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Contents:

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VIRUSES, CHLAMYDIAS, COXIELLAS, RICKETTSIAS AND MYCOPLASMAS REPORTING SCHEME: A total of 1247 reports were processed during this period (12 to 25 April 1990).

There were 7 reports of rubella. One of these was in a 22-year-old woman who was 10 weeks pregnant and whose son had rubella. Others were a 38-year-old woman who was 24 weeks pregnant and a 24-year-old woman who was 23 weeks pregnant.

Three virus isolations were associated with Sudden Infant Death Syndrome. Cytomegalovirus was isolated from a saliva sample from a 1-year-old boy who died from disseminated sepsis. Faeces samples from a 1-year-old boy and a 2-year-old girl revealed untyped adenovirus and untyped poliovirus, respectively.

Five cases of hepatitis C were reported,. All the patients were male. Ages were reported for 3 of them - 30, 41 and 43 years. All had hepatitis reported as the presenting syndrome and all were diagnosed by an ELISA for IgG to the virus.

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- Figures given may be subject to revision.

A case of spotted fever group rickettsial disease ('Flinders Island Spotted Fever') has been reported. The patient, a 35-year-old male from Georgetown on the north coast of Tasmania, presented with general malaise and/or mild fever and skin and/or mucous membrane disease. The diagnosis was made serologically after a four fold or greater change in IgG titre to spotted fever group rickettsial antigen. The details of the aetiology of this disease are unknown. It occurs all along the east coast of Australia, from Mossman, north of Cairns, through Queensland and New South Wales to Wilson's Promontory in Victoria, Flinders Island in Bass Strait, and along the north coast of Tasmania. It is caused by rickettsia, but it is not known whether the species involved is Rickettsia australis, the causative organism of Queensland Tick Typhus, a similar disease. It is assumed that, as for Queensland Tick Typhus, the disease is transmitted from marsupial or rodent reservoirs by tick vectors (species unknown). Cases have been recorded in every month of the year but a peak usually occurs in the summer months in southern Australia and slightly earlier in northern areas. The disease usually presents with a fairly abrupt onset of fever and a marked myalgia and headache. A maculopapular rash develops on the trunk and limbs on average 4 days after the onset of fever. Characteristically, but not diagnostically, the rash also occurs on the palms and soles. The illness usually runs a benign course, but in the elderly and those with underlying illness it can be more severe. Tetracycline and chloramphenicol are effective treatments. The diagnostic test is available at the Clinical Pathology Laboratory at Fairfield Hospital.

Ross River virus infections were identified in 21 cases. A large number of these were from Victoria in March. Locations provided were Echuca (3), Berwick, Seaford, Kerang, Melton, Murrabit, Tatura, Paterson Lakes (Gippsland), Keilor, Stony Point, Pupanyup, Swan Hill, Cobden and St James. Cases were also identified in Finley, NSW and in unspecified places in the Northern Territory and Tasmania (2).

The number of reports of parainfluenza virus type 1 and respiratory syncytial virus continues to show a seasonal increase. Of the 25 parainfluenza type 1 reports, 10 were from Queensland and 5 were from Western Australia. Sixty of the 89 reports of respiratory syncytial virus were from New South Wales and 24 were from Queesland.

A case of Toxoplasmosis with suspected fetal involvement was reported. The patient was a 29-year-old woman who was 19 weeks pregnant. The diagnosis was made by a ELISA for specific IgM. Fetal calcification in the liver and abdomen (2 cysts) was thought possibly to be related to the infection.

No exposure details were provided for any of the 12 cases of Q fever reported.

OVERSEAS BRIEFS

1. CHOLERA IN MALAYSIA

It was recently reported that in the period 1 January to 10 February 1990, there were 207 cases of cholera in Malaysia, with 6 deaths. The areas of Malaysia which are currently considered to be cholera-infected are as follows (areas newly declared on 19 April 1990 indicated by an *):

Peninsular Malaysia:

Kelantan State	-	Bachok District*
		Kota Bharu District*
		Tumpat District*
Pahang State	-	Temerloh District*
Selangor State	-	Hulu Langat District
Terengganu State	-	Besut/Setiu District*

Sabah:

Keningau District
Kinabatangan District*
Kota Kinabalu District*
Kunak District
Labuk Sugut District
Lahad District
Nabawan District*
Penampang District
Sandakan District
Semporna District
Tambunan District
Tawau District

2. DENGUE IN FIJI

A large number of cases of dengue continued to be reported from Fiji in March. In the week ending 3 March, there were 98 cases and in the week ending 10 march, there were 50 cases with 1 death.

3. TYPHOID IN NAURU

There have been several cases of typhoid fever in Nauru recently. Five persons were admitted to the Nauru Phosphate Corporation Hospital with positive serology and symptoms. The first was admitted on 30 March 1990 and the other cases were diagnosed between that date and 11 April.

4. CHOLERA IN MALAWI

The epidemic which commenced in October 1989 and peaked in January was much reduced by April when only low numbers of suspect cases were reported. (A total of 10,350 cases had been reported by 30 March in this significant epidemic.)

SUSPECTED BACILLUS CEREUS FOOD POISONING OUTBREAK

(Based on information received from Dr R Scott, Chief Health Officer, and Mr Alec Percival, Director, Health Surveillance Service, ACT Department of Health).

A large outbreak of domestic food poisoning, suspected to have been caused by *Bacillus cereus*, has been reported. It occurred after a Christening party held in a private residence in a Canberra suburb from 6.30pm on 24 March 1990.

The food eaten at the party was

- boiled rice mixed with fried bacon and boiled vegetables, served cold,
- pieces of fried chicken, bought from a commercial outlet 30 minutes before the party,
- various types of bottled drinks and beers.

As there were to be over 40 guests attending the party, the host family began to prepare the boiled rice and ingredients early in the morning. The rice was allowed to cool in a single large container at room temperature for about 30 minutes before being put into the refrigerator. It was taken out of the refrigerator about 50 minutes before the party began.

Forty persons at the party ate boiled rice and chicken and 6 had chicken only. All 40 who had rice and chicken experienced severe vomiting 1.5 to 2 hours later. They did not experience diarrhoea, high temperature or abdominal pain. The 6 persons who only ate chicken were unaffected.

All 6 family members consulted a local general practitioner and some guests attended Woden Valley Hospital Casualty for treatment that night. No-one was admitted to hospital and all the patients recovered quickly.

The incident was not reported until 7 days after the onset of symptoms, by which time there was no left-over food or vomitus available for bacteriological examination. Thus it was difficult to determine the exact organism which caused this food poisoning outbreak.

The evidence that the poisoning was caused by *Bacillus cereus* was:

- the only symptom was vomiting and the time of onset was only 1 to 2 hours after eating. (The major organisms which cause this type of disease are *Bacillus cereus* and *Staphylococcus aureus*. The relatively short incubation period reflects the fact that they cause disease by a preformed enterotoxin. *B. cereus* food poisoning is always associated with vomiting and is only associated with diarrhoea in 33% of cases. *S. aureus* food poisoning is associated with diarrhoea in 77% of cases and with vomiting in 70% of cases (1).)

