§2. MEDICAL ETHNOGRAPHY OF THE MIDDLE EAST, 1944 (*See* Chart 2)

1. BASIC DATA

The ninth issue (*first* series) of this bulletin presented an analysis of ethnographic differentials with respect to morbidity and mortality from data available in the 1943 Annual Hygiene Report prepared by Medical Statistical Section, G.H.Q., M.E.F. What follows deals with corresponding data for the year 1944. Strengths used for both reports were obtained through medical channels. That of the 9th issue (p. 14) expressed misgivings about the accuracy of these strengths. Since then, the Central Statistical Section, G.H.Q., M.E.F. have undertaken an enquiry to estimate the sources of error involved by using such strengths rather than O2E blanket figures. The results of the enquiry indicate that they are large neither for 1943 nor for 1944. Consequently, we can place some confidence in rates based on them.

Because of different geographical distribution of troops (Table 1) and of the differential incidence of hospitalisation between commands (Table 2), all morbidity figures have been standardised with respect to locality in accordance with the procedure outlined in the previous report cited above. For this purpose, U.K. troops have been the standard. Table 3 shows the standardising factors thus calculated. They represent the amount by which crude rates should be adjusted to allow for geographical variations w.r.t. risk of contracting diseases specified. For example, the standardising factor for Indians with respect to Sandfly Fever is 0·57. From Table 2 we see that by far the highest incidence of Sandfly Fever occurs in Syria and Cyprus. Since over 35% of Indian troops are stationed in these areas we would expect them to have a much higher *total* incidence than U.K. troops, of whom only 10% are in Syria and Cyprus. The application of the standardising factor 0·57 therefore means that we have to reduce the crude Indian rate by almost one half to make it comparable with that of U.K. troops.

2. DIFFERENTIALS w.r.t. MORBIDITY COMMON TO 1943 AND 1944

In agreement with data for 1943 Tables 4–6 point to the following conclusions :

(i) As compared with troops both of European and of Asiatic stock, Africans were especially prone to DYSENTERY and PNEUMONIA, being less prone to MALARIA ;

(ii) Troops of U.K. domicile were much less prone to TUBERCULOSIS, SCHISTOSOMIASIS and MUMPS, and much more prone to INFECTIVE HEPATITIS and DIPHTHERIA than were troops of Asiatic or African origin ;

(iii) U.K. and Indian troops were much less prone to V.D. than were troops of African domicile ;

(iv) Indian troops were much less prone to SANDFLY FEVER than either Africans or U.K. troops.

In contradistinction to data for 1943 the same tables also show :

(i) Indian troops had a lower hospitalised incidence of MALARIA than had troops of U.K. domicile, although twice as high as that of the U.D.F. and more than six times as high as that of British Africans ;

(ii) British Africans had conspicuously few cases of MEASLES.

The 1943 report did not separately list P.U.O. which appears in Table 5. The exceptionally low rate for P.U.O. among troops of Asiatic stock as compared with Africans and U.K. troops tallies closely with that of Sandfly Fever.

On the basis of features common to the statistics of two consecutive years, the following call for comment :

(i) While troops of Asiatic and African origin are not conspicuously more liable to MEASLES, they are particularly liable to MUMPS ;

(ii) The relative immunity to DIPHTHERIA of African and Asiatic troops is suggestive *vis-à-vis* the widespread occurrence of Diphtheritic sores in tropical countries, and the comparative rarity of Cutaneous Diphtheria in U.K. ;

(iii) The relative susceptibility of Africans to PNEUMONIA tallies with experience of troops in West Africa, 1944 (6th issue), but the high Tuberculosis rate among Africans in M.E.F. does not ;

(iv) The higher incidence of INFECTIVE HEPATITIS among U.K. troops as compared with troops of non-European origin tallies with data both from C.M.F. and from West Africa.

It is worthy of note that the Malaria rate for Indian troops is much lower by comparison with U.K. troops in 1944 than in the previous year. The difference is associated with a striking increase of malaria among U.K. troops. Its incidence among Indians remained fairly constant. The Malaria rate for Africans is consistently low by comparison either with U.K. or with Indian troops.

§2 (*contd.*). **MEDICAL ETHNOGRAPHY OF THE MIDDLE EAST, 1944**

3. DIFFERENTIALS w.r.t. MORTALITY AND FATALITY

With regard to mortality and fatality (as respectively defined on p. 15, *9th issue*), the main features which emerge from Tables 7 and 8 are :

(*a*) The important cause of death common to all troops is INJURIES ;

(*b*) Among British Africans and troops of Asiatic origin the most important cause of death (over 30%) is TUBERCULOSIS ;

(*c*) PNEUMONIA makes a substantial (5%) contribution to deaths among Africans but this is *not* because it is more fatal ;

(*d*) C.S.F. has a Fatality Rate of about 20% among all troops, being somewhat less fatal among African than among U.K. troops.

Since the numbers involved are very low, mortality and fatality differentials with respect to MALARIA and DYSENTERY are of doubtful significance. (M.M.J.)

Table I. Relative Strengths by Commands

	U.K.	U.D.F.	Indians	Brit. Africans
Egypt	60·9	80·1	40·6	59·8
Cyrenaica	3·7	11·2	3·2	11·5
Tripolitania	2·2	2·4	0·9	4·8
Palestine	20·3	4·2	15·6	15·9
Syria	9·9	1·9	28·5	7·8
Cyprus	1·3	0·1	6·6	0·2
Sudan and Eritrea ...	1·4	—	—	—
Aden	0·3	—	4·5	—
All M.E.F.	100·0	100·0	100·0	100·0

§2 (*contd.*). **MEDICAL ETHNOGRAPHY OF THE MIDDLE EAST, 1944**

Table 2. Relative Incidence of Disease by Commands (U.K. Troops)

	Egypt	Cyrenaica	Tripolitania	Palestine	Syria	Cyprus	S. & E.	Aden	Total	Sample Size
Malaria	13·7	3·3	2·7	16·1	14·0	2·4	35·4	12·4	100·0	8344
P.U.O.	14·3	4·8	10·9	25·3	11·5	9·4	17·0	6·8	100·0	5865
Dysentery	17·0	11·8	5·9	12·0	13·7	7·4	12·1	20·3	100·0	5577
All V.D.	5·3	1·8	3·9	5·0	9·1	12·9	17·3	44·8	100·0	3161
Syphilis	*8·1*	*2·4*	*4·8*	*9·3*	*14·7*	*8·1*	*20·7*	*32·0*	*100·0*	*602*
Gonorrhoea	*4·7*	*3·1*	*9·6*	*5·0*	*7·7*	*13·6*	*24·3*	*32·0*	*100·0*	*872*
Other V.D.	*5·0*	*1·0*	*1·0*	*4·0*	*8·5*	*13·6*	*13·1*	*53·8*	*100·0*	*1687*
Infective Hepatitis	10·6	9·1	4·2	16·9	26·6	15·7	9·3	7·5	100·0	2525
Mental Diseases	15·6	11·3	9·1	14·9	14·0	2·8	16·6	15·7	100·0	2030
Sandfly Fever	4·0	0·2	2·4	11·0	22·6	58·3	1·5	—	100·0	1914
Pneumonia	15·1	13·2	10·5	12·1	13·2	10·5	11·3	14·0	100·0	725
Scabies	13·4	13·8	3·5	4·7	15·7	31·5	10·2	7·1	100·0	599
Diphtheria	30·1	7·5	2·2	20·4	19·4	16·1	4·3	—	100·0	472
Influenza	17·3	48·9	—	3·3	18·5	12·0	—	—	100·0	281
Tuberculosis	17·3	8·5	4·6	16·3	14·6	15·8	22·9	—	100·0	156
Enteric Fever	8·7	6·2	3·3	6·3	10·5	—	11·0	54·1	100·0	110
Smallpox	60·7	24·1	—	10·7	4·5	—	—	—	100·0	91
Rheumatic Fever	13·4	17·7	19·0	7·4	26·0	16·5	—	—	100·0	63
Measles	19·8	—	—	40·5	39·7	—	—	—	100·0	62
Mumps	16·7	—	15·3	17·4	—	—	50·7	—	100·0	42
C.S.F.	16·4	20·9	—	10·4	52·2	—	—	—	100·0	25
Relapsing Fever	1·4	20·0	—	10·0	14·3	54·3	—	—	100·0	8
Typhus	28·6	—	—	71·4	—	—	—	—	100·0	9
Schistosomiasis	5·9	82·4	—	11·8	—	—	—	—	100·0	3
All Diseases	11·3	7·5	7·8	12·2	12·5	11·4	15·3	21·9	100·0	79474
All Injuries	8·5	9·5	13·8	11·8	13·1	9·9	9·1	24·3	100·0	7683
All Admissions	11·0	7·7	8·4	12·2	12·5	11·3	14·7	22·2	100·0	87157

§2 (*contd.*). **MEDICAL ETHNOGRAPHY OF THE MIDDLE EAST, 1944**

Table 3. Locality Standardising Factors (based on U.K. standard)

	U.D.F.	Indians	Br. Africans
Malaria	1·11	1·06	1·11
P.U.O.	1·17	1·11	1·09
Dysentery	0·95	1·04	1·02
All V.D.	1·17	0·69	1·14
Syphilis	*1·20*	*0·81*	*1·11*
Gonorrhoea	*1·16*	*0·74*	*1·08*
Other V.D.	*1·17*	*0·62*	*1·17*
Infective Hepatitis	1·24	0·82	1·08
Mental Diseases	1·00	1·06	1·02
Sandfly Fever	1·83	0·57	1·25
Pneumonia	0·95	1·03	1·00
Scabies	0·91	0·88	1·00
Diphtheria	0·96	1·10	1·05
Influenza	0·78	1·00	0·82
Tuberculosis	1·03	1·08	1·05
Enteric Fever	1·00	0·75	1·04
Smallpox	0·78	1·41	0·98
Rheumatic Fever	0·97	0·84	0·94
Measles	1·35	0·94	0·85
Mumps	1·00	1·50	1·05
C.S.F.	1·09	0·75	1·00
Relapsing Fever	1·33	0·57	1·00
Typhus	1·11	1·25	1·00
Schistosomiasis	0·40	1·00	0·40
All other diseases	1·03	0·95	1·03
All diseases	1·06	0·95	1·05
All injuries	1·10	0·88	1·01
Total admissions	1·06	0·94	1·05

