

East Kimberley Impact Assessment Project

**COMMUNITY-BASED ILLNESS
IN KIMBERLEY ABORIGINES**

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1989

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A Joint Project Of The:

Centre for Resource and Environmental Studies
Australian National University

Australian Institute of Aboriginal Studies

Anthropology Department
University of Western Australia

Academy of the Social Sciences in Australia

The aims of the project are as follows:

1. To compile a comprehensive profile of the contemporary social environment of the East Kimberley region utilising both existing information sources and limited fieldwork.
2. Develop and utilise appropriate methodological approaches to social impact assessment within a multi-disciplinary framework.
3. Assess the social impact of major public and private developments of the East Kimberley region's resources (physical, mineral and environmental) on resident Aboriginal communities. Attempt to identify problems/issues which, while possibly dormant at present, are likely to have implications that will affect communities at some stage in the future.
4. Establish a framework to allow the dissemination of research results to Aboriginal communities so as to enable them to develop their own strategies for dealing with social impact issues.
5. To identify in consultation with Governments and regional interests issues and problems which may be susceptible to further research.

Views expressed in the Project's publications are the views of the authors, and are not necessarily shared by the sponsoring organisations.

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SUMMARY

A detailed survey and analysis of the health records of the Warmun community has documented disturbingly high levels of ill health in children and adults. Many of the children were undernourished and the presence of undernutrition at 5 years of age correlated with lower birthweights. There were high rates of infections, particularly respiratory and gastrointestinal, among the children and many had evidence of previous episodes of trachoma. Among the adults, many had respiratory disease and many had previously had trachoma, leprosy and urinary tract infections. One-third of adults had active or recent sexually transmitted diseases which indicates a high risk of introduction of AIDS and its long-term consequences.

FOOTNOTE ABOUT TECHNICAL TERMS : Many medical terms in daily usage are not well understood by the general public. In some instances it is not easy or possible to accurately replace technical terms by plain English. In this paper the following terms can be explained as follows:

<u>cardiovascular disease</u>	disease of the heart and associated major blood vessels (shortened to 'cardiac' disease or 'heart' disease)
<u>hypertension</u>	high blood pressure
<u>Hansen's disease</u>	leprosy
<u>positive Treponema serology</u>	positive reaction of the blood in a laboratory test which indicates a recent episode of syphilis
<u>Treponema</u>	the microorganism (germ) which causes syphilis
<u>Neisseria gonorrhoea</u>	the microorganism (germ) which causes gonorrhoea
<u>trachoma</u>	a serious eye infection (previously called "Sandy blight") which can cause serious eye damage, scarring and blindness
<u>AIDS</u>	acquired immune deficiency disease

Some other technical terms used are explained in brackets in the text.

Aborigines in general have much more illness than do other Australians; for example infections and undernutrition in children and diabetes and heart disease in Aboriginal adults. The state of health of Kimberley Aborigines has recently been reviewed, describing some of the important changes in Aboriginal health which have occurred in the region over the past 20 years (Gracey and Spargo 1986; Gracey and Spargo 1987). The published information about this subject is limited and selective, dependent as it is on the interests of individual medical writers and investigators. Furthermore, many of the available reports were published prior to the 1970s when important initiatives were introduced to help improve the unsatisfactory health standards of Aborigines. Over that time, also, there have been rapid sociological, economic and technological changes which have profoundly affected Aboriginal communities, even in remote areas. Much of the published information also relates to patients in hospital or who are attending clinics to seek medical care; inevitably this gives a biased view of the situation (Gracey 1985).

There is a need for more community-based information about health and disease in Aboriginal populations and for studies which are planned carefully in advance to collect and analyse community data so that the factors which are contributing to the continuing low standards of health in Australian Aborigines can be thoroughly documented and assessed.

Studies of this type provide much better information than reports which are unplanned and based on past events. There is a need also, for health

research projects to be planned and undertaken with the active cooperation of local communities (Thomson 1984).