- only those persons who ate rice were affected; those who only ate chicken were not. (This is also suggestive of *B. cereus* involvement. *B. cereus* is a ubiquitous spore-forming bacterium, often associated with raw and dried foods such as rice. Many cases of food poisoning are

caused by *B. cereus* multiplication and toxin formation in rice that is not kept either sufficiently hot (above 60°C) or sufficiently cold (less than 4°C) after being boiled or fried. In contrast *S. aureus* is usually associated with food of high protein content such as ham, poultry, eggs and cream.)

In this incident, there would have been opportunity for *B. cereus* multiplication either when the rice was left at room temperature before being served, if cooling the one large container did not proceed quickly enough or if the refrigeration during the day was inadequate. A maximum temperature of 26°C in Canberra that day would have been conducive to rapid microorganism multiplication.

This is a classical case of domestic food poisoning and the type of outbreak which is often unrecognised and underreported. It is also the type of disease outbreak which can be prevented by food hygiene education and to this end, a press release was issued to highlight the incident, and the family was given instruction on safe food handling.

REFERENCE

1. Hughes, JM (1985) Food Poisoning in Principles and Practice of Infectious Diseases. Eds Mandell GL, Douglas, RG Jr, Bennett, JE. John Wiley and Sons, New York.

AUSTRALIAN NATIONAL COUNCIL ON AIDS - BULLETINS

The following Bulletins were issued by the Australian National Council on AIDS in January 1990. A further Bulletin, 'Laboratory Safety Guidelines That Take Account of HIV and Other Blood-borne Agents' will be reprinted in the CDI in the near future. Enquiries regarding the Bulletins should be directed to the Secretary, Australian Council on AIDS, GPO Box 9848 Canberra ACT 2601, telephone (06) 2897767.

Bulletin No. 2 - Management of Health Care Workers or Others Exposed to Blood from a Person Infected or Suspected to be Infected with Human Immunodeficiency Virus

Occupational acquistion of human immunodeficiency virus (HIV) infection has been a matter of concern among health care workers since AIDS was first recognised in 1981. Although experience and systematic studies undertaken since then have failed to demonstrate any risk during the delivery of standard medical care to HIV infected persons, it has become clear that there is a risk if accidents which involve parenteral exposure to blood occur.

In the study by the Centers for Disease Control (CDC) in Atlanta, Georgia, USA of health care workers (HCW) with parenteral or mucous membrane exposures, four of 963 persons who had received either a needlestick or cut with a sharp instrument became infected, a rate of 0.42% (upper limit of the 95% confidence interval 0.95%)(1).

If this rate approximates the real risk and it appears that all HIV infections are eventually fatal then the risk of death from a HIV related needlestick is about ten times the risk of death from hepatitis B acquired under the same circumstances.

Current recommendations for the management of a HCW with HIV exposure comprise evaluation of the exposure by a physician experienced in AIDS, counselling and if the exposure is considered significant, serial testing for HIV antibody for twelve months. Recently the manufacturers of Zidovudine (AZT) have suggested AZT be considered for post exposure HIV prophylaxis and have produced a protocol for its administration.

The proposal is based on studies of experimental retroviral inoculation of cats and mice in which infection can be prevented if AZT is administered shortly after inoculation (2,3). The viruses studied were not HIV and whether similar beneficial effects occur in humans is unknown. However, given that parenteral exposure to HIV carries a definite, if low, risk of infection, that infection is likely eventually to result in death, that a short course of AZT may be beneficial and is unlikely to be harmful and that definite data are unlikely to be available for several years, it is probable that many exposed HCWs will chose to have AZT.

Because AZT is expensive and toxic it is inappropriate that it be prescribed for a parenteral exposure to blood of unknown HIV status. In view of the above considerations the following protocol for management of HCWs with possible parenteral exposure to HIV is proposed:

1. Health care institutions should establish a system by which all parenteral exposures of staff workers to blood or other body fluids of patients are reported.

2. Such exposures should be evaluated as soon as possible by an experienced physician to determine the potential risk of transmission of blood borne viruses including HIV.

3. Should the risk of transmission be regarded to be significant and the exposure be known to involve HIV positive blood, the HCW should be counselled and AZT prophylaxis offered.

4. Should the HIV status of the exposure be unknown permission to test should be obtained from the patient and a test for HIV antibody performed as soon as practicable. Where consent is not granted by the patient, or the patient is not conscious, and there is no previous blood sample, authority for performing an antibody test will need to be obtained according to the legal procedures applying in each State.

5. As it is likely that the effectiveness of AZT prophylaxis will be closely related to the interval following exposure, treatment should commence as soon as possible. The recommended prophylactic treatment is a six week course of oral therapy beginning within 72 hours (or up to one week post exposure at the discretion of the physician in charge) at a dose of 200mg every four hours. A detailed management protocol may be obtained from the manufacturer or from State or Commonwealth health departments.

REFERENCES

1. Marcus R, CDC Cooperative Needlestick Study Group (1988). Surveillance of health care workers exposed to blood from patients infected with the human immunodeficiency virus. N Engl J Med 319:1118-23.
2. Tavares L, Roneker C, Johnston K et al (1987) 3'-azido-3'-deoxythymidine in feline leukemia virus-infected cats: a model for therapy and prophylaxis of AIDS. Cancer Res 47:3190-4.
3. Ruprecht RM, O'Brien LG, Rossoni LD and Nusinoff-Lehrman S (1986). Suppression of mouse viraemia and retroviral disease by 3'-azido-3'-deoxythymidine. Nature 323:467-9.

Bulletin No. 4 - HIV and Blood Transfusion and Administration of Blood Products

A. Safety of the Blood Supply

The Australian Red Cross Blood Transfusion Service maintains a very high standard of security against contamination of the blood supply by the human immunodeficiency virus (HIV), the virus which causes AIDS. The following measures have been in place since 1985:

Exclusion of high risk donors

All potential donors must sign a statement certifying that they do not belong to known risk groups (eg. IV drug users or male homosexuals). False declarations carry heavy penalties. This statutory declaration is only signed after the volunteer has been interviewed privately by a registered nurse, who ensures that the form has been understood. The effectiveness of this exclusion arrangement is demonstrated by the low number of donations which are found to be positive on routing testing.

Testing of each donation

Routine Screening and False Positives:

Every individual unit of blood donated is subjected to a highly sensitive ELISA (Enzyme Linked Immunosorbent Assay) test for antibodies to HIV. Because it is designed to err on the side of safety it reads as positive in 0.12% of persons offering to donate blood. Over 99% of these apparent positives are in fact "false positives" - not infected with HIV (see below). Nevertheless no blood which fails this initial screening is used for transfusion. The Blood Transfusion Service believes this extremely cautious approach is justified, even though is results in a number of safe units being excluded from use.

Confirmatory Testing:

Any blood samples which are positive on initial screening are subjected to a series of confirmatory tests such as the specific Western Blot technique. The samples which remain positive on Western Blot are regarded as being infected with HIV. The reason confirmatory testing is carried out by the Blood Bank is to obtain more accurate epidemiological information, and for the benefit of the person tested, in assisting further diagnosis and counselling.

The "Window Period" and False Negatives:

After a person is infected with HIV, antibodies usually appear within 4-6 weeks, but occasionally there may be a delay of up to three months. This period is called the "Window Period", during which a person who is infected may be negative when tested. Thus it is important that persons who are at significant risk of infection never donate blood.

