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Preface

Welcome to the 2010 Annual Report of the New Zealand Paediatric Surveillance Unit (NZPSU).

The NZPSU was established with funding from the Ministry of Health in order to undertake surveillance of acute flaccid paralysis (AFP) for the Ministry of Health's National Certification Committee for the Eradication of Poliomyelitis (NCCEP). The opportunity has been taken to study a number of other uncommon high impact


conditions, most of which has been undertaken by paediatricians with a particular research interest.

The ongoing success of the NZPSU is largely due to the high level of support from New Zealand paediatricians who have taken the time to provide information on the conditions under surveillance.

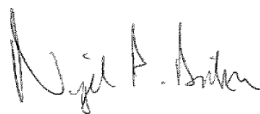
We would like to acknowledge the ongoing funding from the Ministry of Health.

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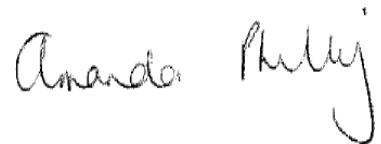
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Barry Taylor



Nigel Dickson



Amanda Phillips



Introduction

The aim of the NZPSU is to facilitate and improve the knowledge of uncommon high-impact childhood conditions in New Zealand. These conditions are of sufficiently low incidence or prevalence that case ascertainment on a national scale is needed to generate adequate numbers for meaningful study. The method was developed in the United Kingdom by the British Paediatric Surveillance Unit (BPSU) and has been used there since 1986. Subsequently, it has been introduced into several other countries, including Australia, and is used by some other specialist groups.

The core activities of the NZPSU are funded through a contract with the Ministry of Health to provide active surveillance of acute flaccid paralysis (AFP). The World Health Organization (WHO), as part of the global eradication process, requires such surveillance to confirm New Zealand is free of poliomyelitis. Since the establishment of the NZPSU, the number of conditions under surveillance has increased, and in 2010 includes eight high-impact childhood conditions.

The NZPSU is a member of the International Organisation of Paediatric Surveillance Units (INoPSU).

Aims

The aims of the NZPSU are:

- To operate a system for monitoring acute flaccid paralysis, as part of the global certification of eradication of poliomyelitis, required by WHO.
- To facilitate national surveillance and improve the knowledge of uncommon high-impact childhood conditions in New Zealand.

How the Surveillance System Works

The method of surveillance is based on that developed in the United Kingdom in 1986 by the British Paediatric Surveillance Unit (BPSU).

It has subsequently been used for the monitoring of rare childhood conditions in several other countries, including Australia, and also by other specialist groups.

Paediatricians in New Zealand gave their support to the surveillance system after the concept was discussed at several annual meetings of the Paediatric Society of New Zealand. A database of eligible clinicians, which included all paediatricians and other specialists working predominantly with children, was developed using the specialist register and the membership list of the Paediatric Society. All eligible clinicians were contacted and invited to participate. Those who agreed were provided with study protocols, which included definitions of the conditions under surveillance, specific reporting instructions, and a contact telephone number. Efforts are made to keep up-to-date with the paediatric specialist work force.

Every month participants are sent either a reply-paid card or an email (depending on their preferred method of reporting) to report whether in the previous month they have seen any cases of the conditions under surveillance. However, cases of AFP are also required to be reported immediately by phone to the NZPSU. When a case of any of the conditions is reported, the reporting clinician is sent a short questionnaire to complete on the case. The identity in most cases remains anonymous. Duplicate notification is recognised by a code derived from the child's initials and date of birth.

Where possible, cases are regularly compared with other data sources such as hospital discharge data, notifications to the local Medical Officer of Health, and the New Zealand AIDS Epidemiology Group.

It is envisaged that some of the conditions under surveillance will be ongoing, while others will be for a finite period, usually two or three years.

Inclusion of New Conditions

A Scientific Review Panel (SRP) considers the applications of new conditions into the scheme (see *Table 1* for details on members of the SRP). A study is eligible for consideration in the scheme if the condition of interest is:

- a relatively uncommon high-impact childhood condition (or an uncommon complication of a more common disease)
- of such a low incidence or prevalence as to require ascertainment of cases on a national scale in order to generate sufficient numbers for study.
- The SRP may also consider inclusion of short-term or geographically limited studies of comparatively more common conditions.

It is important for the success of the scheme that the workload of the respondents is kept to a minimum. Accordingly, the SRP must be certain that studies conducted through the NZPSU are well designed and worthwhile. The SRP will take into consideration the scientific interest and public health importance of the proposed study, its methodology, and the suitability of the condition for ascertainment through the NZPSU scheme. Studies depending on immediate reporting and/or sample collection, or requiring the participation of other specialties, are less likely to be suitable.

