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APPENDIX 1

Survey questionnaire on the probability of applying the incentive policy for reallocation health manpower for MCP.

Introduction

We are officers from the Personnel and Organization Department, Ministry of Health. We are here to study the probability of applying some incentive policy options for the reallocation health manpower in malaria control programme.

We have heard that, in your institute, you face many difficulties such as low salary, poor living conditions, shortage of health manpower etc. This team is here to investigate the possibility of applying some incentive policy options for the reallocation of health manpower in malaria control programme.

Thus, we would be grateful if you could provide us with the answers for the questions we are going to ask you. The findings of this research may be used by the Ministry of Health to convince the Government to provide some incentive policies for the reallocation health manpower in malaria control programme to make it more effective.

Please, feel free to answer our questions and we assure you that your answers will be kept confidential.

Interviewer code no. ####

Starting Time

Finishing Time

Section A: Background information

1 (i) Health Institute No. ###

(ii) Interviewee name

2 Age

3 Sex

- Male

- Female

4 Marital status

Single

Married

Divorced

Widowed

Others

5 How many children have you got?

6 How many dependent people do you have?

7 Do you have any extra work?

8 What is the range of your income per year?

- main salary? dong

- money earn from extra work?dong

9 How long have you worked for malaria control programme? (for MCP staff)

How long have you worked for health sector? (for others)

Section B: About some incentive policy optionsa) For MCP's staff*) *Policy option 1:* If your salary is increased 30 % per month, Do you wish to continue to work for malaria control programme?

- Yes

- No

*) *Policy option 2:* If you are promoted to a higher position after 5 years of working for malaria control programme, do you wish to continue to work for malaria control programme?

- Yes

- No

*) *Policy option 3:* If you assured that your salary will be increase 30 % per month, and you will be promoted at higher position apter 5 years of working for malaria control programme, Do you wish to continue to work for malaria control programme?

- Yes

- No

b) For others health staff

*) *Policy option 1:* If your salary is increased 30 % per month, do you want to go to work for malaria control programme?

- Yes

- No

*) *Policy option 2:* If you are promoted to a higher position after 5 years of working for malaria control programme, do you want to go to work for malaria control programme?

- Yes

- No

*) *Policy option 3:* If you are assured that your salary will be increased 30 % per month, and you will be promoted to a higher position after 5 years of working for malaria control programme, do you want to go to work for malaria control programme?

- Yes

- No

APPENDIX 2

AN EXAMPLE OF THE SUMMARY TABLE FORM OF
SURVEY'S RESULT FOR RUNNING LOGIT MODEL

No. of int.	Status (*)	Age	Policy 1	Policy 2	Policy 3	Sex	Marital status	No of child.	No of depend. people	Having extra work	Income	Duration of working for MCP or for HM
1	1	30	1	0	1	1	1	0	1	0	1	5
2	1	41	1	1	1	0	1	1	1	1	0	16
3	0	35	0	0	0	1	0	0	1	0	1	10
4	1	27	0	0	1	1	0	0	0	0	1	2
5	0	50	0	0	0	0	0	1	0	1	0	25
6	1	36	0	0	1	0	1	0	0	0	0	11
7	0	28	0	0	0	1	1	1	1	1	1	3
8	1	38	1	0	1	1	0	1	0	1	0	10
9	1	40	0	1	1	1	0	0	1	0	1	15
10	1	50	1	1	1	0	1	1	1	0	0	20
11	0	54	0	0	0	0	1	1	0	1	1	29
12	0	32	0	0	0	1	0	0	0	1	1	5
13	1	35	0	0	1	1	1	0	1	1	0	10
14	1	42	1	1	1	0	0	1	0	1	0	17

Note * : Status here is the willingness to continue to work for MCP or to go to work for MCP

where:

Yes (1)

No (0)

