.uk/News/Ebola-case-1414.aspx; http://news.scotland.gov.uk/News/Ebola-update-141f.aspx]

Further to this, HPS has since successfully contacted all 70 passengers who travelled with the patient on the flight from Heathrow to Glasgow.

Another patient at Aberdeen Royal Infirmary tested negative for Ebola on 30 December. The individual had been transferred to the hospital by the Scottish Ambulance Service after falling ill while visiting Torridon in the Scottish Highlands.

As a returning health care worker who had recently been in West Africa, this patient was tested for Ebola as a precaution, although having had no contact with anyone who had the disease. A blood sample was taken to the testing facility in Edinburgh and was confirmed as negative for Ebola. [Source: Scottish Government News Release, 30 December 2014. http://news.scotland.gov.uk/News/Ebola-test-negative-1421.aspx]

Radioactivity in Food and the Environment (RIFE)

49/0104 The Food Standards Agency (FSA) has recently published the annual Radioactivity in Food and the Environment (RIFE) report, which shows that the level of man-made radioactivity to which people in the UK are exposed remained below the European Union (EU) legal limit during 2013. No food safety concerns were identified.

The report combines the FSA's monitoring results with those of the Environment Agency, the Northern Ireland Environment Agency and the Scottish Environment Protection Agency (SEPA). It also combines the FSA's data on food with data on environmental sources of radioactivity to provide a comprehensive picture for people who live close to nuclear sites and eat locally produced food.

Key findings in the report include:

- the total radiation dose to members of the public in the UK is significantly below the EU annual dose limit of 1 millisievert for all exposures and the exposure of consumers to radioactivity in 2013 was similar to or lower than in 2012 for the majority of nuclear sites;
- the site where the public received the highest dose in 2013 was Amersham with a dose of 0.22 mSv. This is below the legal limit and remains unchanged from levels recorded the previous year. Concentrations of radioactivity in food samples remained low and there is no radiological food safety concern;
- Sellafield, which in previous years has shown the highest UK dose, has reduced in 2013.

The full report can be found on the SEPA website at http://www.sepa.org.uk/radioactive_substances/publications/rife_reports.aspx. [Source: FSA News Release, 17 December 2014. http://www.food.gov.uk/news-updates/news/2014/13335/radioactivity-report-published]

Chief Medical Officer's annual report

49/0105 The annual report from the Chief Medical Officer for Scotland was published on 19 December 2014.

While adopting the theme of 'Medical leadership in Scotland', the report also presents a wide-ranging overview of health protection and health improvement in Scotland. It can be accessed at http://www.scotland.gov.uk/Publications/2014/12/1569.

Measles, mumps, rubella and whooping cough illness and routine childhood vaccine uptake

Prepared by: Kevin Pollock and Alison Smith-Palmer, Immunisation Team

This quarterly report presents notifications and laboratory-confirmed cases of vaccine preventable diseases measles, mumps, rubella and whooping cough for the quarter ending week 48, 2014 and childhood vaccine uptake figures for the quarter ending 30 September 2014.

Measles

In the first 48 weeks of 2014 there were 53 notifications of clinically suspected measles (Table 1) 11 of which were notified in the last quarter (weeks 33-48). This is a significant reduction compared with measles notifications during the first 48 weeks of 2013 (168 notified cases). There have been 10 laboratory-confirmed cases of measles up to week 48 in 2014, with two new cases reported in the last quarter (weeks 33-48). Up to week 48 in 2013, there were 51 laboratory-confirmed and three epidemiologically linked cases (Table 2).

TABLE 1: Vaccine preventable diseases: notifications (clinical suspicion of disease) to week 48/2014

	Number of notifications received				Cumulative totals	
Weeks	weeks 33-36/2014	weeks 37-40/2014	weeks 41-44/2014	weeks 45-48/2014	2014 to week 48	2013 to week 48
Measles	4	4	1	2	53	168
Mumps	33	26	33	23	299	484
Rubella	2	2	1	1	24	22
Whooping cough	48	40	24	36	393	1085

TABLE 2: Vaccine preventable diseases: laboratory-confirmed cases to week 48/2014

	Number of laboratory-confirmed cases				Cumulative totals	
Weeks	weeks 33-36/2014	weeks 37-40/2014	weeks 41-44/2014	weeks 45-48/2014	2014 to week 48	2013 to week 48
Measles	1	0	1	0	10	51
Mumps	5	13	41	61	222	232
Rubella	0	0	0	0	0	1
Bordetella pertussis	42	46	37	39	469	1146

In Scotland, we are no longer seeing clusters of cases nor high numbers of sporadic cases of unknown exposure origin. Of the 10 cases so far in 2014, cases had a median age of three years (age range eight months to 34 years). The majority of cases were in unvaccinated or under-immunised individuals (those who have not received the recommended two doses of MMR vaccine).

Measles cases are under scrutiny in Europe, as measles is targeted for elimination by the World Health Organisation (WHO). The European Centre for Disease Control (ECDC) publishes a monthly summary of measles activity,[1] for which Health Protection Scotland submits national data.

Mumps

In the first 48 weeks of 2014 there were 299 mumps notifications, a decrease from the 484 notifications in the same period in 2013 (Table 1). In the first 48 weeks of 2014 there were 222 laboratory-confirmed cases of mumps, a small decrease from the 232 laboratory-confirmed

cases observed in the first 48 weeks in 2013 (Table 2). Since week 33, 120 laboratory-confirmed cases of mumps have been reported to HPS. There is an outbreak of mumps within the student community in one of the NHS boards.

Since 2004 there has been an ongoing widespread outbreak of mumps which has affected all areas of the UK. Although case numbers have fallen overall since the peak in 2005, mumps cases continue to occur steadily in Scotland. This outbreak is mainly affecting the young adult age group (aged 15-24 years), who are often under-immunised against mumps as they have not routinely been offered two doses of MMR vaccine. Of the cases where an age was reported in 2014 (n=205), the median age was 24 years. Only three cases were aged under 15 years.

Rubella

There were 24 notifications of rubella in the first 48 weeks of 2014, with no laboratory-confirmed cases reported. For the same period in 2013 there were 22 rubella notifications and one laboratory-confirmed case.

In 2012, there was a large outbreak of rubella in eastern Europe, with large numbers of cases reported in Romania and Poland. Case numbers have fallen in Romania, but remained high in Poland in 2013. Rubella cases are under scrutiny in Europe, as rubella is targeted for elimination by WHO. ECDC publishes a monthly summary of rubella activity,[1] for which Health Protection Scotland submits national data.

