1934

ANNUAL REPORT

SUDAN MEDICAL SERVICE

ON CIVIL MEDICAL WORK IN THE SUDAN.

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I N D E X

TABLES

Table - XII.

Receipts, In-patients, Out-patients Operations for the year 1923 :

Hospital or Dispensary	In-patients		Hospital	Stoppages	Out-patients		Sale of Medicines		Total Receipts		Operations	
	1922	1923	1922	1923	1922	1923	1922	1923	1922	1923	1922	1923
			£.m/ms.	£.m/ms.			£.m/ms.	£.m/ms.	£.m/ms.	£.m/ms.		
Khartoum	2089	2165	1315.573	1458.767	32692	32075	432.785	515.719	1748.358	1974.486	307	280
Omdurman	997	1030	549.581	475.684	20411	24966	399.370	532.209	948.951	1007.893	67	91
Atbara	1941	2510	924.502	959.233	29205	30170	493.375	532.775	1417.877	1492.008	202	176
Port Sudan	1276	1115	1028.502	1093.290	15787	16476	589.168	566.127	1617.670	1659.417	185	169
Suakin	188	230	118.848	76.417	8583	8056	129.785	117.264	248.633	193.681	21	7
Merowe	510	476	158.611	123.394	10527	15442	191.919	244.415	350.530	367.809	47	37
Dongola	260	350	71.277	107.790	13532	17140	82.447	98.221	153.724	206.011	38	36
Halfa	326	454	136.244	177.440	9701	10918	88.868	88.695	225.112	266.135	37	31
Dueim	340	255	217.133	297.590	8536	16063	295.130	225.020	512.263	522.610	44	16
Kedani	1951	1862	917.498	969.708	10008	7900	670.615	614.429	1588.113	1584.137	210	195
El-Obeid	1091	1075	549.146	541.357	8880	11377	312.825	400.294	861.971	941.651	107	91
Nahud	231	508	96.554	157.501	5251	6110	223.610	194.175	320.164	351.676	13	48
Kassala	455	532	171.554	205.621	14147	11974	283.013	405.755	454.567	611.376	112	75
Gedaref	178	302	75.686	77.622	5534	5021	95.710	95.935	171.396	173.557	12	6
Makwar	3432	2004	-	-	46909	44243	-	-	-	-	190	145
Singa	427	525	200.533	214.491	6726	9502	103.770	88.010	304.303	302.501	41	44
Malakal	384	902	148.184	248.619	11415	19301	200.542	250.428	348.726	499.047	117	156
Kosti	541	451	100.111	86.330	4225	4520	54.549	137.330	154.660	223.660	1	1
Khartoum North	480	735	-	75.750	12634	17911	217.088	187.017	217.088	262.767	-	30
Abu Hamed	192	211	30.937	38.390	3799	5312	28.008	19.540	58.945	57.930	-	-
Tokar	-	-	-	-	5085	4652	75.198	120.047	75.198	120.047	-	-
Port Sudan Prison	147	122	-	-	3004	2113	-	-	-	-	-	-
Khartoum North Prison	273	358	-	-	6265	6286	-	-	-	-	4	10
Abri	-	-	.535	-	2402	761	24.285	7.360	24.820	7.360	-	-
Debba	-	-	-	-	5286	5946	36.002	46.935	36.002	46.935	-	-
Gebel Aulia	33	-	-	-	3907	5090	-	-	-	-	-	-
Korti(Nuri)	-	-	-	-	13761	7352	29.660	28.665	29.660	28.665	-	-
Um Ruaba	-	-	-	2.453	4452	3494	69.205	92.160	69.205	94.613	-	-
Argo	-	-	-	-	8845	6403	51.695	50.130	51.695	50.130	-	-
Berber	-	-	-	-	3683	5411	56.733	48.100	56.733	48.100	-	-
Damer	-	-	-	-	2712	3512	16.691	16.930	16.691	16.930	-	-
Sinkat	-	-	-	-	-	-	37.260	39.302	37.260	39.302	-	-
Dongonab	-	-	-	-	5126	449	6.940	1.735	6.940	1.735	-	-
Sennar	-	-	-	-	3981	-	30.590	20.405	30.590	20.405	-	-
Zeidab	-	-	-	-	1168	418	22.757	4.350	22.757	4.350	-	-
Gambeila	-	-	-	-	1221	3229	9.030	23.480	9.030	23.480	-	-
Kareima	-	-	-	-	5511	9451	20.007	34.180	20.007	34.180	-	-
Hag Abdalla	-	-	-	-	-	-	-	-	-	-	-	-
Rashad	-	-	-	6.094	816	2269	12.507	122.581	12.507	128.675	-	-
Renk	-	-	-	-	-	3429	8.966	30.565	8.966	30.565	-	-
Rufaa	-	-	-	-	-	2378	-	2.900	-	2.900	-	-
Kamlin	-	-	-	-	-	1051	-	-	-	-	-	-
Kadik Managil	-	-	-	-	-	692	-	-	-	-	-	-
Gebeit	-	-	-	-	-	-	2.000	1.325	2.000	1.325	-	-
Lady Baker	-	-	-	-	-	-	38.475	55.255	38.475	55.255	-	-
Kodok	-	-	-	-	-	-	.800	-	.800	-	-	-
Kora	-	-	-	-	-	-	-	3.020	-	3.020	-	-
Midwifery School	-	-	-	3.800	-	-	-	-	-	3.800	-	-
Nefiza	-	-	-	-	-	-	-	1.025	-	1.025	-	-
Headquarters	-	-	-	-	-	-	-	-	341.000	29.335	-	-
Quarantine	-	-	-	-	-	-	-	-	613.000	829.710	-	-
Stamped Papers	-	-	-	-	-	-	-	-	132.000	147.080	-	-
Fines	-	-	-	-	-	-	-	-	15.000	26.016	-	-
Miscellaneous	-	-	-	-	-	-	-	-	-	107.990	-	-
Total	17742	18172	6811.009	7397.341	355727	388863	5441.378	6063.808	13353.387	14601.580	1755	1624

T a b l e - XI.

Medical Boards and Examinations held during the year 1923.

Place	Sick Leave		Service south		Invalid-ing		Pension Service		Permanent Service		Temporary Service		Check Examination	Assessment of age	Total	Unclassified Employees		Grand Total
	Recd.	Not recd	Fit	Un-fit	Recd.	Not recd.	Fit	Un-fit	Fit	Un-fit	Fit	Un-fit				Fit	Un-fit	
Khartoum	13	5	48	16	62	28	70	25	130	26	89	15	31	15	573	122	53	748
Atbara	7	1	9	2	55	1	34	13	34	11	2	-	14	6	189	202	66	457
Port Sudan	1	-	7	2	23	3	14	6	12	1	-	-	10	1	80	134	28	242
Wad Medani	1	-	19	8	37	4	15	-	9	1	1	-	2	-	97	68	19	184
Omdurman	5	-	-	-	1	-	-	-	-	-	1	-	-	-	7	5	2	14
Merowe	-	-	16	1	1	1	3	4	1	-	-	-	-	2	27	51	4	82
Singa	-	-	-	-	1	-	3	2	4	1	-	-	-	-	11	38	-	49
Makwar	-	-	-	-	2	-	-	-	4	5	-	-	1	-	12	10	4	26
Malakal	-	-	-	-	6	-	-	-	-	-	-	-	-	1	7	13	-	20
El-Obeid	-	1	-	-	2	-	4	-	1	2	11	1	-	-	22	14	1	37
Halfa	-	-	-	-	-	1	8	-	3	-	-	-	-	1	13	19	10	42
El-Fasher	1	1	-	-	-	-	4	1	-	-	-	-	-	-	7	-	-	7
Kassala	-	-	-	1	-	-	5	-	2	-	-	-	-	-	8	24	-	32
Dongola	-	-	-	-	1	-	4	-	-	-	-	-	-	-	5	33	1	39
Nahud	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	21	-	22
Talodi	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1	-	-	1
Mongalla	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1	-	-	1
Wau	-	-	-	-	-	-	1	-	2	-	-	-	-	-	3	-	-	3
El-Dueim	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1	20	14	35
Tokar	-	-	-	-	2	2	-	-	-	-	-	-	-	-	2	-	-	2
Cairo +	63	11	-	-	1	-	-	-	15	3	4	-	-	-	97	-	-	97
Egypt (other than Cairo)	2	-	-	-	-	-	-	-	1	-	-	-	-	-	3	-	-	3
Jerusalem	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1
Syria +	15	-	-	-	1	-	-	-	-	-	-	-	-	-	16	-	-	16
Greece	5	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	5
Germany	2	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	2
India	4	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	4
London +	23	3	-	-	2	-	-	-	67	1	-	-	-	-	96	-	-	96
Total =	143	22	99	30	195	40	168	51	285	51	109	16	58	24	1291	774	202	2267

+ By Sudan Govt. Representatives.

T a b l e - X.

shows number of in-patients and out-patients and sale of medicines of civil patients treated in Military Hospitals 1923

Hospital or Dispensary	In-patients 1922	In-patients 1923	Out-patients 1922	Out-patients 1923	Hospital Stoppages & sale of drugs. 1922	Hospital Stoppages & sale of drugs. 1923
					£.m/ms.	£.m/ms.
Shendi	83	68	1786	3364	28.995	27.130
Roseires	100	130	1572	1533	38.560	43.340
Bara	58	74	998	1973	16.154	12.760
Talodi	108	204	6045	4571	49.800	53.125
Dilling	61	48	913	690	11.225	21.905
Gallabat	98	40	1813	554	6.250	,050
Mongalla	657	632	4049	4225	97.827	78.856
Torit	180	231	4160	1872	45.065	23.265
Yei	558	415	156	717	73.530	56.525
Kajo-Kaji	491	273	836	2782	13.575	31.380
Wau	271	500	6797	6205	49.065	128.171
Tembura	160	216	-	5375	-	2.040
Raga	91	130	2939	3606	8.440	13.800
Rumbek	354	196	18258	9063	28.450	86.974
Akobo	80	49	2043	5530	5.771	14.197
Fasher	545	493	5861	5082	244.340	210.888
Nasser	3	-	61	-	3.112	1.970
Zalingi	10	2	4	-	16.350	13.095
Aweil	52	129	487	2020	-	4.855
Nimule	-	9	1158	932	-	18.810
Kurmuk	-	49	-	1704	15.905	12.840
Kadugli	-	13	xx	338	-	9.180
Yambio	-	16	-	5679	-	1.600
Geneina	-	88	-	907	-	7.595
Kebkebia	-	7	-	-	-	-
Nyala	-	-	-	-	18.130	18.515
Kuttum	-	-	-	-	9.460	7.805
Total	3960	4012	39936	68712	780.034	890.671

T a b l e - IX.

Average daily constantly sick during 1923

Hospital or Dispensary	No. of beds equipped	1922 Oct.	Nov.	Dec.	1923 Jany.	Feb.	March	April	May	June	July	Aug.	Sept.	Average by month by hospital
Khartoum	80	99.1	71.6	66.8	73.0	65.2	71.8	63.8	54.0	53.0	50.0	53.7	58.5	780.5
Omdurman	70	45.3	32.5	32.4	35.3	39.5	31.8	35.1	34.1	36.1	31.1	30.5	31.5	415.2
Atbara	70	58.1	55.7	60.4	43.7	50.0	54.4	64.2	78.5	83.3	87.3	78.0	77.8	791.4
Port Sudan	74	27.4	34.8	39.8	38.5	39.9	34.5	39.9	53.3	43.9	34.5	25.9	25.3	417.7
Suakin	17	10.4	10.8	6.7	7.5	10.1	8.3	4.9	5.1	5.4	6.3	5.0	9.0	83.5
Merowe	31	15.0	12.1	11.7	12.8	17.5	14.9	22.1	15.6	25.5	22.5	18.5	10.9	199.1
Dongola	21	11.8	11.1	11.5	10.7	8.8	9.2	12.0	10.5	13.7	16.4	12.0	10.1	137.8
Halfa	28	10.6	11.4	7.7	8.7	9.9	12.4	9.2	12.1	17.7	13.2	12.6	12.4	137.9
Dueim	32	14.2	13.1	13.0	16.0	15.2	12.4	8.9	9.9	12.9	8.7	7.5	8.8	140.6
Medani	93	87.3	72.8	67.3	73.5	64.5	56.4	55.5	57.7	67.7	58.7	58.4	64.9	784.7
El-Obeid	47	42.6	38.1	26.9	30.4	39.5	30.9	45.4	46.6	34.1	32.6	27.2	32.6	426.9
Nahud	33	17.5	15.0	11.4	18.7	27.8	25.1	24.8	23.7	14.0	12.6	15.6	18.1	224.3
Kassala	26	20.4	21.7	22.3	28.7	24.6	18.1	23.4	24.9	23.4	19.9	21.2	25.0	273.6
Gedaref	15	8.2	10.0	10.6	8.5	9.8	9.2	10.3	13.2	13.0	12.0	14.1	12.8	131.5
Makwar	113	38.9	39.2	30.4	45.3	46.7	64.7	60.7	63.4	51.6	37.8	37.2	55.4	571.3
Singa	32	16.9	11.1	8.9	17.7	17.2	16.0	16.8	15.5	20.1	18.6	20.2	15.9	194.9
Malakal	22	23.0	21.1	20.8	20.8	21.4	26.8	18.7	20.5	29.7	29.3	22.6	20.6	275.3
Kosti	18	15.5	17.1	14.3	15.8	14.6	9.0	10.4	10.8	12.4	6.0	9.3	9.2	144.4
Khartoum North	12	15.1	18.7	40.4	35.7	30.3	29.2	33.6	28.3	29.3	32.5	39.2	43.0	375.3
Abu Hamed	18	3.3	6.5	3.8	6.6	11.2	3.8	7.4	3.6	3.9	4.4	6.4	6.4	67.3
Port Sudan Prison	12	2.4	4.3	5.1	3.0	2.7	1.5	2.6	4.3	4.8	6.2	4.2	0.7	41.8
Khartoum North "	17	9.6	17.3	26.2	35.2	30.6	20.9	21.1	16.0	17.2	12.1	17.9	22.4	246.5
Total No. of beds	881													
Average monthly sick all hospitals.		592.6	546.0	538.4	585.9	597.0	561.3	590.8	581.6	612.7	552.7	537.2	571.3	6867.5

Average monthly constantly sick = 572.29

ANNUAL REPORT

SUDAN MEDICAL SERVICE

ON CIVIL MEDICAL WORK IN THE

SUDAN FOR THE YEAR 1924

GENERAL CONSIDERATIONS AND PROGRESS:-

Considerable progress has been made along the lines laid down in last year's annual report, with a view to bringing medical help to the main mass of the population for the most part situated out of reach of the hospitals.

