

VENEREAL DISEASE IN NEW ZEALAND*

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Within a year of the publication of the report of the Royal Commission on Venereal Diseases in 1916 in Great Britain, the Social Hygiene Act was passed by the Government of New Zealand incorporating all the important measures recommended therein.

The principle of non-notification was adhered to, and remains to this day, its wisdom having been proved. However, one important addition was gazetted, giving the Medical Officer of Health power to order the examination of any person to ascertain whether he was suffering from venereal disease. In 1941 this act was brought up to date as the "VD Regulations", and in 1964 there was a further revision in the light of the use of penicillin.

Diagnostic standards were defined for both syphilis and gonorrhoea, culture from females on two separate occasions being made mandatory. Similarly, surveillance details were specified, the time for cases of gonorrhoea being shortened to a minimum of 3 weeks with two consecutive negative tests a week apart—again including cultures; males were to be followed for at least three visits at weekly intervals, until two consecutive urine tests were clear.

The taking of serum tests for syphilis has always been routine at the first visit, and the standard 3-year period was retained in the surveillance of cases of syphilis.

The contact tracing clause now reads: "Whenever the Medical Officer of Health has reason to believe that any person may be suffering from syphilis, gonorrhoea or soft sore in communicable form, he may give to such a person a notice requiring him to submit himself within a specified time to the V.D. Clinic (or, in cases not within 10 miles of a clinic, to a medical practitioner) under penalty of committal to, and detention in, a public hospital".

The same clause applies to defaulters, who are compulsorily notifiable to the Medical Officer of Health.

In practice this authoritarian clause works extremely well and is the backbone of our epidemiological attack, no less than 80 per cent. of contacts who are so notified being brought to examination. Trained Health Department personnel serve the notice with due regard to privacy and confidence. Although serological tests for syphilis (STS) are always performed on unmarried mothers (12.72 per cent. of all births in New Zealand were extra-nuptial in 1967) and usually on pregnant married women, there is no legal compulsion to do so in either case.

Clinic Organization

A free clinic is established in each of the four main urban areas in New Zealand—Auckland (550,000), Wellington (300,000), Christchurch (250,000), and Dunedin (110,000). Each is controlled and staffed by Hospital Boards and held on hospital premises. Hours of attendance vary and are notified in Saturday's daily papers. Medical Officers in charge of the clinics are members of the visiting staff employed on a sessional basis and are either self-taught or have gained experience with venereal disease work in the second world war.

Until 1964 there was little communication between clinics and no formal co-ordination of methods. However, from this date a yearly meeting of venereologists and Medical Officers of Health, sponsored by the Department of Health, has been held, and this has brought immediate dividends. Diagnosis, treatment and surveillance have been standardized and brought up to date, and the staffs of laboratories and general practitioners throughout the country have been circularized on the latest methods of culture, and details of diagnosis and treatment, respectively.

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Surveys

In an attempt to find out the proportion of cases seen by the Clinics, two surveys were conducted:

(1) In Christchurch and the surrounding area in 1967 a retrospective survey conducted among all practising doctors yielded a 65 per cent. response; the questionnaire was the same as that used by Adams (1967) in Sydney. The following facts were elicited:

- About 60 per cent. of cases in the area were being seen at the Clinic.
- 37 per cent. rarely or never traced the patient's regular sexual partner.
- 31 per cent. rarely or never traced other contacts.
- 6 per cent. of cases seen were of homosexual origin.

(2) Christmas (1968) reported the results of a voluntary year-long notification scheme in Auckland by fifteen selected general practitioners. The main finding was that the Auckland Hospital Clinic was seeing less than 50 per cent. of the estimated total number of cases. It was also discovered that in one-third of the cases the diagnosis was not confirmed by laboratory tests, that the local male:female ratio of 5.6:1 probably indicated both inadequate contact tracing and the inclusion among the male cases of undiagnosed cases of non-specific urethritis.

It was tentatively concluded that the Clinics were seeing approximately 50 per cent. of the total of cases being treated in the four main areas they covered, with an aggregate population of 1.2 million; thus the estimated yearly case rate for these four cities is about 384 per 100,000, or double the clinic rate. That for the whole country would be at least 300 per 100,000.