Whooping cough (Pertussis)

In 2012 Scotland, in common with the rest of the UK, experienced an outbreak of pertussis with a total of 2034 notifications and 1926 laboratory-confirmed cases. In 2014 the level of pertussis has remained above the levels historically seen in Scotland over the previous 10-year period.

In the first 48 weeks of 2014, there have been 469 laboratory-confirmed cases, a decrease of 677 (59.1%) compared to weeks 1-48 of 2013 when 1146 confirmed cases had been reported. Despite this decrease, this is still above historical levels: in each of the 12 years from 2000-2011, the annual number of laboratory-confirmed cases of pertussis was below 120. In the last 16 weeks (weeks 33-48) there were 164 cases in 2014, compared to 201 during the same 16-week period in 2013.

Young infants are the age group most likely to develop complications, which can require hospital treatment and in severe cases can be fatal. In response to the increase in pertussis and in order to protect young infants in the first few weeks of life, before they are old enough to start the routine childhood immunisation programme at eight weeks, a vaccination programme was introduced in October 2012 to offer pertussis vaccination to all pregnant women between 28 and 38 weeks gestation (inclusive). Vaccination of this group aims to boost immunity in the pregnant woman which is passed across the placenta to the unborn child and should provide protection during early weeks of life.[5]

In 2012 there where a total of 140 laboratory-confirmed cases in infants under one year of age, 133 of these occurring in weeks 1-48. In the first 48 weeks of 2014 there have been 18 laboratory-confirmed cases in infants under one year of age, the same number as during the first 48 weeks of 2013, and evidence of the impact of the maternal vaccination programme in protecting young infants, when pertussis is continuing to circulate in Scotland. HPS is not aware of any pertussis-related deaths in Scotland in 2014.

As pertussis continues to circulate in Scotland, immunisation of pregnant women continues to be important.

Moreover, as the immunity this programme confers is only short-term protection for the first few weeks of life, it is important that infants are also included in the routine childhood schedule in order to receive longer term protection.

Childhood vaccines uptake

Vaccine uptake remains generally high in Scotland. Quarterly uptake figures for children reaching ages 12 months, 24 months and five years by 26 September 2014 are shown in Tables 3, 4 and 5 respectively. Annual uptake of primary immunisation showing trends over time in uptake at 24 months is shown in Figure 1 and for uptake at five years in Figure 2. These are prepared by NSS ISD (National Services Scotland – Information Services Division) and were released on 20 December 20146. There is further commentary on these uptake figures in the ISD statistics publication.

TABLE 3: Primary immunisation uptake rates by 12 months old, evaluation quarter: 1 April to 30 June 2014. Born 1 April to 30 June 2013

NHS board of residence[1]	Number in cohort[2]	% completed primary course by 12 months					
		DTP/Pol/Hib[3]		MenC		PCV	
		No.	%	No.	%	No.	%
AA	889	871	98.0	881	99.1	873	98.2
BR	268	263	98.1	263	98.1	263	98.1
D&G	323	316	97.8	318	98.5	316	97.8
FF	966	945	97.8	951	98.4	945	97.8
FV	826	791	95.8	805	97.5	795	96.2
GR	1,517	1,449	95.5	1,467	96.7	1,451	95.6
GG&C	3,020	2,950	97.7	2,966	98.2	2,954	97.8
HG	774	740	95.6	754	97.4	740	95.6
LN	1,774	1,742	98.2	1,754	98.9	1,746	98.4
LO	2,395	2,335	97.5	2,348	98.0	2,338	97.6
OR	53	50	94.3	50	94.3	49	92.5
SH	75	74	98.7	75	100.0	74	98.7
TY	1,038	1,022	98.5	1,028	99.0	1,021	98.4
WI	51	50	98.0	50	98.0	50	98.0
NHS board unknown	4	..	..	..	..	..	..
Scotland	**13,973**	**13,601**	**97.3**	**13,713**	**98.1**	**13,618**	**97.5**

Source: SIRS Date: August 2014

1. NHS boards based on the boundaries as at 1 April 2014. NHS board of residence on the Scottish Immunisation & Recall System (SIRS) is recorded in the pre-April 2006 boundary configuration of NHS Boards. For boards affected by reconfiguration the data have been mapped to the current configuration of NHS Boards based on the child's home postcode as appropriate. There are a small number of records that do not have a postcode recorded and therefore the NHS board is unknown.
2. Children reaching 12 months of age during the evaluation quarter 1 April to 30 June 2014 (i.e. born 1 April to 30 June 2013).
3. The 5 in 1 vaccine (comprising DTP/Pol/Hib) was introduced in September 2004. For children vaccinated in Scotland this is now recorded as a single vaccine. For children who received primary immunisations outwith Scotland, where the vaccination may not have been given as one injection, only those who have received three doses of each vaccine (diphtheria, tetanus, pertussis, polio and Hib) are counted as completing the primary course.

.. Not Applicable.

Key:

DTP/Pol/Hib = diphtheria, tetanus, pertussis, polio and Hib (three doses).

MenC = meningococcal serogroup C conjugate vaccine (one dose).

PCV = pneumococcal conjugate vaccine (two doses).

For the third quarter of 2014, uptake rates by 24 months of age for completing primary courses of diphtheria, tetanus, pertussis, polio, Hib (*Haemophilus influenzae* type B), MenC (meningococcal serogroup C) and PCV (pneumococcal conjugate vaccine) across Scotland remain high and stable between 95% and 99%. Uptake of one dose of MMR (measles, mumps and rubella vaccine) by 24 months was 95.3% (compared with 95.8% in the previous quarter). Uptake rates for the two booster vaccines by 24 months (Hib/MenC and PCV given at 12 and 13 months of age) were 95.8% for the Hib/MenC booster and 95.6% for the PCV booster (96.0% and 95.8% respectively for the previous quarter). See Table 4 and Figure 1.