§2 (*contd.*).. **MEDICAL ETHNOGRAPHY OF THE MIDDLE EAST, 1944**

Table 4. Relative Morbidity Rates

	Crude				Standardised			
	U.K.	U.D.F.	Indians	Br. Africans	U.K.	U.D.F.	Indians	Br. Africans
Malaria	10·50	3·28	7·13	1·00	10·50	3·46	7·95	1·07
P.U.O.	7·38	4·78	1·18	4·70	7·38	5·32	1·37	4·92
Dysentery	7·02	5·03	3·39	23·57	7·02	4·54	3·71	23·06
All V.D.	3·98	11·55	6·29	12·75	3·98	12·93	4·55	13·96
Syphilis	*0·76*	*3·02*	*1·58*	*2·97*	*0·76*	*3·45*	*1·34*	*3·16*
Gonorrhoea	*1·10*	*1·79*	*1·04*	*2·14*	*1·10*	*1·97*	*0·81*	*2·22*
Other V.D.	*2·12*	*6·75*	*3·68*	*7·64*	*2·12*	*7·50*	*2·40*	*8·58*
Infective Hepatitis ...	3·18	0·98	2·31	0·61	3·18	1·16	1·99	0·63
Mental Diseases... ...	2·55	4·25	1·45	1·38	2·55	4·04	1·62	1·35
Sandfly Fever	2·41	0·97	0·77	1·26	2·41	1·69	0·46	1·52
Pneumonia	0·91	0·94	0·76	4·40	0·91	0·84	0·83	4·22
Scabies	0·75	1·42	2·46	0·79	0·75	1·22	2·28	0·75
Diphtheria	0·59	0·21	0·01	0·01	0·59	0·19	0·01	0·01
Influenza	0·35	1·46	0·19	0·27	0·35	1·08	0·20	0·21
Tuberculosis	0·20	0·71	0·66	1·26	0·20	0·69	0·87	1·27
Enteric Fever	0·14	0·09	0·02	0·07	0·14	0·09	0·01	0·06
Smallpox...	0·11	0·10	0·12	0·10	0·11	0·08	0·18	0·10
Rheumatic Fever ...	0·08	0·06	0·07	0·06	0·08	0·05	0·06	0·05
Measles	0·08	0·04	0·07	0·01	0·08	0·06	0·07	0·01
Mumps	0·05	0·13	1·37	0·89	0·05	0·12	2·16	0·90
C.S.F.	0·03	0·09	0·03	0·16	0·03	0·09	0·02	0·15
Relapsing Fever ...	0·01	—	0·04	—	0·01	—	0·03	—
Typhus	0·01	0·03	—	0·01	0·01	0·03	—	0·01
Schistosomiasis	0·003	0·21	0·07	0·70	0·003	0·01	0·07	0·26
All Other Diseases ...	59·66	63·67	71·60	46·02	59·66	62·32	71·55	45·49
All Diseases	100·00	100·00	100·00	100·00	100·00	100·00	100·00	100·00
All diseases	91·18	84·23	86·00	94·53	91·18	83·63	86·90	94·69
All injuries	8·81	15·77	14·00	5·47	8·81	16·37	13·10	5·31
All admissions	100·00	100·00	100·00	100·00	100·00	100·00	100·00	100·00

Table 5. Comparative Morbidity Rates.

	Crude				Standardised			
	U.K.	U.D.F.	Indians	Br. Africans	U.K.	U.D.F.	Indians	Br. Africans
Malaria	100·0	35·1	72·9	11·9	100·0	39·0	77·3	13·3
P.U.O.	100·0	72·9	17·1	80·1	100·0	85·2	19·0	87·3
Dysentery	100·0	80·5	51·9	422·1	100·0	76·5	54·0	430·6
All V.D.	100·0	326·6	169·9	402·9	100·0	384·2	116·8	459·6
Syphilis	*100·0*	*447·7*	*223·0*	*491·3*	*100·0*	*537·3*	*180·7*	*545·3*
Gonorrhoea	*100·0*	*183·2*	*101·4*	*245·4*	*100·0*	*212·4*	*75·1*	*265·0*
Other V.D.	*100·0*	*357·6*	*186·4*	*452·7*	*100·0*	*418·4*	*115·6*	*529·7*
Infective Hepatitis ...	100·0	34·7	78·1	24·0	100·0	43·1	64·0	26·0
Mental Diseases... ...	100·0	187·3	61·1	67·7	100·0	187·3	64·8	69·1
Sandfly Fever	100·0	45·4	34·2	66·0	100·0	83·1	19·5	82·5
Pneumonia	100·0	115·2	89·8	605·5	100·0	109·4	92·5	605·5
Scabies	100·0	211·4	350·7	131·2	100·0	192·3	308·7	131·2
Diphtheria	100·0	39·1	2·1(2)	3·0(4)	100·0	37·4	2·6	3·0
Influenza	100·0	464·3	56·4	94·3	100·0	362·1	56·4	77·1
Tuberculosis	100·0	402·6	360·3	801·3	100·0	414·1	450·0	841·0
Enteric Fever	100·0	72·7	12·7(3)	61·8	100·0	72·7	90·9	63·6
Smallpox...	100·0	102·2	115·6	113·3	100·0	80·0	162·2	111·1
Rheumatic Fever ...	100·0	83·9(8)	100·0	93·5	100·0	80·6	83·9	87·1
Measles	100·0	64·5(6)	100·0	19·0(2)	100·0	87·1	93·5	9·7
Mumps	100·0	266·7	2,766·7	2,114·3	100·0	266·7	4,152·4	2,219·0
C.S.F.	100·0	333·3	100·0(5)	650·0	100·0	366·7	75·0	650·0
Relapsing Fever ...	100·0(8)	—	475·0(8)	—	100·0	—	275·0	—
Typhus	100·0(9)	325·0(4)	—	125·0(3)	100·0	350·0	—	125·0
Schistosomiasis	100·0(3)	9,200·0	2,900·0	34,800·0	100·0	400·0	2,900·0	13,900·0
All diseases	100·0	112·4	107·4	125·7	100·0	118·3	102·1	131·0
All injuries	100·0	217·7	180·9	75·2	100·0	239·5	159·2	76·0
All admissions	100·0	121·7	113·9	121·2	100·0	129·0	107·1	126·1

Figures in brackets are actual numbers of admissions.

§2 (*contd.*). **MEDICAL ETHNOGRAPHY OF THE MIDDLE EAST, 1944**

Table 6. Comparative Standardised Morbidity Rates

	U.K.	INDIANS		BRITISH AFRICANS	
		1943	1944	1943	1944
Malaria	100·0	157·6	77·3	29·4	13·3
Dysentery	100·0	43·7	54·0	350·3	430·6
Infective Hepatitis	100·0	29·8	64·0	20·4	26·0
Sandfly Fever	100·0	14·2	19·5	73·7	82·5
Pneumonia	100·0	63·2	92·5	773·3	605·5
Diphtheria	100·0	1·9	2·6	33·5	3·0
Tuberculosis	100·0	266·7	450·0	445·9	841·0
Measles	100·0	15·7	93·5	292·3	9·7
Mumps	100·0	308·2	4,152·4	2,285·3	2,219·0
Schistosomiasis	100·0	1,689·2	2,900·0	12,843·9	13,900·0

Table 7. Relative Mortality Rates and Fatality Rates.

	Mortality				Fatality (per 100 cases)			
	U.K.	U.D.F.	Indians	Br. Africans	U.K.	U.D.F.	Indians	Br. Africans
All Injuries	40·95	28·79	30·47	11·76	1·47	0·75	1·34	1·89
Pneumonia	4·35	3·03	1·56	5·10	1·66	1·59	1·47	1·08
Enteric Fever	3·62	—	—	1·57	9·09	—	—	21·05
Tuberculosis	3·26	12·12	37·50	30·59	5·77	8·42	40·68	22·61
Infective Hepatitis ...	3·26	—	2·34	0·78	0·36	—	0·73	1·20
C.S.F.	2·17	3·03	0·78	2·75	24·00	16·67	20·00	16·28
Smallpox...	1·81	1·52	—	2·75	5·49	7·14	—	25·00
Malaria	1·09	6·06	1·56	0·39	0·04	0·90	0·16	0·36
Dysentery	0·36	1·52	—	1·57	0·02	0·15	—	0·06
Other Diseases	39·13	43·93	25·79	42·74	.....	.....	.....	.....
All Causes	100·00 (276)	100·00 (66)	100·00 (128)	100·00 (255)	0·32	0·41	0·62	0·88

§2 (*contd.*). **MEDICAL ETHNOGRAPHY OF THE MIDDLE EAST, 1944**

Table 8. Comparative Mortality and Fatality Rates

	Mortality				Fatality			
	U.K.	U.D.F.	Indians	Br. Africans	U.K.	U.D.F.	Indians	Br. Africans
Injuries	100·0	111·5	165·1	96·6	100·0	51·0	91·2	128·6
Pneumonia	100·0	110·6	79·7	394·3	100·0	95·8	88·6	65·1
Enteric Fever	100·0	—	—	145·4	100·0	—	—	231·6
Tuberculosis	100·0	589·5	2550·9	3153·1	100·0	145·9	705·0	391·9
Infective Hepatitis ...	100·0	—	159·4	80·8	100·0	—	202·8	333·3
C.S.F.	100·0	220·7	79·6	424·1	100·0	69·5	83·3	67·8
Smallpox...	100·0	132·5	—	509·2	100·0	130·1	—	455·4
Malaria	100·0 (3)	885·9 (4)	319·5 (2)	121·5 (1)	100·0 (3)	2250·0 (4)	400·0 (2)	900·0 (1)
Dysentery	100·0 (1)	660·0 (1)	—	1448·0 (4)	100·0 (1)	750·0 (1)	—	300·0 (4)
All Diseases	100·0	158·6	221·9	336·3	100·0	128·1	193·8	275·0

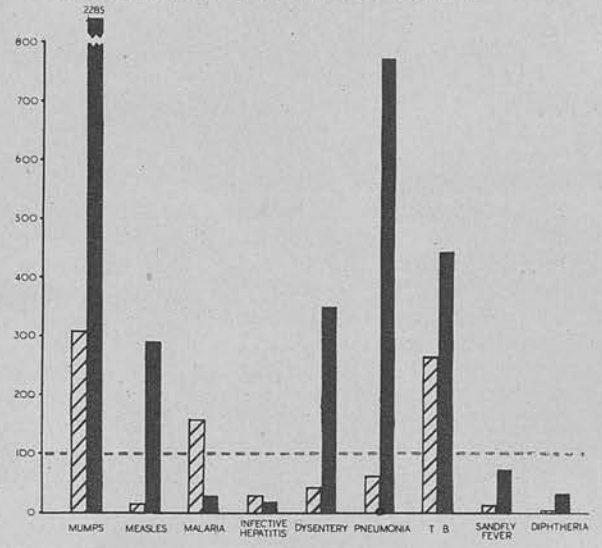
Figures in brackets are actual numbers of deaths.

