Annual medical and sanitary report / Swaziland.

SWAZILAND

ANNUAL MEDICAL & SANITARY REPORT

FOR THE YEAR 1955

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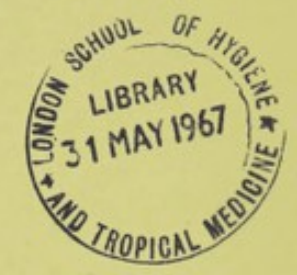
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SWAZILAND.

ANNUAL MEDICAL AND SANITARY REPORT

FOR THE YEAR 1955.

I. ADMINISTRATION.

(a) Staff.

European.

Director of Medical Services.
1 Malaria Medical Officer,
5 Medical Officers
1 Medical Officer (Health)
1 District Surgeon (Part-time)
1 Intern (Post Vacant)
1 Health Inspector
1 Hospital Assistant and Dispenser
1 Dispenser/Storekeeper,
1 Radiographer
1 Matron
13 Nursing Sisters.
1 Clerk
1 Lady Clerk and Typist
1 Laboratory Assistant
2 Handymen (one post vacant)

African.

1 Medical Officer
1 Senior Hospital Assistant.
3 Hospital Assistants
2 Dispensers
1 Pupil Dispenser
64 Nurses
2 Out-patient Attendants
3 Clerks
1 Laboratory Assistant
2 Ambulance Drivers
2 Dispensary Orderlies
15 Ward Attendants
9 Orderlies
2 Nurse Aides
1 Wardmaster
7 Cooks
1 Night Watchman,
1 Office Messenger
2 Boiler Attendants
3 Hospital Groundsmen
13 Laundresses
2 Seamstresses
1 Senior Malaria Assistant
9 Malaria Assistants
1 Health Office Clerk
1 Lorry Driver
2 Orderlies (Laboratory)

Appointments and Changes in European Staff.

Name.	Office or Rank.	Date of Appointment.	Date of Resignation.	Termination of Appointment
Miss M.A. von Wissell	Nursing Sister	14.2.55		
Miss M.T.Moffatt	Nursing Sister	21.3.55		
Miss M.E.Rowson-Warren	Nursing Sister		23.3.55	

(continued overleaf)

Appointments and Changes in European Staff (continued)

Name	Office or Rank	Date of Appointment	Date of Resignation	Date of Termination of Appointment.
Miss M. Maynard	Nursing Sister	7.4.55		
Miss J. Rowlands	Nursing Sister		27.5.55	
Dr. B.D. Whitworth	Medical Officer	30.5.55 (transfer from Basutoland)		
Miss J. Mansfield	Nursing Sister	1.6.55		
R.C. Fazackerley	Dispenser/ Storekeeper	9.6.55		
Miss O. Horder	Nursing Sister	1.7.55		
Miss R.K. Moody	Nursing Sister		30.6.55	
Mrs. D.V. Seeton	Nursing Sister		6.8.55	
S.W. Hobday	Dispenser/ Storekeeper			28.12.55
Miss D.E. Burns	Nursing Sister	3.11.55		

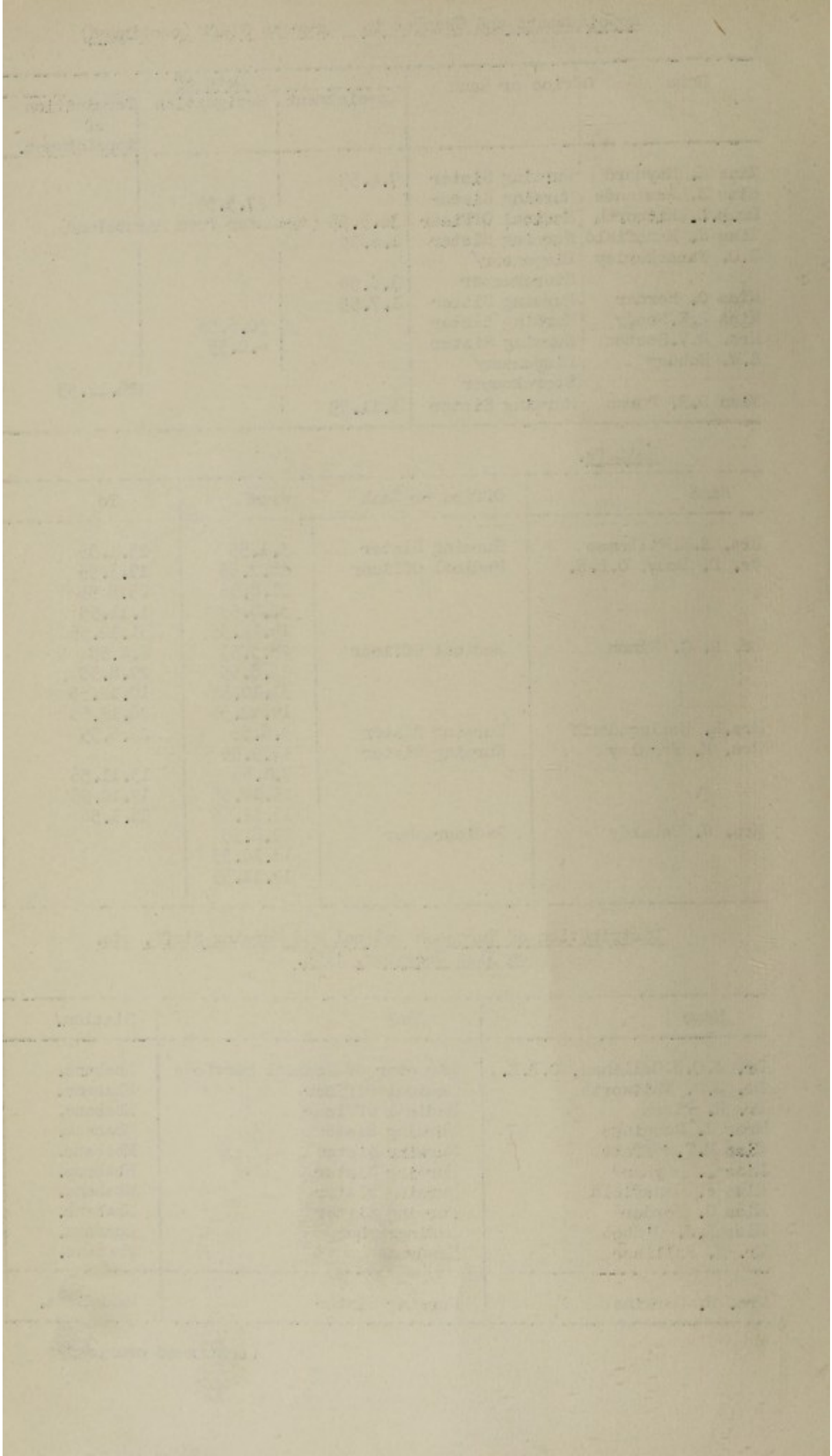
Reliefs.

Name	Office or Rank	From	To
Mrs. E.M. Willemse	Nursing Sister	3.1.55	23.1.55
Dr. D. Drew, O.B.E.	Medical Officer	28.2.55	19.3.55
		21.8.55	25.8.55
		30.8.55	1.11.55
		15.12.55	31.12.55
Dr. R. G. Simon	Medical Officer	23.3.55	8.4.55
		26.8.55	29.8.55
		31.10.55	10.12.55
		19.12.55	28.12.55
Mrs. R. Heilgendorff	Nursing Sister	3.6.55	25.6.55
Mrs. M. Baguley	Nursing Sister	17.9.55	
		7.11.55	13.11.55
		15.10.55	19.10.55
		12.12.55	26.1.56
Mrs. J. Peberdy	Radiographer	29.8.55	
		18.10.55	
		17.11.55	

Distribution of European Medical and Nursing Staff, etc. on 31st December, 1955.

Name	Rank	Station.
Dr. J.C.J. Callanan, O.B.E.,	Director of Medical Services	Mbabane.
Dr. B.D. Whitworth	Medical Officer	Mbabane.
Dr. H. Flack	Medical Officer	Mbabane.
Mrs. J. Scogings	Nursing Sister	Mbabane.
Miss M.T. Moffatt	Nursing Sister	Mbabane.
Miss M. Maynard	Nursing Sister	Mbabane.
Miss J. Mansfield	Nursing Sister	Mbabane.
Miss O. Horder	Nursing Sister	Mbabane.
Miss R.J. O'Shea	Radiographer	Mbabane.
Mr. W. Palliser	Handyman	Mbabane.
Mrs. H. Perkins	Nursing Sister	Mankaiana.

(continued overleaf)



Distribution of European Medical and Nursing Staff etc. on 31st December, 1955.

Name	Rank	Station.
Dr. O. Arnheim	Medical Officer	Hlatikulu
Dr. T.J.Malherbe	Medical Officer	Hlatikulu
Mr. J.L. van der Vyver	Hospital Assistant Dispenser	Hlatikulu
Miss J.A. Wilson	Nursing Sister	Hlatikulu
Miss P.M. Reardon	Nursing Sister	Hlatikulu
Miss C. Liell-Cock	Nursing Sister	Hlatikulu
Miss D.E.Burns	Nursing Sister	Hlatikulu.
Miss M.A. von Wissell	Nursing Sister	Goedgegun
Miss A. Martin	Nursing Sister	Hluti
Dr. O. Mastbaum	Malaria Medical Officer	Bremersdorp.
Miss J. Bredell	Laboratory Assistant	Bremersdorp.
Dr.E.R.D.Eastman-Nagle	Medical Officer (Health)	Bremersdorp.
Mr. G.J.van Eeden	Health Inspector	Bremersdorp.
Dr.L.E.D.F.Joubert	Medical Officer	On leave
Miss M.K.Irvine	Nursing Sister	On leave
Dr.M.J. Welman	Medical Officer	On leave pending resignation.
Miss S. McCorkindale	Nursing Sister	On leave pending retirement .

(b) LEGISLATION AFFECTING THE MEDICAL DEPARTMENT, ENACTED DURING THE YEAR.

(i) Proclamation No. 74, The Swaziland Urban Areas Regulations (Amendment)
(ii) Proclamation No. 103 Nursing Sisters (Retiring Allowance) (Amendment).
(iii) High Commissioner's Notice No. 247 - Stegi Water Supply Regulations.
(iv) Government Notice No.12 - Postmortem Fees.
(v) Government Notice No. 32, Rabies Marking of Dogs.

(c) FINANCIAL.

Revenue 1954/55. £

Hospital, Health Centre and other fees

Expenditure.

Personal Emoluments.
Travelling Expenses
Allowances and Fees
Maintenance of Patients and purchase of medicines
Laboratory Services, S.A.Institute for Medical Research,
Maintenance of Lepers,
Maintenance of Lunatics,
Specialist Treatment for Indigents in Union Hospitals.
Hospital Equipment
Uniforms, African Staff
Vaccinations
Drug Replacement

(continued overleaf)

FINANCIAL (continued)

£

Subsidies for Medical Services:-
Church of the Nazerene Mission of South Africa £6,410,
Red Cross £75, Roman Catholic Mission £100, Our Lady
of Sorrows School £150, Mahamba Mission £1,340, Catholic
Mission Stegi £980, Contingencies.
Anti-Malaria Measures
High Commission Territories Nursing Council, Travelling
and other expenses,
Upkeep of Grounds
Upkeep and Operation of X-ray plants
Anti-Malaria Drugs for Sale
Transport of Stores
Transport of Silicosis and Leper Patients
Bilharzia Control Measures
Upkeep of Vehicles and Electric Light Plant
Purchase X-ray Plant (Hlatikulu Hospital)
Purchase New Ambulance
Anti-Malaria and Public Health Campaign Scheme D.1084
Leper Hospital, Scheme D.1017.

Total Expenditure on Medical and Sanitary Services

Total Revenue of the Territory

The relationship of Medical Expenditure (excluding Colonial Development and Welfare Fund Expenditure) to the total Revenue of the Territory.

NOTE:- Re: Section I (c) FINANCIAL.

The financial figures which are not available at the time of publication will be forwarded at a later date.

II. PUBLIC HEALTH.

(I) General

The Steering Committee for Bilharzia Research of the South African Council for Scientific and Industrial Research, under the chairmanhhip of Dr. J.H.S. Gear, visited the territory on the 26th May for the purpose of acquainting itself with the work on Bilharziasis which the Medical Department of Swaziland was conducting. They had been to Nelspruit to inspect the research work of their Council's Bilharzia Natural History Unit, and the information which the Committee imparted to us during the course of the discussions was of considerable interest and value to the Department.

In May (26 - 29th) Dr. R. Marti and Mr. Sutton, representatives of UNICEF, accompanied by Dr. N.A.F.Martin, WHO, visited the Public Health Laboratory at Bremersdorp, and the Hospitals at Bremersdorp and Mbabane.

On the 11th October, Dr. M.G. Candau, Director General of WHO, Dr. Cambournac, the Regional Director for Africa, and Dr. du Pre le Roux, Secretary for Health for the Union of South Africa, paid a brief visit to the territory, during which a wide range of matters affecting the health of the territory were informally discussed.

Respiratory Allergy.

Owing to pressure of work, Dr. Ordman, Superintendent, Allergy Laboratories, South African Institute for Medical Research, has not yet been able to carry out his projected visit to Swaziland to study respiratory allergy, but he hopes to be able to pursue his investigations in 1956.

Rabies.

In July all dogs (3392) in the Pigg's Peak District and the Mbabane Stock Inspector's area were re-inoculated against Rabies; in August 7,000 dogs were immunised, and by the end of September the inoculation campaign was almost completed, only a few centres in the Hlatikulu and Mankaiana areas remaining to be done. These were finally dealt with in November, a total of 16,000 doses of anti-rabies vaccine being utilised during the mass inoculation campaign.

Endemic Goitre.

The effect of the administration of potassium iodine in a total dosage of 60 grams to the pupils at the Mbabane Central School and the Mbuluzi Girls School is shown in the following table:-

MBABANE CENTRAL SCHOOL.

Classification of Thyroid Enlargement.	Girls	%	Boys	%	Total	%
0	82	74	91	94	173	83
1	22	20	4	4	26	13
2	7	6	2	2	9	4
Total examined	111	-	97	-	208	-

Percentage of Goitre 1951 42%
" " " " 1955 17%

MBULUZI GIRLS SCHOOL.

Classification of Thyroid Englargement.	Girls	%	Boys	%	Total	%
0	65	70	25	86	90	74
1	22	24	4	14	26	21
2	5	5	-	-	5	4
3	1	1	-	-	1	1
Total examined	93	-	29	-	122	-

Percentage of Goitre 1951 71%
" " " " 1955 26%

The administration of Potassium Iodine in a dose equivalent to 11.0 mg per day has effected a remarkable improvement in the goitre position at the schools concerned.

(II) Communicable Diseases.

(i) Malaria. The 1954/55 transmission season was charactised by unusually heavy and sustained rainfall throughout the territory, as is exemplified by the fact that precipitation in Bremersdorp during the period January to June was 76.6% in excess of the average for the previous five years. As a consequence of this factor heavy breeding of malaria vectors prevailed throughout the season, and larvae of A. gambiae were recovered from all parts of the bushveld, and were particularly abundant on irrigation schemes during the entire season.

The number of adult mosquitoes captured inside dwellings were, however, low, never exceeding an average of 0.05 per hut.

During the course of the season a total of 146,872 huts or rooms were treated with a residual insecticide, 92,469, 50,065 and 4,338 receiving one, two and three sprayings respectively. Included in the foregoing figures, were 1,633 huts in the highveld area, which were sprayed for Public Health reasons, unconnected with malaria control.

In the transmission season 661 blood films from the inhabitants of the middleveld areas were examined, and of these only one (Stegi 0.8%) was positive, giving an overall parasite rate of 0.15%, which indicates that malaria was almost non-existent. Blood survey results in the bushveld areas, during the same period, are tabulated below:-

Area.	No. of blood films examined.	No. Positive	Parasite Rate
(i) Non-irrigated bushveld areas (including Dieldrin treated zone)	3,522	73	2.0%
(ii) Irrigation Schemes	672	45	6.7%
(iii) Certain adjoining non-controlled areas outside the territory	60	43	56.7%
(iv) Adjoining controlled bushveld areas in the Union	120	4	3.3%

Details of the parasite rates in individual bushveld areas are given below:-

(1)	Sipofaneni-Kabuta areas	0.4%
(2)	Croydon-Hliba areas	1.6%
(3)	Hereford area	0.6%
(4)	Balegane-Border Gate areas	0.6%
(5)	Central Bushveld areas	0.6%
(6)	Southern Bushveld areas	1.0%
(7)	Ngomane-Nkalashane areas	6.2%
(8)	Stegi-Bushveld (Dieldrin)	3.8%

The parasite rates in the middleveld zones were as follows:-

(1)	Mankaiana District	0.0%
(2)	Bremersdorp areas	0.0%
(3)	Horo areas	0.0%
(4)	Stegi middleveld areas	0.8%
(5)	Luve areas	0.0%
(6)	Nomahasha	0.0%

An overall total of 6,335 blood specimens were examined, and in addition 157 films from hospitals and health centres were submitted during the seasoh. Of these, 45 proved to be positive, the infections being acquired in the following situations -

Outside territory	15	= 33.3%
Swaziland Irrigation Scheme	19	= 42.2%
Controlled Areas in Swaziland	11	= 24.4%

It will be observed that the dangers associated with irrigation are again evident, but in spite of this factor, and the unusually prolific breeding of vectors, control was effectively maintained.

The cases of malaria treated by the Malaria Control Unit are shown in the following table.

1955	Field Staff	Laboratory (x)
January	6	0
February	7	0
March	13	0
April	28	0
May	26	0
June	2	0
July	0	0
August	0	0
September	7	0
October	8	0
November	7	0
December	1	0
Total	105	0
1954	65	0
1953	335	2
1952	81	0
1951	181	4
1950	798	29

Note:"x" = microspopically diagnosed.

Dieldrin (50% wettable powder) was used as a residual insecticide in the treatment of 4,828 huts during the 1954/55 transmission season in a surface concentration of 35 mg. per sq. foot, and a single spraying was compared with a double spraying with Benzenehexachloride (wettable powder with 10% gamma content) used in a concentration of 20 mg. per sq. foot. No difference was noted in the intensity of A. gambiae breeding in the two areas, and in both instances the number of adults captured in huts was negligible, neither exceeding 0.05 per hut. The general parasite rate amongst children in the Dieldrin-treated areas was slightly higher (3.8%) than in the B.H.C. (1.8%) area, though the incidence in those under the age of one was almost identical, i.e. 1.4% (Dieldrin), 1.2% (B.H.C.). Although there has been a considerable reduction in the landed cost of Dieldrin during recent months, the gap between the cost per hut in the case of these insecticides is still too large to permit of Dieldrin being brought into general use in substitution for B.H.C., and there is also the disadvantage of huts being overlooked, the results of which are more likely to be serious in the case of single-operation spraying.

