



## Royal College of Paediatrics and Child Health

The British Paediatric Surveillance Unit (BPSU) is part of the Research Division of the Royal College of Paediatrics and Child Health

### Contact

Richard Lynn MSc  
Scientific Coordinator

Tel: 020 7307 5671  
Fax: 020 7307 5694  
Email: [bpsu@rcpch.ac.uk](mailto:bpsu@rcpch.ac.uk)  
Website: <http://bpsu.inopsu.com>

## Inside this issue

### New studies

MRSA in childhood commences  
Scleroderma survey commences

### Surveillance ends

Hyperbilirubinaemia in neonates  
& Langerhan Cell Histiocytosis  
to end

### Study Extension

Congenital Rubella, PIND

### Recent Publications

Listing

### Analysis

Regional and Study tables

## Surveillance of MRSA Bacteraemia in children commences

June 2005 will see the start of a 13-month study into methicillin-resistant *Staphylococcus aureus* (MRSA) bacteraemia in children, which will be undertaken by the Health Protection Agency (HPA) in collaboration with the BPSU, St George's Hospital (London), Health Protection Scotland and the National Disease Surveillance Centre (Dublin). The study has been granted ethics approval from the Eastern MREC and is funded by the Department of Health.

Routine national surveillance has identified a worrying increase in MRSA bacteraemia in children, with the number of reported cases rising from 4 in 1990 to 77 in 2000. Over half of the 376 cases reported between 1990 and 2001 involved infants aged less than 12 months, although substantial numbers of infected infants aged 1-4 years were also reported.

As the above data were derived from voluntary reporting of cases they almost certainly reflect an under-estimate of the true incidence of infection. The main aim of this study is to obtain a robust estimate of the incidence of MRSA bacteraemia in children. In addition the study aims to define the demographic and descriptive epidemiological features of the patient population, in particular, the proportion of cases that are either healthcare-associated or community-acquired. Infections due to MRSA have historically been primarily acquired in hospitals. In the last few years, however, there have been reports from other countries, particularly the USA, of MRSA infections in children that have been acquired in the community and which have no demonstrable links to the hospital environment.

The consolidation of microbiological, epidemiological and clinical information will allow us to determine if community-acquired MRSA bacteraemia has emerged in the UK. These findings will have significant implication for the management of severe paediatric infections due to *S. aureus* in the community.

The **case definition** is any child under the age of 16 years with microbiologically confirmed methicillin-resistant *Staphylococcus aureus* (MRSA) bacteraemia.

Please report any new cases seen within the last month. Please note that notification to the BPSU does not replace existing *S. aureus* surveillance to the HPA.

The white protocol card is enclosed in this mailing.

If you would like any advice regarding the eligibility of a particular case for inclusion in the study, or any other information about the study please contact: Dr Alan Johnson, Department of Healthcare Associated Infection & Antimicrobial Resistance, HPA Centre for Infections.  
Tel: 020 8327 6043, Email: [alan.johnson@hpa.org.uk](mailto:alan.johnson@hpa.org.uk).

## BPSU on the move

Along with the rest of the Research Division the BPSU office is moving location. The Unit will now be sited just around the corner to the main RCPCH office in Great Portland Street. All post should continue to be directed to 50 Hallam Street, London W1W 6DE. Our contact telephone number however has changed to Tel: 020 7323 7911/2. Our E-mail address remains the same – [bpsu@rcpch.ac.uk](mailto:bpsu@rcpch.ac.uk)

April saw a new post created in the BPSU office, one of full-time research administrator. We welcome Jennifer Ellinghaus who has the unenviable task of re-organising and running the day-to-day functions of the new office, as well as liaising with the investigators. Enquiries about the orange card mailing, change of addresses or general enquiries can be made to Jennifer on [Jennifer.ellinghaus@rcpch.ac.uk](mailto:Jennifer.ellinghaus@rcpch.ac.uk).

## Childhood Scleroderma

An 18-month study of the incidence of **childhood scleroderma** commences this July. Childhood scleroderma encompasses a rare and poorly understood spectrum of conditions. This spectrum includes *systemic sclerosis*, which can be life-threatening due to internal organ involvement, and *linear scleroderma* (a form of localised scleroderma), which can be associated with major disability, growth defects, and disfigurement. At present there are no data on the occurrence of childhood scleroderma that might inform the level and distribution of expert provision required to manage affected children. The primary aim of this study is to ascertain the incidence of childhood systemic sclerosis and childhood linear scleroderma in the UK.

