



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

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BPSU 20th Anniversary Symposium – a success

Tuesday 30th May saw the culmination of the BPSU's 20th celebratory year. Held at the Institute of Child Health (London) the anniversary symposium was considered a rousing success. Over 140 clinicians from the UK attended as well as representatives from over 14 other countries. The aim of the day was to highlight how BPSU studies have increased understanding about rare conditions and how the data collected has influenced areas of clinical practice, legislation and public health policy.

The morning session, chaired by the RCPCH President Dr Patricia Hamilton (photo a) and Professor Allan Colver, opened with a presentation from Professor Mike Preece who reviewed the BPSU's achievements over the past 20 years. Mike highlighted the different types of infectious and non-infectious conditions surveyed, now over 70; the collaborative work with other medical groups such as pathologists, ophthalmologists, obstetricians and gynaecologists; and the development of the International units.

Professor Bhupinder Sandhu (photo b) of the RHSC Bristol followed with a presentation that outlined the BPSU survey of inflammatory bowel disease, proposing that this may be increasing in the paediatric population. Dr Elizabeth Miller of the Health Protection Agency discussed the contribution of surveillance to vaccine preventable disease, stating that the role of surveillance is key since it initiates the process by identifying a public health need and also forms the basis of cost-effectiveness evaluations by providing information on burden of disease and defining the target groups for vaccination. Furthermore the results of surveillance of the impact of the vaccination programme may necessitate a policy change such as introducing a booster or changing the vaccine.

Professor Angus Nicoll (photo c) of the European Centre for Disease Control appropriately followed this presentation with a topical talk on pandemic and emerging infections. Angus highlighted how children are disproportionately being affected by avian flu. In terms of preventing a pandemic, protecting children from infection may reduce infections and casualties among other age groups and policy options are being explored including closing some schools and vaccination with pre-pandemic vaccines. Tuberculosis (TB) was the subject of the final talk of the morning. Dr Delane Shigadia (photo e) of Great Ormond Street Hospital reported that while notification rates of TB in western European nations continue to decline, marked differences occur within countries with large cities such as London, seeing increases in TB notification rates with a large proportion of disease occurring in recent immigrants from high-burden countries, particularly those in Sub-Saharan Africa.

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BPSU 20th Anniversary Symposium *continued*

Dr Sheila Shribman, National Clinical Director, (photo f) opened the afternoon session which was chaired by Professor Chris Verity, with an acknowledgement of the contribution the BPSU has made to health policy. Dr Deidre Kelly, (photo g) from Birmingham Children's Hospital, then presented the BPSU Biliary Atresia survey. The data supplied led to a UK Department of Health directive for England and Wales (DOH 199/0268 30.04.1999) indicating that all infants with suspected biliary atresia should be referred to one of three designated centres where both the Kasai operation and, if necessary, liver transplantation could be offered. Professor Carol Dezateux, Institute of Child Health (London) detailed the BPSU's ongoing contribution to the evidence base of national screening policies designed to improve the outcome of relatively uncommon conditions or infections in childhood. There then followed a talk and discussion on the impact that consent and confidentiality requirements are having upon surveillance. The final two presentations introduced by Professor Neil McIntosh highlighted the studies from the Sir Peter Tizard bursary winners, Dr Scott Willaimson (Dundee hospital) presenting on thyrotoxicosis and Dr Shamez Ladhani (Royal London Hospital) on malaria (photo h).

All agreed the meeting was a great success, due to the excellent talks and the organisation by the BPSU office. Abstracts from the meeting are available from the BPSU office and will be posted on the BPSU website.

Study News – Neonatal HSV enters its third year of surveillance

Two years into surveillance of **neonatal HSV** our investigator, Dr Pat Tookey, reports on the study's progress. "HSV surveillance was previously undertaken through the BPSU between 1986 and 1991, during which period 76 cases were reported over 66 months, a reported prevalence of 1.65/100,000 live births (95% CI 1.3-2.0); equal proportions of infections were HSV-1, HSV-2 and untyped.