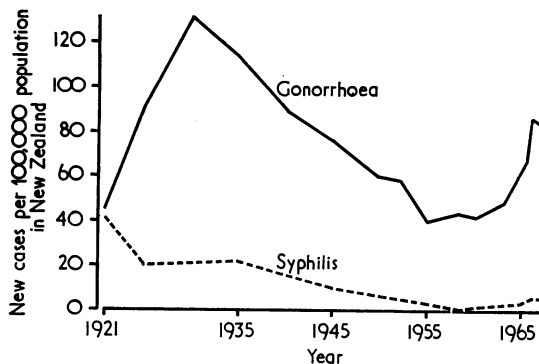


FIG. 1.—Incidence of syphilis and gonorrhoea in New Zealand 1921-67, both sexes.

Epidemiology

In 1920, the first year for which figures are available, 483 new cases of syphilis and 486 of gonorrhoea were reported from the clinics, the Dominion's total population being then about 1 million. Both diseases remained at a high level with some fluctuations until about 1950 when the incidence first of syphilis and then of gonorrhoea declined, to reach their nadir between 1955 and 1958 (Fig. 1).

This country, like others, has still not recovered from the resulting decline in medical interest in this group of diseases.

Gonorrhoea

Numbers of new cases of gonorrhoea began to rise after 1958, and this trend has continued ever since; the total in 1966 (2,363) was nearly triple that for 1955. The 1967 figure showed for the first time a small decline, namely 2.5 per cent., which may indicate a flattening-out of the curve (Fig. 2). The country's population is now 2.75 million.

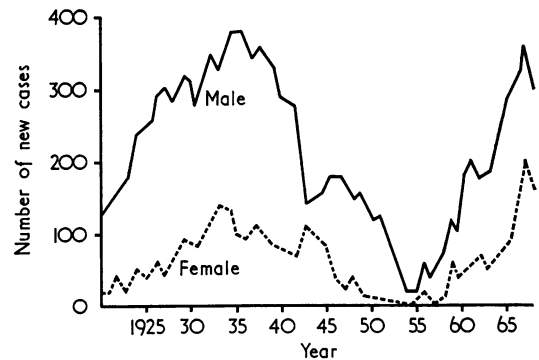


FIG. 2.—Incidence of new cases of gonorrhoea in Christchurch, New Zealand, 1921-67, by sex.

Syphilis

The overall "positive reactor" rate is indicated by the following samples from the Christchurch area taken within the last 3 years:

Population	Total Tested	Positive Reactors
Blood donors	8,350	11 (0.13 per cent.)
Pregnant females:		
Private cases	3,880	2 (0.05 per cent.)
Public maternity hospital cases	1,982	9* (0.45 per cent.)

*At least four of these were Polynesians from endemic yaws areas

These numbers are low compared with rates for pregnant females given by Idsøe and Guthe (1967)

for the United States of America and certain European countries.

The incidence of infectious syphilis has so far remained at a low level—less than 0.25 cases per 100,000. The graph (Fig. 1) comprises mainly non-infectious cases.

This is a remarkable fact when Sydney, Australia, reports an estimated rate of 33 per 100,000 (Adams, 1967), and the USA figures for 1965 are quoted as being 12.2 per 100,000 (White and Blount, 1967). Tasmania and Queensland also report no rise in cases of infectious syphilis and figures from Victoria indicate a possible decline (Australian Medical Association Federal Co-ordinating Committee Report, 1967). In an attempt to determine whether "penicillin fallout" might be partly responsible for these anomalous rates of incidence, the number of prescriptions for this drug per head of population was ascertained (Thomson, 1968), and the result is shown in Table I.

TABLE I
NUMBER OF PRESCRIPTIONS OF PENICILLIN PER HEAD OF POPULATION

Country	England and Wales	Australia	New Zealand
Date	1966	1966/67	1966/67
No. per head	0.30	0.37	0.28

Chancroid, Lymphogranuloma Venereum, and Granuloma Inguinale

These infections are seldom seen.

Non-Specific Urethritis

This condition has become more common, in step with gonorrhoea, and in 1967 the national

rate was 54 per cent. of the gonorrhoea figure. In some Clinics, however, the numbers diagnosed are nearly as high as those of gonorrhoea.

Trichomonas Vaginalis Infestation

Trichomonads were found in 18 per cent. of all female cases (approximately 1,300) attending the Clinics in 1967. Few male cases have been demonstrated, probably because search for the parasite has been limited to resistant or relapsing cases of non-specific urethritis.

Age of Patients

Increased involvement of the younger age groups has been noted since 1955–1958 in Christchurch, when 12 per cent. of females (100 consecutive cases) and 6 per cent. of males with gonorrhoea were under 20 years of age. For the past three years this rate has been 60–70 per cent. for females (454 cases) and 20–30 per cent. for males (919 cases). There is no reason to believe that figures from the rest of New Zealand would be greatly different from these.

