



# Health Protection Report

weekly report

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## Environmental noise and public health: an evidence review

A critical review of the state of knowledge about the effects of environmental noise on public health has been published by the HPA on behalf of an ad-hoc expert group established by the Department of Health and the Department of Environment, Food and Rural Affairs [1].

*Environmental Noise and Health in the UK* has been published in draft form with an invitation to stakeholders to comment (before 17 August 2009) [2]. Concerned primarily with the impact of external sources, such as road vehicles and aircraft, on the general outdoor environment (and not noise generated within vehicles or buildings, such as factory noise, or noise from music or neighbours [3]), the objective is to provide policy makers with a critical review of the best information currently available.

An important aspect of the report's context is the European Union Environmental Noise Directive, adopted in 2002, which has led to the production of "noise maps" of urban areas in the UK, which are discussed in the report.

Besides discussing the well-established link between exposure to noise and annoyance (and the apparently changing public attitudes to environmental noise), the draft report examines, in particular, the evidence linking noise with cardio-vascular disease, mental illness and the impairment of development of cognitive functions among children. Key findings are that there has been an increase in evidence of an association between environmental noise and raised blood pressure and coronary heart disease. However, evidence that environmental noise damages mental health remains inconclusive.

A number of research recommendations are made and it is also suggested that an Expert Advisory Committee on Environmental Noise and Health be established to advise government. Further details and discussion of the contents of the report will be presented in next week's *Health Protection Report*.

## References

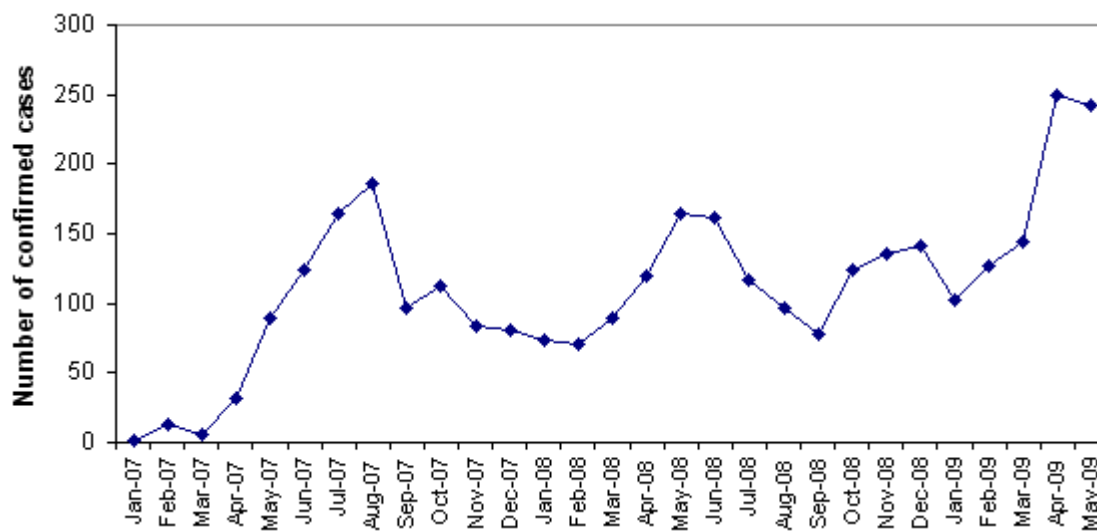
1. HPA on behalf of the ad hoc Expert Group on the Effects of Environmental Noise on Health. "Environmental Noise and Health in the UK – draft for comment." Available at <http://www.hpa.org.uk/webw/HPAweb&HPAwebPrinterFriendly/Page/1246433632961?p=1246433632961>.
2. Those wishing to comment on the report should follow the procedure given on the HPA website at: [www.hpa.org.uk/noise](http://www.hpa.org.uk/noise).
3. Except to the extent that evidence from research on the effects on health of noise from these sources can form part of the context in which environmental noise is considered.

## Confirmed measles cases in England and Wales – an update to end-May 2009

The total number of laboratory confirmed cases in England and Wales in the first five months of 2009 was 865. More than 200 cases were ascertained with onset in May, similar to the total for April and exceeding all of monthly totals observed since 2007 (see figure).

