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REPORT ON THE NEW TYPE OF TRAINING OF PARAMEDICAL PERSONNEL  
WITH A PRIMARY SCHOOL BASIS

by

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1. Before setting up a new type of training, it has to be noted that at the present moment the number of health personnel of the Ministry of Health runs to 28, i.e.:

- 16 with primary school basis,
- 10 with S.M.P. or Junior High School basis,
- 2 with S.M.A. or Senior High School basis.

(The training of doctors and pharmaceutical chemists does not fall under the competency of the Ministry of Health). Besides this there are 6422 hospital attendants (Pendjaga Orange Sakit - P.O.S.), 5293 of whom are employed in the Public Hospitals, and 1129 in Mental Hospitals. A great deal of these workers had neither elementary nor basic medical training, hampering them to make progress in their job.

The community is in need of a great number of diverse types of technical health personnel in the shortest possible time.

2. In the government's endeavours for a thorough carrying out of public health activities, the Ministry of Health has arrived at a decision to establish a new type of training for low-level health personnel in all fields by setting up :

- (a) Schools for Diuru Kesehatan (D.K.) (basic medical training)  
1 year training; done at a hospital by 1 medical officer  
and 3 nurses; curative and preventive.
- (b) Schools for Pengamat Kesehatan (P.K.) advanced medical  
training.

3. The objective of this new type of training is to recruit qualified both auxiliary and ancillary personnel in the field of health and to train candidates for a more specialised (professional) training. This kind of training will concurrently eradicate the hospital attendance system (P.O.S.) and make a primary school basis compulsory as the lowest basis for training of health personnel.

Following are the requirements for the candidates for Djuru Kesehatan :

- (a) unmarried, not less than 17 years of age; in the possession of:
- (b) primary school certificate
- (c) doctor's certificate
- (d) certificate of good conduct.

4. The training of Djuru Kesehatan is to be conducted at schools which are connected with hospitals, operated by a doctor and at least three nurses, qualified to teach. The training is to cover a 12-month-period. The above-mentioned training-scheme could also be carried out in a special centre (training centre).

The curriculum should include subjects on preventive and curative medicine in the sense of a integration of both, specially directed to public health.

5. Graduates from the School of Djuru Kesehatan will be allowed to continue their training in the School of Pengamat Kesehatan, after a one-year practice, providing them the opportunity to obtain the A, B, C, D, E, F, G, and H certificate for Pengamat Kesehatan.

Those who do not continue the training for Pengamat Kesehatan could further their duties as Djuru Kesehatan, concurrently obtaining an in-service-training to qualify them as small-pox vaccinator (djuru tjatjar), aides in yaws campaign (djuru patek) and M.C.H.

6. Pengamat Kesehatans with A and B certificates will obtain an additional one-year theoretical training in a Basic Public Health School and another year for institutional practical training.

The holders of the C, D, E, F, G and H certificates will be provided with a 2-year (1 year theoretical and 1 year practical) training (without Basic Public Health School).

The A certificate holders are workers in the field of tuberculosis-, leprosy-, eye disease-, V.D.- control; homevisitors, for M.C.H., TB- centres and workers in the field of nutrition.

The B certificate holders will work in the field of malaria and plague control, health education of the public and quarantine. In general, they are to perform the activities in the field of environmental sanitation.

The C certificate holders are personnel in the nursing field, working in hospitals and polyclinics.

The D certificate holders are workers in the field of mental nursing.

The E certificate qualifies to give full maternity assistance and advice in a simple and clear way to pregnant and lactating mothers on adequate food and manners of obtaining a good state of health for mothers and infants.

The F certificate gives qualification for assistance in laboratories.

The G certificate holders are to be stationed at dispensaries.

The H certificate provides the holder qualification for Rontgen-aide.

The training of these Pengamat Kesehatans with A to H certificates will obtain a training that is specially directed to public health.

7. Pengamat Kesehatans could be admitted to the Schools of Nurses, Midwifery, Analysts, Ass.pharmacists, etc. This new type of training will reduce the former 16 kinds of training with primary school basis to 6.

8. Following are the numbers of Pengamat Kesehatans which will be considered as minimum.

Nursing, C and D certificate		22,500
For every 25 patients:	5 Pengmat Kesehatan	
	10 Djuru Kesehatan (3 turns)	
Pengamat Kesehatans for hospitals:	$\frac{80,000}{25} \times 5$	16,000
Djuru Kesehatans for hospitals:	$\frac{80,000}{25} \times 10$	32,000
Pengmat Kesehatans for subdistricts, villages, government and private clinics		4,397
Djuru Kesehatans for id id id		19,600

Consequently, after deducting the existing figures for hospital attendants (P.O.S.) and djururawat, the number of Djuru Kesehatan and Pengamat Kesehatan will become 57,000. This figure must needs be added by 10% for eventual death rate and by another 20% for population increase, making the figure runs to 75,000.

The Pengamat Kesehatans constitute a 30% of the total number of Djuru Kesehatan and Pengamat Kesehatan which means that in the field of general nursing is needed 22,500 (30% from 75,000) Pengamat Kesehatan with the C and D certificates.