The Dieldrin investigations are to be continued during the 1955/56 transmission season, when it is proposed to treat some 8,000 huts.

The annual blood survey results in the pre-transmission season (September-October 1955) amongst infants and children gave the following results, from which it will be observed that the human reservoir of the disease has been reduced to insignificant proportions, and that even in the areas where crops are grown under perennial irrigation the position is extremely satisfactory.

	Irrigation Schemes.	Native areas. in the bushveld
No. examined	413	710
No. positive	6	4
% positive	1.45%	0.56%

Following on the early onset of the rains, A.gambiae in all its

larval stages was discovered in the Ngomane area during the first half of September, a finding which is locally unique. All huts in the area were immediately sprayed with Benzenehexachloride. The main spraying operations were commenced in November, and the initial spraying in all bushveld areas was completed by the end of December.

Anti-malaria measures have been discontinued for the first time in a section of the middleveld in which malaria transmission has been completely interrupted, and the area will be kept under close surveillance, as the prospect of an eastward extension of this zone and the subsequent conduct of the campaign as a whole will largely depend on the results of this experiment.

Our present position as compared with 1945/46 is illustrated by the figures given in the following table:-

Age Group	Parasite Rates.		
	1945/46 Pre-control Year	1954/55 Transmission Season	1954 Non-Transmission Season
1 - 12 months	38.0%	1.2%	0.7%
1 - 5 years	75.5%	1.7%	1.9%
6 - 16 years	46.7%	2.5%	1.1%
Total rate in children	53.4%	1.8%	1.2%

The duration of the control scheme and the question as to whether, and if so, to what extent, these measures may be relaxed, or even discontinued, is governed by local factors, not the least of which is the fact that the territory's Eastern border adjoins areas in which no control is exercised. As a result of this, a considerable infiltration of malaria vectors takes place, especially along the rivers, and inhabitants of Swaziland who have occasion to visit the neighbouring territories acquire infection therein, and return with a fresh load of parasites. The reduction of the parasite rate to a safe level is, therefore, difficult to attain under such conditions, and unless effective control is carried out in the countries which march with our borders, it would be unwise to relax our anti-malaria measures, as such a course might invite disaster. The introduction of irrigation schemes has greatly enhanced the difficulties of malaria control, and although intensified anti-malaria measures are in operation on these projects, the position is viewed with grave concern, as the parasite rate amongst children on these projects during the last transmission season was 6%.

While we are approaching the end point of transmission, a total interruption of transmission has not been achieved, and we are therefore unable to fulfil the criteria of the W.H.O. Expert Committee on Malaria for relaxation or discontinuation of malaria control while those for full elimination are not yet in sight.

(ii) Smallpox. No case of smallpox occurred within the territory during the year. The commencement of the mass vaccination campaign which was planned for 1955 was delayed until August, owing to difficulties encountered in the recruiting of suitable personnel. The progress of the work is shown in the following table:-

Date.	Native Area	Place	Primary Vaccination.	Re-vaccination	Total Vaccination
August	Eur.	Bremersdorp	1,336	2,837	4,173
	5	Nkambeni	225	512	737
	5	Mpumalanga	472	902	1,374
	5	Msinda	424	643	1,067
	12	Croydon	391	548	939
	Eur.	Mliba	494	504	998
	12	Antioch	442	434	876
	12	Mdiweni	538	673	1,211
	6	Malanzela	587	796	1,383
	12	Ekukanyeni	593	715	1,308
September	Eur.	Mpisi	45	131	176
	11	Matapa	665	1,086	1,751
	11	Zombode	489	716	1,205
	11	Mahlanya	181	475	656
	Eur.	Malkerns	370	558	928
	11	Bethany	67	126	193
	27	Sipofaneni	302	401	703
	27	Tulwane	545	896	1,441
October	15	Gumundwini	322	669	991
	27	McNabs	371	700	1,071
	27	Malinda	707	808	1,515
	Eur.	Menanga	941	1,477	2,418
	23	Nomahasha	573	848	1,421
November	27	Lukula	375	325	700
	Eur.	Stegi	584	1,238	1,822
	25	Sitataweni	278	539	817
	25	Mapungwane	710	825	1,535
	25	Mambane	252	287	539
	27	Gundwini	242	131	373
	27	Magwanyane	103	159	262
	27	Mpolonjeni	289	359	648
	27	Magomba	187	382	569
	Eur.	Corbetts	189	320	509
	Eur.	Orpens	197	239	436
December	35	Kubuta	434	891	1,325
	28	Sitobela	205	263	468
	Eur.	St. Phillips	106	27275	381
	29	Sinceni	148	401	549
	Eur.	Big Bend	154	440	594
	13	Mangongco	313	683	996
TOTAL 1955			15,846	25,212	41,058.

Arrangements have been made for the campaign to continue in 1956.

In view of the appearance of sporadic cases of smallpox at the Cape and later in the Transvaal towards the close of the year, Medical Officers were instructed to ensure that Police, prisoners and Medical Department staff at all stations were in a proper vaccinal state.

(iii) Schistosomiasis
(Hospital cases : In-patients 117
Out-patients 297).

414 cases were dealt with at the main District Hospitals in 1955, and the numbers treated in the previous nine years are shown below for purposes of comparison:-

1954	719 cases.
1953	606 "
1952	650 "
1951	604 "
1950	642 "
1949	424 "
1948	530 "
1947	354 "
1946	470 "

The case distribution as between districts was as follows, the incidence in 1954 being shown in brackets:-

Manzini-Stegi District	22.1	(41.4%)
Mbabane-Mankaiana-Pigg's Peak Districts	37.0	(33.6%)
Hlatikulu District	40.7	(24.9%)

Examination of the urines of pupils at the European Government School at Bremersdorp gave the following results, and "Nilodin" (B.W.& Co) was administered to the positive cases, whose parents consented to treatment being administered:-

Pupils		Positive	
Old.	New	1954.	1955.
15	-	1	1
	39	-	2
Total 54		1	3

181 African children found to be infected in 1954 at St. Michael's, the Central School in Bremersdorp, and the National, Practising and Infants School at Matapha were treated in February 1955 with the same preparation.

During 1955 the Medical Officer (Health) continued his survey, using the rectal biopsy technique, during which a further 1104 "snips" were secured from school children and patients in hospital and attending at out-patient clinics. The figures for 1954 (102) and 1955 have been consolidated and the results are analysed in the following tables:-

TABLE I.

Sex	Age Group.	No. examined.	Positive		S.haematobin		S.mansoni		Double Infestation	
			No.	%	No.	%	No.	%	No.	%
Male	C	199	62	31	47	24	7	4	8	4
"	Y	298	118	40	99	33	7	2	12	4
"	A	142	63	44	49	35	5	4	9	6
" total		639	243	38	195	31	19	3	29	5
Female	C	272	87	32	78	29	2	1	7	3
"	Y	172	60	35	45	26	4	2	11	6
"	A	123	57	46	41	33	9	7	7	6
" total		567	204	36	164	29	15	3	25	4
Grand total		1206	447	37	359	30	34	3	54	4

Legend. C = Child, 1 to 12 years of age
Y = Youth, 13 to 17 " " "
A = Adult, 18 years or more.

TABLE II.

	Highveld				Middleveld				Lowveld.					
	No. Exmd.	H	M	H&M	No. Exmd.	H	M	H&M	No. Exmd.	H	M	H&M	Total	%
Male.														
C	12	1	0	0	75	29	0	1	112	17	7	7	199 47 7 8 62	24 4 4 31
Y	36	6	0	0	120	52	1	0	142	41	6	12	298 99 7 12 118	33 2 4 40
A	13	1	0	0	51	20	1	1 1	78	28	4	4 8	142 49 5 9 63	35 3 6 44
Female.														
C	26	6	0	0	149	52	0	3	97	20	2	4	272 78 2 7 87	29 1 3 32
Y	19	2	0	0	91	31	0	1	62	12	4	10	172 45 4 11 60	26 2 6 35
A	10	1	0	0	51	22	0	1	62	18	9	6	123 41 9 7 57	33 7 6 46
Total examined	116				537				553				1206	
Total H		17				206				136			359	30
" M			0				2				32		34	3
" H&M				0				7				47	54 447	4 37
Total percentage		15	0	0		39	.4	1		24	6	9		

Legend:
Exmd. = examined
H = Schistosoma haematobium
M = " " mansoni
C = Child 1 to 12 years
Y = Youth 13 to 17 years.
A = Adult 18 years and over.

It will be observed that at present the High Veld appears to be free from S. mansoni infestation, the middleveld has an incidence of less than 2% amongst 537 persons examined, and that in the lowveld the figure rose to 15%, either single or in association with S.haematobium.

TABLE III.

	Lowveld 1				Lowveld 2				Lowveld 3				Total Examined.	Total Pos.	% Positive
	Exmd.	H	M	H&M	Exmd.	H	M	H&M	Exmd.	H	M	H&M			
Male Child	74	15	7	7	2	0	0	0	36	2	0	0	112	17 7 7	15% 6% 6%
		20%	10%	10%		-	-	-		6%	-	-		31	28%
Youth	99	40	6	12	11	0	0	0	32	1	0	0	142	41 6 12	29% 4% 9%
		40%	6%	12%		-	-	-		3%	-	-		59	42%
Adult	44	15	3	8	20	8	1	0	14	5	0	0	78	28 4 8	36% 5% 10%
		34%	7%	18%		40%	5%	-		36%	-	-		40	51%
Total	217	70	16	27	33	8	1	-	82	8	-	-	332	130	39%
%		32%	7%	12%		24%	3%	-		10%	-	-			
Female Child	53	- 13	- 2	- 4	8	- 3	- 0	- 0	36	- 4	- 0	- 0	97	- 20 2 4	- 21% 2% 4%
		25%	4%	8%		37%				11%				26	26%
Youth	49	9	4	9	3	2	0	1	10	1	0	0	62	12 4 10	19% 6% 16%
		18%	8%	18%	-	66%	-	33%	-	10%	-	-		26	42%
Adult	42	15	7	6	8	2	2	0	12	1	0	0	62	18 9 6	29% 15% 10%
		36%	17%	14%		25%	25%	-		8%	-	-		33	53%
Total	144	37	13	19	19	7	2	1	58	6	-	-	221	85	59%
%		26%	9%	13%		37%	11%	6%		10%	-	-			
Total Exmd.	361				52				140				553		
Total H		107				15				14				136	25%
" M			29				3				0			32	6%
" H&M				46				1				0		47	9%
Total Positive														215	39%
% Positive		30%	8%	13%		29%	6%	2%		10%	-	-			39%

Legend:
Exmd. = Number of persons examined.
H = " showing egg of Schistosoma haematobium
M = " " " " " mansoni
H&M = " " eggs of both Schistosomata.
Child = up to 12 years,
Youth = 13 to 17 years,
Adult = 18 years upwards.

For the purpose of this investigation, the lowveld has been arbitarily divided into three regions, and it will be seen that none of the S. mansoni cases were derived from the South (Lowveld 3), only 8% were infested with this species in the middle "region" (Lowveld 2), and that an incidence of 21% was present in the Northern portion (Lowveld 1) of the area. The reason for this difference is a matter for further research, and all that can be said at this stage is that the vector Biomphalaria sp. is fairly evenly distributed throughout the territory, and that the distribution of the small host, as such, plays no part in determining the distribution of the disease at the present time. I should like to stress the importance of our present findings, as they are the background against which the effects of perennial irrigation, and the results of control measures must finally be measured.

The Pilot Bilharziasis Control Scheme in the Msimneni Catchment area was again interrupted by the need to direct staff to malaria control operations, and there was, in consequence, an interval of seven months between the last sulphation in 1954 (October) and the first in 1955 (May). In all only two sulphations (second in October) were carried out in 1955, instead of four which are deemed to be essential for effective control. Staff difficulties have also compelled us to discontinue control work in the Matapha area. The high rainfall necessitated an intensification of clearing operations, owing to the increased growth of vegetation in the areas under treatment.

Snail surveys, involving collection, identification and infectivity testing, were carried out before and after each sulphation, with results as shown in the table given on page 13.

The relatively small number of snails collected before sulphation in April may be ascribed to the abnormal rainfall which caused repeated flushings of all the main watercourses.

There has been a considerable decrease in the snail population since the pilot scheme was inaugerated, but the results would, probably, have been far more satisfactory if circumstances had permitted to sulphation being carried out at quarterly intervals. It is not yet possible to assess the effect of control measures on the infectivity rate of S. haematobium.

The fact that Copper Sulphate has no effect on snail eggs was confirmed in the laboratory, where eggs derived from a treated river hatched out after 7 weeks.

Following the finding of infected snails in the town canal at Bremersdorp, a survey of pre-school children living in the vicinity was carried out with the following results :-

No. examined	No. positive S. haematobium	% positive.
55	32	58%

Since the main irrigation canal was opened in 1954, the water courses in the Big Bend area were kept under close observation, and on the 19th September 1955, i.e. some twelve months after the opening of the channel, Biomphalaria, Physopsis and Limnae were discovered in the main canal and subsidiary furrows. As a result of this finding, a survey under the supervision of the Medical Officer (Health) was carried out in October, with the object of ascertaining the incidence of Schistosomal infection amongst members of the African labour force employed by Ubombo Ranch, Big Bend and Mkiweni Estate and determining the infectivity rate of the

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Locality.	Table I : April 1955. Before Sulphation.					Table II : June 1955. After Sulphation					Table III : August 1955 Before Sulphation					Table IV : October 1955. After Sulphation.				
	Physopsis	Limnaea	Biomphalaria	No. Phy. Infected.	% Infected	Physopsis	Limnaea	Biomphalaria	No. Phy. Infected.	% Infected	Physopsis	Limnaea	Biomphalaria	No. Phy. Infected	% infected	Physopsis	Limnaea	Biomphalaria	No. Phy. Infected	% Infected.
Msimmeni River-above weir	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
" " -to Madonsa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" " -to brickfield	0	0	0	0	0	0	0	0	0	0	0	52	0	0	0	0	0	0	0	0
" " - Jabavo	0	0	0	0	0	0	0	0	0	0	4	41	0	1	25%	0	0	0	0	0
" " -Abattoir	0	0	0	0	0	0	0	0	0	0	5	82	0	0	0	0	0	0	0	0
" " -Show grounds	0	0	0	0	0	0	0	0	0	0	50	9	0	3	6%	0	0	0	0	0
" " -below Abattoir	0	0	0	0	0	0	0	0	0	0	0	52	0	0	0	0	0	0	0	0
Magola Stream	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mahlabatini R. -upper	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" -lower	1	14	0	0	0	0	0	0	0	0	34	0	0	0	0	15	0	0	0	0
Hlambamazoka-upper	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" -lower	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0
Madonsa Stream-upper	6	11	0	1	16%	11	0	0	0	0	16	0	0	0	0	36	5	0	0	0
" -lower	2	30	0	0	0	0	0	0	0	0	0	15	0	0	0	0	0	0	0	0
" -Fraser area	0	0	0	0	0	28	0	0	9	32%	0	16	0	0	0	0	0	0	0	0
Jabavo streams	22	108	0	0	0	8	0	0	0	0	85	13	6	0	0	0	0	0	0	0
Town Canal-Bremersdorp	105	20	0	11	10.5%	8	0	0	0	0	21	0	0	0	0	12	0	0	0	0
Williamsfarm-Furrows	22	170	0	0	0	0	7	0	0	0	46	0	0	0	0	0	0	0	0	0
" -dams	0	118	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S.D.Stream-above bridge	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0	0
" lower	58	12	0	2	3.5%	11	0	0	0	0	3	16	0	0	0	0	0	0	0	0
R.C.Farm-furrow	0	8	73	0	0	0	0	9	0	0	0	0	32	0	0	0	0	0	0	0
Pendray's plot-furrow & dam	26	2	0	0	0	16	176	0	0	0	25	0	22	0	0	0	0	9	0	0
Manzini stream	15	10	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Ghobagohoba stream	22	1	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
Vet.camp stream-upper	65	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" -lower	33	0	0	2	6%	2	0	0	0	0	4	0	0	0	0	0	0	0	0	0
Club stream	53	28	0	0	0	0	0	0	0	0	18	18	0	0	0	0	0	0	0	0
Mgubudhla str.& Murpheys Fur.	32	12	0	5	15.7%	1	0	0	0	0	8	15	0	0	0	0	0	0	0	0
Nonome stream	9	0	0	0	0	0	0	0	0	0	3	6	0	0	0	0	0	0	0	0
TOTAL	483	554	73	21	4.3%	85	183	9	9	10.5%	326	489	60	4	1.2%	63	5	21	0	0%
	Total number of snails collected = 1110					Total number of snails collected = 277					Total number of snails collected = 875					Total number of snails collected 89				
Infectivity rate expressed in terms of all Physopsis snails collected:-	4.3%					10.5%					1.2%					None of the snails found after Sulphation were infected.				
None of the Biomphalaria snails tested shed Cercariae.																				

snail hosts discovered. The results are given in the following tables:-

INFECTIVITY RATE OF SNAILS.

Number & Species Tested	No. Infected (Liberating Cercariae)	Percentage Infected.
163 Physopsis globosa	3	1.84%
72 Biomphalaria Pfeifferi	Nil	Nil

CLINICAL SURVEY (URINARY EXAMINATION)

Number examined	No. positive	Percentage Positive.
Children (0-12 years)		
65	20 S. haematobium 1 S. mansoni	32.3
Youths (13-17 years)		
23	6 S. haematobium	26
Adults (above 17 years)		
187	19 S. haematobium	10.16
Total Urines Examined 275	45 S. haematobium 1 S. mansoni	16.8

The majority of the persons examined had not been in the area for more than 6 - 8 months, and the child (age 6) with S. mansoni infestation came from Stegi, and had only been in the Big Bend area for two months.

A further survey will be carried out in 1956, with the object of ascertaining any changes which may take place in infectivity rates of snails and human beings.

(iv) Tuberculosis (Pulmonary).

Hospital Cases : 185 In-patients
259 Out-patients.

444 cases were treated at the Central Hospitals, as compared with the following numbers in preceeding years -

1954	401 cases
1953	376 "
1952	304 "
1951	304 "
1950	396 "
1949	281 "
1948	253 "
1947	196 "
1946	300 "

In addition to the cases (444)mentioned above, 75 new cases were dealt with at the Arthur Matthews Methodist Hospital, Mahamba, and 11 (56 Out-patients) were treated at the Good Shepherd Mission Hospital, at Stegi.

The case distribution as between districts was as follows:-

TABLE SHOWING INCIDENCE OF SCHISTOSOMIASIS AMONGST SCHOOLCHILDREN DURING 1955, AS DETERMINED BY RECTAL BIOPSY.

