

a 62166



WHO/Ma1/324 ✓  
15 December 1961

ORIGINAL: ENGLISH

REVIEW OF QUARTERLY REPORTS ON SURVEILLANCE OPERATIONS  
AS AT SEPTEMBER 1961

by

Division of Malaria Eradication, WHO, Geneva<sup>1</sup>

1. Progress in reporting

Since the first review of quarterly reporting on surveillance operations was issued covering the calendar year 1960, the first three quarters of 1961 have passed during which this reporting system has continued to prove its great value in the assessment of surveillance activities both for the national malaria eradication services and for the World Health Organization.

Seven more countries so far have joined in recording their surveillance data to the quarterly reporting system during 1961.

Although two of the countries reporting from the African Region - Camerouns and Southern Rhodesia - do not yet have malaria eradication programmes, a considerable amount of case detection and other surveillance activities are carried out on a wide scale. The data from these two countries have special importance in as much as they present the first material on case detection operations under African conditions based on large population groups. It is believed that essential knowledge will accrue from these data in the future on the methodology of case detection, suitable for the epidemiological pattern of malaria in that continent.

In Indonesia two districts of West Java, with a total population of over three million, started, with the second quarter of 1961, using this reporting system and it is assumed that more districts of Java will follow in the near future. It is of

---

<sup>1</sup> Prepared by Dr P. Yekutiél and Dr C. Göckel, Epidemiological Assessment Unit, Division of Malaria Eradication, Geneva.

interest to notice that the areas have only recently commenced their attack phase and that case detection was initiated shortly thereafter. It is specially important in the case of Java to have reliable data from the case detection mechanism available from the very beginning of the attack phase as there are reasons to believe that in many parts of the territory the level of endemicity is very low.

In the case of Taiwan and Sarawak, both newly participating in reporting on surveillance operations on the standardized WHO forms, a special effort was made to furnish the data on these forms retrospectively for 1960; both countries introduced their own system of reporting on surveillance operations several years ago.

From three malaria eradication programmes - Bulgaria, Portugal and the Ryukyu Islands - the continuation of reports has unfortunately been interrupted. No specific reasons are known for this and efforts are being made to regain their participation in this reporting system.

For the remaining countries participating, it can be said that good progress has been made in improving the quality of reporting, in the completion of basic information and in the timely despatch of quarterly reports on surveillance, although in several instances some of these points still need further stimulation. One of the essential requirements of the whole system of reporting is a brief and concise narrative discussing the epidemiological situation on the basis of the data provided each quarter. Up to the present time, however, few countries have complied with this request in a satisfactory manner.

Table I gives an over-all picture of the situation up to September 1961 in regard to countries participating and reports received for various quarters in the years 1960 and 1961. For 1961 the number of districts for which reports are submitted is indicated.

Some years ago the malaria eradication programmes of the American Region adopted a uniform monthly reporting system for spraying and evaluation which was mainly concerned with the operational aspects of the campaign. This fact has made it difficult for the Region in participating until now in the quarterly reporting system on surveillance operations as this necessitated a change in the already existing and working procedure. However, it has been agreed with the Regional Office

for the Americas that quarterly reports on surveillance data will be furnished from their Region for consolidation phase areas only. The Region has for this purpose prepared a special new form in seven sections which contains the same data as the standard form in a slightly different presentation. All programmes in the Americas with areas in the consolidation phase were requested in July 1961 to furnish these reports from now on and reports from four projects have already been received in the Regional Office.

2. Annual blood examination rates and annual parasite incidence

In Table II these rates, extracted from quarterly reports on surveillance operations, are given for a number of countries in all regions comparing the figures for 1960 with those for 1961. A number of countries, although rendering quarterly reports on surveillance, are not listed in the table because reports were not received regularly enough, or population figures changed, or for other reasons which make a valid comparison impossible. The main purpose of this table is to show the epidemiological situation as expressed in the annual parasite incidence and to some extent in the remark column in which an indication is given of the number of indigenous cases encountered. The data for the annual blood examination rates are given mainly in order to show how substantial the evidence is on which these rates are based.