Table 1: The Members of the NZPSU Scientific Review Panel (SRP) 2010

Member	Institution
Professor Barry Taylor	NZPSU, University of Otago, Dunedin
Associate Professor Nigel Dickson	NZPSU University of Otago, Dunedin
Dr Pat Tuohy	Ministry of Health
Professor Elizabeth Elliott	Australian Paediatric Surveillance Unit
Dr Jeff Brown	Palmerston North Hospital
Professor Brian Darlow	University of Otago, Christchurch
Professor Diana Lennon	University of Auckland

Surveillance Activities in 2010

In 2010, 215 clinicians participated in the system. The average response rate to the monthly report card/email was 93%. We are very pleased with the ongoing high response rate from the whole of the country.

In 2010 the NZPSU monitored nine uncommon childhood conditions (*Table 3*). Some of the protocols and questionnaires used were adapted from those used by the Australian Paediatric Surveillance Unit.

Table 2 shows the percentage of clinicians on the mailing list that reported cases during 2008 and 2010. The table shows that in 2010, two thirds of the participants did not report any cases, with about 12% reporting two or more.

Table 2: Respondents' Workload 2009 & 2010

Notifications	2009		2010	
	No.	%	No.	%
None	163	75.8	139	66.2
One	34	15.8	45	21.5
2-4	18	8.3	22	10.4
5 or more	0	0	4	1.9

Table 3: Conditions under surveillance in 2010

Condition	Surveillance Started	Surveillance Ended	Principal Investigators
Acute flaccid paralysis	October 1997	Ongoing	A/Prof Nigel Dickson
Haemolytic uraemic syndrome	January 1998	Ongoing	Dr William Wong
Congenital rubella syndrome	January 1998	Ongoing	Professor Diana Lennon
Perinatal HIV exposure	January 1998	Ongoing	A/Prof Nigel Dickson Dr Lesley Voss
Adverse drug reactions	May 2008	Ongoing	Dr Desiree Kunac
Acute Post Streptococcal Glomerulonephritis	October 2007	<i>Ended September 2010</i>	Dr William Wong
Moderate and Severe Encephalopathy	January 2010	<i>Due to end January 2012</i>	Dr Malcolm Battin
Vitamin D Deficiency Rickets	July 2010	<i>Due to end July 2012</i>	Dr Ben Wheeler

Brief Reports on Ongoing Studies

ACUTE FLACCID PARALYSIS (AFP)

A/Prof Nigel Dickson

Ongoing study started in October 1997

INTRODUCTION

To confirm the absence of poliomyelitis WHO requires a surveillance system to be in place:

1. That captures an annual incidence of acute flaccid paralysis (AFP), not due to poliomyelitis, of at least one per 100,000 children < 15 years.
2. In 80% of cases of AFP have two stool samples taken at least 24 hours apart, within 14 days of onset tested negative for wild polio virus in a WHO-accredited laboratory.

Telephone notification of all cases of AFP is required by the NZPSU to ensure that the necessary stool containers are dispatched in time to the notifying paediatrician.

KEY RESULTS FOR 2010

- There were six cases notified to the NZPSU in 2010.
- Information has been obtained on all of these children including follow-up information two months after diagnosis.
- Five were from the North Island, one from the South Island.
- Three females, three males.
- Age range 18 months to 5 years, median age 2 years 9 months.
- No seasonal variation.
- The overall incidence was 0.7 per 100,000 children < 15 years.
- A diagnosis of Guillain Barré Syndrome (GBS) has been made in four of these cases, enterovirus in one, and diagnosis unspecified in the remaining case.
- All six cases have been discounted as polio by the National Certification Committee for the Eradication of Polio (NCCEP).
- Timely analysis (< 14 days after onset paralysis) of stool samples satisfying the WHO criteria was complete for two of the six children (44%).

Table 4: Percentage of AFP cases with adequate stool samples (or otherwise)

Category	Stool samples	
	No.	%
2 stool samples within 14 days of onset of paralysis	2	33.3
2 stool samples, but one or both not within 14 days of onset of paralysis	1	16.7
1 stool sample	0	0
No stool samples	3	50

COMMENT

The system did not quite capture the required rate of AFP in 2010 (1.0, per 100,000) as would be expected in a country in the absence of endemic polio. The rate of stool testing was only 33%, less than the WHO criterion of 80%. We appreciate that this surveillance requirement is a challenge in the absence of endemic polio but still request paediatricians to try to achieve a high rate of timely testing.

Even though the WHO believes polio to have been eradicated from the Western Pacific region, ongoing surveillance of AFP is likely to be required for some years. This will require the continued telephone notification of all cases of AFP, including those with a definitive diagnosis such as Guillain Barré syndrome etc.