School.	Situation.	No. examined	Positive			
			S.haemotobium		S.mansoni	
			No.	%	No.	%
Ndlalambi (Nazerene) (near Horo)	Lowveld 1	23	15	65	6	26
Shongwe Mission, Pigg's Peak District	Lowveld 1	51	30	59	25	50
Bremersdorp, Little Flower	Middleveld5	103	56	54	2	2
Bremersdorp, St. Hoseph's	Middleveld	90	48	53	3	3
Big Bend	Lowveld 2	18	8	44	4	22
Mantambo (Hlushwane)	Lowveld 3	12	5	42	-	-
Eranchi (C.D.C)	Lowveld 1	37	15	41	17	46
Bremersdorp Central	Middleveld	87	35	40	2	2
Nomahasha School	Lowveld 1	94	32	34	2	2
Lubuli	Lowveld 2	21	5	24	-	-
Mahamba	Middleveld	57	13	23	-	-
Mbabane Central	Highveld	49	7	14	-	-
Mhlotsheni	Middleveld	36	5	14	-	-
Hlatikulu Central	Highveld	79	11	14	-	-
Dwaleni (Truth)	Lowveld 2	30	4	13	-	-
St. Philip's	Lowveld 2	53	5	9	-	-
Nhanbeni, Balegane	Lowveld 1	71	5	7	1	1
Gollel	Lowveld 3	65	2	3	-	-
Totals		976	301	30.8	62	6.3

Manzini-Stegi District	63.7%
Mbabane-Mankaiana-Pigg's Peak Districts	20.3%
Hlatikulu District	15.9%

The percentage of tuberculosis admissions on total admissions at four hospitals in the territory is shown in the following table:-

Hospital.	Total Admissions.	Pulmonary	Non-Pulmonary	Total Tuberculosis admissions.	% of Tuberculosis admissions on total admissions.		
					1953	1954	1955.
Mbabane	3022	43	53	96	2.6	2.4	3.1
Hlatikulu	1876	51	36	87	2.3	3.0	4.6
Mankaiana	1469	7	11	18	0.4	0.4	1.2
Raleigh Fitkin Memorial Hospital	2464	91	122	213	4.8	5.6	8.6

The twelve-bedded Tuberculosis Block at Hlatikulu Hospital is now expected to be ready for occupation in 1956, and it is hoped that the block at Mbabane, which was to be constructed in 1955, will be erected during the coming year. As a part of the Tuberculosis Control Programme, the appointment of a special Medical Officer, a Public Health Nurse, and extensions to the Tuberculosis Blocks at Mbabane and Hlatikulu Hospitals have been recommended, and in this connection a scheme was prepared and submitted for consideration in October 1955.

The World Health Organisation has arranged for a Tuberculosis Assessment Team to visit Swaziland in August 1956 and the data thus to be collected will supplement the information gained during the surveys carried out by the staff of the Medical Department in 1950.

(v) Dysentery.

(Hospital Cases : In-patients 277
Out-patients 434)

The incidence of diseases in this group increased by 14% as compared with 1954, which was a year in which the prevalence of Dysentery was the lowest on record. The frequency of the disease in 1955 was, nevertheless, lower than in 1953.

The relative prevalence of the disease in its various forms was as follows, the equivalent figures for 1954 being shown in brackets for purposes of comparison :-

Amoebic Dysentery	40.2%	(30.5%)
Bacillary Dysentery	59.4%	(68.6%)
Type Undifferentiated	0.2%	(0.8%)

The proportion of total cases derived from the various districts is shown below:-

Mbabane-Mankaiana-Pigg's Peak Districts	63.4
Manzini-Stegi District	32.2
Hlatikulu District	4.4

The low incidence of the dysenteries in Southern Swaziland is difficult to explain.

(vi) Gastro-enteritis and Colitis.

(Hospital cases	(a) Between 4 weeks & 2 years	446	In-patients
		1037	Out-patients.
	(b) Age 2 years and over	57	In-patients,
		635	Out-patients,
	(c) Chronic Enteritis and ulcerative colitis	1	In-patient
		3	Out-patients.

The prevalence of these diseases, which had been steadily declining for the past two years, increased by 22.0% as compared with 1954, and their resurgence may be associated with the development of resistance by flies to residual spraying.

The incidence of these diseases in the various districts is shown below:-

	1955.	1954	1953	1952
Manzini-Stegi District	26.7%	21.9%	23.9%	47.8%
Mbabane-Pigg's Peak-Mankaiana Districts	39.2%	50.1%	35.7%	27.9%
Hlatikulu District	34.0%	27.9%	40.3%	24.1%

(vii) Venereal Diseases.

The incidence of Syphilis, estimated on the basis of cases presenting themselves for treatment, has fallen by 20%, as compared with 1954, but that of Gonorrhoea increased by 23%, although overall decreases had been observed in the three preceeding years. Venereal disease in general was, however, less (5.3%) prevalent than in 1954.

The number of fresh cases of venereal disease treated during the last ten years is given in the following table:-

Year	Syphilis	Gonorrhoea.	Other Venereal Diseases	Total
1946	3041	649	16	3076
1947	2988	936	18	3942
1948	3212	1043	19	4274
1949	4449	1296	31	5776
1950	4140	1761	25	5926
1951	4608	1934	-	6542
1952	4349	2096	19	6464
1953	3908	1973	17	4898
1954	4980	1884	15	5988
1955	3270	2420	-	5670

The variations in the prevalence of the disease in various parts of the territory are indicated below:-

	Syphilis		Gonorrhoea	
	Increase	Decrease	Increase	Decrease
Mbabane	-	15.7%	9.6%	-
Mankaiana	-	24.5%	40.4%	-
Mbabane-Pigg's Peak District	-	19.0%	100.0%	-
Hlatikulu Hospital	-	18.2%	-	23.5%
Goedgegun	11.2%	-	30.6%	-
Bremersdorp	-	40.2%	-	30.7%
Manzini-Stegi District(General)	-	43.5%	16.5%	-
Stegi (Nazerene Health Centre)	-	41.8%	5.5%	-
Stegi (District Surgeon)	-	11.3%	20.2%	-
Mahamba Area	7.5%	-	59.7%	-

Procaine penicillin G, with 2% aluminium monostearate (PAM) in a single dose of 2.4 mega units has been brought into use in the routine treatment of syphilis, under medical supervision.

	Mbabane Hospital.	Mankaiana Cottage Hospital	Other Health Centres Mbabane-Pigg's Peak-Mankaiana Districts (Northern District)	Hlatikulu Hospital.	Health Centres Hlatikulu (Southern District)	Arthur Matthews Methodist Hospital, Mahamba.	Raleigh Fitkin Memorial Hospital, Bremersdorp.	Health Centres Manzini-Stegi (Central District)	District Surgeon, Stegi.	Lesters Health Centre	Lubuli-Gollel	Swaziland Irrigation Scheme (C.D.C.) (January - July only)	Nomahasha	Big Bend	Total
I. SYPHILIS.															
(A) Early Syphilis (i) Primary	136	32	-	43	-	-	71	-	-	-	-	-	-	-	282
(ii) Secondary	80	128	-	95	-	-	118	-	-	-	-	-	-	-	421
(iii) Early Latent (Asymptomatic)	295	74	-	64	-	-	-	-	-	-	-	-	-	-	433
(B) Late Syphilis (i) Skin, mucosal, bone muscle, joint	3	1	-	-	-	-	-	-	-	-	-	-	-	-	4
(ii) Cardiovascular	27	-	-	-	-	-	-	-	-	-	-	-	-	-1	27
(iii) Neurosyphilis	72	-	-	-	-	-	-	-	-	-	-	-	-	-	72
(iv) Late Latent (Asymptomatic)	37	-	-	2	-	-	1	-	-	-	-	-	-	-	40
(C) Congenital (i) Early (under 2 years of age)	33	42	-	25	-	-	18	-	-	-	-	-	-	-	98
(ii) Late (over 2 years of age)	13	-	-	-	-	-	-	-	-	-	-	-	-	-	13
(D) Undifferentiated	-	-	254	-	523	172	-	497	266	51	39	26	19	33	1880
TOTAL	676	277	254	229	523	172	208	497	266	51	39	26	19	33	3270
II. GONORRHOEA. (i) Acute	479	291	206	106	369	104	88	306	190	31	35	20	116	59	2400
(ii) Chronic	-	-	-	-	-	-	20	-	-	-	-	-	-	-	20
TOTAL	479	291	206	106	369	104	108	306	180	31	35	20	116	59	2420
III. OTHER VENEREAL DISEASES.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
IV. RE-ATTENDANCES.															
Syphilis	3254	1658	2041	789	1792	1292	1533	2188	334	38	96	43	15	23	15096
Gonorrhoea	454	291	310	149	224	4	28	124	233	17	13	45	37	19	1948
Other Venereal Diseases	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL RE-ATTENDANCES	3708	1949	2351	938	2016	1296	1561	2312	567	55	109	88	52	42	17044

The distribution of venereal diseases as between districts and institutions in all parts of the territory is shown in the table on page 17.

(viii) Typhoid and Paratyphoid Fever.

60 cases, with 2 deaths, were reported from the Manzini-Stegi (31 cases, no deaths), Mbabane-Pigg's Peak-Mankaiana (27 cases, 2 deaths) and Hlatikulu (2 cases, no deaths), in 1955, as compared with 187 during the preceeding year. 29 cases were proved positive by bacterial culture. The case mortality was 3.1%, as against 1.6% in 1954, which was the lowest on record. All cases, which were sporadic in their distribution, were carefully investigated, and no outbreak of the disease occurred in any part of the territory during the year under review.

(ix) Diphtheria.

There were 10 cases, with 4 deaths, as compared with 11 cases amd 4 deaths and 4 cases, with 2 deaths in 1953 and 1954 respectively. Five cases occurred in Mbabane District, and five in Manzini District.

(x) Whooping Cough.

The incidence of this disease was 52.2% greater than in 1954, the distribution of cases being as follows:-

District	No. of cases.	Deaths
Mbabane-Pigg's Peak-Mankaiana District	182	1
Manzini District	100	-
Hlatikulu District	50	-
Havelock Mine (Pigg's Peak District)	47	-
Total	379	1

(xi) Acute Poliomyelitis.

Thirteen sporadic cases were reported mainly during the first quarter of the year, the case distribution being as follows:-

Mbabane Area	10 cases	1 death
Hlatikulu District	2 "	-
Manzini District	1 "	-

Subject to the availability of supplies of vaccine from the Laboratories of the Poliomyelitis Research Foundation, or other source, during the winter of 1956, it is proposed to offer vaccination to European children under the age of fifteen years, and to African children under the age of five. In this connection, it may be noted that the most susceptible age group of Africans are children under the age of six, and that almost all paralytic cases of poliomyelitis in the Bantu living under relatively primitive conditions occur in this age group. Africans over the age of six have a very high degree of immunity and quite a large proportion of European children in this age group do not. The different age ceiling for the vaccination of European and African children is based on the earlier age at which the latter acquire immunity to paralytic poliomyelitis.

(xii) Measles.

276 cases were notified, as compared with 139 in 1954. Sharp outbreaks of the disease in a severeform were reported amongst school children in areas close to the Western and Southern borders during the month of August, and were investigated by the Department. The relative frequency

of the disease in comparison with the previous four years is shown below:-

District	1955.	1954	1953	1952	1951
Manzini District	60	40	273	50	14
Mbabane-Pigg's Peak-Mankaiana District	112	13	138	37	58
Hlatikulu District	83	6	135	12	8
Havelock Mine	21	80	27	87	15
Total	276	149	273	186	95

(xiii) Chicken-pox.

116 cases were reported, as compared with 65 in 1954, and 202 in 1953. The distribution of patients was as follows:-

District	Cases
Mbabane	43
Manzini	29
Havelock	27
Hlatikulu	17
Total	116

(xiv) Relapsing Fever.

No case has been reported since 1953, when one case only was microscopically diagnosed.

(xv) Tick Typhus.

10 cases were notified from the Mbabane District, 2 from Manzini District, and 2 from the Havelock Mine. The seasonal occurrence of the disease was once again irregular, but the majority of the cases were met with during the first half of the year. Aureomycin was used almost as a routine in the treatment of the disease.

(xvi) Influenza.

The incidence of this disease was 32.6% less than in 1954, which in turn was lower than that of the preceeding year.

The case distribution by districts was as shown below:-

Mbabane-Pigg's Peak-Mankaiana District	545
Manzini District	196
Hlatikulu District	164
Havelock Mine	164.

As in previous years the disease preponderated in the Mbabane District, and the case mortality (1) was insignificant; Terramycin was employed in the treatment of a limited number of cases, and the infection was most prevalent in August and September.

(xvii) Cerebro-Spinal Meningitis.

Nine cases, with four deaths, were reported, as compared with thirteen cases with three deaths in 1954. Seven cases were derived from the Mbabane district and two from the Havelock Mine.

(xviii) Endemic Parotitis.

118 cases were reported, as compared with 32 in 1953, and the distribution of cases was as follows:-

Havelock Mine	60
Mbabane area	34
Manzini area	21
Hlatikulu area	3

The disease incidence increased progressively during the second half of the year.

(xix) Infectious Mononucleosis.

No cases were notified.

(xx) Leprosy.

The staff of the Mbuluzi Leper Hospital consisted of a Medical Superintendent (non-resident), an European Matron, and Nurse, a Chaplain and Liason Officer.

The number of in-patients on the 31st December 1955 was 49, i.e. 10 adult males, 23 adult females, 6 male and 10 female children, as compared with 51 in 1954. The average number of inmates was 55.9 as compared with 47.5 in the previous year, an increase of 17.6% in the number of patients. This increase was partly accounted for by the admission of Union Nationals from the Transvaal.

Health of Patients.

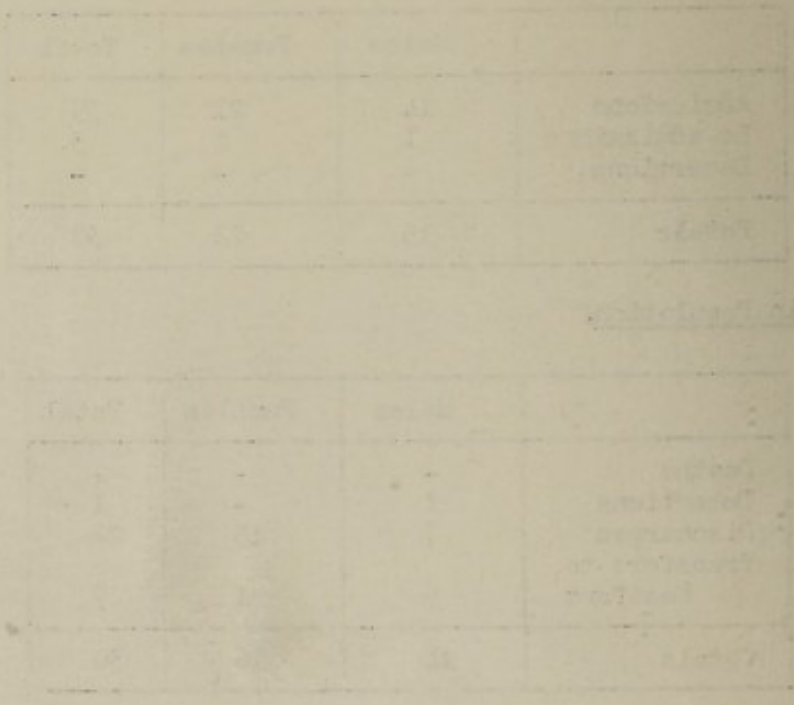
The general health of the patients was uniformly good throughout the year.

Additions to Population.

	Males	Females	Total
Admissions	14	21	35
Re-admissions	1	2	3
Desertions	-	-	-
Totals	15	23	38

Losses in Population.

	Males	Females	Total
Deaths	-	-	-
Desertions	1	-	1
Discharges	7	15	22
Transfers to Westfort	6	1	7
Totals	14	16	30



Origin of Patients.

District	Males	Females	Total	%
Mbabane	5	12	17	44.7
Mankaiana	2	6	8	21.0
Bremersdorp	1	-	1	2.6
Pigg's Peak	1	2	3	7.9
Hlatikulu	1	1	2	5.3
Transvaal	5	-	5	13.2
Stegi	1	1	2	5.3
Total	16	22	38	

Duration of Disease before Admission.

Duration.	Admissions	Percentage
0 - 1 years	13	34.2
1 - 2 years	11	28.9
2 - 3 years	4	10.5
3 - 4 years	2	5.3
4 - 5 years	3	7.9
5 plus	5	13.2

Classification on Admission.

Classification	Admissions	Percentage.
Lepromatous	7	18.4
Neural	29	76.3
Combined Neural and Lepromatous	2	5.3

Of the 49 patients in the settlement on 31st December 1955, the following gives the type of the disease according to sex:-

Type	Male	Female	Total	Percentage
Lepromatous	4	7	11	67.4
Neural	10	23	33	22.4
Neural and Lepromatous	2	3	5	10.2

Average Age on admission: 28.1 years.

Proportion of Children to Total Admissions.

There were 12 admissions of children under the age of 16 years out of a total of 38 admissions.

Treatment: (General)

The attendances at the dispensary numbered 18,250, as compared with 14,925 in 1954, and 17,2[illegible]3 in 1953.

36 patients were admitted to the Hospital wards in 1955, the total number of In-patients days being 3780, as compared with 2234 in 1954, and 2004 in 1953. Many other patients received domiciliary treatment in

the main compounds, owing to lack of accommodation in the hospital itself.

The following conditions were the cause of admission:-

Lepra reaction	12
Trophic ulcer	8
Mental Derangement	3
Pregnancy	3
Blindness	2
Observation	2
Paralysis	1
Senility	1
Epilepsy	1
Convulsions	1
Taeniax	1
Malnutrition	1

Laboratory Examinations.

251 smears from patients were examined for the presence of B. leprae, with the following results:-

Type	Positive		Negative		Total
	Nasal	Skin	Nasal	Skin	
Lepromatous	-	37	-	12	49
Neural	-	-	-	181	181
Combined	-	5	-	16	21
Total	-	42	-	209	251

Vital Statistics

The population figures derived from the 1946 census are shown below:-

	Males.	Females	Total	
European	1727	1474		3201
Coloured	359	380		739
Swazis	91014	87617	178631)	
Foreign Africans	2371	267	2638)	181269
Asiatics	5	1		6
Total	95476	89739		185215

Total European Population	3201
Total European Births	98
Total European Deaths	25
Birth rate per 1000	30.6
Death rate per 1000	7.8
Infant mortality rate	25.6

Table showing causes of death:-

Cause of Death	Number of Deaths.
Diseases of the heart, and other diseases of the circulatory system	8
Carcinoma	7
Pneumonic and other respiratory diseases	3
Cerebrospinal meningitis	2
Poisoning	1
Leukaemia	1
Violence	1
Senility	1
Gastroenteritis	1
Total	25

Registration is not compulsory in the case of the non-European population.