TABLE 4: Primary and booster mmunisation uptake rates by 24 months old

NHS board of residence[1]	Number in cohort[2]	% completed primary course by 24 months								% completed booster course by 24 months			
		DTP/Pol/Hib[3]		MenC		PCV		MMR1		Hib/MenC		PCVB	
		No	%	No	%	No	%	No	%	No	%	No	%
AA	984	976	99.2	966	98.2	971	98.7	957	97.3	967	98.3	966	98.2
BR	249	246	98.8	241	96.8	242	97.2	238	95.6	237	95.2	238	95.6
D&G	335	332	99.1	327	97.6	327	97.6	326	97.3	327	97.6	327	97.6
FF	963	939	97.5	923	95.8	927	96.3	907	94.2	912	94.7	909	94.4
FV	865	852	98.5	840	97.1	850	98.3	833	96.3	836	96.6	836	96.6
GR	1,675	1,638	97.8	1,576	94.1	1,607	95.9	1,585	94.6	1,592	95.0	1,579	94.3
GG&C	3,218	3,153	98.0	3,091	96.1	3,131	97.3	3,073	95.5	3,089	96.0	3,080	95.7
HG	863	840	97.3	830	96.2	836	96.9	804	93.2	813	94.2	816	94.6
LN	1,758	1,733	98.6	1,716	97.6	1,723	98.0	1,698	96.6	1,710	97.3	1,711	97.3
LO	2,459	2,414	98.2	2,351	95.6	2,393	97.3	2,328	94.7	2,320	94.3	2,323	94.5
OK	58	58	100.0	56	96.6	57	98.3	52	89.7	51	87.9	52	89.7
SH	80	78	97.5	76	95.0	75	93.8	72	90.0	73	91.3	71	88.8
TY	1,009	995	98.6	974	96.5	986	97.7	965	95.6	971	96.2	964	95.5
WI	57	57	100.0	57	100.0	57	100.0	55	96.5	56	98.2	56	98.2
NHS board unknown	5	..	..	..	..	..	..	..	..	..	..	..	..
Scotland	**14,578**	**14,316**	**98.2**	**14,029**	**96.2**	**14,187**	**97.3**	**13,898**	**95.3**	**13,959**	**95.8**	**13,933**	**95.6**

Source: SIRS Date: August 2014

1. The data presented reflects the current configuration of NHS boards (i.e. from 1 April 2014). NHS board of residence on the Scottish Immunisation & Recall System (SIRS) is recorded in the pre-April 2006 configuration of NHS boards. For boards affected by reconfiguration the data have been mapped to the current configuration of NHS boards based on the child's home postcode as appropriate. There are a small number of records that do not have a postcode recorded and therefore the NHS board is unknown.
2. Children reaching 24 months of age during the evaluation quarter 1 April to 30 June 2014 (i.e. born 1 April to 30 June 2012).
3. The 5 in 1 vaccine (comprising DTP/Pol/Hib) was introduced in September 2004. For children vaccinated in Scotland this is now recorded as a single vaccine. For children who received primary immunisations outwith Scotland, where the vaccination may not have been given as one injection, only those who have received three doses of each vaccine (diphtheria, tetanus, pertussis, polio and Hib) are counted as completing the primary course.

.. Not Applicable.

Key:

DTP/Pol/Hib = diphtheria, tetanus, pertussis, polio and Hib (three doses).

MenC = meningococcal serogroup C conjugate vaccine (two doses under 12 months).

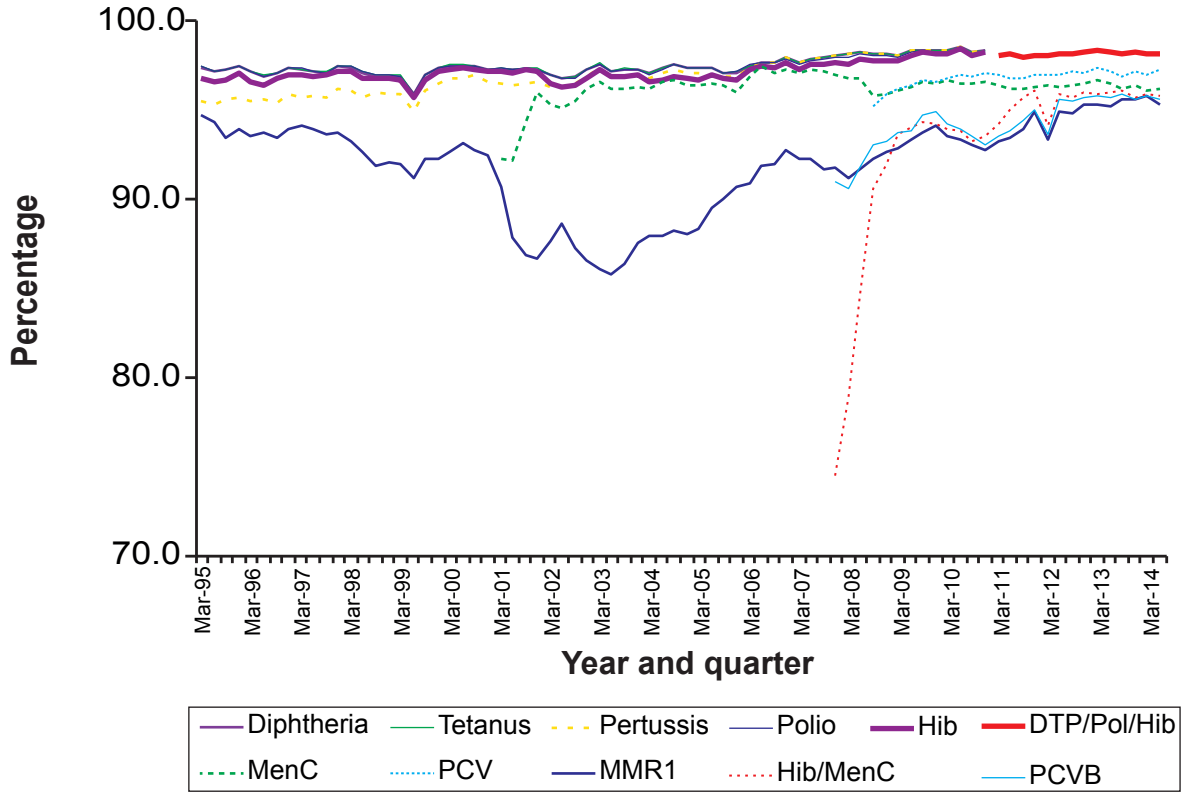
PCV = pneumococcal conjugate vaccine (two doses under 12 months).

MMR1 = measles, mumps, and rubella vaccine (one dose over 12 months).

Hib/MenC = Hib/MenC Booster (one dose over 12 months).

PCVB = pneumococcal conjugate vaccine booster (one dose over 12 months).

FIGURE 1: Quarterly primary and booster immunisation uptake rates by 24 months - reports to 30 June 2014



For those reaching five years of age, uptake of at least one dose of MMR was 97.5% (the same as that in the previous quarter) and remains above the 95% target for children receiving at least one dose by the age of five (i.e. before starting school), see Table 5 and Figure 2. Uptake of two doses of MMR (MMR2) was 93.2% (down from 93.4% in the previous quarter). The overall trend suggests that MMR2 uptake at age five years has reached a plateau in the last year (see Figure 2) and remains below the 95% uptake target.