COMPARATIVE RATES
MIDDLE EAST 1943 & 1944

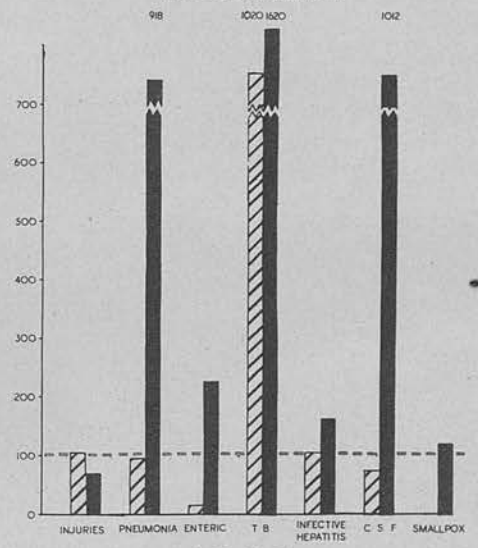
CHART 2

INDIAN ▨ — U.K. STANDARD 100 — AFRICAN ■

STANDARDIZED MORBIDITY



MORTALITY



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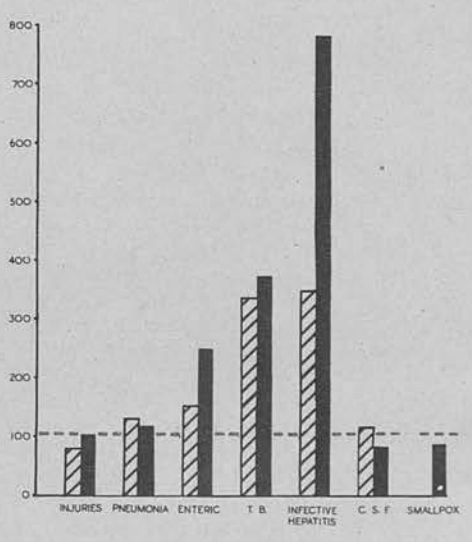
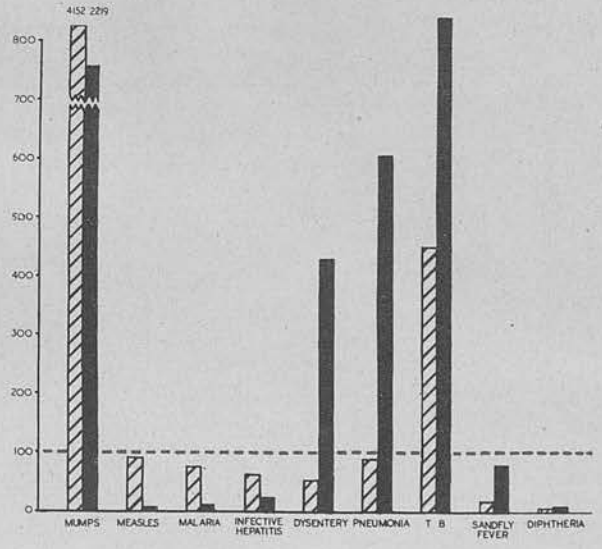
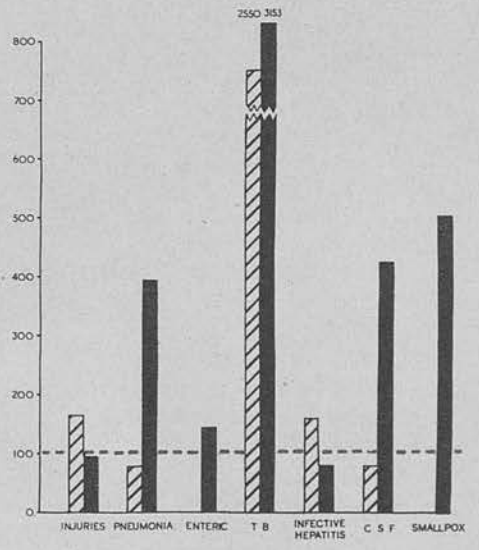
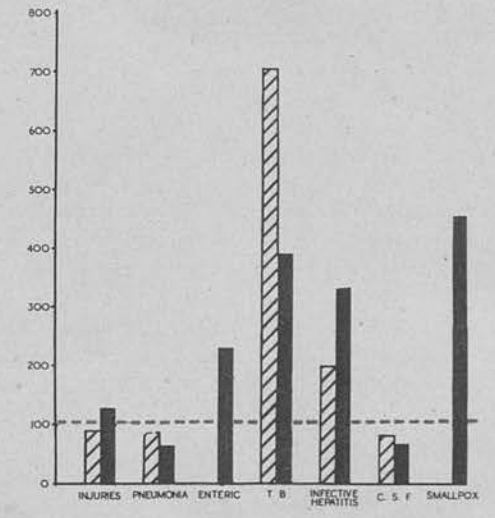


1943







1944

A5181 Fosh & Cross Ltd., London.

§3. WEST AFRICA 1941–1944

This section summarises the outstanding data embodied in the *Annual Statistical Report* 1944 prepared by the A.D.H. West African Force with special reference to the relative importance of diseases among U.K. military personnel and African indigenous troops. Except in so far as they refer to V.D., the figures are based solely on *hospital* admissions.

It is necessary to state emphatically that available sources of information do NOT justify the assumption that the ethnic group differentials disclosed by the ensuing tables have their origin in NATURE AS OPPOSED TO NURTURE. The two populations at risk, respectively of European and African stock, have reached maturity in widely different types of environment, exposed to different sources of infection with concomitantly different degrees of acquired immunity, reared in different climates and accustomed to very different regimens of diet. We have no precise information about the age composition of indigenous African military personnel ; but from what we do know about the expectation of life on the African continent, we can be fairly confident that the age composition of indigenous African military personnel is widely different from that of U.K. troops. We may also assume with some justification that criteria of selection and rejection at enlistment differ appreciably. For all these reasons, observed differences here recorded justify no conclusions about inborn differences with respect to natural immunity. What they do show is which diseases are for one reason or another of GREATER OR LESS CONCERN TO ARMY MEDICAL POLICY *vis a vis* its respective responsibilities for the health of British troops in West Africa and for the health of locally recruited forces of indigenous origin. To avoid continual periphrasis, the terms European and African in what follows, respectively refer to these two personnel categories.

Table 1 shows that the total sickness rate of Europeans has been consistently higher than that of Africans, being initially (1941) more than twice as high and finally (1944) about 30% higher. During this period the admission rate of Europeans has steadily fallen while that of Africans has fluctuated without any characteristic trend. The reason for both these differences is one and the same, namely, successful *control of MALARIA*. This is evident from the fact that the European figures record no steady improvement if we exclude malaria and differ very little from the corresponding figures for Africans. The overall invaliding (*vide infra*) rates for Europeans (Table 2) have been about one and a half times as high as for Africans.

Table 3 shows the relative importance of different diseases as judged by the frequency of their occurrence. The diseases to which Africans are relatively immune are MALARIA, BACILLARY DYSENTERY, AMŒBIC DYSENTERY. The diseases to which African troops are specially prone are V.D., PNEUMONIA, CHICKEN-POX, and TROPICAL ULCER. These differences are not unexpected. What is perhaps surprising is that the Tuberculosis rates for Europeans and Africans tally closely. The high European figure for Schistosomiasis is due largely to a local outbreak in Nigeria.

Table 4 exhibits a gratifying sequence showing the successful control of MALARIA among both European and African troops. An arresting feature of the table is the relatively small reduction in Nigeria and the relatively large reduction in Sierra Leone. The latter is partly due to a high initial rate at a time when a large number of " raw troops went straight to hastily prepared camps and to jungle and night training." The figures in this table should be read in juxtaposition to the information with respect to suppressives employed shown at the foot of the table.

After an initial rise in 1942 the number of cases of BLACKWATER FEVER (Table 5) per 1,000 cases of malaria among Europeans has shown a spectacular decline throughout the command.

Table 6 summarises available information with reference to DYSENTERY, the incidence of which has declined during the last three years. The ratio of *bacillary* to *amœbic* dysentery has been much higher in Sierra Leone and Nigeria than in Gold Coast and Gambia.

During the period under discussion the overall rate for VENEREAL DISEASES has risen greatly among European troops and during the last year among African also. Among Europeans the rise has been most conspicuous in Nigeria where the African rate is high compared with the Command as a whole. The relative frequencies of the several Venereal Diseases exhibit a striking differential in Table 8. The proportionate contribution of GONORRHŒA to total V.D. among Africans is high as compared with the corresponding figure for Europeans, that of SYPHILIS being low. The proportionate contribution of SOFT CHANCRE to total V.D. among Europeans is very high as compared with the corresponding figure for Africans. It is clear that V.D. control is the outstanding problem of Army preventive medicine in West Africa, more especially in relation to the indigenous population.

Tables 3 to 8 indicate the relative importance of the various diseases in so far as frequency of *hospitalisation* is the criterion of importance. Table 9 displays the importance of various diseases as judged by their proportionate contributions to discharge from the Service on medical grounds (Africans) and evacuations to U.K. (Europeans). So far as concerns Africans, the two most noteworthy features are the high proportionate contributions of V.D., TUBERCULOSIS and YAWS. The proportionate contribution of Yaws fell steeply in 1944 ; but it is too early to assess how far this indicates a positive trend.

As regards Europeans, the most striking feature of Table 9 is a 50 per cent drop in the proportionate contribution of chronic MALARIA and BLACKWATER FEVER in 1944 as compared with 1943.

Table 10 introduces a third criterion of importance, *viz.* the proportionate contribution of different diseases to all deaths from disease. From this point of view BLACKWATER FEVER and MALARIA have first place among Europeans, PNEUMOCOCCAL INFECTIONS and TUBERCULOSIS among Africans. It is pertinent to stress the high contribution of tuberculosis to deaths among Africans in view of the fact that the hospital admission rates for T.B. among Europeans and Africans differ very little.

Broadly speaking, we may say that the major diseases in West Africa 1941–44 have been :—

(*a*) *vis à vis* European troops MALARIA and BLACKWATER FEVER, DYSENTERY and V.D. ;

(*b*) *vis à vis* Africans V.D., PNEUMOCOCCAL INFECTIONS, CHICKEN-POX, YAWS and TUBERCULOSIS.

The outstanding positive achievements of Army Medicine in W. Africa have been control of MALARIA (and Blackwater Fever), of DIETETIC DEFICIENCY DISEASES, possibly also of YAWS. On the other hand the present prevalence of V.D., DYSENTERY, TUBERCULOSIS and PNEUMONIA provides no grounds for complacency.

Table 1. Hospital Admissions—all causes ; Rates per 1,000 strength per year ; 1941–1944

(*a*) Europeans

	Gold Coast	Nigeria	Sierra Leone	Gambia	Whole Command	
					All Causes	Minus Malaria
1941	1,737	968	1,804	942	1,620	698
1942	1,585	907	1,583	1,852	1,436	680
1943	1,432	1,186	1,017	1,161	1,157	726
1944	1,029	1,332	677	826	1,105	827

(*b*) Africans

1941	877	372	1,400	500	632	561
1942	811	409	897	881	721	648
1943	733	654	656	803	663	621
1944	950	1,032	421	852	851	806

Table 2. Invaliding rates per 1,000 strength per year ; 1941–1944

(*a*) Europeans (Evacuations to U.K.)

Gold Coast	Nigeria	Sierra Leone	Gambia	Whole Command
53	131	91	76	96
44	95	69	54	70
36	62	55	55	59
44	116	67	75	85

(*b*) Africans

59	51	25	25	44
51	43	23	21	37
52	62	18	34	46

Table 3. Admissions to Hospital—Injuries and Certain Infectious Diseases ; Rates per 1,000 strength per year ; 1944

	(*a*) Europeans	(*b*) Africans	Ratio a ÷ b
Malaria	278·0	45·0	6·2
Venereal Disease	81·2*	386·0*	0·2
Bacillary Dysentery	65·2	4·6	14·2
Amoebic Dysentery	26·0	4·9	5·3
Schistosomiasis	24·3	19·4	1·3
"Jaundice"	7·2	3·5	2·1
Tuberculosis	2·7	2·6	1·0
Pneumonia	1·9	21·4	0·1
Chickenpox	—	17·8	—
Tropical Ulcer	—	8·7	—
Trypanosomiasis	—	1·6	—
C.S.F.	—	1·4	—
Smallpox	—	0·2	—
Enteric Fevers	—	0·2	—

* This figure includes cases treated in units.

§3 (*contd.*) **WEST AFRICA**

Table 4. Admissions to Hospital for Malaria 1942–44 as Percentage of Admissions to Hospital in 1941

Year	Europeans					Africans
	Gold Coast	Nigeria	Sierra Leone	Gambia	Whole Command	Whole Command
1941	100·0	100·0	100·0	100·0	100·0	100·0
1942	86·9	93·1	76·6	161·2	85·1	102·8
1943	46·0	81·9	37·6	73·0	49·4	59·2
1944	24·3	70·7	6·9	26·4	31·1	63·4

Suppressives Employed

January 1941 to March 1943 ... ... Quinine grs. V daily.
March 1943 to August 1943 ... ... Mepacrine 0.4 gm. per week.
August 1943 to May 1944 ... ... Mepacrine 0.6 gm. per week.
May 1944 to December 1944 ... ... Mepacrine 0.7 gm. per week.