Since the introduction of AIDS screening by the Red Cross Blood Transfusion Service in May 1985, no recipient has been found to have acquired the AIDS virus by transfusion.

B. Autologous blood transfusion

Autologous blood donation is a procedure whereby a person likely to require blood transfusion at elective surgery makes arrangements to have his or her own blood available.

Autologous blood collection is not recommended unless the surgical procedure concerned is usually associated with the need to replace blood loss. Where this is the case, it is customary to collect between two and four half litre units of blood in the two to four weeks before surgery. It must, however, only be undertaken with the agreement of the patient, the surgical team and the hospital administration.

The procedure differs little from conventional blood donation, except for the time intervals between donations, which in autologous programs is usually a week. A period of at least three days is usually left between the collection of the last donation and the operation itself. Most donors are given iron replacement therapy. The shelf life of the blood is limited to four weeks, according to the regulations laid down by Blood Transfusion Services for the storage of blood.

Most Red Cross Blood Transfusion Services offer autologous blood donor programs. The donors concerned are required to meet the normal Red Cross donor criteria, to be at least 16 years of age, to weigh at least 50kg and to be in good general heath. The final decision concerning suitability for involvement in an autologous program rests with the Medical Officer of the Transfusion Service concerned.

Hospitals may also offer autologous donation programs. The decision concerning suitability for involvement in a hospital program, where criteria for acceptance may differ from those of the Red Cross Blood Transfusion Services rests with the Medical Officer in charge of the hospital's blood bank. **It is recommended that all autologous blood donations should be screened for HIV, HBV and syphilis and be ABO and Rh blood grouped.**

All programs offered by the Red Cross Blood Transfusion Services or hospitals must be linked with arrangements for admission for surgery.

Autologous blood is recognised as being the safest possible blood that a patient may receive but optimal conditions for storage of the blood must be observed. It must always be understood by the patient that, at surgery, there is a possibility that additonal blood or blood components (besides the person's own blood) may be required in the managment of some episodes of blood loss.

C. Blood transfusions - directed donations and related donors

Concern in the community about the possibility of contracting HIV through blood transfusion has led to pressure from patients and relatives for the use of blood from nominated donors. Both hospitals and the Red Cross Blood Transfusion Services have been under pressure to accept blood donation directed to named recipients. However, directed donations are believed in general to confer no advantages over the blood donated by regular donors and provided to hospitals by the Red Cross Blood Transfusion Services.

There are a number of reasons for not encouraging the practice of directed donations:

- a person asked to give blood for a family member or close friend is under some pressure to assist and if this person belongs to a group at risk for the transmission of HIV and wishes this to remain confidential then the person may not be completely truthful about their medical history. This concealment could increase the risk of the patient receiving infected blood.

- the testing of the person's blood donation may reveal abnormalities precluding the issue of the donation. This could put the donor in the embarrassing position where he or she may have to reveal the reasons for exclusion to the recruiting patient or friend.

- even where directed donations have been used it has often been found necessary to add other donations or blood components obtained through the Red Cross Blood Transfusion Services in the course of major surgery or a prolonged illness.

In view of the now very rigorous safeguards to prevent the transmission of diseases by blood transfusion in this country (see above) **it is recommended that directed donations be discouraged in the normal course of clinical practice.**

The Australian Red Cross Blood Transfusion Services have agreed to collect blood under some circumstances from relatives and friends of a patient when requested to do so by the patient's doctor. The decision concerning the suitability and acceptable of the donor, and the program of transfusion proposed, however, rests with the Medical Officer in the Blood Transfusion Service concerned.

In some instances directed donations may be acceptable by hospitals or private pathologists.

Where elective surgery is under consideration, the alternative of autologous blood donation should be considered.

D. Blood products

Certain products manufactured from blood are capable of transmitting HIV, although the risk is extremely small.

This section provides further information on the risk relating to such products. Note that the raw material (blood) is itself protected by the measures described in the section SAFETY OF THE BLOOD SUPPLY, above.

Whole blood, concentrated or reconstituted red cells, frozen plasma, white cell and platelet concentrates cannot be treated in any way to reduce the risk of infection if the donor was harbouring a virus at the time of donation (although the chance of HIV being present is remote). Sound therapeutic practice dictates that such products should be used only where a reasonable indication exists, and administered in minimal quantities to achieve the necessary effect.

Fractionated blood products are prepared from pools of individual donations by a physicochemical fractionation process.

- Plasma volume expanders, both Stable Plasma Protein solution (SPPS) and Normal Serum Albumin (NSA) are heated at 60°C for 10 hours. This renders the material safe with respect to both hepatitis viruses and HIV.

- Immunoglobulins currently prepared at the Commonwealth Serum Laboratories can be regarded as safe from the HIV virus as a result of exposure to 20-25% ethanol for several hours during the Cohn process. No case of AIDS has been reported which was associated solely with prior administration of immunoglobulin. This applies to normal immunoglobulin and to the specific or hyperimmune immunoglobulins (tetanus, varicella, hepatitis B, anti-D). These products are similarly known not to transmit hepatitis, but this may not be true of immunoglobulins produced by other that the Cohn alcohol-precipitation technique.

- Coagulation factor concentrates, including factor VIII (AHF High Purity) and Factor IX (Prothrombinex) are not sufficiently stable to withstand heating in solution. Until now, they have been heated in the dry state at 60°C for 72 hours. This has been shown to inactivate the AIDS virus, but not non-A, non-B hepatitis. AHF (High Purity) is now heated in the dry state at 80°C for 72 hours and this process will soon be applied to Prothrombinex. This process inactivates both hepatitis and HIV, but at the price of losing some Factor VIII activity.

E. Summary

Blood products that have been prepared by approved physico-chemical fractionation procedures and/or have been subjected to virucidal treatments can be considered safe from HIV, and will soon be safe from non-A, non-B hepatitis as well.

Plasma, whole blood and its cellular fractions should always be used with caution, and in the knowledge that such products are potentially infectious.

Bulletin No. 5 - HIV Infection and Bone Grafting

A recent case report from the USA (MMWR, 1988, 37:597-599) indicated that HIV can be transmitted by bone as well as other tissues used for transplantation purposes. In this particular instance the donor had not been tested for HIV antibodies before grafting was carried out.

In the case of bone grafting, ANCA endorses the policy of CDC and the American association of Tissue Banks and recommends that:

(a) where possible autografts should be used for bone transplantation;

(b) if allografts are used, all donors should be required to comply with the current Australian legislation governing donations of blood and tissues (ie. complete a questionnare on risk behaviour and be tested for HIV antibodies);

(c) living donors should be retested for HIV antibodies at least 90 days after tissue procurement. This recommendation is based on the fact that bone taken for grafting can be stored for at least six months without loss of osteogenic stimulatory activity and retesting will lower even further the very slight risk of testing in the window period;

(d) bone from donors not available for retesting including cadaver donors should only be used when bone from retested living donors is not available or is not appropriate for the particular surgical procedure involved.

FILOVIRUS INFECTION IN MONKEY HANDLERS - UPDATE

(Based on MMWR 39:221, April 6 1990.)

Further details have been made available on the filovirus infections in imported monkeys and their handlers in the United States (previously reported in CDI 90/1, 90/4 and 90/6).