It is hoped thus not only to improve the general health and efficiency of the population and to prevent loss of life from endemic and epidemic diseases, but also in the less sophisticated areas by gaining the confidence of the people, to materially aid the administration and the development of the country.(See Page 30)

DISPENSARIES AND ASSISTANT MEDICAL OFFICERS:-

Seven Assistant Medical Officers were passed out in the early part of this year and sent to dispensaries in various parts of the Sudan.

New dispensaries have been opened at Goz-Rageb in Kassala Province on the Atbara and at Karkoj in the Fung Province; the former to reach the large number of nomad Arabs who come down to the river from the Butana during the dry season, the latter to reach the people in a populous district which is becoming an important cotton growing area and where Kala-Azar, Malaria, Bilharziasis and Ankylostomiasis are endemic.

Two travelling dispensaries have been opened at Hillet Nuer and Abwong respectively, the Assistant Medical Officers in question travelling round with the District Commissioners and treating all sick who may collect. The sick treated on these tours are for the most part cases of Syphilis and Yaws with a certain percentage of wounds, ulcers and eye diseases.

Dispensaries are also in course of construction at Talodi and Gebelein and will be opened at the beginning of next year.

Twenty small dispensaries are in course of construction or already constructed in the irrigated area of the Gezira - one dispensary being placed in the centre of each 5,000 feddan block. Twenty Sanitary Hakims are in course of training for work in these dispensaries. Three of these dispensaries have already been opened and are doing very good work. The time of the Sanitary Hakims of these dispensaries will be divided between anti-mosquito work and the treatment of sick.

The manner in which medical work is being pushed out into the less accessible parts of the Sudan is shewn on the attached scheme "A".

ANTI-BILHARZIAL WORK:-

Marked progress has been made with the anti-bilharzial campaign in Dongola Province and there is every reason to hope that the disease will be stamped out in this Province in the course of the next two years. The great difficulty is the lack of adequate British supervision. It was only possible to spare a Medical Inspector for this work for two months during the year under report. It is hoped that a Medical Inspector will be able to be spared for four months during the ensuing year.

The work is one of the utmost importance as it is desired to prevent this disease spreading from this important reservoir of labour to the irrigated area of the Gezira. This would be a disaster.

ANKYLOSTOMIASIS:-

An Ankylostomiasis survey has been commenced in Dongola Province where this disease is known to be prevalent. It is hoped that it will be completed in the course of this winter and that a large number of the cases will by then have been cured.

TRACHOMA:-

An especial effort has been made to deal with Trachoma (Egyptian Ophthalmia) in Dongola Province during the last year, but it is doubtful if any real progress can be made until a larger subordinate staff and increased British supervision can be provided. (See Page 29)

SENNAR DAM WORKS:-

Under this heading is considered the work at Makwar and the work on the main canal as far as as Hag Abdulla. The results obtained during the past year have been extremely satisfactory. The Malaria admission rate among the Egyptian labourers, who are the susceptible element, was further reduced to I % and this in spite of the fact that the rainfall was an exceptionally heavy one and that the first batch of labourers were brought up at the end of September, instead of at the end of November as in the previous year. (See Page 22)

The successful nature of these results is the more striking when it is remembered that Makwar used to be a malarial swamp of a very virulent type during the high Nile and the rainy season.

SCHOOL OF MEDICINE:-

The opening of the School of Medicine took place last February. The ten students at present under training are reported to be making very good progress with their first year subjects.

It is hoped that it will be possible to admit a further class of students for training this January when the present class has completed its first year's studies.

The medical and surgical work at Khartoum and Omdurman Civil Hospitals has been reorganised with especial reference to the teaching work at the School of Medicine. (See Page 11)

SYPHILIS:-

Every hospital and dispensary carries out anti-syphilitic work. 22,260 injections of Novarsenobenzol have been

administered during the year. About half of the work of the outlying dispensaries is anti-syphilitic work. There is reason to believe that the incidence of this disease has definitely diminished during the last eight years in the Northern and Central Sudan. In the areas in which ~~xxxxxx~~ anti-syphilitic work has been actively carried on during the last ten years, such as Omdurman and the Blue Nile Province, there appears to be no doubt that far fewer cases of primary and secondary syphilis are now presenting themselves for treatment. It is not however possible to give definite figures to support this conviction.

TUBERCULOSIS:-

290 cases were admitted to hospitals for Tuberculous diseases during the past year.

The admissions to hospital for this disease, and the percentage rate of these admissions to the total admissions, for the last nine years are as follows:-

1916	1917	1918	1919	1920	1921	1922	1923	1924
149	194	216	191	219	220	234	251	290
1.3%	1.54%	1.53%	1.4%	1.41%	1.30%	1.35%	1.38%	1.46%

From this it is seen that percentage rate is not increasing and this in spite of more accurate diagnosis.

I believe that the view taken in the note on this subject in the annual report for last year is the correct one.

I do not believe that this disease is on the increase and I believe that it will tend to decrease as the general standard of living improves and as Malaria, worm infections and other debilitating factors are gradually got under control.

DYSENTERY:-

I give below a table showing the number of cases of this disease admitted to hospital over the last nine years. It will be seen that there is a steady increase of the total number of cases and in particular an increase of the number diagnosed

as Bacillary Dysentery.

The total increase is I think due to two factors:-

(i) The increased willingness to come to the hospitals for treatment.

(ii) The increasing accuracy in diagnosis in out-stations. A great many cases which were formerly reported as Diarrhoea are now reported as Dysentery. This particularly applies to Bacillary Dysentery. I believe that the number of Bacillary cases attending provincial hospitals is still very much understated.

The rise of the total cases from 531 in 1923 to 716 in 1924 is very marked. It will be necessary to watch the incidence of this disease very carefully with a view to ascertaining if this increase is due to the reasons given above or if there is some other factor or factors involved.

Year	Disease	Adm.	Deaths	Total Adm	Total Deaths
1916	Amoebic Bacillary	197	8	197	8
1917	Amoebic Bacillary	220	9	220	9
1918	Amoebic Bacillary	355	16	355	16
1919	Amoebic Bacillary	409	20	409	20
1920	Amoebic Bacillary	448	17	448	17
1921	Amoebic Bacillary	477 89	19 3	566	22
1922	Amoebic Bacillary	390 48	20 2	438	22
1923	Amoebic Bacillary	504 27	13 -	531	13
1924	Amoebic Bacillary	605 111	15 7	716	22

KALA-AZAR:-

This disease is endemic in the neighbourhood of the Blue Nile above Sennar on the Dinder and the Rahad. The population in this region appears to be partially immune. The cases reported nearly always occur in people born and brought up in some other part of the Sudan who spend a shorter or longer period in this endemic area.

Thirty two cases were seen in Singa District alone in the last nine months and there is reason to suppose that a far larger number of cases exist. An endeavour is being made to collect further evidence on this question. The Senior Medical Officer, The Fung Province, points out in his report that the position is one of some danger and that two eventualities may occur at any time :-

(i) The disease may become epidemic in the present endemic area owing to the debilitating effect of a very severe outbreak of Influenza or Malaria, rendering the people more susceptible.

(ii) The disease may spread into the Gezira irrigated area, where many of the people have little or no immunity, and become epidemic there. The result would be disastrous.

This second eventuality would be more likely to occur should the population of the Gezira be allowed to become more highly malarialised than at present. Every precaution is being taken to prevent this but the problem will be an anxious one for the next two or three years.

LEPROSY:-

Enquiries have been set on foot as to the number of persons infected with this disease in the various provinces of the Sudan.

The information obtained is of necessity very incomplete and especially so in the Southern Provinces where the tribes are not under close administrative control. The figures

are as follows:-

(1) Khartoum Province - 22 cases are under treatment in a leper hospital at Omdurman and 3 are under treatment as outpatients.

(2) Blue Nile Province - one known case in Sennar District.

(3) Berber Province - 52 cases scattered along the river.

(4) Dongola Province - about 55 cases.

(5) Halfa Province - no figures available.

(6) Red Sea Province - 8 cases in Port Sudan. No figures for Suakin and the Red Sea Hills.

(7) Kassala Province - numbers not known thought to be very few.

There is a leper hospital at Gedaref which usually contains 13 lepers.

(8) Kordofan Province - 3 cases only reported.

(9) Darfur Province - no cases known.

(10) Fung Province - 10 cases in Roseires. Several others in Kurmuk and along the Abyssinian border.

(11) Nuba Mountains Province - several hundred cases.

(12) Northern Bahr-el-Ghazal - 5 known cases.

(13) Southern Bahr-el-Ghazal - estimated at 800 but this is believed to be a very conservative estimate.

(14) Upper Nile Province - 100-200 among the Shilluks.

A few cases among Dinkas and Unxx.Nuers.

The Shilluks are more closely administered and therefore the cases are more likely to come under observation.

(15) Mongalla Province - about 700 cases of which 200 are in the Opari and Yei Districts.

Thus it will be seen that the information available is very incomplete indeed. There appear to be many more cases in the Southern Sudan than in the Northern and Central Sudan.

As regards the Southern Sudan, the disease appears to

be widespread but very little can be done until the confidence of the native has been more fully gained by the spread of general medical work. Later it may be possible to induce the natives to attend daily for outpatient treatment at hospitals in the few cases where they happen to be within reasonable reach of a hospital; or if too far away, to consent to be admitted to special leprosy wards or hospitals as impatients.

Every effort is being made, however, to treat patients with the resources at present at our disposal.

Until intercommunication largely increases, there appears to be no reason why this disease should spread more rapidly during the ensuing years than it has during the past 100 years.

As regards the Northern and Central Sudan the incidence of this disease appears to be much lower. The disease does not seem to be spreading and the position is not in any way very alarming.

It is hoped to be able to transfer the present leper hospital at Omdurman to a river site where the inmates would be able in many cases to do some cultivating and the general conditions would be less depressing and more favourable to recovery.

It is very desirable that this leper hospital should be efficiently maintained as it should afford us a guide as to how treatment can be carried out most successfully in the provincial hospitals or in provincial leper centres.

Whenever possible the provincial lepers are being encouraged to attend the neighbouring hospital for treatment.

At present although the treatment of leprosy has made considerable strides we are still not in possession of any specific cure. When a cure for leprosy has been discovered, in any way comparable in its effect on this disease to that of Novarsenobenzol on syphilis, then no stone will be left unturned to bring this cure within reach of every affected native both in

the Northern and in the South but in particular in the South where the disease is most dangerous.

GENERAL HEALTH:-

The general health of the Sudan has been good.

INFLUENZA:-

This disease was widespread in the early months of the year but the type was not severe and but few deaths occurred.

MALARIA:-

Owing to the more favourable spacing of the rains in the rainy season of 1923 the Malaria indence was not heavy. A severe local outbreak of Malaria occurred at Nuri owing to extensive mosquito breeding taking place in the large number of pools left by the falling Nile and in wells. This in reality is attributable to lack of British supervision owing to shortness of staff. (See Page 26)

CEREBROSPINAL MENINGITIS:-

Severe outbreaks of epidemic Cerebrospinal Meningitis occurred in the Fung Province in March and September. 603 cases were reported with 138 deaths. The true totals were in all probability much higher.

DENGUE FEVER:-

An outbreak of Dengue Fever occurred at Atbara in the early months of the year.

ECONOMIC AND POLITICAL BENEFITS DERIVED FROM MEDICAL WORK:-

It might be useful to point out here how completely dependent economic development is bound to be on medical and sanitary work.

The economic development of any country is dependent on the existence of an adequate population, healthy, energetic and prolific.

At the present time the population is too small for the work it will be called upon to carry out, its energy is sapped by certain endemic diseases, and its rate of increase is

extremely slow,

The problems before us are:-

(i) To keep the existing population healthy and fit to work.

(ii) To ensure a steady increase of population to provide for future development.

To ensure (i) we have :-

(a) To guard against outbreaks of Small Pox, Epidemic Cerebrospinal Meningitis and in particular Malaria which diseases when they become epidemic have a decimating affect on the population.

(b) To fight and gradually stamp out certain endemic diseases which are sapping the vitality of the population, lowering its resisting power, and diminishing the birth rate. I allude in particular to Bilharziasis, Ankylostomiasis, Endemic Malaria and the Dysenteries.

To ensure (ii) we have in particular to deal with Malaria and the venereal diseases, both of which greatly diminish the birth rate, and to deal with the diseases which cause a high infantile death rate, and in particular with Malaria and the Dysenteries.

An interesting although far less important economic benefit derived from medical work has been noted in the Upper Nile Province (See page 26). There, for the first time, a want for which the natives are prepared to pay has been established and that want is medical treatment. A people stark naked with no need or desire for Manchester or other goods discovered that medical treatment was able to bring them rapid relief from certain of their most pressing evils.

At first they paid in kind, cattle, sheep and goats, now they are beginning to pay in coin of the realm, tender formerly unknown to them.

POLITICAL AND ADMINISTRATIVE BENEFITS:-

These are the establishmnt of confidence and a realisation that the Government has come to give and not only to take. Natives now travel as many miles to see a doctor as they ran to escape paying taxes, and they are prepared to pay for their medical treatment.

HOSPITALS AND DISPENSARIES:-

The following table shows the total number of admissions and outpatients treated at hospitals and dispensaries for 1922, 1923 and 1924, also the total of operations performed and total receipts during the same period:-

INPATIENTS:-		OUTPATIENTS:-	
1922 -	17742	1922 -	355727
1923 -	18172	1923 -	388863
1924 -	19827	1924 -	394418

OPERATIONS:-		TOTAL RECEIPTS:-	
1922 -	1755	1922 -	£ 13353.387m/ms
1923 -	1624	1923 -	£.14601.280 "
1924 -	2099	1924 -	£.15326.685 "

MEDICAL AND SANITARY WORK BY PROVINCES

KHARTOUM PROVINCE:-

Khartoum Civil Hospital.-

The new outpatient department was opened at the beginning of this year; it has greatly facilitated the outpatient work and no doubt will bear good fruit in reaching a wider population. It also greatly facilitates the work of teaching Assistant Medical Officers and will be of great use in the training of the Assistant Doctors next years.

A reorganisation of the civil medical work is in process of being carried out in connection with the hospitals at Khartoum and Omdurman, the undicted hospital at Khartoum North, the Midwifery School at Omdurman and the Kitchener School of

Medicine at Khartoum.

Formerly one British doctor was in charge of the hospitals at Khartoum and Omdurman and the training of Assistant Medical Officers, which in fact was far too much for one man to carry out properly, and the Director of the Department, with the occasional help of an Assistant, was responsible for the Khartoum North hospital, the Prison hospital, the Midwifery school, the Leper colony and the school inspection work, which threw quite undue weight of work on an official already fully occupied with general administration.