Table 5. Number of cases of Blackwater Fever per 1,000 cases of Malaria—Europeans ; 1941–1944

Year	Gold Coast	Nigeria	Sierra Leone	Gambia	Whole Command
1941	8·4	11·5	3·5	16·0	6·0
1942	13·0	23·0	5·0	8·0	13·0
1943	11·0	10·0	6·0	8·0	9·0
1944	1·5	0·5	—	—	1·0

Table 6. Admissions to Hospital for Dysentery (all causes) ; Rates per 1,000 strength, and proportion of Bacillary to Amoebic Dysentery—Europeans ; 1941–1944

Year	Gold Coast	Nigeria	Sierra Leone	Gambia	Whole Command
1941	28	25	46	117	51
1942	21	45	85	53	71
1943	28	42	49	51	42
1944	36	13	24	56	27
Bacillary : Amoebic 1941–1944... ...	1 : 1	4 : 1	6 : 1	1 : 1	2 : 1

Table 7. Incidence of Venereal Disease (all types) per 1,000 strength per year, 1941–1944

(*a*) **Europeans**

Year	Gold Coast	Nigeria	Sierra Leone	Gambia	Whole Command
1941	71·4	37·2	52·2	23·5	51·6
1942	62·3	47·8	41·8	16·2	45·3
1943	64·8	105·9	39·1	20·7	69·4
1944	68·6	110·2	46·4	21·9	81·2

(*b*) **Africans**

1942	319	475	172	86	314
1943	300	359	196	102	296
1944	419	477	280	120	386

Table 8. Percentage Breakdown of Venereal Disease, 1944

(*a*) **Europeans**

Diagnosis	Gold Coast	Nigeria	Sierra Leone	Gambia	Whole Command
Syphilis	8·4	4·1	18·0	23·0	6·3
Gonorrhoea ...	72·8	59·2	70·0	61·5	64·4
Lymphogranuloma ...	7·0	8·8	3·6	—	9·3
Chancroid	11·8	27·9	8·4	15·5	20·0
Total	100·0	100·0	100·0	100·0	100·0

(*b*) **Africans**

Syphilis	2·3	2·1	1·3	8·5	1·7
Gonorrhoea ...	76·6	92·0	94·0	65·0	88·2
Lymphogranuloma ...	11·3	3·5	3·5	—	5·6
Chancroid	9·8	2·4	1·2	26·5	4·5
Total	100·0	100·0	100·0	100·0	100·0

NOTE.—The rise shown in Table 7 (*a*) for the Whole Command in 1944 does not appear compatible with the rises for the individual colonies. This may be due to difficulties with regard to accurate strength figures for each colony.

Table 9. Relative Causes of Evacuation to U.K. (Europeans) and Invaliding (Africans); Percentages of Total Evacuations or Invalidings

	Europeans (Evacuation to U.K.)		Africans (Invaliding)		
	1943	1944	1942	1943	1944
Chronic Malaria and Blackwater Fever ...	22·4	11·1	* * *	* * *	* * *
Nervous and Psychiatric (*a*)	18·5	17·6	—	—	11·5
E.N.T. Diseases	6·8	7·6	* * *	* * *	* * *
Accidents	5·3	5·9	* * *	* * *	* * *
Tuberculosis	4·8	3·8	6·8	6·8	10·4
Amœbic Dysentery	1·5	7·6	* * *	* * *	* * *
Venereal Disease	0·8	0·3	5·7	5·7	4·3
Yaws	* *	*	25·2	25·1	4·3
Guinea Worm...	* *	*	5·9	5·9	1·1
Leprosy...	* *	*	2·3	2·4	4·8
Other Causes	39·9	46·1	54·1	54·0	61·5
Total	100·0	100·0	100·0	100·0	100·0

(*a*) There are no satisfactory records of African psychiatric cases invalided during 1942 and 1943

* less than 0·2%

* * less than 0.5%

* * * less than 1·0%

Table 10. Relative Causes of Deaths; Percentages of Total Deaths due to Disease and Rank of each item, 1941–1944

	Percentage		Rank	
	Europeans	Africans	Europeans	Africans
Blackwater Fever	36·20	0·45	1	15
Malaria	13·49	0·83	2	13
Pneumonia	4·91	—	3	—
Pneumococcal Infections	—	17·07	—	1
Staphylococcal Infections	4·29	7·70	4	4
Neoplasms	3·68	4·46	5	6
Infective Hepatitis	3·07	6·42	6	5
Heat Exhaustion	2·46	0·98	7	12
Nephritis	2·45	3·85	8	7
Encephalitis	2·45	1·21	9	11
Smallpox	1·84	1·66	10	10
Tuberculosis	1·23	13·22	11	2
Bacillary Dysentery	1·23	3·25	12	8
Streptococcal Infections	1·23	2·11	13	9
Meningococcal Infections	—	10·80	14	3
Vitamin Deficiencies...	—	0·83	15	14
Others	21·48	25·16	—	—
Total	100·00	100·00	—	—

§4. INDIA—Table 1, December 1944 ; Tables 2 and 3, January 1945.

Figures in Tables 1 and 2 come from a monthly cable from India. Owing to lack of information concerning appropriate strengths, M.M.Rs. per 1,000 cannot be calculated ; therefore Table 1 shows crude figures only. In Table 2 no differentiation between sick and wounded is possible. Figures in Table 3 come from a monthly return from India. Rates shown are as reported. They are not expressed as M.M.Rs. because the exact period covered is not clear.

In Table 3 TOTAL ADMISSION rates for All India with respect to British Troops have declined slightly, the fall being greatest in Eastern Command.

Table 1. Morbidity State ; British Troops (including British element of Indian Army) ; Crude Figures ; December 1944

	December
Admissions to Hospital :	
All Causes	18,279
Wounded	181
Accidental Injuries	1,045
Sick	17,053
Malaria (primary and relapse)	4,685
V.D. (all cases)	1,249

Table 2. Hospital Bed State ; Crude Figures ; 31st January 1945

	Officers	Other Ranks	Total
Total Beds Equipped	4,029	123,940	127,969
Total Beds Occupied	1,863	76,213	78,076
Beds Equipped for British Troops	4,029	31,544	35,573
Beds Occupied by British Troops, All Cases	1,662	13,481	15,143

Table 3. Admissions to Hospital ; Presumably Crude Monthly Rates per 1,000 Strength ; January 1945

(*a*) **British Troops.**

	North-Western Army	Southern Army	Central Command	Eastern Command	All India
Total Admissions	127·1	62·5	80·7	46·4	65·6
Malaria	41·6	16·4	29·9	8·4	18·9
Sandfly Fever	0·4	0·2	0·1	0·0	0·1
Dysentery Group	2·3	4·7	3·2	2·9	3·7
Venereal Disease	7·0	5·8	6·7	7·8	6·6
Respiratory Group	11·0	3·6	4·4	2·1	3·0
Local Injuries	9·1	4·1	6·1	4·7	5·0

(*b*) **Indian Troops.**

	North-Western Army	Southern Army	Central Command	Eastern Command	All India
	47·2	53·2	50·5	57·9	51·5
	6·0	5·8	6·8	8·0	6·5
	0·0	0·0	0·0	0·0	0·0
	0·6	0·8	0·7	1·7	0·8
	1·2	6·0	2·1	5·5	3·4
	9·7	6·1	8·2	6·5	7·7
	6·5	6·1	6·1	6·2	6·3

§2. SEASONAL DISTRIBUTIONS OF HOSPITAL ADMISSIONS IN U.K. (1943)

The source of data in this section is A.Fs.I. 1220 with reference to O.Rs. only. Thus the figures do not refer to cases treated in medical units other than hospitals documented as such. Partly because the figures are on this account defective, partly because of the known leakage due to faulty rendition of A.F.I. 1220 by E.M.S. hospitals, it would be misleading to present absolute rates, which would in any case blur the picture in so far as the main objective is to bring into focus the relative liability of different diseases to gross seasonal fluctuation and the seasons at which incidence is greatest or least. With that end in view we are entitled to treat the records as a representative sample ; and to exhibit the data as relative monthly incidence distributions on the same scale. The tables for military O.Rs. and A.T.S. exhibit the size of each sample in the extreme left-hand column. The scatter index (σ) shown in the extreme right-hand column indicates which diseases are more or less liable to large seasonal fluctuations. As we should expect all the diseases with a high value of σ, i.e. subject to great seasonal variation (Chart 1) are of the communicable class, notably : (*a*) RUBELLA, MEASLES, MUMPS, with peaks in late winter or spring and lowest incidence in autumn ; (*b*) BACILLARY DYSENTERY and TYPHOID, with peaks in late summer or autumn and lowest incidence at mid-winter. Two non-communicable diseases exhibited noteworthy seasonal fluctuation—though of an order far less than that of the above-mentioned. ASTHMA had an autumn peak with lowest incidence in spring, and MANIC DEPRESSIVE PSYCHOSIS had a summer peak with lowest incidence in winter. ANXIETY STATE also showed a tendency to rise in summer and fall in winter, but this may be due to the inclusion in this diagnosis of some Depressives.

It should scarcely be necessary to emphasise that these distributions are not comparable with those of a civilian population in which there is domiciliary treatment of communicable diseases, greater variability with respect to the scope of preventive measures and a large component of pre-service age groups. Hence it should occasion no surprise if communicable diseases (e.g. *diphtheria*) subject to large epidemic fluctuations in the one maintain throughout the calendar year a fairly steady level in the other. Of communicable diseases other than the five cited previously, it is noteworthy (Chart 2) that the spring peak for SCARLET FEVER is appreciably later than that of RHEUMATIC FEVER, that *acute* OTITIS MEDIA had its maximum incidence at mid-winter. The chronic form was subject to much less seasonal variation, but the incidence of *chronic* SINUSITIS with a peak in late winter fluctuated somewhat more than that of the acute stage. It is not surprising that SYPHILIS comes at the foot of the list of communicable diseases arranged in descending order of seasonal variability. The fact that GONORRHOEA has a much higher scatter index is of no significance in this connexion, since its relative incidence declines steadily month by month, a fact which suggests change of policy with reference to extent of treatment of this disease in hospital. (M.M.J. ; L.H.)

