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The Health Effects of Climate Change in the United Kingdom

The Department of Health (DH) and the Health Protection Agency have published an update to a report on the Health Effects of Climate Change in the United Kingdom [1] originally published in 2002 [2]. The new report takes into account up-to-date information and current predictions about climate change in the UK.

New information provided by the report shows that the UK population is adapting well to the increasing temperatures experienced since the 1970s, but heatwaves still pose a serious problem to health and they will become more frequent.

The main findings of the report include:

- By 2012 there is a 1 in 40 chance that South Eastern England will have experienced a serious heatwave.
- Periods of very cold weather will become less common, while periods of very hot weather will become more common.
- Winter deaths will continue to decline as the climate warms.
- Flooding is an increasing risk.
- Tick-borne diseases are likely to become more common in the UK, but this is more likely to be due to changes in land-use and leisure activities, than to climate change.
- Increased exposure to sunshine and to ultraviolet light will lead to an increase in skin cancers.
- The UK population seems to be adapting to increasingly warm conditions.

The report has been placed the DH website for comment for a period of six weeks. Comments will be taken into account and a final version published in July. It can also be accessed via the HPA website at

http://www.hpa.org.uk/chemicals/publications/chapd_consultation_docs/climate_change_report.htm

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1. Department of Health and Health Protection Agency. Health Effects of Climate Change in the UK (Draft for comment). (An update of the Department of Health report 2001/2000). London: DH/HPA, 2007. Available at http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsStatistics/DH_074439.
2. Health effects of climate change in the UK. London: Department of Health, 2007. Available at http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_4007935.

Assessment of disposal of very low level radioactive waste in landfill sites

The Health Protection Agency has carried out an assessment of the potential radiological impact of the disposal of large quantities of very low level solid radioactive waste (VLLW) from the nuclear industry in sites built to conventional landfill site standards [1].

This work was funded by the Department for Environment, Food, and Rural Affairs (Defra) and the Environment Agency to provide the United Kingdom government with information on potential radiation doses from the disposal of large quantities of VLLW, to assist policy development in this area. Although primarily for government and environment agencies, the report may be useful to organisations considering options for the disposal of large quantities of waste with very low levels of radioactivity.

The report considers the implications of a proposed change in the definition of VLLW to include large quantities of waste with very low levels of radioactivity, such as slightly contaminated concrete rubble from the decommissioning of a nuclear power station. It also considers three different types of landfill site and assesses a number of potential exposure scenarios including the exposure of workers, the direct disposal of water from the discharge management system at the landfill site to a nearby river, and the potential radiological impact to members of the public after closure of the landfill site.

Based on the dose criteria used in this study, disposal of a million tonnes of waste with very low levels of radioactivity in a site built to current landfill site standards was estimated to be acceptable, in terms of the radiological assessment, for six out of 11 of the radionuclides considered. For five radionuclides (Carbon-14, Cobalt-60, Caesium-137, Radium-226 and Thorium-232) it would be necessary to consider the exact characteristics of the site to determine the quantity which could be disposed of.

The study provided a basis for the inclusion of disposal of large quantities of VLLW waste in sites similar to landfill sites in the revised government policy [2] as High Volume VLLW, and controls will be specified on the total volumes of this waste which can be disposed of to a specific site. Under the previous Low Level Waste policy small quantities of very low level radioactive waste could be disposed of, with ordinary waste, to landfill sites under a generic authorisation

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2. Defra, DTI and the Devolved Administrations. Policy for the long term management of solid low level radioactive waste in the United Kingdom. London: Defra, 2007. Available at <<http://www.defra.gov.uk/environment/radioactivity/waste/pdf/llw-policystatement070326.pdf>>.

The report published by the Agency today was carried out to support this work.

New WHO online tool to improve clinical trial transparency

On 4 May 2007, the World Health Organization (WHO) launched a new web site that will enable researchers, health practitioners, consumers, journal editors, and reporters to search more easily and quickly for information on clinical trials. The site works as an entry point or portal into multiple, high quality, clinical trial registers with a global search function.

Clinical trial registers have now become widely accepted as an essential part of an overall strategy for improving health outcomes. The challenge now facing those wanting to identify clinical trials research is knowing how to navigate their way through the ever increasing number of registers that now exist, and knowing which registers provide information that is accurate and reliable.

For a doctor or a patient, identifying all clinical trials relevant to a decision to receive a specific treatment option is a difficult task, made easier if the results have been reported in the published literature. A significant proportion of research is never published and, even if it is published, it is possible that only part of the story is told in the publication. Relying on information provided only by published trial research is therefore unreliable and leads to inadequately informed treatment decisions.

The only way to ensure the availability of complete and accurate information about clinical trials is for all trials to be registered before any participants are recruited. WHO believes that the registration of clinical trials is a scientific, ethical, and moral responsibility.