APPENDIX 3 : SELECTING THE FORECASTING MODEL

1. Forecast number of doctors for health manpower by using Linear Trend model (run by TSP):

SMPL range: 1980 - 1994
Number of observations: 15

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	19383.229	541.89405	35.769407	0.0000
TIME	692.39643	59.600399	11.617312	0.0000
R-squared	0.912140	Mean of dependent var		24922.40
Adjusted R-squared	0.905381	S.D. of dependent var		3242.195
S.E. of regression	997.3054	Sum of squared resid		12930036
Log likelihood	-123.7867	F-statistic		134.9619
Durbin-Watson stat	2.544542	Prob(F-statistic)		0.000000

2. Forecast number of doctors for health manpower by using Quadratic model (run by TSP):

SMPL range: 1980 - 1994
Number of observations: 15

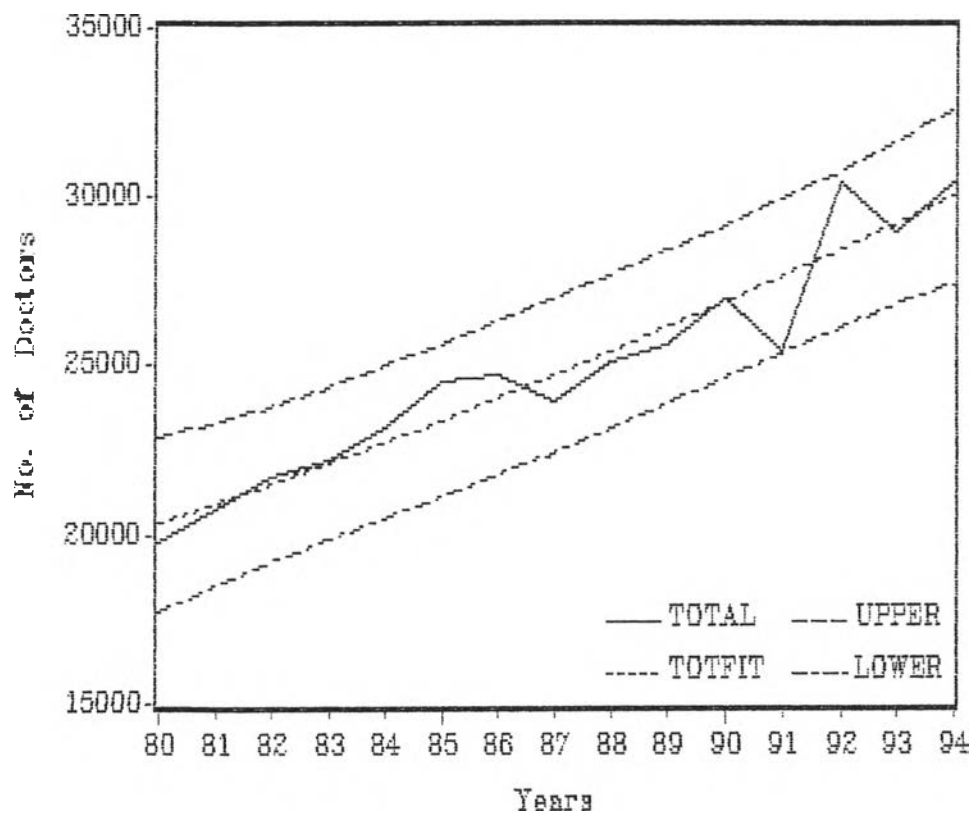
VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	19780.119	913.23139	21.659482	0.0000
TIME	552.31757	262.64811	2.1028805	0.0573
TIME2	8.7549289	15.962592	0.5484654	0.5934
R-squared	0.914288	Mean of dependent var		24922.40
Adjusted R-squared	0.900003	S.D. of dependent var		3242.195
S.E. of regression	1025.257	Sum of squared resid		12613834
Log likelihood	-123.6010	F-statistic		64.00201
Durbin-Watson stat	2.607336	Prob(F-statistic)		0.000000

