

New Zealand Paediatric Surveillance Unit

The 2nd Annual Report of the New Zealand Paediatric Surveillance Unit for 1999 contains an increasing amount of important information.

Surveillance of acute flaccid paralysis (AFP) has continued for the Ministry of Health's National Certification Committee for the Eradication of Poliomyelitis (NCCEP). Surveillance has also continued for the other conditions introduced in 1998. In 1999, four additional studies were started - retinopathy of prematurity, fetal alcohol syndrome, diabetes mellitus and subdural haemorrhage - all initiated by New Zealand paediatricians.

Some key findings in this report are:

- 17 cases of AFP were reported over the last 2 years. Almost all were Guillain-Barre Syndrome and no cases were due to wild polio.
- The continuing occurrence of vitamin K deficiency bleeding among infants not given vitamin K around birth which resulted in one death in 1999.
- The incidence of Type 1 Diabetes Mellitus in children and adolescents under 15 years of age in the first year of this study was higher than previous reports. The diabetic population now includes some adolescents with Type 2 Diabetes.
- The majority of children reported with fetal alcohol syndrome are in extended family/foster/adopted care. A proportion of affected children are adopted orphans from overseas.
- Although only 2 infants were reported by paediatricians as being born to HIV-infected women in 1999, the true number is likely to be higher as inquiry for HIV risk and testing for HIV is not widespread.

The ongoing success 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 funding from the Ministry of Health to ensure necessary surveillance of AFP.

Barry Taylor

Nigel Dickson

Nicola Dow

Introduction

Surveillance is important to monitor both the incidence of emerging conditions and the effectiveness of prevention measures. The Paediatric Society of New Zealand has for some years promoted the establishment of a unit that could regularly request specialist paediatricians to report on a number of conditions. The New Zealand Paediatric Surveillance Unit (NZPSU) was established in October 1997.

The aim of the NZPSU is to facilitate and improve the knowledge of rare 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 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 NZPSU was initially established, under 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 NZPSU's establishment, the number of conditions under surveillance has increased and now includes ten rare childhood conditions.

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

Aims

The aims of the NSPSU are:

- to establish and operate a system for monitoring acute flaccid paralysis, as part of the global certification of eradication of poliomyelitis, required by the World Health Organisation.
- to facilitate national surveillance and improve the knowledge of uncommon childhood conditions in New Zealand.

How the surveillance system works

The method of surveillance is based on that developed in the United Kingdom by the British Paediatric Surveillance Unit (BPSU) and used there since 1986. It has subsequently been used for the monitoring of rare childhood conditions in several other countries including Australia, and also by other specialist groups.

Specialist paediatricians gave their support to the surveillance system after the concept was discussed at an annual meeting of the Paediatric Society of New Zealand. A database of eligible clinicians, which included specialist 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.

Figure 1 shows the main components and information flows of the NZPSU. Every month, participants are sent a reply-paid card to report whether in the previous month they have seen any cases of the conditions under surveillance. However, cases of AFP must 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 case's identity 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 other will be on for a finite period, usually 2 or 3 years.

Regular surveillance reports are made to the Ministry of Health, specifically updating the progress with AFP surveillance.

Inclusion of new conditions

A Scientific Review Panel (SRP) has been established primarily to consider the inclusion 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 rare childhood condition (or a rare complication of a more common disease) and,
- 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 mailing list 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.

As there were already ten conditions under surveillance in 1999, none of which were due to be removed at the end of that year no applications for the inclusion of additional conditions were sought in 1999. However applications were sought in 2000.

Table 1: The members of the NZPSU Scientific Review Panel

Member	Institution
Professor Barry Taylor	Dunedin School of Medicine
Dr Nigel Dickson	Dunedin School of Medicine
Dr Alison Roberts	Ministry of Health
Dr Elizabeth Elliot	Australian Paediatric Surveillance Unit
Dr Jeff Brown	Palmerston North Hospital
Professor Brian Darlow	Christchurch School of Medicine
Professor Diana Lennon	University of Auckland

Surveillance Activities in 1999

In 1999, 160 clinicians participated in the system. The average response rate to the monthly mail-out of reporting cards was 95%, with no consistent set of non-responders. Table 2 shows the response rate per area.