It will be seen from the table that on the whole annual parasite incidence figures for consolidation phase areas are satisfactorily low, all being below 0.04 per thousand with a few exceptions. The exceptions are Mauritius and Southern Rhodesia in the African Region, and North Borneo and the Philippines in the Western Pacific Region.

In Mauritius, unfortunately, the unsatisfactory situation in the consolidation phase, recognized already in 1960, continued in 1961 with a time-limited wave of malaria (local transmission) in the consolidation phase area during the months April to June. It would seem that the extent of focal and area spraying carried out in 1960 was insufficient and that now larger areas have to be put back under total coverage spraying. In Southern Rhodesia the consolidation phase area can be described as "experimental" and the surveillance operations during the last year

have clearly indicated that in one of the districts of this area transmission is still going on. The incidence rate given for North Borneo is not very significant because it refers to a small area only, with a small population, and the total number of cases detected during the two quarters was only three. In the Philippines the national malaria eradication programme has been beset with serious administrative and operational difficulties; in addition, a large number of the cases detected in the consolidation phase areas are imported from attack phase areas in which transmission is still going on. The improvement in the epidemiological situation in Greece should be mentioned, where the annual parasite incidence fell from 0.09 in 1960 to 0.032 per thousand in 1961, while at the same time the annual blood examination rate rose from 1.8% to 3.9%.

Data given for attack phase areas all refer to such areas in the later stages of the attack phase. In Afghanistan, the annual parasite incidence in the attack phase area fell from 3.3 to 0.36 per thousand. While the latter figure has to be judged with some reservation, as case detection is not of a uniformly high level, it certainly indicates a definite improvement in the epidemiological situation. This can be ascribed to improved geographical reconnaissance and spraying operations during the last year. In Ceylon, the very satisfactory results of the campaign in the remaining attack phase areas, already visible in 1959, have continued during 1960 and 1961 and epidemiologically speaking this area can be considered ready to enter the consolidation phase.

### 3. Classification of cases by origin

With many programmes in all regions approaching or entering the consolidation phase, the exact classification as to origin of all malaria cases found through case detection and surveillance assumes an increasing importance. The definitions of the various terms for classification of malaria cases laid down by the Expert Committee on Malaria have to be adhered to but difficulties have been encountered in the interpretation and application of these terms in field operations.

The apparent need for a more detailed explanation of the terms and practical procedures of the field operations on this matter was met by the document entitled "Classification of Malaria Cases" (dated 15 August 1961) produced by the Division of Malaria Eradication. A copy of this document is attached as Appendix I.

4. Considerations on the staffing pattern of active case detection

One of the most vital decisions in the planning of active case detection is that of determining the population to be assigned to one surveillance agent. The aim is to arrive at a population figure on the one hand small enough to ensure efficient total coverage in the time interval decided upon, and on the other hand large enough to make full use of the working capacity of the surveillance agents.

Various factors have to be taken into account in deciding upon the numerical relationship between surveillance agent and population. These are:

1. Time interval of visits (rounds).
2. Population density.
3. Accessibility of the area.
4. Degree of concentration of houses.
5. Average available working time.
6. Available transport.
7. Additional tasks assigned to the agent.
8. Extent of passive case detection
9. Acceptance by and co-operation of the public.

The influence of the different time intervals (1 above) on the population assigned to one surveillance agent is easily understood as a man can naturally cover in four weeks more houses than in two.

The next three factors on the list (2, 3 and 4) are closely related one with another but only the population density (2) can easily be expressed in a tabulated form. The degree of concentration of houses around the village centre refers to the different types of locality arrangement, that is, whether the houses in a village are built in close groups or are widely scattered, situations which greatly influence the daily output of a field worker.

Items 5 to 8 have certain conditions in common: first they can, to some degree, be influenced by the malaria eradication service procedures itself, and secondly they are mostly uniformly applicable to the entire country. "Additional tasks" (7) are normally considered to be the execution of radical treatment of confirmed malaria

cases, help in mass blood examinations or epidemiological investigations, etc., tasks strictly in the framework of surveillance operations but not always assigned to the surveillance agent.