Under the new arrangement a British doctor specially qualified in medical subjects is placed in charge of the Khartoum civil hospital, the Khartoum North hospital, the Prison hospital and the school inspection work at Khartoum; he will also be responsible for the medical teaching at the School of Medicine and will be consultant physician to the Omdurman civil hospital.

Similarly, a British doctor with the highest surgical qualifications is placed in charge of Omdurman civil hospital and has the supervision, but not the direct charge, of the Midwifery School and the Leper colony and is also responsible for the school inspection work at Omdurman. He will be responsible for the surgical teaching at the School of Medicine and will carry out the surgical work at Khartoum Civil Hospital.

The arrangement may appear complicated but it is the only way to ensure highest standard of medical and surgical work being performed at these two hospitals, and to ensure adequate medical and surgical teaching at the School of Medicine and the best use of the clinical material available. These two officials are likely to have their time very fully occupied. The completion of a Khartoum-Omdurman bridge would do much to facilitate the combined work at Khartoum and Omdurman hospitals.

Khartoum North non-dieted hospital continues to do excellent work but this work is mainly confined to the dockyard hands, the clerks and the people of the town.

Up to the present the people of the village along the river do not make use of this hospital to the extent they might. It is hoped to get over this reluctance by getting into closer touch with the Sheikhs and Omdas of these villages, but the great deterrent here as everywhere in the Sudan is the distance to be covered.

GORDON COLLEGE:-

It was impossible to make the medical examination complete this year owing to insufficient British staff. A complete and full examination was only able to be made on the new boys and on those of the old boys who were especially indicated for examination by their health record during the year. There is, however, some indication of a steady improvement in health and physique. It is intended during the ensuing year to place the inspection work as well as the treatment work under the control of the Director, Khartoum Civil Hospital and thus ensure that the results of the school inspection are completely followed up.

In the previous years the time at the disposal of the Director, Khartoum Civil Hospital did not permit him to undertake this and the liaison was in consequence incomplete. I hope to be able to report marked progress in my next annual report.

Omdurman Civil Hospital.-

A new women's block is being built and should be completed and ready for work by the 1st. of March, 1925. The present mud buildings, both male and female, are thoroughly unsuitable for their purpose and it is very creditable to the staff that, in spite of this, the number of attendances is maintained and even shows a tendency to increase. It is hoped that it will be

found possible to commence rebuilding the male block this season.

The new women's hospital is being built so as to constitute an entirely self-contained hospital, with its own operating theatre and outpatient department, with a lying-in ward and with a series of cubicles for better class patients. With the exception of the British surgeon in charge it will be staffed entirely by women. It will be used also as a Nurses' Training School and this side of the work will be in charge of a Matron (British) who has had great experience in dealing with Arabic speaking women.

It is hoped in this way to achieve two objects:-

(i) To get the confidence of women of the better classes who, at the present time, do not come to the hospital except in the last extremity. It is hoped not only to get them to attend the hospital readily for themselves, but to attend to seek advice as to the care of their children in health and sickness (See below under Midwifery School, Page 14).

(ii) It is hoped to get women of the better classes to come forward for training as nurses. It is hoped that these women will eventually come forward from all over the Sudan, as is now the case with candidates for the Midwifery School, and that it will become possible to send them out for nursing work in the hospitals of their own provinces.

It is intended in this way to follow up and supplement the work at present carried out by the Midwifery School and thus it is hoped to achieve a great advance in medical and maternity work among women throughout the Sudan.

Midwifery School at Omdurman. -

This school was started in 1921 with a view to combating the very high maternal and infantile mortality at child birth.

The problem could have been tackled in two ways .-

(i) By building maternity hospitals or maternity wards in different parts of the Sudan and treating all such cases as

were willing to come in to these hospitals.

(ii) By getting hold of the midwives, or their daughters, or other women of a good type who were willing to be trained, and to give them a simple, but thorough training in midwifery; training them in the native homes where they will later have to practise their profession, and on the completion of their training to send them back to their towns or villages to practise as midwives.

Against the former plan was :-

(i) That it would only have reached women in certain centres.

(ii) That it would have met a solid and probably irremovable opposition from all their prejudices and customs.

(iii) To have reached any considerable part of the female population by this means would have involved a very heavy expenditure.

In favour of the second plan was that it was working with the native prejudices and not against them and it was making use of the midwives who already had the confidence of the people, or their daughters who would be recommended by them, and sending them back to their own villages to carry on simple but clean and correct midwifery. It was thought that in this way every midwife so trained would in a simple way be an apostle of cleanliness and hygiene in the very homes of the people. It was thought also that these women would be able to persuade their clients to seek early medical assistance in cases of difficult labour, and, by their influence, would gradually undermine the hold that the barbarous, and often disastrous, habit of Pharaic female circumcision now has on the people.

The success of the second course depended on being able to obtain a Matron to run the School who had a very complete knowledge of the Arabic language and of Arab customs, a great sympathy with native women and much force of character.

Such a Matron was obtained and the second plan was adopted

Very great difficulty was experienced at first in persuading midwives to come forward for training. Eventually the confidence, both of the midwives and patients, was won and the school is every year proving itself more conspicuously successful. While at first it was found almost impossible to find any one willing to be trained, even in Omdurman, applications are now being received for training from all over the Northern and Central Sudan.

It has been found desirable to lengthen the period of instruction from four months to six months. That is to say one course of six months will be held every year instead of two courses of four months. The size of the class is to be increased from eight to ten. Thus ten midwives will be trained every year instead of sixteen, but on the other hand these ten will be better trained. The great advantage of this change is that it gives the Matron two months in which she can make tours of inspections. During these tours she is able:-

(i) To encourage and check the work of the midwives she has already trained.

(ii) To examine the work and ability of the midwives who have not yet been trained at the training school, and to ensure that they are possessed of the very low standard of knowledge and ability which is demanded of these, for the most part untrained, midwives. A certain proportion of the midwives receive a course of instruction in the local hospitals, but it has been found impossible to make this universal.

(iii) To get in touch with the leading women of the Provinces.

Up to date 42 midwives have been trained at the Omdurman School.

The destribution of these midwives is as follows:-

1. Staff nurse at the Midwifery School.
1. Acting as chief female attendant at the Omdurman hospital.
3. Practising at Khartoum.
23. " " Omdurman.

3.	Practising	at	Khartoum North.
1.	"	"	Tuti Island.
1.	"	"	El-Obeid.
1.	"	"	Wad Medani.
2.	"	"	Kamlin.
2.	"	"	Shendi.
1.	"	"	Atbara.
2.	"	"	Merowe (Dongola Province)
1.	"	"	Dueim.

During the year from November, 1923 to May 1924, 198 midwifery cases were attended in their houses by the members of the training class. In addition the Matron conducts a welfare class in which pre-natal and post-natal advice is given.

Leper Asylum at Omdurman:-

This asylum is under the administration of the Sudan Medical Service, but the doctors of the Church Missionary Society hospital very kindly undertake the care and treatment of the patients.

Seventeen patients were admitted during the year, two were discharged as non-infectious and six died. There were 28 patients in the asylum at the end of the year : 15 of whom were men and 13 women.

Fifteen of these have been found to be non-infectious and will be discharged as soon as ever arrangements can be made for their maintenance after discharge.

256 intramuscular injections of Moogrol were administered. The doctor in charge notes considerable improvement in the general condition of the patients. He attributes this largely to the more liberal diet given in the Leper Asylum; patients before admission are often very undernourished - but he thinks that the Moogrol injections have also contributed to this improvement.

He is not, however, enthusuastic as to the results obtained by the use of this drug.

BLUE NILE PROVINCE:-

Wad Medani Civil Hospital.-

The new hospital is nearly completed. A very heavy strain was thrown on the hospital accommodation during an epidemic of malarial fever occurring last spring among Egyptian labourers employed on the canalization area.

The work of the hospital among the natives of the Province and in particular among the women has undoubtedly been largely interfered with by the fact that the old and inadequate hospital was crowded out with Egyptian labourers, so that in consequence the natives were less willing to attend. It is hoped that with the provision of adequate accommodation and the completion of the canalization, the normal work among the natives of the Province will re-establish itself.

Dispensaries:-

A small hospital has been opened at Kilo 114 and placed under the charge of a Syrian Medical Officer. This is to deal with the large aggregation of Egyptian labourers in this neighbourhood.

There are three province dispensaries at Kamlin, Rufaa and Managil. These dispensaries are very valuable in the Malaria period - August, September, October and November.

In addition 20 Sanitary Hakims (to carry out anti-mosquito and simple medical work) and the same number of hospital attendants are being, or have been, trained to staff 20 new dispensaries which are being built in the irrigated area - one dispensary to every 5,000 feddan block.

Of these 20 dispensaries, three have been already opened and have been doing very good work, and the remaining 17 will be opened either before or on July 1st. 1925.

General Health.-

The general health of the province has been good and the

malaria incidence has been low except for a single outbreak of Malaria which occurred among Egyptian labourers in the canalization area.

Sanitation:-

A marked improvement in the sanitation of the town can be reported. This is largely due to the posting of a Sanitary Inspector to this Province. The improvement is mainly in the direction of the extension of the double bucket system, of deep pit latrines, and in the improvement of the rubbish disposal system.

Canalization Area:-

It would be difficult to overrate the difficulties that have had to be overcome in sanitary, and in particular in anti-malarial work, in the irrigation area, both during the dry season and still more during the rains.

Firstly. The Egyptian labourers have had to work in scattered parties which were continually shifting, and it was, for this reason, very difficult to make adequate sanitary arrangements or to enforce sanitary control.

Secondly. The Company's staff which had to deal with these parties was small, locomotion was difficult and the individual members of the staff overweighted with work and unused to dealing with Egyptian labourers. It was thus very difficult for them, with the very best will in the world, and this always existed, to enforce the sanitary control prescribed.

Thirdly. Water had to be brought inland from the river by small canals or "misgas"; these were often as much as 20 kilos. in length and the head of water required to force the water for this distance was frequently the cause of serious breaks and consequent floodings and, as a result, widespread mosquito breeding.

Fourthly. During the rains the half finished canals which have no drainage outlet become filled up with water and as these dry up, they break up into pools. It is then a race between

the mosquito larvae and the oiling parties as to whether mosquitoes will breed out before the pools have been oiled and, as during the rainy season it is extremely difficult to get about, the odds are heavily in favour of the mosquitoes.

In the dry weather the first line of defence is efficient water control, so as to prevent leakage occurring; and the second line of defence is continuous patrolling by oiling parties so that leaks may be at once repaired, pools oiled, and larger accumulations drained, and this before mosquitoes have bred out. The Sanitary Authorities have been driven right back on to their second line of defence and in the early spring a sharp outbreak of Malaria occurred. This was not without a certain compensating benefit as it made it quite clear to all concerned that water control, oiling parties, and transport for Sanitary Inspectors and for oiling parties were matters of primary and vital importance. As a result of this realisation the necessary co-operation was ensured and the epidemic was quickly got under control, but the general difficulties of the situation remain.

In the rainy season and while the effects of the rains are still lasting there is only one line of defence, mobile sanitary squads to drain, oil and fill, and during the heavy rains this also is impossible.

Protective Quinine Administration has been found impracticable owing to the large number and wide distribution of the parties of labourers. Injections of 914 are given to all Egyptian labourers admitted with Malaria in addition to routine quinine treatment to render the cure more complete and as a preventive against recurrence or reinfection. There appears to be no question that 914 greatly assists complete recovery. The effect of this drug in preventing relapses is being watched.

Intestinal Affections. Although the working parties are scattered over a very large area, and in consequence very hard to supervise, and although the drinking water canals could be easily

contaminated, the incidence of intestinal diseases in these labourers was remarkably low. This is probably due to their high natural resistance.

Bilharziasis.- It is interesting to note that up to date there appears to have been no increase of this disease in the Blue Nile Province in spite of the large number of Egyptian labourers that have been employed in this area.

Ankylostomiasis.- All cases found infected at Halfa received a second treatment with Thymol on their arrival at their destinations. No local cases have been reported.

Kala-Azar.- One case occurred at Barakat in a man from Dongola - he appears to have been infected locally. Other cases, unconfirmed by microscopical examination, have been reported. It will be necessary to guard against this disease spreading down into the irrigated area from Singa District where it is widely disseminated. Any large increase in the malarial incidence might precipitate this spread. The Singa District population have a considerable degree of natural immunity; this may also be the case with the local inhabitants of this Province, but would not be the case with cultivators from other provinces.

British Employees on the Canalization Area.- The following table shows the incidence of disease among British employees in the Gezira.

The lower incidence of Malaria among Messrs. Pearson's staff is partly due to a larger proportion of this staff being posted in the main centres where medical supervision was easier.

The Syndicate employees are very scattered, a large proportion of them are new-comers to the tropics, and many of them quite inexperienced in looking after themselves under difficult conditions.

Germ proof filters are to be fitted in all houses occupied by the employees of the Syndicate to ensure a safe supply of drinking water.

It is anticipated that in the course of the next two years these incidence rates will be greatly lowered.

British Employees	Malaria		Dysentery		Enteritis		Typhoid		Injuries		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No	%
Messrs. Pearsons	9	18%	6	12%	8	16%	1	2%	12	2%	36	72%
Sudan Plantations Syndicate	25	41%	8	12%	14	23%	1	2%	6	10%	54	90%

MAKWAR IRRIGATION WORKS:-

Makwar Hospital.- The work of the hospital was largely increased owing to the greatly increased number of labourers employed on the works.

The increase of hospital work was on the surgical side - 400 operations were performed as against 139 in 1922-1923 and 201 in 1921-1922.

General Health.- The health of the European staff and native labourers during the year under report has been very good.

The hospital admission rates for malaria for Europeans employed in Makwar was .9% and for those employed outside 2.6%.

The admission rate for Egyptian labourers was 1%; this compares with 2 % for Egyptian labourers for the previous year. This improvement was in spite of a heavier rainfall and the fact that they were brought up two months earlier, the month of October being the worst month for Malaria.

There were four deaths from Malaria as against 15 deaths last year. The improvement may be considered satisfactory; it is a continuation of the steady improvement that has taken place since the commencement of these works.

Owing to the weirage effect of the temporary dams in the main channel another metre was added to the Nile flood south of the dam and large areas were flooded to the South of the dam on either side of the river. It was not possible to drain these areas until the river fell.

11,657 pools have had to be dealt with in Makwar.

The sanitary problem which had to be solved to enable the dam and canalization works to be carried out was not an easy one. It involved keeping from 13,000 to 16,000 employees and workmen in a good state of health on an area that had been intensely malarious.

The land between the offices and the river was formerly, during the period of high Nile, a marsh extending up and down stream for several kilometres and in parts covered by dense scrub. This marsh was swarming with duck and snipe and, in particular, with anopheline mosquitoes.