The quality of information accessible through the WHO portal is assured, as registers providing data to the search portal are all collaborators in the WHO Network of Collaborating Clinical Trial registers. The network will provide a forum for registers to exchange information and work together to establish best practice for clinical trial registration. Registers in the network that contribute data to the search portal have agreed to prospectively register trials, are able to collect all 20 items in the WHO Trial Registration Data Set and have mechanisms in place to ensure the optimal quality of the data provided. They are also required to publicly disclose their ownership, governance structure, and for-profit status. Details of registers meeting the required standards are available on the web site.

The portal is accessible at <<http://www.who.int/trialsearch>>.

Enteric

Last updated: 11 May 2007, Volume 1, No 19

Next update: 8 June 2007

Enteric Routine Data Reports

- ▶ Salmonella infections, (faecal specimens) England and Wales, reports to the HPA (Salmonella data set):
March 2007
- ▶ Common gastrointestinal infections, England and Wales: laboratory reports: weeks 14-17/07
- ▶ Typhoid and paratyphoid, England and Wales, laboratory reports: January to March 2007

Salmonella infections (faecal specimens), England and Wales, reports to the HPA salmonella data set): March 2007

Details of serotypes of 658 Salmonella infections recorded in March are given in the table below. In April 2007, 606 Salmonella infections were recorded and no preliminary information was received about general outbreaks of foodborne illness.

	March 2007
S. Enteritidis (PT4)	70
S. Enteritidis (other PTs)	203
S. Typhimurium	87
S. Virchow	29
Others (typed)	269
Total Salmonella (provisional data)*	658

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

Common gastrointestinal infections, England and Wales, laboratory reports: weeks 14-17/07

Laboratory reports	Number of reports received				Total reports	Cumulative total to	
	14/07	15/07	16/07	17/07	14-17/07	17/07	17/06
<i>Campylobacter</i>	440	493	726	451	2110	10,195	10,178
<i>Escherichia coli</i> O157*	4	6	6	21	37	105	107
<i>Salmonella</i> †	203	148	143	93	587	2809	2224
<i>Shigella sonnei</i>	13	13	23	8	57	229	173
Rotavirus	870	734	707	396	2707	8657	11,172
Norovirus	147	155	104	52	458	2747	2803
<i>Cryptosporidium</i>	33	26	80	62	201	638	665
<i>Giardia</i>	38	26	45	34	143	718	665

*Vero cytotoxin-producing isolates (data from Health Protection Agency's Laboratory of Enteric Pathogens (LEP).

† Data from Health Protection Agency's Laboratory of Enteric Pathogens.

Typhoid and paratyphoid, England and Wales: laboratory reports, January to March 2007

Organism and phage type	Infection acquired abroad				Excretors and carriers
	Number of cases	Yes	No	Not reported	
S. Typhi					
A	1	–	–	1	–
C1	1	–	–	1	–
C4	2	–	–	2	–
D1	2	2	–	–	–
D2	1	1	–	–	–
E1	25	10	–	15	–
E9 variant	11	6	–	5	–
O	4	1	–	3	–
46	1	–	–	1	–
Degraded	3	2	–	1	–
Untypable Vi-1	2	–	–	2	–
Untypable Vi-2	1	1	–	–	–

Untypable VI-7	6	–	–	6	–
Vi-Negative	2	1	–	1	–
Total	62	24	–	38	–
S. Paratyphi A					
1	7	5	–	2	–
1A	3	2	–	1	–
2	3	3	–	–	–
3	2	2	–	–	–
4	1	–	–	1	–
6A	2	1	–	1	–
13	17	9	–	8	–
Untypable	1	1	–	0	–
Total	36	23	–	13	–
S. Paratyphi B					
Taunton	1	1	–	–	–
3A var 4	1	1	–	–	–
Total	2	2	–	–	–

Sixty-two cases of *Salmonella* Typhi infection were reported in the first quarter of 2007. Twenty-four cases were infected abroad (Indian subcontinent 21, and one each from abroad country unspecified Bulgaria, West Africa, and abroad country not specified). In 38 cases, the country of infection was not stated.

Thirty-six cases of *S. Paratyphi A* infection were reported. Twenty-three cases were infected abroad (Indian subcontinent 15, abroad country unspecified six, and one each from Hong Kong and Indonesia). In 13 cases, the country of infection was not stated.

Two cases of *S. Paratyphi B* infection were reported, one each from India and Bolivia.

Creutzfeldt-Jakob disease (CJD) update report

This six-monthly report provides an update on reports of incidents of potential iatrogenic (healthcare-acquired) exposure to Creutzfeldt-Jakob disease (CJD) via surgery, and on the National Anonymous Tonsil Archive. Data are correct as of 30 April 2007.