It is obvious that many of the above-listed factors can have a wide range of variations within the same country and that only some of them can be expressed numerically. This indicates the difficulty of producing any standardized population figure per surveillance agent and when calculating such figures they have to remain theoretically working averages acceptable only with the necessary precautions and reservations. However, in spite of these limitations such standard figures have their useful place, mainly in early planning and in the appraisal of such planning.

In order to arrive at reasonably standard figures it is essential not only to collect population figures per surveillance agent from many parts of the world, and to list the influencing factors as far as available but, of even greater importance, to judge the efficacy of the different staffing patterns in active case detection; in other words to assess the total coverage of various patterns. For such judgement no single piece of information can provide a fully satisfactory answer as total coverage involves qualitative and quantitative aspects such as area and timing and, what is most difficult to express, the quality of interrogation. Here again a numerical presentation of all these aspects is almost impossible. Hence a compromise for the judgement of efficacy is the use of the annual blood examination rate<sup>1</sup> (A.B.E.R.) which is influenced by the various aspects mentioned above.

In an attempt to present examples on the staffing pattern in active case detection, the existing quarterly reports on surveillance operations have been scrutinized. Table III presents a summary of this study. Countries were omitted from this table where interval of rounds was not clearly defined or where doubts exist that the number of slides listed under active case detection are truly derived from house-to-house fever surveys.

---

<sup>1</sup> The former term "annual examination rate" has been changed in the new Malaria Terminology to: "Annual blood examination rate".

From the various influencing factors the only available information was on time interval, population density and extent of passive case detection. For assessment purposes the annual blood examination rate of house-to-house fever surveys only has been used. The general A.B.E.R. would be misleading, as this figure includes slides from all other sources of case detection. It is realized that this rate is not the most conclusive one but the only available means of indicating the efficacy. In some instances it may give quite a false impression of the true condition of coverage especially in regard to total coverage in space. A possible misconception can of course only occur in the case of a high A.B.E.R. whilst a low examination rate in any case proves an ineffective staffing pattern.

Another shortcoming in the individual country assessment or in the comparison of different patterns is the fact that case detection in some countries is still in its early stages, such as in Indonesia, while in other countries such as, for instance, Ceylon, experienced staff carry out the active case detection. Logically such a difference will reflect in the examination rates even if all other conditions are equal.

This list cannot by any means offer standard figures as too much basic information is missing and observation time is often very limited but it throws some light on the staffing pattern. Checking the data provided in Table III according to the degree of population density - in which order the table is arranged - Sarawak and Iraq appear with nearly equally low density figures. While Sarawak with slightly over 6000 people assigned per surveillance agent has a very high A.B.E.R., Iraq, with approximately twice as many people assigned, is way below the expected rate. Part of the attack phase area of Ceylon (density 45 per sq. km) has an average population per surveillance agent of between 3500 and 5600, which is even less than in Sarawak. The efficacy expressed in the annual blood examination rate is equally good. In other parts of the attack phase area of Ceylon with a higher density figure, but also larger population groups per surveillance agent (6400), the annual blood examination rate reaches only slightly more than half the rate of the former area.

Population densities between 50 and 60 per sq. km are found in the Province of Damascus in Syria (50) and Spain (59). The staffing pattern in both countries varies considerably in as much as Spain has only one-third the number of people assigned per

surveillance agent as Syria. In spite of this the A.B.E.R. is higher in Syria. Although officially the interval of rounds in Syria is stated to be four weeks, in practice it is probably much longer. Furthermore the surveillance agents in Syria are equipped with light motorcycles.

The West Bank of Jordan and Lebanon are the areas with density figures between 100 and 200. Both countries modified their staffing pattern during 1961 with the effect that the average population per surveillance agent is now around 10 to 12 000 against a much higher figure previously. The result of this change is that both countries now produce a satisfactory A.B.E.R. while, with the old pattern, the efficacy fell below expectations.