§2 (*contd.*). **SEASONAL DISTRIBUTIONS OF HOSPITAL ADMISSIONS IN U.K. (1943)**

Table I. Seasonal Distributions 1943 ; Military Other Ranks

	Cases	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total	Scatter Index
A. Communicable Diseases—															
Rubella	1,017	2·2	4·1	11·9	24·3	27·1	17·9	5·9	2·3	0·9	0·9	0·7	1·7	100·0	9·2
Measles	953	8·3	13·5	21·0	26·5	14·8	7·3	4·6	1·1	0·8	0·6	0·9	0·6	100·0	8·5
Mumps	984	16·0	18·4	18·3	12·5	8·9	5·6	4·6	2·9	3·5	2·4	3·8	3·1	100·0	6·0
Bacillary Dysentery	608	4·0	7·3	7·6	3·8	6·1	9·1	13·1	25·4	12·4	6·0	3·2	2·0	100·0	6·0
Typhoid	162	1·1	4·5	2·4	1·8	2·4	16·2	8·4	10·2	13·9	15·4	15·2	8·4	100·0	5·6
Bronchopneumonia	823	10·7	13·2	12·5	10·2	7·2	5·3	3·5	3·4	4·4	4·8	11·5	13·3	100·0	3·8
Lobar pneumonia	1819	13·0	10·0	14·0	10·6	8·4	5·0	4·3	3·7	3·2	6·5	10·0	11·3	100·0	3·6
Otitis Media—*acute*	731	12·4	12·7	8·6	9·9	5·7	4·9	4·2	5·6	6·0	5·8	10·4	14·0	100·0	3·3
Erysipelas	264	10·6	6·0	9·1	6·9	8·5	6·2	6·4	6·0	6·3	8·4	18·1	7·5	100·0	3·1
Scarlet Fever	842	7·6	10·8	11·3	11·9	10·7	7·0	3·8	3·8	5·4	6·1	9·9	11·6	100·0	2·9
Chickenpox	411	13·1	9·5	4·7	9·6	10·8	7·0	8·0	6·0	5·8	7·2	9·6	8·7	100·0	2·3
Rheumatic Fever	461	9·9	11·0	11·9	10·3	8·3	6·4	6·4	5·6	5·4	5·5	10·8	8·4	100·0	2·3
Sinusitis—*chronic*	250	8·9	10·6	13·1	7·7	5·5	7·4	8·7	5·5	8·7	8·5	9·6	5·9	100·0	2·2
T.B. other than pulmonary	435	6·0	7·7	9·5	11·1	12·2	7·0	8·9	6·8	8·6	6·0	10·5	5·7	100·0	2·1
Gonorrhoea	10,675	12·3	11·7	9·9	7·9	7·2	7·8	8·0	8·8	7·7	7·6	6·5	4·7	100·0	2·0
Sinusitis—*acute*	135	8·9	10·1	11·5	8·9	8·0	4·5	5·2	8·0	6·9	9·7	9·3	8·8	100·0	1·9
Glandular Fever	272	5·1	8·1	9·5	11·4	9·4	11·2	8·0	7·6	8·8	6·7	7·2	6·9	100·0	1·7
Otitis Media—*chronic*	1,646	9·2	8·4	7·4	9·4	6·9	6·8	8·0	9·8	8·4	7·1	11·4	7·3	100·0	1·4
Diphtheria	779	7·9	8·7	9·9	9·2	7·7	9·6	6·7	8·1	6·5	6·7	9·2	9·8	100·0	1·2
Impetigo	7,732	8·2	9·1	9·2	8·3	7·9	7·7	6·3	8·5	8·6	9·7	10·3	6·3	100·0	1·2
T.B. Pulmonary	1,353	8·1	9·4	7·0	7·3	8·6	9·6	7·4	10·1	8·1	7·0	9·6	7·9	100·0	1·1
Infective Hepatitis	3,536	9·3	10·2	8·7	9·0	8·4	7·1	6·1	7·4	7·1	8·2	8·8	9·6	100·0	1·1
Tonsillitis	3,604	8·4	7·4	7·9	7·5	7·7	6·8	8·0	7·8	10·0	9·8	9·9	8·9	100·0	1·1
Syphilis	2,471	9·1	9·3	8·9	7·9	7·6	7·9	8·2	8·3	7·6	9·1	8·0	8·1	100·0	0·6
B. Non-Communicable Diseases															
Asthma	925	7·5	5·3	6·2	5·3	5·9	8·2	7·7	8·4	12·4	10·2	14·1	8·6	100·0	2·5
Manic Depressive psychosis	1,004	8·3	8·0	6·5	9·0	7·9	10·7	12·4	10·3	8·6	7·6	6·3	4·4	100·0	2·1
Bronchitis—*chronic*	3,190	10·0	8·1	9·6	7·1	7·6	6·8	7·4	6·7	7·5	7·7	11·8	9·6	100·0	1·4
Gastric Ulcer	624	7·3	9·3	8·8	7·2	7·9	7·8	9·3	7·0	5·3	9·2	11·3	9·5	100·0	1·4
Anxiety State	6,458	6·6	7·8	8·2	8·1	8·7	9·6	10·1	9·1	8·8	7·4	9·1	6·4	100·0	1·0
Hysteria	2,908	6·7	8·2	8·0	7·0	7·9	7·8	8·5	8·3	9·3	10·3	10·3	7·6	100·0	1·0
Duodenal Ulcer	2,439	8·9	8·3	9·8	8·3	8·8	8·4	7·7	7·9	7·5	8·3	9·0	7·2	100·0	0·8
Sciatica	1,462	9·6	9·3	8·9	7·5	9·3	8·1	8·1	7·4	7·9	7·5	8·6	7·7	100·0	0·6

Table 2. Seasonal Distributions 1943 ; A.T.S. Other Ranks

	Cases	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total	Scatter Index
A. **Communicable Diseases**—															
Bacillary Dysentery	111	4·0	—	0·9	26·6	4·5	8·2	8·6	24·0	16·9	1·7	4·5	—	100·0	8·8
Rubella	264	3·2	3·5	14·3	29·6	20·6	11·5	7·8	1·8	—	1·1	3·7	2·9	100·0	8·7
Measles	304	13·9	15·5	22·5	19·9	16·7	5·3	2·1	2·4	1·5	—	—	0·3	100·0	8·3
Mumps	208	18·4	19·4	16·7	10·1	9·0	8·2	1·7	2·2	4·5	2·6	3·2	4·0	100·0	6·3
Otitis Media—*acute*	113	16·0	8·2	9·9	7·3	3·4	2·6	4·1	3·3	6·8	4·1	11·3	22·9	100·0	5·8
Lobar Pneumonia	104	14·2	12·2	11·7	7·8	2·8	2·8	1·8	3·5	5·5	6·3	15·9	15·5	100·0	5·1
Scarlet Fever	275	11·2	12·6	8·9	8·2	9·9	4·6	4·1	6·0	2·4	8·2	11·7	12·2	100·0	3·3
Diphtheria	191	5·0	16·3	9·6	11·8	8·6	7·2	7·3	8·7	8·5	6·4	4·6	6·0	100·0	3·1
Gonorrhoea	390	9·6	9·2	11·8	11·4	12·5	9·6	7·4	8·3	7·2	3·4	6·3	3·5	100·0	2·9
T.B. other than pulmonary	94	9·1	6·2	12·0	12·1	7·3	8·4	11·0	4·0	7·2	7·0	8·4	7·2	100·0	2·3
Tonsillitis	534	5·3	8·6	8·5	8·8	8·5	6·5	7·1	8·6	9·5	11·0	11·4	6·4	100·0	1·8
Infective Hepatitis	302	6·0	9·7	11·9	8·6	9·1	6·2	6·5	9·0	8·0	9·4	7·5	8·0	100·0	1·6
Impetigo	329	8·9	5·7	8·5	9·5	11·1	8·4	8·0	8·3	8·6	7·2	10·0	5·9	100·0	1·5
T.B. Pulmonary	161	9·4	8·0	8·3	7·1	9·1	8·0	11·7	7·0	7·2	7·7	7·4	9·0	100·0	1·2
B. **Non-Communicable Diseases**—															
Asthma	206	7·3	8·6	8·6	3·5	4·3	5·8	6·9	11·4	15·6	9·3	12·1	6·6	100·0	3·3
Bronchitis—*chronic*	111	15·3	9·4	9·2	10·2	6·1	7·0	5·0	6·7	6·9	5·1	11·5	7·8	100·0	2·9
Manic Depressive Psychosis	177	4·3	6·7	8·8	8·3	7·3	7·3	10·7	11·7	11·1	10·3	7·4	6·1	100·0	2·2
Anxiety State	432	6·0	8·7	8·4	7·2	7·7	10·4	12·0	10·0	10·4	7·3	6·5	5·4	100·0	1·9
Hysteria	444	9·9	8·9	6·0	7·9	9·7	8·0	7·4	8·4	10·5	6·6	9·4	7·2	100·0	1·3

§3. RELATION OF AGE TO WASTAGE : (c) TOTAL WASTAGE AND SEX STANDARDISATION FACTORS

1. Previous issues (7th and 10th) of the Monthly Bulletin of Health Statistics have set forth age distributions of selected diagnostic categories with reference to (*a*) discharges from service on medical grounds; (*b*) hospital admissions in U.K. The first instalment also included tables of factors for age standardisation of annual incidence of discharge rates with reference to such diseases. The relation of age to total wastage in the Army is not on record, and the second instalment of this series set forth only a few specimen age-standardisation factors with respect to hospital admissions in U.K.

2. TOTAL WASTAGE

Relative age distributions (see p. 14, 7th issue) both for discharges from service on medical grounds and for U.K. hospital admissions with reference to sickness alone appear below :

(i) **MILITARY O.Rs.**

Table I. Age Distributions of Total Wastage with respect to Disease (1943)

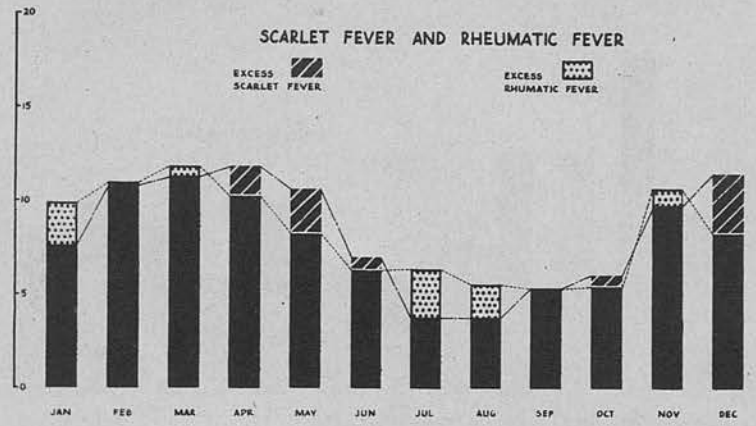
	< 22	22–24	25–27	28–30	31–33	34–36	37–39	40–42	43–45	> 45	Total
U.K. Hospital Admissions	11·20	8·89	8·42	9·62	9·11	9·65	10·22	10·02	12·42	10·47	100·00
Medical Discharges	4·30	3·42	3·77	4·36	5·43	6·73	8·64	12·81	17·95	32·39	100·00

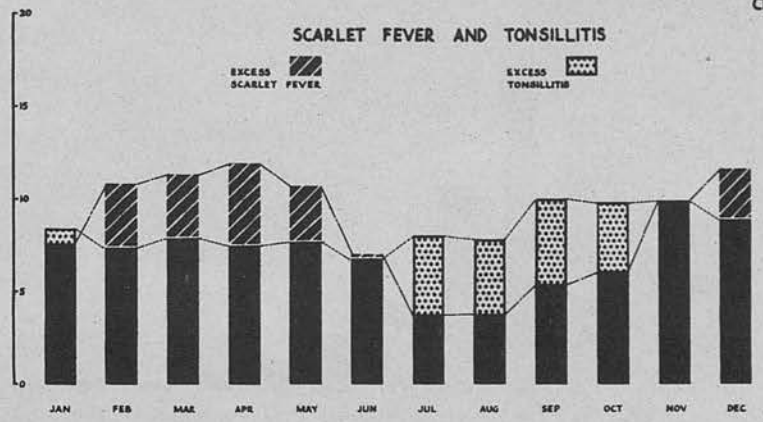
(ii) **A.T.S. AUXILIARIES**

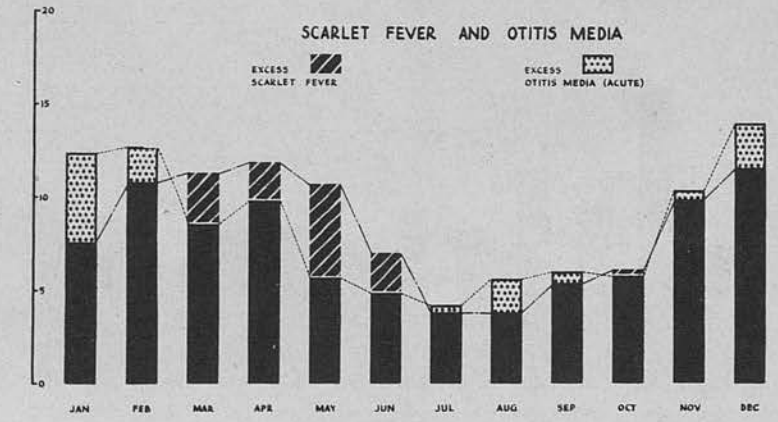
	< 22	22–24	25–27	28–30	31–33	34–36	37–39	> 39	Total
U.K. Hospital Admissions	13·39	10·89	12·95	13·18	12·37	14·82	13·25	9·15	100·00
Medical Discharges	5·22	4·96	6·87	9·53	11·10	12·73	18·70	30·90	100·00

