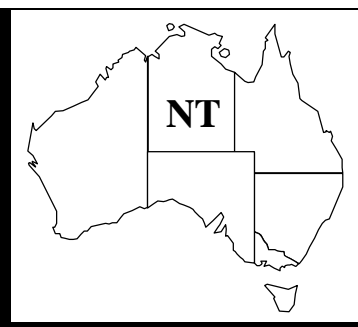




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Cockroach control in the NT

Peter Whelan, Medical Entomology Branch, Territory Health Services

Cockroaches can be significant pest and potential public health problems in the tropics. The guide and recommendations below have been produced with public buildings in mind but can equally apply to private premises. They are focussed on the German cockroach [because of their more common occurrence in homes and institutions] but the principles apply equally to the larger American cockroach. The information and recommendations for cockroach control are aimed at the owner or occupier rather than a licensed pest control operator.

It is important to conduct an inspection and evaluation of affected areas to determine the species present, the location and extent of the infestation and the contributing reasons for the infestation before deciding on the best options for cockroach control in any specific situation.

Cockroaches are primarily associated with food storage, preparation and consumption areas and harbour in close proximity to these sites. Prime areas of infestation in buildings and homes are sites such as food cupboards, under and behind fridges, ovens, and skirting boards, beneath kitchen sinks and in accumulations of infrequently used items or rubbish in or adjacent to the premises.

Some species of cockroach may find adequate food and harbourage outside the premises and in adjacent gardens or other areas and disperse by crawling or flying into an adjacent premise, so any survey and control program should include adjacent potential sources.

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Institutions and homes where regular cleaning or insecticide programs are carried out can run into problems if the application of insecticide and the timing is not documented or the quality of cleaning under such items as the fridges and other movable objects is not assured. Records should be kept of the dates of spraying, with a due date for reapplication, and dates for regular inspections.

Insecticide applications in public buildings may require the use of a licensed pest control operator. This should be checked with the Poisons Branch of Territory Health Services (THS).

Any insecticide used should be registered for that use in the NT. The label should be strictly adhered to and material data and safety sheets should be obtained from the agent or manufacturer. If in any doubt contact the Poisons Branch of THS ph: 8922 7340.

Cockroach control

Control of cockroaches will rely on a combination of cleaning, hygiene and insecticide application. Unless a combination of these measures is maintained there could be a rapid deterioration in the cockroach situation. Any cockroach problem will not be solved with insecticide applications alone. A selection of measures under each of these headings is listed below.

Cockroach control measures

1. Cleaning

- Weekly under movable objects in kitchens or food consumption areas eg fridges.
- Food preparation equipment (eg toasters) and surfaces immediately after use.

2. Domestic and environmental hygiene

- Premise hygiene, including storage of rubbish, left over food, dry food and pet's food in cockroach proof containers until used or disposed.
- Structural improvements to prevent cockroach entry and harbourage eg seal skirting boards, wall plumbing sites, and internal wall and cupboard spaces.

3. Insecticides

- Insecticide use (with the timing and extent of use documented) is complementary to cleaning and hygiene.
- Include residual insecticides, insect growth regulator hormones (chiton inhibitors and juvenile hormone), cockroach baits and traps.

The full report, *An introduction to cockroach control in the NT*, is available from Peter Whelan on request ph: 8922 8333.

Editorial

Cockroaches are primitive insects and belong to the Order *Blattodea*. There are over 3,500 cockroach species worldwide but the German, American and Australian cockroaches are most common in Australia. Eggs of the cockroach are laid within an egg case or ootheca. One ootheca may contain from 10 to 40 eggs depending on the species of cockroach and environmental conditions. The egg case may either be glued to a surface or dropped in a secluded, dark place.

After hatching, the immature cockroaches or nymphs, tend to congregate with adults. Being a primitive insect, the young have the appearance of the adult only are smaller and without wings. As the nymphs grow they undergo a series of moults with wing growth and development evident with each moult.

The immature stage may be as long as a couple of months to a year, depending on the species and environmental conditions. An adult may live from a

few months to a year, again depending on its species and environmental conditions. A female, in its lifetime can produce up to 30 egg cases.

Cockroaches originated in the tropics and subtropics and can reach very high numbers under the right conditions ie high humidity and heat. High temperatures speed up the life cycle of the cockroach which is cold blooded (poikilothermic) so they tend to be more of a pest in the tropics. Access to food sources in domestic situations, poor environmental hygiene providing access to refuse and structural problems eg dripping taps giving access to water encourage cockroach infestation.

Cockroaches and disease transmission

Cockroaches can be hazardous to humans as mechanical vectors of disease transmission and a potent source of allergens. They are second only to house flies as potential vectors of disease because of

their movements through various habitats (including garbage and sewerage systems) and feeding habits (they feed on all sorts of things such as excreta, sputa and food).

Cockroaches have been implicated in cases of Salmonella food poisoning and have also been found to harbour *Staphylococcus sp*, *Streptococcus sp*, coliforms and other bacterial pathogens.¹ After feeding on contaminated food, bacteria can remain in the cockroach digestive system for at least a month. Later, human food can become contaminated with cockroach faeces. Salmonella bacteria have been shown to survive in cockroach faeces for years.

Cockroaches are also capable of transmitting a large number of viruses including polio virus.²

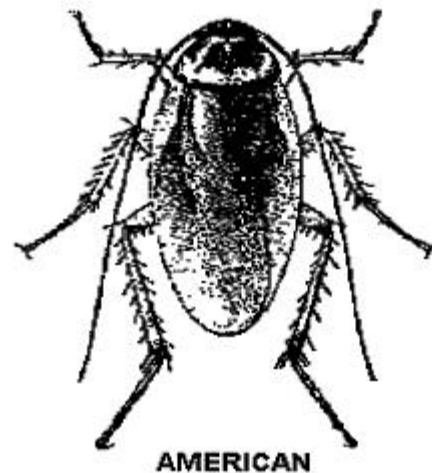
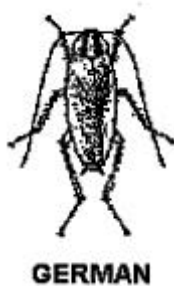
Recently, cockroaches have been found to be an important source of allergy in humans, second only to the house dust mite.³

Acknowledgement

Thanks to Andrea Wilson of Medical Entomology for her input and knowledge about the life cycle and habits of the cockroach.

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2. PRISM Integrated Sanitation Management: Pest Information: Cockroach. <http://www.prismservices.com/cockroach.htm>
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Report on Men's Health Week at Community X, December 1998

Karen Blyth and Ivor Alexander, CDC, Nhulunbuy

Background

Two members from the Centre for Disease Control (CDC), Nhulunbuy made a visit to Community X in November 1998 to have a meeting with the Aboriginal Health Workers (AHWs) to gauge their support for working with "core group transmitters" of sexually transmitted diseases (STDs) within the Community.

At that meeting the AHWs were strongly opposed to the idea of targeting only "core transmitters", believing that it would not be a successful initiative due to possible stigmatisation of participants. They

were, however, very enthusiastic about running a Healthy Men's Week in their community. After discussion with the Unit Manager at CDC Nhulunbuy, it was decided that this would be the most effective method of providing health services to a large group of men, including, it was hoped, the "core transmitters."

A further visit to Community X was arranged and at that time contact was made with key community members, the school, the Council Chairman and AHWs, and it was agreed to have a separate location for examination of participants. The location

provided an adequate number of toilets (6), facilities for storage of pathology specimens and the vital tea and coffee making facilities. This additional location was felt necessary as the local community health centre is perceived by the men of the community as being a place for 'women and children' and men do not readily access this clinic.

The private pathology service used by the community was contacted and advised that an extra number of specimens would be sent to them during the Men's Health Week.