This leaves three countries with areas of higher population density: Ceylon (consolidation phase) - 280; Mauritius - 348; and Indonesia (part of West Java) - 468 and 2556, the latter being the area of the city of Djakarta. The highest population per surveillance agent is found in Mauritius, ranging from 15 to 16 000 and the lowest in Ceylon, between 2900 and 7100. The A.B.E.R. on the other hand shows that Ceylon has the highest rates. In Mauritius, in spite of the slightly shorter intervals and an inferior staffing pattern, the A.B.E.R. still comes close to the margin of 10%.

A similar study has been made on the 10 consolidation phase areas of Turkey. This information has been separately recorded (Table IV) because, with all districts belonging to the same country, less variables will influence the assessment of the different staffing pattern. The population densities do not present much variation. While under the original pattern the population per surveillance agent ranged from 7000 to over 15 000, it has now been adjusted to something more uniform, from 5600 to a maximum figure of 7000. Without exception the A.B.E.R. of the old pattern proved the inadequacy of coverage. A marked improvement can be seen in the reduction of population assigned per agent. Assessing the new staffing pattern of the first four districts with nearly equal density (approximately 23 per sq. km) a population figure per agent around 6000 produced a satisfactory rate. For the remaining districts it is noteworthy that while population groups of around and above 9000 were too high to achieve total coverage, the reduction to figures between 6000 and 6500 seems to have

improved the A.B.E.R. considerably. Undoubtedly the higher degree of efficacy must in part also be credited to the increased experience of the field staff in their work.

Although this discussion on the staffing pattern is primarily based on information available from the quarterly reports on surveillance operations, it seems an opportune moment to add some information on the pattern practised by the Indian National Malaria Eradication Programme. On a country-wide basis, the planning foresees, on an average, one surveillance agent for every 10 000 people with fortnightly intervals between visits. Within the limits of this over-all average variations are effected, according to accessibility, etc. For instance, for the State of Madras, the following figures apply:

Average population density in sq. km	Population per surveillance agent	
	fortnightly intervals	adjusted to monthly intervals
Below 60	500 - 2 000	1 000 - 4 000
66.5	2 000 - 5 000	4 000 - 10 000
130	5 000 - 7 500	10 000 - 15 000
205 (rural)	8 000 - 12 500	16 000 - 25 000
265 (urban)	12 500 - 20 000	25 000 - 40 000

Figures of population per surveillance agent for the two lowest density levels remain well within the general pattern practised. However, in the areas of higher densities the figures are certainly above the usual. Several malaria eradication programmes starting with staffing patterns similar to the present Indian one had to modify their planning to smaller population groups per agent in order to obtain the required degree of efficacy.

The annual blood examination rate does not quite provide a yardstick for assessing the coverage in the State of Madras at present. The coverage in area and time has reached near perfection while the A.B.E.R. lies below 5%, in spite of only fortnightly intervals between visits.

It might be of interest here to note some of the factors to which the Indian authorities attribute the high coverage:

- There are 13 "surveillance days" to every round and two full rounds per month. This implies that occasionally a Sunday too has to be included in the routine working itinerary.
- Working hours are strictly adhered to.
- Itineraries are worked out with exceptional thoroughness and care and they are set out for the surveillance agent and inspector level not only by the day but by the hour.
- Any additional workload, that is revisiting of previously locked houses, writing of reports, team discussions, etc., must be coped with in overtime hours.
- Each household visit is timed to a maximum of two minutes with standard questions. Only in the event of taking a slide will this time be extended.
- Rigid system of supervision.

In this article and quite likely on later occasions, the A.B.E.R. may be used as a convenient measure of the efficacy of active case detection. It should therefore not be left unmentioned how much those rates are influenced by the different intervals between visits. The longer the interval between visits the more difficult will it be to remember all attacks of fever, especially in rural communities. This applies even more to information given on another person. It is therefore not surprising to see the wide range of examination or fever rates during different intervals of rounds, as found by special studies on staffing patterns in comparable circumstances in Ceylon and India.