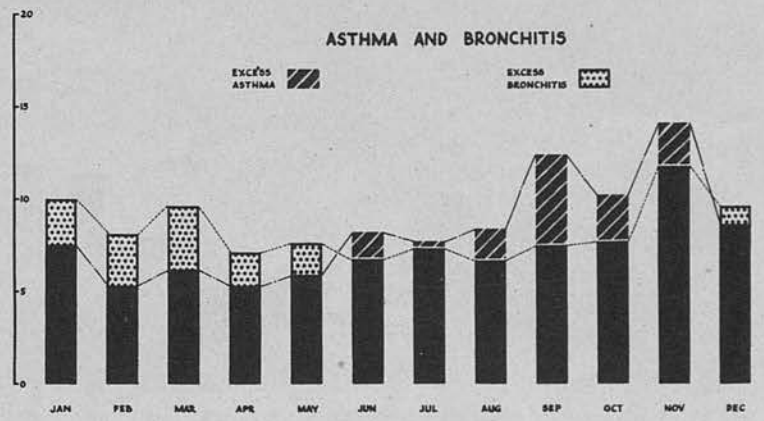
RELATIVE FREQUENCY HOSPITAL ADMISSIONS U.K. 1943

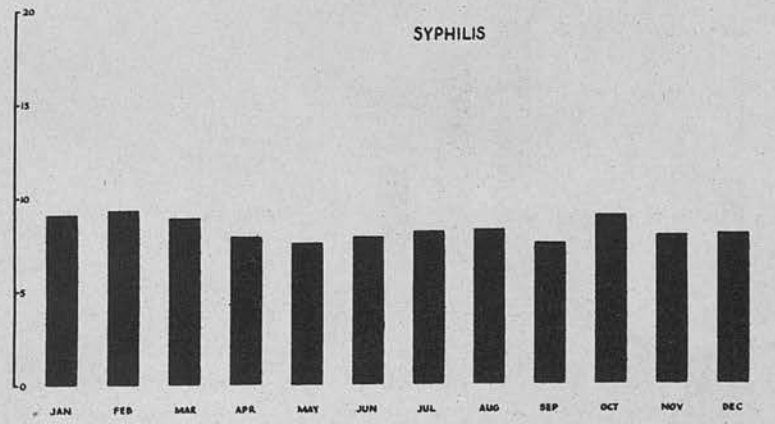
CHART 1

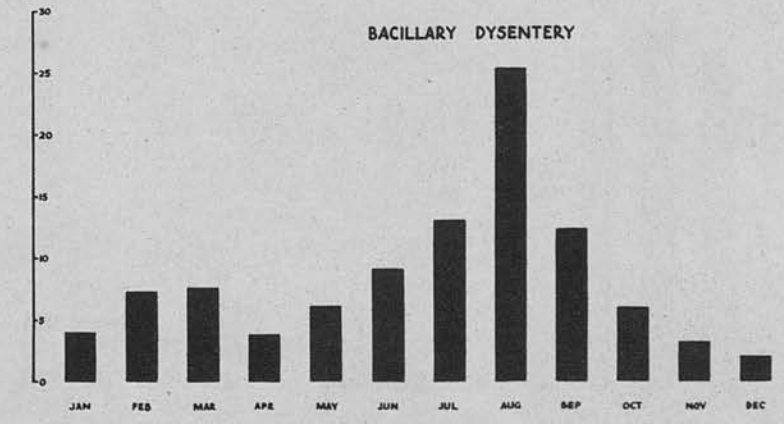












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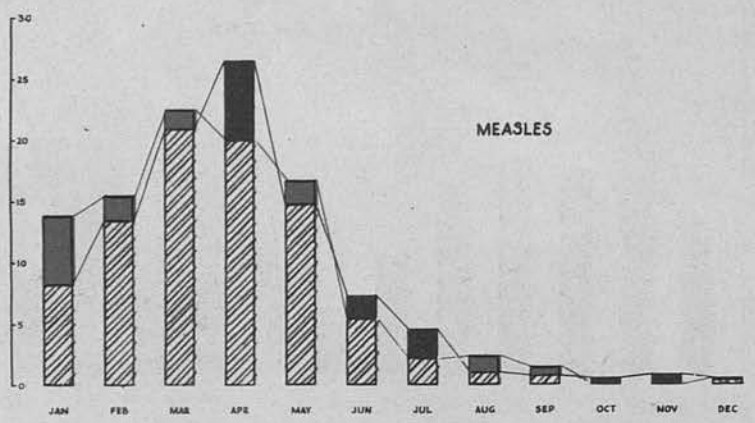
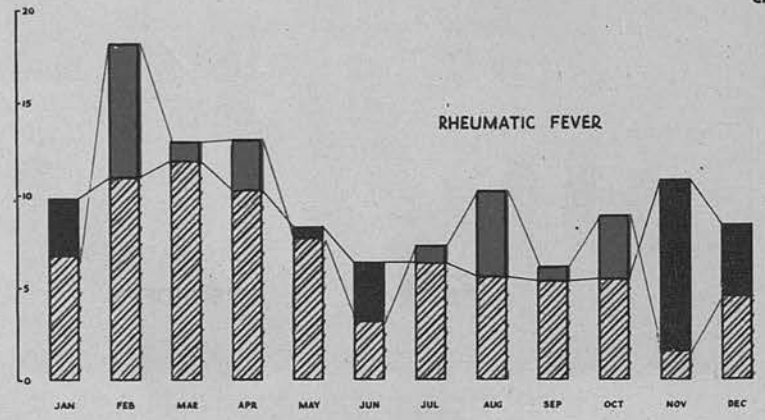
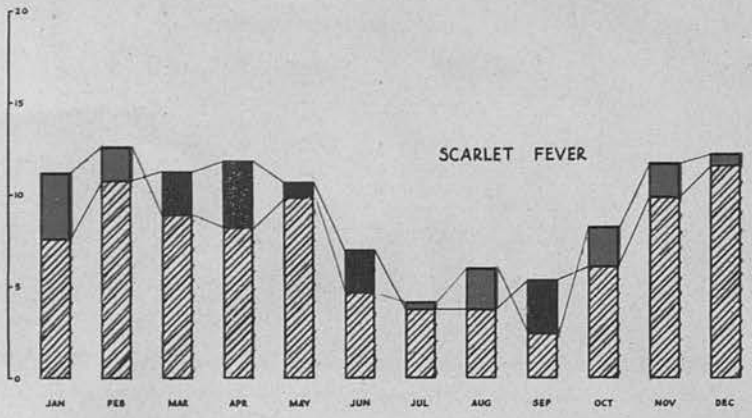
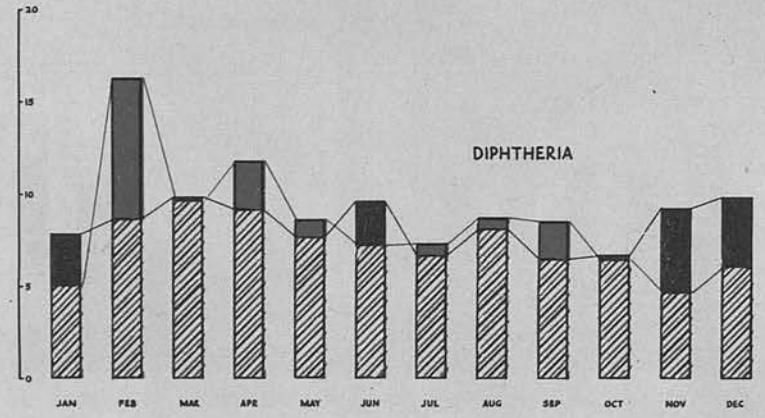
RELATIVE FREQUENCY HOSPITAL ADMISSIONS U.K. 1943

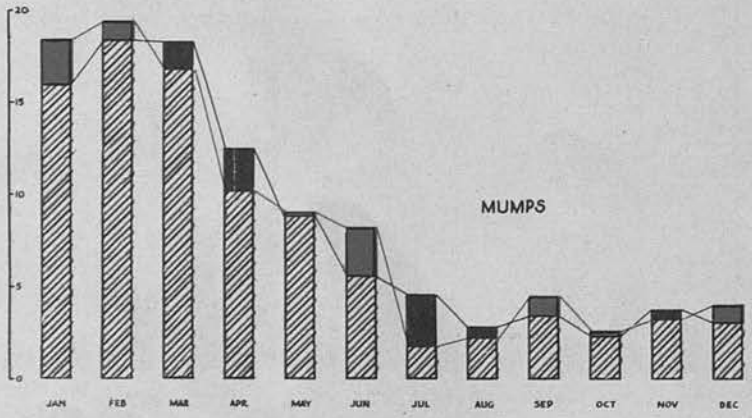
CHART 2

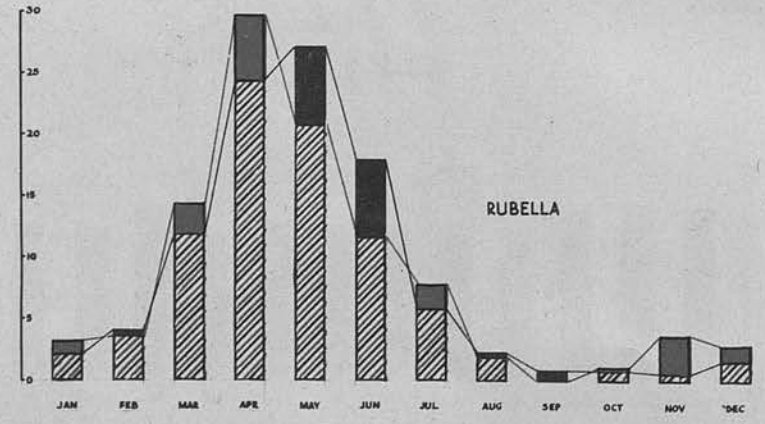












§5 PREGNANCY CERTIFICATIONS

1. As a source of wastage in the Army, it is important to assess the absolute discharge rate with respect to pregnancy in the A.T.S. Chart 5 of the third issue of the monthly bulletin draws attention to the fact that discharges from the A.T.S. on family grounds account for about 80% of all discharges resulting from a medical examination. From the standpoint of man-power planning, it is therefore instructive to exhibit side by side as in Table 1 :

(*a*) the crude mean monthly rate with respect to pregnancy certification ;

(*b*) the crude mean monthly rate with respect to discharges on account of sickness or injury ;

(*c*) the crude mean monthly rate with respect to discharges for pregnancy, sickness and injuries taken together ;

(*d*) the proportionate contribution of pregnancy certification to the total shown in column (*c*).