During May, cases were reported from all regions with new outbreaks confirmed in Yorkshire and Humber and East of England regions, whilst Wales and the remaining regions continued to identify new cases associated with previously identified outbreaks (see table). As in previous months, molecular sequencing confirms almost all cases have a D4 genotype identical to one of several strains circulating in the UK. Most cases were linked to clusters in schools and nurseries with some linked to traveller communities.

**Figure 1: Number of laboratory confirmed cases in England and Wales by month of onset: January 2007 to May 2009**



**Confirmed cases of measles by region and month of onset, England and Wales: January 2009 to May 2009**

Month	Lond-on	East Mids	East of Engl'd	North East	North West	South East	South West	West Mid's	Wales	York & Humb	Total
Jan 09	37	8	5	1	8	20	3	13	–	8	103
Feb 09	40	–	3	–	3	52	1	23	–	5	127
Mar 09	20	3	7	2	26	48	3	12	21	2	144
Apr 09	22	5	11	48	28	61	12	22	39	1	249
May 09	23	12	19	41	11	47	11	17	46	15	242
<b>Total 2009</b>	<b>142</b>	<b>28</b>	<b>45</b>	<b>92</b>	<b>76</b>	<b>228</b>	<b>30</b>	<b>87</b>	<b>106</b>	<b>31</b>	<b>865</b>

The majority of confirmed cases this year have been in children and young adults aged 1 to 18 years (80.4%). This is the same group targeted by the MMR catch-up campaign announced by the Chief Medical Officer in August 2008. A regional breakdown of cases by age is available at: [http://www.hpa.org.uk/web/HPAweb&HPAwebStandard/HPAweb\\_C/1223019390211](http://www.hpa.org.uk/web/HPAweb&HPAwebStandard/HPAweb_C/1223019390211).

A new secure website has been developed to provide rapid access to Cfl measles test results for local units. Staff who require access should ask the local unit director to contact Cfl ([Mrep@hpa.org.uk](mailto:Mrep@hpa.org.uk)) for a username and password.

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## Reporting of healthcare-associated infections by private sector healthcare service providers

A first report on the state of development of reporting of healthcare-associated infections (HCAI) by independently-run healthcare facilities has been published by the Health Protection Agency [1].

The report is specifically concerned with independent sector (IS) healthcare providers' reporting of meticillin-resistant *Staphylococcus aureus* (MRSA) bacteraemia and *Clostridium difficile* infection (CDI) – the two categories of HCAs that are the subject of mandatory reporting by hospitals within the NHS. The report discusses the background to the involvement of the IS providers in reporting of MRSA bacteraemias and CDI and the past and present hurdles encountered in the process.

The inclusion of the IS providers within the NHS reporting scheme is in recognition of their increasing role in the provision of patient care in the National Health Service (NHS). Ongoing work between the Department of Health (DH), the HPA, the Independent Healthcare Advisory Services (IHAS) and the IS infection control leads has led to the initiation of reporting by the IS of MRSA bacteraemia and CDI on a voluntary basis. Cases have been included in the web-based HCAI data capture system, managed by the HPA. Reporting by the IS started in 2008 with 40 providers and now includes 165 providers.

While the HPA's objective is to ultimately publish data from IS providers alongside the NHS acute Trusts, several important issues discussed in the report mean that this is still a work in progress. Therefore data from the NHS and the IS are presently considered as separate publications.

### Reference

1. HPA. Commentary on reporting of *Clostridium difficile* infections and meticillin-resistant *Staphylococcus aureus* (MRSA) bacteraemia from the Independent Sector in England. Available at: [http://www.hpa.org.uk/webw/HPAweb&HPAwebStandard/HPAweb\\_C/1246607809613?p=119194212652](http://www.hpa.org.uk/webw/HPAweb&HPAwebStandard/HPAweb_C/1246607809613?p=119194212652)

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## Pandemic flu: weekly surveillance report and UK situation, 9 July 2009

The latest HPA Weekly Pandemic Flu Update [1] notes the following developments as at 9 July, at the end of the second month of the UK outbreak:

- ▶ GP consultation rates in England for individuals presenting with flu-like illness show increased rates - now above the threshold level for normal seasonal flu activity;
- ▶ 5-14 year olds remain the age group predominantly affected; and
- ▶ the majority of cases continue to be mild with 12 deaths in England to date, all with underlying risk factors.