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 01 January 2000 to 30 December 2006

There were a total of 306 incidents reported during this period (table 1). Twenty-five surgical incidents were reported in the second half of 2006 (since the previous update report). Surgical incidents occur when instruments considered potentially contaminated with the CJD agent during use on an index patient have been subsequently re-used on other patients. A patient whose surgery results in potential contamination of instruments with prions is referred to as the index patient. Table 1 shows the number of CJD surgical incidents reported to the CJD Incidents Panel [3] from January 2000 to December 2006 by the diagnosis of the index patient.

Table 1 CJD Surgical Incidents (n=306) reported to the CJD Incidents Panel, by diagnosis of index patient: January 2000 to December 2006

CJD Status of index patient	2000	2001	2002	2003	2004	2005	2006	Total
Sporadic (possible, probable or definite)	7	19	21	23	17	17	26	130 (42%)
vCJD (possible, probable or definite)	6	14	22	5	5	1	2	55 (18%)
Familial including 'at risk' familial	–	2	2	7	1	3	6	21 (7%)
'At risk' vCJD blood component recipient	–	–	–	–	3	10	5	18 (6%)
'At risk' - vCJD plasma product recipient	–	1	2	–	9	17	7	36 (12%)
'At risk' - other	–	–	3	2	1	2	4	12 (4%)
CJD type unclear/ CJD unlikely	1	1	–	4	1	1	2	10 (3%)
Not CJD	2	1	4	7	4	1	–	19 (6%)
Other	–	–	1	1	1	1	1	5 (2%)
Total	16	38	55	49	42	53	53	306 (100%)

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. In the second half of 2006, there were seven incidents in which instruments were 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 advises that 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 to other patients. Since 2000, 17 incidents have given rise to advice to contact and inform subsequent patients of their potential exposure to CJD (table 2). The Panel has advised that a total of 70 patients should be contacted and informed that they are 'at-risk' of CJD for public health purposes. Fourteen patients have been subsequently re-assessed, and based on updated risk assessments are no longer considered to be 'at-risk' of CJD for public health purposes.

Table 2 Panel advice to inform patients that they are 'at-risk' of CJD/vCJD: 1 January 2000 to 31 December 2006

Diagnosis of index patient	Procedure on index patient	Number of Incidents	Number of 'at risk' patients (subsequently denotified)
Sporadic CJD	Brain biopsy	2	27 (-)
	Cataract surgery	9	29 (11)
vCJD	Appendicectomy	1	2 (-)
	Cataract surgery	1*	2 (1)
'at risk' vCJD	Endoscopy & GI surgery	4†	10 (2)
Total		17	70 (14)

*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 [3].

† For one incident, the total number of 'at-risk' patients is still being determined.

National anonymous tonsil archive for studies of detectable abnormal prion protein

The National Anonymous Tonsil Archive (NATA) continues to receive approximately 400 tonsil pairs per week (figure 1). The archive had received a total of 43,037 tonsil pairs up to the end of April 2007 from hospitals in England and Scotland. A further 3000 tonsil pairs have been received from the Medical Research Council Prion Unit at the Institute for Neurology, National Hospital for Neurology and Neurosurgery. The total number of tonsil pairs in the archive was 46,037. The number of collection forms completed, but with no tonsil tissue collected, was 1558 (1010 due to patient objection and 548 due to clinical pathology being requested).

Out of the 100 NHS Hospital Trusts that each perform over 200 tonsillectomies per year in England, 90 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 Monthly: January 2004 to April 2007