Since November 1989, seven shipments of cynomolgus monkeys imported into the United States from three suppliers in the Philippines have been actively infected with filovirus, the group to which the Ebola Haemorrhagic Fever virus belongs. Transmission among monkeys has occurred in quarantine facilities and many of the animals have died. Limited laboratory experience with this filovirus suggests that it is antigenically and genetically distinguishable from the African members of the filoviridae (such as Ebola) even though there is some cross-reactivity between this virus and Ebola virus strains.

Five animal handlers at a quarantine facility that received five shipments of infected animals had a high level of daily exposure to these animals. Four of these persons have serologic evidence of recent infection, as detected by immunofluorescence and Western Blot tests, with a strain of filovirus isolated from the infected monkeys. Three of the four have seroconverted since November 1989. The fourth, for whom only one serum sample is available, has filovirus-specific IgG and IgM serum antibody. None of the four have had an unexplained febrile illness since November 1989.

One of the animal handlers who seroconverted had cut his finger while performing a necropsy on an infected animal. Daily monitoring of this person following that incident did not

detect antigenaemia (1). Laceration is presumed to be the mode of transmission for this person; a mode of transmission has not been determined for the other three.

MMWR Editorial Note

The specific biological characteristics of this filovirus (for example, infectivity and pathogenicity in humans) cannot be readily extrapolated from past experience with the virulent viruses isolated from human epidemics in Africa. However, the findings of this investigation demonstrate that although this filovirus can infect, it appears to have lower pathogenicity for humans than does its African counterparts. The high level of transmission to animal handlers in this single facility and the possibility of importation of other more virulent viruses underscore the importance of strict adherence to quarantine measures for handling monkeys.

CDI Editorial Comment

The Australian Quarantine and Inspection Service's current conditions for the importation of primates into Australia are reprinted below. Please note that the requirements mentioned in CDI 90/1 contained some inaccuracies and should be disregarded. Also note that separate permission to import must be obtained from the Australian Customs Service.

Permission in writing to import primates must be obtained from the Director of Animal and Plant Quarantine. Primates may be imported to registered zoological gardens, circuses and scientific institutions subject to the following conditions:

(a) The animals must be accompanied by a declaration by the owner, in respect of each animal -

    (i) Specifying the premises in which the animal has been during the seven months past preceding the date of arrival in Australia and the environment of the animal during the period (the animals must not have been in Africa or a yellow fever area of South America during the previous three months); and

    (ii) Stating that the animal has not been in contact with any animal suffering from disease during the previous seven months or since birth;

    (iii) Declaring that during the previous seven months there has been no case of rabies in any premises in which the primates have been held; and that no wild caught primates have entered these premises during that time.

(b) The animals must be accompanied by a certificate by a Government veterinarian (of the last country of residence) stating:

    (i) That he has examined the animals within seven days prior to export to Australia and that the animals did not show any signs of infectious or contagious disease;

    (ii) Certifying that after due inquiry he is satisfied either that there has been no case of foot and mouth disease in the country from which the animal is

exported for three months next preceding the date of shipment, or that the fodder and bedding (being bedding derived from any cereal) accompanying the animal have been obtained from districts which have been free from foot and mouth disease during the period of three months next preceding the date of shipment and that the fodder and bedding have not been exposed to contamination during that period;

(c) Transport of the animals to Australia to be by air on an aircraft on which no other rabies susceptible animals (ie no other mammals except man) are being carried en route. The route must not include a stop in Africa or a yellow fever area of South America;

(d) On arrival in Australia all animals must be confined for a period of sixty days in an "A" class zoo, or approved scientific premises. This requirements may be waived at the discretion of the Chief Quarantine Officer (Animals) at the port of arrival in the case of a travelling circus transitting Australia and accompanied by a Veterinary Surgeon;

(e) All primates are to be tested for tuberculosis using PPD within 10 days of arrival in Australia, and the results are to be given to the Chief Quarantine Officer (Animals);

(f) All cages must be strong and secure;

(g) Foodstuffs of animal origin will not be permitted entry into Australia with the attendant personnel or their baggage;

(h) All bedding of plant origin, and all animal food of animal or plant origin will be destroyed on arrival in Australia;

(i) All animals must remain under quarantine control while in Australia, must not be disposed of without quarantine permission;

(j) Wild-caught primates may, under exceptional circumstances, be imported by A class zoos or approved scientific premises subject to such conditions as are approved by the Director of Animal and Plant Quarantine.

REFERENCE

1. Jahrling, PB, Geisbert, TW, Dalgard, DW et al (1990). Preliminary report: isolation of Ebola virus from monkeys imported to USA. Lancet 335:502-5.

AIDS - WHO STUDIES OF DIAGNOSTIC METHODS

(Based on Wkly Epidem Rec 1990;10:74-5)

A. Recommendations for the Interpretation of HIV-2 Western Blot Results

Following the recommendations agreed upon at a meeting of the World Health Organisation Collaborating Group on human immunodeficiency virus type 2 (HIV-2) held in Montreal in June 1989, a study was organised to review the criteria for HIV-2 Western Blot reactivity for epidemiological investigation.

The study consisted of retesting serum specimens collected from 14 countries and considered Western Blot-positive for HIV-2 by national criteria. Blind testing was conducted in 2 different WHO reference laboratories. Diagnostic kits used by the 2 laboratories were

- Wellcozyme recombinant HIV-1
- Pasteur Elavia-2
- DuPont Western Blot HIV-1
- Pasteur Newlavblot 2.

Specimens considered indeterminate in Western Blot were to be retested by radioimmuno precipitation assay (RIPA). Specimens that were reactive to envelope glycoproteins (gp) of both HIV-1 and HIV-2 were tested by transmembrane-related synthetic peptide assay (Pasteur Peptilav 1-2).

Results of all tests performed on 135 serum specimens in both laboratories were in agreement, and were as follows:

- 81 (60%) were positive for HIV-2 only
- 34 (25%) were negative for both HIV-1 and HIV-2
- 18 (14%) were positive for HIV-1 only
- 2 (2%) were double reactive
- none of the sera were indeterminate.

All 81 specimens identified as HIV-2 reactive contained antibodies to at least 2 envelope glycoproteins on HIV-2 Western Blot. Thirty per cent of specimens reactive to HIV-1 also reacted to the manufacturer-identified gp105 of HIV-2, without other envelope cross-reactivity.

The Western Blots of the 81 specimens identified as HIV-2 reactive were then interpreted using criteria established by WHO (HIV-1 and HIV-2), by the USA Centers for Disease Control (CDC) (HIV-1, and hypothetical criteria for HIV-2 using the same criteria as for HIV-1), and by the criteria recommended by the manufacturers (DuPont and Pasteur).

The use of WHO and CDC criteria gave similar results: approximately half of the 81 sera were classified as HIV-2 while the other half were classified as double reactive (HIV-1 and HIV-2). Interpretation using HIV-1 DuPont and HIV-2 Pasteur criteria classified approximately one-third of the 81 sera as HIV-2, demonstrating a lower sensitivity.

Based on the above observations, the Group recommended a revision of the WHO criteria for interpretation of HIV-2 Western Blots that were defined in February 1989. The revised criteria are as follows:

Positive:	2 of 3 env bands (env precursor, external and transmembrane glycoproteins) with or without gag and/or pol bands.
Negative:	no HIV-specific bands.
Indeterminate:	other profiles not considered positive or negative.