With these considerations in mind, and as part of the East Kimberley Impact Assessment Project, we have completed a health survey of the Warmun Community in the East Kimberley region based on a combination of interview and physical examination of members of the community and analysis of their regularly kept medical and community health records. We have taken this opportunity to combine this information with some data which is of particular relevance to diseases in Aboriginal adults in the Kimberley on a wider scale; this relates to hypertension (high blood pressure) and sexually transmitted diseases, in particular. The children's survey of the Warmun community showed more than one-third of the children had impaired growth, 21% were undernourished, two children were stunted, six were undernourished and stunted, and two children, aged nine to 10 years, were severely malnourished. Analysis of growth data gathered between birth and 5 years of age showed that undernutrition at age 5 was significantly associated with lower birthweights. Twenty-one percent of children had evidence of lower respiratory tract disease, 19% had signs of chronic suppurative otitis media and 35% had active skin infections. More than three-quarters of the children had signs of trachoma, 20% were anaemic and one-third had intestinal parasites. Almost 50% of children tested had intestinal parasites or recognized bacterial pathogens in their faeces. These findings indicate widespread mild-to-moderate malnutrition and a high prevalence of infections in children in that community, particularly respiratory and gastrointestinal infections as well as trachoma.

Subjects and Methods

A medical survey of the community was undertaken over a 2-week period in April, by three medical officers, a microbiologist and a public health nurse with the help of Aboriginal Health Workers and other assistants. Information was obtained by interview, physical examination and detailed review of the clients' Health Department (of W.A.) records and results of laboratory investigations. All laboratory methods were based on routine diagnostic procedures used regularly by the State Health Laboratory Services of the Health Department of Western Australia.

Acute (i.e. of recent onset) or "acute-on-chronic" (a recent episode on top of established disease) lower respiratory tract disease was diagnosed by the presence of a cough which produced sputum, and/or abnormal physical findings and/or abnormal findings in the chest x-ray. Evidence of previous episodes of trachoma was detected by the Royal Australian College of Ophthalmologists' classification (1980). Hypertension (high blood pressure) and evidence of cardiovascular disease (recordings of electrical impulses which are associated with the beating of the heart) was detected by standard clinical criteria and use of electrocardiography; Hansen's disease (leprosy) was diagnosed on clinical grounds by a doctor with extensive experience of this disease (R.M.S.) and supported by microbiological confirmation. Standard laboratory methods were used to detect serological reactivity (positive reactions in the blood) to Treponema (the microorganism which causes syphilis), and for the detection of Neisseria gonorrhoea (the microorganism which causes gonorrhoea) and urinary tract infections.

Results

Information was available from 136 adults (20 years +) for study (Table 1); this represents 93% of the adult population of the Warmun community (68/76 [89%] of the men and 68/70 [97%] of the women).

TABLE 1. WARMUN COMMUNITY, DEMOGRAPHIC DATA

Date of birth	TOTAL	Male	Female	AGE
'Old age pensioners'	32	13	19	M65+, F60+
1922-36	35	23	12	50-65
1937-46	13	8	5	40-50
1947-56	25	11	14	30-40
1957-66	41	21	20	20-30
1967-76	52	29	23	10-20
1977-86	85	40	45	0-10
	283	145	138	

There was evidence of a high level of ill health the population. Overall, 65% of the subjects had signs of previous trachoma, 43% had evidence of respiratory tract disease (mostly bronchitis and/or pneumonia), 27% had suffered from leprosy and had been treated for it, 19% had high blood pressure and 29% had urinary tract infections which were much commoner in women than in men. There was a relatively low rate of documented heart disease (15%, overall) and high rates of sexually transmitted diseases - syphilis in 35% and gonorrhoea in 21%.