TABLE 5a: Primary immunisation uptake rates by five years old

NHS board of residence[1]	Number in Cohort [2]	% completed primary course by five years[3]															
		D		T		P		Pol		Hib		MenC		PCV		MMR1	
		No	%	No	%	No	%	No	%	No	%	No	%	No	%		
AA	987	981	99.4	981	99.4	981	99.4	981	99.4	981	99.4	960	97.3	968	98.1	971	98.4
BR	304	303	99.7	303	99.7	303	99.7	303	99.7	303	99.7	296	97.4	297	97.7	297	97.7
D&G	377	374	99.2	374	99.2	374	99.2	374	99.2	372	98.7	370	98.1	369	97.9	369	97.9
FF	1,091	1,072	98.3	1,072	98.3	1,072	98.3	1,072	98.3	1,070	98.1	1,031	94.5	1,040	95.3	1,065	97.6
FV	908	897	98.8	897	98.8	897	98.8	897	98.8	897	98.8	873	96.1	880	96.9	892	98.2
GR	1,666	1,636	98.2	1,636	98.2	1,635	98.1	1,636	98.2	1,630	97.8	1,533	92.0	1,547	92.9	1,615	96.9
GG&C	3,015	2,963	98.3	2,963	98.3	2,963	98.3	2,963	98.3	2,951	97.9	2,824	93.7	2,856	94.7	2,924	97.0
HG	849	835	98.4	835	98.4	835	98.4	834	98.2	832	98.0	793	93.4	805	94.8	820	96.6
LN	1,956	1,933	98.8	1,933	98.8	1,933	98.8	1,932	98.8	1,931	98.7	1,892	96.7	1,906	97.4	1,908	97.5
LO	2,447	2,428	99.2	2,428	99.2	2,428	99.2	2,427	99.2	2,422	99.0	2,279	93.1	2,337	95.5	2,396	97.9
OK	51	50	98.0	50	98.0	50	98.0	50	98.0	50	98.0	48	94.1	47	92.2	47	92.2
SH	77	75	97.4	75	97.4	75	97.4	75	97.4	75	97.4	69	89.6	72	93.5	70	90.9
TY	1,078	1,066	98.9	1,066	98.9	1,066	98.9	1,066	98.9	1,066	98.9	1,022	94.8	1,022	94.8	1,055	97.9
WI	56	56	100.0	56	100.0	56	100.0	56	100.0	56	100.0	55	98.2	55	98.2	55	98.2
NHS board unknown	7	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Scotland	**14,869**	**14,676**	**98.7**	**14,676**	**98.7**	**14,675**	**98.7**	**14,673**	**98.7**	**14,643**	**98.5**	**14,052**	**94.5**	**14,208**	**95.6**	**14,491**	**97.5**

Source: SIRS Date: August 2014

1. The data presented reflects the current configuration of NHS boards (i.e. from 1 April 2014). NHS board of residence on the Scottish Immunisation & Recall System (SIRS) is recorded in the pre-April 2006 configuration of NHS boards. For boards affected by reconfiguration the data have been mapped to the current configuration of NHS boards based on the child's home postcode as appropriate. There are a small number of records that do not have a postcode recorded and therefore the NHS board is unknown.
2. Children reaching five years of age during the evaluation quarter 1 April to 30 June 2014 (i.e. born 1 April to 30 June 2009).
3. The 5 in 1 vaccine (comprising DTP/Pol/Hib) was introduced in September 2004. Although the vaccination is now given as one injection, at the time this cohort were vaccinated it was recorded separately on SIRS and therefore rates may differ slightly. This may be due to children who have received a single vaccine outwith Scotland or due to local recording practices.

.. Not Applicable.

Key for booster courses:

Hib/MenC = Hib/MenC booster (one dose over 11 months).

PCVB = pneumococcal conjugate vaccine booster (one dose over 12 months).

D = diphtheria vaccine (fourth dose).

T = tetanus vaccine (fourth dose).

P = pertussis vaccine (fourth dose).

Pol = polio vaccine (fourth dose).

MMR2 = measles, mumps, and rubella vaccine (second dose).

TABLE 5b: Booster immunisation uptake rates by five years of age

NHS board of residence [1]	Number in cohort [2]	% completed primary course by five years													
		Hib/MenC		PCVB		D		T		P		PoI		MMR2	
		No	%	No	%	No	%	No	%	No	%	No	%	No	%
AA	987	967	98.0	942	95.4	945	95.7	945	95.7	945	95.7	945	95.7	938	95.0
BR	304	298	98.0	287	94.4	300	98.7	300	98.7	300	98.7	300	98.7	290	95.4
D&G	377	370	98.1	362	96.0	364	96.6	364	96.6	364	96.6	364	96.6	361	95.8
FF	1,091	1,060	97.2	1,017	93.2	1,006	92.2	1,006	92.2	1,006	92.2	1,006	92.2	1,003	91.9
FV	908	888	97.8	872	96.0	858	94.5	858	94.5	858	94.5	858	94.5	849	93.5
GR	1,666	1,554	93.3	1,520	91.2	1,581	94.9	1,581	94.9	1,581	94.9	1,581	94.9	1,555	93.3
GG&C	3,015	2,878	95.5	2,786	92.4	2,811	93.2	2,811	93.2	2,811	93.2	2,810	93.2	2,780	92.2
HG	849	809	95.3	784	92.3	793	93.4	793	93.4	793	93.4	793	93.4	790	93.1
LN	1,956	1,909	97.6	1,876	95.9	1,888	96.5	1,888	96.5	1,888	96.5	1,888	96.5	1,864	95.3
LO	2,447	2,360	96.4	2,279	93.1	2,252	92.0	2,252	92.0	2,252	92.0	2,251	92.0	2,241	91.6
OK	51	47	92.2	45	88.2	48	94.1	48	94.1	48	94.1	48	94.1	46	90.2
SH	77	69	89.6	68	88.3	65	84.4	65	84.4	65	84.4	65	84.4	61	79.2
TY	1,078	1,045	96.9	1,009	93.6	1,022	94.8	1,022	94.8	1,022	94.8	1,022	94.8	1,021	94.7
WI	56	55	98.2	55	98.2	55	98.2	55	98.2	55	98.2	55	98.2	55	98.2
NHS board unknown	7	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Scotland	**14,869**	**14,315**	**96.3**	**13,909**	**93.5**	**13,993**	**94.1**	**13,993**	**94.1**	**13,993**	**94.1**	**13,991**	**94.1**	**13,859**	**93.2**

Source: SIRS

1. The data presented reflects the current configuration of NHS boards (i.e. from 1 April 2014). NHS board of residence on the Scottish Immunisation & Recall System (SIRS) is recorded in the pre-April 2006 configuration of NHS boards. For boards affected by reconfiguration the data have been mapped to the current configuration of NHS boards based on the child's home postcode as appropriate. There are a small number of records that do not have a postcode recorded and therefore the NHS board is unknown.
2. Children reaching five years of age during the evaluation quarter 1 April to 30 June 2014 (i.e. born 1 April to 30 June 2009).