A challenge has always been to utilise a non-specific case definition – such as ‘acute flaccid paralysis’ – in a health system where a more definitive diagnosis for children with such symptoms is likely to be made.

CONGENITAL RUBELLA SYNDROME (CRS)

Prof Diana Lennon

Ongoing study started in January 1998

We have not provided a report for Congenital Rubella as there were no cases reported in 2010.

HAEMOLYTIC URAEMIC SYNDROME (HUS)

Dr William Wong

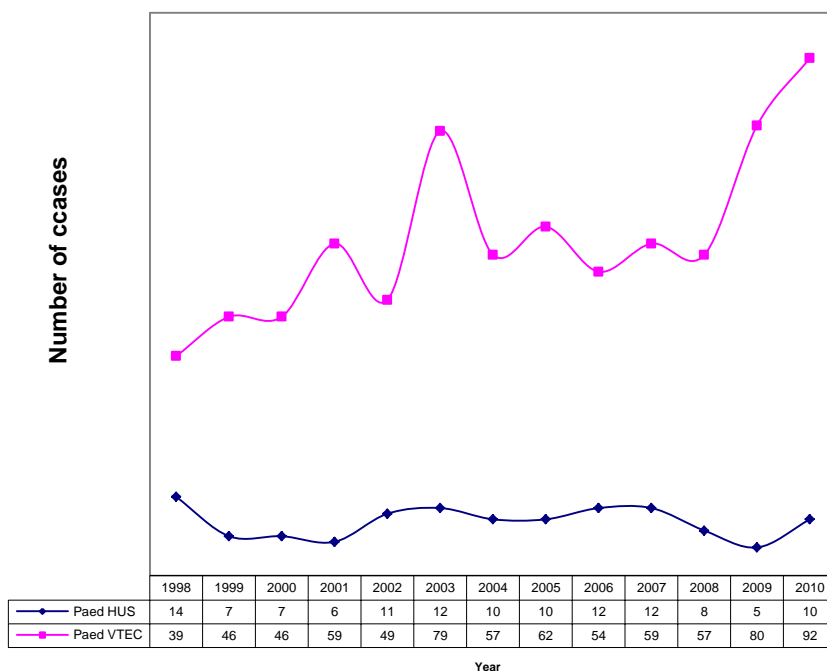
Ongoing study started in January 1998

KEY RESULTS FOR 2010

Key results for 2010 cohort

- 10 cases of HUS reported, of which 9 had a diarrhoeal prodrome (D+)
- Geographic distribution of D(+) HUS – 7 from North Island, (5 central region)
- Median age at presentation of D(+) HUS was 2.9 years, range 1.1 to 6.1 years
- 4/9 patients either lived on a farm or had been in contact with a farm
- 5/9 of the diarrhoeal group had E coli O157H7 isolated from their stools
- 7/10 patients needed acute peritoneal dialysis.
- All patients regained renal function to come off dialysis.

Childhood haemolytic uraemic syndrome and VTEC* isolates, 1998-2010



***Verotoxigenic Escherichia Coli (VTEC) data from ESR**

SERIOUS PAEDIATRIC ADVERSE DRUG REACTIONS (ADRs)

Dr Desiree Kunac, Dr Michael Tatley, A /Prof David Reith, Prof Keith Grimwood

Study commenced August 2007

Key results for 2010

There were 20 notifications made to the NZPSU during 2010 but for 6 notifications, no further details were received. A total of 14 reports were received; 2 reports related to the same case and one report was excluded as the relationship between the medicine and the reported ADR could not be determined due to incomplete information. The remaining 12 reports are summarised below:

Suspect medicine(s)	Adverse drug reaction	Age	Sex	Seriousness / Outcome	Medical Warning
Cephazolin	Anaphylactic reaction Angioedema	15 years	M	Life threatening- Recovered	✓ Danger
Vancomycin Ceftriaxone	Pruritis, Morbiform rash Leucocytosis, Eosinophilia CPK increased	9 years	F	Hospitalised-Not yet recovered at time of report	✓ Danger
Sodium valproate	Hepatic failure	16 years	F	Life threatening Recovered with sequelae	✓ Danger
Aspirin	Hepatitis	10 years	F	Hospitalised- Not yet recovered at time of report	✓ Danger
Lamotrigine	Thoughts of self-harm	8 years	M	Life threatening Recovered	Recovered at Lower dose, warning not entered
Paracetamol	Hepatic failure	3 years	M	Life threatening Recovered with sequelae	✓ Danger
Carbamazepine	DRESS syndrome Convulsions	15 years	F	Life threatening Not yet recovered at time of report	✓ Danger
Carbamazepine	Toxic epidermal necrolysis	10 years	M	Hospitalised-Not yet recovered at time of report	✓ Danger
Omeprazole	Crying abnormal, brand switch	8 months	M	Not serious-Recovered	
H ₁ N ₁ vaccine	Febrile convulsion	16 months	M	Hospitalised-Recovered	
BCG vaccine	Lymphadenitis	< 1 month	F	Intervention required Not yet recovered at time of report	
Metacresol	Erythematous rash Urticaria Dermatitis	12 years	F	Intervention required Not yet recovered at time of report	