Interval of rounds	Annual Fever Rate per cent.		
	Ceylon	India	
		Piriyapatna	Lakhavalli
Fortnightly	24.8%	22.5%	53.3%
Monthly	10.7%	18.1%	
Two-monthly	6.3%	11.4%	24.0%

In conclusion, the planning of surveillance agent/population ratio in active case detection depends on a multitude of factors which vary not only from country to country but partly also within a country. These different influencing factors hamper the establishment of simple standard figures. Even if guiding figures for number of population per agent are available for different population density levels, they still have to be carefully adjusted according to the peculiarities of the remaining variables.

5. Modification of tables for quarterly reports on surveillance operations

In the early part of 1961, it was already felt that sufficient experience had been gained to undertake a critical review of the tables used in the quarterly reports on surveillance operations. The value and need for each individual item was carefully analysed. As a result of this a modified set of forms has been prepared, copy of which is attached as Appendix II. The modified version does not present any major change from the original set but has mainly omitted various duplicated items and restricted other information to the absolute essentials necessary for an over-all epidemiological assessment. Attention is drawn in particular to the following amendments:

Table I. Quarterly Data on Surveillance Operations

This table no longer requires data on the number of slides collected or found positive, which is left exclusively to Table II. Newly introduced is the breakdown of the malaria detection posts (item 1.2) into (a) Health Units and (b) Voluntary Collaborators. This information has an implication in view of the future maintenance

period where a health unit can perform a vigilance function but where voluntary collaborators, in most instances, will no longer be engaged by the health service.

Another change is connected with item 2.4 where formerly the number of households visited was requested, and which is now substituted by the number of people seen. The intention of this item is and always has been to provide some idea as to the thoroughness of coverage. The checking of coverage is a complicated process and requires elaboration in the national reporting system. The quarterly report on surveillance operations intends to and can give only an indication of the coverage. It is felt that the number of people actually seen will serve this purpose better, as often visits at the wrong time or too hastily performed, produce a high number of visits but do not contact enough people.

The intention is to obtain information on the actual number of people seen. Some malaria eradication programmes may understand under "people seen" not those directly contacted but all those on whom reliable information has been received, a number mostly larger than that requested in the quarterly reports. If the national reporting system does not allow a change in the recording to "people actually seen", it will then be acceptable to quote under item 2.4 the number of people on whom reliable information exists. In this instance it will be necessary to state clearly in the Country or District Information Card under the item on "Surveillance Operations" what is the actual practice of recording in the country concerned. Other countries may not record figures of the population seen at all but restrict information merely to the number of households visited. Although it is preferable to amend the national recording system in such a way that information on the actual number of people seen be obtained, it may not always be possible. In these exceptional circumstances one must be satisfied with the information which is available and the present version of item 2.4 should be substituted by the original version, that is "Number of households visited".

Table II. Quarterly Information on Source of Slides

The breakdown into different sources of case detection has been amended according to the revised terminology for malaria eradication. An item formerly listed under active case detection referred to infant surveys. If such infant surveys are

performed they should be recorded in future under special surveys, the reason being that infant surveys are performed exclusively for assessment purposes while active case detection is carried out for both elimination of the infection and assessment.

Table III: Quarterly Information on Species of Parasite and Origin of Infection of Confirmed Malaria Cases by Age-Groups

No changes were made in regard to Part A while in Part B "Origin of infection" was enlarged in regard to imported cases which now allows a better epidemiological understanding of the malaria situation. In regard to age-grouping, the former age-groups 5-9 and 10-14 have been combined to one group - 5-14.

Table IV. Quarterly Information on Radical Treatment

This table was formerly part of Table V. Due to the extreme importance of the radical treatment of all malaria cases in the consolidation phase this table has been drastically revised. The information formerly given for the whole country is now requested by district in order to get a better idea in which part of the country radical treatment is up to standard and where it needs further improvement. In order to direct more attention to radical treatment, any information on presumptive treatment has been omitted.

Table V

This table refers to data on laboratory services which were formerly covered by Table IV. It has been greatly simplified and is now the only table which contains country-wide data.

With the present modifications the forms have now reached a final stage where it is unlikely that further simplification can be introduced without omitting essential information.