.. Not Applicable.

Key for booster courses:

Hib/MenC = Hib/MenC booster (one dose over 11 months).

PCVB = pneumococcal conjugate vaccine booster (one dose over 12 months).

D = diphtheria vaccine (fourth dose).

T = tetanus vaccine (fourth dose).

P = pertussis vaccine (fourth dose).

PoI = polio vaccine (fourth dose).

MMR2 = measles, mumps, and rubella vaccine (second dose).

FIGURE 2: MMR1 and booster immunisation uptake rates, by five years of age, by quarter, Scotland

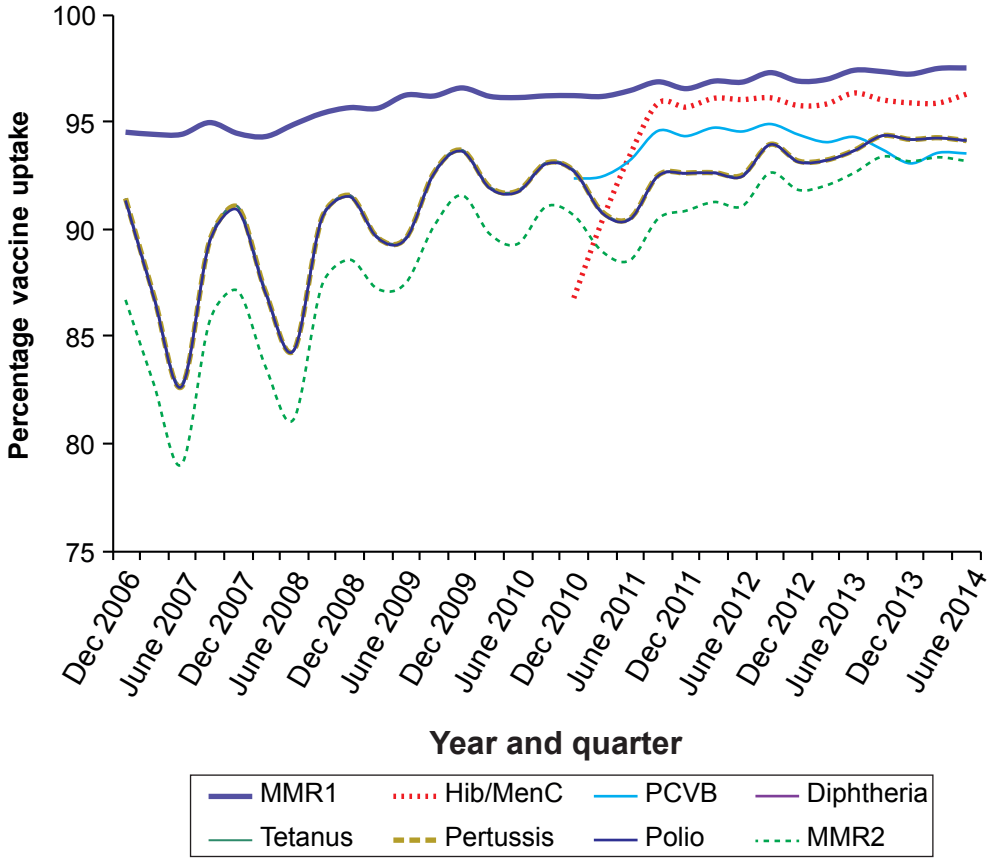
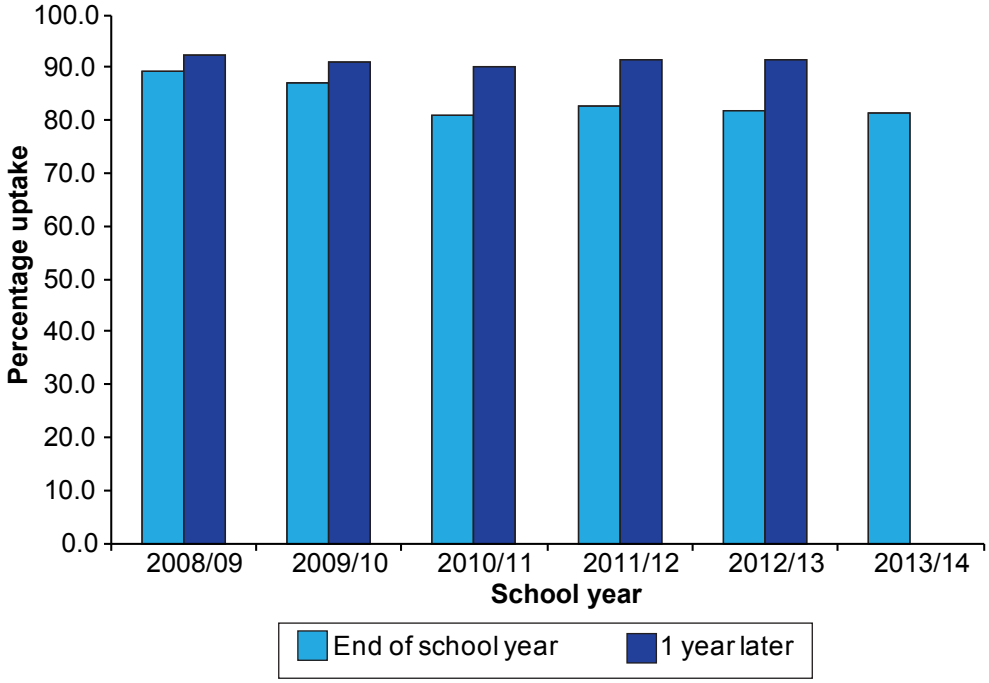


FIGURE 3: Comparison of S2 routine cohort HPV immunisation uptake rates by the end of school year and one year later - Dose 3



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The last Vaccine uptake and childhood disease Surveillance Report was in Issue 14/40
The next Vaccine uptake and childhood disease Surveillance Report will be in Issue 15/TBC