Four of the 10 cases (which appear shaded in the table) are new reports that were not previously notified to CARM, highlighting the value of this active surveillance system. These four cases are now entered into the CARM database to further enhance our understanding of serious ADRs in children.

PERINATAL HIV EXPOSURE

A/Prof Nigel Dickson, Dr Lesley Voss

Ongoing study started January 1998

In 2010, there were 12 reports to the NZPSU of infants/children born in New Zealand to women infected with HIV who were diagnosed prior to giving birth or during their pregnancy.

Of the 12 infants born in New Zealand in 2010:

- 7 were born in Auckland, 1 in Wellington, 3 in Christchurch, and 1 in Hawkes Bay.
- 11 were born to mothers whose HIV had been diagnosed before their pregnancy and 1 was diagnosed during her pregnancy.
- 3 of the mothers were European, 7 African, and 2 Asian.
- All of the mothers were given antiretroviral treatment during pregnancy; 8 gave birth by caesarean section and 4 gave birth vaginally; none of the babies were breastfed.
- None of the children are believed to be infected with HIV (although most are still awaiting final confirmation).

MODERATE AND SEVERE NEONATAL ENCEPHALOPATHY

Dr Malcolm Battin, on behalf of the Neonatal Encephalopathy Working Group of The Perinatal and Maternal Mortality Review Committee (PMMRC)

2 year study started in January 2010

- This two year study commenced in January 2010 and is performed by the PMMRC.
- The main purposes of the study are to measure and document NE in New Zealand and particularly to identify preventable cases or that treatment was received in a timely manner.
- It differs from other NZPSU studies in that it requires identifiable information to be supplied including the name and contact for the lead maternity carer (LMC). The purpose of this is to allow Paediatric and Perinatal data from the PSU notification to be combined with further data from the LMC to produce a rich and complete dataset.
- Data collection for 2010 has been completed and 2011 data is underway.
- It is recognised that NE is relatively common compared with the other conditions studied using the monthly notification methodology. However, to date, case ascertainment has been good.
- The first results of the study will be published in the next PMMRC annual report following ministerial review.

VITAMIN D DEFICIENCY RICKETS (VDDR)

Dr Ben Wheeler, A/Prof Nigel Dickson, Prof Barry Taylor

Ongoing study started July 2010

To date July 2010 – August 2011 (inclusive), there were 25 reports to the NZPSU of infants/children with VDDR. Of these:

- 17 - confirmed cases
 - ❖ 3 - awaiting information
 - ❖ 5 - are not cases, or are missing significant information
- Of the 17 confirmed cases from July 2010 – August 2011:
 - ❖ 5 were reported from Auckland, 5 in Wellington, 3 in Dunedin, 2 in Tauranga, 1 in Christchurch and 1 in Rotorua.
 - ❖ 9 are of Indian ethnicity, other ethnicities are: 2 European, 1 Maori, 1 Tongan, 1 Samoan, 1 Nigerian, 1 Eritrean, 1 Malaysian.
 - ❖ 71% were born in New Zealand
 - ❖ 21% of mothers were born in New Zealand
 - ❖ Mean age at diagnosis – 2.0 years
 - ❖ Skin colour - 50% dark, 29% intermediate
 - ❖ 93% were breastfed (for mean duration of 0.8years), 50% have had cow's milk exposure
 - ❖ Winter/Spring predominance of cases
 - ❖ 75% have x-ray confirmation of rickets
 - ❖ A strong association with Iron Deficiency (35%), with 35% not tested