Following the move away from laboratory testing for confirmation of swine flu cases to clinical diagnosis [2], the level of influenza in the community is being monitored using a range of surveillance mechanisms, enabling the Agency to continue to monitor influenza trends, check for any change in the virus, and identify trends in activity.

Graphical representations to show how primary care surveillance of flu-like illness is providing a good comparator to laboratory confirmations (daily reporting of laboratory confirmed cases alongside weekly and daily primary care surveillance reports for flu-like illness) are presented in the 9 July Weekly Pandemic Flu Update [1].

### HPA and Department of Health website guidance

The Swine Influenza home page on the Agency website ([www.hpa.org.uk/swineflu](http://www.hpa.org.uk/swineflu)) highlights respiratory hygiene advice and links (via a topics menu on the right of the web page) to sub-sections covering:

- ▶ **Advice for the public** (<http://www.hpa.org.uk/swineflu/public>), including information about schools and travel, and a link to the NHS Choices website;
- ▶ **Information for health professionals** (<http://www.hpa.org.uk/swineflu/professionals>), including summary advice on the clinical features, treatment and testing, links to more detailed information; a link to the CMO letter of 2 July that explained the change to the treatment phase; HPA advice on treatment and prophylaxis; FRC details; and the Department of Health **Swine Flu Clinical Package** (see below);
- ▶ **Epidemiological data** (<http://www.hpa.org.uk/swineflu/epidata>), including the latest weekly epidemiological update, an archive of weekly and daily reports, and descriptions of the current surveillance mechanisms;
- ▶ **Press releases and media updates** (<http://www.hpa.org.uk/swineflu/press>); and
- ▶ **Key links** (<http://www.hpa.org.uk/swineflu/links>) which includes NHS Choices, Directgov and other links offering relevant advice to members of the public and businesses.

The Information for Health Professionals main page provides advice on clinical diagnostic criteria and a link to the Department of Health's Swine Flu Clinical Package which comprises a set of tools for use in a pandemic situation by frontline healthcare professionals. These tools have been designed to support GPs, community nurses, midwives, health visitors, ambulance crews, emergency department doctors, nurses and those working outside their usual specialty area (eg junior doctors or surgeons working in influenza cohort wards) and further information about when they should be deployed will be given at a later phase of a pandemic when there is increased demand for clinical care.

### References

1. "Weekly pandemic flu update (9 July 2009)", (HPA press release of 10 July 2009). HPA website: National Press Releases.
2. "Treatment approach announced for pandemic flu", *Health Protection Report* [serial online] 2009; 3(26): news. Available at: <http://www.hpa.org.uk/hpr/archives/2009/news2609.htm#h1n1>.

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- ▶ [Common gastrointestinal infections, England and Wales: laboratory reports: weeks 23-26/2009](#)
- ▶ [Less common gastrointestinal infections, England and Wales: laboratory reports weeks 14-26/2009](#)
- ▶ [Suspected and laboratory-confirmed reported norovirus outbreaks in hospitals, with regional breakdown: outbreaks occurring in weeks 23-26/09](#)

### Emerging infections/CJD

[Biannual CJD update \(2009/1\)](#)

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### General outbreaks of foodborne illness in humans, England and Wales: weeks 23-26/2009

Preliminary information has been received about the following outbreaks.

Health Protection Unit	Organism	Location of food prepared or served	Month of outbreak	Number ill	Cases positive	Suspect vehicle	Evidence
North West Regional Epidemiology	E. coli O157	Open farm	June	9	9	–	D

D = descriptive evidence (ie reported by local investigators as indicating the suspect vehicle or food).

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### Salmonella infections (faecal specimens), England and Wales: reports to the HPA (salmonella data set), May 2009

Details of serotypes of 528 salmonella infections recorded in May are given in the table below. In June 2009, 397 salmonella infections were recorded.

Organism	Cases May 2009*
S. Enteritidis PT4	30
S. Enteritidis (other PTs)	101
S. Typhimurium	131
S. Virchow	12
Others (typed)	254
Total salmonella (provisional data)	528

\* Figures quoted from the Health Protection Agency salmonella data set are for isolates confirmed and typed by Laboratory of Gastrointestinal Pathogens (LGP).