Methods

A simple 'Well Men's Screening' form was put together with details including name, date of birth, haemoglobin (Hb), blood sugar level (BSL), height, weight, urine sample sent, bloods taken and comments. The equipment required were minimal and included: a Haemoglobinometer, a BSL machine, a sphygmomanometer, pathology supplies to take blood and urine samples, a set of scales and a height measuring stick.

Publicity prior to the event included writing to the Community Council, school and the Community Development Education Program to inform them of our visit. Fliers and posters were placed in prominent positions around the community to remind people about our visit.

The joint clinic managers from Community X were keen for us to offer not only the routine Well Men's Screening but to have supplies of albendazole to routinely deworm any man who had not taken tablets from the clinic within the last six months. This was offered to all the men, and the majority were very receptive to having the medication during the screening process.

During the week information pamphlets and booklets were freely available in English, and in some instances, in the local Aboriginal language. Condoms were also freely available.

Results

Based on a recent population census, the community has a total population of about 850 Aboriginal and 60 non-Aboriginal people with 256 men between the ages of 12-65 years.

During the week, 136 men attended for "check ups". Most of the men self presented and some were invited to attend by the male AHWs. Three men from the community worked as unpaid volunteers throughout the week, acting as interpreters when required, explaining the process of screening to the participants and generally were invaluable resource people for Nhulunbuy CDC staff.

It was decided that we would offer all the men attending a measurement of their height, weight, blood sugar, Hb and then, following discussion, urinary PCR testing for gonorrhoea, chlamydia and trichomoniasis as well as blood testing for syphilis (RPR). Only one man decided against the blood and urine testing from the 136 who attended.

Figure 1 Age ranges of men seen at Community X

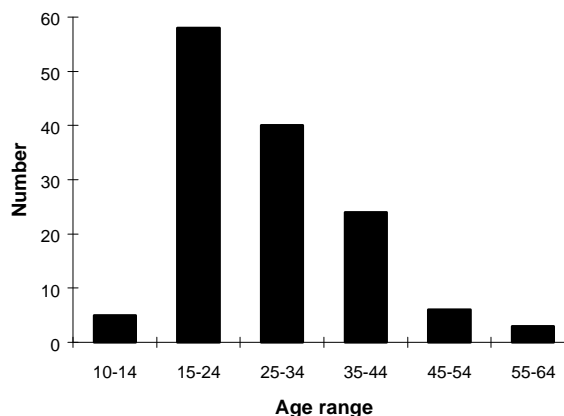


Figure 1 illustrates that the main target groups of 15-34 year olds (ie those most likely to have an undiagnosed STD) made up the majority of the men seen (72% of the total number).

STDs detected in men screened

Due to a few problems with transport of specimens, leakage of specimens in transit and haemolysis of specimens, the final numbers of tests from the 136 were 130 urinary PCR and 129 RPRs on blood.

From this sample:

- 16 tested positive for syphilis which required treatment (12%)
- 17 tested positive for syphilis (previously treated and on the East Arnhem database)
- 6 tested positive for gonorrhoea (5%)
- 1 test was equivocal for gonorrhoea and required retesting
- 13 tested positive for chlamydia (10%)
- 8 tested positive for trichomoniasis (6%)

In summary, 35 men had an STD, some with more than one infection, making the total number of STDs detected 44.

The number of STDs per patient is summarised below:

- One STD 28 (80%)
- Two STDs 5 (14%)
- Three STDs 1 (3%)
- Four STDs 1 (3%)

The mean ages of the men diagnosed with an STD are outlined in the table below.

Disease	Age range (yrs)	Mean age (yrs)
Gonorrhoea	17-30	21
Syphilis	17-37	24
Chlamydia	17-28	22
Trichomoniasis	17-31	24

Approximately one thousand condoms were given out during the week.

Body Mass Index (BMI) Assessment

Using the Australian Nutrition Foundation Height for Weight charts¹ and their BMI Criteria, the men fell into the following categories:

BMI	Number
<18 (very underweight, long term health hazard)	7 (5%)
18-20 (underweight)	14 (10%)
20-25 (acceptable range, least risk)	70 (52%)
25-30 (overweight, low risk to health)	27 (20%)
30-40 (morbid obesity, high risk to health)	16 (12%)
41	1 (1%)
Total*	135

* One participant refused to have Wt/Ht assessed

Blood Pressure (BP) Assessment

BP results included:

- A measured BP of 160/80 in a known hypertensive on medication
- A measured BP of 150/110 resulting in a referral to DMO for follow up

- All others (134) had BP measurements in the normal range (<90 diastolic, <140 systolic)

Blood Sugar Level (BSL) Assessment

BSL results included:

- One BSL of 1.4 mmols
- One BSL of 15.8 mmols (known diabetic on medication)
- One refused measurement of BSL
- All others (133) had BSL in the normal range (2.2 - 8.8 mmols)

Haemoglobin (Hb) Assessment

Taking the normal range of Hb from the Territory Health Services' "Men's Standard Treatment Protocols"² being equal to 140 gm/litre, Hb results included:

Hb	Number
≥ 140	93 (69%)
120 - 140	27 (20%)
100 - 119	13 (10%)
< 100	2 (1%)#
Total*	135

* One participant refused Hb measurement.

Referred to DMO and found to be suffering from iron deficiency anaemia.

Council response

On the final day of the Healthy Men's Week, the Community Council gave the local AHWs \$300 to put on a lunch for the men involved in the screening. In order to best serve the men, it was decided to combine the lunch with an education session about STDs. This was an extremely successful initiative with approximately 45 men self presenting and attending both the education session and the lunch.

Public health response

When the pathology results for the STD testing were received and treatment plans were worked out according to the Standard THS protocols for STDs, two CDC staff returned to the community to assist local health staff with follow-up. There was a good collaborative effort between CDC and local health staff, and all patients found to have had an STD were treated and counselled. Named

partners were contacted and treated. Those with positive syphilis serology were placed on appropriate 6, 12 and 24 month follow-up. The community was welcoming and supportive of this return visit.

Discussion

The aim of the community visit and service was to provide health checks for perhaps 50-60 men. Expectations were more than met with 136 men reviewed and it was felt the success of the week was due to several important factors including:

- Consultation with local AHWs well before the community visit meant that it was their community's initiative that was carried out, not ours, (as we had initially wanted to target just "core transmitters");
- a high degree of cooperation from both AHWs and RNs was pivotal in achieving maximum outcomes;
- the willingness of the community to receive us;
- the number of men who self presented to the men's clinic location;
- the willingness of men in the community to volunteer their time and efforts in assisting CDC staff;
- the school Principal for allowing the young men time-out to attend for check-ups, and
- the support and cooperation of the local health staff.

As with any initiative there were also lessons learned. Asking men to fill out their names and date of birth was problematic. Many had a great degree of difficulty with the spelling of their English or

Aboriginal names and approximately one third could not give their date of birth. This led to a degree of confusion with the pathology laboratory and made finding previous syphilis serology difficult. Providing Liaison Officers and Aids for these tasks in the future may be important. Recognising that over 1000 condoms were distributed highlighted the fact that condoms are not readily available outside of the local clinic and raised the issue again that men perceive the clinic as a place for women and children. Alternative methods of distributing condoms need to be found.

Conclusion

Overall the Men's Health Week was viewed as a useful and instructive initiative. Many thanks must go to the AHWs and RNs from the community who gave so freely of their time and local knowledge, to the Community Council for its support and generous funding, the local school for its support and to the community members who worked to make the Men's Health Week a success.

The council for Community X have endorsed the sharing of this information and congratulate the efforts of the community and co-workers.

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2. Territory Health Services Men's Standard Treatment Protocols, 1995.