TABLE 2. WARMUN COMMUNITY, overall disease rates in adults

	Males (68)	Females (68)	Total (136)
Trachoma	43 (63%)	45 (66%)	88 (65%)
Respiratory Tract infection	34 (50%)	24 (35%)	58 (43%)
Hansen's disease (leprosy)	19 (28%)	18 (26%)	37 (27%)
Hypertension	10 (15%)	13 (19%)	23 (19%)
Heart disease	9 (13%)	11 (16%)	20 (15%)
Positive <u>Treponema</u> serology	25 (37%)	22 (32%)	47 (35%)
<u>Neisseria gonorrhoea</u>	16 (24%)	13 (19%)	19 (21%)
Urinary tract infection	8 (12%)	32 (47%)	40 (29%)

The prevalence of evidence of these categories of diseases in adults of different ages is shown in Tables 3-7.

TABLE 3. WARMUN COMMUNITY, disease rates 20-30 years

	Males (18)	Females (17)	Total (35)
Trachoma	8 (44%)	10 (59%)	18 (51%)
Respiratory Tract infection	4 (22%)	2 (12%)	6 (17%)
Hansen's disease (leprosy)	3 (17%)	1 (6%)	4 (11%)
Positive <u>Treponema</u> serology	4 (22%)	6 (35%)	10 (29%)
<u>Neisseria gonorrhoea</u>	5 (28%)	6 (35%)	11 (31%)
Urinary tract infection	2 (11%)	2 (12%)	4 (11%)

TABLE 4. WARMUN COMMUNITY, disease rates 30-40 years

	Males (9)	Females (16)	Total (25)
Trachoma	6 (67%)	12 (75%)	18 (72%)
Respiratory Tract infection	5 (56%)	4 (25%)	9 (36%)
Hansen's disease (leprosy)	1 (11%)	5 (31%)	4 (24%)
Hypertension	1 (11%)	-	1 (4%)
Cardiac disease	1 (11%)	1 (6%)	2 (8%)
Positive <u>Treponema</u> serology	4 (44%)	3 (12%)	7 (28%)
<u>Neisseria gonorrhoea</u>	3 (33%)	5 (31%)	8 (32%)
Urinary tract infection	1 (11%)	9 (56%)	10 (40%)

TABLE 5. WARMUN COMMUNITY, disease rates 40-50 years

	Males (8)	Females (6)	Total (14)
Trachoma	2 (25%)	6 (100%)	8 (57%)
Respiratory Tract infection	4 (50%)	3 (50%)	7 (50%)
Hansen's disease (leprosy)	3 (38%)	3 (50%)	6 (43%)
Hypertension	-	1 (17%)	1 (17%)
Heart disease	1 (13%)	3 (50%)	4 (29%)
Arthritis	1 (13%)	-	1 (7%)
Positive <u>Treponema</u> serology	3 (38%)	2 (33%)	5 (36%)
<u>Neisseria gonorrhoea</u>	5 (63%)	2 (33%)	7 (50%)
Urinary tract infection	1 (13%)	4 (67%)	5 (36%)

TABLE 6. WARMUN COMMUNITY, disease rates, 50-60 years

	Males (19)	Females (17)	Total (36)
Trachoma	15 (79%)	13 (76%)	28 (78%)
Respiratory Tract infection	14 (74%)	9 (53%)	23 (64%)
Hansen's disease (leprosy)	8 (42%)	5 (29%)	13 (36%)
Obese (seriously overweight)	3 (16%)	4 (24%)	7 (19%)
Hypertension	6 (32%)	7 (41%)	13 (36%)
Heart disease	3 (16%)	3 (18%)	6 (17%)
Arthritis	4 (21%)	4 (24%)	8 (22%)
Positive <u>Treponema</u> serology	9 (47%)	4 (24%)	13 (36%)
<u>Neisseria gonorrhoea</u>	3 (16%)	-	3 (8%)
Urinary tract infection	3 (16%)	9 (53%)	12 (33%)