To deal with this an embankment over three kilometres in length had to be made along the river's edge to keep the river water out. Drains had to be designed to carry off the rain floods from the marsh and from the higher land beyond which is also flooded in heavy rains. Sluice gates had to be built at the openings of the main drains into the river and pumps installed opposite each sluice gate to pump the rain water into the river during high Nile.

In addition anti-mosquito brigades had to be organised to deal with the smaller pools and marshes on both sides of the river.

Epidemic Cerebrospinal Meningitis was always a menace and the Enteric fevers and the Dysenteries have had to be guarded against by the most careful sanitary arrangements.

History.-

In the summer of 1919 a party of 833 Egyptian convicts were sent to Makwar to commence the excavation : the whole party was prostrated by Malaria and rendered unfit for work, and in October they had to be sent to Khartoum to recover and later to Egypt.

In the winter of 1919 the work was commenced on a large scale with Egyptian and Sudanese labourers and in March 1920 a

Medical Inspector was placed in charge of the medical work and the sanitation. The malaria sick rate for Egyptian labourers during the first year of work was 30 %; the next year it was reduced to 5.2 % and so gradually down to 1 %.

The credit for these most excellent results must be attributed alike to the medical and sanitary staff on the spot, and to the Company's representatives who have so readily and thoroughly co-operated in carrying out all the sanitary measures recommended to them.

HALFA QUARANTINE - SEPTEMBER TO DECEMBER 1923:-

10,985 Egyptian labourers passed through the Halfa Quarantine, chiefly in the months of September, October and November. The majority of these men were for work on the Sennar Dam and irrigation works a few hundred were for work on the Gash delta.

The objects of the Quarantine are:-

(i) To exclude men who are obviously unfit and would have to be repatriated at once, and those suffering from infectious diseases such as fevers, or infectious syphilis.

(ii) To treat, and if possible cure, all cases of Ankylostomiasis and to send the names of such cases on to their destinations for further examination and treatment.

(iii) To delouse all the labourers and to disinfect all clothing.

(iv) To record all cases of Bilharziasis.

Of these 401 had to be rejected, i.e. 3.65 %

628 had enlarged spleens, i.e. 5.7 % (for the most part due to malaria infection)

2076 were infected with Bilharzia, i.e. 19 %

2593 were infected with Ankylostoma, i.e. 24 %

500 men can be admitted to Quarantine at a time, 250 being passed through in the course of a day. To enable this to be done, a well-planned routine has to be followed through with

moticulous exactitude.

RED SEA PROVINCE:-

Port Sudan Civil Hospital.-

The hospital work at Port Sudan shows a steady increase both as regards inpatients and outpatients and the operations performed.

The total receipts from the hospital have nearly doubled in the last three years.

A marked feature in the hospital work is the greatly increased number of European admitted - these are largely sailors from ships calling at the port.

Patients from the Hedjaz.-

It may be interesting to recall the position that this hospital fills. Patients come to it from as far as Kassala and the Atbara river on the one hand, and on the other from all along the Arabian coast and from as far inland as Medina. The journey from the latter place is a matter of weeks.

Sanitation.-

A special effort has been made to deal with the fly question and considerable success has been achieved. The problem, however, is a difficult one; as soon as ever the moist weather sets in flies breed everywhere in spite of the most stringent precautions.

There were no cases of Dengue Fever this year.

Rat Destruction.-

Of the 639 rats caught, 510 were brown and 129 were black.

S u a k i n.-

The health of the town remained good.

The pilgrimage was declared clean. 5,000 persons were passed through the pilgrim quarantine station.

No cases of Small Pox occurred this year in Quarantine. This is largely attributable to the great effort made to ensure that

every pilgrim had been successfully vaccinated before leaving for Jeddah.

T o k a r.-

The health of the district was good.

The dispensary continued to do good work and was very much used during the cotton picking season.

A new permanent dispensary is under process of construction.

Port Sudan Quarantine.-

The steady increase of ships that have to be dealt with is indicated by the following figures:-

	1921-22	1922-23	1923-24
Ships entered Harbour	452	563	650
Receipts	£.610	£.828	£.963

BERBER PROVINCE:-

Atbara Civil Hospital.-

The commencement of the maternity block has been unavoidably delayed. It is hoped that this will be finished in time to post a nurse at Atbara next winter. There is a considerable European and Egyptian population at Atbara for whom it is felt that maternity and welfare work is badly needed. It is also desired and intended to reach the native female population to a far greater extent than has been done at present.

Dispensaries.-

The eight dispensaries at present existing are doing very excellent work.

The Medical Inspector points out that a dispensary is urgently needed at Shereik which is a Bilharzial centre and where anti-ankylostoma, anti-trachoma and anti-malarial work is urgently needed. The matter is under consideration by the Governor. I hope he will be able to provide this dispensary.

Irrigation Farms.-

The health condition of these ten irrigation farms is

reported on as showing some improvement.

The general health throughout the province was good, but an outbreak of Dengue Fever occurred during December and January. Three hundred cases occurred. Stegomyia mosquitoes were found to be breeding in some of the zeers and wells. Dehgue Fever is a rare disease in the Sudan except on the Red Sea coast where it has occurred from to time. On this occasion it appears to have entered the Sudan from the west. An outbreak occurred at Nahud in October, 1923.

The examination of schools in this province shows 11.4 % infected with Trachoma, 5.7 % infected with Bilharzia, and 6.5 % with enlarged spleens.

It is doubtful if the Trachoma rate in schools can be permanently reduced below this level till this disease can be attacked in the villages and houses of the people.

Bilharziasis.-

Three hundred cases were treated in hospital and many in the dispensaries.

Ankylostomiasis.- Sixty nine cases were treated in Atbara civil hospital between May and September. Of these 47 cases were from Dongola Province. (See note on Ankylostoma survey under Dongola Province - Page 30).

KORDOFAN PROVINCE:-

This is a very large and, for the Sudan, thickly populated province. During the last few years an effort has been made to bring medical assistance within the reach of the natives, both settled and nomad.

Malaria.-

Malaria becomes epidemic during and after the rains;it is especially severe in the Southern part of the Province.

Bilharzia.-

Bilharzia is endemic in the Um-Ruaba and Abu-Zabad districts. The source of infection is chiefly from the large

Fulas (lakes of water forming after the rains and persisting for 5 or 6 months) in these places.

It is intended to station a British Medical Inspector in the Um-Ruaba district during the coming winter with a view to eliminating Bilharziasis from this area. If this proves successful a similar course of action will be followed with regard to Abu-Zabad in the winter 1925-1926.

Ankylostomiasis.-

Ankylostomiasis exists in parts of this Province but its distribution has not yet been mapped.

Hospitals and Dispensaries:-

There are:-

(i) A central hospital at El-Obeid.

(ii) A small hospital at Nahud staffed by a Syrian Medical Officer and an Assistant Medical Officer. Either the Medical Officer or the Assistant Medical Officer is always on tour among the surrounding Arabs.

(iii) A dispensary at Um-Ruaba for the treatment of the surrounding natives and to deal with the Bilharziasis which is endemic in this area. The dispensary is doing excellent work among the natives, but no headway is being made against Bilharziasis. A Medical Inspector is to conduct an anti-bilharzia campaign here this winter.

(iv) A dispensary at Abu-Zabad to reach the Meseria-Baggara Arabs and to deal with the Bilharziasis endemic in this area.

(v) A dispensary at Soderi to reach the Kababish camel-owning Arabs.

(vi) Rashad dispensary in the Nuba Mountains Province has been under the Senior Medical Officer, Kordofan up to the end of 1924. From January 1st. 1925 it was transferred to the supervision of the Senior Medical Officer, Talodi.

(vii) A civil ward is being opened at Bara to deal with the surrounding natives.

Unfortunately the Senior Medical Officer was retained in El-Obeid for the greater part of the summer owing to a detachment of British troops being stationed there and in consequence he was unable to supervise the work of the dispensaries. He is now free again to continue his province work.

DONGOLA PROVINCE:-

There are two hospitals and four dispensaries working in this Province. The hospitals are at Merowé and Dongola. The dispensaries at Kareima, Nuri, Debba and Argo. The dispensary at Argo in particular has been dealing with a very large number of patients.

Assistant Medical Officers are posted to each of the two hospitals so as to set the Medical Officers free to inspect the districts and dispensaries under their charge once every month.

This arrangement has resulted in greatly increased efficiency.

A Medical Inspector could only be spared for this Province for two months during the year under report; it is hoped to be able to keep a Medical Inspector in the Province for four months during the coming winter. If it were possible to provide a Medical Inspector for eight months in the year for this Province I have little doubt that we should succeed in stamping out the three diseases which are such a curse to this Province, i.e. Bilharziaisis, Ankylostomiasis and Trachoma, and in practically eliminating Malaria which is at present widespread at the time of the falling Nile.

In spite of this, it is possible to report marked progress in the effort to eliminate Bilharziasis from the province.

Bilharziasis.-

At Nuri, which has always been the principal centre, the percentage affected by this disease has been brought down from 20 % (from school examination) in 1922 to 2 % (examination

conducted throughout the district) and similar progress has been made in the other infected areas. It is hoped that it will be able to completely stamp out this disease within the next two years.

Trachoma.-

Systematic work is being carried out against this disease in all schools and during this last year an attempt has been made to attack the disease in the peoples own homes, but at present the staff available is insufficient to do this effectively.

No progress can be hoped for as regards this disease in the schools until a sufficient native staff under adequate supervision is available to carry the anti-trachoma work into the villages. At present the percentage of those affected in the schools is very greatly reduced as the result of treatment during the term, but is as high as ever when the school reopens after the holidays.

Ankylostomiasis.-

A survey of this disease was commenced last June, but could not be completed as the laboratory man employed under the supervision of the Medical Officers had to be removed to Halfa Quarantine. It is hoped to commence a definite campaign against this disease during this coming winter.

UPPER NILE PROVINCE:-

The medical work in this Province continues to increase.

New dispensaries have been opened at Kodok and Abwong.

Malakal.- There is now a central hospital at Malakal at which large numbers of Shilluks and Nuers are treated.

Kodok.- A dispensary at Kodok which is very much used by the Shilluks.

Renk.- A dispensary at Renk temporarily closed while a new dispensary is being built.

Hillet Nuer.- A travelling dispensary at Hillet Nuer.

Abwong.- A travelling dispensary at Abwong.

Gambeila. A dispensary at Gambeila. The work here has up to end of 1923 been mainly confined to the Gallas but during this last year a large number of Anuaks have been attending the dispensary.

Fangak.- A dispensary at Fangak is asked for by the Medical Inspector; it is hoped to be able to open one in the course of the next year.

LADY BAKER.-

This steamer has now been in commission for two and half years, it has actually been in use for 20 months. She has travelled over 15,000 miles along the Upper Nile, Sobat, Zeraf and the Bahr-el-Ghazal rivers and over 8,000 patients have been treated by her.

During this year up to the end of June 1526 cases, chiefly Yaws and Syphilis, had been treated on board ship, and during inland treks 1510 cases were seen by the Medical Inspector.

Up to 1920 practically no medical work had been done outside the chief towns in this Province. A Medical Inspector was posted here in the winter of 1920 and he started treating cases of Yaws and Syphilis; the results were so striking that the natives flocked to him.

At first treatment was given free, later payment was made in kind and now payment is, to a large extent, made in money.

It is noticeable that there have been no patrols in this Province since 1920.

By the end of 1925 we expect to have one hospital and seven disponsaries posted along these rivers (including a dispensary at Hillet Nuer which comes under Malakal for medical purposes).

KASSALA PROVINCE:-

Two important events have taken place in this Province which affect the medical and sanitary work to be carried out:-

(i) The commencement of work by the Kassala Cotton Company.

(ii) The completion of the Kassala Railway.

As a result of these factors we shall have to deal with:-

(a) A far larger concentration of population in the Gash delta, an area which is very malarious during the rains and for the two succeeding months.

(b) An increase of the European population who will be stationed in the delta.

(c) The protection of the Railway staff at the delta stations from Malaria.

To meet these increased medical and sanitary demands a British Medical Inspector has been permanently stationed at Kassala from November 1924.

Dispensaries:-

A dispensary under an Assistant Medical Officer was opened last May at Goz Rageb to afford medical assistance to the large nomad tribes which graze along the Atbara during the dry weather. It is hoped that this dispensary will be much used.

Two small dispensaries have been opened at Magauda and Hadaliya respectively to deal with the large areas of cultivation around these two centres.

Kassala Railway Medical Arrangements:-

The medical arrangements for the Kassala Railway which was completed last April were:-

Staff:- A British Medical Inspector.
A Syrian Medical Officer.
Five male attendants.

The British Medical Inspector was stationed at Railhead where he had a small tent hospital of 12 beds. This was moved forward once a week with the construction camp. Cases of temporary illness only were detained here and the rest evacuated to Haiya junction whence they were in turn sent over to Atbara

or Port Sudan. He also had a dispensary car in which he proceeded daily to bank head. A hospital attendant with drugs and first aid equipment remained in charge of the Egyptian labourers at bank head.

The Syrian Medical Officer was in charge of a clearing hospital of 12 beds at Haiya junction.

General Health:-

The general health was good. Fifty three Egyptian labourers out of the total employed (varying from 1500-2000 at different times) had to be repatriated owing to old age, debility and existing illnesses.

The British employees varied from 15 to 17 at various times. Only one had to be admitted to hospital. He was suffering from Jaundice.

The average constantly sick was as shewn in the table below. The results may, I think, be looked on as very satisfactory:-

	Average constantly sick				Daily Percentage of sickness
	Average strength	Railhead	Hospital	Total	
Egyptian labourers	1947	8.1	2.2	10.3	.55
Sudanese "	624	4.1	2.1	6.2	1 .
Egyptian soldiers	396	2.8	2.2	5.0	1. 30
	2967	15.0	6.5	21.5	. 72

Epidemic Jaundice.-

An outbreak of epidemic Jaundice occurred in an isolated working party at Railhead during the months of February and March 1924. Ten cases including one British Inspector attended for treatment.

Six of the cases were mild and were treated at Railhead, the remainder were evacuated to Atbara and Port Sudan.

The following short summary of the symptoms, etc. by the Medical Inspector in charge at Railhead is of interest:-

Symptoms:- Attacks were preceded by either Diarrhoea or Constipation.

The illness generally started with a rise of temperature, headache, lassitude, loss of appetite and nausea.

Vomiting:- Occurred in half the cases.

Pain:- Four of the patients had considerable pain and tenderness in the epigastrium and Right Hypochondrium.

Liver:- Was definitely enlarged in three cases.

Fever:- Temperature rose abreuptly to 100° - 101° at onset and remainder between 99° - 100° for about 7-8 days.