Conditions Ever Monitored by NZPSU

Table 5: All conditions ever monitored by the NZPSU

Condition	Report Period	Findings Reported
Acute flaccid paralysis	1997-ongoing	Dow N, Dickson N, Taylor B, Darlow B, Wong W, Lennon D. The New Zealand Paediatric Surveillance Unit: establishment and first year of operation. <i>New Zealand Public Health Report</i> 1999 6:6;41-43
Haemolytic uraemic syndrome	1998-ongoing	Haemolytic uraemic syndrome in New Zealand children. A Nationwide surveillances study from 1998-2009 W.Wong, Morris M.C, Kara T, Ronaldson J <i>Pediatric Nephrol</i> 2010 25(9) 1934 abstract 698
Congenital rubella syndrome	1998-ongoing	
Perinatal HIV exposure	1998-ongoing	Dickson N, Paul C, Wilkinson L, Voss L, Rowley S, Estimates of HIV prevalence among pregnant women in New Zealand <i>New Zealand Public Health Report, 2002; 9:17-19</i>
Vitamin K deficiency bleeding	1998-2008	Darlow BA. Vitamin K deficiency bleeding (VKDB) in New Zealand infants: results of surveillance over five years (1998 to 2002). <i>Pediatric Research</i> 56; 474, 2004
Fetal alcohol syndrome	1999-2001	
Subdural haemorrhage (<2 years)	1999-2002	Kelly P, Farrant, B, Shaken Baby Syndrome in New Zealand, <i>Journal of Paediatrics and Child Health</i> , 2008; 44: 99–107
Retinopathy of prematurity (stage III)	1999-2000	
Diabetes mellitus	1999-2000	Campbell-Stokes P, Taylor B, on behalf of The New Zealand Children’s Diabetes Working Group Prospective incidence study of diabetes mellitus in New Zealand children aged 0 to 14 years, <i>Diabetologia</i> 2005; 48: 643–648
Kawasaki disease	2001-2002	Heaton P, Wilson N, Nicholson R, Doran J, Parsons A, Aiken G, Kawasaki disease in New Zealand, <i>Journal of Paediatrics and Child Health</i> 2008; 42: 184–190
Idiopathic nephrotic syndrome	2001-2003	Wong, W Idiopathic nephrotic syndrome in New Zealand children, demographic, clinical features, initial management and outcome after twelve-month follow-up: Results of a three-year national surveillance study, <i>Journal of Paediatrics and Child Health</i> 2008; 43: 337–341

Inflammatory bowel disease	2002-2003	Yap J, Wesley A, Mouat S, Chin S Paediatric inflammatory bowel disease in New Zealand <i>New Zealand Medical Journal</i> 2008; 121: 19-24
Prolonged infantile cholestasis	2004-2005	
Pertussis	2004-2005	R Somerville R , Grant C, Grimwood K, Murdoch, D Graham D, Jackson P, Meates-Dennis M, Nicholson R, Purvis D, Infants hospitalised with pertussis: Estimating the true disease burden <i>Journal of Paediatrics and Child Health</i> 2008; 43:617-622
Inborn errors of metabolism	2004-2006	Wilson C, Kerruish N, Wilcken B, Wiltshire E, Webster, D The Failure to Diagnose Inborn Errors of Metabolism in New Zealand: The Case for Expanded Newborn Screening <i>New Zealand Medical Journal</i> 2008; 120: U2727
Pneumococcal meningitis	2005-2008	
Acute post streptococcal glomerulonephritis	2007-2010	<i>Acute Post Streptococcal Glomerulonephritis in New Zealand Children</i> William Wong, Diana Lennon, Jocelyn Neutze Annual Scientific Meeting of Paediatric Society of NZ 24.11.2010 <i>Epidemiology of Acute Post Streptococcal Glomerulonephritis in NZ Children</i> Sonja Crone, William Wong, Diana Lennon, Jocelyn Neutze Annual Scientific Meeting of Paediatric Society of NZ 24.11.2010
Adverse Drug Reactions (ADR)	2008-ongoing	
Moderate and Severe Neonatal Encephalopathy	2010-2012	
Vitamin D Deficiency Rickets	2010-2012	
Renal Stones	2010-retrospective	Dickson N, Kara T, Tuohy P, Rapid National Survey of Renal Stones in New Zealand Infants, <i>Journal of Paediatrics and Child Health</i> ; 2010 45, 633-635
Severe Neonatal Hyperbilirubinaemia	2011-	

Other relevant publications:

Grenier D, Elliott EJ, Zurynski Y, Rodrigues PR, Preece M, R Lynn, von Kries R, Zimmermann H, Dickson N, Virella, D, Beyond Counting cases: public health impacts of national Paediatric Surveillance Units *Archives of Disease in Childhood* 2008; 92:527-533

International Network of Paediatric Surveillance Units (INoPSU)

Establishment of INoPSU

The network was formed in August 1998 at a meeting of 10 Paediatric Surveillance Units expressing a desire to link with each other. This took place at the 22nd International Congress of Paediatrics in Amsterdam, The Netherlands. The first INoPSU conference was held in 2000 in Canada and was attended by representatives of the existing units. Subsequent meetings have been held in York, England in 2002, Lisbon, Portugal in 2004 and Munich Germany 2008.