Table 2: Response rate per health locality (as defined by the HFA) 1998-1999

Health Locality	1998 (%)	1999 (%)
Northland, Auckland	95	93
Waikato, Bay of Plenty, Taranaki	96	98
Wellington, Wairarapa, Manawatu, Wanganui, Tairāwhiti, Hawkes Bay	97	97
Nelson, Marlborough, Canterbury, West Coast	94	92
Otago, Southland	100	95
TOTAL	96.4	95

Respondent workload

Minimising the extra workload that the system imposes on paediatricians is a key factor for its success. The range of conditions under surveillance and their incidence needs to be kept under review. Confining the system to conditions that are rare will limit the demand on clinician's time, but conversely it will be less likely to provide useful information.

Figure 2 shows the percentage of clinicians on the mailing list that reported cases during 1998 and 1999. The figure shows that in 1999 57.0% of participants did not report any cases, with 33.7% reporting between one and three cases. 9% reported 4 or more cases during 1999. This increase in the workload between 1998 and 1999 can largely be attributable to diabetes notifications.

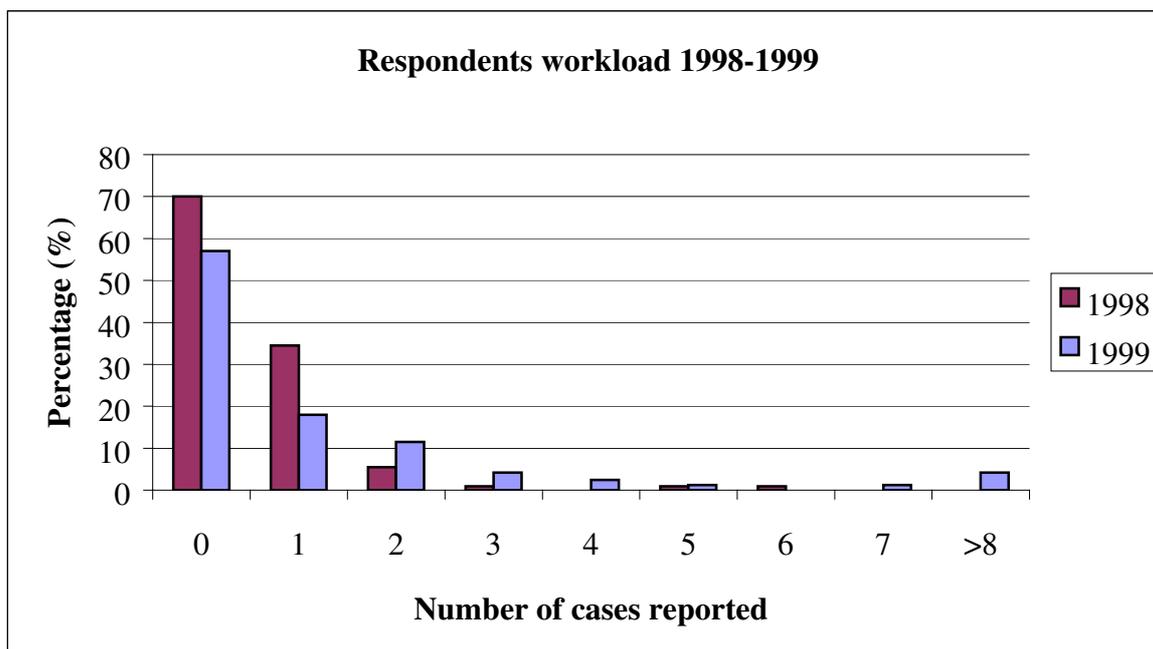


Figure 2: The percentage of clinicians that reported cases during 1998 and 1999

In 1999, NZPSU monitored 10 uncommon childhood conditions (Table 3). Some of the protocols and questionnaires used were adapted from those used by the Australian Paediatric Surveillance Unit.

Table 3: Conditions under surveillance in 1999

Condition (age range included)	Surveillance started	Principal Investigator(s)
Acute flaccid paralysis (<15 years)	October 1997	Dr Nigel Dickson, Dr Paul Shillito
Haemolytic uraemic syndrome (<15 years)	January 1998	Dr William Wong
Congenital rubella syndrome (<15 years)	January 1998	Professor Diana Lennon
Perinatal HIV exposure (<15 years)	January 1998	Dr Nigel Dickson, Dr Lesley Voss
Vitamin K deficiency bleeding (<15 years)	January 1998	Professor Brian Darlow
Neonatal herpes simplex infection (<15 years)	January 1998	Dr Dawn Elder
Subdural haemorrhage (<2 years)	January 1999	Dr Patrick Kelly
Retinopathy of Prematurity (<15 years)	January 1999	Professor Brian Darlow
Diabetes Mellitus (<15 years)	January 1999	Dr Priscilla Campbell-Stokes Professor Barry Taylor
Fetal Alcohol Syndrome (<15 years)	July 1999	Dr Alison Leversha

Classification of Case reports

A valid report is one confirmed by the investigator as satisfying the diagnostic criteria set out in the case definition.