## Common gastrointestinal infections, England and Wales, laboratory reports: weeks 23-26/2009

Laboratory reports	Number of reports received				Total reports 23-26/09	Cumulative total	
	23/09	24/09	25/09	26/09		01-26/09	01-26/08
<i>Campylobacter</i>	1774	1621	1433	1075	5903	25102	22021
<i>Escherichia coli</i> O157	19	36	28	39	122	288	261
Salmonella †	130	117	106	44	397	2740	3925
<i>Shigella sonnei</i>	18	25	21	14	78	496	295
Rotavirus	194	147	110	66	517	14065	12601
Norovirus	55	69	42	31	197	5038	3834
Cryptosporidium	68	52	52	40	212	1330	1098
Giardia	52	72	78	47	249	1486	1440

\*Vero cytotoxin-producing isolates (data from HPA's Laboratory of Gastrointestinal Pathogens, LGP).

† Data from Laboratory of Gastrointestinal Pathogens.

## Less common gastrointestinal infections, England and Wales: laboratory reports, weeks 14-26/09

Laboratory reports	Total reports 14-26/2008	Cumulative total to 26/2008	Cumulative total to 26/2009
Astrovirus	16	23	19
Sapovirus	6	16	4
<i>Shigella boydii</i>	n/a	n/a	41
<i>Shigella dysenteriae</i>	n/a	n/a	29
<i>Shigella flexneri</i>	76	166	205
<i>Plesiomonas</i>	10	18	15
<i>Vibrio</i> spp.	10	33	46
<i>Yersinia</i> spp	20	25	11
<i>Entamoeba histolytica</i>	12	31	35
<i>Blastocystis hominis</i>	54	105	222
<i>Dientamoeba fragilis</i>	5	15	29

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### Suspected and laboratory-confirmed reported norovirus outbreaks in hospitals, with regional breakdown: weeks 23-26/2009

Since 1 January 2009, 349 outbreaks of suspected and confirmed norovirus have been reported to the system of surveillance of norovirus outbreaks in hospitals.

### Suspected and laboratory-confirmed reported norovirus outbreaks in hospitals, with regional breakdown: outbreaks occurring in weeks 23-26

	Outbreaks between weeks 23-26/09			Total outbreaks 01-26/09		
	Outbreaks	Ward closure	Lab-confirmed	Outbreaks	Ward closure	Lab-confirmed
East of England	1	1	1	22	20	18
East Midlands	–	–	–	31	26	26
London	–	–	–	2	2	1
North East	1	1	1	31	22	19
North West	3	3	2	92	67	67
South East	–	–	–	48	46	18
South West	2	1	2	57	51	48
West Midlands	–	–	–	34	34	30
Yorkshire & Humberside	–	–	–	32	21	22
<b>Total</b>	<b>7</b>	<b>6</b>	<b>6</b>	<b>349</b>	<b>289</b>	<b>249</b>

**Comparison of laboratory data to last year.** The total number of laboratory reports for norovirus received in the current season to week 26 was 7939, which is a 23% increase in the number to week 26 compared with the number to week 26 in the previous season (6459).

**Note.** The norovirus season runs from week 27 in year 1 to week 26 in year 2; ie week 27, 2007, to week 26, 2008 (ie July to June), in order to capture the winter peak in one season.

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## Emerging infections/CJD

### Biannual CJD update (2009/1)

This six-monthly report provides an update on reports of incidents of potential iatrogenic (healthcare-acquired) exposure to CJD via surgery, and on the National Anonymous Tonsil Archive. Data are correct as of 1 July 2009.

For numbers of CJD case reports, readers should consult data provided by the national CJD Surveillance Unit (NCJDSU), Edinburgh [1]. The latest yearly analysis of vCJD reports (onsets and deaths) is also available from the NCJDSU website [2].