III. HYGIENE AND SANITATION.

A. (i) Preventative Measures.

(a) Malaria. 146,872 huts (with the exception of 4828 sprayed with Dieldrin) were treated with Benzenehexachloride, as against 121,087 in 1954, 154,585 in 1953, 73,000 in 1952, 36,550 in 1951, and 23,000 in 1950. Unless sone unforeseen event arises, hut spraying may be expected to diminish from 1955/56 onwards, but survey work will require to be intensified as the greatest care will have to be taken to avoid the possibility of the disease re-establishing itself by importation in areas in which the population may have lost their immunity.

(b) Smallpox. A mass vaccination campaign during which 41,058 persons were immunised, was carried out in supplementation of the routine vaccinations performed at the main centres of population.

(c) Typhoid and Paratyphoid and other Salmonella infections.

All close contracts of cases investigate at Tung Oils, Bremersdorp jail and Mbuluzi Girls School, etc., received prophylatic inoculations, and advice regarding preventative measures was given to the authorities concerned.

(d) Diphtheria and Whooping Cough. The simultaneous immunization of children against these diseases is carried out on a routine basis, though on a limited scale.

(e) Schistosomiasis. As already stated, the scope of the Bilharzaisis Control Scheme in Msimneni Catchment Area has had to be restricted, and the results of research work which is now being conducted in the Union of South Africa, and elsewhere, should be available for study, before any major extension of work of this kind can be recommended, as there is a great room for improvement in molluscicidal technique.

(ii) General Measures of Sanitation.

(a) Further indications of widespread fly-resistance to residual insecticides have been observed, and these insects appear to be re-establishing themselves, and resuming their erstwhile role as disease vectors.

(b) Water Supplies. Specimens of water from the main supplies at Bremersdorp, Stegi, Goedgegun, Hlatikulu and Mbabane are required to be taken for bacteriological examination at quarterly intervals, the results being brought to the notice of the Directorof Public Works and the Local Authorities concerned. Owing to staff difficulties, these precautions

were limited to Bremersdorp, Stegi, and Mbabane during the present year.

As a result of an adverse bacteriological analysis report on the water supply at Stegi, the public were again warned against the use of unboiled water for domestic purposes, it being evident that the manual application of chloride of lime at daily intervals was unreliable. A new purification system consisting of gravity sand filters has now been completed, but as no chemical dosing apparatus is installed, the need for individual prophylactic measures cannot be dispensed with with impunity.

The water supply at Bremersdorp is subject to frequent breakdowns in the pumping unit, and interruptions due to storm water siltage of the intake furrow during heavy rains. As a result of increased demand during the dry winter months, it was necessary for the Local Authority to conserve water by imposing restrictions on the watering of gardens, etc. Since the automatic gas chlorinator broke down in 1953, the unreliable method of manual dosing has been employed. Despite satisfactory bacteriological reports on samples, the system of purification at present in operation is regarded with suspicion, and the boiling of water for domestic use is advocated. This procedure is unfortunately impracticable at the Creamery where a large quantity of water is used daily. The uncertainty surrounding the purity of the main water supply constitutes a serious hazard to this important industry.

The new piped water supply for Mbabane was put into general operation on the 1st March 1955, when the old furrows supplying the town were closed, but as the automatic chlorinator has not been put into operation, the water is regarded as unsafe from the public health standpoint.

The water position at Goedgegun and Hlatikulu remains unchanged and no general system of purification exists in either of these Urban Areas.

Notices indicating that the piped water is unfit for human consumption in an untreated state have been displayed in every hotel in the territory.

The results of the chemical analyses of water samples taken in June 1955 from three points on the Mbabane water supply are given on page 25, the sources being as follows:-

Specimen No. 1. Stream arising from catchment area at point where small bridge leading to a Portuguese house crosses.

Specimen No. 2. Tap at summit of water filtration plant hill, said (?) to contain water after filtration.

Specimen No. 3. Mbabane Hospital Dispensary.

A specimen of water from a borehole on Mpisi Farm was analysed with the following results:-

Solids	424 ppm
pH	7.3
Fluorine	0.20 ppm
Iodine	0.016 ppm.

It will be observed that the Iodine content is fairly low, as it should contain approximately 0.05 ppm in order to meet daily requirements.

Chemical Analyses of Water Samples : Mbabane Water Supply.

Mbabane No.	1	2	3
Analysis No.	349/55	350/55	351/55
Odour	None	None	None
Colour	None	None	None
Turbidity	Clear	Clear	Clear
Sediment	None	None	None
pH at 20°C	7.4	7.3	9.7
PARTS PER MILLION PARTS OF WATER			
Solids (105°C)	14	12	38
Na	9	9	14
Ca	21	3	10
Mg	1	Negative	Negative
Na bicarbonate	8	4	Negative
Na carbonate	Negative	Negative	Negative
Salt-ammonia	0.04	0.18	0.04
Protein-ammonia	0.06	0.08	0.05
Oxygen taken up (4 hours at 27°C)	0.82	0.69	1.81
Permanent hardness as $CaCO_3$	Negative	Negative	20
Temporary hardness as $CaCO_3$	5	8	5
Nitrate (NO_3)	Negative	Negative	Negative
Nitrite (NO_2)	Negative	Negative	Negative
Chloride (Cl)	4	5	7
Sulphate (SO_4)	10	10	19
Carbonate (CO_3)	Negative	Negative	12
Bicarbonate (HCO3)	12	12	6
Fluorine (F)	0.10	0.10	0.10
Iodine (I)	0.01	0.01	0.01

(c) Conservancy and Refuse Disposal. In the Urban Area of Bremersdorp, the sanitary service and refuse disposal system functioned satisfactorily, under the direction of the Town Inspector. The gradual replacement of pail closets by septic tanks continues, but the process has met with a serious obstacle in that certain Local Authorities have permitted the subdivision of stands, making drainage and localised sewage disposal almost impossible. No progress has been made in the matter of the introduction of a refuse removal service in Mbabane, though the difficulties inherent in such a project have been successfully overcome in the smaller townships of Goedgegun, Stegi and Hlatikulu.

(d) Drainage. The Health Office staff were confronted with many difficulties connected with french drains which became waterlogged as a result of the high rainfall towards the end of the year. The Mbabane Urban Area and its central commercial section in particular, is faced with serious drainage problems resulting from new development.

Plans were submitted for three blocks of flats in this area, and when these buildings are completed the volume of waste water, which has increased with the trade expansion at the two hotels, will be augmented considerably. The Local Authority, in consultation with the Urban Area Advisory Committee has decided that the "vacuum tanker" conservancy system would be impracticable at Mbabane, and a sewage disposal plant, to serve the commercial area, is under investigation.

(e) Bush-clearing. The heavy rainfall resulted in unusually prolific growth on vacant land in the Urban Areas, but with the co-operation of plot holders much clearing was accomplished. Local Authorities have cleared sidewalks and Government-owned land, making use of prison labour and mechanical cutters, in some instances. In Bremersdorp, however, labour was insufficient to deal with the growth

of guava bushes, which afford cover for promiscuous defaecation. At Mbabane, certain sections of bramble-covered roadsides were successfully controlled by spraying with weed-killer.

(iii) School Hygiene.

The routine medical inspection of schoolchildren was carried out at St. Mark's School, the Trades' School, Mbabane; the Swazi National School, Matapha, Goedgegun European School and the European School at Bremersdorp. Pupils at the European School, Pigg's Peak, the Dominican Convent and Little Flower School, Bremersdorp, the Central School, Mbabane, the Mbuluzi and Mhlotsheni Mission Schools were also examined.

(iv) Labour Conditions.

The rapid development of Malkerns and the Big Bend Irrigation Schemes have temporarily outstripped the work of providing suitable housing accommodation, but the problem is mitigated to some extent by the fact that a large number of the Africans, engaged on these projects, are able to reside in their own homes in adjoining Native Areas. Messrs. Ross Citrus Estates are in the process of constructing a well laid out compound, and there is evidence to show that Messrs. Tung Oils Limited take a keen interest in the living conditions of their employees. Advice with regard to the provision of sanitary facilities was given in a number of instances, and many farmers were advised to provide aqua privies of the type advocated by the Health Authorities in Southern Rhodesia.

The spraying of living quarters in the malarious areas with residual insecticides continues to reduce the prevalence of insect pests, such as fleas, bedbugs, ticks and cockroaches, thought the measure is becoming increasingly less effective in the control of Musca domestica. No outbreaks of infectious disease occurred on any of the privately-owned farms. On the Mpisi Government farm, however, a serious outbreak of enteritis occurred amongst the European and African Staff, four of the former and 30 of the latter being involved. The infection was traced to the water supply, which was derived from the White Mbuluzi River, and samples examined bacteriologically revealed an alarmingly high count of 500 faecal coli per 100 mil. Instructions were issued to the management regarding the necessity for boiling water used for domestic purposes, and the Director of Land Utilisation was advised to instal an approved system of water purification for the establishment.

Little, if any, progress is being made by the Local Authorities in overcoming the housing problems of Africans, who work in the Urban Areas. Locations are densely overcrowded and the ever increasing number of insanitary huts which continue to appear on the periphery of townships are a standing menace to the health of their occupants and the inhabitants of the Urban Areas concerned.

(v) Buildings.

Building construction throughout the Urban Areas, and particularly in Mbabane and Bremersdorp continued apace, despite the difficulties experienced in obtaining cement and other materials. At Bremersdorp, the South African Railways Administration completed two dwellings for their Senior Officials. Their housing shortage will be further relieved in the near future, as they have acquired land for a further six houses which will be erected at an early date. Plans for the new Railway Administrative offices, estimated to cost some £25,000 have been passed, and work on these premises will shortly be commenced. A modern bakery costing £7,000 has been erected in the industrial area of Bremersdorp. The Standard Bank of South Africa has com-

pleted two attractive buildings in Bremersdorp, and a Bank Building extimated to cost £7,000 is under construction at Mbabane. At Mbabane a block of flats and shops is to be erected in Miller Street at a cost of £9,000 and a building containing Government flats is in course of construction. 71 Building plans, the estimated value of which was £155,800 were submitted to the Health Office by Local Authorities for examination and advice, before approval. The routine inspection of buildings under construction were carried out by the Health Inspector. Systematic inspection of houses and trade premises in the Urban Areas of Geodgegun and Hlatikulu was carried out by the Medical Officer (Health). With the co-operation of the Local Authority Sanitary Notices were served on the authors of nuisances.

An African township at Matapha, sponsored by the Native Land Settlement Scheme, is extending without regard to the warnings issued by this department in respect of the inadequacy of the water supply and the defective sanitary arrangements. Survey work in connection with extensions to the Native Location at Bremersdorp has been completed. It is hoped that the scheme will eliminate the unsatisfactory living conditions which have developed here, as elsewhere, on the outskirts of of the town.

Five three-bedroomed houses for European officials were erected at Stegi (1), Bremersdorp (2) and Mbabane (2). Two houses for Africans were constructed at Lozita School, and one at Mbabane Hospital (type NF.3/54). Extensions were made to an NF1/51 type house and the six senior Police rondavels at Msunduza township. Four messengers houses were under construction at Msunduza.

(vi) Food in relation to disease.

(a) Trade Premises. Routine inspections of trade premises and foodstuffs offered for sale were carried out in all the Urban Areas. Milk Producers were advised regarding the measures necessary to improve their dairies, and on the hygienic handling of milk supplies.

The number of inspections are listed below:-

General Dealers	126
Butcheries	63
Government Slaughter Houses	50
Restaurants	24
Bakeries	18
Hotels	10
Native Eating Houses	8
Dairies	8

The following foodstuffs were condemned as unfit for human consumption:-

35 tins of canned fruit
30 tins of beef
13 tins of fish
12 bags of maize (disposed of as animal feed)

(b) Meat Supplies. At the Government-controlled abattoirs throughout the territory, routine inspection of carcasses was carried out as far as circumstances permitted, but staff shortages interfered with this work at Mbabane, Hlatikulu and Goedgegun on numerous occasions. At Stegi, inspections were more regular, and carcasses rejected on account of light "measles" infestation were transferred to Bremersdorp, where they were subjected to freezing in the cold chamber at - 10 C or less for at least 14 days prior to sale. Surprise inspections of the freezing plant were made at irregular intervals with a view to ensuring that the temperature was maintained at the proper range, and that carcasses were retained for the prescribed period before removal

from cold storage. Meat inspection at Bremersdorp was mainly carried out by the Health Inspector or the Medical Officer (Health), and it was only on relatively few occasions that the services of the Veterinary Department were enlisted for this purpose at this particular station. It will be observed from the following tables that in townships where regular inspection was not possible the condemnation rate was low, whereas at Bremersdorp and Stegi, the incidence of infestation was 8% and 10% respectively.

BREMERSDORP ABATTOIRS.

1955 Month	Number Examined.			Number Passed			Number Rejected			Number Frozen			Number Cooked.			Number Destroyed		
	C	P	S	C	P	S	C	P	S	C	P	S	C	P	S	C	P	S
January	103	30	40	98	26	40	5	4	-	2	-	-	3	-	-	-	4	-
February	114	34	42	106	31	42	8	3	-	2	-	-	5	-	-	1	3	-
March	118	28	19	106	28	19	12	-	-	5	-	-	7	-	-	-	-	-
April	113	24	52	98	24	52	15	-	-	8	-	-	7	-	-	-	-	-
May	116	38	28	109	35	28	7	3	-	5	-	-	2	-	-	-	3	-
June	123	24	21	110	23	21	13	1	-	6	-	-	7	-	-	-	1	-
July	147	30	40	142	30	40	5	-	-	5	-	-	-	-	-	-	-	-
August	148	36	37	134	34	37	14	2	-	7	-	-	7	-	-	-	2	-
September	152	30	53	137	30	53	15	-	-	11	-	-	4	-	-	-	-	-
October	162	32	49	153	30	49	9	2	-	4	-	-	5	-	-	-	2	-
November	125	42	45	118	42	45	7	-	-	5	-	-	2	-	-	-	-	-
December	130	46	57	117	45	57	13	1	-	10	-	-	3	-	-	-	1	-
Totals	1551	394	483	1428	378	483	123	16	-	70	-	-	52	-	-	1	16	-

"C" = cattle; "P" = pigs; "S" = sheep.

OTHER ABATTOIRS.

Place	Number Slaughtered			Number Passed			Number Rejected			Number Frozen			Number Cooked			Number Destroyed		
	C	P	S	C	P	S	C	P	S	C	P	S	C	P	S	C	P	S
Mbabane	534	75	99	530	73	99	4	2	-	-	-	-	4	-	-	-	2	-
Hlatikulu	49	-	2	47	-	2	2	-	-	-	-	-	2	-	-	-	-	-
Goedgegun	341	46	39	340	46	39	1	-	-	-	-	-	1	-	-	-	-	-
Stegi	228	17	-	206	17	-	22	-	-	22	-	-	-	-	-	-	-	-
Totals	1142	138	140	1123	136	140	29	2	-	22	-	-	7	-	-	-	2	-

The incidence of "measles" infestation at the various stations was as follows:-

Bremersdorp	10.0%
Stegi	8.0%
Hlatikulu	4.0%
Mbabane	0.8%
Goedgegun	0.3%

Owing to an outbreak of Epidemic Vaginitis and over a period of several months, all slaughter-cattle, excluding oxen, were killed outside the Urban Area and brought into Mbabane by lorry.

As a result of shortage of staff, the abattoir at Hlatikulu was closed in June, when all killing for the two townships was carried out at Goedgegun.

B. Measures taken to spread the knowledge of Hygiene and Sanitation.

The African Cattle Guards in training at Mpisi Government Farm attended a series of lectures on Health subjects, such as Syphilis, Tuberculosis and Gonorrhoea, given by the Medical Officer (Health) and by the Health Inspector on Buildings, Malaria, Bilharziasis, Dairies and Milk

Supplies, Meat Inspection and General Hygiene. At the request of the Director of Education an article on Vaccination was submitted by the Medical Officer (Health) for publication in the African Teachers Journal. At the Swaziland Agricultural Show, held in Bremersdorp from 7th to 9th July, 1955, a Health exhibit was staged for the first time, its main features being Malaria and Schistosomiasis Control. Pamphlets on both these subjects, and posters dealing with Taeniasis infestation and the prevention of Tuberculosis were displayed and distributed, both at the Show and elsewhere.

C. Training of Personnel.

The following table shows the number of students in training at the Ainsworth Dickson Nursing School, at the Raleigh Fitkin Memorial Hospital, Bremersdorp, at the end of the year under review:-

Year	Nurses	Midwives	Total
1st	15	-	15
2nd	9	-	9
3rd	8	-	8
4th	14	-	14
Totals	46	-	46

The results of the examinations conducted in January and November 1955 are given below:-

Certificate	Preliminary		Final	
	Passed	Failed	Passed	Failed
High Commission Territories Nursing Council				
General Medical and Surgical	2	1	5	3
Midwifery Part I	-	-		
Midwifery Part II			1	1
Swaziland Executive Nursing Committee	8	6	14	-

IV. MATERNITY AND CHILD WELFARE.

(a) Mbabane, Pigg's Peak and Mankaiana Districts.

48 Europeans and 808 Africans attended the weekly ante-natal clinic at Mbabane Hospital, where 616 confinements were conducted as against 522 in 1954, 369 in 1953 and 268 in 1952. 36 new ante-natal cases attended the Clinic at Matapha, where 2 confinements were conducted by the School nurse. 300 babies attended.

The number of maternity cases dealt with at Health Centres is shown in the following table:-

Health Centre	No. of cases		
	1955.	1954.	1953.
Mankaiana	191	120	98
Horo	23	20	22
Government Farm	12	28	22
Hebron (closed 1955)	-	3	5

(b) Manzini and Stegi District.

Raleigh Fitkin Memorial Hospital, Bremersdorp.

Ante-natal attendances	2593 (2230)
Child Welfare attendances	3799 (2648)
Confinements	453 (383)

(Note: 1954 figures are shown in brackets)

Table showing the number of Maternity cases at Nazerene Mission Health Centres.

Health Centre	No. of cases
Stegi	64 (80)
Endingeni	101 (75)
Pigg's Peak	105 (81)
Mliba	23 (18)
Mafuteni	17 (15)
Bhekinkosi	8 (2)
Balegane	10 (6)
Malinda	14 (10)
Ebenezer	23 (32)
Mayiwane	8 (7)
Total	373 (360) +

+ = 1954 figures in parenthesis.

(c) Hlatikulu District.