These recommendations reflect the performance characteristics of a single Western Blot, however, and may require revision as similar evaluations are completed with other commercial Western Blots.

The Group further recommended that:

1. Current and future commercially available Western Blots should use well-standardised representative viral antigen preparations.
2. WHO should assure provision of recommendations to manufacturers of Western Blots concerning the number and physical characteristics of HIV-2 viral antigens.
3. WHO should identify a reference standard serum for HIV-2 Western Blots.
4. WHO should support a similar study to reconsider criteria for HIV-1 seropositivity and to define double (HIV-1 and HIV-2) reactivity because of the extensive cross reactivity to the envelope glycoproteins of the 2 viruses.

B. Comparative Evaluation of Commercially Available Assays for Serological Diagnosis of Infections by the Human Immunodeficiency Virus

In order to provide objective information on the characteristics of commercially available diagnostic assays for the detection of antibodies to the human immunodeficiency viruses (HIV), the Global Programme on AIDS (GPA) is conducting a project in collaboration with the WHO Collaborating Centre on AIDS at the Institute of Tropical Medicine, Antwerp, Belgium.

Commercially available diagnostic kits are comparatively evaluated using standard panels of sera of diverse geographical origin. This assessment focuses primarily on the kits' operational characteristics such as shelf life, ease and rapidity of performance, costs, etc. In addition, limited assessment of sensitivity and specificity compared with Western Blot analysis is obtained. The project is emphasising the evaluation of rapid/simple tests more suitable for use in small blood collection/transfusion centres and hospitals.

Eighteen assays for detection of antibody to HIV-1 and/or HIV-2 have already been evaluated. They are:

- 9 enzyme-linked immunosorbent assays (ELISAs)
- 6 rapid/simple assays
- 3 supplemental assays.

The information generated from this project may be useful for the selection of appropriate HIV antibody assays. New assays continue to be assessed in the project and the reports will be made available periodically by the WHO.

Full reports may be obtained by writing to: Biomedical Research Unit (Diagnostics), Global Programme on AIDS, World Health Organisation, 1211 Geneva 27, Switzerland.

CORRECTIONS TO CDI 90/7

Please note the following corrections and clarifications for CDI 90/7.

On page 2, Barmah Forest virus was referred to as a flavivirus. It is, in fact, an alphavirus (family togavirus). Diagnoses of Barmah Forest disease are made using an in-house test developed by the State Health Laboratory, Brisbane. It

comprises an initial haemagglutination inhibition screen followed by a specific IgM ELISA. In reference to the report of a case of Sindbis virus, it should be noted that the symptoms were unusual. All previous cases have presented with a vesicular rash, but this one was associated with general malaise and/or mild fever and muscle and/or joint disease.

On page 4, the statement indicating that a few cases of Australian encephalitis occur in the north of Australia each year is incorrect. However, Table 1 on page 5 details the cases that are known to have occured througout Australia since 1917. These data have been compiled from reports submitted through the Viruses, Chlamydias, Coxiellas, Rickettsias and Mycoplasmas Reporting Scheme, the literature cited on page 7 and from the following article, inadvertantly omitted: Miles, JAR and Howes DW (1953). Observations on virus encephalitis in South Australia. Med J Aust 1:7-12.

Reference 3 on page 7 should read: Broom, AK, Wright, AE, MacKenzie, JS et al (1989). Isolation cf Murray Valley encephalitis and Ross River viruses from *Aedes normanensis* (Dipteria: Culicidae) in Western Australia. Journal of Medical Entomology 26:100-103.

NOTICE TO READERS

Readers of the Communicable Diseases Intelligence will be interested to learn of a new public health publication. The 'New South Wales Public Health Bulletin' will be published monthly by the Department of Health, NSW. Copies are avaiable by contacting:

The Editor
NSW Public Health Bulletin
Public Health Division
Department of Health, NSW
PO Box K110
HAYMARKET NSW 2000
Telephone: (02) 217 6168
Facsimile: (02) 217 5602

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE
VIRAL IDENTIFICATIONS FROM CONTRIBUTING LABORATORIES
BASED ON DATE OF REPORTING

PERIOD 12/04/90 TO 25/04/90

1. CODE 018 - MICROBIOL DIAG UNIT, UNI MELB (VIC)
2. CODE 019 - FAIRFIELD HOSP (VIC)
3. CODE 065 - STATE HEALTH LAB (WA)
4. CODE 066 - PRINCESS MARGARET HOSP (WA)
5. CODE 110 - INST OF MED & VET SCIENCE (SA)
6. CODE 111 - ROYAL CHILDRENS HOSP (VIC)
7. CODE 112 - INST CLINICAL PATH & MED RES (NSW)
8. CODE 113 - PRINCE HENRY/PRINCE OF WALES HOSP (NSW)
9. CODE 114 - ROYAL ALEXAND RA CHILDRENS HOSP (NSW)
10. CODE 115 - STATE HEALTH LAB (QLD)
11. CODE 116 - WODEN VALLEY HOSP (ACT)
12. CODE LDS - LAUNCESTONDIAGNOSTIC SERVICES (TAS)
12. CODE RHH - ROYAL HOBART HOSP (TAS)