Invalid reports can be either:

- Duplicate reports of cases already reported to the NZPSU, or
- Reporting errors arising from cases that have been reported but which:
 - Do not satisfy the diagnostic criteria, or
 - Are a result of misdiagnosis, or
 - The wrong box on the yellow card was ticked

An unknown report is one where insufficient follow-up information is available to the investigator or information has not been received by the NZPSU.

Table 4 shows the classification of cases reported to the NZPSU for conditions under surveillance in 1999.

Table 4: Classification of notified cases for conditions under surveillance in 1999

Conditions under surveillance	Total Reports	Valid reports		Invalid reports				Unknown	
		(%)		(%)				(%)	
				Duplicates					
				Errors					
Acute Flaccid Paralysis (from Oct 1997)	13	9	(69)	2	(15)	1	(8)	1	(8)
Congenital Rubella Syndrome	0	0	(0)	0	(0)	0	(0)	0	(0)
Perinatal HIV exposure	5	3	(60)	2	(40)	0	(0)	0	(0)
Neonatal Herpes Simplex Infection	4	2	(50)	0	(0)	0	(0)	2	(50)
Haemolytic Uraemic Syndrome	8	7	(88)	0	(0)	0	(0)	1	(12)
Vitamin K Deficiency Bleeding	5	3	(60)	2	(40)	0	(0)	0	(0)
Subdural Haemorrhage	15	6	(40)	0	(0)	1	(7)	8	(53)
Retinopathy of Prematurity	19	12	(63)	3	(33)	4	(21)	0	(0)
Diabetes Mellitus	164	145	(88)	19	(12)	0	(0)	0	(0)
Fetal Alcohol Syndrome (since July 1999)*	29	24	(83)	0	(0)	0	(0)	5	(17)

* information is for 12 months from July 1999-June 2000

Brief Reports on Selected Conditions

There is no report for congenital rubella as there were no cases reported in 1999. There are no reports for herpes simplex infection or subdural haemorrhage as a response rate of 50% or less was achieved for these two conditions.

Acute Flaccid Paralysis

Ongoing study

To confirm the absence of poliomyelitis the World Health Organization (WHO) requires a surveillance system to be in place that:

1. captures an annual incidence of Acute Flaccid Paralysis (AFP), not due to polio, of at least 1/100,000 children <15 years
2. 80% of cases of AFP have 2 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.

There were 10 children notified with confirmed Acute Flaccid Paralysis, of these information was obtained on 9:

- The overall incidence was 1.2 per 100,000 children <15 years
- The age range was 9 months to 12 years
- A diagnosis of Guillain-Barre syndrome was made in 6 of these children, one suffered from infarction of the spinal cord, one viral myalgia and the cause for the remaining children was not reported
- Analysis of stool samples that satisfy the WHO criteria was only complete for 2 of the children. These were towards the end of the year after efforts had been made to remind paediatrician of the WHO requirements for this investigation

Comment

The system successfully captured the required rate of AFP

However the rate of stool testing that met WHO criteria was less than required by WHO. This was noted before the end of the year, and efforts

that were made to remind paediatricians of the need for telephone notification and the WHO requirements. Following these efforts the rate of stool testing improved.

Ongoing surveillance of AFP, even following the time that WHO announce polio to have been eradicated from the Western Pacific region will be necessary. This will require the telephone notification of all cases of AFP, including those with a definitive diagnosis such as Guillain-Barre syndrome etc.

Haemolytic uraemic syndrome

Ongoing study

There were 7 confirmed cases of haemolytic uraemic syndrome (HUS) in children in 1999, compared to 14 cases in 1998. Information was not obtained on one notified case.