Shingles (herpes zoster) vaccine uptake for 2013/14

Prepared by: The vaccine preventable diseases team

Introduction

Varicella-zoster virus (VZV) causes two distinct diseases: initial infection, usually during childhood, results in chickenpox, following which VZV enters a latent state in the dorsal root ganglia, with reactivation resulting in shingles (herpes zoster). Whilst reactivation can occur at any age, the incidence increases with age. Shingles is characterised by a painful vesicular skin rash.[1,2] The main complication of shingles is post-herpetic neuralgia (PHN), a long-lasting neuropathic pain after rash has resolved. PHN can persist for months or years and is often debilitating.[3,4] While there is no universally accepted clinical definition, it is often defined as pain that persists for ≥90 days after the onset of rash.[5] In Scotland, approximately 7,000 people aged 70 years and over develop shingles each year. Of these, between 700 -1,400 develop PHN and approximately 600 shingles hospitalisation episodes are recorded per year. The risk and severity of PHN increases strikingly with age and is estimated to double with each decade.[6] Other significant complications include herpes zoster ophthalmicus (HZO), which is defined by shingles involvement in the ophthalmic division of the trigeminal nerve.[7]

Zostavax®

In September 2013 the Scottish Government launched the first national shingles immunisation campaign using Zostavax®, which is a live attenuated vaccine.[8] It is derived from the Oka strain of VZV and has significantly higher antigen content than the varicella vaccine. Since it is a live vaccine, Zostavax® is contra-indicated for patients who have a known primary or acquired immunodeficiency state or patients who are receiving current immunosuppressive therapy including high-dose corticosteroids, biological therapies or combination therapies.[8]

In the first year of the programme, the vaccine was offered to non-immunocompromised adults aged 70 years and also rolled out as part of an ongoing in a catch-up programme to 79-year-olds (see CMO letter CMO(2013)15 at http://www.sehd.scot.nhs.uk/cmo/CMO(2013)15.pdf).

Vaccine uptake

A monthly extract of vaccine uptake data was obtained from GP practices in Scotland via the software suppliers EMIS and InPS Vision. The annual uptake for Scotland, based on submissions from approximately 95% of the practices, was 59.7% for the routine cohort i.e. those aged 70 years on 1 September 2013 (Table 1) and ranged from 51.2% in to 66.8% across the NHS boards. Annual uptake for the catch-up cohort, i.e. those aged 79 years on 1 September 2013, was 55.6% and ranged from 47% to 65% (Figure 1).

TABLE 1: Vaccine uptake for 2013/14 for the routine and catch cohorts by NHS board and all Scotland

NHS board	Age this season					
	70			79		
	Cohort	Dose 1 HZ (number)	% Dose 1 HZ	Cohort	Dose 1 HZ (number)	% Dose 1 HZ
AA	4199	2374	56.5	2367	1237	52.3
BR	1382	918	66.4	804	497	61.8
D&G	1918	1236	64.4	1204	728	60.5
FF	3653	2276	62.3	2094	1197	57.2
FV	2920	1952	66.8	1650	1039	63.0
GR	4873	2870	58.9	3068	1799	58.6
GG&C	9636	5888	61.1	6180	3476	56.2
HG	3616	1852	51.2	2022	951	47.0
LN	6080	3514	57.8	3483	1764	50.6
LO	6785	3886	57.3	4332	2310	53.3
OR	255	147	57.6	137	89	65.0
SH	246	167	67.9	127	79	62.2
TY	4033	2518	62.4	2761	1644	59.5
WI	332	186	56.0	189	108	57.1
Scotland	49928	29784	59.7	30418	16918	55.6

FIGURE 1: Vaccine uptake for 2013/14 for the routine and catch cohorts by NHS board and all Scotland

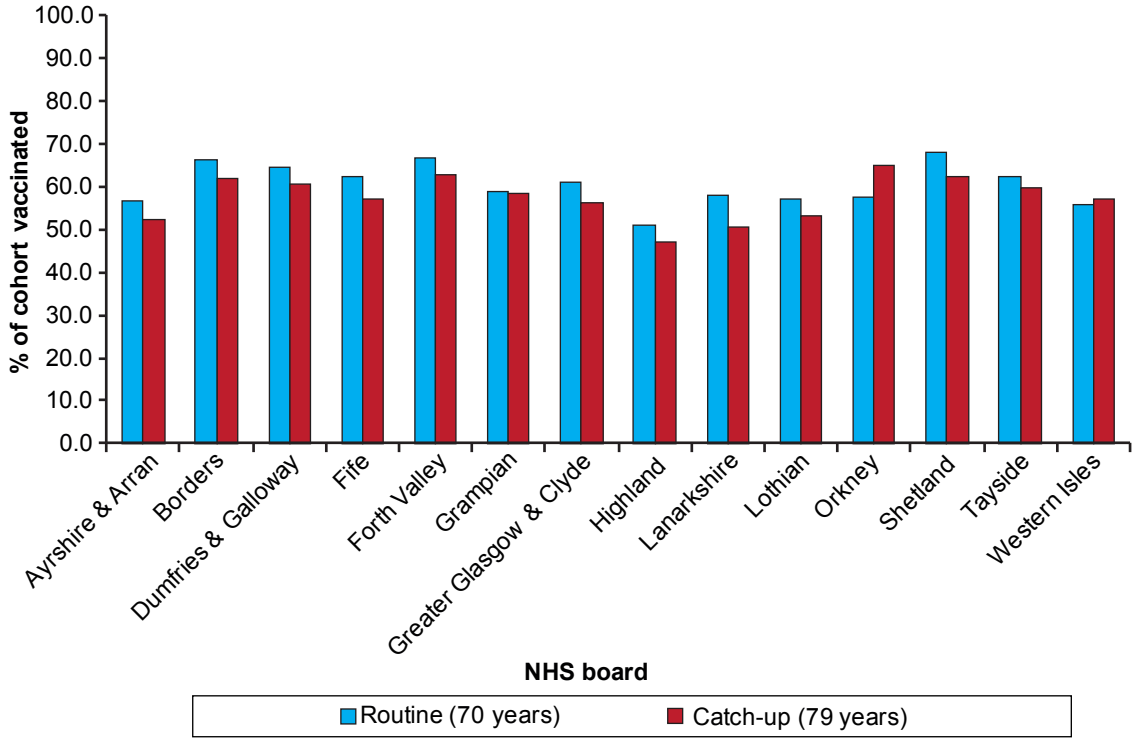

FIGURE 2: Vaccine uptake for individuals age 70 and 79 years by month with percentage of GP practices reporting