Clinic	Ante-Natal First Attendances.	Confinements
Hlatikulu Hospital	543 (23)	191 (7)
Goedgegun	695 (2)	-
Mhlotsheni	92	3
Hluti	149 (1)	-
Sipofaneni	131	10
St. Philips	375	1
Lubuli	152 (1)	1
Gollel	57	-
Our Lady of Sorrows	1050 (3)	12 (1)
Total	3244 (30)	218 (8)

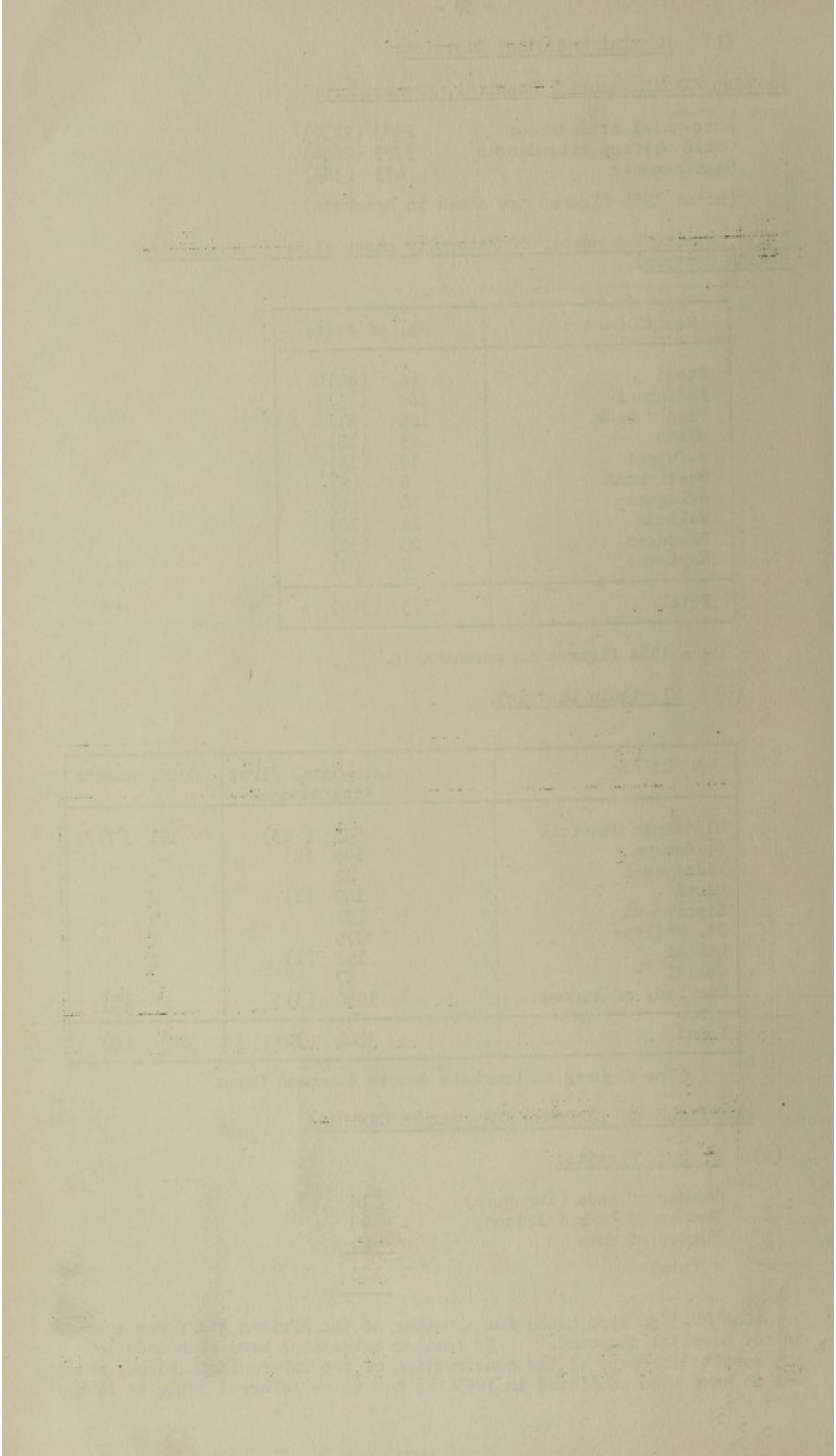
(The figures in brackets denote European Cases)

V. HOSPITALS AND DISPENSARIES (HEALTH CENTRES)

(a) Mbabane Hospital.

Number of beds (European)	10
Number of beds (African)	98
Number of cots	20
Total	128

One NF.3/54 type house for a member of the African staff was erected in the hospital compound. No further extensions have been made to the hospital proper, as the construction of the Tuberculosis Block, which was to have been completed in 1955 has had to be deferred owing to lack



of funds. Automatic stokers for the hospital boilers were installed in March and are working satisfactorily, and certain safely devices have been fitted.

Daily average number of In-patients (Europeans) 5.4
Daily average number of In-patients (Eurafricans) 0.3
Daily average number of In-patients (Africans) 144.1

The progressive increase in in-patients, which has taken place during the last decade, is shown in the following table:-

Year	Daily average No. of In-patients.		
	European.	Eurafrican.	African
1946	0.9	0.15	74.9
1947	0.65	0.42	69.6
1948	0.88	0.65	71.1
1949	1.2	0.59	79.5
1950	1.2	1.1	72.2
1951	1.3	0.8	88.2
1952	3.2	0.5	101.0
1953	5.0	0.6	108.2
1954	5.6	1.22	123.9
1955	5.4	0.3	144.1
% increase over 1946	500%	100%	81.4%

Staff.

2 European Medical Officers,
1 African Medical Officer,
1 Matron,
4 European Nursing Sisters,
1 Dispenser/Storekeeper,
1 Radiographer,
1 Hospital Assistant,
1 African Dispenser,
1 African Wardmaster,
24 African Nurses,
1 Dispensary Orderly
2 Out-patient Attendants (Nurses)
8 Ward Attendants
2 Orderlies
2 Nurse-Aides.

	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955
Admissions	2287	2217	2210	2237	1966	2491	2557	2795(253)	3248(254)	3269(247)
Deaths	41	28	51	55	57	49	72	80 (7)	100(6)	93(6)
Confinements	170	303	339	299	276	318	268	372(30)	522(44)	616(35)
Operations	215	193	297	398	441	389	555	772(236)	693(261)	759(266)
Out-patients(new cases)	8916	8547	8945	9422	12893	14159	13287	15348 (3769)	15763 (3201)	16754 (2714)
Out-patients(re-attendances)	3913	6953	9173	11472	14059	15496	13722	16912 (3715)	17997 (5185)	13680 (3581)

(Note: European cases, which are included in the totals, are shown in brackets)

European out-patient attendances have continued to decrease since the peak year of 1953, though they still greatly exceed those of other medical stations.

Station.		Average per month.					
		New Cases.		Re-attendances		New Cases	
		Male.	Female.	Male	Female.	Officials.	Non-officials.
Mbabane	1946	53.2	56.9	33.9	51.3	-	-
	1947	55.3	54.6	54.5	54.3	-	-
	1948	61.6	57.4	68.2	82.1	16.6%	80.3%
	1949	86.1	77.6	67.6	106.6	18.7%	81.3%
	1950	125.5	102.2	136.5	142.5	18.7%	81.2%
	1951	128.3	108.3	128.6	123.5	11.4%	88.5%
	1952	124.1	101.0	140.7	123.8	13.8%	86.1%
	1953	156.3	129.3	187.1	214.0	13.4%	86.2%
	1954	142.3	124.3	132.9	208.0	15.6%	84.3%
	1955	113.1	100.0	143.7	145.1	18.5%	81.3%
Bremersdorp	1952	62.5	55.6	19.5	17.9	12.3%	87.6%
	1953	64.5	42.6	14.9	8.4	5.4%	94.5%
	1954	58.3	44.6	18.2	15.0	5.5%	94.4%
	1955	53.0	48.3	25.3	20.6	7.0%	93.0%
Hlatikulu	1952	16.4	15.3	44.1	22.7	9.1%	90.8%
	1953	21.8	22.2	25.0	28.4	15.2%	84.7%
	1954	19.7	16.4	14.9	14.7	18.9%	81.1%
	1955	14.2	12.9	7.2	12.2	12.3%	87.6%

(b) Hlatikulu Hospital.

Number of beds (European) 8
Number of beds (Eurafrican) 3
Number of beds (African) 30
Number of cots (African) 3

Daily average number of In-patients (European) 0.9
Daily average number of In-patients (Eurafrican) 0.3
Daily average number of In-patients (African) 81.2

The In-patient figures for the past ten years are summarised below:-

Year.	Daily average number of In-patients.		
	European	Eurafrican	African.
1946	2.5	0.7	65.2
1947	3.33	0.61	65.2
1948	2.54	0.46	74.5
1949	1.7	0.52	66.6
1950	1.5	0.4	63.6
1951	2.0	0.7	72.5
1952	1.4	0.9	80.1
1953	1.4	1.0	73.3
1954	1.13	0.10	67.8
1955	0.09	0.3	81.2

Staff.

2 Medical Officers,
4 European Sisters,
1 Intern (Post Vacant)
1 European Hospital Assistant/Dispenser,
1 African Hospital Assistant,
1 African Laboratory Assistant,
4 African Dispenser (Post Vacant)
15 African Nurses,
1 Dispensary Orderly,
5 Ward Attendants,
1 Orderly,
1 Pupil Dispenser (Post Vacant)

Year	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955
Admissions	2245	1647	1313	1483	1814	1896	1900	1923(82)	1739(62)	1938(62)
Deaths	46	43	50	56	59	55	54	55(0)	42(3)	39(2)
Confinements	150	188	198	202	159	148	170	124(6)	126(5)	191(7)
Operations	112	256	241	242	258	299	542	179(23)	200(28)	231(26)
Out-patients New cases	12145	6955	5169	4414	5676	7009	8298	8117 (529)	7450 (433)	6660 (298)
Out-patients re-attendances		2342	2894	3549	2803	1700	3336	3396 (639)	3911 (356)	3213 (234)

Work on the extensions to the Hospital, which was to have recommenced in May 1955, has not yet been started, but is now expected to be put in hand in 1956, during which it is hoped the construction of a new Coloured Block, and Kitchen Block will be completed. The urgency of the need for the new extensions, and the modernization of the hospital and its subsidiary dispensaries cannot be over emphasised, as the provision of improved medical facilities is long overdue. A second Diesel-Lister Lighting Plant was provided in February, preparatory to the installation of a motor-alternator set for the 200 M.A. Watson X-ray Unit which was put into operation at the beginning of May.

(c) Raleigh Fitkin Memorial Hospital, Bremersdorp.

Number of Beds (European) 8
Number of Beds (African) 68
Number of Beds (Eurafrican) 4

Extensive extensions to the hospital have been planned for the period 1955-1959 and a Boiler House, Kitchen Block and Steam Laundry were in course of construction during 1955. Government has agreed to provide an annual grant of £3,000 towards the cost of equipment, which is to be expended as follows:-

1955 Steam Boilers and Steam Plant to various departments,
1956 Steam Laundry Equipment.
1957 Steam Laundry Equipment.
Operating Theatre Equipment.
1958 Sterilising Equipment for theatre and wards.
Beds and ward equipment.
1959 Beds and ward equipment and Physiotherapy equipment.

Admissions.

Year.	Europeans.	Eurafricans.	Africans.	Deaths
1946	281	116	2154	42
1947	264	117	1814	60
1948	232	92	2082	82
1949	201	80	1823	83
1950	228	92	2305	110
1951	274	64	2760	95
1952	197	66	2852	84
1953	260	83	2975	91
1954	171	51	2754	103
1955	157	42	2464	81

Daily average number of In-patients (European) 3.4
Daily average number of In-patients (Eurafrican) 1.8
Daily average number of In-patients (African) 132.4

Out-patients.

Year.	New Cases.	Re-attendances	Totals
1946	5540	5500	11040
1947	5283	4680	9963
1948	9253	8314	17567
1949	9404	8620	18024
1950	10853	9853	20706
1951	11688	9700	21388
1952	11383	9134	20517
1953	9999	10746	20745
1954	8416	8616	17032
1955	9856	8201	18057

Staff.

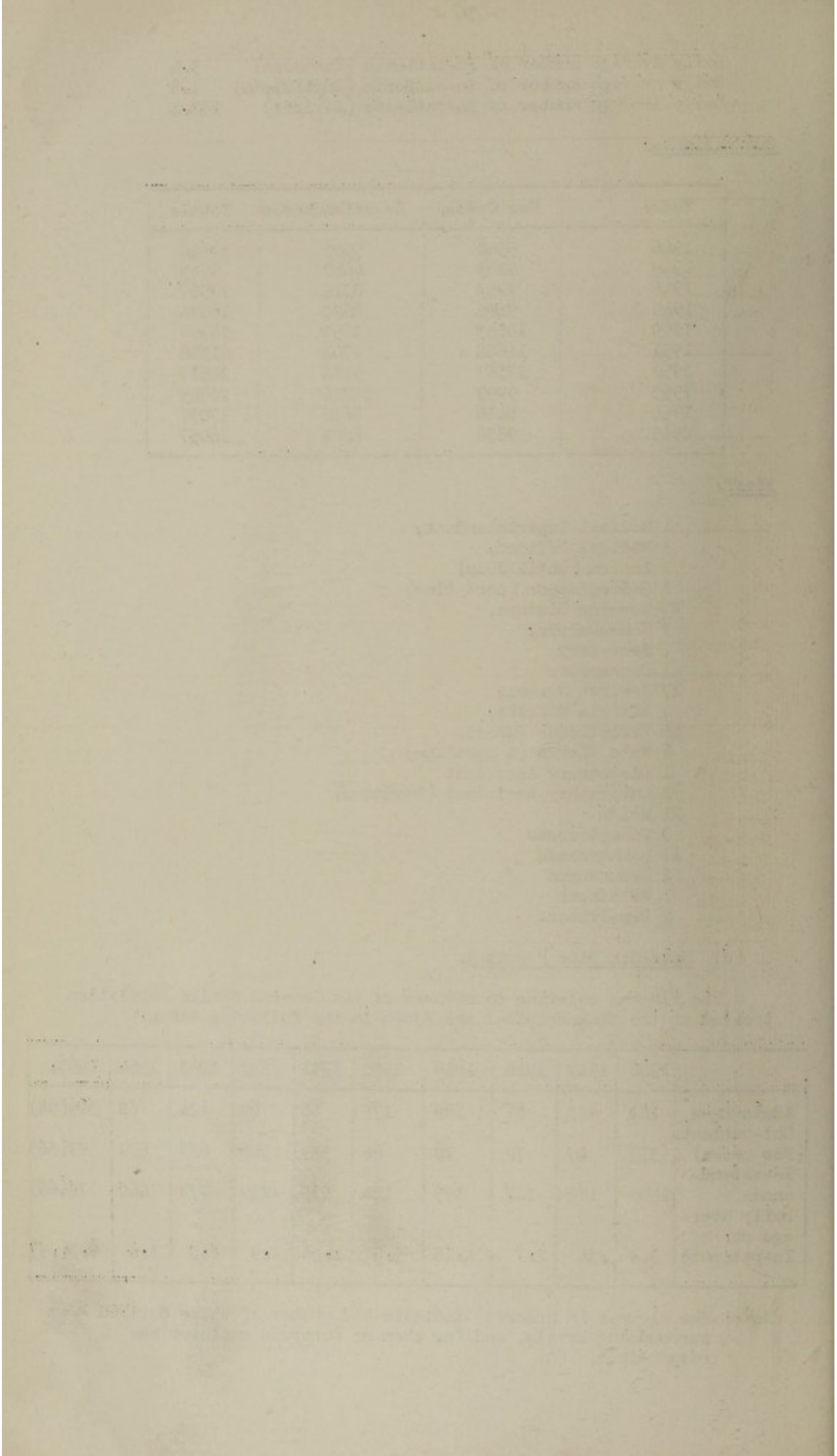
1 Medical Superintendent,
1 Medical Officer,
1 Intern (until July)
1 Radiographer (part time)
11 Nursing Sisters,
1 Housekeeper,
1 Secretary
1 Bookkeeper
17 African Nurses,
1 African Midwife,
46 Probationer Nurses,
6 Male Clerks (1 parttime)
1 Dispensary Assistant
1 Laboratory Assistant (Parttime)
21 Maids
3 Seamstresses
11 Laundresses
2 Groundsmen
1 Messenger
2 Repairsmen.

(d) Havelock Mine Hospital.

The figures relating to members of the General Native Population treated at the Mine Hospital are sjown in the following table:-

	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955.
Admissions	141	113	81	189	175	68	89	124	65	309(94)
Out-patients (New cases)	333	47	79	79	88	559	546	613	470	87(56)
Re-attendances	2285	128	147	395	124	535	1239	779	460	72(69)
Daily average no. of In-patients	3.3	.34	2.7	4.18	5.0	1.35	1.9	2.3	1.4	6.3(.9)

Note: The figures in brackets indicate the number of cases derived from surrounding kraals, and for whom no European employer was responsible.



(e) Arthur Matthews Methodist Mission Hospital, Mahamba.

The figures relating to the work carried out at this institution during the past three years are shown below:-

	Europeans.			Africans.		
	1953	1954	1955	1953	1954	1955.
Admissions	26	27	68	384	565	735
In-patient days	117	209	381	2786	4267	9394
Confinements	2	12	25	18	38	57
Deaths	1	1	3	13	39	40
Operations (major)	1	2	12	7	21	39
(minor)	22	16	36	25	161	264
Out-patients (new cases)	118	368	446	1340	3450	2476
Out-patients (re-attendances)	179	846	1215	2379	2622	4027
Malaria Cases	-	3	5	18	4	5
Bilharziasis	-	1	13	23	18	13
Tuberculosis	1	-	-	5	65	75

(f) Swaziland Irrigation Scheme (C.D.C)

Figures (January-July and December only) indicating the work performed by the Medical Staff of this project are summarised in the following table.

	Europeans		Africans		Totals
	E	GNP.	E	GNP	
Admissions	21	1	110	4	146
In-patient days	91	6	670	20	787
Confinements	-	-	10	-	10
Deaths	1	-	4	4	9
Out-patients (New cases)	172	3	1816	123	2114
Out-patients (re-attendances)	98	1	1094	157	450
Operations	3	-	37	9	46
Malaria	-	-	34	1	35
Schistosomiasis	-	-	18	3	21

(Note: "E" = Employees and dependants,
"GNP" = Non-Employees.