TABLE I. STATUS OF QUARTERLY REPORTS ON SURVEILLANCE OPERATIONS  
AS AT SEPTEMBER 1961

Region	Country	Planned no. of reporting districts	Quarterly reports received in 1960	No. of districts from which quarterly reports received in 1961		
				IQ	IIQ	IIIQ
AFRO	Cameroun	1			1	
	Mauritius	1	II III IV	1	1	1
	S. Rhodesia	1			1	1
EMRO	Iraq	3	I II III IV	3	3	
	Israel	1	II III IV	1	1	1
	Jordan	6	I II III IV	1	1	3
	Lebanon	1	I II III IV	1	1	1
	Syria	3	I II III IV	2	3	1
EURO	Albania	2	I II III IV	2	2	
	Bulgaria	1	II III			
	Greece	24	I II III IV	*	24	
	Portugal	10	I II III			
	Romania	15	I II III	15	15	
	Spain	6	I II III IV	6	6	6
	Turkey	21	I II III IV	20	20	
Yugoslavia	8	I	8	8		
SEARO	Afghanistan	9	I II III IV	7	8	9
	Ceylon	6	I II III IV	6	6	
	Burma	11	I II III IV	4	10	7
	Indonesia	2			2	2
WPRO	North Borneo			1	2	2
	Philippines		II IV	*	*	*
	Ryukyu Islands	1	II			
	Sarawak	2	II III IV			
	Taiwan (China)	3	II III IV	3		

\* Cumulative figures for the total area under one phase only where data should be reported under separate districts.

TABLE II. COMPARISON OF ANNUAL BLOOD EXAMINATION RATE AND ANNUAL PARASITE INCIDENCE BY PHASE, IN 1960 AND UP TO SEPTEMBER 1961

Region and Country	Phase	A.B.E.R. %		A.P.I. <sup>o</sup> /100		No. of cases detected 1961	Quarters reports received 1961	Remarks
		1960	1961	1960	1961			
AFRO								
Camerouns			32.3		6.9	677	I II	Reporting from former Pilot Project area
Mauritius	C	7.3	6.5	2.66	2.8	892	I II	674 indigenous <sup>a</sup>
S. Rhodesia	C	-	41.7	-	1.64	116	II III	86 indigenous
EMRO								
Iraq	A	9.3	5.0	0.37	0.17	108	I II	All indigenous cases (82) from north region
	C	6.6	4.9	0.018	0.0012	2	I II	Both cases imported
Israel	C	1.4	1.0	0.045	0.026	38	I II III	1 indigenous, 34 imported cases
Lebanon <sup>b</sup>	C	5.8	4.2	0.018	0.006	2	I II III	1 induced, 1 imported case
Syria	A	7.3	3.9	0.29	0.0	0	I II	)5 cases found in non-malarious areas, infected in attack phase areas
	C	21.4	16.5	0.015	0.0	0	I II	
EURO								
Albania	A		9.2		0.13	15	I II	)No indigenous cases
	C		13.3		0.02	8	I II	
Greece	C	1.8	3.9	0.09	0.032	39	I II	5 indigenous; in addition 4 cases found in maintenance phase area
Spain	C	4.5	3.4	0.11	0.084	19	II III	All cases occurred in one zone
Turkey	A	3.6	3.3	0.2	0.1	475	II	Most cases classified as indigenous
	C	2.9	4.8	0.05	0.025	176	II	95 cases indigenous

TABLE II (continued)

Region and Country	Phase	A.B.E.R. %		A.P.I. ‰		No. of cases detected 1961	Quarters reports received 1961	Remarks
		1960	1961	1960	1961			
SEARO								
Afghanistan	A	2.7	3.3	1.3	0.36	642	I II III	
Burma	A	4.2	3.3	0.06	0.08	7	III	Figures from pre-withdrawal area only
Ceylon	C		4.1		0.035	48	I II III	No indigenous cases
	A	20.8	28.3	0.19	0.056	67	I II	Most cases from northern district
Indonesia	C	8.5	9.5	0.007	0.015	8	I II	1 indigenous
	A		4.7		0.34	526	II III	Data from two districts in West Java only
WPRO								
North Borneo	A		21.6		5.5	132	II III	Data from one district only
Philippines	C		5.0		0.4	3	II III	All imported
	A		14.6		5.3	13 530	I II	Based on incomplete reports
Sarawak <sup>c</sup>	C		9.3		0.8	808	I II	
	A	29.0		1.65				
Taiwan	C	14.6		0.51				
	A	140.0 <sup>d</sup>		0.05 <sup>d</sup>				
	A	834.0 <sup>e</sup>	254.0	3.0 <sup>e</sup>	0.0			
	C	3.1 <sup>d</sup>		0.0 <sup>d</sup>				
	C	44.5 <sup>e</sup>	79.0	0.05 <sup>e</sup>	0.018	4		No indigenous