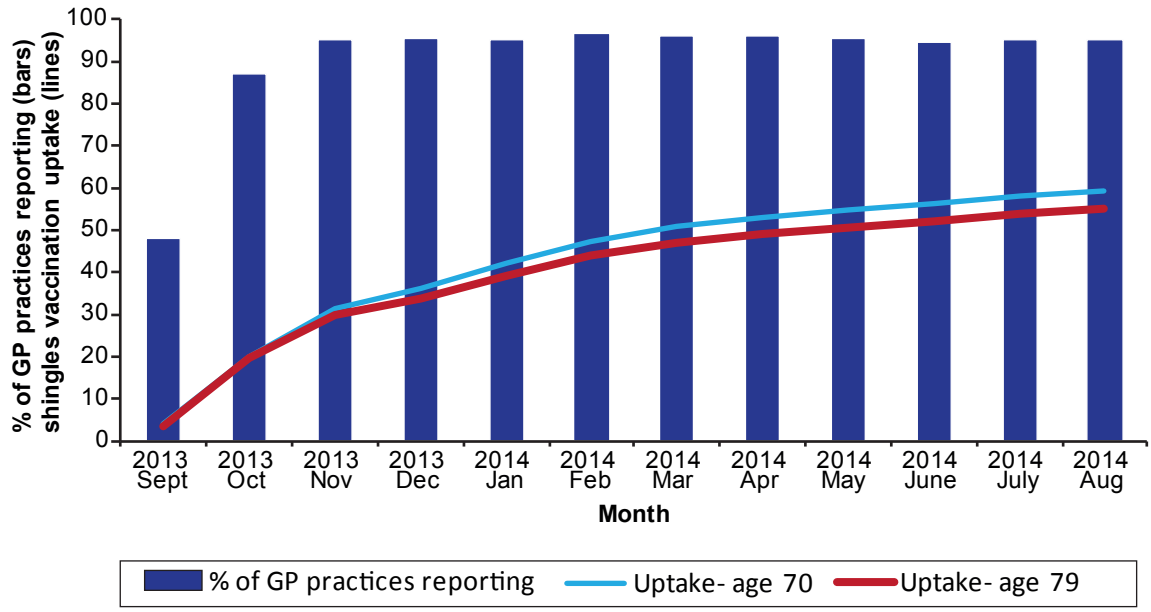

Figure 2 presents the cumulative increase in vaccine uptake by month alongside the percentage of GPs reporting and shows that the approximately 60% of the immunised cohorts received vaccine by the end of December, coinciding with the seasonal influenza vaccination programme.

The proportion of vaccines given to individuals who were not within the vaccine cohort age groups but who will become eligible for vaccine in the future was small (0.5%) representing 4.8% of the vaccine administered. This was highest in individuals age 69 years (1.9%) and age 78 years (2.5%).

Data were available for vaccine uptake by gender in the routine cohort and showed that males had a slightly higher uptake rate (60.1%) than females (58.6%).

Monitoring the impact of the programme

In order to monitor the impact and the effectiveness of the vaccination programme, HPS established surveillance systems to:

- Obtain vaccine uptake data from primary care
- Monitor for potential vaccine associated adverse events
- Obtain baseline incidence and monitor trends in primary care consultations for shingles and PHN
- Obtain baseline incidence and monitor trends in hospitalisations for shingles, and related complications
- Monitor the impact of the vaccine on prescribing in primary care
- Explore methods of estimating the impact on herpes zoster related complications via GP referrals to pain management clinics and eye specialist clinics.

Adverse Event Monitoring

Suspected adverse events are routinely reported to the UK Medicines and Healthcare Products Regulatory Agency (MHRA). HPS also developed a supplementary system to proactively identify potential adverse events in the vaccine cohort population resulting in admission to hospital.

Records for predefined potential adverse events were extracted with International Classification of Diseases 10 (ICD10) codes. Historical data were extracted, enabling presentation with Statistical Process Control methodology, with lower and upper control limits. New data points exceeding upper control limits were signals that needed further investigation. Data were analysed on a monthly basis and no safety concerns identified.

Primary care consultations

To assess the impact of the vaccine on primary care consultations, aggregated data on clinically diagnosed shingles and PHN were extracted from all the GPs across Scotland based on defined Read Codes. This includes all patients who have had a relevant herpes zoster Read code updated / entered into the GP system within the period of three complete calendar months immediately prior to the generation of the extract. A three-year historical data set was also extracted to provide a pre-vaccine baseline and will enable ongoing trend analysis.

Hospitalisations

Data on herpes zoster and related complications which result in hospitalisation is monitored via Scottish Morbidity Record (SMR01), General Acute Inpatient and Day Case Data, using a defined set of ICD10 codes. An SMR01 Episode is generated when a patient is discharged from hospital and also when a patient is transferred between hospitals, specialties or to the care of a different consultant. Data can be grouped together to identify continuous inpatient stays (CIS) in any hospital in Scotland and used to monitor hospital admissions by age. Monitoring of SMR01 data for herpes zoster and related complications will enable analysis of the impact of the vaccine programme on severe disease.

Prescribing data

PRISMS is the Prescribing Information System for Scotland and is held by Information Services Division (ISD). It contains detailed information on prescriptions dispensed in the community in Scotland and updated on a monthly basis. Information includes drug information, number of items and quantities dispensed, prescriber and patient information. The specific indication for the prescription is not recorded, however monitoring of anti-virals of a particular strength and duration can be attributed to treatment of shingles and therefore monitored as a proxy.

GP referrals

The potential utility of monitoring referrals from general practice to specialist eye clinics and chronic pain management clinics as a proxy for herpes zoster ophthalmicus (HZO) and PHN is being explored. This will utilise SCI Gateway which is a national system that integrates primary and secondary care systems in primary care settings in Scotland and used to expedite treatment and referrals.

Cost impact analysis

A cost impact analysis is being undertaken in collaboration with the Health Economics and Health Technology Assessment team at the University of Glasgow. This analysis will support the economic benefits realisation aspect in terms of quantifying anticipated reductions in healthcare utilisation as a result of the vaccination programme.

Discussion

Vaccine coverage of almost 60% for the routine cohort and 56% of the catch up cohort has been achieved in the first year of the shingles vaccine programme in Scotland. Surveillance systems have been established to monitor the impact of the vaccine programme on neuropathic pain and healthcare utilisation in primary and secondary care settings and to establish pre-vaccine baseline data.

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Notifiable diseases

Part 2 (Notifiable Diseases, Organisms and Health Risk States) of the Public Health etc. (Scotland) Act came into effect on 1 January 2010 and sets out new duties for registered medical practitioners, NHS boards and directors of diagnostic laboratories. GP practices should familiarise themselves with the Scottish Government guidance on the new notification requirements at: http://www.scotland.gov.uk/Topics/Health/Policy/Public-Health-Act.

Registered medical practitioners report notifiable diseases based on 'clinical suspicion'. As such, notifications may not be subject to laboratory report confirmation. The published figures will record therefore how many diseases have been clinically suspected.

Patient notifications can, however, be reclassified. When, for example, a suspected (and notified) tuberculosis case is subsequently reported as negative by a laboratory (and found not to be a health protection risk) it would subsequently be removed from the disease totals.