Stools:- Pale in colour - in three cases definitely clay coloured.

Urine:- Highly coloured - bile salts present - no albuminuria.

Jaundice:- Present in all cases at some stage.

Usually become obvious on third or fourth day of illness and continued for 9-10 days.

Complications:- One case treated at Port Sudan Hospital relapsed on return to Railhead.

He had all the above signs and symptoms but his liver was not enlarged. He developed acute ascites and died from heart failure.

The remaining cases made an uninterrupted recovery.

Causation:- No definite cause for the outbreak could be traced.

The epidemic was confined to this party of fifty men.

Their food and water supply was from the same source as for the main camp.

Flies were very prevalent in this area but not more than elsewhere.

Gedaref:-

The Civil Hospital is a small hospital situated on the outskirts of the town and is attended by people from the surrounding villages. The operating theatre is very small and a new one is badly needed.

There is scope for extensive development of medical and sanitary work in the Gedaref district especially anti-syphilitic and anti-malarial work. An effort has been made to improve the sanitation of Gedaref town, but a great deal remains to be done before it can be considered in any way satisfactory.

Mefaza:-

It has been arranged to station an Assistant Medical Officer at Mefaza next year, but the dispensary will first need reconstructing. Mefaza is the centre of a large population employed in gum collecting and in cultivation; it is also a Kala-Azar centre.

THE FUNG PROVINCE:-

Malaria, Bilharziasis, ankylostomiasis and Kala-Azar are endemic in this Province and, towards the Abyssinian border, outbreaks of epidemic Cerebrospinal Meningitis and Small Pox are common.

Kala-Azar.- Thirty two cases of Kala-Azar were treated in nine months. The disease is believed to be widespread. It is desired to map out the distribution of this disease in the course of the next year.

It must be remembered that this disease may at any time become epidemic following on the debilitating influence of severe epidemic of Influenza or Malaria.

Epidemic Cerebrospinal Meningitis.- There was a severe epidemic of Cerebrospinal Meningitis in the area adjacent to the Abyssinian border, 603 cases were reported with 136 deaths - the true totals were in every probability much heavier.

Malaria.- Malaria becomes epidemic in this Province towards the latter end of the rains and afterwards.

The best hope of general improvement of the health of this Province appears to be:-

(i) To post an additional British Medical Officer to this Province to devote his whole time to the rooting out of

Kala-Azar and Malaria.

(ii) The multiplication of dispensaries under Assistant Medical Officers to deal with the sick and to superintend anti-malarial work.

HOSPITALS:-

(1) Singa Hospital. There is a civil hospital at Singa, but it is situated in the military area and there is in consequence a great deal of reluctance on the part of the natives to attend there.

To meet this difficulty a small dispensary was opened in the town this year in a shop hired for the purpose. 5,000 cases attended. The Senior Medical Officer reports that if a larger dispensary were built the number of attendances would be doubled.

(ii) Karkoj Dispensary. A dispensary under the charge of an Assistant Medical Officer has been opened at Karkoj and is reported to be doing well.

Karkoj is the centre of a rain cotton growing district. It is also in a Kala-Azar area.

(iii) Roseires.- There is a military hospital at Roseires and some civil work is carried out there.

WHITE NILE PROVINCE:-

There is no British Medical Inspector posted to this Province. There are two Assistant Medical Officers, one posted to the hospital at Dueim and the other to the hospital at Kosti. Both these Assistant Medical Officers have been doing very good work and the hospitals are much resorted to by the natives in the neighbourhood.

They work under the occasional supervision of the British Medical Inspector of the Blue Nile Province.

The Assistant Medical Officer of Kosti, subject to this supervision, is responsible for the sanitation and supervision of

staff along the Kosti-El-Obeid line. This is a very responsible trust during the rains when the whole country is a succession of lakes and marshes and some of the stations are almost under water.

The greater part of the natives of this Province are quite out of reach of medical treatment.

It is proposed to open a dispensary, under the charge of an Assistant Medical Officer, at Gebelein early in 1925. Gebelein is the centre of a large settled and nomad population and, in addition, Bilharziasis is endemic there and is said to be gaining ground.

It is also hoped to open a dispensary at Geteina in the course of the next year - 1925.

O. F. H. Atkey

GJD.
KHARTOUM.
7.2.1925.

DIRECTOR,
SUDAN MEDICAL SERVICE.

THE FOLLOWING CHANGES IN PERSONNEL OCCURRED DURING THE YEAR

MEDICAL INSPECTORS:-

Mr.A.Cruickshank appointed	22. 2.24.
Mr.D.S.Davies appointed	24. 3.24.
Mr.E.D.Pridie appointed	2. 6.24.
Mr.L.F.O'Shaughnessy appointed	12. 9.24.
Dr.D.G.Churcher resigned	16. 3.24.
Dr.V.S.Hodson placed on pension	24. 8.24.

MEDICAL OFFICERS:-

Dr.Raji Eff.Hanna Khabbaz appointed	17. 3.24.
Dr.Amin Eff.Audeh appointed	21. 3.24.
Dr.Adib Eff.Chubril appointed	1. 8.24.
M.A.Rudah Eff.Kharsa from Egyptian Army	1. 7.24.
Dr.Negib Eff.Halhamé resigned	30. 1.24.
Sagh.Halim Eff.Suliman Shoukair died	12. 2.24.
Dr.Ali Eff.El-Assir Husseini discharged	1. 5.24.
Yusb.Mohamed Eff.Said to Egyptian Army	1. 7.24.
Dr.Joseph Eff.Haschoieff placed on pension	29. 6.24.
Sagh.Michael Eff.Maroun Khyatt to Egyptian Army	20. 8.24.

SLEEPING SICKNESS MEDICAL OFFICERS:-

M.A.Kamel Eff.Amin Abu Seoud from Egypt.Army	6. 1.24.
M.A.Fuad Eff.Athanase Saikali from Egypt.Army	21. 2.24.
M.A.Philip Eff.Mobarak to Egyptian Army	6. 1.24.
M.A.Abdel Halim Eff.Abdel Rahman to E.A.	21. 2.24.

ASSISTANT MEDICAL OFFICERS:-

El-Tayib Eff.Mohamed El-Shangity appointed	1. 1.24.
Mohamed Eff.Ahmed El-Sawi appointed	1. 1.24.
Hassan Eff.Osman Dongolawi appointed	1. 1.24.
El-Nur Eff.Issa appointed	1. 1.24.
Mahmud Eff.Rihan appointed	1. 1.24.
Mohamed Eff.Al-Kadi appointed	1. 4.24.
Hamed Eff.Farah Hamed discharged	18. 1.24.

SANITARY INSPECTORS:-

Mr.G.A.Glass appointed	29. 9.24.
Mr.F.C.Murray placed on pension	2. 8.24.

PATHOLOGICAL ASSISTANTS:-

Mr.S.G.Laws appointed	17. 3.24.
Mr.J.R.Newlove placed on pension	30. 7.24.

DISPENSERS:-

Yervant Eff.Nazarian appointed	11. 4.24.
Negib Eff.Milhem Salman appointed	29. 9.24.
Mohamed Eff.Rifaat resigned	29.11.23.
Rafik Eff.Saleh placed on pension	2.12.24.

THE PRESENT ESTABLISHMENT OF THE DEPARTMENT INCLUDES:-

+ British Doctors.....16

Sleeping Sickness Officers(British).....2

British Clerks.....2

British Storekeepers.....2

British Sanitary Inspectors.....13

British Pathological Assistant.....1

British Nurses.....4

Matron Midwifery School.....1

Syrian Doctors.....29

Syrian Doctors(for Sleeping Sickness Work).....13

Dispensers.....5

Assistant Medical Officers(Sudanese).....26

Native Laboratory Assistant.....1

Translators.....10

Accountants.....8

C l e r k s.....18

+ Includes Director, Senior Sanitary Officer.

Eastern Area:-

Medical Inspector (M.O.H)
- Kassala Civil Hospital
- Sanitation, Delta
- Dispensaries
  - Goz Rageb — Assistant Medical Officer
  - Magouda — Male Attendant
  - Hadaliya — Male Attendant

Western Area:-

Senior Medical Officer (M.O.H.)
- Gedaref Military Hospital — (Responsible to P.M.O.)
- Gedafef Civil Hospital — Assistant Medical Officer
- Gallabat Military and Civil Dispensary
- Hafaza Dispensary — Male Attendant

KORDOFAN PROVINCE.

Senior Medical Officer (M.O.H.)
- Obeid Civil Hospital — Medical Officer
- Obeid Military Hospital — (Responsible to P.M.O.)
- Bara Military Hospital & Civil Ward — Assistant Medical Officer
- Nahud Civil Hospital — Medical Officer & A.M.O.for travelling
- Dispensaries
  - Um Ruaba — Assistant Medical Officer
  - Abu Zabad — Assistant Medical Officer
  - Soderi — Assistant Medical Officer
  - Rahad — Assistant Medical Officer

DONGOLA PROVINCE

- Medical Inspector (M.O.H) only available in winter
  - Merowe Hospital (M.O.& A.M.O.)
    - Kareima Dispensary
    - Nuri Dispensary
    - Debba Dispensary
  - Dongola Hospital (M.O. & A.M.O)
    - Tangassi Island (Bilharzia Centre)
    - Argo Dispensary

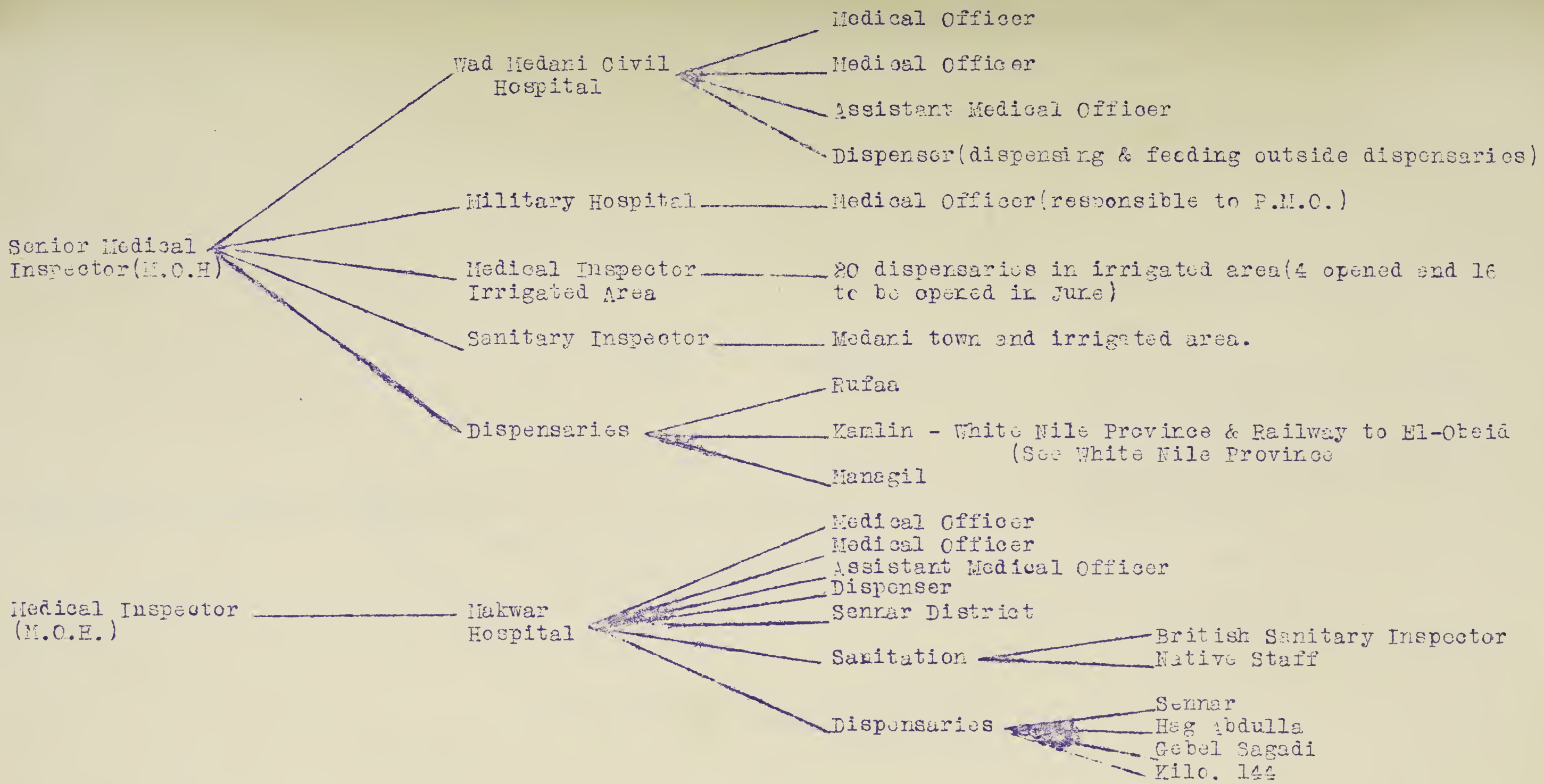
Medical Inspector (M.O.H) is responsible for the sanitation of Government farms, basins and the Province generally while in Province. At other times each Medical Officer is responsible for his half of the Province which he patrols while his Assistant Medical Officer looks after the hospital.

