



Paper prepared for Australian Agency for International Development (AusAID) Special Seminar, November 22, 2000:

It's Everyone's Problem: HIV/AIDS and Development in Asia and the Pacific

Lessons from Sexually Transmitted Disease Epidemics

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Introduction

Papua New Guinea (PNG) has experienced three epidemic waves of STDs since written medical records were first kept. The first was identified by Europeans towards the end of the nineteenth century. It may well have commenced as early as the 1830s but even now, at the beginning of the 21st century, its force is by no means spent. It was one of the more disastrous outcomes of the labour trade and comprised, principally, gonorrhoea and granuloma inguinale, although other diseases may well have been involved. The second was of syphilis and commenced about 1969; it appears to have been consequent upon the eradication of yaws. The third was of HIV and AIDS - the first case of AIDS being diagnosed in 1987. This brief account is of the first two of these three waves.

British New Guinea and German New Guinea were separately annexed in 1884. In 1906 British New Guinea formally became the Australian Territory of Papua. An Australian military administration governed German New Guinea from 1914 to 1921 which was then administered by Australia as a Mandated Territory of the League of Nations until 1942 when New Guinea became a theatre of war. After World War II Australia administered the two territories as one until Independence in 1975. The various administrations provide a fascinating study of the effect of often subtle variation in policy upon health services and disease.

The diseases

The principal clinical syndromes to be discussed are urethral discharge, genital ulceration, and pelvic inflammatory disease. More than twenty pathogenic micro-organisms can be sexually transmitted. Those of principal importance in PNG, and the syndromes and diseases caused by them are shown in Table 1.

Table 1. STD syndromes and their principal causes in PNG

Syndrome	Cause	Named disease
Urethral discharge	<i>Neisseria gonorrhoeae</i> or gonococcus <i>Chlamydia trachomatis</i>	Gonorrhoea Non-gonococcal urethritis
Genital ulceration	<i>Treponema pallidum pallidum</i> <i>Calymmatobacterium (Donovania) granulomatis</i>	Syphilis Granuloma inguinale
Extra-genital condylomata	<i>Treponema pallidum pallidum</i> <i>Treponema pallidum pertenuae</i>	Syphilis Yaws
Pelvic inflammatory disease	<i>Neisseria gonorrhoeae</i> <i>Chlamydia trachomatis</i>	Consequences range from sudden death to sterility

Additionally, vaginal discharge is a common problem for women in PNG. Trauma to the genital tract during childbirth and poor genital hygiene are common factors in its causation. *Trichomonas vaginalis*, a protozoon, is one of a number of infective agents to cause vaginal discharge.

The early medical practitioners distinguished between gonococcal and non-gonococcal urethritis and thought that about 35% of patients with discharge had non-gonococcal urethritis which was probably

endemic (Calov 1925). The high prevalence of pelvic inflammatory disease and its effect upon fertility was only partially understood before World War II.

Yaws was widespread throughout the South Pacific in the nineteenth century. Its lesions were distressingly obvious to even the most casual observer. Early accounts, particularly by missionaries, confused syphilis with yaws citing the florid manifestations of yaws, as an example of the horrible depravity and immorality of the islander (Lambert 1928). Infection with the one disease confers immunity against the other and it was recognised quite early that eradication of yaws would leave populations susceptible to syphilis. It seems, however, that although endemic, yaws was spread by the processes of colonisation and syphilis may well have been introduced to some communities before the first appearance of yaws.

Granuloma inguinale is grossly destructive of the external genitalia. Like yaws it was endemic before European contact but, again like yaws, it was further spread by colonisation.

The introduced diseases are comparatively silent. Gonorrhoea is difficult to diagnose in women because it causes relatively minor symptoms. Early practitioners regarded gonorrhoea as being relatively asymptomatic in Melanesian males also. Syphilis has a long period of latency. Pelvic inflammatory disease is a potent cause of sterility but the connection between the relatively minor symptomatology, principally lower abdominal pain, and sterility is not easy to make. It is not surprising that Melanesians failed to understand the effects that the introduced diseases were having upon their societies.

Policy and practice 1884-1939

The colonial administrations faced an inherent contradiction between their desire for commercial development on the one hand and the moral imperative of protecting native population on the other. The problem of depopulation of the Pacific was widely debated and was of major concern to the colonial powers from the beginning of the twentieth century through to the 1930s.