A = Attack phase C = Consolidation phase

<sup>a</sup> Many cases from villages previously not included in focal spraying<sup>b</sup> Active case detection in 1961 started at the end of the second quarter only<sup>c</sup> 1960 figures based on data from fourth quarter only<sup>d</sup> Figures refer to the first half of 1960<sup>e</sup> Figures refer to the second half of 1960

TABLE III. EVALUATION OF EFFICACY OF SURVEILLANCE AGENTS

Country	Population density in sq. km	Phase	Year	Interval of visits (rounds) in weeks <sup>a</sup>	Average population per surveillance agent	Annual blood examination rate (A.C.D. only)	Extent of P.C.D.
Sarawak	5.1	A	1960	4	6 320	22.7	Medium
	26.7	C	1960	4	6 180	40.7	
Iraq	27 <sup>b</sup>	A	1960/61	4	11 200-13 000	2.7-3.9	Negligible
		C	1960/61	) 4	10 400	11.9	
				) 4	12 600-15 000	3.5-4.5	
Ceylon	45) 79)	A	1960/61	4-6 (4)	3 500-5 600	21.5-27.4	Large Very large
		"	"	4-6 (4)	6 400	12.5	
Syria, Province of Damascus	50	C	1961	4	14 100	15.6	None
		A	1961	4	19 900	15.3	None
Spain	59	C	1961	4	4 970	9.2	Less than 10% of A.C.D.
Jordan (West Bank)	138	C	1960	4	24 800	2.8	Negligible
			1961	4	11 800	13.1	Little
Lebanon	159	C	1960	4	32 500	1.7	Negligible
			1961	4	10 300	7.3	Little
Ceylon	280	C	1960/61	4-6 (4)	2 900-5 300 7 100	32-39 14	More than 25% of all case detection
Mauritius	348	C	1960/61	2-4 (3)	15 400-16 000	7.1-8	Small proportion of A.C.D.
Indonesia: Serang	468	A	1961	4	8 780	4.3	Little
Djakarta	2 556	A	1961	4	9 570	5.5	

A.C.D. = Active case detection

P.C.D. = Passive case detection

<sup>a</sup> - In brackets - mean figures used for calculations

<sup>b</sup> - Excluding desert areas

TABLE IV. COMPARISON OF ANNUAL BLOOD EXAMINATION RATE FROM AREAS WITH DIFFERENT POPULATION DENSITIES AND POPULATION ASSIGNED PER SURVEILLANCE AGENT - TURKEY - CONSOLIDATION PHASE AREA, 1960/1961\*

District	Population density	Old staffing pattern		New staffing pattern	
		Population per surveillance agent	A.B.E.R. %	Population per surveillance agent	A.B.E.R. %
A	21.8	15 000	1.8	6 950	4.8
B	22.2	7 660	3.2	6 200	8.5
C	23.5	7 600	3.0	5 850	9.3
D	24.0			7 000	3.1
E	27.6	10 500	2.7	6 400	7.7
F	29.9	8 200	1.9	6 100	7.9
G	38.2	9 100	2.6	6 330	4.8
H	39.9			6 460	10.7
J	40.3	9 160	4.6	6 500	8.3
K	42.2	9 100	3.3	6 300	8.9
L	52.2	15 250	0.5	6 400	2.6
M	68.7	7 170	1.7	5 640	8.4

\* The interval of visits is uniformly four weeks. The extent of passive case detection is very small.