- The cases come from a geographically disperse area, ranging from Auckland to Christchurch, although 7 of the 8 notified cases were from the North Island.
- The median age for the 1999 cohort of patients was 2.7 years, (range 0.3-14years)
- In 2 cases, the Shiga toxin H7:0157 was detected in stool specimens. Two other infants developed HUS following pneumococcal meningitis.
- The mean of diagnosis was 7 days (range 1-14 days).
- All children survived their initial disease but one infant was left with chronic renal failure following pneumococcal meningitis.

Comments

Although the rate of Shiga toxin related infections continue to increase, the number of HUS cases has fallen in 1999.

There are still delays in the diagnosis of this condition.

Perinatal exposure to HIV

Ongoing study

There were notifications of 3 infants perinatally exposed to HIV in 1999. Information was obtained on all children reported. Of these 3, 2 were born in 1999 to HIV-infected women in New Zealand. The other child was diagnosed at the age of 3 on entry to this country from a high prevalence area.

Of the two perinatally exposed infants:

- Both were reported from the Northern region
- One was born to a European and one to a Maori woman
- Both of the women were diagnosed with HIV prior to the pregnancy, received antiretroviral treatment during the pregnancy, delivered by caesarian section and did not breast feed
- Neither of the infants were detected as being infected with HIV

Comment

Although only 2 infants were reported by paediatricians as being born to HIV-infected women in 1999, the true number is likely to be higher as inquiry for HIV risk and testing for HIV are not widespread.

Retinopathy of Prematurity (Stage III or over)

Year 1 of a 2-year study

There were 12 notification of Retinopathy of Prematurity (Stage III or over) in 1999.

- The mean gestation was 25.5 weeks (range of 23-31 weeks), with just one infant having a gestation of over 28 weeks.
- The range of birthweight was 785g (range 510-1171), however this excluded one infant with non-immune hydrops who weighed 3075g.
- Stage III disease was unilateral in 4 cases, all at less than threshold and with maximum 3 clock hours of stage 3.
- Six infants received treatment, all with laser therapy. In only 3 of these infants was the disease clearly at threshold.
- The outcome for most infants is unknown at this time but is known to be poor in one infant.

Childhood Diabetes Mellitus

Year 1 of a 2-year study

There were 145 valid reports of new cases of Diabetes Mellitus in children and adolescents under 15 years of age. Of these, 138 (95.1%) had Type I, and 7 (4.8%) Type II, Diabetes Mellitus

Type 1 Diabetes Mellitus

- The incidence of Type 2 Diabetes in those under 15 years of age was 16.6 per 100,000, (95% CI 13.9-19.6 per 100,000)
- The incidence in the South Island was higher than the North Island
- 86% of the children were European, 6% Maori, 3% Pacific Island 2% Indian and 3% of other ethnic group.
- 21% of cases were under 5 years of age at diagnosis
- The majority cases were well at presentation, however 26% having a pH below 7.3, and 4% having a pH less than 7.1.

Type 2 Diabetes Mellitus

- The incidence of Type 2 Diabetes in those under 15 years of age was 0.84 per 100,000, (95% confidence interval 0.34-1.72 per 100,000)
- Of the 7, 3 of the children were European and 4 Maori
- All had reached puberty and aged 11 or older
- 6 were obese with a body mass index above the 95th percentile for age and sex.
- All were metabolically stable with no acidosis.

Auxiliary case ascertainment is in progress using hospital admission data and reports from Diabetes Nurse Educators. Data collection has continued for 2000, and will end in December 2000.

Comment

The incidence of Type 1 Diabetes Mellitus in children and adolescents under 15 years of age in 1999 was higher than previous reports (nearly doubled), and the diabetic population now includes adolescents with Type 2 Diabetes.

Vitamin K Deficiency Bleeding (VKDB)

Year 1 of a 2-year study that is to be continued on account of changes in available formulations of vitamin K

Valid reports of 3 infants born in 1999 who suffered from VKDB were received in 1999 and January 2000.

- One was early onset/classical (incidence approximately 1 in 57,000), and 2 were late onset, both in the second week of life (incidence approximately 1 in 28,500).

- None of the 3 cases received vitamin K at birth and all were breast-fed.
- One of the infants with late onset VKDB died.
- The surviving infant with late onset VKDB was reported to have mildly deranged liver function, the cause of which is unknown.
- All 3 infants were given vitamin K (the one who died just before death) and the two who survived responded to treatment without long term neurological sequelae.