In terms of man-power planning, the salient features of Tables 1 and 2 are these :

(*a*) Pregnancy accounts for nearly FOUR-FIFTHS of ALL discharges of A.T.S. (O.Rs.) on the basis of medical certification of one sort or another ;

(*b*) To *maintain* the number of auxiliaries it is necessary to replace married A.T.S. discharged on family grounds IN THE COURSE OF A SINGLE YEAR by a compensatory recruitment equivalent to NEARLY HALF THE PRESENT TOTAL of married auxiliaries ;

(*c*) Unless discharges rates with respect to sickness and injuries among married and single A.T.S. differ more grossly than is at all likely, pregnancy accounts for about NINETY-FIVE PER CENT of all discharges of married auxiliaries on medical grounds.

2. The C.M.M.R. for pregnancy certification while giving a true estimate of actual wastage from this source may give rise to an erroneous impression, if the problem which exercises the administration is the extent to which circumstances attendant on army life or public policy are more or less propitious to fertility within the army population. In this context fertility is used in its demographic, as opposed to its biological, connotation. That is to say, it denotes nothing more than reproductive frequency without regard to the circumstances, social or physiological, contributory thereto. Different levels of fertility in this sense may reflect greater or less reproductive frequency in *comparable* populations, or differences with respect to population structure. The two chief attributes of population structure which may give rise to different crude fertility rates, such as the crude mean monthly pregnancy rate of Table 1, are :

(i) differences of age composition ;

(ii) differences with respect to the proportion of married women.

The number of children per woman falls off steeply during the course of the reproductive period. *Ceteris paribus*, an older army population will, therefore, have a lower crude fertility rate ; and a rise of the crude pregnancy rate may signify nothing more than increased recruitment of younger age groups. Likewise reproductive frequency is much higher among married women than among single ones. Hence an increase of the *nuptiality ratio* (here defined as the proportion of married A.T.S.) either because of recruiting relatively more married women or because of increased nuptiality under service conditions, will of itself increase the crude mean monthly pregnancy rate, if all other circumstances remain the same. If, therefore, we are concerned to probe the reasons for a rise or fall of the crude discharge rate on family grounds, it is necessary to employ indices which eliminate variations solely attributable to age or nuptiality.

3. The section on pregnancy in the first issue of the bulletin explains one such index, viz. the *Gross Pregnancy Rate*. This is in effect what the Gross Reproduction Rate would be if there were no still-births, nor miscarriages. The computation is essentially the same if we substitute corresponding pregnancy figures for figures of live births. The G.R.R. itself is the mean number of girls born to one woman during the course of her reproductive life at the prevailing fertility rates in each year of life (or other suitably small age group). It is therefore intrinsically an age-standardised rate. That is to say, it is not affected by changes of the age composition of the population at risk. Separate rates of this sort for married and single women will not, therefore, change like the crude mean monthly pregnancy rate on account of changes with respect to age composition alone.

4. However, the *total* Gross Pregnancy Rate like the G.R.R. for women as a whole, may change merely because the nuptiality ratio changes. A change arising from this source alone can be brought into clearer perspective by a new index which we here introduce for the first time. This is the Nuptial Standardised Pregnancy Rate. It is what the C.M.M.R. would be if the nuptiality ratio remained at a fixed level, here taken to be one seventh, its approximate current value at the end of the first quarter of this year. For the calculation of the N.S.P.R. we thus adopt a standard population of which six-sevenths are single and one-seventh married. To obtain its value we merely apply the weights 1/7 and 6/7 to the C.M.M.R.s for married and single auxiliaries respectively, then adding the products together. A rise or fall of the crude pregnancy rate arising solely from nuptiality will show if the C.M.M.R. rises or falls while the N.S.P.R. remains steady. In the first quarter of this year (Table 2), the N.S.P.R. was greater than the C.M.M.R. Thereafter the reverse was true. Thus, the C.M.M.R. at the end of the year was greater than it would have been if the nuptiality ratio had remained the same as at the end of the first quarter. In other words, the proportion of married women has increased and the divergence between the figures for January and December 1944 may be due in large part to this circumstance. However, the monthly fluctuations are such that we should not be justified in assuming the existence of any definite trend.

5. To show up effects due to age alone it is necessary to have recourse to age standardised indices such as Gross Pregnancy Rates. A rise or fall of the Crude Pregnancy Rate attributable to age alone will show up if the G.P.R.s for both married and single women remain steady. Computation of these requires monthly strength-age distributions for married and single auxiliaries separately. These are not yet available.

6. Future issues will supply retrospective figures to show how far changes of discharge rates on family grounds reflect changes in the composition of the army population such as those discussed above. Meanwhile, it is perhaps pertinent to draw attention to two reflections prompted by the foregoing considerations. One is the need for reliable up-to-date figures with respect to nuptiality. The other is the need for further inquiry into the frequency of abortions and its relation to age, as a basis for comparison between A.T.S. pregnancy certifications and contemporaneous birth statistics of the civilian population.

APPENDIX I

Crude Discharge Figures; Army Other Ranks and A.T.S. Other Ranks; November, 1944.

MAIN GROUPS	Army O.Rs.	A.T.S. O.Rs.
All Nervous and Mental Diseases	2,376	183
All Diseases of Digestive System	695	11
All Diseases due to Infection	475	41
All Diseases of Respiratory System	589	34
All Diseases of Musculo-Skeletal System	392	16
All Diseases of Cardiovascular and Blood Systems	228	6
All Diseases of the Skin	237	5
All Diseases of E.N.T., Mouth, Teeth and Gums	238	8
All Diseases of the Eye	98	3
All Diseases of Genito-Urinary System	84	16
All Diseases of Nutrition and Metabolism and of Endocrine System	44	9
All Other Diseases	44	5
All Diseases	5,500	337
All Accidents	437	5
All Battle Casualties	1,241	2
All Discharges	7,178	344

Table 1. Discharge Rates for Pregnancy, Sickness and Injury ; A.T.S. Other Ranks ; Crude M.M.Rs. per 100,000 Total Strength ; 1944

	(*a*) Pregnancy	(*b*) Sickness and Injury	(*c*) Total (*a*) + (*b*)	(*d*) (*a*) as % of Total
January ...	681·2	163·5	844·7	80·6
February ...	740·9	161·6	902·5	82·1
March	724·6	207·2	931·8	77·8
April	755·2	165·1	920·3	82·1
May	831·9	204·1	1036·0	80·3
June	866·8	181·9	1048·7	82·7
July	761·1	216·4	977·5	77·9
August ...	738·2	195·2	933·4	79·1
September ...	623·3	213·3	836·6	74·5
October ...	706·2	168·5	874·7	80·7
November ...	756·8	183·6	940·4	80·5
December ...	803·3	184·6	987·9	81·3

Table 2. Mean Monthly Pregnancy Rates (per 1,000) with reference to Married and Single A.T.S. Other Ranks ; 1944

	Married	Single	All	
	C.M.M.R.	C.M.M.R.	C.M.M.R.	N.S.P.R.
January ...	34·3	2·4	6·8	7·0
February ...	39·0	2·5	7·4	7·7
March	39·2	2·0	7·2	7·3
April ...	39·3	2·3	7·6	7·6
May	42·7	2·4	8·3	8·2
June	41·6	2·7	8·7	8·3
July	36·0	2·4	7·6	7·2
August ...	35·2	2·3	7·4	7·0
September ...	29·2	2·0	6·2	5·9
October ...	35·6	1·8	7·1	6·6
November ...	34·5	2·7	7·6	7·2
December ...	37·5	2·4	8·0	7·4

PART II.—CONSOLIDATED OVERSEAS MEDICAL STATISTICS.

§1. NORTH AFRICA, ITALY AND SICILY : October and November, 1944.

DOCUMENTARY SOURCES.

Information in Tables 1 and 2 comes from a monthly cable received from A.F.H.Q. and relates to North Africa, Italy and Sicily jointly. M.M.Rs. have been calculated from crude figures and strengths shown on the cable. Tables 3–6 come from weekly hygiene reports received in A.M.D.5 ; M.M.Rs. have been calculated with reference to the crude figures and strengths quoted on these reports.

COMMENTS.

Table 1 shows a slight decline with respect to admissions to hospital for SICKNESS. There was also a steep decline in October with respect to admissions for BATTLE CASUALTIES. There has been a sharp drop with respect to *Admissions for Sickness to All Medical Units* in N. Africa during October compared with September (Table 3). Sick Rates in Italy and Sicily have remained steady. Table 6 shows that DERMATOPHYTOSIS rates in N. Africa are still extremely high. With respect to PHTHIRUS PUBIS and SCABIES there has been a sharp rise for the theatre as a whole. As compared with those for September, INFECTIVE HEPATITIS rates have also risen. MALARIA has continued to fall. TRENCH FOOT does not appear in the regular list of diseases reported by A.F.H.Q. ; and the cases shown may not, therefore, record *total* incidence.

Table 1. Morbidity and Mortality State ; British Army ; Crude M.M.Rs. per 1,000 Strength : October and November, 1944

	October	November
Admissions to Hospital :		
All Causes	33·8	31·4
Wounded	2·9	2·2
Accidental Injuries	2·1	2·8
Other Causes	28·8	26·4
Total incidence of :		
Malaria (primary and relapse)	4·5	3·5
V.D. (all cases)	3·3	4·3
Deaths in Hospital :		
Sick and Accidental Injuries	0·07	0·05
Wounded	0·06	0·04
Total	0·13	0·09

Table 2. Hospital Bed State

(*a*) **31st October, 1944**

		Officers	Other Ranks	Total
Total Beds Equipped		2,819	45,731	48,550
Total Beds Occupied		1,933	35,537	37,470
Beds Occupied by British Army :	Total	926	15,612	16,538
	Sick and Acc. Injuries	648	11,651	12,299
	Wounded	278	3,961	4,239

(*b*) **30th November, 1944**

		Officers	Other Ranks	Total
Total Beds Equipped		2,917	41,921	44,838
Total Beds Occupied		1,809	33,010	34,819
Beds Occupied by British Army :	Total	886	14,777	15,663
	Sick and Acc. Injuries	669	11,973	12,642
	Wounded	217	2,804	3,021

§3. DISCHARGES FROM THE A.T.S. ON FAMILY GROUNDS ; JULY 1942–JUNE 1945

1. The 8th Issue of the Monthly Bulletin of Health Statistics completed the record of discharges for pregnancy to the end of the first quarter 1945. There has been difficulty with respect to the correct assessment of pregnancy rates for the second quarter. Figures of discharges on family grounds received by A.G. Stats. from A.T.S. Records refer to actual date of discharge after terminal leave which, prior to May 8, was 14 days. On May 8 it was increased to 56 days. There was thus a time-lag of six weeks during which no A.T.S. auxiliaries were discharged on family grounds, and figures reported by A.T.S. Records between May and August had to be adjusted to run consecutively. Consequently pregnancy rates shown in Tables 1 and 2 for May and June estimate what discharges there would have been in these months had the old system of terminal leave been still in existence.

Table 1. Mean Monthly Pregnancy Rates (per 1,000) with respect to Married and Single A.T.S. Auxiliaries ; April–June 1945

	Married C.M.M.R.	Single C.M.M.R.	Total	
			C.M.M.R.	N.S.P.R.
April	37·7	2·1	8·6	7·2
May	39·7	1·8	8·6	7·2
June	36·9	2·5	8·2	7·4

Table 2. Discharge Rates for Pregnancy, Sickness and Injury ; A.T.S. Auxiliaries ; Crude Mean Monthly Rates per 100,000 Strength ; April–June 1945

	Pregnancy	Sickness and Injury	Total	Pregnancy as % of Total
April	860·9	201·4	1062·3	81·0
May	863·7	167·5	1031·2	83·8
June	815·9	189·8	1005·7	81·1

2. The figures in the preceding tables take us up to the conclusion of hostilities in the West. It is, therefore, fitting to review the available data for the war as a whole. (See Chart 4.)