#### Reports of incidents of potential iatrogenic exposure to CJD via surgery: 1 January 2000 to 30 June 2008

There were a total of 371 incidents reported during this period (table 1). Fifteen surgical incidents were reported between 1 July 2008 and 30 June 2008 (ie since the previous update report [3]). A surgical incident occurs when a patient undergoes surgery but is only identified as having CJD or being at risk of CJD at a later date. This means that the ACDP TSE Working Group infection control guidelines would not have been followed. The surgery carried out on an index patient with, or at risk of CJD, may result in contamination of the instruments with abnormal prion protein. Table 1 shows the number of CJD surgical incidents reported to the CJD Incidents Panel from January 2000 to 30 June 2009 by the diagnosis of the index patient. Incidents are included in this table once they are closed (ie final advice has been issued). This is because information (such as initial diagnosis) may change during the course of the investigation.

**Table 1. Closed CJD Surgical Incidents (n=371) reported to the CJD Incidents Panel, by diagnosis of index patient: 1 January 2000 to 30 June 2009**

Incident type	2000	2001	2002	2003	2004	2005	2006	2007	2008	First half 2009	Total
1. Sporadic (possible, probable or definite)	7	19	22	23	16	17	29	16	17	4	170(46%)
2. vCJD (possible, probable or definite)	6	14	22	5	4	1	2				54(15%)
3. Familial including 'at risk' familial		2	2	7	1	3	6		2		23(6%)
4. 'At risk' vCJD blood component recipient					4	10	6	1			21(6%)
5. 'At risk' - vCJD plasma product recipient		1	2		10	17	7	8	6		51(14%)
6. 'At risk' - other			2	2	1	2	4				11(3%)
7. CJD type unclear/ CJD unlikely	1	1		4		1	2				9(2%)
8. Not CJD	2	1	4	7	7	1			2		24(6%)
9. Other			1	1	1	2	1				6(2%)
10. No longer considered 'at-risk'			1					1			2(1%)
<b>Total</b>	<b>16</b>	<b>38</b>	<b>56</b>	<b>49</b>	<b>44</b>	<b>54</b>	<b>57</b>	<b>26</b>	<b>27</b>	<b>4</b>	<b>371(100%)</b>

Investigation of surgical incidents may result in advice to remove surgical instruments from clinical use (to quarantine, destroy, or donate for research). Such advice is generally only given for instruments considered to be potentially contaminated with the CJD agent that have not undergone a certain number of cycles of use and decontamination since their use on an index patient. Hospitals are asked to consider

sending any instruments to be permanently removed from use to the Surgical Instrument Store (held by the Health Protection Agency, Porton Down) for research. Since 2000, there have been 44 incidents, only one more over the year, in which the Panel advised that instruments should be permanently removed from use.

The Panel may advise contacting and informing some patients of their possible exposure to CJD in a surgical incident. Such advice is generally only given for patients who have definitely been exposed to potentially contaminated instruments which have been used on risk tissues in certain index patients. The Panel may advise that some of these patients should be considered "at-risk of CJD for public health purposes" and asked to take certain precautions (ie, not to donate blood or other tissues and to inform their medical and dental carers prior to any invasive procedures) in order to reduce the risk of transmitting the CJD agent further. There have been 20 incidents which resulted in patients being categorised as at risk. This has not changed since the last report (data as at June 2008). Previously we were unable to report the number at risk for one of the incidents due to an ongoing, local investigation. This investigation has now concluded and the below table reflects this, with an additional 30 patients being categorised as at risk. The Panel has to date categorised 94 patients as "at-risk", 15 of whom died before notification. Three patients have not been notified due to local, clinical decisions.

**Table 2 Panel advice to inform patients that they are 'at-risk' of CJD/vCJD: 1 January 2000 to 30 June 2009**

Diagnosis of index patient	Procedure on index patient	Number of Incidents	Alive 'at-risk'			Died before notification	Total
			Notified	Not notified	Total		
Sporadic CJD	Brain biopsy	2	20	1†	21	7	28
	Cataract surgery	12	19	–	19	4	23
vCJD	Appendectomy	1	–	2†	2	–	2
	Cataract surgery	1*	1	–	1	–	1
'At risk' vCJD	Endoscopy & GI surgery	4	8	30**	38	4	40
<b>Total</b>	<b>–</b>	<b>20</b>	<b>48</b>	<b>33</b>	<b>81</b>	<b>15</b>	<b>94</b>

\*The index patient was a blood component recipient with evidence of vCJD infection. Information about the CJD Incidents Panel can be found on the HPA website [4].

† Local decision not to notify..