NUBA MOUNTAINS PROVINCE

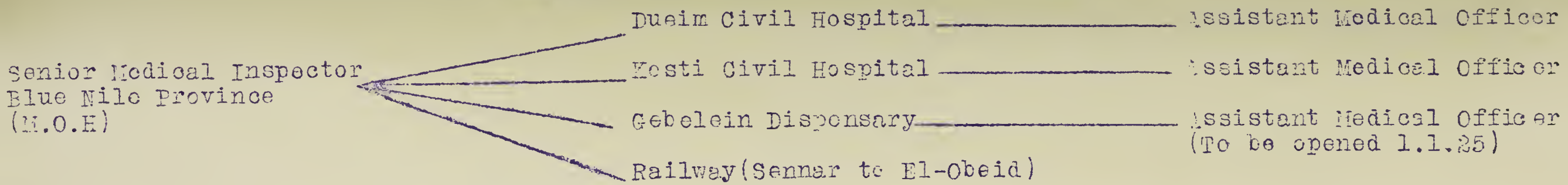
- Senior Medical Officer (M.O.H)
  - Talodi Military Hospital — (Responsible to P.M.O.)
  - Rashad Dispensary — Assistant Medical Officer
  - Talodi Dispensary (To be opened 1.1.25) — Assistant Medical Officer

UPPER NILE PROVINCE

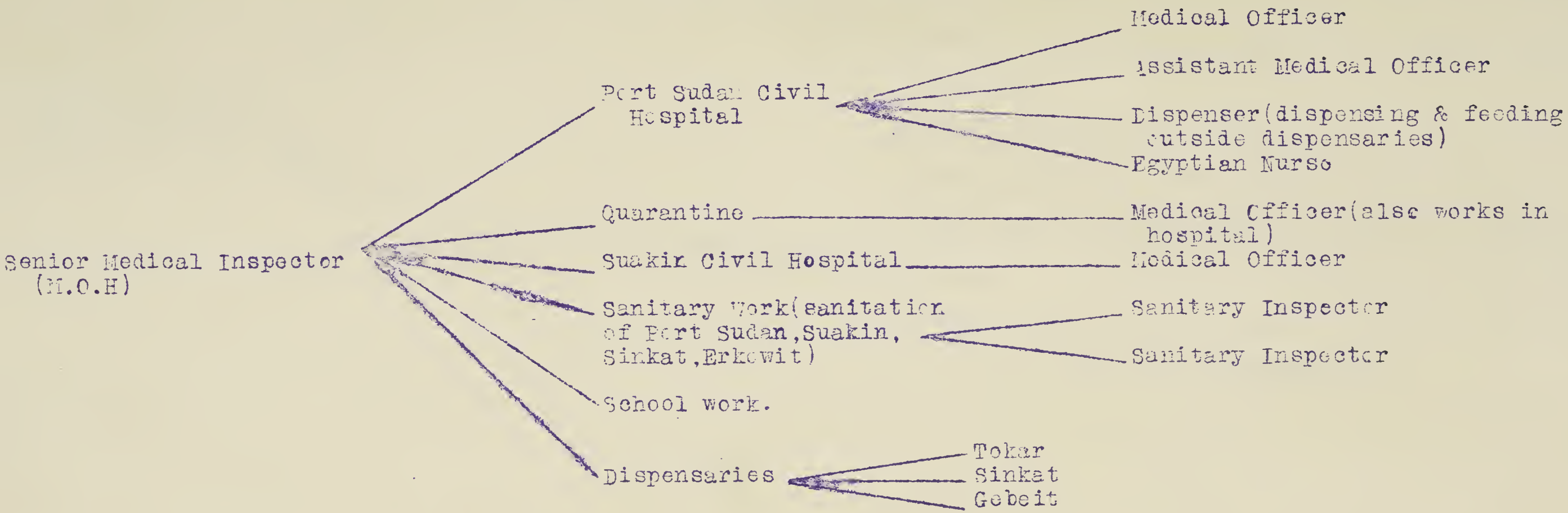
BLUE NILE PROVINCE



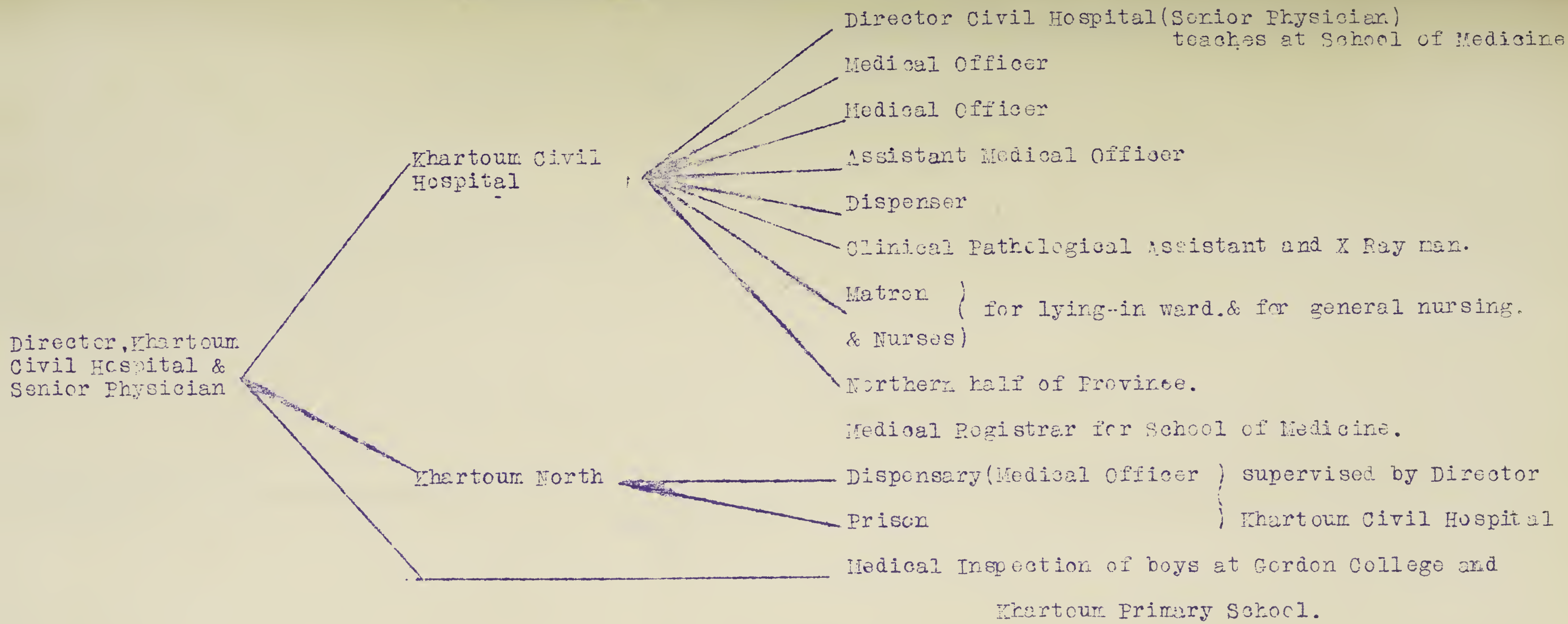
WHITE NILE PROVINCE



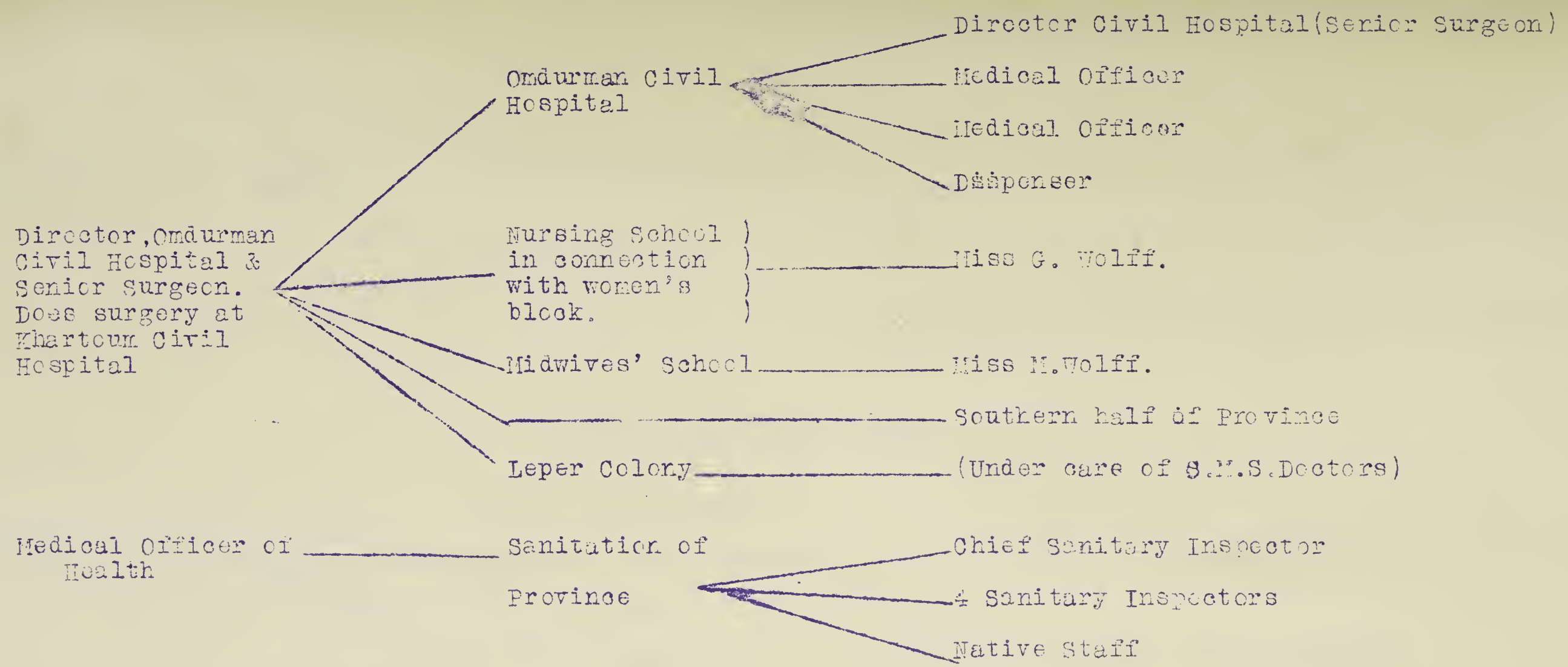
RED SEA PROVINCE



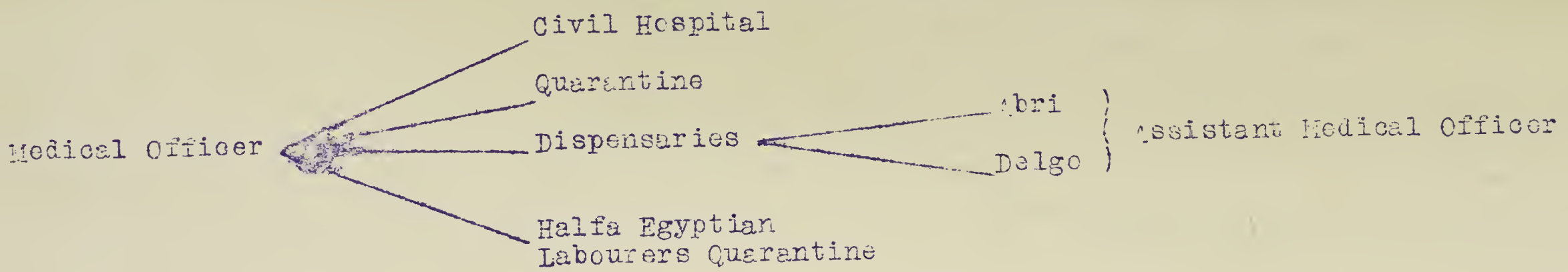
KHARTOUM PROVINCE



KHARTOUM PROVINCE (Continued)

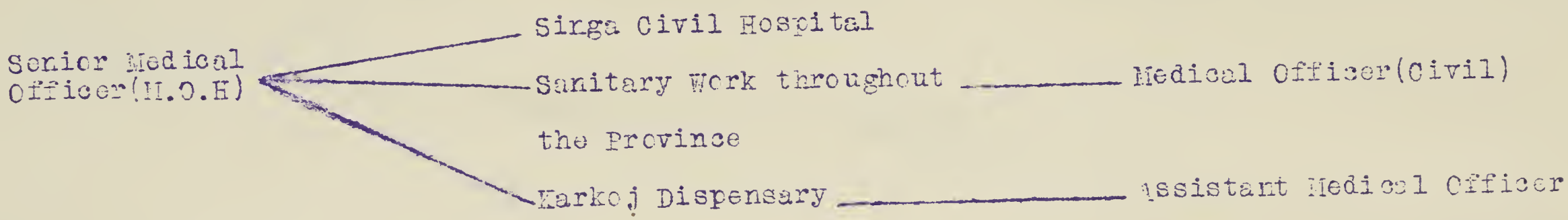


HALFA PROVINCE

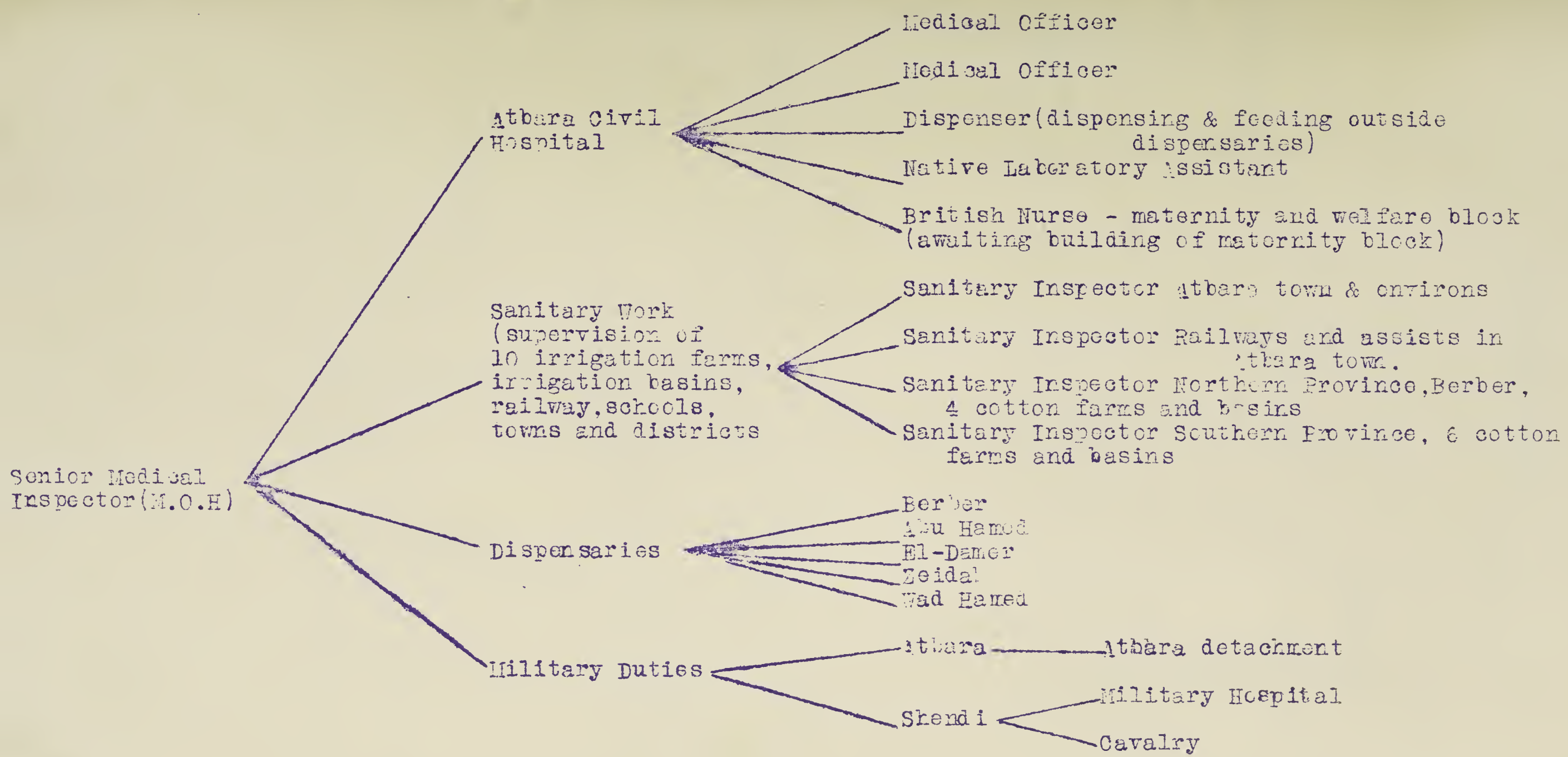


Medical Inspector visits Halfa for the Egyptian Labourers Quarantine during the winter.