	018	019	065	066	111	112	113	114	115	116	LDS	RHH	TOTAL
0100 ADENOVIRUS NOT TYPED	0	0	5	4	0	4	3	0	9	0	0	0	25
0101 ADENOVIRUS TYPE 1	0	1	0	0	0	2	0	0	0	0	0	0	3
0102 ADENOVIRUS TYPE 2	0	3	0	0	0	3	0	0	0	0	0	0	6
0103 ADENOVIRUS TYPE 3	0	3	0	0	0	5	0	2	0	0	0	0	10
0104 ADENOVIRUS TYPE 4	0	2	0	0	0	0	0	0	0	0	0	0	2
0111 ADENOVIRUS TYPE 11	0	0	0	0	0	2	0	0	0	0	0	0	2
0113 ADENOVIRUS TYPE 13	0	0	0	0	0	1	0	0	0	0	0	0	1
0123 ADENOVIRUS TYPE 23	0	0	0	0	0	0	0	0	0	0	0	1	1
0126 ADENOVIRUS TYPE 26	0	0	0	0	0	3	0	0	0	0	0	0	3
0130 ADENOVIRUS TYPE 30	0	1	0	0	0	0	0	0	0	0	0	0	1
0199 ADENOVIRUS TYPING PENDING	0	0	0	0	6	0	0	0	0	0	0	0	6
0201 INFLUENZA A VIRUS	0	0	0	0	0	0	0	0	0	1	0	0	1
0202 INFLUENZA A VIRUS SUBTYPE H3N2	0	0	0	0	0	0	0	0	0	1	0	0	1
0203 INFLUENZA B VIRUS	0	0	0	0	0	0	0	0	0	1	0	0	1
0301 PARAINFLUENZA VIRUS TYPE 1	0	3	0	5	3	1	1	2	10	0	0	0	25
0302 PARAINFLUENZA VIRUS TYPE 2	0	1	1	0	1	0	0	0	0	0	0	0	3
0303 PARAINFLUENZA VIRUS TYPE 3	0	3	0	0	1	3	0	2	4	0	0	0	13
0399 PARAINFLUENZA VIRUS TYPING PEN	0	0	0	0	0	0	0	0	1	0	0	0	1
0400 RESPIRATORY SYNCYTIAL VIRUS (R	0	3	0	0	2	45	6	9	24	0	0	0	89
0500 RHINOVIRUS (ALL TYPES)	0	7	1	0	4	1	0	0	1	0	0	0	14
0600 MYCOPLASMA PNEUMONIAE	0	1	0	0	0	2	1	0	0	3	3	1	11
0700 ORNITHOSIS-PSITTACOSIS	0	1	0	0	0	0	1	0	0	0	0	0	2
0816 COXSACKIEVIRUS A16	0	0	0	0	0	2	0	0	0	0	0	0	2
1001 ECHOVIRUS TYPE 1	0	0	0	0	0	1	0	0	0	0	0	0	1
1002 ECHOVIRUS TYPE 2	0	0	0	0	0	0	0	0	0	1	0	0	1
1003 ECHOVIRUS TYPE 3	0	0	0	0	0	1	0	0	0	0	0	0	1
1009 ECHOVIRUS TYPE 9	0	1	0	0	0	0	0	0	0	0	0	0	1
1011 ECHOVIRUS TYPE 11	0	1	0	0	0	4	0	2	0	0	0	0	7
1014 ECHOVIRUS TYPE 14	0	1	0	0	0	0	0	0	0	0	0	0	1
1022 ECHOVIRUS TYPE 22	0	1	0	0	0	1	0	0	0	0	0	0	2
1025 ECHOVIRUS TYPE 25	0	0	0	0	0	1	0	0	0	0	0	0	1
1028 ECHOVIRUS TYPE 28 = RHINO VIRU	0	0	0	0	0	0	0	2	0	0	0	0	2
1100 POLIOVIRUS NOT TYPED	0	0	1	0	0	0	0	0	0	0	0	0	1
1102 POLIOVIRUS TYPE 2	0	0	0	0	0	2	0	1	0	0	0	0	3
1200 MUMPS VIRUS	0	0	0	0	0	3	0	0	0	1	0	0	4
1300 HERPES VIRUS GROUP - NOT TYPED	0	7	2	0	0	0	3	2	0	0	0	0	14
1301 HERPES SIMPLEX VIRUS - NOT TYP	0	0	0	3	0	29	0	0	9	13	2	0	56
1302 EPSTEIN-BARR VIRUS (EB VIRUS)	0	7	1	0	0	0	0	3	0	1	0	0	12
1303 VARICELLA-ZOSTER VIRUS	0	3	8	1	0	5	1	1	1	0	0	0	20
1306 HERPES SIMPLEX TYPE 1	0	78	20	1	0	10	4	1	46	0	3	1	164
1307 HERPES SIMPLEX TYPE 2	0	82	47	0	0	41	9	0	39	0	5	0	223
1399 HERPES VIRUS TYPING PENDING	0	0	0	0	1	0	0	0	0	0	0	0	1
1401 COXIELLA BURNETII	0	0	0	0	0	11	1	0	0	0	0	0	12
1402 OTHER RICKETTSIAE	0	0	0	0	0	0	0	0	0	0	1	0	1
1502 PICORNIA VIRUS - NOT TYPED = E	0	0	1	0	0	0	5	0	21	0	0	0	27
1514 MOLLUSCUM CONTAGIOSUM	0	0	1	0	0	0	0	0	0	0	0	0	1
1521 MEASLES VIRUS	0	3	0	0	2	1	0	0	0	0	0	0	6
1522 RUBELLA VIRUS	0	6	0	0	0	0	0	0	0	1	0	0	7
1532 HEPATITIS B ANTIGEN	0	30	27	0	0	67	2	1	39	4	1	3	174
1535 HEPATITIS A ANTIBODY	0	1	2	0	0	1	0	0	1	1	0	0	6
1536 HEPATITIS C VIRUS	0	0	0	0	0	0	5	0	0	0	0	0	5
1541 CHLAMYDIA A - C. TRACHOMATIS	4	0	46	1	0	23	3	0	34	8	12	2	133
1556 CMV - CYTOMEGALOVIRUS	0	48	1	3	4	3	3	2	7	2	0	1	74
1564 ROTAVIRUS	0	0	0	7	0	1	1	0	0	0	0	0	9
1565 CALICI VIRUS	0	0	0	0	0	1	0	0	0	0	0	0	1
1566 NORWALK AGENT	0	0	0	0	0	2	0	0	0	0	0	0	2
1571 ENTEROVIRUS TYPE 71 (BCR)	0	0	0	0	0	1	0	0	0	0	0	0	1
1599 ENTEROVIRUS TYPING PENDING	0	0	0	0	3	0	13	6	0	0	0	0	22
9992 ROSS RIVER VIRUS	0	17	2	0	0	0	0	0	0	0	2	0	21
9994 SMALL VIRUS (LIKE) PARTICLE	0	2	0	0	0	1	0	0	0	0	0	0	3
TOTAL =	4	317	166	25	27	284	62	36	246	38	29	9	1243

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

VIRAL IDENTIFICATIONS FROM CONTRIBUTING LABORATORIES BY STATE OF CONTRIBUTING LABORATORY

PERIOD 12/04/90 TO 25/04/90

NSW: ICPMR; PHH POW; RACH; ST GEORGE HOSP, KOGARAH; ROYAL NEWCASTLE HOSP.
VIC: FAIRFIELD; RCH; MDU, UNI MELB
QLD: STATE LAB, BRIS; TOOWOOMBA PATH LAB; ROYAL BRIS HOSP.
WA: STATE LAB, PERTH; PMH.
SA: IMVS.
TAS: ROYAL HOBART HOSP; DIAGNOSTIC SERVICES, LAUNCESTON; LAUNCESTON GEN HOSP; DIAGNOSTIC SERVICES, HOBART; HOBART PATH; MERSEY GEN HOSP, LATROBE.
ACT: WVH.