3. Forecast number of doctors for health manpower by using Cubic model (run by TSP):

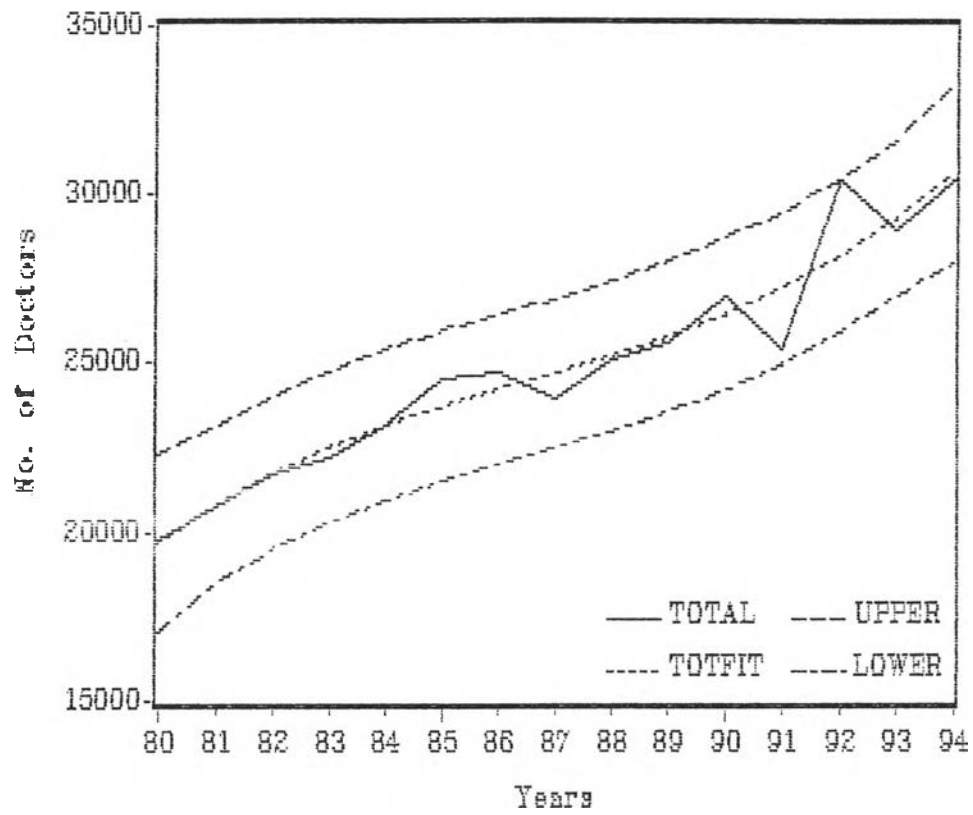
SMPL range: 1980 - 1994
Number of observations: 15

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	18324.898	1330.7618	13.770231	0.0000
TIME	1495.1197	697.07321	2.1448533	0.0551
TIME2	-133.91375	99.566584	-1.3449668	0.2057
TIME3	5.9445282	4.0994885	1.4500659	0.1749
R-squared	0.928043	Mean of dependent var		24922.40
Adjusted R-squared	0.908418	S.D. of dependent var		3242.195
S.E. of regression	981.1678	Sum of squared resid		10589594
Log likelihood	-122.2891	F-statistic		47.28971
Durbin-Watson stat	3.066870	Prob(F-statistic)		0.000001

APPENDIX 3.4: Forecast No. of Drs for HM (Quadratic model)



APPENDIX 3.2: Forecast No. of Drs for HM (Cubic model)



APPENDIX 4: SELECTING THE FORECASTING MODEL

1. Forecast number of doctors for MCP by using Linear Trend model (run by TSP):

SMPL range: 1980 - 1994

Number of observations: 15

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	798.39048	25.721179	31.040198	0.0000
TIME	20.342857	2.8289525	7.1909504	0.0000
R-squared	0.799103	Mean of dependent var		961.1333
Adjusted R-squared	0.783649	S.D. of dependent var		101.7714
S.E. of regression	47.33743	Sum of squared resid		29130.82
Log likelihood	-78.07034	F-statistic		51.70977
Durbin-Watson stat	1.260637	Prob(F-statistic)		0.000007