Changes to the NT Notifiable Diseases Act 1999

Angela Merianos, CDC Darwin

The legislative framework for the Disease Control Program is the *Northern Territory Notifiable Diseases Act 1985* which deals with the notification and control of communicable and other infectious diseases of public health importance.

Laws relating to disease control generally have two functions:

- the public health monitoring of disease rates both regionally and nationally through notification; and
- the use of provisions to contain the spread of disease, most notably during epidemics.¹

The most recent amendment to the Act was gazetted on 7 April 1999. The objectives of this amendment were to:

- update the list of notifiable conditions to reflect new and emerging infectious diseases; and
- mandate the reporting of a minimum data set by both doctors and laboratories (see Schedule 1).

The minimum dataset includes the name and contact details of the person diagnosed with a notifiable disease so that public health staff are able to carry out disease control activities more efficiently. Under the old Act, laboratories were required to notify cases of communicable disease but were not mandated to identify the infected person. Failure to identify individuals has compromised effective public health action in the past, especially with common notifiable diseases such as STDs. ***The exception is HIV/AIDS, where a coded unique identifier (DOB, sex and the first two letters of the first and last names) is all that is required to identify the case.***

The change to the Act protects both reporting doctors and laboratories from perceived breaches in confidentiality because disclosure of identifying details is now compulsory rather than voluntary.

CDC staff will continue to always work through the patient's doctor or primary provider whenever possible in the dispatch of their duties. The current practice of the diagnosing doctor (primary provider) discussing results with patients before the patient is contacted by CDC staff will remain unchanged. Laboratory managers in the public and private sectors, hospital medical staff, the NT Divisions of General Practice and all NT primary health care providers have been informed of the amendment.

The list of notifiable diseases was modified in accordance with diseases considered important nationally (Table 1), but also includes a number of locally significant diseases (Table 2). All diseases are now listed either under Schedule 2, non urgent doctor and laboratory notifications, or Schedule 3, urgent doctor and laboratory notifications that require notification by phone, fax or email on the same day. The diseases in bold type are new to the list. The notification form currently used by doctors will be modified to reflect these changes.

The current amendment is the first stage of a broader review to bring the Act in line with the recommendations of the Legal Reform Working Group of the National Public Health Partnership. A legal opinion about the current Act will be sought to determine whether it provides the legislative framework for cross border notifications, the protection of agencies making reports in good faith

before the causative agent is identified, and the reporting and investigation of clusters of disease of unknown aetiology.

Schedule 1: INFORMATION TO BE GIVEN

1. Name of the infected person
 2. Address of the infected person
 3. Date of birth of the infected person
 4. Sex of the infected person
 5. Indigenous status (when available)
 6. Name of the disease
 7. Test used to diagnose the disease
 8. Name of the referring practitioner
 9. Date that the test was requested
 10. Date that the test was performed
 11. Date of death (if post-mortem specimen)
 12. Name of the laboratory where results referred for testing
-

Table 1 Diseases of national importance newly added to the NT Notifiable Diseases List

Diseases of national importance

- Arbovirus infections: Japanese Encephalitis
- Botulism (food borne)
- Cryptosporidiosis
- Haemolytic Uraemic Syndrome*
- Influenza
- Lyssavirus: Australian Bat Lyssavirus
- Shiga-like toxin (verocytotoxin) producing *Escherichia coli* infection
- Thrombotic Thrombocytopenic purpura*
- Vibrio food poisoning

*Associated with verocytotoxic *E coli* infections

Table 2 Diseases of local importance newly added to the NT Notifiable Diseases List

Diseases of local importance

- Chlamydia infections: Conjunctivitis
 - Melioidosis
 - Trichomoniasis
-

Schedule 2 Non-urgent doctor notifications

AIDS
 Arbovirus infections
 Dengue virus infection if acquired outside NT
 Congenital rubella syndrome
 Congenital syphilis
 Donovanosis (granuloma inguinale)
 HTLV1
 Adult T cell leukaemia/lymphoma
 Tropical Spastic Paraparesis
 Leprosy
 Lymphogranuloma venereum
 Mumps
 Rheumatic fever
 Rubella
 Syphilis
 Tetanus
 Typhus (all forms)

Schedule 3 Urgent doctor notifications ie by phone, fax or email

Acute post-streptococcal glomerulonephritis
 Adverse vaccine reactions
 Arbovirus infections:
 Australian Encephalitis (MVE, Kunjin)
 Dengue virus infection, if acquired in the NT
Botulism (food borne)
 Chancroid
 Diphtheria
 Food or water borne disease in 2 or more related cases
 Gastroenteritis involving one or more related cases in an institution or in a food handler
 Gonococcal infection: Conjunctivitis
Haemolytic Uraemic Syndrome*
Haemophilus influenzae type b (invasive)
 Hepatitis (acute viral)
 Malaria
 Measles
 Meningococcal infection
 Pertussis
 Plague
 Poliomyelitis
Thrombotic Thrombocytopenic Purpura*
 Tuberculosis

Viral Haemorrhagic Fever
 Yellow Fever

**Associated with verocytotoxic E coli infections.*

Schedule 2 Non-urgent laboratory notifications

Amoebiasis
 Arbovirus infections
 Barmah Forest virus infection
 Dengue virus infection
 Ross River virus infection
 Not Otherwise Specified
 Atypical mycobacteria
 Brucellosis
 Campylobacteriosis
Chlamydia infection
 Genital
Conjunctivitis
Cryptosporidiosis
 Donovanosis (granuloma inguinale)
 Gonococcal infection
 Genital
 Neonatal
 Hepatitis B
 Hepatitis C
 Hepatitis D
 Hepatitis not otherwise specified
 HIV
 HTLV1
 Hydatid infection
Influenza
 Leprosy
 Leptospirosis
 Listeriosis
 Lymphogranuloma venereum
Melioidosis
 Mumps
 Ornithosis
 Pneumococcal disease (invasive)
 Q Fever
 Rotavirus infection
 Rubella
 Salmonellosis
Shiga-like toxin (verocytotoxin) producing Escherichia coli infection
 Shigellosis
 Syphilis
 Tetanus
Trichomoniasis

Typhus (All Forms)

Vibrio food poisoning

Schedule 3 Urgent laboratory notifications ie by phone, fax or email

Anthrax

Arbovirus infections

Australian Encephalitis (MVE, Kunjin)

Japanese Encephalitis

Botulism (food borne)

Chancroid

Cholera

Diphtheria

Gonococcal infection: Conjunctivitis (Epidemic)

Haemophilus influenzae type b (invasive)

Hepatitis A

Hepatitis E

Legionellosis

Lyssavirus

Australian Bat Lyssavirus

Rabies

Malaria

Yersiniosis

Measles

Meningococcal infection

Pertussis

Plague

Poliomyelitis

Smallpox

Tuberculosis

Typhoid & paratyphoid

Viral haemorrhagic fevers

Ebola virus disease

Lassa Fever

Marburg virus disease

Not otherwise specified

Yellow fever

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Hepatitis C virus in the NT prison population

Sarah Huffam¹, Jan Savage¹, Susan Jacups², Stewart LaBrooy³

¹NT AIDS/STD Program Darwin, ²NT Clinical School, Flinders University, ³NT Correctional Services

Introduction

Hepatitis C virus (HCV) was first identified in 1989. Australian estimates of HCV seroprevalence depend on sample population testing in eg blood donors where seroprevalence is up to 0.5% and in injecting drug users where it is 60-70%.¹ Injecting drug use is the main risk factor for HCV infection across Australia.