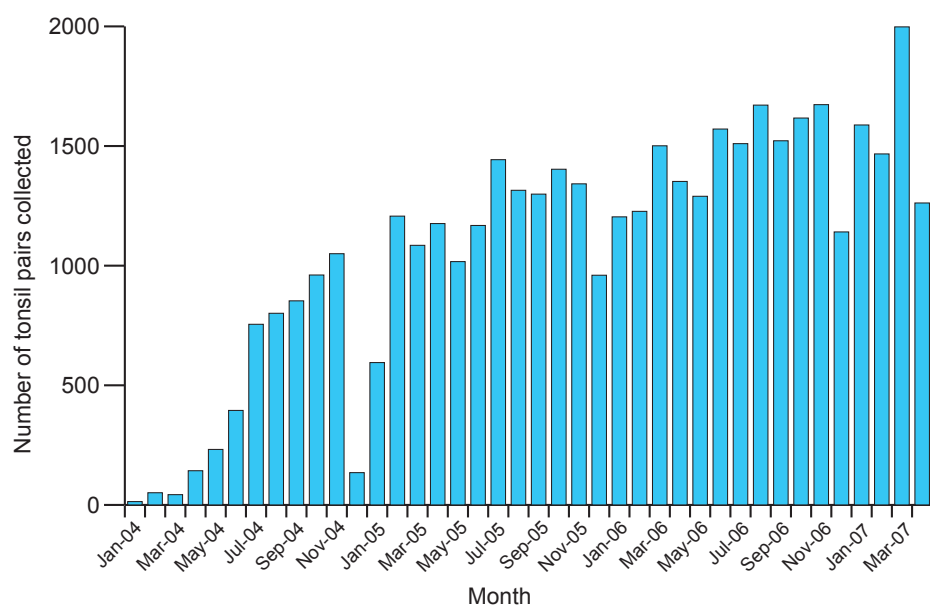
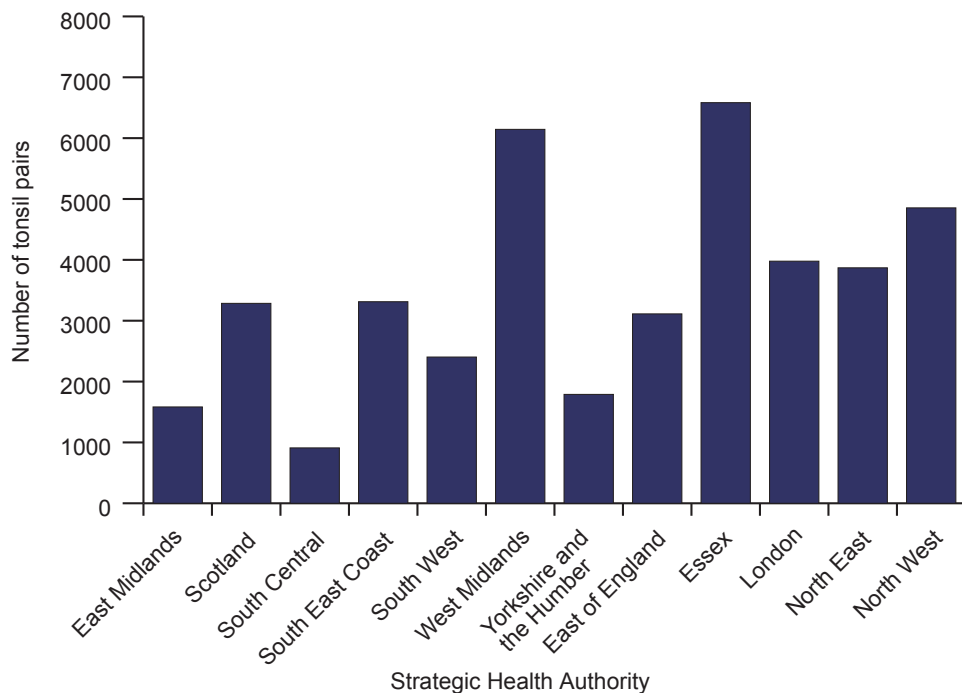
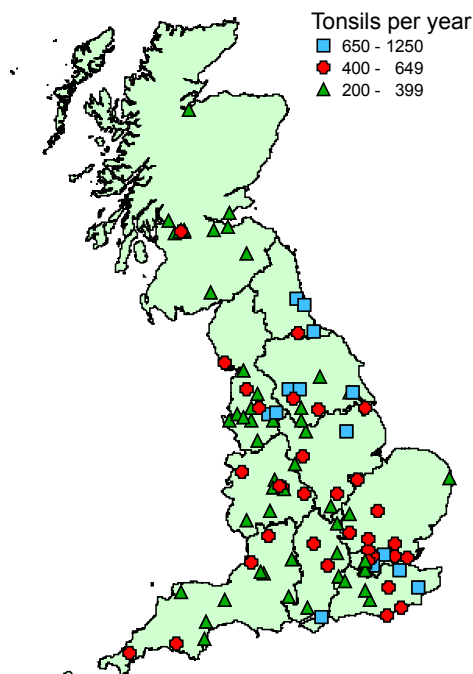


Figure 2 Tonsils collected by Strategic Health Authority: April 2007



Just over 5000 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. Thirteen of these hospitals have been recruited, to date, and are collecting tonsils for NATA. The tonsil tissue is being transported to the Health Protection Agency in Colindale for inclusion in the archive. Figure 3 shows all the hospitals within England and Scotland currently recruited in the study.

Figure 3 NHS Trusts and Scottish Hospitals currently collecting and sending tonsil tissue to the archive: April 2007



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).

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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>>.
2. The National Creutzfeldt-Jakob Disease Surveillance Unit, The University of Edinburgh. *Incidence of variant Creutzfeldt-Jakob Disease Deaths in the UK January 1994 – December 2006*. Edinburgh: NCJDSU, 2 February 2007. Available at <<http://www.cjd.ed.ac.uk/vcjdqdec06.htm>>.
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