Associate Professor Nigel Dickson has attended the meetings in Canada, England and Portugal.

Mission

The mission of INoPSU is the advancement of knowledge of uncommon childhood infections and disorders, and the participation of paediatricians in surveillance on a national and international basis so as to achieve a series of benefits.

Aims

- facilitating communication and co-operation between existing national paediatric surveillance units;
- to assist in the development of new units;
- to facilitate sharing information and collaboration between researchers from different nations and scientific disciplines;

- to share information on current, past and anticipated studies and their protocols, and on conditions that have been nominated for surveillance but are not selected;
- to encourage the use of identical protocols to potentially enable simultaneous or sequential collection of data on rare paediatric disorders in two or more countries;
- to share and distribute information of educational benefit to constituent units, notably on study and surveillance methodologies;
- to share techniques and models of evaluation for units;
- to peer review and evaluate existing and proposed units;
- to identify rare disorders of mutual interest and public health importance for co-operative surveys through each national unit;
- to collaborate with, and provide information to, other groups interested in rare childhood diseases such as parent support groups; and
- to respond promptly to international emergencies relating to rare childhood conditions where national and international studies can make a contribution to science or public health.

Members of INoPSU

Founding members:

- Australian Paediatric Surv Unit
- British Paediatric Surv Unit
- Canadian Paediatric Surv Programme
- German Paediatric Surv Unit
- Latvian Paediatric Surv Unit
- Malaysian Paediatric Surv Unit
- Netherlands Paediatric Surv Unit
- New Zealand Paediatric Surv Unit
- Papua-New Guinea Paediatric Surv Unit
- Swiss Paediatric Surv Unit

Additional Members:

- Welsh Paediatric Surv Unit (2000)
- Portuguese Paediatric Surv Unit (2001)
- Irish Paediatric Surv Unit (2001)
- Greece and Cyprus Paediatric Surveillance Unit (2004)

Associate Members:

- Trinidad and Tobago Paediatric Surv Unit (2004)
- British Ophthalmological Surv Unit

Administration of the Association

In order to carry out the aims and direct the activities of INoPSU a secretariat has been set up. From 2004 Professor Rudi von Kries (ESPED) has acted as convenor, Dr R Pereira (NSCK) has acted as deputy convenor and Richard Lynn (BPSU) has acted as communications liaison.

International Collaboration

New Zealand paediatricians who are interested in undertaking international studies, or compare the rates of uncommon disease between countries, are encouraged to consider using INoPSU for this purpose.

Table 8: Members of INoPSU INoPSU Website: www.inopsu.com

Country	Unit	Email	Website
Australia	APSU	apsu@chw.edu.au	www.apsu.org.au
Britain	BPSU	helen.friend@rcpch.ac.uk	www.bpsu.inopsu.com
Canada	CPSP	cpsp@cps.ca	www.cps.ca/cpsp
Germany	ESPED	Prof.von.kries@gmx.de	www.esped.uni-duesseldorf.de
Greece and Cyprus	GCPSU	xhatzi@med.uth.gr	
Ireland	IPSU	robert.cunney@malix.hse.ie	
Latvia	LPSU	aspedlat@com.latnet.lv	
Malaysia	MPSU	jho@pc.jaring.my	
Netherlands	NSCK	rob.rodriquespereira@tno.nl	www.nvk.pedianef.nl
New Zealand	NZPSU	nzpsu@otago.ac.nz	www.otago.ac.nz/nzpsu
Papua New Guinea	PNGPSU	hopepng@datec.com.pg	
Portugal	PPSU	uvp-spp@ptnetbiz.pt	www.spp.pf/ingl/index_17.html
Switzerland	SPSU	hans-peter.zimmermann@bag.admin.ch	www.bag.admin.ch/infekt/melde/spsu/d/index/.htm(German)
Wales	WPSU	mirjam.maeusezahl@bag.admin.ch	www.welsh-paediatrics.org

Table 9: Characteristics of the Paediatric Surveillance Units

Country	Population (x10⁶<15 years)	Established	Approximate number of respondents
Australia	4.1	1992	1360
Britain	12.8	1986	2500
Canada	7.5	1996	2400
Germany	12.0	1992	460*
Greece and Cyprus	1.6	2001	
Ireland	1.3	1996	150
Latvia	0.4	1996	22
Malaysia	7.6	1994	400
Netherlands	3.0	1992	780
Papua New Guinea	1.92	1996	40
Portugal	1.67	2000	1506
New Zealand	0.83	1997	210
Switzerland	1.3	1995	250
Trinidad & Tobago	0.5	2005	
Wales	0.65	1994	135*

*Heads of Paediatric Centres

List of Clinicians with 100% Return Rate 2010
Clinicians who had a 100% return rate in both 2009 and 2010 are underlined

Thank you to those clinicians who returned all of their cards in 2010.