In 1994 Northern Territory (NT) estimates of HCV seroprevalence were 0.25% in blood donors and 8% in STD clients.² In 1995 an overall NT incidence rate of 5.6/100,000 was estimated.³

The aims of this study were to determine the prevalence, and where possible, the incidence of HCV in prisoners in the NT. Studies elsewhere in Australia have shown prisoners to be an 'at risk' population for HCV with higher seroprevalence rates.^{4,5} This study was undertaken to elucidate whether this was also true in the NT. The study was a collaborative effort between the Centre for Disease Control, Darwin and the NT Correctional Service.

In Darwin there are approximately 340 prisoners at Darwin Correctional Centre (prison) and 25 juvenile detainees at the Don Dale Centre and Wildman Wilderness Camp, with an average stay of 12 to 13 months. Approximately 62 to 65% of inmates at these centres are indigenous, with about 0.1% being imprisoned for drug related offences other than alcohol. Of the 35 to 37% who are non-indigenous 2.5% have their primary offence recorded as drug related, other than alcohol (personal communication Stewart LaBrooy, Manager, Health Services, NT Correctional Services). Mandatory testing for HIV, hepatitis B and C, syphilis, chlamydia, gonorrhoea and TB is performed on every new reception, then again at 3 months, six months, annually and on discharge. This testing is not repeated if the person has previously tested positive, or received hepatitis B immunisation which is currently offered to long term prisoners and repeat offenders.

Methods

The HCV test result, date of the test, date of birth and sex were provided from 3/8/1994 - 20/4/1998 by

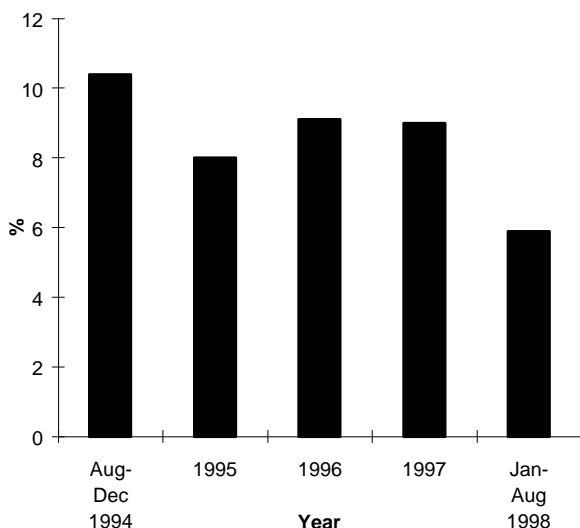
the Royal Darwin Hospital laboratory which performs all of the initial hepatitis C serology. Darwin prison and the Don Dale Centre, but not from Alice Springs prison due to difficulties in interpreting coding. Data from Darwin prison and the Don Dale Centre were analysed using STATA 5.0 and Epi Info 6. Dates of entry and exit were checked on those who seroconverted through the prison medical service. NT notification data were compared with the prison data with regard to age and gender.

Results

A total of 6198 HCV antibody tests were performed on sera from Darwin and Alice Springs prisons and the Don Dale Centre. In the Darwin prison 2647 and at the Don Dale Centre 139 people were tested. The mean age of the males was 29.5 years ($n = 2334$), and women 32.5 years ($n = 222$). Gender was not stated for 91 people tested. The male to female ratio was 10.5:1.

Of those screened, 229 prisoners from Darwin prison were HCV Ab positive; 208 (91%) were male, 18 (8%) were female and with 3 (1%) the sex was unknown. There were no HCV positive tests on those entering the Don Dale Centre. The seroprevalence of HCV on entry to Darwin prison was 8.6%. Figure 1 demonstrates HCV seroprevalence by year since 1994 and showed no significant difference over time.

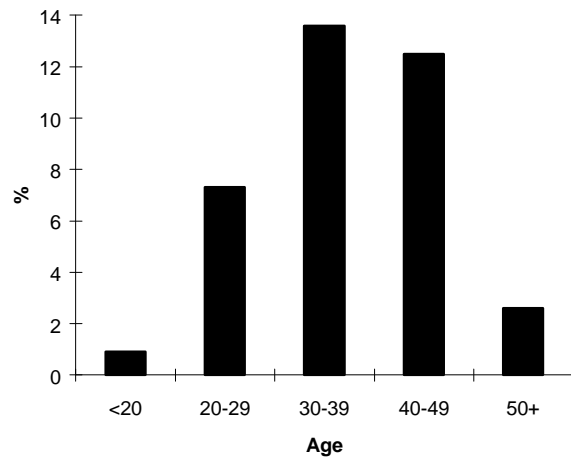
Figure 1 HCV seroprevalence from August 1994 to April 1998 in Darwin prisoners



Seroprevalence was approximately equal for males and females (male 8.8%, female 7.8%) and was highest in the 30-39 (13.6%) and the 40-49 (12.5%) age groups (Figure 2). The mean age of highest

Indigenous status and reason for imprisonment were not provided. These data were available from seroprevalence was 33.5 years for males and 30.3 years for females.

Figure 2 HCV seroprevalence by age group in Darwin prison



Six people who tested negative initially subsequently seroconverted. Two seroconverted in prison at 3 and 3.5 months, one seroconverted between exit and re-entry 13 months later, and for three people entry and exit information was not available.

Discussion

The NT prison population differs from Southern states in that there is a high percentage of indigenous inmates and these prisoners have less injecting drug related offences than non indigenous Australians. Although we were unable to include indigenous status in our analysis we assume that this is one of the reasons the seroprevalence of HCV is lower than studies in New South Wales and Victorian prisons where over one third of inmates are demonstrated to be HCV Ab positive.^{4,5}

Comparing the prison seroprevalence with NT notification data, the age distribution of positive HCV tests was similar between the prison and NT groups with over 40% in the 30-39, and over 60% in the 20-39 year old age groups. The gender distribution of all notified HCV differs from that of the prison. Females were as likely to be HCV seropositive in prison compared to all NT notifications where the male to female ratio is approximately 3:1 (eg in 1997 there were 242 male, 87 female and 14 unknown sex HCV notifications^{6,7}).

In summary HCV seroprevalence in Darwin prisoners from August 1994 to April 1998 was 8.6%. These rates are lower than in other prison population

studies in Australia, but considerably higher than in populations. They are similar to the rates found in a small study of STD clinic attenders in Darwin. Though not conclusive, it appears that transmission has probably occurred within the prison. The prison population represents a group who are at risk of HCV and would potentially benefit from health promotion with the aim of reducing transmission of HCV and other blood borne viruses. Continued screening is also important to enable clinical management of chronically HCV infected, and incident cases.

In future an enhanced notification data form will be sent to the doctor requesting an HCV test that proves to be positive. This will enable more comprehensive data collection of incident vs prevalent cases and risk factor assessment in the NT.

We intend to analyse the hepatitis B serological data from the prisons also, with a view to recommendations regarding vaccination.

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Two years experience of a hepatitis A and B vaccination program at Clinic 34 Darwin

Peter Knibbs and Carole Whittles, AIDS/STD Unit, Darwin

Introduction

Adults contracting infection with hepatitis A or B virus (HAV, HBV) generally develop symptomatic illness which may be quite disabling and prolonged. Those who contract HAV usually make a full recovery, as do the vast majority of cases who contract HBV as adults. Chronic HBV occurs generally following infection in the first few years of life. Both HAV and HBV are vaccine preventable diseases.

Many sexual health clinics offer testing for HBV and hepatitis C virus (HCV) as part of their screening service. At the sexual health clinic (Clinic 34) in Darwin, screening for HAV is also offered to men who have sex with men and those with a pre-existing viral hepatitis. When clients are reviewed with their results, hepatitis A and B vaccination is offered according to their immune status and identified risk, namely injecting drug use, sexual exposure (including sex work), history of HIV or a viral hepatitis.