A further index of increasing sexual activity among young girls is provided by the national figures for the numbers of extra-nuptial births in the 16 to 19-year age group (Paul, 1968). The illegitimate birth rate from 1955 to 1965 is shown in Table II.

Occupational Distribution of Patients

Table III shows that the great majority of clinic patients in New Zealand still come from the lower socio-economic group, confirming the findings of Christmas (1968), who also showed surprisingly

TABLE II
ILLEGITIMATE BIRTH RATE AMONGST TEENAGE GIRLS

Year	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965
Rate per 1,000 unmarried girls aged 16–19 years	10.1	10.5	11.1	12.1	12.7	14.9	17.4	22.1	23.6	25.8	27.9

Maoris were included in the figures from 1962 on. The rate for the non-Maori population only in 1965 was 24.9.

TABLE III
PERCENTAGE OCCUPATIONAL DISTRIBUTION OF PATIENTS, BY SEX

Males (588 cases)		Per cent.	Females (322 cases)		Per cent.
Labourers	39	Factory workers	29
Skilled workers	21	Hotel and Restaurant workers	13
Seamen	18	Unemployed	12
Drivers	5	Housewives	12
Soldiers	4	Office workers	11
Students	3.5	Shop workers	7
Office workers	2.5	Students	4
Salesmen	2	School girls	4
Business and Professional	2	Hairdressers	2
Others	3	Others	6

little difference between the occupational pattern of patients attending the clinic and those attending private practitioners.

Homosexuality

Cases from this source have not yet become a problem in this country.

Prostitution

What little prostitution there is, is clandestine and short-lived and makes a negligible contribution to the overall incidence of venereal diseases. The absence of extreme poverty militates against "bread and butter" prostitution, and the New Zealand coast has a reputation among seafarers for its numbers of "willing amateurs". However, the prosecution of some organized "houses" has recently taken place, especially in Auckland.

Race

There is considerable evidence that the Maoris, who comprise one-fourteenth of the total population, are proportionally more involved than the Europeans; *e.g.* in Christchurch in 1966 19 per cent. of all male cases of gonorrhoea were in Maoris who constitute only 1 per cent. of the local population.

Male : Female Ratio (Table IV)

The improvement during the past three years is, in the main, due to improved diagnosis in cases in females and to better contact tracing.

TABLE IV
MALE : FEMALE RATIO, 1963-1967

1963	1964	1965	1966	1967
3.9:1	3.4:1	3.7:1	2.8:1	2.4:1

Clinic Procedure

Based on the Christchurch Clinic

Gonorrhoea

(1) *Diagnosis* Stuart's transport medium is used, the cultures being plated out within an hour or two of having been taken. Routine smears from females are now omitted, cultures being taken from the cervix, vaginal vault, and urethra (Lucas, Price, Thayer, and Schroeter, 1967). In a recent small series of 34 consecutive cases, cultures were positive from all three sites in 32, from the cervix and vagina in one, and from the cervix alone in one.

Routine cultures taken from all males with urethral discharge act as controls.

The culture medium used is that of Thayer and Martin (1964), (B.B.L.) with Isovitalex and VCN supplements. A candle jar is used for the supply of CO₂.

(2) *Treatment* Until 1967 the standard treatment used was two injections at a 24-hour interval of a combined penicillin (Triplopen) containing 500,000 units each of crystalline and procaine penicillin G, and 250,000 units of benethamine penicillin. However, increasing numbers of treatment failures, and an increasing number of males with post-gonorrhoeal threads in their urine led to a routine determination of penicillin sensitivities *in vitro* and thence to an increase in penicillin dosage.

A plate dilution method is used and since the inception of the scheme in September, 1967, 302 strains have been tested, 33 per cent of which proved to be "insensitive", *i.e.* showed a minimum inhibitory concentration greater than 0.1 unit/ml. Nearly a third of these were classed as "very resistant" with a minimum inhibitory concentration of greater than 0.5 unit/ml.

There has been no significant increase in these proportions over the past 8 months.

The interim results of a yet incomplete investigation being conducted by the National Health Institute in Wellington (Manning, 1968) agree closely with these figures.

Clinics are using various schedules of multiple injections of aqueous procaine penicillin, a single dose technique of 2.5 mega units with probenecid (Holmes, Johnson, and Floyd, 1967) being now standard in Christchurch. Mixtures with benzyl sodium penicillin, aiming at a short high peak in the blood level, are also being tried (Juhlin, 1965). Although it is too early to document, the increased doses seem to have considerably reduced the incidence of "post-gonococcal urethritis", as evidenced by the persistence of heavy sterile threads in the first glass of voided urine.