2. Forecast number of doctors for MCP by using Quadratic model (run by TSP):

SMPL range: 1980 - 1994

Number of observations: 15

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	715.03516	31.684250	22.567527	0.0000
TIME	49.762379	9.1124859	5.4609005	0.0001
TIME2	-1.8387201	0.5538166	-3.3200882	0.0061
R-squared	0.895289	Mean of dependent var		961.1333
Adjusted R-squared	0.877837	S.D. of dependent var		101.7714
S.E. of regression	35.57096	Sum of squared resid		15183.51
Log likelihood	-73.18344	F-statistic		51.30046
Durbin-Watson stat	2.246097	Prob(F-statistic)		0.000001

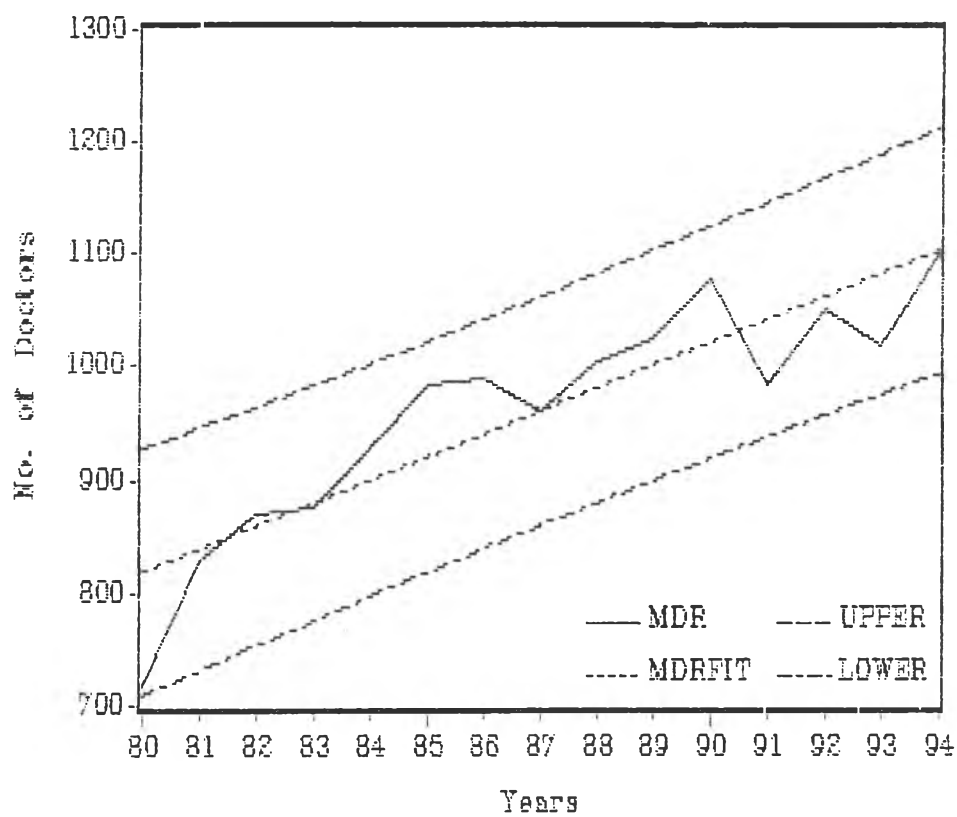
3. Forecast number of doctors for MCP by using Cubic model (run by TSP):