(g) Dispensaries (Health Centres)

The number of cases treated at Dispensaries in various parts of the territory are shown in the following table:-

Dispensary	In-patients	Out-patients. New Cases E	New Cases N.E.	Re-attendances E.	Re-attendances N.E.
Horo	-	9	4373	-	4214
(a) Hebron	-	-	-	-	-
(b) Government Farm	-	-	759	-	269
Goedgegun	-	425	4105	317	3140
Mhlotsheni	-	31	1798	4	704
Hluti	-	92	1703	130	1093
Lesters	-	3	1475	-	237
Sipofaneni	-	19	1499	5	560
St. Philips	-	-	2271	-	546
Our Lady of Sorrows	-	45	7262	15	570
Lubuli-Gollel	-	54	1686	3	338
Total	-	678	26931	474	11671
Mankaiana Cottage Hospital (x)	1469	40	6968	28	3446

("E" = Europeans, "N.E." = Non-Europeans, "x" = figures additional to those shown in the Return of Diseases for Government Hospitals (Appendix I))

((a) closed owing to shortage of staff,
(b) closed for 4 months)

The number of cases treated at Health Centres during the past ten years are shown in the following table:-

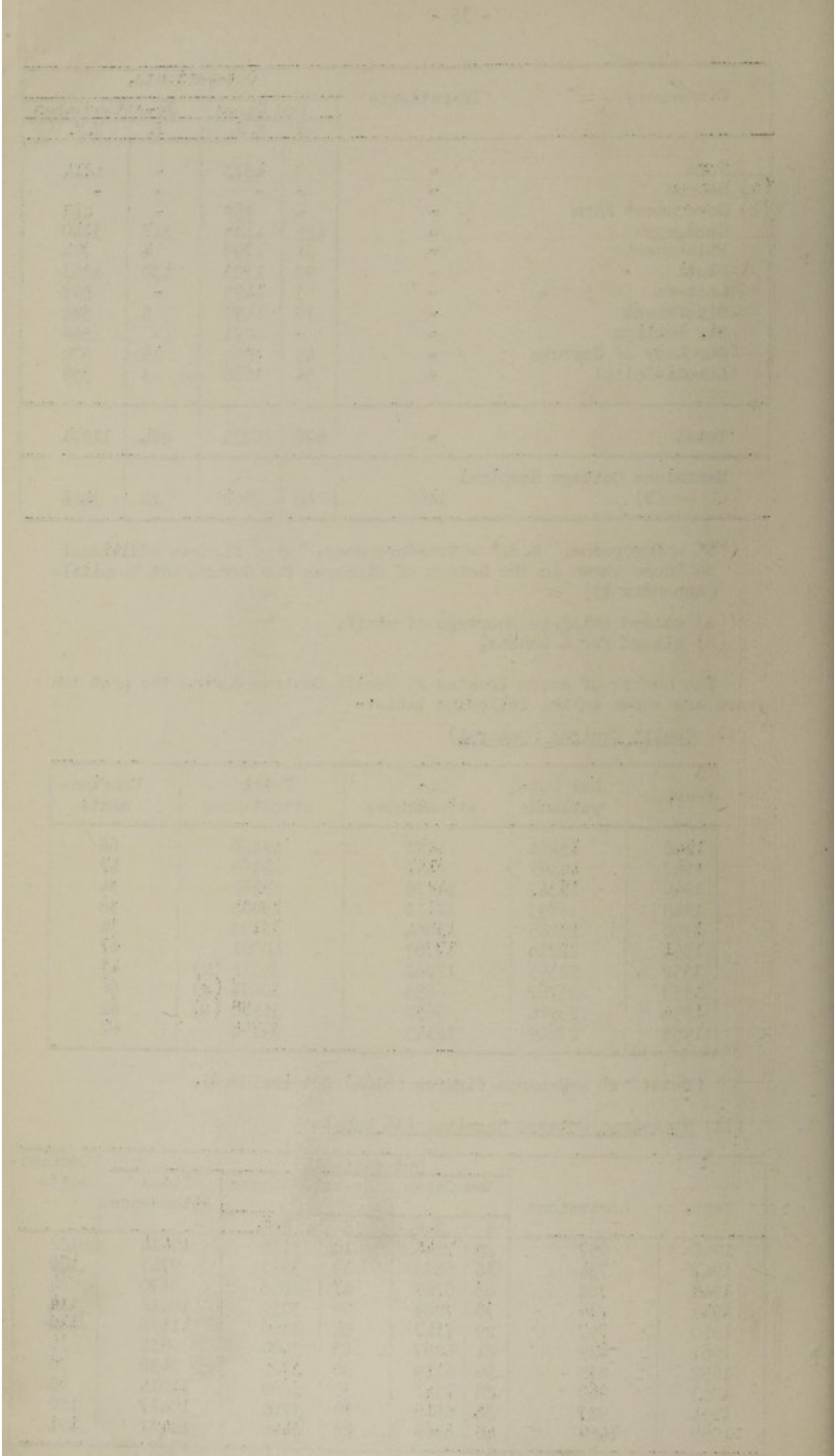
(i) Health Centres (General)

Year.	New Out-patients	Re-attendances	Total attendances	Confinements
1946	15201	4288	19428	68
1947	14109	8151	22260	47
1948	15347	14235	29582	34
1949	16893	12110	29003	38
1950	19285	13864	33199	34
1951	22214	17787	40001	67
1952	22353	12962	35315 (x)	43
1953	23767	6659	30426 (x)	56
1954	25926	9632	35558 (x)	62
1955	27609	12145	39754 (x)	62

(Note: "x" = Mahamba figures (8164) not included).

(ii) Mankaiana Cottage Hospital (16 beds)

Year.	Admissions	Out-patients New Cases E	New Cases N.E.	Re-attendances E	Re-attendances N.E.	Total attendances	Confinements
1946	957	25	7244	10	3135	10414	122
1947	734	36	5693	19	3999	9747	100
1948	762	43	6727	47	2853	9670	94
1949	736	38	7289	59	3030	10416	114
1950	797	29	7147	54	3966	11196	110
1951	829	61	6287	83	3400	9831	95
1952	835	56	6119	98	3225	9498	98
1953	960	28	7347	30	3609	11014	98
1954	927	34	6518	70	3795	10417	120
1955	1469	40	6968	28	3446	10482	191



The average number of In-patient days at this hospital was 24.2 as compared with 28.9 in 1954, 30.7 in 1953, and 30.0 in 1952.

(iii) Cases treated at Nazerene Mission Health Centre.

Health Centre.	Out-patients.			
	New Cases		Re-attendances	
	E	N.E.	E	N.E.
Stegi x	30	3023	107	2859
Endingeni x	8	4738	4	2685
Pigg's Peak x	158	3370	86	1515
Mliba x	-	975	-	1196
Mafuteni	-	465	-	1682
Bhekinkosi (i)	-	283	-	169
Balegane	-	713	-	1012
Malinda	-	817	-	601
Ebenezer (Pilgrim Holiness Church)	6	2007	2	228
Mayiwane (ii)	-	385	-	574
Totals	202	16776	199	12521

("x" = subsidized by Government.
(i) = closed for 7 months
(ii) = closed for 7 months).

The total attendances at Health Centres controlled by the Nazerene Mission amounted to 29,698, as compared with 34,480 in 1954, 34,828 in 1953 and 27,481 in 1952.

(iv) Good Shepherd Hospital, Stegi.

The cases treated by the Medical Staff of this hospital are summarised in the following table:-

	In-patients	Out-patients			
		New Cases		Re-attendances	
		M	F	M	F
European Officials	9	96	99	36	27
European General Population	23	189	196	36	70
African Officials	9	551	338	102	93
General African Population	457	1496	2275	311	353
Eurafricans	32	113	119	43	37
Totals for 1955	530	2445	3027	528	580
		5472		1108	
Totals for 1954	594	6720		1162	
Totals for 1953	27	5963		1073	
Totals for 1952	-	5255		1653	
Totals for 1951	-	4084		4923	

The Mission Medical Officers paid 21 visits to Nomahasha and 41 to Big Bend, at which the following cases were treated:-

	Europeans				Africans			
	Nomahasha		Big Bend		Nomahasha		Big Bend	
	M	F	M	F	M	F	M	F
Out-patients, new cases	4	1	31	30	441	761	638	713
Out-patients, re-attendances	1		19		276		341	
Syphilis	-		-		19		33	
Gonorrhoea	-		-		116		59	
Syphilis, re-attendances	-		-		15		23	
Gonorrhoea, re-attendances	-		-		37		19	
Fresh cases of malaria	-		-		19		29	
New cases of Schistosomiasis	-		-		-		1	
New cases of Tuberculosis	-		-		16		14	

There were 2619 new out-patients and 637 re-attendances seen on these visits as compared with 1156 and 284 respectively in 1954.

VI. PRISONS.

The prisons at Mbabane, Hlatikulu and Bremersdorp were inspected at weekly intervals, and the general health of the prisoners has been good throughout the year. Systematic Sanitary insepctions of all prisons in the territory have been commenced.

VII. SCIENTIFIC.

Particulars of the laboratory work performed at the main centres in the territory are shown in the following table:-

	Public Health Laboratory Bremersdorp.	Mbabane Hospital	Hlatikulu Hospital.	Raleigh Fitkin Memorial Hospital.
Blood Films	6533	175	211	131
Total Blood Count	124	-	509	-
Throat Swab Cultures (C. diphtheriae)	58	-	-	-
Bacteriological Smears)	102	2505	917	6
Faeces)	-	464	747	86
Urines)	-	3024	2855	3321
Sputum)	-	683	782	680
Seriological Tests for Syphilis	6954	-	-	-
Identification of Adult mosquitos	365	-	-	-
Identification of mosquito larvae	810	-	-	-
Identification of snails	1150	-	-	-
Biochemical tests	16	-	-	-
Blood and stool and urine Cultures	165	-	-	-
Agglutination tests	236	-	-	-
Cerebrospinal fluids	-	-	-	-
Sedimentation Rates	-	-	951	-
Unspecified	-	-	367 (mainly differential count)	-
Totals 1955.	16513	6851	7339	4224
Totals 1954	14909	7220	5920	4592
1953	17538	8441	5660	4157
1952	11293	7215	3189	3475
1951	14077	5867	2066	4760
1950	14770	4279	1746	5981

continued.

	Public Health Laboratory Bremersdorp	Mbabane Hospital	Hlatikulu Hospital	Raleigh Fitkin Memorial Hospital.
Totals 1949	13688	3619	1220	4919
1948	15641	2865	1813	4912
1947	16428	2015	1427	3903

VIII. (a) MEDICO-LEGAL WORK, ETC.

	Mbabane, Pigg's Peak & Mankaiana District.	Hlatikulu District	Manzini & Stegi District	Total
Post mortem Examinations	24	23	31	78
Examinations for Assault etc.	64	151	178	393
Examination for Tax Exemption	81	194	64	339
Totals	169	368	273	810

(b) Radiological Examinations.

	Mbabane Hospital		Hlatikulu Hospital		Raleigh Fitkin Memorial Hospital		Total
	E	A	E	A	E	A	
Screenings	5	11	13	22	-	8	59
Radiographs	647	1168	77	400	99	748	3139
Totals	652	1179	90	422	99	756	3198

Once again it is my privilege to record my appreciation of the loyal and co-operative manner in which members of the staff, both European and African, carried out the varied and increasing duties assigned to them.

J. C. J. CALLANAN

DIRECTOR OF MEDICAL SERVICES.

ANNUAL REPORT 1955.

PUBLIC HEALTH LABORATORY, BREMERSDORP.

A. STAFF.

During November-December the Malaria Medical Officer attended an International Malaria Conference in Lagos, Nigeria, on the invitation of the World Health Organisation.

One African Malaria Assistant was suspended from duty pending the outcome of legal proceedings against him. This officer has been in the service for twelve years. The African staff is accordingly short of one African Malaria Assistant.

B. MALARIA CONTROL.

General. Rainfall in inches, as recorded at the Bremersdorp meteriological station, is shown in Table I. For comparison, average figures over the last five years are also listed.

TABLE I - MONTHLY RAINFALL AT BREMERSDORP.

	1955.	Average.
January	11.06	5.10
February	8.00	4.97
March	5.61	3.54
April	2.13	2.20
May	1.98	1.33
June	0.72	0.50
July	0.00	0.47
August	0.00	1.50
September	0.37	1.19
October	5.72	3.44
November	7.37	5.60
December	6.93	5.24
Total	49,89	35.08

From the above table it is evident that the rainfall during the year 1955 exceeded average by over 14 inches.

Transmission Season 1945/55. The transmission season was again characterised by extraordinarily heavy and prolonged rainfall throughout the territory. In accordance with this, heavy breeding of the malaria vector, now only A.gambiae, prevailed throughout the season and larvae of the vector were recoverable in all bushveld areas, the position being particularly marked on the bushveld irrigation schemes. The number of A. gambiae adults caught during the course of the regular test-sprayings of habitations was, however, exceedingly low, and on no occasion exceeded one mosquito per twenty huts tested. The majority of these check-sprayings revealed negative catches despite the fact that on many occasions checking was carried out by night as well as by day.

In this connection, one observation made over the last two years is worth mentioning. During the first years of malaria control in rural areas by adulticide methods, a very marked reduction was observed in A. gambiae in its larval state; this position, however, appears to have changed and the number of larvae now present in sprayed areas appears definitely to have increased. At this stage it is not possible for us to say whether this increase is due to some change in the behaviour of A. gambiae, i.e. an increasing exophily, or other factors; in order to ascertain the facts and interpret them into their correct value, more detailed entomological investigation is necessary.

Hut-Spraying Operations. During the course of the season, a total of 146,505 huts or rooms was sprayed with residual insecticide. Of this total, 92,469 huts received one spray, 50,065 a second spray and 4,338 a third spray. Included in the overall total are also 1,655 huts sprayed in highveld areas for non-malarious reasons. As in previous years, a 50% wettable powder B.H.C. with gamma content 10% was used. The dosage per square foot of surface was, however, stepped up to approximately 30 mgms.

Dieldrin. An experiment with Dieldrin, one treatment per season, was carried out in one large bushveld area (approximately 60 sq. miles) and in this area all huts, numbering 4,827, were treated with this insecticide. A 50% wettable powder was used, and the dosage employed was approximately 35 mgms per sq. foot. Entomological and clinical observations were made throughout the season in this Dieldrin treated area, as also in comparable areas sprayed with B.H.C. Results of these observations were published in a paper referred to at the end of this report. It may suffice here to mention that rural control in the Dieldrin area was found to be not quite as effective as that in our areas treated with B.H.C. The experiment with Dieldrin will have to be repeated on an even larger scale during the coming season (discussed at a later stage in this report).

Anti-larval work was confined to the townships of Stegi and Bremersdorp, and to irrigation schemes.

Transmission Season 1955. During the calendar year, an overal total of 6.367 blood-slides was examined. Of this total, 5,123 were examined during the transmission season and 1,244 during the non-transmission season (August to November). Of the transmission season slides,

3,529 were from children living in bushveld areas including the Dieldrin-sprayed area.
646 were from children living on irrigation schemes,
743 were from children living in middleveld areas and
205 were from children from outside the territory.

As in previous years, all these bloods were collected by the method of random-sampling.

In addition, a total of 166 blood slides were submitted by the hospitals and health-centres of the territory.

The results of these surveys are set out in the following tables II, III and IV

TABLE II - PARAISTE RATES IN BUSHVELD AREAS (B.H.C AND DIELDRIN) DURING THE TRANSMISSION AND NON-TRANSMISSION SEASONS 1955.

Age Group	Transmission Season		Non-Transmission Season	
	Total Exams.	% Positive.	Total Exams.	% Positive.
1 - 12 months	820	1.2%	407	0.7%
1 - 5 years	1,639	1.7%	526	1.2%
6 - 16 years	1,070	2.5%	311	0.5%
	3,529	1.8%	1,244	1.0%

TABLE III - PARASITE RATES IN MIDDLEVELD AREAS DURING THE TRANSMISSION SEASON 1955.

Age Group.	Total Examinations.	Percent Positive.
1 - 12 months	177	0.0%
1 - 5 years	342	0.0%
6 - 16 years	224	0.4% (1 case)

TABLE IV - PARASITE RATES ON IRRIGATION SCHEMES DURING THE TRANSMISSION SEASON 1955.

Age Group	Total Examinations.	Percent Positive
1 - 12 months	156	1.3%
1 - 5 years	326	5.5%
6 - 16 years	164	6.0%

Although the incidence of malaria appears to be higher on irrigation schemes than in the rural areas, it cannot with certainty be stated whether or not all the positive cases were infections actually contracted on the schemes. It has to be remembered that especially the Swaziland Irrigation Scheme (C.D.C), largest of the existing schemes, is in close proximity to uncontrolled areas on the territorial border. One may reasonably assume that quite a number of the infections may have been acquired in visiting the neighbouring territory. This assumption is supported by the fact that a high percentage of adults were found to be suffering from overt attacks of malaria, and we were informed by the Resident Medical Officer of the Swaziland Irrigation Scheme that a great proportion of these had been known to have visited areas outside the territory during or just prior to the season.

From Tables II and III the following observations can be made:-

(a) Despite abundant breeding of A.gambiae in the bushveld areas, interruption of malaria transmission during the season was almost complete. This may be illustrated in the fact that parasite rates in children during the transmission season did not materially exceed those observed in the non-transmission season.

(b) The overall parasite rate in Swazi children has now reached a very low level, and although a complete eradication of malaria inside the territory has not been achieved, we are now nearing this endpoint. In all children examined during the non-transmission season of 1955, an overall parasite rate of just 1% was recorded.

(c) Table III reveals the fact that malaria transmission in the middleveld areas was almost completely interrupted, only one positive case being found amongst the 743 examinations; even here, it is not at all certain whether this one infection was actually acquired in the middleveld area, the case could unfortunately not be traced.

To illustrate the malaria position during the transmission season of 1955 in more detail, Table V is set out giving respective child rates in the different districts.

TABLE V - CHILD PARASITE RATES - TRANSMISSION SEASON 1955.

Area.	Total Examinations.	Positive	Rate
A. Middleveld areas	743	1	0.1%
B. Bushveld areas			
1) Sipofaneni, Kubuta	540	2	0.4%
2) Croydon, Mliba	125	2	1.6%
3) Hereford	179	1	0.6%
4) Balegane, Border Gate	468	3	0.6%
5) Central bushveld areas	481	3	0.6%
6) Southern bushveld areas	390	4	1.0%
7) Ngomane, Nkalashane	401	25	6.2%
8) Stegi bushveld - Dieldrin	844	32	3.8%
9) Irrigation Schemes	672	45	6.7% +
10) Non-controlled areas adjoining eastern border	85	49	57.6%
11) Controlled areas in Transvaal, adjoining Swaziland northern border	120	4	3.3%
+ = including adults.			

From the foregoing table, it is evident that, with the exception of Area No. 7, malaria transmission in Swaziland was almost interrupted. With regard to Area No. 7, the position here is complicated by the fact that this area closely adjoins non-controlled areas in the neighbouring territory. A more thorough investigation into conditions in this area is contemplated during the coming season in order to obtain a clearer picture concerning the actual number of infections being contracted in the area and the number being brought in from elsewhere. Every positive case will be traced and investigated.

The relatively higher incidence of malaria in the area treated with Dieldrin is of interest; details of observations have been fully discussed in the publication listed at the end of this report.