An attempt is being made to keep tetracyclines in reserve.

Infectious Syphilis

(1) *Diagnosis* Routine darkground examinations are done on all open lesions and the cardiolipin Wassermann reaction and the VDRL slide test are used as routine serological tests. About 144,000 STS are done yearly in New Zealand, mostly by the large hospitals. The Reiter protein complement fixation test is at present the routine specific test, but for verification the FTA (ABS) will be performed at Auckland which is to be designated a

reference laboratory. The Institute of Clinical Pathology and Medical Research Department of Public Health, at Lidcombe, Sydney, is the nearest centre for treponemal immobilization testing, but has been little used.

(2) *Treatment* Daily injections of 0.6 to 1.0 mega units of procaine penicillin G for 8 to 15 days, as recommended by Olansky and Norins (1966), is given as a routine, and benzathine penicillin depot injections are used in selected cases.

The Epidemiological Attack

(1) Contact Tracing

Only about 40 per cent. of male patients with gonorrhoea are able or willing to name their contacts, but once named, 80 per cent. are finally brought to treatment (1966). The sources of female patients coming for treatment are shown in Table V.

TABLE V
SOURCE OF FEMALE CASES, 1966 (CHRISTCHURCH CLINIC)

Source	Female Cases		Percentage Positive for Gonorrhoea
	No.	Per cent.	
1. Notified as contact to Health Department	60	18	62
2. Referred from private doctor	96	29	29
3. Came voluntarily on request with male consort being treated at the clinic	83	25	84
4. Came of own accord	89	27	33
Total	328	100	

The importance of Group 3 is obvious, and is a strong argument for holding male and female clinics in the same building and at the same time, making it as easy as possible for the male to persuade his female consort to accompany him.

Private practitioners are encouraged to use Health Department facilities for contact tracing in cases of infectious syphilis; if the present low numbers are seen to rise a scheme of notification through laboratories will be put into effect.

(2) Venereal Disease Education

For the past 2 or 3 years a serious attempt has been made to inform the general public by newspaper articles, lectures to selected groups in factories and secondary schools, and informative booklets and brochures. The community has now accepted and encouraged these measures; and in Christchurch, which was designated a trial area by the Health Department, the campaign has been pushed far harder than in other centres. The drop in incidence

in 1967 for the first time since 1955 is encouraging in this regard, including as it does equal numbers of both sexes (Fig. 2).

Comment

A highly-developed venereal diseases service could easily be developed in New Zealand if only sufficient interest could be stimulated in the medical profession of the country. The amount of venereology included in the undergraduate teaching syllabus is virtually nil, and no facilities for post-graduate study are available in the whole of Australasia.

Some New Zealand hospital boards have offered to assist any interested graduates who go to the United Kingdom for any other purpose, to take a course in venereology at an approved department, but there has been no interest in the proposition.

The venereal disease services in Australia are suffering from the same lack of enthusiasm, and at present are more beset by problems than those in New Zealand. If the excellent and ambitious set of resolutions passed by the Co-ordinating Committee of the Australian Medical Association can be put into effect the improvement will be immediate.

Australasia could support only a handful of fully-trained venereologists in a consultant capacity, but some such body is needed as a nucleus to stimulate the foundation of a post-graduate department for the study of venereal diseases at which interested doctors could take a diploma course to equip them to run a clinic (there are eleven cities of over 20,000 population in New Zealand with no hospital clinic) or treat cases adequately in private practice.

Summary

The history and establishment of the venereal diseases services in New Zealand is recounted.

Epidemiological statistics indicate that gonorrhoea is presenting the same problem in New Zealand as in most other affluent societies of the world; and that the young people are more involved than in most other countries. The virtual absence of infectious syphilis in New Zealand is noted.

The main problems concerning the future of venereology in New Zealand, and to a lesser extent in Australia, are reviewed.

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Les maladies vénériennes en Nouvelle Zélande

RÉSUMÉ

L'historique et l'établissement des services anti-vénériens en Nouvelle Zélande sont rapportés.

Les statistiques épidémiologiques indiquent que la blennorragie présente le même problème en Nouvelle Zélande que dans les autres sociétés au monde où il y a une affluence de biens; et que les jeunes là sont plus en cause que la jeunesse dans la plupart des autres pays. L'absence de la syphilis infectieuse en Nouvelle Zélande est commentée.

Les principaux problèmes concernant l'avenir de la vénéréologie en Nouvelle Zélande, et dans une mesure moindre en Australie sont passés en revue.