Aim

The hepatitis vaccination program had been conducted in the clinic for several years without an evaluation of uptake and adherence. A retrospective audit of the program was therefore undertaken to provide preliminary information regarding:

- a) the number of clients who completed a hepatitis A or B vaccination course; and
- b) the cost of each vaccination program

with a view to updating the recommendations for the provision of hepatitis A and B vaccination through Clinic 34 in the future.

Method

A retrospective audit of 1,848 clinical records at Clinic 34 (Darwin) was conducted. These records covered the period from June 1996 to June 1998. Demographic details and immunisation history were recorded.

Results

Of the 1,848 clinical records reviewed, 430 (23.3%) of clients commenced hepatitis B vaccination and 52

(3%) of the total began the hepatitis A vaccination course, 26.3% received a single dose only, while 73.7% had two or three doses. Only

Table 1 Pattern of hepatitis A and B courses at Clinic 34

Vaccine	Number commencing	One dose	Two doses	Three doses
Hepatitis A	52	38 (73%)	14 (27%)	N/A
Hepatitis B	430	113 (26.3%)	215 (50%)	102 (23.7%)

27% of clients commencing the hepatitis A course had received the two doses as recommended at the time of audit (see Table 1).

One dose of hepatitis A vaccine is \$48.29, making a complete course (2 doses), \$96.58; for hepatitis B vaccine a single dose costs \$8.00, therefore the recommended three dose course is \$24.00. Staffing costs have not been considered in this analysis. The costs for the immunisation programs over a two year period are seen in Table 2.

Table 2 Cost of hepatitis A and B vaccination at Clinic 34 (\$)

Vaccine	One dose	Two doses	Three doses	Total
Hepatitis A	1835	1352	N/A	3187
Hepatitis B	904	3440	2448	6792

Discussion

These preliminary data underscore the need for regular clinical audits and ongoing review and evaluation of clinical protocols to assess the success of public health initiatives.

Though the number is not quantified in this group, the opportunity for free hepatitis B vaccination was not taken up initially by a proportion of those to whom it was offered at first visit, primarily because of needle aversion and perceived lack of personal risk (personal communication, clinic staff).

It is of concern that only 23.7% of those commencing hepatitis B vaccination completed the recommended three dose course. A study of homosexual and bisexual men attending a genitourinary medicine clinic in the United Kingdom found that 68% of those who entered their hepatitis B vaccination program completed the course.¹

Half of the Clinic 34 group had two doses of hepatitis B vaccine with 73.7% receiving at least two or three doses. This compares with the results of a Canadian study where 46.9% of their sample received two doses.² A number of studies have found two doses to

be immunogenic, particularly when administered in an accelerated regimen. Lower rates of seroconversion are seen in the older age groups, men, the obese, smokers and the immunocompromised. High mobility is a feature of the Darwin population, especially in younger people who comprise more than one third of the clinic clientele. This, and the difficulty in accessing the clinic by public transport may be barriers to (eg young) people making return visits one and six months after their initial consultation.

The Canadian study² examined compliance with hepatitis B vaccination programs in adults attending a sexually transmitted disease clinic and found a strong correlation between level of education and compliance rates. The non-compliance rate was 50% in those with less than a grade 10 education, 34% for grade 10-13 and 15% and 10% for those with some college and university education respectively. The study also compared an enhanced intervention reminder strategy (mail and telephone reminder) with the clinic's regular 'mail only' reminder and found the enhanced intervention had twice the compliance rate of the 'mail only' intervention. As no reminder or recall system is in place at Clinic 34, perhaps it is not surprising that the completion rate for the three vaccinations is relatively low. It is possible that patients may have accessed further doses from other sources but this number is unknown and probably limited.

Targeted vaccination of high risk individuals is recommended in the NHMRC vaccination guidelines.³ It was intended that data on risk factors be collected and analysed for this study, but this proved problematic and no conclusions could be drawn regarding program uptake and risk status, nor compliance rates and risk factors.

The cost of providing hepatitis B vaccines to the 26.3% of clients who only had one vaccine was \$906, or 13.3% of the total cost of the hepatitis B program. The direct costs of a case of acute hepatitis B have been estimated at between \$1,030 to \$2,195, with the

total costs at between \$6,600 and \$12,600.⁴ Thus the prevention of one to two cases of HBV can be seen to cover the cost of the program.

the comparatively low numbers of clients commencing vaccination. The proportion who had completed the two dose schedule for hepatitis A vaccine (Havrix® 1440) is low, 14 of 52 (33%); however, not all clients included in this audit had been followed for the entire 12 month period. Clients who are overdue for their booster dose are still offered this whenever they return to the clinic. Certainly the cost of hepatitis A vaccination is considerably higher than that of hepatitis B vaccine and further data are needed on longer term uptake and risk factors. In the light of recent discussion questioning the value of hepatitis A vaccination for chronic HBV or HCV, the clinic guidelines will be reviewed.⁵ Epidemics of HAV in men who have sex with men have been reported in the last few years in Australia and overseas, at the same time as naturally acquired immunity is seen to be waning; the recommendations for vaccination against HAV have been developed as a result of these.^{6,7,8}

This study, despite its limitations, has provided a useful preliminary framework for evaluation of the hepatitis A and B vaccination programs at Clinic 34 in Darwin. The recommendations are as follows:

1. That existing protocols be reviewed and revised in light of these data and evidence based medicine.
2. That a vaccination database be established to record relevant demographic and clinical data and to generate recall/reminder lists for follow-up vaccination of those vaccinated.
3. That a reminder system which gives the client the choice between a telephone call, letter in the mail or both, be implemented and monitored to evaluate the effectiveness of the system in general as well as the different options.
4. That where appropriate, the accelerated vaccination schedules be considered to minimise

Hepatitis A vaccination is offered on a much more restricted basis in Clinic 34 and this is reflected by

the time gap between the second and third vaccinations with the aim to increase compliance.

5. That the option of having clients receive their second and third vaccinations at other Territory health facilities be examined (to possibly improve access and hence compliance).

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Clarification

Some readers felt the article, "Report on ciguatera poisoning, Groote Eylandt, October 1998" from the December 1998 *Bulletin* inferred that these cases were the first reported ciguatera poisonings involving fish caught near Groote Eylandt. The October 1998 cases were the first reported acquired from fish

caught "from North East Island" which is near Groote Eylandt. "Fish caught near Connexion Island which is off Groote Eylandt" were reported previously to be associated with ciguatera poisoning by Gillespie et al (*Med J Aust* 1986; 145, 584-590).

Clearly areas around Groote Eylandt are ciguatera - prone!

Small quality project report - "About Giving Vaccines"

Sandra Thompson¹, Janice Jeffery², Virginia Sitzler³

¹CDC, Alice Springs, ²Staff Development Services, Alice Springs, ³Formerly CDC, Alice Springs

Background

In 1994, the Australian National Childhood Immunisation Strategy was developed to address inadequate levels of immunisation coverage in Australian children. The Strategy included Standards for childhood immunisation to guide immunisation practice. Standard 13 addressed training for individuals who administer vaccines, stating that vaccines should be "administered by properly trained individuals who receive ongoing education and training on current immunisation recommendations". The Centre for Disease Control (CDC), Darwin, of Territory Health Services (THS), established a curriculum development committee to consider this issue. In February 1997, their efforts, and that of a resource development committee, came to fruition with the release of an accredited vaccine provider training course.

In October 1997, the Central Australian THS Regional Executive approved an amount of \$3,300 for a small quality project (SQP) application entitled "About Giving Vaccines: an Accredited Short Course". The money was provided to fund 66 vaccine providers from different work areas within THS to undertake the self-directed mode of the accredited course without out-of-pocket expenses. In the SQP submission, it was proposed to fund 34 remote area nurses (RANs), 20 hospital nurses or doctors, 6 community health centre nurses and 6 CDC nurses or doctors.