The detrimental effects of colonisation on the most heavily recruited and hence most visible communities became obvious very early on. Communities became apathetic, life seemed to have lost all meaning. In his autobiography, Albert Hahl, the governor of German New Guinea from 1901 to 1913, refers to his concern in 1896 that commercial development would lead to the New Guinea natives following in the footsteps of the Australian Aborigines and other extinct races.

The rate of decline of the population of the Duke of York Islands averaged 3.1% from 1900 to 1903 and 10.8% from 1903 to 1907 (Rowley 1952). The 1907-08 Annual Report for German New Guinea displays a not unusual mix of insight and racial fantasy in its analysis of population decline on the Bismarck Archipelago. The causes included:

Migration, especially resulting from recruiting as labourers; disease, especially epidemics; sexual diseases and the consequent decreased birthrate, abortion, artificially produced sterility; unproductiveness in consequence of degeneration and in-breeding.

The German authorities were well aware of the high prevalence of venereal disease but focussed their preventive activities on malaria and dysentery (Rowley 1952).

The Australian administration in Papua faced with similar problems in the Trobriand Islands, targeted venereal diseases directly. The problem is addressed for the first time in the 1906/7 Annual Report. Special hospitals, known otherwise as 'lock hospitals' were to be established in Losuia, and Samarai.

In Port Moresby, the Gaol Hospital= functioned as the referral hospital for venereal diseases.

The native regulations of 1904, summarised by Barton, the then Administrator, were:

Natives who are suffering from venereal disease are bidden to make the fact known to the nearest Village Constable, whose duty it then becomes to take the sick person to the nearest European magistrate. It remains with the latter officer to decide whether the person is to be examined by a doctor, and if he should so decide, and if the doctor should subsequently certify that the person is afflicted with V.D., the Magistrate is empowered to issue an order that the native should be confined and kept in custody for treatment until cured or discharged (Black 1957).

Rayner Bellamy was appointed medical officer and magistrate to the Trobriand Islands in 1905. He concluded that >the only method which will reduce this menace to reasonable proportions is for a census to be taken house by house, village by village, of every man, woman and child, and for every man, woman and child to be inspected by a qualified medical man at least once in every twelve months.=

Estimating that 10% of the population was infected, but convinced that he could stamp out venereal disease, Bellamy set out to examine every man, woman and child in the 156 villages and hamlets in the Trobriand islands. The results of his endeavours are tabled below:

Table 2. Genital examinations by Bellamy 1908-15

Year ended June 30	Number examined	Cases of VD	Percentage
1908	5057	261	5.16
1909	5329	130	2.44
1910	6337	152	2.40
1911	6301	98	1.56
1912	7079	115	1.62
1913	6545	123	1.88
1914	6849	97	1.42
1915	7414	102	1.38
	50911	1078	2.12

Bellamy considered the venereal disease rate to have been reduced to about 1% by the mid 1920s (Bellamy [1926] 1990). By his own assessment and that of his peers, his campaign had been a success. Ford (1939), for example, who surveyed the Trobriands in the late 1930s, found no difficulty in gathering the people for physical examination, and thought this the consequence of Bellamy=s work.

The Medical Department in New Guinea was faced with a similar situation. Calov and Webb (1925) produced the following data for examinations of the labour force in Rabaul:

Table 3. Examinations of the labour force in Rabaul in 1923.

	N examined		With gonorrhoea	
	Male	Female	Male	Female
Signing on	1352	24	127 (9.4%)	13 (54.2%)
Signing off	1396	35	230 (16.5%)	19 (54.3%)
Total	2748	59	357	32

The same conclusion was reached – that control was only possible through regular physical examination of the entire population. Control was difficult because of the failure by the local people to recognise the infectious nature of disease. “The native does not allow the fact that he is suffering from gonorrhoea to interfere with his following whither his sexual desires may lead and whether infected or healthy he appears to have no dread of coitus with a woman known to him as infected.” Only once had a native volunteered the information that he had a urethral discharge. Reasons for failing to present included a) shyness, b) the low prevalence of symptoms, and c) dread of hospital (Calov and Webb 1925).

Lock hospitals were established first near Rabaul, then in Kaveing. The 1924/5 Annual Report notes however two serious epidemics of beri beri in the Aconcentration camps for gonorrhoea@ resulting in more than 100 deaths. No comment is made beyond the need to improve diet.