Hospital Cases. Of the 166 blood slides submitted by local hospitals and health centres and the resident Medical Officer of the Swaziland Irrigation Scheme, 51 were found to be positive. With the exception of two, all infections were due to P. falciparum. The positive cases may be classified as follows:-

(a)	Infections proved to have been acquired outside the territory	16
(b)	Infections reported on irrigation schemes (of which an indefinite proportion may have been contracted in adjoining territory)	20
(c)	Infections acquired inside Swaziland	10
(d)	Infections of doubtful origin.	5
		51

Parasitology. The gametocyte rate, i.e. percentage gametocyte carriers in P. falciparum infections, appears not only to have increased but also to have now levelled out through the different age-groups including the adult group. The total gametocyte rate over all parasite-positive cases was 41% during the last season, (this rather high percentage is of little epidemiological significance in view of the fact that a number of total positive cases has dropped to a very low level.) With regard to levelling out over the age groups, a similar observation was made in con-

nection with parasite infestation; the decrease in the number of parasites per cu mm with increasing age of child, such a typical feature in the pre-control era, has disappeared and heavy infestation may be observed in all age groups through to the adult section.

These two observations are in my opinion indicative towards the fact that acquired immunity amongst the Swazi bushveld people has undoubtedly decreased over recent years.

Transmission Season 1955/56. Owing to the heavy rainfalls in the Spring, October to December 1955, control operations were commenced at the beginning of November; by the end of December practically all habitations in the bushveld areas had had their first treatment. As pointed out previously, the efficacy of Dieldrin as an adulticide under local rural conditions will again be investigated. It was decided to double the size of the experimental area; two bushveld areas, of approximately 600 and 400 sq. miles respectively and with a total of over 9,000 huts, were accordingly chosen and all huts in these areas have already been sprayed. A surface concentration, as previously, of 35 mgms per sq. foot has been used. It is hoped that the comparison of results will give a more comprehensible picture than last year.

Discontinuation of Control. For the first time since the inception of malaria control in Swaziland, an attempt will be made to discontinue imagocidal control in one large middleveld area. The area chosen is situated between Bremersdorp and the foothills of the highveld, population approximately 10,000;huts or structures approximately 7,000; malaria transmission in this area has been completely interrupted. Throughout the season a very thorough watch will be kept with regard to the presence of malaria vectors within the huts and outside and to the possible occurrence of any transmission in this area. Whether discontinuation of control is justifiable and can in future be extended to other areas in Swaziland will depend on the experience gained in this experiment.

The creation and maintenance of a reliable sentinel service in hitherto sprayed areas forms a new and additional task for the existing limited African Field Staff; it will also of necessity increase the work in the laboratory. Due consideration must be paid to this new form of work of the malaria control unit, it being absolutely essential in these unsprayed areas that a very thorough observation be kept of the people and full investigations be carried out throughout the season in regard to the possible re-appearance of malaria vectors inside the habitations.

Publications. During 1955 two papers were presented:-

(a) "A Comparison between the use of Dieldrin and Gammexane in the Control of Rural Malaria in Swaziland"

(b) "Organisation and Administration of Malaria Control in Swaziland", (on request of the World Health Organisation).

C. LABORATORY.

The total number of specimens examined in the laboratory was 7,655, as against 8,802 during 1954. The remarkable decline in the number of routine examinations relative to the numbers in 1953 and 1954 is explained by the fact that the Government Hospital in the Southern District (Hlatikulu) and health centres controlled by this hospital submitted 1,081 specimens less than in previous years. Other hospitals and health centres in the territory submitted their usual average number of specimens.

The following table gives detailed statistics of the examinations performed in the laboratory during 1955. Figures for 1954 are also listed for comparison.

TABLE VI - LABORATORY STATISTICS.

(i) General Examinations.	1955.	1954.
Serological tests for Syphilis	6954	8042
Agglutination tests - Widal, Bruc. etc	236	348
Cultures - blood, stool and urine	165	181
Cultures for Diphtheria	58	31
Blood counts	124	69
Biochemical tests	16	21
Microscopical	102	110
Total	7655	8802
(ii) Malaria and Bilharzia.		
Blood slides - field and survey	6367	3540
- hospitals	166	165
Entomological identifications		
- adult mosquitoes	365	127
- mosquito larvae	810	970
- snails	1150	1305
Total	8858	6107

Serological Tests for Syphilis. Of the total of 6,954 specimens for testing, 216 were haemolysed or otherwise unsuitable. Of the remaining 6,738, positive and doubtful reactions were as follows:-

Positive: 1,626 specimens = 24.1%
Doubtful: 402 specimens = 5.9%

The percentage positive and doubtful have fluctuated but slightly over the last four years.

Enteric Group of Fevers. 227 specimens for Widal test were submitted, a decrease of 121 over last year's figure. Analysis of positive reactions (diagnostic titre) is as follows:-

	1955	1954.
B. typhosus "H" and "O"	35	74
B. paratyphosus "A"	0	1
B. paratyphosus "B"	0	4
B. paratyphosus "C"	4	1

In addition, 165 specimens were received for culture. 25 of these yielded a growth of B. typhosus; one yielded a growth of B.paratyphosus C.

These figures represent a considerable decrease in the number of proved cases of enteric as against last year.

Weil Felix and Brucellosis Tests. No positive reactions were recorded.

Diphtheria. 58 throat swabs were submitted for examination. Of 11 of these, culture yielded a growth of organisms morphologically resembling C. diphtheriae, an increase of 8 cases over 1954.

In conclusion, I wish to express my thanks to Miss J. Bredell, B.Sc., for her invaluable assistance in the laboratory and in the compilation of the two papers mentioned.

GOVERNMENT HOSPITALS. APPENDIX I

RETURN OF DISEASES AND DEATHS (IN-PATIENTS) FOR THE YEAR 1955.

Intermediate List No.	Detailed List No.	Group Cases	Cases remaining in hospital from previous year.		Total Admissions		Total Deaths.		Total Cases Treated		Remaining in hospital at end of year		Out-patients.	
			E	A	E	A	E	A	E	A	E	A	E	A
A 1	001-108	Tuberculosis of respiratory system	-	6	1	84	-	13	1	80	-	10	2	82
A 2	010	Tuberculosis of meninges and central nervous system	-	-	-	1	-	-	-	1	-	-	-	-
A 3	011	Tuberculosis of intestines, peritoneum and mesenteric glands	-	1	-	2	1	-	-	3	-	-	2	4
A 4	012,013	Tuberculosis of bones and joints	-	2	-	41	-	1	-	39	-	4	-	13
A 5	014-019	Tuberculosis all other forms	-	5	1	49	-	2	1	53	-	1	-	38
A 6	020	Congenital syphilis	-	1	-	52	-	-	-	52	-	1	-	99
A 7	021	Early syphilis	-	5	-	73	-	-	-	78	-	-	1	264
A 8	024	Tabes dorsalis	-	-	-	-	-	-	-	-	-	-	-	-
A 9	025	General Paralysis of insane	-	-	-	-	-	-	-	-	-	-	-	-
A 10	022,023, 026-029	All other syphilis	-	-	-	45	-	-	-	42	-	3	-	306
A 11	030-035	Gonococcal infection	-	-	1	34	-	-	1	31	-	3	8	637
A 12	040	Typhoid fever	-	6	-	25	-	2	-	30	-	1	-	8
A 13	041,042	Paratyphoid fever and other Salmonella infections	-	-	-	2	-	-	-	2	-	-	-	-
A 14	043	Cholera	-	-	-	-	-	-	-	-	-	-	-	-
A 15	044	Brucellosis (undulant fever)	-	-	-	-	-	-	-	-	-	-	-	-
A 16(a)	045	Bacillary dysentery	-	3	3	63	-	1	3	66	-	-	13	143

Intermediate List No.	Detailed List No.	Group Causes	Cases remaining in hospital from previous year.		Total Admissions		Total Deaths		Total Cases Treated		Remaining in hospital at end of year		Out-patients.	
			E	A	E	A	E	A	E	A	E	A	E	A
A 16 (b)	046	Amoebiasis	-	1	1	49	-	1	1	49	-	1	3	19
A 16 (c)	047,048	Other unspecified forms of dysentery	-	-	-	2	-	1	-	1	-	1	2	-
A 17	050	Scarlet fever	-	-	-	-	-	-	-	-	-	-	1	-
A 18	051	Streptococcal sore throat	-	2	1	31	-	-	1	33	-	-	24	-
A 19	052	Erysipelas	-	-	-	-	-	-	-	-	-	-	-	-
A 20	053	Septicaemia and pyaemia	-	-	-	-	-	-	-	-	-	-	1	-
A 21	055	Diphtheria	-	-	-	8	-	1	-	8	-	-	1	5
A 22	056	Whooping cough	-	2	-	47	-	2	-	49	-	-	13	179
A 23	057	Meningococcal infections	-	-	3	4	1	1	3	4	-	-	1	-
A 24	058	Plague	-	-	-	-	-	-	-	-	-	-	-	-
A 25	060	Leprosy	-	-	-	2	-	-	-	2	-	-	-	16
A 26	061	Tetanus	-	-	-	1	-	-	-	1	-	-	-	-
A 27	062	Anthrax	-	-	-	-	-	-	-	-	-	-	-	-
A 28	080	Acute poliomyelitis	-	3	1	9	-	1	1	11	-	1	3	6
A 29	082	Acute infectious encephalitis	-	-	-	-	-	-	-	-	-	-	-	-
A 30	081,083	Late effects of acute poliomyelitis and acute infectious encephalitis.	-	-	-	2	-	-	-	2	-	-	-	-
A 31	084	Smallpox	-	-	-	-	-	-	-	-	-	-	-	-
A 32	085	Measles	-	-	3	68	-	2	3	68	-	-	2	156
A 33	091	Yellow Fever	-	-	-	-	-	-	-	-	-	-	-	-
A 34	092	Infectious hepatitis	-	-	3	3	-	-	3	2	-	1	1	4
A 35	094	Rabies	-	-	-	-	-	-	-	-	-	-	-	-

Intermediate List No.	Detailed List No.	Group Causes	Cases remaining in hospital from previous year.		Total Admissions		Total Deaths		Total Cases Treated		Remaining in hospital at end of year		Out-patients.	
			E	A	E	A	E	A	E	A	E	A	E	A
A 36(a)	100	Louse borne epidemic typhus	-	-	-	-	-	-	-	-	-	-	-	-
(b)	101	Flea borne endemic typhus (murine)	-	-	-	-	-	-	-	-	-	-	-	-
(c)	104	Tick borne epidemic typhus	-	-	1	1	-	-	1	1	-	-	13	-
(d)	105	Mite borne typhus	-	-	-	-	-	-	-	-	-	-	-	-
(e)	102,103 106-108	Other and unspecified typhus	-	-	-	-	-	-	-	-	-	-	-	-
A 37 (a)	110	Vivax malaria (benign tertian)	-	-	2	-	-	-	2	-	-	-	-	1
(b)	111	Malariae malaria (quartan)	-	-	-	-	-	-	-	-	-	-	-	-
(c)	112	Falciparum malaria (malignant tertian)	-	-	2	6	-	1	2	6	-	-	-	3
(d)	115	Black-water fever	-	-	-	-	-	-	-	-	-	-	-	-
(e)	113,114 116,117	Other and unspecified forms of malaria	-	-	-	4	-	-	-	4	-	-	5	3
A 38 (a)	123.0	Schistosomiasis intestinal (S.mansoni)	-	-	-	1	-	-	-	-	-	1	-	-
(b)	123.1	Schistosomiasis vesical (S.haematobium)	-	6	3	97	-	-	3	91	-	12	7	221
(c)	123.2	Schistomiasis pulmonary (S. japonicum)	-	-	-	-	-	-	-	-	-	-	-	-
(d)	123.3	Other and unspecified schistosomiasis	-	-	-	-	-	-	-	-	-	-	-	-
A 39	125	Hydatid disease	-	-	-	-	-	-	-	-	-	-	-	-
A 40 (a)	127	Onchocerciasis	-	-	-	-	-	-	-	-	-	-	-	-
(b)		Loiasis	-	-	-	-	-	-	-	-	-	-	-	-
(c)		Filariasis (bancrofti)	-	-	-	1	-	-	-	1	-	-	-	-
(d)		Other filariasis	-	-	-	-	-	-	-	-	-	-	-	-
A 41	129	Ankylostomiasis	-	-	-	-	-	-	-	-	-	-	-	-

Intermediate List No	Detailed List No.	Group Causes	Cases remaining in hospital from previous year.		Total admissions		Total Deaths		Total Cases Treated		Remaining in hospital at end of year.		Out-patients.	
			E	A	E	A	E	A	E	A	E	A	E	A
A 42 (a)	126	Tapeworm (infestation) and other cestoda infestations	-	-	3	17	-	-	3	17	-	-	15	313
(b)	-130.0	Ascariasis	-	-	1	18	-	-	1	18	-	-	6	182
(c)	130.3	Guinea worm (dracunculosis)	-	-	-	-	-	-	-	-	-	-	-	-
(d)	124,128 130.1,130.2	Other diseases due to helminths	-	-	-	2	-	-	-	2	-	-	9	18
A 43 (a)	037	Lymphogranuloma venereum	-	-	-	-	-	-	-	-	-	-	-	6
(b)	038	Granuloma inguinale, venereal	-	-	-	1	-	-	-	1	-	-	-	5
(c)	039	Other and unspecified venereal diseases	-	-	-	-	-	-	-	-	-	-	-	-
(d)	049	Food Poisoning infection and intoxication	-	-	-	-	-	-	-	-	-	-	-	-
(e)	071	Relapsing fever	-	-	-	-	-	-	-	-	-	-	-	-
(f)	072	Leptospirosis icterohaemorrhagica (Weil's disease)	-	-	-	-	-	-	-	-	-	-	-	-
(g)	073	Yaws	-	-	-	-	-	-	-	-	-	-	-	-
(h)	087	Chickenpox	-	-	-	5	-	-	-	5	-	-	15	34
(i)	090	Dengue	-	-	-	-	-	-	-	-	-	-	-	-
(j)	095	Trachoma	-	-	-	-	-	-	-	-	-	-	-	-
(k)	096.7	Sandfly fever	-	-	-	-	-	-	-	-	-	-	-	-
(l)	120	Leishmaniasis	-	-	-	-	-	-	-	-	-	-	-	-
(m)	121(a)	Trypanosomiasis gambiensis	-	-	-	-	-	-	-	-	-	-	-	-
	(b)	Trypanosomiasis rhodesiensis	-	-	-	-	-	-	-	-	-	-	-	-
	(c)	Other and unspecified Trypanosomiasis	-	-	-	-	-	-	-	-	-	-	-	-
(n)	131	Dermatophytosis	-	-	-	1	-	-	-	1	-	-	-	260

Intermediate List No.	Detailed List No.	Group Causes	Cases remaining in hospital from previous year.		Total Admissions		Total Deaths		Total Cases Treated		Remaining in hospital at end of year.		Out-patients.	
			E	A	E	A	E	A	E	A	E	A	E	A
A 43 (o)	135	Scabies	-	-	-	9	-	-	-	9	-	-	5	81
(p)	036,054,059 063,064,070, 074,086,088, 096.6,096.8, 098.9,122,132-134,136-138,	All other diseases classified as infective and parasitic	-	-	-	9	-	-	-	9	-	-	37	67
A 44	140-148	Malignant peoplasm ofbuccal cavity and pharynx	-	-	-	-	-	-	-	-	-	-	-	-
A 45	150	Malignant neoplasm of oesophagus	-	-	2	-	2	-	2	-	-	-	1	-
A 46	151	Malignant neoplasm of stomach	-	-	1	1	1	-	1	1	-	-	-	-
A 47	152-153	Malignant neoplasm of intestine, except rectum	-	-	-	1	-	-	-	1	-	-	-	-
A 48	154	Malignant neoplasm of rectum	-	-	-	-	-	-	-	-	-	-	-	-
A 49	161	Malignant neoplasm of larnyx	-	-	-	-	-	-	-	-	-	-	-	-
A 50	162,163	Malignant neoplasm of trachea, and of bronchus and lung not specified as secondary	-	-	-	-	-	-	-	-	-	-	-	-
A 51	170	Malignant neoplasm of breast	-	-	-	-	-	-	-	-	-	-	-	1
A 52	171	Malignant neoplasm of cervix uteri	-	-	-	5	-	-	-	4	-	1	-	-
A 53	172-174	Malignant neoplasm of other and unspecified parts of uterus	-	-	-	1	-	1	-	1	-	-	-	-
A 54	177	Malignant neoplasm of prostate	-	-	-	-	-	-	-	-	-	-	-	-
A 55	190-191	Malignant neoplasm of skin	1	-	-	-	-	-	1	-	-	-	1	1
A 56	196,197	Malignant neoplasm of bone and connective tissue	-	1	1	5	1	-	1	6	-	-	-	-

Intermediate List No.	Detailed List No.	Group Causes	Cases remaining in hospital from previous year.		Total Admissions		Total Deaths		Total Cases Treated		Remaining in hospital at end of year.		Out-patients.	
			E	A	E	A	E	A	E	A	E	A	E	A
A 57	155-160,164 165,175,176, 178-181,192-195,198,199.	Malignant neoplasm of all other and unspecified sites	-	1	1	9	1	2	1	10	-	-	2	-
A 58	204	Leukaemia and aleukaemia	-	-	-	-	-	-	-	-	-	-	-	-
A 59	200-203 205	Lymphosarcoma and other neoplasms of lymphatic and haematopoietic system	-	-	-	-	-	-	-	-	-	-	-	-
A 60	210-239	Benign neoplasms and neoplasms of unspecified nature	-	1	8	42	-	-	8	42	-	1	15	27
A 61	250,251	Nontoxic goitre	-	-	-	2	-	-	-	2	-	-	2	31
A 62	252	Thyrotoxicosis with or without goitre	-	-	-	2	-	-	-	2	-	-	-	16
A 63	260	Diabetes mellitus	-	-	-	1	-	-	-	1	-	-	2	-
A 64 (a)	280	Beriberi	-	-	-	2	-	-	-	2	-	-	-	-
(b)	281	Pellagra	-	-	-	21	-	-	-	20	-	1	-	53
(c)	282	Scurvy	-	2	-	-	-	-	-	2	-	-	-	5
(d)	283-286	Other deficiency states	-	2	1	134	-	22	1	130	-	6	17	121
A 65 (a)	290	Pernicious and other hyperchromic anaemias	-	-	1	3	-	-	1	3	-	-	1	-
(b)	291	Iron deficiency anaemia (Hypochromic)	-	-	2	-	-	-	2	-	-	-	3	27
(c)	292,293	Other specified and unspecified anaemias	-	-	-	4	-	-	-	4	-	-	4	25
A 66 (a)	241	Asthma	-	1	4	22	-	-	4	22	-	1	23	96
(b)	240,242-245, 253,254,270-277,287-289, 294-299	All other allergic disorders endocrine, metabolic and blood diseases.	-	-	-	3	-	-	-	3	-	-	21	41