FUNG PROVINCE



BERBER PROVINCE



T A B L E - I.

SHOWS NUMBER OF OUTPATIENTS DURING 1924

	Total	%	Free	%	On Payment	%
Government Employees	154032	39.1	147558	43.4	6474	11.7
School Children	54309	13.7	54307	16.0	2	.0
Prisoners	26437	6.8	26437	7.7	-	.0
All Others	159640	40.4	111128	32.9	48512	88.3
Grand Total	394418	100.-	339430	100.-	54988	100.-

T A B L E - II.

SHOWS SUDAN GOVERNMENT OFFICIALS PLACED ON SICK LIST OR ADMITTED TO HOSPITAL DURING 1924

Nationality	Total No. of days spent in hospital and Sick List.
British	2182
Other Europeans	348
Syrians and Egyptians	5071
Sudanese	3936
Total	11537

TABLE - III.

REGISTRATION OF BIRTHS AND DEATHS BY PROVINCES-1924

Province	BIRTHS				STILL BIRTHS				DEATHS			
	Europeans		Natives		Europeans		Natives		Europeans		Natives	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Khartoum	21	17	1964	1884	-	1	99	46	12	7	843	881
Halfa	1	1	765	724	-	-	13	19	1	-	362	347
Red Sea	7	2	134	135	-	-	5	7	12	1	267	216
Berber	-	1	1776	1626	-	-	42	32	2	-	930	986
Dongola	1	-	2884	2196	-	-	106	62	-	-	1075	1091
Kassala	5	1	1968	1402	-	-	56	15	-	-	1039	651
Blue Nile	1	1	4386	3787	-	-	253	109	3	1	2200	1817
Fung	-	-	1084	996	-	-	8	12	-	-	1105	891
White Nile	-	-	1587	1344	-	-	33	30	-	-	723	618
Kordofan	-	1	3376	2974	-	-	37	41	3	-	1479	1199
Bahr-el-Ghazal	-	-	20	24	-	-	-	-	-	-	28	14
Upper Nile	-	-	39	38	-	-	1	1	-	-	33	34
Nuba Mountains	-	-	34	16	-	-	-	-	-	-	27	30
Mongalla	-	-	2	-	-	-	-	-	-	-	9	3
Darfur	-	-	23	15	-	-	1	1	-	-	86	91
Total	36	24	19542	17161	-	1	654	375	34	9	10206	8869
Total	60		36703		1		1029		43		19075	
Grand Total	36763				1030				19118			

% of still births to births = 2.80 approx.

T A B L E - IV.

SHOWS THE DEATH RATE PER 1,000 BIRTHS - CHILDREN UNDER ONE YEAR OF AGE

Province	Births registered	Deaths under one year	Rate per 1000
Khartoum	3886	200	51.4
Halfa	1491	94	63.0
Red Sea	278	51	183.4
Berber	3403	190	55.8
Dongola	4581	372	81.2
Kassala	3376	43	12.7
Blue Nile	8175	336	41.1
Fung	2080	85	4.0
White Nile	2921	117	39.9
Kordofan	6351	112	17.6
Bahr-el-Ghazal	44	2	45.4
Upper Nile	77	4	51.9
Nuba Mountains	50	3	60.0
Mongalla	2	-	-
Darfur	38	5	31.5
Total	36763	1614	43.9

T A B L E - V.

SHOWS THE ADMISSIONS AND DEATHS BY DISEASES

Disease	TOTAL							
	Europeans				Natives			
	Male		Female		Male		Female	
	A.	D.	A.	D.	A.	D.	A.	D.
Table "A"								
TUBERCULAR.								
1. Disease of lung	3	-	1	1	146	19	9	4
2. All other tubercular disease	-	-	-	-	96	10	35	2
VENEREAL.								
3. Syphilis	9	-	-	-	858	3	306	-
4. Gonorrhoea	15	-	-	-	658	1	120	-
5. Soft Sore	2	-	-	-	30	-	20	-
E Y E								
6. Trachoma	-	-	-	-	140	-	52	-
7. All other eye diseases	20	-	-	-	500	-	63	-
8. E A R	3	-	-	-	39	-	4	2
9. S K I N	8	-	-	-	119	-	11	1
10. WOUNDS & OTHER INJURIES	83	1	6	-	4547	55	307	12
TUMOURS.								
11. Malignant	-	-	-	-	29	8	11	3
12. Non-Malignant	-	-	-	-	62	1	31	-
OF WOMEN.								
13. Gynaecological	-	-	-	-	-	-	95	4
14. Confinements	-	-	27	-	-	-	49	-
15. POISONING	-	-	-	-	5	-	1	-
Total Table "A"	143	1	41	1	7229	97	1114	28
Table "B" (Tropical)								
1. Ankylostomiasis	-	-	-	-	73	-	-	-
2. Bilharziais	-	-	-	-	158	-	-	-
3. Blackwater Fever	-	-	-	-	9	-	1	1
4. Dysentery, Amoebic	21	-	2	-	549	13	33	2
5. Dysentery, Bacillary	10	2	-	-	99	4	2	1
6. Filariasis	-	-	-	-	5	-	-	-
7. Madura Disease	-	-	-	-	165	2	18	-
8. Malaria	72	-	4	-	3396	28	54	-
9. Leishmaniasis (Kala-Azar)	1	-	-	-	32	9	-	-
10. Trypanosomiasis	-	-	-	-	1	-	-	-
11. Yaws	-	-	-	-	1	-	-	-
12. Sunstroke	-	-	-	-	1	-	-	-
13. Heatstroke	8	2	1	-	-	-	-	-
14. Guinea worm	-	-	-	-	8	-	2	-
15. Brights Disease	-	-	-	-	3	-	-	-
Total Table "B"	112	4	7	4	4500	56	110	4

T A B L E - V (Continued)

Disease	TOTAL							
	Europeans				Natives			
	Male		Female		Male		Female	
	A.	D.	A.	D	A.	D.	A.	D.
Table "C"(Infective.								
1. Beri-beri	-	-	-	-	3	-	-	-
2. Cerebrospinal Meningitis	-	-	-	-	5	5	-	-
3. Chicken Pox	-	-	1	-	110	-	10	-
4. Dengue	2	-	-	-	146	-	2	-
5. Diphtheria	-	-	-	-	10	2	10	3
6. Enteric(Including Para-typhoid)	4	1	-	-	32	11	2	1
7. Erysipelas	-	-	-	-	5	-	-	-
8. Influenza	20	-	4	-	675	4	13	1
9. Leprosy	-	-	-	-	15	-	4	-
10. Malta Fever	1	-	-	-	10	-	-	-
11. Measles	-	-	-	-	44	2	4	1
12. Mumps	4	-	-	-	283	-	9	-
13. Pellagra	-	-	-	-	3	-	-	-
14. Puerperal Fever	-	-	-	-	-	-	3	2
15. Phlebotomus	-	-	-	-	1	-	-	-
16. Pneumonia(Epidemic)	1	-	-	-	94	16	5	-
17. Rabies	-	-	-	-	6	1	1	-
18. Relapsing Fever	-	-	-	-	1	-	-	-
19. Rheumatic Fever	1	-	-	-	49	1	4	-
20. Scarlet Fever	-	-	-	-	4	-	-	-
21. Tetanus	-	-	-	-	5	2	4	4
22. Whooping Cough	-	-	-	-	11	-	3	-
23. Small Pox	-	-	-	-	4	1	2	-
	42	1	5	-	1516	45	76	12
Table "D"								
1. Circulatory System	21	1	-	-	432	27	35	8
2. Respiratory System	18	1	1	-	973	52	55	4
3. Alimentary System	74	4	9	-	1257	42	91	11
4. Genito-Urinary System	20	1	7	-	407	20	48	3
5. Nervous System	24	-	-	-	212	8	13	1
6. Scurvy	-	-	-	-	11	-	-	-
7. Diabetes	-	-	-	-	14	1	1	-
8. Fever of uncertain origin	15	-	1	-	451	18	9	1
9. All other disease	41	-	-	-	627	9	55	-
Total table "D"	213	7	18	-	4394	177	305	28
" " "A"	143	1	41	1	7239	97	1114	28
" " "B"	114	4	7	-	4500	56	110	4
" " "C"	42	1	5	-	1516	45	76	12
Grand Total	512	13	71	1	17633	375	1605	72

T A B L E - VI.

SHOWS BIRTHS, DEATHS BY AGES AND STILL BIRTHS 1924

Nationality	BIRTHS		DEATHS BY AGES							TOTAL DEATHS		TOTAL STILL BIRTHS	
	Male	Female	Under 1	1 - 5	5 - 10	10 - 20	20 - 40	40 - 60	Over 60	Male	Female	Male	Female
British	5	4	-	-	1	1	5	-	-	6	1	-	-
Greek	18	16	4	3	1	-	6	11	4	22	7	-	1
Other Europeans	13	4	2	-	-	-	4	1	-	6	1	-	-
Egyptians & Syrians	468	463	62	31	12	21	64	43	31	172	92	12	9
Natives of Sudan	19027	16656	1542	2804	1116	1606	3783	3838	3964	9903	8750	641	366
All Others	41	39	4	6	-	14	86	16	20	125	21	1	-
Total	19572	17182	1614	2844	1130	1642	3988	3909	4019	10234	8872	654	376
Grand Total	36754		19106							19106		1030	
% Deaths by ages			8.4	14.8	5.9	8.5	20.6	20.4	21.0				

T A B L E - VII.

VACCINATIONS PERFORMED DURING THE YEAR 1924

Province	PRIMARY			RE-VACCINATION			TOTAL		
	Success	Failed	Unknown	Success	Failed	Unknown	Success	Failed	Unknown
Khartoum	1145	169	119	197	80	73	1342	249	192
Halfa	466	67	10845	-	-	-	466	67	10845
Red Sea	1944	2231	1866	-	-	71	1944	2231	1937
Berber	3677	1095	266	-	-	-	3677	1095	266
Dongola	2961	555	160	-	-	-	2961	555	160
Kassala	6681	3229	2440	-	-	-	6681	3229	2440
Blue Nile	5694	1510	2119	719	-	-	6413	1510	2119
Fung	2697	1733	8869	40	25	20	2737	1758	8889
White Nile	2392	404	12845	1202	1214	275	3594	1618	13120
Kordofan	4390	1655	2101	9	-	-	4399	1655	2101
Bahr-el-Ghazal	144	76	614	14	30	-	158	106	614
Upper Nile	182	90	1283	-	-	-	182	90	1283
Nuba Mountains	69	214	100	-	-	-	69	214	100
Mongalla	784	769	1133	28	68	-	812	837	1133
Darfür	440	875	391	25	5	-	465	880	391
Total	33666	14672	45151	2234	1422	439	35900	16094	45590

TOTAL ALL VACCINATIONS = 97,584

T A B L E - VIII.

SHOWS ADMISSIONS AND DEATHS IN HOSPITALS DURING 1924

Hospital or Dispensary	EUROPEANS						NATIVES					
	1923			1924			1923			1924		
	Adm.	Deaths	%	Adm.	Deaths	%	Adm.	Deaths	%	Adm.	Deaths	%
Khartoum	171	7	4.0	129	5	3.8	1994	79	3.9	1627	77	4.7
Omdurman	2	-	-	-	-	-	1028	33	3.2	1193	37	3.1
Atbara	24	1	4.1	30	-	-	2486	30	1.2	2179	33	1.5
Port Sudan	115	5	4.3	152	8	6.0	1000	25	2.5	1312	31	2.3
Suakin	2	-	-	-	-	-	228	14	6.1	281	9	3.2
Merowe	1	-	-	1	-	-	475	2	0.4	488	3	0.6
Dongola	-	-	-	-	-	-	350	3	0.8	273	2	0.7
Halfa	6	-	-	18	-	-	448	6	1.4	413	12	2.9
Dueim	-	-	-	-	-	-	255	9	3.5	261	6	2.3
Wad Medani	-	-	-	6	-	-	1862	41	2.2	3031	44	1.4
El-Obeid	-	-	-	1	1	100	1075	20	1.8	780	22	2.8
Nahud	-	-	-	-	-	-	508	5	0.9	590	5	0.8
Kassala	-	-	-	-	-	-	532	15	2.8	654	14	2.1
Gedaref	-	-	-	-	-	-	302	19	6.2	307	19	6.1
Makwar	116	-	-	266	-	-	1868	53	2.8	3238	72	2.2
Singa	-	-	-	-	-	-	525	16	3.0	395	28	7.0
Malakal	1	-	-	-	-	-	901	21	2.3	465	4	0.8
Kosti	-	-	-	-	-	-	451	1	0.2	371	4	1.0
Khartoum North	-	-	-	-	-	-	735	5	0.6	478	2	0.4
Abu Hamed	-	-	-	-	-	-	211	1	0.4	111	1	0.9
Port Sudan Prison	-	-	-	-	-	-	122	1	0.8	115	7	6.1
Khtm.North Prisons	-	-	-	-	-	-	358	6	1.6	317	13	4.1
Haiya Junction	-	-	-	-	-	-	-	-	-	377	2	0.5
Total	438	13	2.9	583	14	2.4	17734	405	2.2	19244	447	2.3

T A B L E - IX.