Enthusiasm for incarcerating recalcitrant patients may have waned during the 1920s and >30s but, doubtless, the populace had learnt its lesson. Maddocks (1975) describes a pre-war medical patrol in Papua or New Guinea in terms of lining up men and women separately to expose themselves for examination for venereal disease; painting the bodies of tinea sufferers with irritating bright green lotion, dosing everyone for hookworm and injecting for yaws.

As in Australia, during much the same period, focus on venereal disease and the threat of depopulation was at the expense of other services. In particular, maternal health and children=s health were badly neglected.

Medical policy and practice 1945-1984

Scragg=s (1957) seminal study of depopulation in New Ireland in the immediate post-war period appeared to have settled the question of depopulation once and for all. He was able to demonstrate the central importance of female sterility secondary, it was thought, to gonorrhoea, in situations of high mortality. Mass penicillin therapy in New Ireland was shown to restore fertility rates.

Attention shifted, justifiably, to other aspects of maternal and child health and of disease control generally. A combination of effective interventions, particularly antibiotics, with good organisation would control disease and reduce mortality. The power to command certain behaviours was assumed and was as invisible to the medical practitioners of the day as was the underlying pathology of pelvic inflammatory disease to the Melanesian population. The limits of that power were never formally explored. The assumptions underlying strategies of disease control were, at best, only partially correct. Although yaws virtually disappeared in the 1950s following mass treatment with penicillin,

gonorrhoea, in particular, proved to be remarkably resilient in the face of antibiotic therapy.

The first ten cases of syphilis were diagnosed in 1969. In the *National Health Plan 1986-1990*, the last to be published before the onset of the HIV/AIDS epidemic, the Department of Health reported that in 1984, 6943 cases of syphilis along with 16,969 cases of gonorrhoea had been diagnosed giving rates of 90/10,000 and 37/10,000 respectively in the adult population.

Constraints to the control of sexually transmitted diseases were 1) the asymptomatic nature of some STDs created difficulties in convincing those at risk to seek advice and treatment. Patients did not realise the potential seriousness of untreated disease. 2) Cultural barriers prevented open discussion amongst certain groups about sexual symptoms. A sense of shame prevented people from seeking treatment or advice from a special clinic especially where a woman had to be attended by a male health worker. 3) Primary health workers lacked basic understanding of the diagnosis and treatment of STDs (Department of Health c.1986).

In other words, there had been no tangible progress in the prevention of transmission of sexually transmitted diseases between 1884 and 1984.

The first published accounts of Melanesian understanding of STDs appeared in the mid-1990s. Lemeki and others from the Papua New Guinea Institute of Medical Research found that STDs were a new category of illness with no local language terms. Signs and symptoms were described rather than assigning a disease category. Three main names were used - *sik nogut*, gonorrhoea, and syphilis - but these were non-specific terms for STDs. Knowledge of AIDS was more accurate than of other STDs .

Conclusions

The behaviour of our predecessors may, at times seem bizarre. We need to remember that they were as intelligent as we are and just as rational. Our own behaviour may well seem bizarre in one hundred years' time. Lessons to be learnt include:

1. STDs were addressed within the context of the threat of depopulation which loomed as large at the time as the HIV epidemic does today. A desperate situation appeared to require desperate remedies. But the response was overly focussed on the manifestations of a single disease to the neglect of the overall development of health services. We are confronted with the same temptation today.
2. Never once was the nature of the underlying disease established as the basis for negotiation between the health service and the local people. This was not a question of agreement about causation, it was a question about pathological change and its biological effects. The risk with HIV/AIDS is that it will be presented in terms of fear of the abnormal and unknown, and not in terms of cause, effect, and rational response.
3. Projection of Western concepts of sexuality were projected onto Melanesians, particularly in relationship to sexual guilt. The corresponding modern failure is the projected separation of concepts of sexuality and fertility. Damage to social relationships and loss of fertility are much closer to central Melanesian concepts of disease than they are to our own and need to be emphasised.
4. The power wielded by the health service under the Native Regulations was quite extraordinary. By the 1960s and 1970s, although this power existed, it was less visible. Success in health service development, particularly of disease control, of that period still depended, however, on

the application of power. We need to analyse current power relationships and not imagine that past techniques of health service development will work for us today.

14 November, 2000

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