Intermediate List No.	Detailed List No.	Group Causes	Cases remaining in hospital from previous year.		Total Admissions.		Total Deaths		Total Cases Treated		Remaining in hospital at end of year		Out-patients.	
			E	A	E	A	E	A	E	A	E	A	E	A
A 67	300,309	Psychoses	-	-	-	5	-	-	-	5	-	-	1	1
A 68	310-324,326	Psychoneuroses and disorders of personality	-	-	10	11	-	-	10	11	-	-	69	198
A 69	325	Mental deficiency	-	-	-	-	-	-	-	-	-	-	-	7
A 70	330-334	Vascular lesions affecting central nervous system	1	-	1	2	-	-	2	2	-	-	-	2
A 71	340	Non-meningococcal meningitis	-	-	-	2	-	-	-	2	-	-	-	1
A 72	345	Multiple sclerosis	-	-	-	-	-	-	-	-	-	-	-	-
A 73	353	Epilepsy	-	1	1	17	-	-	1	17	-	1	1	27
A 74	370-379	Inflammatory diseases of eye	-	3	2	104	-	-	2	105	-	2	55	428
A 75	385	Cataract	-	-	-	5	-	-	-	5	-	-	2	7
A 76	387	Glaucoma	-	-	-	-	-	-	-	-	-	-	-	-
A 77 (a)	390	Otitis externa	-	-	-	11	-	-	-	11	-	-	64	144
(b)	391-393	Otitis media and mastoiditis	-	-	1	53	-	-	1	53	-	-	30	206
A 78 (a)	380-384,386, 388,389	All other diseases and conditions of eye	-	-	-	12	-	-	-	11	-	1	13	61
(b)	341,344,350, 352,354,357, 360-369,395,398.	All other diseases of the nervous system and sense organs.	-	1	4	12	-	-	4	12	-	1	43	280
A 79	400-402	Rheumatic fever	-	-	-	11	-	-	-	11	-	-	1	17
A 80	410-416	Chronic rheumatic heart disease	-	2	2	25	-	-	1	27	1	-	2	32
A 81	420-422	Arteriosclerotic and degenerative heart disease	-	-	1	11	1	-	1	7	-	4	13	4

Intermediate List No.	Detailed List No.	Group Causes	Cases remaining in hospital from previous year.		Total Admissions		Total Deaths		Total Cases Treated		Remaining in hospital at end of year.		Out-patients.	
			E	A	E	A	E	A	E	A	E	A	E	A
A 82	430-434	Other diseases of heart	-	-	6	28	1	7	6	25	-	3	11	90
A 83	440-443	Hypertension with heart disease	-	-	4	5	-	-	4	4	-	1	4	3
A 84	444-447	Hypertension without mention of heart	-	1	2	2	-	-	2	3	-	-	10	8
A 85	450-456	Diseases of arteries	-	-	2	2	-	-	2	2	-	-	2	3
A 86	460-468	Other diseases of circulatory system	-	-	3	16	-	-	3	16	-	-	57	33
A 87	470-475	Acute upper respiratory infections	-	2	5	18	-	-	5	20	-	-	235	590
A 88	480-483	Influenza	-	2	6	91	-	1	6	93	-	-	101	569
A 89	490	Lobar pneumonia	-	7	6	115	-	2	6	121	-	1	3	35
A 90	491	Bronchopneumonia	1	5	4	233	-	4	5	235	-	3	5	179
A 91	492-493	Primary atypical, other and unspecified pneumonia	-	-	2	3	-	-	2	3	-	-	5	2
A 92	500	Acute bronchitis	-	6	5	132	-	3	5	136	-	2	92	1656
A 93	501,502	Bronchitis, chronic and unqualified	-	-	-	39	-	1	-	39	-	-	16	1144
A 94	510	Hypertrophy of tonsils and adenoids	-	1	11	38	-	-	11	39	-	-	75	168
A 95	518,521	Empyema and abcess of lung	-	-	-	1	-	1	-	1	-	-	-	1
A 96	519	Pleurisy	-	1	2	24	-	-	2	25	-	-	2	24
A 97 (a)	523	Pneumonoconiosis	-	1	-	7	-	-	-	8	-	-	-	13
(b)	511-517,520-522,524-527	All other reppiratory diseases	-	-	-	9	-	1	-	9	-	-	14	48
A 98 (a)	530	Dental caries	-	2	3	8	-	-	3	9	-1	1	82	998
(b)	531-535	All other diseases of teeth and supporting structures	-	-	2	34	-	-	2	34	-	1	31	178

Intermediate List No.	Detailed List No.	Group Causes	Cases remaining in hospital from previous year.		Total Admission.		Total Deaths		Total Cases Treated		Remaining in hospital at end of year.		Out-patients.	
			E	A	E	A	E	A	E	A	E	A	E	A
A 99	540	Ulcer of stomach	-	-	-	3	-	-	-	2	-	1	10	-
A 100	541	Ulcer of duodenum	-	-	1	5	-	-	1	5	-	-	10	-
A 101	543	Gastritis and duodenitis	-	3	2	21	-	-	2	24	2	-	29	509
A 102	550-553	Appendicitis	-	1	18	9	-	-	18	10	-	-	22	17
A 103	560-561,570	Intestinal obstruction and hernia	-	2	2	22	-	2	2	24	-	-	6	16
A 104 (a)	571.0	Gastro-enteritis and colitis between 4 weeks and 2 years	-	8	4	182	-	7	4	187	-	3	26	810
(b)	571.1	Gastro-enteritis and colitis ages 2 years and over	-	2	8	54	-	2	8	54	-	2	110	439
(c)	572	Chronic enteritis and ulcerative colitis	-	-	-	4	-	-	-	4	-	-	-	1
A 105	581	Cirrhosis of liver	-	-	1	10	1	2	1	9	-	-	1	5
A 106	584,585	Cholelithiasis andcholecystitis	-	-	4	3	-	-	4	3	-	-	10	-
A 107	536-539,542, 544,545,573-580,582,583, 586,587	Other disease of digestive system	-	2	8	50	-	2	8	50	-	2	84	567
A 108	590	Acute nephritis	-	-	-	7	-	-	-	7	-	-	-	12
A 109	591-594	Chronic, other and unspecified nephritis	-	2	-	4	-	-	-	6	-	-	3	4
A 110	600	Infections of kidney	-	-	1	4	-	-	1	4	-	-	6	6
A 111	602,604	Calculi of urinary system	-	-	1	3	-	-	1	3	-	-	5	1
A 112	610	Hyperplasia of prostate	-	1	1	2	-	1	1	3	-	-	2	-
A 113	620,621	Diseases of breast	-	-	-	25	-	-	-	24	-	1	9	32
A 114 (a)	613	Hydrocele	-	-	-	5	-	-	-	5	-	-	-	24
(b)	634	Disorders of menstruation	-	-	2	27	-	-	2	26	-	1	30	272

Intermediate List No.	Detailed List No.	Group Causes	Cases remaining in hospital from previous year		Total Admissions		Total Deaths		Total Cases Treated		Remaining in hospital at end of year.		Out-patients.	
			E	A	E	A	E	A	E	A	E	A	E	A
A 114 (c)	601,603,605-609,611,612,614-617,622-633,635-637	All other diseases of the genito-urinary system	-	-	14	190	-	4	14	184	-	6	102	1088
A 115	640,641,681,682,684	Sepsis of pregnancy, childbirth and the puererium	-	-	-	6	-	-	-	6	-	-	-	-
A 116	642,652 685,686	Toxaemias of pregnancy and the puer-perium	-	-	-	1	-	-	-	1	-	-	2	-
A 117	643,644 670-672	Haemorrhage of pregnancy and childbirth	-	-	-	4	-	-	-	3	-	1	-	-
A 118	650	Abortion without mention of spesis or toxaemia	-	1	7	32	-	-	7	31	-	2	6	29
A 119	651	Abortion with sepsis	-	1	-	2	-	-	-	3	-	-	-	2
A 120 (a)	645-649,673-680,683 687-689	Other complications of pregnancy, child-birth and the puerperium	-	2	2	115	-	3	2	113	-	4	4	30
(b)	660	Delivery without complications	-	44	40	639	-	1	40	652	-	31	48	808
A 121	690-698	Infections of skin and subcutaneous tissue	-	11	5	208	-	-	5	213	-	6	275	338
A 122	720-725	Arthritis and spondylitis	-	2	1	29	-	-	1	31	-	-	12	101
A 123	726,727	Muscular rheumatism and rheumatism unspecified	-	1	-	25	-	-	-	25	-	1	45	495
A 124	730	Osteomyelitis and periostitis	-	-	1	35	-	-	1	31	-	4	6	10
A 125	737,745-749	Ankylosis and acquired musculoskeletal deformities	-	-	-	22	-	-	-	21	-	1	2	9
A 126 (a)	745	Chronic ulcer of skin (including tropical ulcer)	-	-	-	4	-	-	-	4	-	-	-	4

Intermediate List No.	Detailed List No.	Group Causes	Cases remaining in hospital from previous year		Total Admissions		Total Deaths		Total Cases Treated		Remaining in hospital at end of year.		Out-patients.	
			E	A	E	A	E	A	E	A	E	A	E	A
A 126 (b)	700-714,716	All other diseases of the skin	-	-	1	22	-	-	1	20	-	2	47	311
(c)	731-736, 738-744	All other diseases of musculoskeletal system	-	-	2	14	-	-	2	14	-	-	107	31
A 127	751	Spina bifida and meningocele	-	-	-	2	-	1	-	1	-	1	-	-
A 128	754	Congenital malformations of circulatory system	-	-	-	-	-	-	-	-	-	-	-	-
A 129	750,752,753	All other congenital malformations	-	-	-	10	-	2	-	10	-	-	1	11
A 130	760,761	Birth injuries	-	-	-	1	-	-	-	1	-	-	-	-
A 131	762	Postnatal asphyxia and atelectasis	-	-	-	-	-	-	-	-	-	-	-	-
A 132 (a)	764	Diarrhoea of newborn (under 4 weeks)	-	-	-	-	-	-	-	-	-	-	-	8
(b)	765	Ophthalmia neonatorum	-	-	-	9	-	-	-	9	-	-	-	5
(c)	763,766-768,	Other infections of new born	-	-	-	2	-	-	-	-	-	2	-	-
A 133	770	Haemolytic disease of newborn	-	-	-	-	-	-	-	-	-	-	4	-
A 134	7691771,772	All other defined diseases of early infancy	-	-	1	3	-	-	1	3	-	-	-	62
A 135	773-776	Ill-defined diseases peculiar to early infancy, and immaturity unqualified	-	-	-	12	-	3	-	12	-	-	-	3
A 136	794	Senility without mention of psychosis	-	-	-	-	-	-	-	-	-	-	-	-
A 137 (a)	788.8	Pyrexia of unknown origin	1	-	10	19	-	1	11	19	-	-	12	29
(b)	793,642,652	Observation without need for further medical care	-	2	-	23	-	-	-	25	-	-	365	2158
(c)	780-787,788.1, 788.7-788.9, 789-792,795	All other ill-defined causes of morbidity	-	-	3	10	-	1	3	10	-	-	23	28

Intermediate List No.	Detailed List No.	Group Causes	Cases remaining in hospital from previous year		Total Admissions.		Total Deaths		Total Cases Treated		Remaining in hospital at end of year.		Out-patients.	
			E	A	E	A	E	A	E	A	E	A	E	A
		"E" CODE ALTERNATIVE CLASSIFICATION OF ACCIDENTS POISONINGS, AND VIOLENCE (EXTERNAL CAUSE)												
AE 138	E810-E835	Motor vehicle accidents	-	1	5	24	-	1	5	25	-	-	14	17
AE 139	E800-E802, E840-E866	Other transport accidents	-	1	1	26	-	1	1	25	-	2	-	35
AE 140	E870-E895	Accidental poisoning	-	1	1	25	-	2	1	26	-	-	5	5
AE 141	E900-E904	Accidental falls	-	10	16	222	-	1	16	217	-	15	99	333
AE 142	E612	Accident caused by machinery	-	1	2	25	-	-	2	25	-	1	3	13
AE 143	E916	Accident caused by fire and explosion of combustible material	-	3	-	59	-	6	-	56	-	6	5	66
AE 144	E917-E918	Accident caused by hot substance, corrosive liquid, steam and radiation	-	1	-	31	-	-	-	30	-	2	8	56
AE 145	E919	Accident caused by firearm	-	-	-	1	-	-	-	1	-	-	-	3
AE 146	E929	Accidental drowning and submersion	-	-	-	-	-	-	-	-	-	-	-	-
AE 147	E910,E915,E913-E915,E920-E928, E930-E965	All other accidental causes	-	3	7	181	-	2	7	181	-	3	129	611
AE 148	E970-E979	Suicide and self-inflicted injury	-	-	-	4	-	-	-	4	-	-	2	2
AE149	E980-E985	Homicide and injury purposely inflicted on other persons (not in war)	-	9	1	206	-	5	1	206	-	9	1	192
AE 150	E990-E999	Injury resulting from operations of war	-	-	-	-	-	-	-	-	-	-	-	-
		GRAND TOTAL	4	201	309	4896	8	124	312	4917	1	180	3012	20367
		ATTENDANTS	-	27	12	734	-	-	12	745	-	16	-	-
		RE-ATTENDANCES	-	-	-	-	-	-	-	-	-	-	2815	13078

Intermediate List No.	Detailed List No.	Group Causes	Cases remaining in hospital from previous year.		Total Admissions		Total Deaths		Total Cases Treated		Remaining in hospital at end of year		Out-patients	
			E	A	E	A	E	A	E	A	E	A	E	A
		"N" CODE ALTERNATIVE CLASSIFICATION OF ACCIDENTS, POISONINGS, AND VIOLENCE (NATURE OF INJURY)												
AN 138	N800-N804	Fracture of skull	-	1	2	28	-	3	2	25	-	4	1	4
AN 139	N805-N809	Fracture of spine and trunk	-	1	1	11	-	-	1	12	-	-	10	7
AN 140	N810-N829	Fracture of limbs	-	9	10	228	-	-	10	223	-	14	40	104
AN 141	N830-N839	Dislocation without fracture	-	1	3	12	-	-	3	13	-	-	-	11
AN 142	N840-N848	Sprains and strains of joints and adjacent muscles	-	1	3	31	-	-	3	31	-	1	62	202
AN 143	N850-N856	Head injury (excluding fracture)	-	2	-	43	-	1	-	43	-	1	12	63
AN 144	N860-N869	Internal injury of chest, abdomen and pelvis	-	-	2	21	-	2	2	21	-	-	-	19
AN 145	N870-N908	Laceration and open wounds	-	9	7	284	-	4	7	245	-	8	75	513
AN 146	N910-N929	Superficial injury, contusion and crushing with intact skin surface	-	-	3	30	-	-	3	29	-	1	22	170
AN 147	N930-N936	Effects of foreign body entering through orifice	-	1	1	21	-	-	1	22	-	-	19	79
AN 148	N940-N949	Burns	-	3	1	93	-	5	1	88	-	8	13	130
AN 149	N960-N979	Effects of poisons	-	1	-	35	-	2	-	36	-	-	8	4
AN 150	N950-N959, N980-N999	All other and unspecified effects of external causes	-	1	-	19	-	-	-	20	-	-	-	27

APPENDIX II.

METEORLOGICAL OBSERVATIONS.

SWAZILAND 1955.

Station - Mbabane, (Highveld).

Alt. 3,700 feet.

Month	Air Temperature °C				Rainfall.	
	Mean Max.	Mean Min.	Actual Max.	Actual Min.	Total	No. of days.
January	23.7	14.2	28.3	10.0	11.67	14
February	23.2	14.0	27.4	11.3	9.98	15
March	21.2	13.5	26.4	9.4	8.37	14
April	22.6	12.5	28.3	9.2	2.30	8
May	20.3	9.9	24.3	6.1	2.52	5
June	18.9	8.0	23.0	4.6	0.91	3
July	20.6	7.4	25.1	5.0	0.00	0
August		No records				
September		No records				
October	22.9	9.5	34.0	4.3	5.87	16
November	23.2	10.1	35.0	4.0	9.90	14
December	23.4	12.2	31.3	8.6	9.51	19
Totals	71.2°F	52.0°F	95.0°F	39.2°F	60.95	108

/Average 56.46

Station - Bremersdorp (Middleveld)

Month	Air Temperature °C				Rainfall	
	Mean Max.	Mean Min.	Actual Max.	Actual Min.	Total	No. of days
January	27.2	18.2	32.6	14.5	11.06	17
February	27.3	18.3	31.8	15.8	8.00	18
March	27.1	16.5	3744	12.4	5.61	11
April	26.7	15.0	32.5	11.9	2.13	9
May	24.5	13.5	29.5	6.5	1.94	7
June	23.0	11.9	28.4	4.5	0.72	3
July	25.0	7.4	30.0	4.0	0.0	0
August	25.6	8.9	[illegible]	2.6	0.0	0
September	26.3	11.0	38.6	4.3	0.37	4
October	24.8	13.5	34.4	6.8	5.7	18
November	24.5	14.5	38.6	12.3	7.37	17
December	36.1	17.1	32.3	14.0	6.93	24
Totals	78.3°F	56.8°F	101.5°F	36.7°F	52.83	128

/Average 33.78

METEORLOGICAL OBSERVATIONS.

SWAZILAND : 1955.

Station - Hlatikulu (Highveld)

Alt. 3890 feet.

Month.	Air Temperature °C				Rainfall	
	Mean Max.	Mean Min.	Actual Max.	Actual Min.	Total	No. of days.
January	21.3	13.9	26.5	10.5	11.83	19
February	21.1	14.4	26.0	10.0	4.50	14
March	20.5	13.7	26.5	10.0	9.49	11
April	20.6	12.6	28.0	8.5	3.01	9
May		No	records			
June	16.5	8.8	22.5	5.0	0.65	4
July	18.6	9.9	25.0	3.2	0.0	0
August	18.8	8.2	27.5	3.0	0.09	2
September	20.9	9.08	32.0	4.0	0.71	7
October	21.4	11.1	30.2	5.3	10.22	17
November	19.4	11.9	22.5	6.0	7.60	14
December	21.0	14.9	28.5	9.0	6.60	19
Totals	68°F	53°F	92.3°F	37.4°F	54.70	116.
						/Average 45.85

Station - Stegi (Lowveld)

Month	Air Temperature °C				Rainfall	
	Mean Max.	Mean Min	Actual Max.	Actual Min.	Total	No. of days.
January	36.3	17.0	44.1	12.2	11.47	12
February	27.5	16.7	31.5	14.0	6.81	13
March	33.2	10.9	24.0	15.1	5.59	13
April	23.0	13.7	34.6	10.2	2.11	6
May	21.6	12.0	27.6	8.9	2.52	7
June	20.4	10.7	25.6	8.1	0.42	7
July	21.6	10.9	28.0	7.0	0.0	0
August	23.3	11.4	31.5	5.5	0.0	0
September	24.5	11.9	57.1	7.5	0.22	2
October	22.1	11.2	32.4	5.5	4.98	12
November	21.7	12.9	32.4	6.00	4.98	12
December	-	-	30.6	13.5	3.90	1
Totals	77°F	55.8°F	111.4°F	41.9°F	43.00	93
						/Average 29.61