"The current study started in January 2004 and was established to provide estimates of the current prevalence of infection, the proportion of cases attributable to HSV-1 and HSV-2, and to explore presentation, management and subsequent morbidity and mortality. In 2004 and 2005 118 reports were made to the BPSU: 52 cases have been confirmed so far, and 13 reports are currently outstanding (see Table). A further 2 cases were reported in 2004 independently of the BPSU reporting system. This study is due to continue until January 2007 (i.e. 37 months)"

Year of report	Confirmed cases	Possible cases*	Duplicate reports	Error reports	Lost to follow-up	Outstanding at end 2005	Total
2004	24	7	13	14	3	0	61
2005	28	3	10	2	1	13	57
Total	52	10	23	16	4	13	118

possible cases are compatible clinical cases, without laboratory confirmation

Preliminary observations

"Estimated prevalence is currently about 4/100,000 live births. Almost all infections have been typed, and just under half were HSV-1. About a third of infants had infection localised to the skin, eye or oral mucosa (SEM), and half of those with disseminated or CNS infection had no SEM involvement. Almost 20% of infants have died, most in the neonatal period. As was the case in the previous study, a diagnosis of genital HSV infection prior to delivery is extremely rare, although about 20% were retrospectively found to have had a history of prior infection, or evidence of infection in pregnancy. A poster presenting preliminary data from this study was accepted for the Allergy, Immunity & Infection session at the RCPCH conference in April and can be viewed at: http://bpsu.inopsu.com/studies/neonatal_herpes/results.html"

Please note data is preliminary and has yet to be peer reviewed.

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Study approval: Two studies have recently been approved, these being a further study on vitamin K deficiency bleeding (VKDB) and Fetomaternal Alloimmune thrombocytopenia (FMAIT) Both will commence once MREC and PIAG approval has been confirmed. In the case of the VKDB study this will be the fourth BPSU initiated survey, the principal investigators being Dr Alison Busfield, Dr Andrew McNinch and Dr John Tripp. A comparative analysis of the previous VKDB studies was presented at the RCPCH scientific meeting. Vitamin K prophylaxis and vitamin K deficiency bleeding in the UK: What progress in 15 years. Busfield A, McNinch A, Tripp J. *Arch Dis Child* 2006; **91** (Suppl 1): A1-A7.

Led by Dr Marian Knight of the National Perinatal Epidemiology Unit, the study on FMAIT will examine incidence, management and outcome. In order to maximise case ascertainment surveillance is being undertaken in conjunction with the UK Obstetric surveillance system (UKOSS), the National Blood Service and Welsh Blood Service. Further information on both these studies will be made available in the near future.

A view from the chair



Dr Allan Colver reports:

"I took over from Mike Preece the chairmanship of the BPSU Executive in March this year. I am fortunate as Mike left the Unit with funding from the Department of Health (England and Wales) to 2009, the content in place for a prestigious 20th BPSU Anniversary Conference in May, and discussions moving forward with the Patient Information Advisory Group about identifiable data being reported via the orange card system without parental consent.

The orange card is not as full as it could be and a number of studies on it are atypical long running ones such as HIV, congenital rubella and Progressive Intellectual and Neurological Deterioration. Some studies will rightly always come from our parent bodies the Institute of Child Health (London), the Health Protection Agency and the RCPCH Research Division but I would like more of the spaces available to be filled by studies co-ordinated by general or specialty paediatricians. I realise that the research environment is more difficult because of bureaucracy and consultant work being tightly tied to job plans. However the BPSU now has resources and experience, which should make the development of an application easier for you. Based on experience over the last few years, the BPSU can now give authoritative advice on how to complete ethics and PIAG applications. Further it can provide pre formatted questionnaires, faster processing of enquiries and applications; and advice on study design in the first instance from Richard Lynn, our scientific coordinator or one of the medical advisers, Rachel Knowles and Chikwe Ihekweazu.

One area I would like to encourage is surveillance of "circumstances" which are not diseases or which have a social as well as medical dimension or are infrequent complications of a common disease. Examples might be Failure to get funding for a drug for a specific child or HIV in children for adoption. Another possibility would be to include an occasional question just for that month which might relate to a practice or audit topic; however such a "survey" type of question would depart from the original intention of the BPSU and might confuse. I would welcome opinion on whether the orange card could be used more imaginatively.