Dr Ariane Herrick stated that *'at present there are no good estimates of the incidence and prevalence of the different forms of childhood scleroderma. This study will provide data which should be of value in defining the need for supraregional referral services and in designing future clinical trials aimed at identifying effective treatments for these rare but serious diseases.'*

**Case definition:** Please report all new cases of abnormal skin thickening newly diagnosed in the past month (the skin will usually be difficult to pinch normally) suspected by the reporting paediatrician to be linear scleroderma or systemic sclerosis (age up to 16 years).'

A descriptive leaflet as well as the protocol card will be circulated with the July mailing, they can also be download from <http://bpsu.inopsu.com/current.htm>.

For confirmation of cases, we propose to undertake a 12-month follow-up questionnaire asking if the diagnosis has been confirmed by a dermatologist or paediatric rheumatologist.

The study is being funded by the Raynaud's and Scleroderma Association. It is being run by the Arthritis Research Campaign (**arc**) Epidemiology Unit, University of Manchester (Dr Ariane Herrick and Professor Alan Silman) in collaboration with Dr Eileen Baidam, Consultant Paediatric Rheumatologist, Booth Hall Children's Hospital, Manchester, and Dr Monica Bhushan, Consultant Dermatologist, North Manchester General Hospital. The study has the support of the UK Scleroderma Study Group, the British Society for Paediatric and Adolescent Rheumatology, and the British Association of Dermatologists. Members of these organisations will also be asked to notify cases.

If you need any advice regarding the eligibility of a particular case for inclusion into the study, please contact: Dr Eileen Baidam (Tel: 0161 220 5597; E-mail: [Eileen.baidam@CMMC.nhs.uk](mailto:Eileen.baidam@CMMC.nhs.uk)) or Dr Ariane Herrick (Tel: 0161 275 5993; E-mail: [ariane.l.herrick@manchester.ac.uk](mailto:ariane.l.herrick@manchester.ac.uk)).

## Study Extension

**Congenital Rubella:** Since 2002, there have been 19 congenital rubella (CR) reports to the BPSU. Only three of these were confirmed cases born in the British Isles, another three were reports of older children already previously notified, and one report could not be followed up. Among the 12 error reports, seven referred to infants who were born abroad (six infants, one reported twice). At present the reporting instructions are to exclude such infants. Following approval of the BPSU Executive we have removed this exclusion and request reports of all children seen with congenital rubella, regardless of country of birth. Full details are contained in the enclosed flyer.

**Revised reporting case definition:** Any infant (live or still born) or child up to 16 years of age who, in the opinion of the notifying paediatrician, has suspected or confirmed congenital rubella with or without defects, based on history, clinical, and/or laboratory findings. Please include "imported cases", including children born in the British Isles where the maternal infection occurred abroad, **AND** children who were born abroad.

**Reporting instructions:** Please report any infant or child seen by you for the first time in the past month who meets the case definition, **REGARDLESS OF COUNTRY OF BIRTH**. This is a change to the reporting instructions, as previously children who were born abroad were excluded. Contact: Dr Pat Tookey, Centre for Paediatric Epidemiology, Institute of Child Health. E-mail: [p.tookey@ich.ucl.ac.uk](mailto:p.tookey@ich.ucl.ac.uk).

**Progressive Intellectual Neurological Deterioration:** The BPSU Executive has approved Surveillance for PIND for a further year until April 2006. After almost 8 years of surveillance 1866 children have been notified. The Expert Group of six paediatric neurologists has discussed 1326 cases. 773 have a definite diagnosis, which is not vCJD, and these comprise 114 known degenerative conditions. Six cases of vCJD have been reported to the study since December 1998. Of these 4 have been classified as "definite" and 2 "probable" according to the National Creutzfeldt-Jakob Disease Surveillance Unit. All six cases have died. Further details on the study will be published in the forthcoming BPSU Annual report

**Contact:** Dr Chris Verity, Mrs Lesley Stellitano, Mrs Anne-Marie Winstone - Tel. 01223-216299.  
E-mail : [lesley.stellitano@addenbrookes.nhs.uk](mailto:lesley.stellitano@addenbrookes.nhs.uk),

## Surveillance Ends

Dr Donal Manning reports on the severe **hyperbilirubinaemia in the newborn study** – May will be the last month of surveillance for cases. We will be contacting those who have reported though for 12-month follow up information over the next year. The findings from the first year of surveillance were presented during the Perinatal session at York on 19<sup>th</sup> April 2005 ref. ADC and have been published in Archive of Diseases in Childhood. Severe hyperbilirubinaemia in the newborn: The first year of surveillance. (Manning DJ, Todd PJ, Maxwell MJ. York 2005. *Arch Dis Child* 2005;**90** (Suppl II):A1-A8)