		NSW	VIC	QLD	WA	TAS	ACT	TOTAL
0100	ADENOVIRUS NOT TYPED	7	0	9	9	0	0	25
0101	ADENOVIRUS TYPE 1	2	1	0	0	0	0	3
0102	ADENOVIRUS TYPE 2	3	3	0	0	0	0	6
0103	ADENOVIRUS TYPE 3	7	3	0	0	0	0	10
0104	ADENOVIRUS TYPE 4	0	2	0	0	0	0	2
0111	ADENOVIRUS TYPE 11	2	0	0	0	0	0	2
0113	ADENOVIRUS TYPE 13	1	0	0	0	0	0	1
0123	ADENOVIRUS TYPE 23	0	0	0	0	1	0	1
0126	ADENOVIRUS TYPE 26	3	0	0	0	0	0	3
0130	ADENOVIRUS TYPE 30	0	1	0	0	0	0	1
0199	ADENOVIRUS TYPING PENDING	0	6	0	0	0	0	6
0201	INFLUENZA A VIRUS	0	0	0	0	0	1	1
0202	INFLUENZA A VIRUS SUBTYPE H3N2	0	0	0	0	0	1	1
0203	INFLUENZA B VIRUS	0	0	0	0	0	1	1
0301	PARAINFLUENZA VIRUS TYPE 1	4	6	10	5	0	0	25
0302	PARAINFLUENZA VIRUS TYPE 2	0	2	0	1	0	0	3
0303	PARAINFLUENZA VIRUS TYPE 3	5	4	4	0	0	0	13
0399	PARAINFLUENZA VIRUS TYPING PEN	0	0	1	0	0	0	1
0400	RESPIRATORY SYNCYTIAL VIRUS (R	60	5	24	0	0	0	89
0500	RHINOVIRUS (ALL TYPES)	1	11	1	1	0	0	14
0600	MYCOPLASMA PNEUMONIAE	3	1	0	0	4	3	11
0700	ORNITHOSIS-PSITTACOSIS	1	1	0	0	0	0	2
0816	COXSACKIEVIRUS A16	2	0	0	0	0	0	2
1001	ECHOVIRUS TYPE 1	1	0	0	0	0	0	1
1002	ECHOVIRUS TYPE 2	0	0	0	0	0	1	1
1003	ECHOVIRUS TYPE 3	1	0	0	0	0	0	1
1009	ECHOVIRUS TYPE 9	0	1	0	0	0	0	1
1011	ECHOVIRUS TYPE 11	6	1	0	0	0	0	7
1014	ECHOVIRUS TYPE 14	0	1	0	0	0	0	1
1022	ECHOVIRUS TYPE 22	1	1	0	0	0	0	2
1025	ECHOVIRUS TYPE 25	1	0	0	0	0	0	1
1028	ECHOVIRUS TYPE 28 = RHINO VIRU	2	0	0	0	0	0	2
1100	POLIOVIRUS NOT TYPED	0	0	0	1	0	0	1
1102	POLIOVIRUS TYPE 2	3	0	0	0	0	0	3
1200	MUMPS VIRUS	3	0	0	0	0	1	4
1300	HERPES VIRUS GROUP - NOT TYPED	5	7	0	2	0	0	14
1301	HERPES SIMPLEX VIRUS - NOT TYP	29	0	9	3	2	13	56
1302	EPSTEIN-BARR VIRUS (EB VIRUS)	3	7	0	1	0	1	12
1303	VARICELLA-ZOSTER VIRUS	7	3	1	9	0	0	20
1306	HERPES SIMPLEX TYPE 1	15	78	46	21	4	0	164
1307	HERPES SIMPLEX TYPE 2	50	82	39	47	5	0	223
1399	HERPES VIRUS TYPING PENDING	0	1	0	0	0	0	1
1401	COXIELLA BURNETII	12	0	0	0	0	0	12
1402	OTHER RICKETTSIAE	0	0	0	0	1	0	1
1502	PICORNIA VIRUS - NOT TYPED = E	5	0	21	1	0	0	27
1514	MOLLUSCUM CONTAGIOSUM	0	0	0	1	0	0	1
1521	MEASLES VIRUS	1	5	0	0	0	0	6
1522	RUBELLA VIRUS	0	6	0	0	0	1	7
1532	HEPATITIS B ANTIGEN	70	30	39	27	4	4	174
1535	HEPATITIS A ANTIBODY	1	1	1	2	0	1	6
1536	HEPATITIS C VIRUS	5	0	0	0	0	0	5
1541	CHLAMYDIA A - C. TRACHOMATIS	26	4	34	47	14	8	133
1556	CMV - CYTOMEGALOVIRUS	8	52	7	4	1	2	74
1564	ROTAVIRUS	2	0	0	7	0	0	9
1565	CALICI VIRUS	1	0	0	0	0	0	1
1566	NORWALK AGENT	2	0	0	0	0	0	2
1571	ENTEROVIRUS TYPE 71 (BCR)	1	0	0	0	0	0	1
1599	ENTEROVIRUS TYPING PENDING	19	3	0	0	0	0	22
9992	ROSS RIVER VIRUS	0	17	0	2	2	0	21
9994	SMALL VIRUS (LIKE) PARTICLE	1	2	0	0	0	0	3
TOTAL		382	348	246	191	38	38	1243

NOTE: DIRECT COMPARISION BETWEEN STATES IS NOT POSSIBLE SINCE:
- SOME STATES HAVE MORE THAN ONE CONTRIBUTING LABORATORY; AND
- INTERSTATE REFERRRALS OCCUR REGULARLY.

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

VIRAL IDENTIFICATIONS BY CLINICAL INFORMATION TABLE 1

PERIOD 12/04/90 TO 25/04/90

1. CODE 00, 99 ..... - NO ILL OR DATA
2. CODE 01, 02, 11, 12 - RESPIRATORY
3. CODE E3 ..... - ENCEPHALITIS
4. CODE M3 ..... - MENINGITIS
5. CODE 04 ..... - PARALYSIS
6. CODE 05, 13 ..... - CNS OTHER UNSPEC
7. CODE 07, 49 - GASTRO INTESTINAL
8. CODE 17, 47 - HEPATIC
9. CODE 19 ... - CVS
10. CODE 89 ... - URINARY TRACCT
11. CODE 06 ... - SKIN MUCOUS