AVERAGE DAILY CONSTANTLY SICK DURING 1924

Hospital or Dispensary	No. of beds equipped.	1923 Oct.	Nov.	Dec.	1924 Jany.	Feb.	March	April	May	June	July	Aug.	Sept	Average by month by hospital
Khartoum	80	66.2	65.7	68.8	66.5	73.4	75.3	66.6	58.5	50.7	52.7	57.5	37.1	738.8
Omdurman	69	35.3	30.3	38.2	29.9	33.0	35.0	48.0	47.5	52.3	57.2	47.5	47.8	502.0
Atbara	70	74.7	72.0	71.0	67.6	80.1	65.7	67.9	52.0	69.8	52.4	57.4	53.7	784.3
Port Sudan	74	35.6	43.7	36.2	51.5	43.2	38.0	39.0	36.3	39.2	25.9	24.2	25.8	438.4
Suakin	17	11.1	10.8	9.0	8.7	9.1	10.8	7.0	5.8	8.4	9.5	4.2	4.5	98.9
Merowe	31	13.6	13.9	16.3	15.2	12.4	19.2	19.6	17.2	16.8	12.0	13.5	17.1	186.8
Dongola	21	15.2	15.6	7.0	11.2	13.8	12.6	7.0	6.9	9.5	8.4	8.4	9.3	124.9
Halfa	28	8.9	8.7	5.7	7.2	8.6	10.1	8.4	9.2	8.4	7.9	11.7	12.7	107.5
Dueim	32	9.6	7.7	15.0	12.0	19.0	19.7	20.0	20.4	9.5	10.6	11.1	10.5	164.9
Wad Medani	93	60.2	71.6	82.8	118.6	189.0	151.4	51.8	102.2	77.4	73.1	88.9	96.4	1163.4
Obeid	47	32.5	31.5	30.9	23.3	32.8	28.0	29.5	30.6	27.2	23.0	21.4	21.8	332.5
Nahud	35	23.0	16.7	18.8	19.4	21.8	21.0	8.1	10.5	18.4	16.8	17.3	23.0	214.8
Kassala	32	32.1	28.4	31.1	30.2	26.7	30.5	21.1	29.3	27.9	22.0	27.7	30.8	337.8
Gedaref	15	13.3	12.1	10.9	10.8	14.2	14.3	3.7	8.6	12.0	11.3	15.2	6.1	132.5
Makwar	113	62.5	77.3	99.5	105.6	114.6	138.6	110.6	140.0	98.6	86.3	87.2	82.0	1117.0
Singa	30	14.7	16.5	16.2	10.6	11.6	14.7	13.8	14.6	14.6	9.3	11.0	14.0	161.5
Malakal	40	28.5	25.4	6.9	7.2	15.0	11.0	13.2	12.7	14.8	18.1	15.0	18.9	186.7
Kosti	18	9.1	9.5	8.6	10.8	8.3	8.7	8.7	8.7	11.8	8.5	9.8	9.1	111.6
Khartoum North	12	26.4	9.6	8.7	9.7	9.0	14.5	15.6	11.6	13.7	10.3	13.0	15.1	157.2
Abu Hamed	18	3.6	3.7	1.5	3.0	1.6	3.6	2.1	2.9	4.5	2.7	4.4	3.0	36.6
Port Sudan Prison	12	4.2	3.3	2.5	4.4	4.4	5.3	3.6	4.1	4.0	5.2	5.5	7.5	54.0
Khartoum North "	17	32.8	10.0	7.4	9.2	6.0	13.8	13.7	6.4	8.5	4.2	9.7	11.4	133.1
Total No. of beds	902													
Average monthly sick all hospitals		613.1	584.0	593.0	651.9	752.6	737.8	582.0	606.4	547.8	517.4	561.6	557.6	7285.2

Average monthly constantly sick = 607.1.

T A B L E - X.

SHOWS NUMBER OF INPATIENTS, OUTPATIENTS AND SALE OF MEDICINES OF CIVIL PATIENTS TREATED IN MILITARY HOSPITALS FOR THE YEAR 1924

HOSPITAL or DISPENSARY	INPATIENTS		OUTPATIENTS		HOSPITAL CHARGES & SALE OF DRUGS	
	1923	1924	1923	1924	1923 £.m/ms	1924 £.m/ms
Shendi	68	63	3364	4505	27.130	43.064
Roseires	130	107	1533	2953	43.340	49.815
Bara	74	94	1973	2674	12.760	25.910
Talodi	204	78	4571	4329	53.125	74.158
Dilling	48	65	690	1283	21.905	37.415
Gallabat	40	56	554	502	-.050	7.905
Mongalla	632	362	4225	5286	78.856	31.288
Torit	231	220	1872	6527	23.265	10.975
Yei	415	461	717	1519	56.525	73.520
Kajo-Kaji	273	357	2782	7154	21.380	16.280
Wau	500	364	6205	11497	128.171	259.821
Tombura	216	146	5375	5137	2.040	8.050
Raga	130	132	3606	2657	13.800	23.037
Rumbek	196	178	9063	6928	86.974	186.395
Akobo	49	17	5520	4423	14.197	8.999
Fashor	493	294	5082	5421	210.888	182.887
Nasser	-	-	-	-	1.970	1.050
Zalingi	2	-	-	-	13.095	11.660
Awail	129	163	2020	2448	4.855	14.665
Nimule	9	57	932	1831	18.810	42.620
Kurmuk	49	46	1704	1316	12.840	21.692
Kadugli	13	646	338	366	9.180	18.250
Yambio	16	53	5679	8433	1.500	7.810
Geneina	88	64	907	1636	7.595	43.250
Kebkebia	7	36	-	65	-	-
Nyala	-	131	-	1771	18.515	22.375
Kuttum	-	-	-	-	7.805	2.520
Gele River Post	-	7	-	291	-	-
Total	4012	3597	68712	90952	890.671	1225.511

T A B L E - XI.

SHOWS MEDICAL BOARDS AND EXAMINATIONS HELD DURING THE YEAR 1934.

Place	Sick Leave		Service south		Invaliding		Pensionable Service		Permanent Service		Temporary Service		Check Examination	Assessment of age	Total	Unclassified Employees		Grand Total
	Recd.	Not recd.	Fit	Unfit	Recd.	Not recd	Fit	Unfit	Recd.	Not recd.	Fit	Unfit				Fit	Unfit	
Khartoum	13	7	60	16	70	24	82	18	168	43	40	14	49	37	641	234	44	919
Atbara	18	-	11	4	71	6	37	9	37	9	4	1	23	2	232	277	103	612
Port Sudan	1	-	3	2	39	1	10	2	23	-	2	1	3	-	87	229	21	337
Wad Medani	-	-	32	5	21	1	16	6	19	1	2	1	1	1	106	117	33	256
Omdurman	2	-	-	-	6	-	-	-	2	-	-	-	-	-	10	31	4	45
Merowe	-	-	13	4	1	-	-	-	-	1	-	-	-	-	19	71	16	106
Dongola	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32	1	33
Singa	1	-	1	-	-	-	8	1	2	-	-	-	-	-	13	31	8	52
Makwar	-	-	-	-	3	1	1	-	7	1	3	-	5	-	24	197	51	272
Malakal	-	-	-	-	1	1	2	-	1	-	-	-	-	-	5	18	-	23
El-Obeid	-	-	-	1	2	-	5	-	6	1	2	-	-	-	18	35	17	90
Halfa	-	-	-	-	3	-	1	1	-	-	7	7	1	-	20	49	32	101
El-Fasher	-	-	-	-	-	-	3	-	1	-	6	-	-	-	10	-	-	10
Kassala	-	-	-	-	2	-	1	-	1	-	-	-	-	-	4	66	12	82
Nahud	-	-	2	1	1	-	-	-	-	-	-	-	-	-	4	24	3	31
Talodi	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1	-	-	1
Wau	-	-	-	-	-	-	-	-	6	1	-	-	-	-	7	-	-	7
El-Ducim	-	-	3	2	-	-	-	-	-	-	-	-	-	-	5	-	-	5
Sinkat	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	-	-	1
Haiya	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-	1
Gebeit	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1
Roseires	-	-	-	-	1	-	-	-	1	-	-	-	-	-	2	-	-	2
Kassala Railhead	-	-	-	-	-	-	-	-	-	-	-	-	2	1	3	-	-	3
Geneina	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1	-	-	1
Gedaref	-	-	-	-	-	-	1	-	1	-	-	-	-	-	2	30	3	35
Khartoum North	1	-	-	-	6	6	-	-	-	-	1	-	-	-	14	-	-	14
Suakin	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	-	3
Cairo +	37	3	-	-	3	1	-	-	8	-	10	-	-	1	63	-	-	63
Egypt (Other than Cairo)	1	-	-	-	1	-	-	-	-	-	-	-	-	-	2	-	-	2
Jerusalem	2	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	2
Syria +	15	-	-	-	-	-	-	-	-	-	-	-	-	-	15	-	-	15
Greece	4	-	-	-	1	-	-	-	-	-	-	-	-	-	5	-	-	5
London +	85	1	-	-	-	1	-	-	63	-	-	-	-	-	90	-	-	90
	122	11	125	35	232	42	172	37	347	57	77	24	85	43	1409	1463	348	3220

+ By Sudan Government Representatives.

T A B L E - XII.

SHOWS RECEIPTS, INPATIENTS, OUTPATIENTS, OPERATIONS DURING 1924

Hospital or Dispensary	In-patients		Hospital Charges		Out-patients		Sale of Medicines		Total Receipts		Operations	
	1923	1924	1923	1924	1923	1924	1923	1924	1923	1924	1923	1924
			£.m/ms.	£.m/ms.			£.m/ms.	£.m/ms	£.m/ms.	£.m/ms.		
Khartoum	2165	1756	1458.767	1393.316	32075	22635	515.719	494.159	1974.486	1887.475	280	337
Omdurman	1030	1193	475.684	501.510	24966	22384	532.209	406.145	1007.893	907.655	91	120
Atbara	2510	2209	959.233	967.711	30170	23116	532.775	511.675	1492.008	1479.386	176.	138
Port Sudan	1115	1141	1093.290	1436.536	16476	18128	566.127	629.475	1659.417	2066.011	169	260
Suakin	230	281	76.417	77.106	8056	8817	117.264	129.720	193.681	206.826	7	17
Merowe	476	489	123.394	128.423	15442	11101	244.415	182.390	367.809	310.813	37	44
Dongola	350	273	107.790	98.790	17140	13141	98.221	65.841	206.011	164.631	36	57
Halfa	454	431	177.440	110.005	10918	10124	88.695	123.105	266.135	233.110	31	42
Dueim	255	261	297.590	251.017	16063	10650	225.020	218.770	522.610	469.787	16	12
Wad Medani	1862	3037	969.708	1957.150	7900	10971	614.429	654.646	1584.137	2611.796	195	186
El-Obeid	1075	781	541.357	172.700	11377	11782	400.294	469.924	941.651	642.624	91	95
Nahud	508	590	157.501	186.343	6110	6583	194.175	171.700	351.676	358.043	48	30
Kassala	532	651	205.621	343.739	11974	6789	405.755	346.741	611.376	689.480	75	59
Gedaref	302	307	77.622	97.005	5021	4773	95.935	49.495	173.557	146.500	6	10
Makwar	2004	3494	-	-	34243	37395	-	-	-	-	145	101
Singa	525	395	214.491	139.526	9502	4602	88.010	37.190	302.501	176.716	14	13
Malakal	902	465	248.619	146.715	19301	16410	250.428	289.130	499.047	435.845	136	241
Kosti	451	371	86.330	74.439	4520	4583	137.330	157.705	223.660	232.144	1	3
Khartoum North	735	478	75.750	60.986	17911	12310	187.017	154.380	262.767	215.366	30	2
Abu Hamed	211	111	38.390	14.417	5312	4174	19.540	19.575	57.930	33.992	-	-
Tokar	-	-	-	-	4652	9583	120.047	142.910	120.047	142.910	-	-
Port Sudan Prison	122	113	-	-	2113	1606	-	-	-	-	-	4
Khtm.North "	358	317	-	-	6286	6968	-	-	-	-	10	5
Abri	-	-	-	-	761	1729	7.360	2.500	7.360	2.500	-	-
Debba	-	-	-	-	5946	4757	46.935	13.015	46.935	13.015	-	-
Gebel Julia	-	-	-	-	5090	6731	-	-	-	-	-	-
Nuri	-	-	-	-	7352	4131	28.665	5.935	28.665	5.935	-	-
Um Ruaba	-	-	2.453	1.097	3494	5498	92.160	29.586	94.613	30.683	-	-
Argo	-	-	-	-	6403	8288	50.130	15.425	50.130	15.425	-	1
Berber	-	-	-	-	5411	5908	48.100	53.016	48.100	53.016	-	-
Damer	-	-	-	-	3508	4508	16.930	8.115	16.930	8.115	-	-
Sinkat	-	-	-	-	-	4880	39.302	56.535	39.302	56.535	-	-
Tongonab	-	-	-	-	449	-	1.735	-	1.735	-	-	-
Sennar	-	-	-	-	-	3596	20.405	7.660	20.405	7.660	-	-
Geidab	-	-	-	-	418	2645	4.350	2.835	4.350	2.835	-	-
Kambeila	-	-	-	-	3829	5056	23.480	43.145	23.480	43.145	-	-
Tareima	-	-	-	-	9451	12180	34.180	34.995	34.180	34.995	-	-
Gebel Sagadi	-	-	-	-	-	12001	-	-	-	-	-	-
Fag Abdulla	-	-	-	-	-	3001	-	-	-	-	-	-
Kashad	-	-	6.094	-	2269	7012	122.581	5.520	128.675	5.520	-	-
Geak	-	-	-	-	3439	315	30.565	-	30.565	-	-	-
Kulaa	-	-	-	-	2378	2135	2.900	-	2.900	-	-	-
Bulin	-	-	-	-	1051	382	-	-	-	-	-	4
Karagil	-	-	-	-	-	835	-	-	-	-	-	-
Kassala Railhead	-	-	-	-	-	6998	-	-	-	-	-	12.
Kalya Junction	-	377	-	-	-	5705	-	-	-	-	-	-
Gelgo	-	-	-	-	-	310	-	-	-	-	-	-
Meleri	-	-	-	-	-	2105	-	-	-	-	-	-
Wad Hamid	-	-	-	-	-	1620	-	2.100	-	2.100	-	-
Baby Baker	-	-	-	-	-	518	55.255	338.360	55.255	338.360	-	-
Abu Zabad	-	-	-	-	-	2431	-	-	-	-	-	-
Koz Rageb	-	-	-	-	-	538	-	-	-	-	-	-
Lubeit	-	-	-	-	-	-	1.325	1.230	1.325	1.230	-	-
Nafaza	-	-	-	-	-	-	1.025	3.100	1.025	3.100	-	-
Bora	-	-	-	-	-	-	3.020	-	3.020	-	-	-
Kiwifery School	-	-	3.800	3.000	-	-	-	-	3.800	3.000	-	-
Headquarters	-	-	-	-	-	-	-	-	29.335	-	-	-
Quarantine	-	-	-	-	-	-	-	-	829.710	955.250	-	-
Stamped Paper	-	-	-	-	-	-	-	-	147.080	157.590	-	-
Fines	-	-	-	-	-	-	-	-	20.016	16.987	-	-
Miscellaneous	-	-	-	-	-	-	-	-	107.990	158.577	-	-
Total	18172	19827	7397.341	8160.531	388815	394418	6065.808	5877.748	14601.280	15326.683	1624	2099