Comment

These findings emphasize the need for all infants to receive vitamin K prophylaxis at birth.

Although it was initially planned to monitor VKDB for three years (i.e. until the end of 2000) it has been decided to continue into 2001 in view of the changes in the formulation (to a mixed micelle preparation) and licensing (to either oral or intramuscular route) of vitamin K.

Fetal Alcohol Syndrome (FAS)

Year 1 of a 2 year study that was started in July 1999

29 cases of suspected or definite FAS were notified by end of the first 12 months of surveillance. Information has been received on 24 (83%) of these

- 9 definite cases of FAS were reported.
- The remainder were suspected FAS but awaiting further investigations or assessments over time.
- The diagnosis was usually suspected by the notifying Paediatrician, however, other agencies also suspected the diagnosis and facilitated referral (2 by Special Education Services, 2 by CYFS, 2 by mental health professionals and one by the child's parents).
- 20 children were born in New Zealand and the remaining 4 in Russia
- 7 of the 24 were living with their biological parents, 7 living with family and the remainder adopted or in foster care.
- Of the 20 children born in New Zealand, 11 were of Maori and 9 of European ethnicity.

Comment

The majority of affected children are in extended family/foster/adopted care. A significant proportion of affected children are adopted orphans from overseas. Paediatricians should consider the diagnosis during all routine paediatric assessments, and particularly during assessments of adopted or fostered children.

International Network of Paediatric Surveillance Units

In August 1998, at the 22nd International Congress of Paediatrics in Amsterdam, ten national paediatric surveillance units met to discuss a proposal that would link pre-existing units and improve international collaboration and discussion. Together, they formed the International Network of Paediatric Surveillance Units (INoPSU). A secretariat, consisting of representatives from the United Kingdom (UK), Australia, Canada and the Netherlands, was set up to carry out the aims and direct the activities of INoPSU.

Founding members included units from Australia, Canada, Germany, Latvia, Malaysia, Netherlands, New Zealand, Papua New Guinea, Switzerland and the UK. More recently, the Welsh unit, which was formed in 1995, and concentrates on less rare disorders, became the eleventh unit to join INoPSU. Several countries such as Portugal, Belgium and the Czech Republic have also expressed an interest in developing national paediatric surveillance units.

Aims of INoPSU

The aims of INoPSU are:

- facilitating communication and cooperation 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 school 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 cooperative surveys through each national unit;
- to collaborate with and provide information to other groups interested in rare childhood diseases such as parent support groups;
- 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

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Table 5: Characteristics of International Paediatric Surveillance units

Country	Population (x10 ⁶ <15years)	Established	Respondents	Response rate
Australia	1.5	1992	934	96%
Britain/Eire	12.8	1986	2005	92%
Canada	6.3	1996	2212	83%
Germany	14	1992	468*	94%
Latvia	0.4	1996	22	90%
Malaysia	7.7	1994	395	65%
Netherlands	2.9	1992	432	91%
Papua New Guinea	1.9	1996	40	79%
New Zealand	0.8	1997	165	94%
Switzerland	1.3	1995	40*	99%
Wales	0.6	1995	121	95%

* Heads of Paediatric Centres

Table 6: Conditions under surveillance worldwide

Conditions under surveillance worldwide	Country
Acute flaccid paralysis	Australia, Canada, Netherlands, New Zealand, Papua New Guinea, Switzerland
Anaphylaxis	Canada
Aseptic meningitis following MMR vaccination	Germany
Atresia (stomach, esophagus)	Latvia
Celiac disease	Netherlands
Cerebral edema in diabetic ketoacidosis	Canada
CHARGE association	Australia