TABLE 7. WARMUN COMMUNITY, disease morbidity, 65 years of age
and

	Males (14)	Females (12)	Total (26)
Trachoma	12 (86%)	4 (33%)	16 (62%)
Respiratory Tract infection	7 (50%)	6 (50%)	13 (50%)
Hansen's disease (leprosy)	4 (29%)	4 (33%)	8 (31%)
Obese (seriously overweight)	2 (14%)	-	2 (8%)
Hypertension	3 (21%)	5 (42%)	8 (31%)
Heart disease	4 (29%)	4 (33%)	8 (31%)
Positive <u>Treponema</u> serology	5 (36%)	7 (58%)	12 (46%)
<u>Neisseria gonorrhoea</u>	-	-	-
Urinary tract infection	1 (7%)	8 (67%)	9 (35%)

Trachoma was common in all age groups; even by the third decade of life more than 50% of subjects had had this disease at some time; evidence of previous trachoma was particularly common (almost 80%) in the 50-65 years age group.

Respiratory disease became common in subjects after 30 years of age and by the age of 40 years or more was present in half the subjects.

Cardiac (heart) disease was uncommon under the age of 40; after that there were numerous cardiac abnormalities including rheumatic heart disease (due to previous rheumatic fever), arrhythmias (abnormalities of the heart rhythm), cardiomegaly (enlargement of the heart) and congestive cardiac failure (failure of the heart's pumping mechanism which causes accumulation of fluid). Hypertension (high blood pressure) and hypertensive cardiovascular heart disease (diseases of the heart due to high blood pressure) were also uncommon, except in subjects 40 years of age and over.

Urinary tract infections were experienced by most women aged 30 years and over but occurred in only 12% of the men. Genital, monilial infections (caused by Monilia albicans, a yeast organism) were common (7/17) in women in the 20-30 year age category in which two women were diagnosed as having pelvic inflammatory disease.

Sexually transmitted diseases (S.T.D.) were prevalent in both sexes in adults except in subjects 50 years of age or more and in whom recent gonorrhoea infections were uncommon. Evidence of high levels of exposure

of this population to sexually transmitted disease makes it appropriate to consider the wider picture of these diseases in the Kimberley region, particularly in view of the potential for introduction of the Acquired Immune Deficiency Syndrome (AIDS) into Kimberley Aboriginal Communities. The following information was obtained (by R.M.S.) from regularly collected notifications about S.T.D. for the whole Kimberley region.

Gonorrhoea

During 1986 there were 852 episodes of gonorrhoea notified in the Kimberley involving 679 persons. One hundred and twenty one patients had repeat episodes and more than one-third of these repeaters had 3 episodes or more during that year. In 1987 there were 581 episodes involving 504 patients; there were 63 repeaters, all except two of whom had no more than 3 episodes in that year. Approximately 63% of episodes involved males; 6.4% were in children less than 15 years of age and a further 33.6% in patients ages 15-19.9 years. Episodes of childhood gonorrhoea are not rare, even before 10 years of age (Table 8).

TABLE 8.

EPISODES OF CHILDHOOD GONORRHOEAIN THE KIMBERLEY REGION1986 TO 1987, INCLUSIVE

AGE	MALE	FEMALE	TOTAL
0 - 4	2	6	8
5 - 9	2	7	9
10 -14	20	21	41
TOTAL	24	34	58

Over a 2 year period (mid-1986 to mid-1988) there were 44 episodes of gonorrhoea and one episode of neonatal gonococcal ophthalmitis from 818 pregnancies studied.

Syphilis

From mid-1986 to mid-1988 there were 123 episodes of early syphilis detected in the Kimberley. Most newly diagnosed patients (75%) were in the 15 to 25 age group but 14% were less than 15 years of age (two-thirds were females) including two patients who had been re-infected.

Of the 818 pregnancies investigated from mid-1986 to mid-1988, 142 patients had positive serology results prior to pregnancy, 14 patients had early syphilis detected and treated, 7 patients required re-treatment during their antenatal medical care and three infants required treatment for syphilis during the neonatal period.