<u>Aftimos</u>	<u>Salim</u>	<u>Farrell</u>	<u>Alan</u>
<u>Aiken</u>	<u>Richard</u>	<u>Fleming</u>	<u>John</u>
Armishaw	Jeremy	<u>Fletcher</u>	<u>Rachel</u>
<u>Asher</u>	<u>Innes</u>	<u>Ford</u>	<u>Rodney</u>
Ayers	Rosemary	<u>Forster</u>	<u>Richard</u>
<u>Baker</u>	<u>Nicholas</u>	<u>Gangakhedhar</u>	<u>Arun</u>
Baker	Heidi	<u>Gapes</u>	<u>Stephanie</u>
Barker	David	<u>Gavin</u>	<u>Raewyn</u>
<u>Bates</u>	<u>Giles</u>	<u>Gentles</u>	<u>Tom</u>
<u>Battin</u>	<u>Malcolm</u>	Gunn	Alistair
Beard	Rachel	<u>Goldsmith</u>	<u>John</u>
Beasley	Spencer	Goodwin	Mick
<u>Blair</u>	<u>Nikki</u>	<u>Graham</u>	<u>Dave</u>
<u>Bourchier</u>	<u>David</u>	Grangaard	Eric
<u>Bradley</u>	<u>Stephen</u>	Grangaard	Erik
<u>Broadbent</u>	<u>Roland</u>	<u>Grant</u>	<u>Cameron</u>
<u>Broomfield</u>	<u>Frank</u>	<u>Gunn</u>	<u>Alistair</u>
<u>Brown</u>	<u>Jeff</u>	Hainsworth	Oliver
<u>Brynes</u>	<u>Cass</u>	<u>Hall</u>	<u>Anganette</u>
<u>Buchanan</u>	<u>Leo</u>	Hall	Kate
<u>Buckley</u>	<u>David</u>	<u>Harding</u>	<u>Jane</u>
Calder	Louise	<u>Hector –Taylor</u>	<u>James</u>
<u>Campanella</u>	<u>Silvana</u>	<u>Heron</u>	<u>Peter</u>
Campbell-Stokes	Priscilla	<u>Hewson</u>	<u>Michael</u>
<u>Chin</u>	<u>Simon</u>	<u>Hoare</u>	<u>Simon</u>
<u>Clark</u>	Philippa	<u>Hofman</u>	<u>Paul</u>
<u>Clarkson</u>	<u>John</u>	<u>Hornung</u>	<u>Tim</u>
<u>Cole</u>	<u>Nyree</u>	<u>Hunter</u>	<u>Warwick</u>
<u>Corban</u>	<u>Jenny</u>	<u>Hunter</u>	<u>Wendy</u>
<u>Coulter</u>	<u>Belinda</u>	<u>Jackson</u>	<u>Pam</u>
Craig	Angela	<u>Jankowitz</u>	<u>Peter</u>
<u>Cunningham</u>	<u>Vicky</u>	<u>Jefferies</u>	<u>Craig</u>
<u>Dalton</u>	<u>Marguerite</u>	<u>Jellyman</u>	<u>Timothy</u>
<u>Daniel</u>	<u>Alison</u>	Kamphamphe	Willie