		1	2	4	6	7	8	9	10	11	TOTAL
0100	ADENOVIRUS NOT TYPED	3	6	0	0	9	0	0	0	1	19
0101	ADENOVIRUS TYPE 1	1	1	0	0	1	0	0	0	0	3
0102	ADENOVIRUS TYPE 2	2	3	0	0	1	0	0	0	0	6
0103	ADENOVIRUS TYPE 3	2	4	0	0	2	0	0	0	0	8
0104	ADENOVIRUS TYPE 4	0	1	0	0	0	0	0	0	0	1
0111	ADENOVIRUS TYPE 11	1	0	0	0	1	0	0	0	0	2
0113	ADENOVIRUS TYPE 13	0	0	0	0	1	0	0	0	0	1
0123	ADENOVIRUS TYPE 23	0	0	0	0	1	0	0	0	0	1
0126	ADENOVIRUS TYPE 26	0	0	0	0	2	0	0	0	0	2
0130	ADENOVIRUS TYPE 30	0	0	0	0	0	0	0	0	1	1
0199	ADENOVIRUS TYPING PENDING	0	4	1	0	0	0	0	0	0	5
0201	INFLUENZA A VIRUS	0	1	0	0	0	0	0	0	0	1
0202	INFLUENZA A VIRUS SUBTYPE H3N2	0	1	0	0	0	0	0	0	0	1
0301	PARAINFLUENZA VIRUS TYPE 1	0	25	0	0	0	0	0	0	0	25
0302	PARAINFLUENZA VIRUS TYPE 2	0	2	0	0	0	0	0	0	0	2
0303	PARAINFLUENZA VIRUS TYPE 3	1	9	0	0	1	0	0	0	1	12
0399	PARAINFLUENZA VIRUS TYPING PEN	0	1	0	0	0	0	0	0	0	1
0400	RESPIRATORY SYNCYTIAL VIRUS (R	11	77	0	0	0	0	0	0	1	89
0500	RHINOVIRUS (ALL TYPES)	0	13	0	0	0	0	0	0	0	13
0600	MYCOPLASMA PNEUMONIAE	1	8	1	0	0	0	0	0	0	10
0700	ORNITHOSIS-PSITTACOSIS	0	1	0	0	0	0	0	0	0	1
0816	COXSACKIEVIRUS A16	0	0	0	0	0	0	0	0	2	2
1001	ECHOVIRUS TYPE 1	1	0	0	0	0	0	0	0	0	1
1002	ECHOVIRUS TYPE 2	0	0	0	0	0	0	0	0	1	1
1003	ECHOVIRUS TYPE 3	0	0	0	0	1	0	0	0	0	1
1009	ECHOVIRUS TYPE 9	0	1	0	0	0	0	0	0	0	1
1011	ECHOVIRUS TYPE 11	2	0	1	0	1	0	0	0	1	5
1014	ECHOVIRUS TYPE 14	0	0	1	0	0	0	0	0	0	1
1022	ECHOVIRUS TYPE 22	0	0	1	0	1	0	0	0	0	2
1025	ECHOVIRUS TYPE 25	0	0	0	0	1	0	0	0	0	1
1028	ECHOVIRUS TYPE 28 = RHINO VIRU	0	2	0	0	0	0	0	0	0	2
1102	POLIOVIRUS TYPE 2	0	1	0	0	1	0	0	0	0	2
1200	MUMPS VIRUS	1	0	1	0	0	0	0	0	1	3
1300	HERPES VIRUS GROUP - NOT TYPED	2	1	0	0	0	0	0	0	10	13
1301	HERPES SIMPLEX VIRUS - NOT TYP	5	2	0	0	0	0	0	2	17	26
1302	EPSTEIN-BARR VIRUS (EB VIRUS)	5	0	0	0	0	0	0	0	1	6
1303	VARICELLA-ZOSTER VIRUS	5	0	0	0	0	0	0	0	14	19
1306	HERPES SIMPLEX TYPE 1	4	6	0	0	0	0	0	2	108	120
1307	HERPES SIMPLEX TYPE 2	4	1	0	0	0	0	0	1	81	87
1399	HERPES VIRUS TYPING PENDING	0	0	0	0	0	0	0	0	1	1
1401	COXIELLA BURNETII	4	0	0	0	0	0	0	0	0	4
1502	PICORNIA VIRUS - NOT TYPED = E	0	7	0	2	17	0	0	0	1	27
1514	MOLLUSCUM CONTAGIOSUM	0	0	0	0	0	0	0	0	1	1
1521	MEASLES VIRUS	1	1	0	0	0	0	0	0	4	6
1522	RUBELLA VIRUS	0	0	0	0	0	0	0	0	1	1
1532	HEPATITIS B ANTIGEN	89	0	0	0	0	80	0	0	0	169
1535	HEPATITIS A ANTIBODY	1	0	0	0	0	5	0	0	0	6
1536	HEPATITIS C VIRUS	0	0	0	0	0	5	0	0	0	5
1541	CHLAMYDIA A - C. TRACHOMATIS	26	0	0	0	0	0	0	0	0	26
1556	CMV - CYTOMEGALOVIRUS	1	13	1	0	1	2	3	2	1	24
1564	ROTAVIRUS	0	0	0	0	9	0	0	0	0	9
1565	CALICI VIRUS	1	0	0	0	0	0	0	0	0	1
1566	NORWALK AGENT	0	0	0	0	1	0	0	0	0	1
1571	ENTEROVIRUS TYPE 71 (BCR)	1	0	0	0	0	0	0	0	0	1
1599	ENTEROVIRUS TYPING PENDING	0	3	1	1	11	1	0	0	1	18
9992	ROSS RIVER VIRUS	8	0	0	0	0	0	0	0	2	10
9994	SMALL VIRUS (LIKE) PARTICLE	1	0	0	0	2	0	0	0	0	3
TOTAL		184	195	8	3	65	93	3	7	252	810

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

VIRAL IDENTIFICATIONS BY CLINICAL INFORMATION TABLE 2

PERIOD 12/04/90 TO 25/04/90

12. CODE 10 - EYE
13. CODE 59 - GENITAL
14. CODE 39 - ENDOCRINE/SALIVARY GL.
15. CODE 38 - RETICULO-ENDOTHELIAL
16. CODE 29 - MUSCLE/JOINT
17. CODE 69 - CONGENTIAL
18. CODE P8 - PUO
19. CODE G8 - FEVER/MALAISE
20. CODE 09 - OTHER
21. CODE A1 - SIDS

		12	13	14	15	16	17	18	19	20	21	TOTAL
0100	ADENOVIRUS NOT TYPED	4	0	0	0	0	0	1	0	1	0	6
0103	ADENOVIRUS TYPE 3	2	0	0	0	0	0	0	0	0	0	2
0104	ADENOVIRUS TYPE 4	1	0	0	0	0	0	0	0	0	0	1
0126	ADENOVIRUS TYPE 26	0	0	0	0	0	0	0	0	1	0	1
0199	ADENOVIRUS TYPING PENDING	0	0	0	0	0	0	0	1	0	0	1
0203	INFLUENZA B VIRUS	0	0	0	0	0	0	1	0	0	0	1
0302	PARAINFLUENZA VIRUS TYPE 2	1	0	0	0	0	0	0	0	0	0	1
0303	PARAINFLUENZA VIRUS TYPE 3	0	0	0	0	0	0	0	0	0	1	1
0500	RHINOVIRUS (ALL TYPES)	0	0	1	0	0	0	0	0	0	0	1
0600	MYCOPLASMA PNEUMONIAE	0	0	0	0	0	0	0	1	0	0	1
0700	ORNITHOSIS-PSITTACOSIS	0	0	0	0	0	0	0	1	0	0	1
1011	ECHOVIRUS TYPE 11	0	0	0	0	0	0	0	1	1	0	2
1100	POLIOVIRUS NOT TYPED	0	0	0	0	0	0	0	0	0	1	1
1102	POLIOVIRUS TYPE 2	0	0	0	0	0	0	0	0	1	0	1
1200	MUMPS VIRUS	0	0	1	0	0	0	0	0	0	0	1
1300	HERPES VIRUS GROUP - NOT TYPED	0	1	0	0	0	0	0	0	0	0	1
1301	HERPES SIMPLEX VIRUS - NOT TYP	0	30	0	0	0	0	0	0	0	0	30
1302	EPSTEIN-BARR VIRUS (EB VIRUS)	1	0	1	1	0	0	0	2	1	0	6
1303	VARICELLA-ZOSTER VIRUS	0	0	0	0	0	0	0	1	0	0	1
1306	HERPES SIMPLEX TYPE 1	6	31	0	0	0	0	0	3	4	0	44
1307	HERPES SIMPLEX TYPE 2	0	136	0	0	0	0	0	0	0	0	136
1401	COXIELLA BURNETII	0	0	0	0	1	0	2	5	0	0	8
1402	OTHER RICKETTSIAE	0	0	0	0	0	0	0	1	0	0	1
1522	RUBELLA VIRUS	0	0	0	0	0	0	0	0	6	0	6
1532	HEPATITIS B ANTIGEN	0	0	0	0	0	0	0	0	5	0	5
1541	CHLAMYDIA A - C. TRACHOMATIS	1	106	0	0	0	0	0	0	0	0	107
1556	CMV - CYTOMEGALOVIRUS	1	2	0	0	0	1	1	9	36	0	50
1566	NORWALK AGENT	0	0	0	0	0	0	0	0	1	0	1
1599	ENTEROVIRUS TYPING PENDING	0	0	0	0	0	0	0	2	2	0	4
9992	ROSS RIVER VIRUS	0	0	0	0	9	0	0	2	0	0	11
TOTAL		17	306	3	1	10	1	5	29	59	2	433