The self directed, independent study mode was anticipated to occur over 5-6 weeks (upper limit 10 weeks), with a total time for study of 25 to 30 hours. Participants were advised to work with others taking the course to provide the opportunity for sharing ideas and working through the activities. THS staff who applied to do the course were asked whether they wished to be included in the allocation of places under the SQP.

Aims of About Giving Vaccines

The aims of the accredited short course are to assist registered nurses, Aboriginal Health Workers and medical practitioners to:

- correctly administer potent vaccines based on the current recommendations;

- maintain safe storage and handling of vaccines; and
- record all vaccine and vaccination information correctly.

Key measures of success were: 1) a better understanding of current vaccine schedules and contraindications to vaccines; and 2) improved recording and reporting of vaccinations given.

Methods

The course has two components of assessment:

- a written assessment, to be undertaken when participants have completed the self-directed learning package; and
- a practical assessment by an accredited examiner (upper limit, three months after written assessment).

In addition, participants in the SQP were asked to complete a 10 item questionnaire before starting the course and after completion. The questionnaire had been developed as a test of knowledge about immunisation policy and practice, and participants were asked to complete the questionnaire without reference to any course material. Marks were awarded for completely correct answers only.

Results

Allocation of Places

Table 1 shows the allocation of places as targeted in the submission.

Work location	Places Proposed (No.)	Places Utilised (No.)
Alice Springs Hospital	20	35*
Alice Springs Remote Health	34	18
CDC	6	5
Community Health Centre	6	4
Staff Development Services	0	2
Total	66	64

*37 learning packages were sent out to hospital staff. One was returned and one was a duplicate allocation.

Since only 64 places were effectively utilised, 64 was used as the denominator for response rate calculations.

Progress with the Completion of Vaccine Provider Training

At the time of this evaluation, 51% of participants had completed the course material, written and practical assessments, 16% had withdrawn, and one third were ongoing. Of the 21 who were ongoing, 9 had completed the written assessment (14% of the total).

Of the 45 people who completed the written assessment, the time from start to completion ranged from 2 to 46 weeks; 50% (the median) had completed this component within 10.8 weeks. It took between 1 and 44 weeks (median time 6 weeks) to complete the clinical assessment after successful completion of the written assessment among the 33 people who completed the course. The total time to complete the course work and both assessments ranged from 5 to 52 weeks (median 15.5 weeks). All but one participant finished the written component of the course by 18 weeks and all but 4 of the 33 course graduates completed within 18 weeks of the written assessment.

Knowledge of the course participants

Course written assessment

All participants who attempted both written and practical assessments passed. Marks ranged from 86-100%.

Pre and post course questionnaires

Fifty three of 62 pre-course questionnaires (85%) were returned and 52 were assessable. The scores ranged from 1 to 10 (median 5.0). Only 20 respondents completed the post-course questionnaire. The range of post-course questionnaire scores was 7 to 10 (median 8.0).

Paired pre- and post-course questionnaire scores were only available for 17 individuals, 3 of whom scored lower in the post-course assessment than in the pre-course assessment and 2 showed no improvement. However, 6 individuals scored at least 6 points higher on the post-questionnaire than they had scored on the pre-course questionnaire.

Hospital staff had the lowest median score prior to undertaking the vaccine provider course and the largest increase in score after completing the course,

with all participants on whom paired test results are available increasing their scores by 2 to 7 points. This suggests a substantial increase in knowledge about immunisation.

Other findings

Seven of the staff who completed the vaccine provider course indicated their preparedness to be practical examiners. A number of these were remote area nurses, which will make it easier for remote staff to be assessed, and potentially may decrease the time between course participants completing the written assessment and undertaking the practical assessment.

Recording and reporting of vaccinations

It is difficult to find an objective measure of the change in recording and reporting practices. However, the Central Australian Childhood Immunisation Database Manager reported an improvement in the quality of reporting over the twelve month period since the course was introduced and a decrease in the number of telephone inquiries requesting assistance with formulating catch-up schedules for children delayed in receiving their primary schedule.

Discussion

This analysis shows that the length of study time envisaged by those who designed the vaccine-providers training package, although by no means impossible, was not generally achieved in practice. Many of the participants who have either yet to complete or took an extended period of time to complete, gave extenuating personal circumstances, particularly personal health and family circumstances, as the underlying reason.

One reason for failure to receive post-course tests back from participants who had completed their practical assessment was that they had either left Alice Springs or employment with THS. This highlights the difficulty THS has in ensuring a knowledgeable and accredited work force to advise and administer vaccines. However, most of those who completed the training remained in the NT and it seems likely that the knowledge of health professionals who undertake the vaccine providers' training will increase and be shared with others, thereby improving the general knowledge of the NT health work force in a variety of settings.

The improvement noticed in the recording and reporting of vaccination is likely to be influenced by

contemporaneous changes such as improved vaccine provider training. However, it is also likely that by teaching health staff where to access information on immunisation issues and providing reference material as backup, they will have greater confidence and ability to solve problems for which they had sought external assistance before the training program.

In summary, participants who undertook the course demonstrated improved knowledge and confidence with immunisation issues, management and administration. The most notable improvements were seen in the participants who started with little knowledge about immunisation and work in areas where immunisation has a relatively low profile. Anecdotally, staff who completed the course stated that it had been worthwhile and that they had gained

orientation of vaccinating staff as well as better useful information for their ongoing professional work. By encouraging staff from a wide variety of work areas to undertake accredited immunisation training, it is likely that a knowledgeable and skilled health work force will be available to provide vaccination in whatever setting clients have contact with health services. Since there is likely to be a flow on of knowledge and skills to other staff who work with graduates, the investment in training of staff in areas where immunisation knowledge is low appears particularly worthwhile. The developers of the course have underestimated the time needed to complete the vaccine-provider training package; it is recommended that when the learning package is reviewed, a more realistic time for the learning and assessment processes should be incorporated.

Editorial

The above report proposes that although the vaccine provider course is valuable for vaccine providers, the time frame is unrealistic for at least 50% of participants described in this review. Since the course was introduced in July 1997, preliminary reports indicate that 672 providers have enrolled and 539 (80%) have completed the course and the written assessment. Of the 539 who completed the written assessment, 384 (71%) have taken and passed their clinical assessment while some of the remaining 29% are not yet due to complete.

The majority (51%) of these participants (539) completed the course and written assessment within the three month limit. This suggests that the time line is achievable and appropriate; unlimited time (eg 52 weeks) for completion is neither justified nor desirable. Requests for extensions, are considered on an individual basis and granted in most cases.

The problem of high turnover in the NT and particularly within THS highlights the need for national standards for vaccine provider courses which will be transferable between States and Territories.

The fee (\$50) for the course material has not been a deterrent to participation and is reimbursed by cost centres in most instances. There has been a high level of interest by all vaccine providers. The aim is to have all vaccine providers enrolled or completing the course by the end of the year 2000. We strongly recommend that the duty statements for all clinical public health and primary health care positions within THS include completion of the accredited vaccine course within the first 6 months of employment as an essential criterion.

Vaccination issues

Diphtheria tetanus-containing vaccines

The paediatric formulation of diphtheria tetanus vaccine (CDT) used in children under 8 years of age has been removed from the 'doctor's bag' and pharmacy imprest list because of the routine availability of diphtheria-tetanus-acellular pertussis (DTPa). This should contribute to the appropriate pertussis vaccine coverage for children under 8 years.

Unless there is a genuine contraindication to pertussis vaccine, DTPa should be given up to the child's 8th birthday. These children with genuine contraindications (see pages 78-79 of *The Australian Immunisation Handbook* 6th edition) will be recommended for CDT.