Finally, I thank everyone who visited the BPSU stand at York or attended the BPSU presentations. This year was a record with 7 plenary and 9 group presentations reflecting the quality of the research the BPSU facilitates. And congratulations to Susan Hall and Spence Gailbraith, founders of the BPSU, who in recognition received Honorary Fellowship of the RCPCH.

Study Extensions

Four studies have recently had their extension request approved. The PIND study continues, a report update will be included in the autumn bulletin; the methicillin-resistant *Staphylococcus aureus* (MRSA) will continue for a further 12 months until June 2007. The congenital rubella study and the scleroderma study continue for a further 12 months to July 2007. All are subject to MREC and PIAG approval.

The **scleroderma** study commenced in July 2005 with the aim of identifying the incidence of scleroderma and also to examine the pattern of care. To date 57 cases have been notified. Of these 49 cases notified we received only 29 questionnaires with only 17 being valid (and two being duplicate) meaning we have received confirmation of only 15 children. Of the 15 cases notified 14 have linear scleroderma and 1 has systemic sclerosis. The median age of the children notified has been 8 years (range 4 – 14 years). To maximise completeness of ascertainment, we are also asking for notifications via the UK Systemic Sclerosis Study Group, the British Association of Dermatologists and the British Society for Paediatric and Adolescent Rheumatology. So far via these routes we have received only 5 notifications. We had anticipated a higher number of notifications although we recognise this is a very rare syndrome in childhood. It is possible that a significant proportion of children with scleroderma are seeing primarily adult rheumatologists or dermatologists and that our efforts to recruit via these groups have not been optimal. We are currently addressing this issue. Continuation for a further year will, with the additional data gathered allow us to confirm the incidence rate and allow us to examine the presenting symptoms, the delay between symptom onset and diagnosis, the pattern of care received.

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The **MRSA** study has now been underway for 12 months. By April 2006, 72 notifications of MRSA bacteraemia have been received. However, 16 notifications were made in error (for example MRSA isolated from skin swabs not blood), and two duplicate notifications have been received.

At present there are 32 confirmed cases with 22 outstanding questionnaires yet to be returned. Of the 32 confirmed cases notified by paediatricians, 78% (25/32) were submitted by paediatricians in England, 9% (3/32) from Scotland, 6% from N. Ireland and 3% each from Wales and the Republic of Ireland. Irrespective of the notification source, reports were concentrated in children less than 1 year old, although a substantial proportion of cases were reported in infants aged 1-4 years. Interestingly, the data so far available suggests that the majority of isolates are of the UK epidemic MRSA strains that are currently associated with the hospital environment and which are the predominant strains in the UK adult population. Most of the cases identified so far are from premature babies on neonatal units. This is a potentially important observation as it suggests that enhanced infection control procedures on Neonatal Intensive Care Units could be an important intervention for management and control of this infection.

Contact: Dr Catherine Goodall. E-mail: catherine.goodall@hpa.org.uk

BPSU commitment to **congenital rubella** surveillance continues. There were seven reports through the BPSU in 2005. Only one of these related to an infant born in the UK in 2005, and this was an imported case since the baby's mother acquired infection in Southern Asia. Three young children were reported who had been born abroad; the other two reports were of older children who had already been notified to the NCRSP. Since 1997 12 congenital rubella births have been reported in the UK, and one in Ireland. Only four of the 13 mothers caught rubella in the British Isles, in the other nine cases, although the birth occurred in the UK or Ireland, the maternal infection was acquired abroad. WHO Europe has established a goal for the elimination of measles and rubella, and the prevention of congenital rubella by 2010. Although there is no evidence of rubella circulating in the British Isles at present, MMR continues to be too low to maintain this situation in the longer term, thus the need for continued comprehensive surveillance.

Contact: Dr Pat Tookey. E-mail: p.tookey@ich.ucl.ac.uk

Recent Publications

Invasive fungal infection in very low birthweight infants: national prospective surveillance study.