Diseases to be notified by registered medical practitioners with effect from 1 January 2010:

Notifiable Diseases which come into effect on 1 January 2010

*Anthrax	*Meningococcal disease	*Severe Acute Respiratory Syndrome (SARS)
*Botulism	Mumps	*Smallpox
Brucellosis	*Necrotising fasciitis	Tetanus
*Cholera	*Paratyphoid	Tuberculosis (respiratory or non-respiratory) (see Note 2)
*Clinical syndrome due to *E. coli* O157 infection (see note 1)	*Pertussis (Whooping Cough)	*Tularemia
*Diphtheria	*Plague	*Typhoid
*Haemolytic Uraemic Syndrome (HUS)	*Poliomyelitis	*Viral haemorrhagic fevers
**Haemophilus influenzae* Type b (Hib)	*Rabies	*West Nile fever
*Measles	Rubella	Yellow Fever

It is recommended that those diseases above marked with an * require urgent notification, i.e. within the same working day.

Note 1: *Escherichia coli* O157

Clinical suspicion should be aroused by (i) likely infectious bloody diarrhoea or (ii) acute onset non-bloody diarrhoea with a biologically plausible exposure and no alternative explanation. Examples of biologically plausible exposures include:

- contact with farm animals, their faeces or environment;
- drinking privately supplied or raw water;
- eating foods such as undercooked burgers or unpasteurised dairy products;
- contact with a confirmed or suspected case of VTEC infection.

Further guidance is available at: http://www.hps.scot.nhs.uk/giz/e.coli0157.aspx.

Where a case is notified as HUS (Haemolytic Uraemic Syndrome) it should NOT also be notified as 'Clinical syndrome due to *E. coli* O157 infection'.

Note 2: Tuberculosis

For the purposes of notification, respiratory TB or non-respiratory TB should be taken to have the same meanings as the World Health Organisation definitions of **pulmonary TB** and **non-pulmonary TB** respectively:

Pulmonary TB is tuberculosis of the lung parenchyma and/or the tracheobronchial tree.

Non-pulmonary TB is tuberculosis of any other site.

Where tuberculosis is clinically diagnosed in both pulmonary and non-pulmonary sites, this should be treated as pulmonary TB.

Registered medical practitioners have been advised to contact their local NHS Board Health Protection Team for advice should they have any doubts about the diagnosis of suspected cases.

Non-notifiable diseases

Registered medical practitioners are no longer required to notify the diseases listed below.

- Bacillary dysentery
- Chickenpox
- Food poisoning
- Scarlet fever
- Viral hepatitis

These diseases are now covered by a list of notifiable organisms details of which will be reported by laboratories to health protection teams.

Statutory Notification of Infectious Diseases
Week ended 19 December 2014

A National Statistics release

Infectious Disease	Current week	Previous week	Current week last year	Total from first week of year: 2013	Total from first week of year: 2014
Anthrax	-	-	-	1	2
Botulism	-	-	-	-	1
Brucellosis	-	-	-	-	-
Cholera	-	-	-	1	5
Clinical Syndrome *E. coli* O157	1	-	-	3	10
Diphtheria	1	-	-	1	3
Haemolytic Uraemic Syndrome (HUS)	-	-	-	5	4
Haemophilus Influenzae Type B (Hib)	-	-	-	-	2
Measles	1	-	-	174	55
Meningococcal Infection	2	-	-	82	68
Mumps	8	2	-	498	324
Necrotizing Fasciitis	-	-	-	7	9
Paratyphoid Fever	-	-	-	-	10
Pertussis	4	6	-	1108	413
Plague	-	-	-	-	-
Poliomyelitis	-	-	-	-	-
Rabies	-	-	-	-	-
Rubella	-	-	-	22	24
Severe Acute Respiratory Syndrome (SARS)	-	-	-	-	-
Smallpox	-	-	-	-	-
Tetanus	-	-	-	-	1
Tuberculosis: Respiratory	17	6	-	223	238
Tuberculosis: Non-respiratory	6	1	-	152	130
Tularemia	-	-	-	-	-
Typhoid Fever	1	-	-	7	6
Viral Haemorrhagic Fevers	-	-	-	-	-
West Nile Fever	-	-	-	-	2
Yellow Fever	-	-	-	-	-
TOTAL	**41**	**15**	**0**	**2284**	**1307**

Amendments:Add 1 Mumps (1 x wk 50); 2 Tuberculosis: respiratory (1 x wk 46, 1 x wk 50)

Source: Health Protection Scotland, NHS National Services Scotland

Statutory Notification of Infectious Diseases
Week ended 26 December 2014

A National Statistics release

Infectious Disease	Current week	Previous week	Current week last year	Total from first week of year: 2013	Total from first week of year: 2014
Anthrax	-	-	-	1	2
Botulism	-	-	-	-	1
Brucellosis	-	-	-	-	-
Cholera	-	-	-	1	5
Clinical Syndrome *E. coli* O157	-	1	-	3	10
Diphtheria	-	1	-	1	3
Haemolytic Uraemic Syndrome (HUS)	-	-	-	5	4
Haemophilus Influenzae Type B (Hib)	-	-	-	-	2
Measles	-	1	-	174	55
Meningococcal Infection	1	2	-	82	69
Mumps	5	8	5	503	329
Necrotizing Fasciitis	-	-	-	7	9
Paratyphoid Fever	-	-	-	-	10
Pertussis	3	4	3	1111	416
Plague	-	-	-	-	-
Poliomyelitis	-	-	-	-	-
Rabies	-	-	-	-	-
Rubella	-	-	-	22	24
Severe Acute Respiratory Syndrome (SARS)	-	-	-	-	-
Smallpox	-	-	-	-	-
Tetanus	-	-	-	-	1
Tuberculosis: Respiratory	4	17	-	223	242
Tuberculosis: Non-respiratory	-	6	1	153	130
Tularemia	-	-	-	-	-
Typhoid Fever	-	1	-	7	6
Viral Haemorrhagic Fevers	-	-	-	-	-
West Nile Fever	-	-	-	-	2
Yellow Fever	-	-	-	-	-
TOTAL	**13**	**41**	**9**	**2293**	**1320**

Amendments: None

Source: Health Protection Scotland, NHS National Services Scotland

NHS BOARD ABBREVIATIONS

AA	Ayrshire & Arran	BR	Borders	DG	Dumfries & Galloway	GGC	Greater Glasgow & Clyde
FF	Fife	FV	Forth Valley	GR	Grampian	HG	Highland
LO	Lothian	LN	Lanarkshire	OR	Orkney	SH	Shetland
TY	Tayside	WI	Western Isles				

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