The adult formulation of diphtheria tetanus (ADT) is recommended after the 8th birthday. This is

because ADT contains a much smaller dose of diphtheria toxoid than the children's formulation (2 Limes flocculation units (Lf) versus 30 Lf). Older children and adults have a reduced tolerance to diphtheria toxoid.

Pre-school vaccinations now due at 4 years

Pre-school vaccinations (5th dose diphtheria-tetanus-acellular pertussis (DTPa), 4th dose oral polio vaccine (OPV) and 2nd dose measles, mumps and rubella (MMR), due at 4-5 years, **can now be given on or immediately after the 4th birthday**. This is in response to national concerns that opportunities for vaccination are being missed because these vaccinations are not being offered to 4 year olds ie when a child presented soon after his/her 4th birthday, he/she would sometimes be asked to return closer to their 5th birthday.

The Australian Technical Advisory Group on Immunisation (ATAGI) has recommended that the Australian Standard Vaccination Schedule be altered

so that pre-school milestone vaccinations become due when a child turns 4 years of age rather than at 4-5 years of age. It is expected that this recommendation will be incorporated into the national vaccine schedule.

OPV and MMR can now be given at any time before or after the other or at the same time

The ATAGI recently released the following statement regarding the timing of OPV and MMR vaccinations.

"Live virus vaccines that are not administered simultaneously should be separated by at least 4 weeks. This rule does **not** apply to OPV and MMR vaccine where either vaccine may be administered at any time before or after the other. There is no evidence to suggest that OPV and MMR vaccines interfere with each other, even if the interval between giving them is only a few days."

NT MALARIA NOTIFICATIONS October to December 1998

Merv Fairley, CDC, Darwin

Four notifications of malaria were received for the fourth quarter of 1998. The following table provides details about where the infection was thought to be acquired, the infecting agent and whether chemoprophylaxis was used.

ORIGIN OF INFECTION	REASON EXPOSED	AGENT	CHEMOPROPHY-LAXIS	COMMENTS
PNG/Indonesia	Holiday	<i>P.vivax</i>	Yes	Diagnosed RDH
Indonesia	Holiday	<i>P.falciparum</i>	No	Diagnosed RDH.
Indonesia	Holiday	<i>P vivax</i>	No	Diagnosed RDH
China/Indonesia	Holiday	<i>P falciparum</i>	No	Diagnosed RDH

Points to note regarding notifications next page:

- Amoebiasis, Australian Encephalitis (MVE), Botulism, Brucellosis, Chancroid, Cholera, Congenital Rubella Syndrome, Diphtheria, Hepatitis E, Hydatid Disease, Listeriosis, Lymphogranuloma venereum, Poliomyelitis, and Viral Haemorrhagic Fever are all notifiable but had "0" notifications in this period.
- Note that cryptosporidiosis and melioidosis have only been reported since 1998 (see page 6 for new notifiable diseases to look for in 1999).
- The marked decrease in Barmah Forest and Ross River Virus from 1997 and 1998 reflect different environmental conditions (eg rainfall pattenrs in those years). Alice Springs particularly had less rain than usual in January and February 1998 and mosquito numbers remained low all year.

**NT NOTIFICATIONS OF DISEASES BY DISTRICTS
1998 AND 1997**

DISEASES	ALICE SPRINGS		BARKLY		DARWIN		EAST ARNHEM		KATHERINE		TOTAL	
	'98	'97	'98	'97	'98	'97	'98	'97	'98	'97	'98	'97
Acute Rheumatic Fever	6	11	1	1	15	12	12	7	12	14	46	45
Adverse Vaccine React.	6	5	1	0	9	8	3	1	0	2	19	16
Arbovirus infections												
Barmah Forest Virus	1	4	0	6	12	21	4	4	4	7	21	42
Kokobera	0	0	0	0	1	0	0	0	0	0	1	0
Kunjin Virus	0	0	0	2	0	0	0	0	0	0	0	2
Dengue	0	0	0	0	8	5	0	2	0	0	8	7
Ross River Virus	3	54	2	23	80	113	16	4	20	29	121	223
Atypical Mycobacterium	2	0	0	0	4	15	0	0	0	0	6	15
Campylobacter	73	83	0	2	87	95	14	5	22	21	196	206
Chlamydia	258	246	26	38	323	251	74	61	102	59	783	655
Congenital Syphilis	4	2	0	0	0	0	0	0	0	0	4	2
Cryptosporidiosis	34	-	3	-	27	-	0	-	6	-	70	-
Donovanosis	17	22	0	0	3	5	0	0	1	4	21	31
Gastroenteritis	0	0	0	0	0	3	29	0	0	0	29	3
Glomerulonephritis	12	6	0	1	1	7	4	1	0	0	17	15
Gonococcal Disease	354	424	45	51	417	351	158	81	210	124	1184	1031
Gonococcal Conjunct.	1	102	0	6	2	1	0	1	12	0	15	110
Haemophilus Inf type b	0	3	0	0	0	0	0	0	0	1	0	4
Hepatitis A	1	27	1	5	26	34	8	0	11	26	47	92
Hepatitis B	0	2	7	3	0	8	1	1	10	5	18	19
Hepatitis C (incidence)	0	0	0	0	0	1	0	0	0	0	0	1
Hepatitis C (prevalence)	21	44	2	2	239	288	4	2	14	5	280	341
Hepatitis D	0	1	0	0	0	0	0	0	0	0	0	1
HIV infections	0	1	0	0	11	9	0	0	0	1	11	11
HTLV-1	26	27	1	0	0	3	0	0	2	3	29	33
Legionnaires Disease	0	1	0	0	3	0	0	1	0	0	3	2
Leprosy	0	0	0	0	0	1	0	1	0	0	0	2

Leptospirosis	0	0	0	0	1	0	0	0	2	1	3	1
Malaria	4	6	1	0	22	26	0	3	0	3	27	38
Measles	0	6	0	0	1	1	0	1	0	3	1	11
Melioidosis	0	-	0	-	47	-	6	-	14	-	67	-
Meningococcal Infection	17	6	0	0	0	5	0	3	0	1	17	15
Mumps	2	3	0	0	1	6	1	0	1	1	5	10
Pertussis	4	5	0	0	15	13	0	1	4	5	23	24
Pneumococcal Disease	47	52	0	0	20	27	2	4	3	3	72	86
Rotavirus	66	47	29	14	68	150	10	30	10	18	183	259
Rubella	0	3	0	1	3	3	0	0	1	0	4	7
Salmonella	75	84	11	12	220	175	36	36	69	40	411	347
Shigella	29	76	14	15	30	42	22	14	3	22	98	169
Syphilis	146	148	63	28	49	34	55	21	22	40	335	271
Tuberculosis	3	4	0	0	17	24	0	2	8	4	28	34
Typhoid	0	1	0	0	2	2	0	0	0	0	2	3
Typhus	0	0	0	0	0	1	0	0	0	0	0	1
Yersiniosis	1	0	0	0	2	3	0	0	0	0	3	3
Total	1213	1506	207	210	1766	1743	459	287	563	442	4208	4188

Points to note regarding notifications continued:

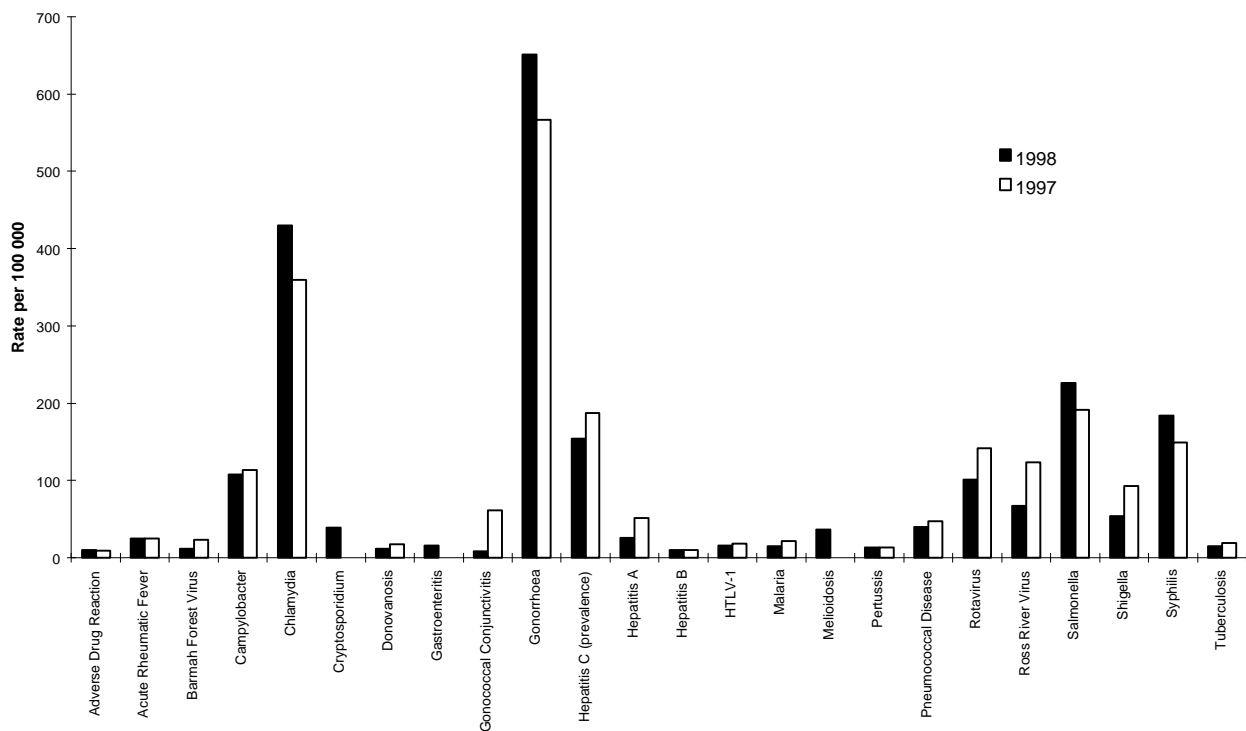
- Gastroenteritis numbers in 1998 reflect the outbreak in East Arnhem surrounding the eating of marine turtle (see *NT Disease Control Bulletin* Vol 5 No. 4 Dec 1998).
- Gonococcal conjunctivitis numbers in 1997 versus 1998 reflect the large outbreak in Central Australia (see *NT Disease Control Bulletin* Vol 4 No. 3 September 1997).

**NOTIFIED CASES OF VACCINE PREVENTABLE DISEASES IN THE NT
BY REPORT DATE 1998 AND 1997**

DISEASES	TOTAL		No. cases among children aged 0-5 years	
	'98	'97	'98	'97
Congenital rubella syndrome	0	0	0	0
Diphtheria	0	0	0	0
<i>Haemophilus influenzae</i> type b	0	4	0	4
Hepatitis B	18	19	0	2
Measles	1	11	0	6
Mumps	5	10	2	4
Pertussis	23	24	3	7
Poliomyelitis, paralytic	0	0	0	0
Rubella	4	7	1	2
Tetanus	0	0	0	0

- Mumps is largely under-reported.
- In 1998, measles was reported in a 24 yr old from Queensland travelling the NT.

**NT WIDE NOTIFIABLE DISEASES
1998 AND 1997**



Rates <10/100 000 not listed
NT est. resid. pop - 181 923 supplied by Epidemiology & Statistical Branch, THS

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STAFF UPDATES

DARWIN

Sarah Huffam is now working part-time as a Specialist Physician in *Clinic 34*. Her role is to provide specialist clinical, public health and

professional education in the area of blood borne viruses as well as HIV expertise in the NT.

Simon Morgan recently left Wurli Wurlingjang in Katherine to join the AIDS/STD Unit as a part-time

Medical Officer. His role is to provide specialised clinical sexual health services in Darwin and consultation for clinicians in Operations North. He will also be involved in community and professional education as well as clinical and public health training.

Matthew Parnaby has replaced Vicki Chamberlain (who is currently on long service leave) as the Coordinator of the Rural Liaison team in the AIDS/STD Unit. From 1996 to 1999, Matthew worked as a remote area nurse at Maningrida during which time he was involved in setting up the Men's Health Centre and in the communities TB Control Program. Prior to this he was a remote area tutor for the Health Faculty at Batchelor College. Other experience includes ICU nursing in Darwin, Brisbane and Gosford.

Helen Thistlethwaite recently transferred into the A/Assistant Coordinator AIDS/STD Unit to replace Merryn Hare who moved to Canberra in February. Helen first came to Darwin in 1972, revisited again in 1974/75 and came back in 1997 to live here permanently and work for THS. Her initial employment was in her qualified field as a Mothercraft Nurse on the maternity and paediatrics wards at RDH. In 1985 she transferred to the administrative field and has worked in a variety of program areas including seven years with the Children's Services Unit and more recently from 1994 - 1999 in the Non-Government Liaison Unit. She has come into the A/Coordinators position on a temporary basis for six months, after much pressure from Merryn to give it a go!

Since the beginning of 1999, Immunisation and Surveillance has operated under separate Sub-Programs. **Christine Selvey** is currently employed on a part-time basis as acting Head of Immunisation and **Angela Merianos** is Head of Surveillance. Christine can be contacted on Monday mornings and all day Thursday and Friday on 8922 8825. Angela Merianos remains contactable on 8922 8265.

Sam Bullen, formerly from Katherine, is currently employed as a data entry support officer in Immunisation.

Brad Palmer (former CNC of Darwin Community Care Centre and Coordinator of Measles Immunisation Program) has replaced Tina McKinnon (who is on maternity leave) as Coordinator of the

Community Child Health Unit while **Sue Kruske** recently commenced as the Community Child Health Nurse.

KATHERINE

As a former Public Health Nurse in CDC and after spending the last six years as the school nurse at Katherine High, **Nancy Nyberg** has returned to replace Margaret Carnegie-Smith who recently retired. Her areas of responsibility within the Unit include immunisation, leprosy and trachoma.

GOVE

Having worked at Gove Hospital for the last nine months in the general and psychiatric areas, **Simon Marrable** has recently been appointed as the Men's Health Nurse for East Arnhem. Prior to moving to Gove, he was a group coordinator registered nurse for two years at a private psychiatric hospital in Sydney.

ALICE SPRINGS

Sandy Thompson resigned from her position of Medical Officer, CDC Alice Springs in March to take up the position of Medical Coordinator of the Sexual Health Program at the Communicable Diseases Control Branch in Perth.

Jenny Hains has returned to her position as Public Health Nurse in CDC after spending the last two years working in the Infection Control Unit at Alice Springs Hospital.

Belinda Farmer has transferred from the Public Health Nurse position over to the Sexual Health Unit to fill Penny Kenchington's maternity leave position as Syphilis Database Officer.

Ian Henderson commenced as the new coordinator of the Sexual Health Unit in December last year. Originally from Adelaide, Ian has been a resident of Alice Springs for the last 5 years. He has worked in the hospital and more recently at Batchelor College (1996-1998) where he was responsible for the Higher Education Program.

Calvin Chong resigned from the Men's Aboriginal Educator position in January this year and is now working in the Rehabilitation Unit. His position has recently been advertised.

TENNANT CREEK

Fiona Maslin resigned from the AIDS/STD position in March to return to Ireland to live.