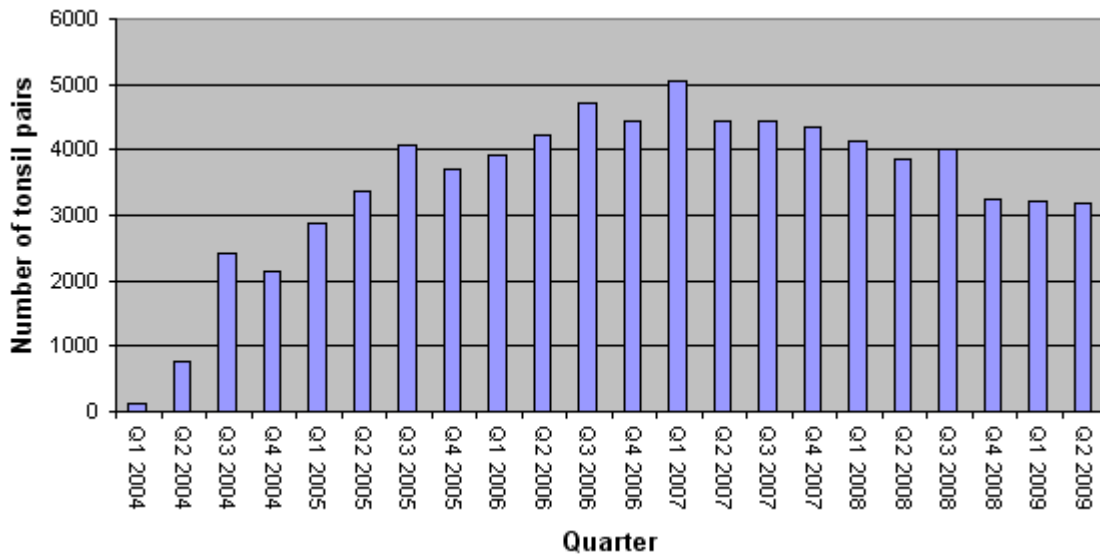
\*\* Notification pending.

### National anonymous tonsil archive for studies of detectable abnormal prion protein

The National Anonymous Tonsil Archive (NATA) continues to receive approximately 300 tonsil pairs per week (figure 1). The archive had received a total of 75,905 tonsil pairs up to the end of June 2009 from hospitals in England and Scotland. A further 3,000 tonsil pairs have been received from the Medical Research Council Prion Unit at the Institute for Neurology, National Hospital for Neurology and Neurosurgery. Therefore the total number of tonsil pairs in the archive was 78,905. The number of collection forms that were completed but no tonsil tissue collected was 2,298 (1,494 due to patient objection and 804 due to clinical pathology being requested).

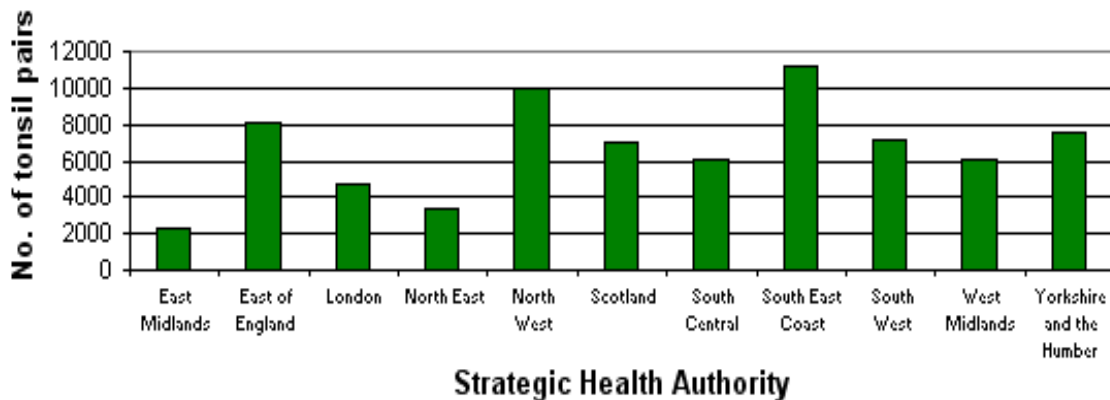
Out of the 100 NHS Hospital Trusts that perform over 200 tonsillectomies per year in England, 91 have been recruited and are currently sending tonsil pairs to NATA on a regular basis. There are 120 hospitals sites within these trusts taking part in NATA. At present, approximately 50,000 tonsillectomies are performed annually in England. Figure 2 shows the number of tonsil pairs received from each Strategic Health Authority.