Table 3. Equivalent Annual Pregnancy Rates per 1,000 Strength with respect to Married and Single A.T.S. Auxiliaries ; July 1942–June 1945

Period	E.A.R. per 1,000 Strength			Nuptial Standardised Pregnancy Rate
	Married	Single	Total	
1942 3rd Quarter ...	—	—	54·9	—
4th Quarter ...	—	—	54·7	—
1943 1st Quarter	—	—	59·6	—
2nd Quarter ...	—	—	64·8	—
3rd Quarter ...	—	—	71·0	—
4th Quarter ...	—	—	78·9	—
1944 1st Quarter	449·2	27·6	85·6	87·8
2nd Quarter ...	494·4	29·6	98·4	96·0
3rd Quarter ...	401·6	26·8	84·8	80·3
4th Quarter ...	430·4	27·6	90·8	85·1
1945 1st Quarter	408·0	27·6	93·2	81·9
2nd Quarter ...	457·2	25·6	101·6	87·3

From mid-1942, discharges from the A.T.S. due to pregnancy rose gradually until in mid-1945 the rate had almost doubled itself. Unfortunately figures for married and single auxiliaries were not specified separately until the end of 1943. Data for 1944 and the first half of 1945, however, suffice to indicate that the increase of pregnancy rates was due to a corresponding increase of the proportion of married auxiliaries. Discharges for pregnancy among married and single auxiliaries remained at the same level of approximately 450 per 1,000 and 25 per 1,000 respectively, and the nuptial standardised rates show that pregnancy rates with respect to all auxiliaries would also have been constant had the proportion of married women been the same (one in seven) throughout the period. We can fairly confidently assume that the increase of pregnancy during the first 18 months was similarly caused by a rise in the nuptiality ratio, in view of changing policy with respect to employment of married women, on the one hand, and of the increasing number of marriages among single servicewomen, on the other. Table 4 shows the rising contribution of pregnancy to all discharges on medical and family grounds, from under 70% to over 80% of the total wastage.

§3 (*contd.*). DISCHARGES FROM THE A.T.S. ON FAMILY GROUNDS

Table 4. Discharges from the A.T.S. with respect to Pregnancy, Sickness and Injury ; Equivalent Annual Rates per 1,000 Strength ; July 1942–June 1945

Period	Pregnancy	Sickness and Injury	Total	Pregnancy as % of Total
July–Dec. 1942	55·23	25·19	80·42	68·7
Jan.–Dec. 1943	68·89	20·66	89·55	76·9
Jan.–Dec. 1944	89·87	22·50	112·37	80·0
Jan.–June 1945	96·37	20·64	117·01	82·4

3. The main conclusions which emerge from these tables are :

(i) the crude pregnancy rate of A.T.S. auxiliaries has increased steadily over the three-year period for which statistics are available ;

(ii) during the latter 18 months for which we have separate data for married and single auxiliaries, the crude rates for each category have maintained a airly constant level ;

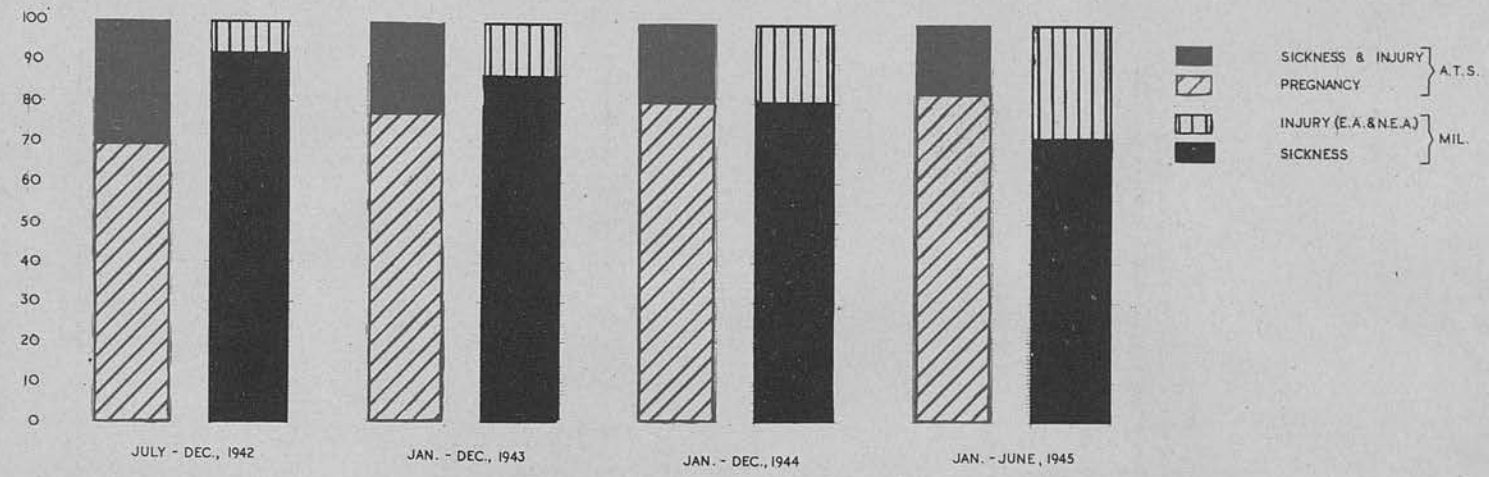
(iii) in all probability therefore the increase mentioned in (i) above is almost entirely due to a progressive increase of the proportion of married personnel ;

(iv) presumably the same explanation applies to the increasing contribution of pregnancy to total wastage over the three years under review. (M.M.J.)

RELATIVE DISCHARGE RATES

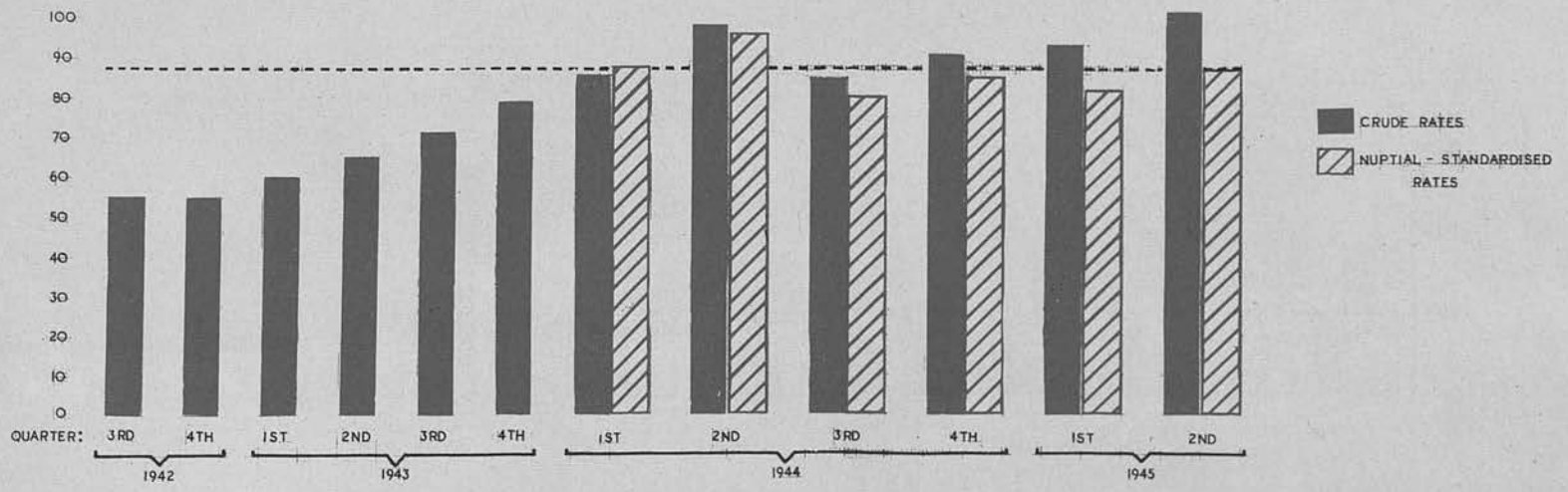
JULY 1942 - JUNE 1945

CHART 4.



CRUDE & NUPTIAL - STANDARDISED PREGNANCY RATES

E. A. R. PER 1000 STRENGTH

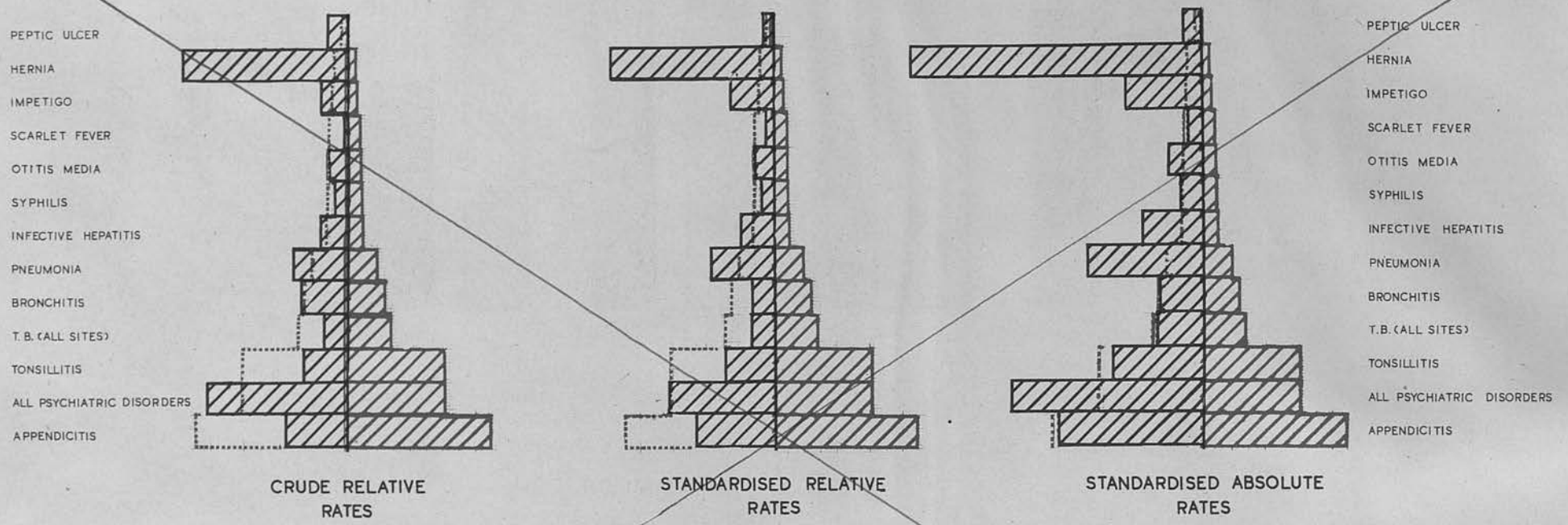


A5070 Fosh & Cross Ltd., London.

SEX DIFFERENCES W. R. T. WASTAGE

HOSPITAL CASES: U. K. 1943

CHART 3.



SEX DIFFERENTIALS

A.T.S.: MILITARY