<u>Darlow</u>	<u>Brian</u>	Kara	Tonya
<u>Denny</u>	<u>Simon</u>	<u>Kelly</u>	<u>Andrew</u>
<u>Dickson</u>	<u>Cameron</u>	Kelly	Patrick
<u>Dixon</u>	<u>Joanne</u>	Langdana	Anu
<u>Doocey</u>	<u>Claire</u>	<u>Laughton</u>	<u>Stephen</u>
Doran	John	<u>Leadbitter</u>	<u>Philip</u>
<u>Drage</u>	<u>Alan</u>	<u>Lear</u>	<u>Graham</u>
<u>Drake</u>	<u>Ross</u>	<u>Lees</u>	<u>Hugh</u>
<u>Elder</u>	<u>Dawn</u>	Lennon	Diana
Emery	Diane	<u>Lerversha</u>	<u>Alison</u>
<u>Evans</u>	<u>Juliana</u>	<u>Liang</u>	<u>Allen</u>
<u>Evans</u>	<u>Helen</u>	<u>Longchamp</u>	<u>Daniele</u>
<u>Lourens</u>	<u>Ralph</u>	<u>Reith</u>	<u>David</u>
Lynn	Adrienne	<u>Richardson</u>	<u>Vaughan</u>
<u>Maikoo</u>	<u>Rajesh</u>	Robertshaw	Kate
<u>Marks</u>	<u>Rosemary</u>	<u>Robertson</u>	<u>Stephen</u>
<u>Marshall</u>	<u>Andrew</u>	<u>Rowley</u>	<u>Simon</u>
<u>Matas</u>	<u>Richard</u>	<u>Russell</u>	<u>Glynn</u>
<u>Maxwell</u>	<u>Fraser</u>	<u>Sadlier</u>	<u>Lynette</u>
<u>McArthur</u>	<u>John</u>	<u>Sadowsky</u>	<u>Joel</u>
<u>McCarthy</u>	<u>Karen</u>	Sanders	John
<u>McCay</u>	<u>Hamish</u>	<u>Schmiti-Uli</u>	<u>Meia</u>
<u>McFarlene</u>	<u>Scott</u>	<u>Selby</u>	<u>Robyn</u>
<u>Mcllroy</u>	<u>Peter</u>	<u>Shaw</u>	<u>Robyn</u>
McLaren	Zoe	<u>Shaw</u>	<u>Ian</u>
Meadows	Caroline	<u>Shillito</u>	<u>Paul</u>
Meeks	Maggie	Sinclair	Jan
<u>Meyer</u>	<u>Michael</u>	<u>Skeen</u>	<u>Jane</u>
Mildenhall	Lindsay	<u>Skinner</u>	<u>Jon</u>
Miles	Fiona	<u>Smith</u>	<u>David</u>
<u>Mitchell</u>	<u>Ed</u>	<u>Smith</u>	<u>Warwick</u>
<u>Mitic</u>	<u>Schuman</u>	Spooner	Claire
<u>Moore</u>	<u>Philip</u>	St John	Martyn
<u>Morreau</u>	<u>Johan</u>	<u>Stanley</u>	<u>Thorsten</u>
<u>Morris</u>	<u>Max</u>	<u>Steinmann</u>	<u>Kai</u>
<u>Morrison</u>	<u>Philip</u>	<u>Stonehouse</u>	<u>Mary</u>
<u>Moyes</u>	<u>Chris</u>	<u>Subraminiam</u>	<u>Prema</u>
Mullane	Michelle	<u>Sullivan</u>	<u>Michael</u>
<u>Nagel</u>	<u>Fred</u>	<u>Swan</u>	<u>Catherine</u>
<u>Nair</u>	<u>Arun</u>	Swan	Catherine
<u>Neas</u>	<u>Katherine</u>	<u>Taylor</u>	<u>Barry</u>
Nel	Jaco	<u>Taylor</u>	<u>Paul</u>

<u>Nelson</u>	Nicola	<u>Teague</u>	<u>Lochie</u>
<u>Neutze</u>	<u>Jocelyn</u>	<u>Tomlinson</u>	<u>Paul</u>
<u>Newman</u>	<u>David</u>	<u>Trenholme</u>	<u>Adrian</u>
<u>Nicholson</u>	<u>Ross</u>	<u>Tsang</u>	<u>Bobby</u>
<u>Nobbs</u>	<u>Peter</u>	<u>Tuck</u>	<u>Roger</u>
Nolan	Melinda	Tuck	Roger
<u>Nutthall</u>	<u>Gabrielle</u>	<u>Twiss</u>	<u>Jacob</u>
<u>O'Donnell</u>	<u>Clare</u>	Wallace	Alexandra
<u>Palmer</u>	<u>Penny</u>	Warner	Todd
Patel	Rakesh	<u>Wendy</u>	<u>Walker</u>
<u>Pattimore</u>	<u>Philip</u>	West	Clare
<u>Percival</u>	<u>Teuila</u>	Weston	Phil
<u>Pereira</u>	<u>Nicola</u>	Whale	Janine
<u>Pinnock</u>	<u>Ralph</u>	Whale	Janine
<u>Pringle</u>	<u>Kevin</u>	Wilde	Justin
<u>Ramadas</u>	<u>Ram</u>	<u>Wills</u>	<u>Russell</u>
<u>Wilson</u>	<u>Nigel</u>		
<u>Wilson</u>	<u>Ross</u>		
<u>Wilson</u>	<u>Callum</u>		
<u>Wilson</u>	<u>Toni</u>		
<u>Wiltshire</u>	<u>Esko</u>		
<u>Wong</u>	<u>Maisie</u>		
<u>Wong</u>	<u>William</u>		
<u>Wong</u>	<u>Sharon</u>		

Congratulations to

Meia Schmiti-Uli

who was selected to win a \$50 book token to be presented at the ASM of the Paediatric Society of New Zealand