**Figure 1. Number of tonsil pairs collected for NATA quarterly: Q1 2004 – Q2 2009**

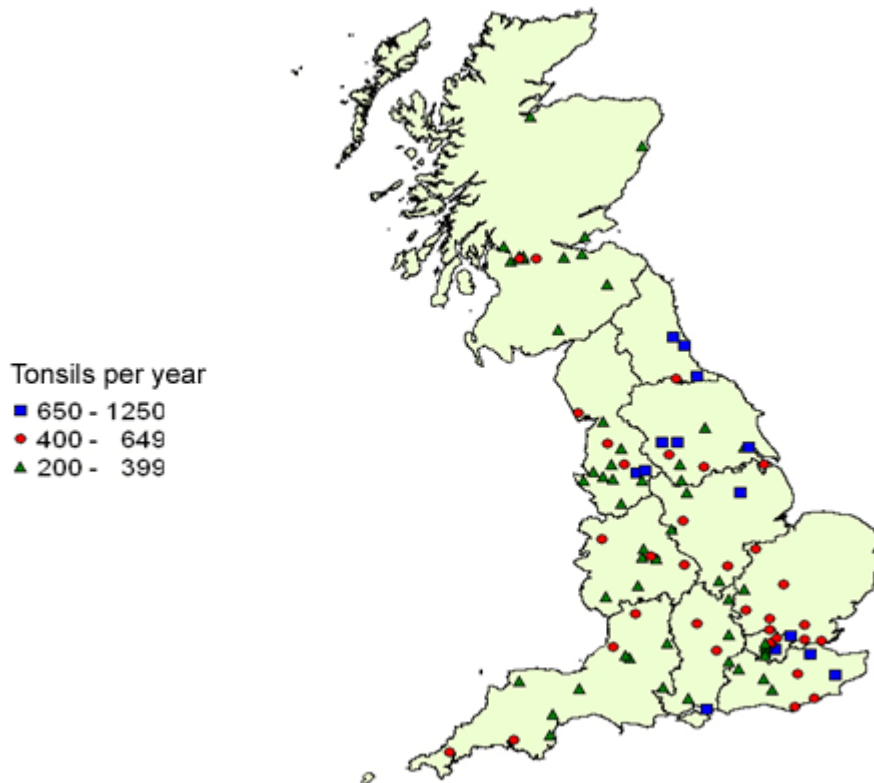


Just over 5,000 tonsillectomies are performed in Scotland each year. The project in Scotland, where there are 14 hospitals that each carry out more than 200 tonsillectomies per year, is being coordinated by Health Protection Scotland. All 14 of these hospitals have been recruited and are collecting tonsils for NATA. The tonsil tissue is being transported to the HPA Colindale for inclusion in the archive. Figure 3 shows all hospitals in England and Scotland currently recruited in the study.

**Fig 2. Tonsils pairs collected by Strategic Health Authority, January 2004 - June 2009**



**Figure 3. NHS Trusts and Scottish Hospitals currently collecting and sending tonsil tissue to the archive June 2009**



Testing of homogenates of the tonsil tissue from the archive began at the end of January 2007. Two enzyme immunoassays (EIAs) are being used for the initial screening of the homogenates for the presence of abnormal prion protein. These EIAs allow the identification of any tonsils that need to be investigated further by the more specific tests of Western blotting (WB) and immunohistochemistry (IHC) [5].

#### References

1. The National Creutzfeldt-Jakob Disease Surveillance Unit, The University of Edinburgh. CJD statistics. CJD figures. Edinburgh: NCJDSU, 3 May 2005. Available at: <http://www.cjd.ed.ac.uk/figures.htm>.
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5. Spongiform Encephalopathy Advisory Committee. Combining evidence from tissue surveys to estimate the prevalence of subclinical vCJD. SEAC, 2008. Available at: <http://www.seac.gov.uk/papers/paper100-2.pdf>