During 1987 five patients had syphilitic infections of the central nervous system diagnosed despite having no symptoms evident to themselves.

Granuloma inguinale occurs sporadically in Kimberley Aborigines (see Table 9).

TABLE 9.

EPISODES OF GRANULOMA INGUINALE* IN KIMBERLEY ABORIGINES, 1981-1987

1981	'82	'83	'84	'85	'86	1987
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5	2	22	88	21	27	16
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* An ulcerating infection and inflammatory process which involves the genitals and adjoining areas.

DISCUSSION

This study has revealed a disturbingly high rate of ill health and evidence of previous serious diseases in children and adults in the Warmun community. Most of the adult population had active or recent evidence of serious infections including trachoma, respiratory tract infections, leprosy and (particularly in females) urinary tract infections. Overall, one-third of the adults surveyed had active or recent gonorrhoea or syphilis; this high rate of active or recent sexually transmitted diseases indicates a potentially lethal risk of introduction and spread of even more serious diseases, including AIDS, into such communities from the wider, AIDS-infected society particularly with increasing opportunities for contact with high-risk groups either when they are in transit locally or when local people spend time in urban or metropolitan environments.

There was a dramatic increase in notifications of gonorrhoea and syphilis in Kimberley Aborigines in the late 1970s which subsequently abated but there is a continuing high level of these diseases in that population which poses an acute threat to their future well-being.

Examination of available statistics in our study from other parts of the Kimberley indicated that a range of sexually transmitted diseases, some of which are mentioned in this report, are prevalent in Aborigines in that area and can affect a wide age-range including adults and young children, even infants. This problem needs to receive high priority in future plans to help improve the health of indigenous people in the region.

Apart from infectious diseases, other diseases which are causally related to "lifestyle" are of great importance in this region. Hypertension (19% overall) and evident cardiovascular disease (15% overall) are examples of this in the Warmun community but there are other significant examples with potentially disabling long-term consequences, such as Type II (maturity onset) diabetes which is known to affect 4% of adults 20 years of age and over in this community. There were other important aspects of health and morbidity in adults in this community which we were unable to investigate adequately because of lack of time and/or resources. These include the burden of minor and major trauma (accident, injury or violence) which is already much greater than in a similar number of non-Aboriginal Australians, the physical and social impact of alcohol abuse, and the incidence and severity of psychiatric disorders which have been inadequately documented in Aboriginal communities but which are very important.

Children in the Warmun community have widespread mild-to-moderate malnutrition and high rates of infections, particularly of the respiratory and gastrointestinal tracts, and trachoma (Roberts et al 1988).

Overall, the state of health and the level of morbidity which has been documented in this community is very unsatisfactory (or inequitable) when compared to those of other Australians. We have no reason to believe that what we have documented in that remote community is substantially different to what happens in most other remote Aboriginal communities and those living on the fringes of cities, towns and other non-Aboriginal settlements in northern Australia. Clearly, other strategies have to

be devised to help improve this situation. In the context of the rapid socio-economic changes which are affecting Aboriginal communities in the Kimberley, our survey findings could be used as "benchmarks" to help upgrade Aboriginal health in the future. It is most important, also, to re-iterate the high rate of sexually transmitted diseases which exist in such communities and the devastating and potentially lethal effect which AIDS could have there unless personal and community behaviour are modified.

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ATTACHMENT 1

EAST KIMBERLEY WORKING PAPERS 1985-87

- 1985/1 East Kimberley Impact Assessment Project: Project Description and Feasibility Study.
East Kimberley Working Paper No.1
ISBN 0 86740 181 8
ISSN 0816-6323
- 1985/2 The East Kimberley Region: Research Guide and Select References.
M.C. Dillon
East Kimberley Working Paper No.2
ISBN 0 86740 182 6
ISSN 0816-6323
- 1985/3 Aborigines and the Argyle Diamond Project.
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