We have had an excellent response from British and Irish paediatricians, with 154 notifications by March 2005, yielding 86 confirmed cases and 52 errors/duplicate reports, with further information awaited on 16 infants. Confirmed cases have been reported from England, Scotland, Wales and Northern Ireland. We have had notifications, but as yet no confirmed cases, from the Republic of Ireland. The vast majority of affected infants have been breastfed, and many were discharged within the first 2 days of life. Non-white babies appear to be disproportionately represented.

We are extremely grateful to the many paediatricians who have taken the trouble to report cases and complete the clinical questionnaire. This support has enabled us to meet the primary objective of the study, which was to establish the incidence of severe hyperbilirubinaemia in Britain and Ireland. For the first year of surveillance, this was 0.05 per 1,000 live births, which is less than the reported incidence for comparable levels of hyperbilirubinaemia in the United States and Canada.

There are still 2 months of surveillance to go, so there is still ample time to report cases. Data analysis will take a little time thereafter and a final incidence estimate can be calculated once the most recent denominator live birth data sets are available. It is important that ascertainment is as complete as possible, so we are really grateful to all the paediatricians who have supported the study.

**Contact:** Dr D Manning, Wirral Hospital, Arrowe Park, Wirral, Merseyside CH49 5PE E-mail: [donal.manning@whnt.nhs.uk](mailto:donal.manning@whnt.nhs.uk).

---

Surveillance of **Langerhans Cell Histiocytosis (LCH)** via the BPSU is due to end in June 2005, reports Professor Louise Parker. LCH, which is also known as eosinophilic granuloma, is a serious cancer-like disorder which can affect many parts of the body especially the bones (single or multiple lesions), skin (rash), pituitary gland (diabetes insipidus, hormone deficiency) and also digestive tract, bone marrow, liver, spleen, lungs and brain.

The disease is of unknown aetiology and uncertain prognosis. Around 15% of cases, usually infants, die. Survivors may be left with long-term organ damage which has a significant impact on their health and quality of life. Patients may require surgery or chemotherapy or, in extreme cases, bone marrow transplant. However, in some cases the disease can regress spontaneously regardless of treatment.

There have been few epidemiological studies of LCH and only one national incidence estimate (5.4 per million) has been reported for Denmark, during the 1980's. As well as describing the epidemiology of LCH in the UK and Republic of Ireland, the current study, which is based at the University of Newcastle, is assessing the presenting features, referral patterns and outcome for the disease.

69 cases have been identified since June 2003 (83% via BPSU) using three sources of ascertainment:

- 1) BPSU
- 2) Six-monthly postal survey to UK clinicians who may see cases of LCH but who are not members of the RCPCH
- 3) United Kingdom Children's Cancer Study Group (UKCCSG).

After reporting a case, details are sought by questionnaire and follow-up information is collected one year after diagnosis.

Although BPSU surveillance will discontinue at the end of June, during the final year of the study there will be another postal survey and one-year follow-up questionnaires will continue to be sent out. Cases will also be reconciled with the UKCCSG and outstanding questionnaires will be pursued. Given that the UKCCSG has registered 10 cases that are unknown to the study team and there are a number of questionnaires outstanding, further cases are expected.

Please report any case or suspected case you have seen **diagnosed since June 2003, if you have not already done so**, whatever the reason for referral and whether or not you are the main clinician responsible for the patient. A detailed case definition is outlined in the reporting instructions enclosed.

The study is funded by the Histiocytosis Research Trust <http://www.hrtrust.org>.

**Contact:** Professor Louise Parker/ Mrs Jane Salotti, Dr Kevin Windebank, Sir James Spence Institute, Royal Victoria Infirmary. Tel: 0191 202 3060). E-mail: [Louise.Parker@ncl.ac.uk](mailto:Louise.Parker@ncl.ac.uk)

## Recent Publications

If you would like a hardcopy of the paper please contact the BPSU office or the authors directly.