Children in house fires	Wales
Congenital adrenal hyperplasia	Netherlands, Wales
Congenital cytomegalovirus infection	Australia
Congenital hypothyroidism	Papua New Guinea
Congenital laryngeal stenosis	Latvia
Congenital nephrosis, Finnish type	Latvia
Congenital rubella	Australia, Britain, Canada, New Zealand, Switzerland
Congenital syphilis	Latvia
Diabetes mellitus	Germany, Netherlands, New Zealand, Papua New Guinea, Wales
Duchenne muscular dystrophy	Malaysia
Encephalitis	Britain
Eosinophilic granuloma	Latvia
Fetal alcohol syndrome	New Zealand
GMUT-1 deficiency	Germany
Group B streptococcal infections	Britain, Netherlands
Haemophilus influenzae infections	Australia, Britain, Germany
Hemolytic uremic syndrome	Australia, Britain, New Zealand, Switzerland
Hemorrhagic disease of the newborn (Vit K Deficiency Bleeding)	Australia, Canada, Germany, New Zealand, Switzerland
Hirschsprung's disease	Australia
Histiocytosis	Latvia
HIV/AIDS	Australia, Britain, Latvia, Malaysia, Netherlands, NZ, PNG
Idiopathic and congenital nephrotic syndrome	Australia
Inflammatory bowel disease	Netherlands
Invasive pneumococcal infections	Germany
Ischaemic stroke in infants	Germany
Leukemia (acute lymphoblastic, acute myeloblastic, chronic myeloblastic)	Latvia
Lymphogranulomatosis	Latvia
Malignant disease	Papua New Guinea, Wales
Marfan's syndrome	Wales
Medullary sponge kidney	Latvia
Multiple sclerosis	Germany
Münchausen by proxy syndrome	Australia
Neurologic endemic cretinism	Papua New Guinea
Organoaciduria and fatty acid oxidation defects	Germany
Neonatal herpes simplex	Australia, New Zealand
Neonatal fungal septicemia	Germany
Neural tube defects	Netherlands
Pancreas cystic fibrosis	Latvia
Pertussis	Germany, Netherlands
Pigbel	Papua New Guinea
Polycystic kidney disease	Latvia
Prader-Willi syndrome	Australia
Primary immunodeficiency disorders	Australia
Progressive intellectual and neurological deterioration/CJD	Britain, Canada
Renal tubular acidosis	Papua New Guinea
Retinopathy of prematurity	New Zealand
Rett syndrome	Australia

Reye's syndrome	Britain
Severe bronchial asthma	Latvia
Severe/fatal allergic reactions to food ingestion	Britain
Severe visual impairment and blindness	Britain
Smith-Lemli-Opitz syndrome	Canada
Subdural haemorrhage	New Zealand, Wales
Tuberculosis	Latvia, Wales
Transient myeloproliferative syndrome	Germany
Vitamin C deficiency bleeding	Switzerland
Williams-Campbell syndrome	Latvia

<p>List of (possibly obsessive) Clinicians with 100% Return Rate 1999</p>
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**Thankyou to those clinicians who returned all their cards in
1999**

George	Abbott	Dave	Graham	Kevin	Pringle
Geoff	Aiken	Cameron	Grant	Simon	Rowley
Innes	Asher	Keith	Grimwood	Susan	Rudge
Nicola	Austin	Alistair	Gunn	B	Salmon
Nicholas	Baker	Ian	Hassall	Elizabeth	Segedin
John	Barry	Paul	Heaton	Roslyn	Selby
David	Barry	Warwick	Hunter	Ian	Shaw
Malcolm	Battin	Lakshimi	Karthigesu	Robyn	Shaw
Spencer	Beasley	David	Knight	Paul	Shillito
Frank	Bloomfield	Alison	Leversha	Jan	Sinclair
David	Bourchier	Allen	Liang	Jane	Skeen
Jeff	Brown	Scott	Macfarlane	Oliver	Smales
Leo	Buchanan	Richard	Mackay	Thorsten	Stanley
Catherine	Byrnes	Neil	MacKenzie	Lochie	Teague
Louise	Calder	Rajesh	Maikoo	Paul	Tomlinson
Moira	Campbell	John	Malcolm	Roger	Tuck
Simon	Chin	Noel	Manikkam	Alison	Vogel
John	Clarkson	Rosemary	Marks	Lesley	Voss
Robin	Corbett	Fraser	Maxwell	Wendy	Walker
Joan	Corrie	John	McArthur	Diane	Webster
Tony	De Sylva	Peter	Mclroy	Alison	Welsley
John	Doran	Lindsay	Mildenhall	Jeffray	Weston
Robin	Fancourt	Chris	Moyes	Phillip	Weston
Alan	Farrell	Fred	Nagel	Ross	Wilson
Rodney	Ford	John	Newman	Nigel	Wilson
Tom	Gentles	Wayne	Nicolls	Elizabeth	Wilson
John	Gillies	Peter	Nobbs	Maisie	Wong
John	Goldsmith	Alan	Parsons	William	Wong