Clerihew L, Lamagni T L, Brocklehurst P, and McGuire W. *Arch. Dis. Child. Fetal Neonatal Ed.* 2006; **91**: F188-F192

Symptomatic toxoplasma infection due to congenital and postnatally acquired infection.

Gilbert R Hooi HK, Cliffe S, Stanford M Guy E. *Arch Dis Child.* Published Online First: 17 March 2006. doi:10.1136/adc.2005.088385 (to be published in print in Vol 9 issue 6 (June)).

No clinical evidence of hidden vCJD in UK children.

Verity CM., Nicoll A., Will RG, Winstone AM, Stellitano L. Article to Archives of Diseases in Childhood published online 31 Oct 2005. doi:10.1136/adc.2004.071266

RCPCH Scientific Meeting – Seven plenary and nine group papers were presented as papers on the following conditions, hyperbilirubinaemia, vitamin k deficiency bleeding, MCADD, HIV, malaria, thyrotoxicosis, non-type 1 diabetes, PIND and stroke. Copies of the abstracts are available from the BPSU office or via, *Arch Dis Child* 2006; **91** (Suppl 1)

Analysis

As you can see from **Table 1** the card response rate for 2005 is now running at 93%, this is up slightly on 2004 and reverses a downward trend in reporting that has been occurring for the past few years. This is an amazingly high compliance rate and given the system is now 20 years old shows that reporting fatigue has not set in. **Table 2** highlights the current reports; on reporting a case can I remind you to make a note of the case on the tear off section of the card and for you to keep this safe. We have on several occasions of late had clinicians not being able to remember cases they have reported because they did not keep a note of whom they were reporting. This month sees the end of surveillance for the eating disorder study. Involving the child psychiatrists this has been a very successful project and suggests that rare child psychiatric conditions can be surveyed for. Any suggestions are welcomed.

TABLE 1 - % RESPONSE RATE
Jan – Dec 05

Region	% rtd	Rank (Jan- Sept 05)
North	94.9	3 (5)
Yorks	94.3	8 (7)
Trent	92.6	14 (11)
EAngl	94.1	9(13)
NWT	91.2	18 (18)
NET	89.7	20 (19)
SET	91.6	16 (14)
SWT	92.7	12 (16)
Wessex	94.0	10 (6)
Oxford	94.8	6 (10)
SWest	93.6	11 (9)
WMids	92.7	13 (15)
Mersey	91.4	17 (17)
NWest	94.5	7 (8)
Wales	96.6	1 (1)
NScot	95.1	2 (3)
SScot	92.3	15 (12)
WScot	94.9	4(4)
Nlre	94.8	5 (2)
Rlre	90.7	19 (20)
Total	93.0	

TABLE 2 - ALL CASES REPORTED AND FOLLOW-UPS TO 04/05/2006

Condition	Started	I VALID		II INVALID		NYK	Ttl	as % of total		
		I	IIa	IIb	III			I	II	III
HIV	1986	3947	525	555	331	5358	74	20	6	
CR	1990	71	29	52	4	156	46	52	3	
PIND	1997	1210	237	552	62	2061	59	38	3	
NNH	2004	62	22	20	30	134	46	31	22	
MCADD	2004	127	35	10	27	199	64	23	14	
EOED*	2005	190	67	80	93	430	44	34	22	
MRSA	2005	31	2	15	24	72	43	24	33	
Scleroderma	2005	14	2	11	26	53	26	25	49	
Malaria	2006	20	0	1	11	32	63	3	34	
Total		5672	919	1296	608	8495	67	26	7	

I = confirmed/already known

IIb = reporting error or revised diagnosis

HIV – Human Immunodeficiency Virus – In Childhood

CR – Congenital Rubella

PIND – Progressive Intellectual Neurological Degeneration

NNH – Neonatal Herpes Simplex Virus infection

IIa = duplicate

III = status not yet reported to BPSU by investigator

MCADD – Medium chain Acyl CoA dehydrogenase deficiency

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

MRSA – methicillin-resistant Staphylococcus aureus.

All data presented in this quarterly bulletin is preliminary and is continuously updated. Please note data has yet to be peer reviewed.