1. The epidemiology of subacute sclerosing panencephalitis in England and Wales 1990-2002. Miller C, Andrews N, Rush M, Munro H, Jin L, Miller E. *Arch Dis Child*. 2004; **89**(12):1145-8.
2. Response to highly active antiretroviral therapy varies with age: the UK and Ireland Collaborative HIV Paediatric Study. Walker AS, Doerholt K, Sharland M, Gibb DM, for the Collaborative HIV Paediatric Study (CHIPS) Steering Committee. *AIDS* 2004, **18**:1-10
3. Seamless management of biliary atresia in England and Wales (1999-2002). M. Davenport, J. De Ville de Goyet, M. Stringer, G. Mieli-Vergani, D. Kelly, P. McClean, L. Spitz. *Lancet* 2004, **363**:1354-1357
4. Childhood hemolytic uremic syndrome, United Kingdom and Ireland. Lynn RM, O'Brien SJ, Taylor CM, Adak GK, Chart H, Cheasty T, Coia JE, Gillespie IA, Locking ME, Reilly WJ, Smith HR, Waters A, Willshaw GA. *Emerg Infect Dis*. 2005 Apr; **11**(4):590-6.
5. Human herpesviruses-6 and -7 each cause significant neurological morbidity in Britain and Ireland. K N Ward, N J Andrews, C M Verity, E Miller, and E M Ross. *Arch Dis Child* 2005; **90**:619-623

## Monthly Analysis

As you will see from **Table 1** the response rate for the orange card continues to fall. Wales is currently ranked first with a response rate of 92.4 % but overall for the six months to March the rate is just 86%. Regionally within England, Trent and East Anglia have joined the London area in consistently having a response rate below 90%. We appreciate that there is an ever-increasing workload on clinicians but the validity of the BPSU as a surveillance system depends wholly on your support and involvement, so please keep those cards and questionnaires coming in, even if they are a couple of months late.

**TABLE 1 - % RESPONSE RATE**  
Oct-Mar 05

Region	% rtd	Rank (June-Nov 04)
North	86.0	14 (10)
Yorks	92.7	2 (5)
Trent	86.5	13 (15)
EAnagl	88.0	8(13)
NWT	77.7	19 (19)
NET	77.5	20 (20)
SET	84.2	15 (16)
SWT	81.3	18 (17)
Wessex	88.3	7 (7)
Oxford	90.7	3 (4)
SWest	86.6	12 (11)
WMids	86.8	11 (8)
Mersey	83.7	17 (6)
NWest	86.3	5 (3)
Welsh	92.4	1 (2)
NScot	88.9	9 (12)
SScot	86.0	10 (9)
WScot	87.8	6(14)
NIRE	86.8	4 (1)
RIre	83.5	16 (18)
<b>Total</b>	<b>86.0</b>	

**TABLE 2 - ALL CASES REPORTED AND FOLLOW-UPS TO 12/5/2005**

Condition	Started	I VALID					II INVALID			NYK	Ttl	as % of total		
		I	Ia	Ib	III	IV	I	II	III					
HIV/AIDS	1986	3369	480	524	303	4676	72	21	6					
CR	1990	71	27	52	1	151	47	52	1					
PIND	1997	1119	209	499	66	1893	59	37	4					
Se. Hyperbil	2003	96	18	35	19	168	57	32	11					
LCH	2003	53	22	26	36	137	39	35	26					
TB	2003	377	54	75	55	561	67	23	10					
NNH	2004	36	9	15	15	75	48	32	20					
MCADD	2004	49	10	7	27	93	53	8	29					
Thyrotoxicosis	2004	58	3	24	55	140	41	19	39					
Non type 1 diabetes	2004	55	1	38	56	150	37	26	37					
EOED	2005	0	0	0	21	21	0	0	100					
<b>Total</b>		<b>5283</b>	<b>833</b>	<b>1295</b>	<b>654</b>	<b>8044</b>	<b>66</b>	<b>26</b>	<b>8</b>					

I = confirmed/already known  
Iib = reporting error or revised diagnosis

Ila = duplicate  
III = status not yet reported to BPSU by investigator

AIDS/HIV - Acquired Immunodeficiency Syndrome / Human Immunodeficiency Virus

CR - Congenital Rubella  
PIND - Progressive Intellectual

Neurological Degeneration

Se. Hyperbil - Severe hyperbilirubinaemia in the newborn  
LCH - Langerhans cell histiocytosis

TB - Tuberculosis in Childhood

NNH - Neonatal Herpes Simplex Virus infection

MCADD - Medium chain Acyl CoA dehydrogenase deficiency

EOED - Early onset eating disorders in children less than 13 years of age

**ALL DATA IS PROVISIONAL & CONTINUALLY BEING UPDATED**