<u>Midwifery, E certificate</u>	12,000
For every subdistrict: 4 ass.midwives, requiring a total of 2847 x 4 is 11,388 or 12,000 (rounded) Pengamat Kesehatans.	

<u>Special Preventive Hygiene, A certificate</u>	
Estimated at	14,000

<u>Environmental Sanitation, B certificate</u>	
Estimated at	18,000

Laboratories, F certificate 1,000

The ratio analyst/laboratory technician is 1:2  
The figure required for analysts is 500 so that  
1000 Pengamat Kesehatans will be needed in  
laboratories.

Dispensaries, G certificate 6,400

The ratio ass.pharmacist/dispensary-aide is 1:2  
The figure required for ass.pharm. is 3,200, hence  
6,400 will be needed in dispensaries.

Radiology, H certificate 500

The ratio ass. for Rontgen/Rontgen-aide is 1:2  
The figure required for ass. for Rontgen is 250,  
making the number of Pengamat Kesehatan runs to  
500.

Following are the numbers of the needed health personnel with  
Junior High School basis:

Analysts 500

Based upon expansion of laboratories, institutions  
hospitals etc., needing:

bacteriological analysts 350  
chemical analysts 150

Ass.pharmacists 3,200

Based upon the dispensary/population ratio of  
1:50,000; 1 dispensary has to be operated by  
2 ass.pharmacists. The figure required is  
 $\frac{80,000,000}{50,000} \times 1 \times 2$  is 3,200

Ass. for Physiotherapy 400

For every regency: 2 ass. for physiotherapy  
and 1 masseur)  
For every province: 4 (2 ass. for physiotherapy  
and 2 masseurs).  
The number required for the whole of Indonesia  
will be  $161 \times 2$  plus  $12 \times 4$  is 370 or 400 (rounded)

Ass. for Rontgen 250

Based upon the ass. for Rontgen/Rontgen-aides  
ratio of 1:2.  
The figure required for Rontgen-aides is 500.

Orthopaedic assistants 200

For every regency: 1  
The figure required is 200

Midwives 7,500

For every subdistrict: 1  
The figure required: 3,000  
The number needed for all subdistricts, government  
hospitals and private organisations is  $2\frac{1}{2} \times 3,000$   
is 7,500.

<u>Ass. dieticians</u>	450
For every regency : 2	
The figure required: 320	
For 1 hospital with 150 beds : 1 is 100 or 420 or 450 (rounded)	
<u>Midwife teachers</u>	225
For every School of Midwives : 2 (The number of of schools amounts to 34 and for every school of ass. midwives : 1 (The number of schools amounts to 53), including a few responsible persons for the School of Midwife teachers.	
<u>Nurse teachers</u>	250
Training of nurses in 3 public hospitals and 1 basic school : 4 x (2 nurse teachers plus 6 x 2 supervisors) is 56.	
Other training school for nurses : 22 x (2 teachers plus 6 supervisors) is 176.	
Total number : 56 plus 176 is 232 or 250 (rounded).	
<u>Nurses</u>	5,250
For 80,000 hospital beds : $\frac{80,000}{100} \times 4$ nurses	3,200
Polyclinics outside the hospitals running to 2,908	500
Polyclinics attached to hospitals	250
250 Schools for Djuru Kesehatan a 3 nurses	750
100 Schools for Pengamat Kesehatan a 3 nurses	300
26 Schools for Nurses need 26 x 2 tutors plus 4 x 12 supervisors plus 22 x 6 supervisors	232
Total (rounded)	5,232 or 5,250
<u>Ass. dentists</u>	200
For 161 regencies : 161	
For 12 provinces : 24	
185 or 200 (rounded)	
<u>Ass. for Ophthalmology</u>	100
Based upon the needs of the Eye-disease Control Service for the whole of Indonesia.	
<u>Dental technicians</u>	200
For 161 regencies : 161	
For 12 provinces : 24	
185 or 200 (rounded)	
<u>Public Health Nurses</u>	200
Calculations are similar to that of dental nurse and dental technicians.	

<u>Dieticians/Nutritionists</u>		200
For 161 regencies :	161	
For laboratories :	13	
For big hospitals :	10	
	<u>184</u>	or 200 (rounded)

<u>Sanitary Inspectors</u>		200
For 161 regencies :	161	
For 12 provinces :	24	
	<u>185</u>	or 200 (rounded)

9. The numbers of personnel with primary school basis mentioned in item 8 could be trained according to a 10-year-planning or more which completely depends upon the availability of funds and teaching staff !

10. What needs speedy execution is the training of Diuru Kesehatan, numbering 125,000.

11. In connection with the setting up of this new type of training transitional regulations must needs be issued to prevent "standstill" or "delay" in the training of this low-level health personnel.

In view of the present financial state, the above-mentioned training cannot yet be carried out on a large scale but a start will be made this year in Bandung, and whenever possible also in other places.

DIAGRAM OF THE MEDICAL AND HEALTH EDUCATION  
IN INDONESIA