SMPL range: 1980 - 1994

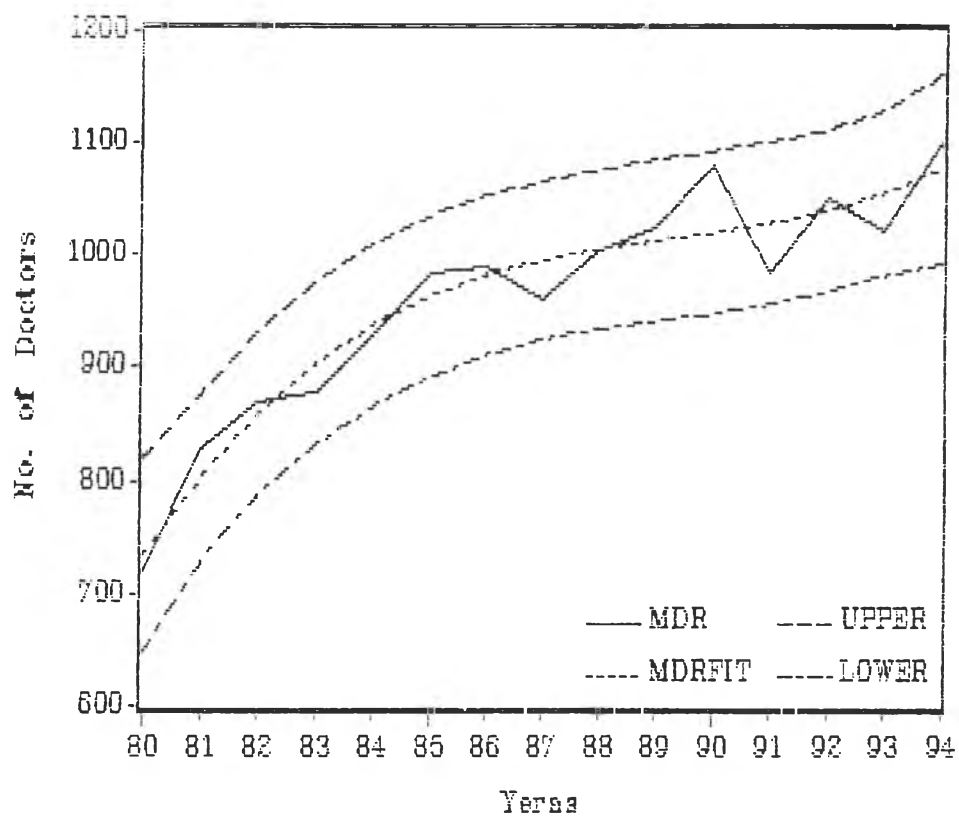
Number of observations: 15

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	648.43004	42.778804	15.157741	0.0000
TIME	92.914231	22.408186	4.1464414	0.0016
TIME2	-8.3686346	3.2006775	-2.6146448	0.0241
TIME3	0.2720798	0.1317826	2.0646112	0.0634
R-squared	0.924533	Mean of dependent var		961.1333
Adjusted R-squared	0.903951	S.D. of dependent var		101.7714
S.E. of regression	31.54072	Sum of squared resid		10942.99
Log likelihood	-70.72711	F-statistic		44.91973
Durbin-Watson stat	2.668153	Prob(F-statistic)		0.000002

APPENDIX 4.1: Forecast No. of Drs for MCF (Linear trend model)



APPENDIX 4.2: Forecast No. of Drs for MCP (Cubic model)



APPENDIX 5

Regression analysis between the doctors/ population ratio and the effectiveness of MCP (run by TSP):

1) The doctors/ population ratio and mortality rate

SMPL range: 1 - 400
Number of observations: 400

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	0.9962885	0.0286643	34.757060	0.0000
DR	-2.8664354	0.1179500	-24.302133	0.0000
R-squared	0.597408	Mean of dependent var		0.315553
Adjusted R-squared	0.596396	S.D. of dependent var		0.191518
S.E. of regression	0.121671	Sum of squared resid		5.891907
Log likelihood	276.0016	F-statistic		590.5937
Durbin-Watson stat	0.254095	Prob(F-statistic)		0.000000

2) The doctors/ population ratio and morbidity rate

SMPL range: 1 - 400
Number of observations: 400

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	1333.4629	35.311745	37.762588	0.0000
DR	-4049.0794	145.30310	-27.866436	0.0000
R-squared	0.661143	Mean of dependent var		371.8673
Adjusted R-squared	0.660292	S.D. of dependent var		257.1643
S.E. of regression	149.8868	Sum of squared resid		8941495.
Log likelihood	-2570.525	F-statistic		776.5382
Durbin-Watson stat	0.042900	Prob(F-statistic)		0.000000

3) *The doctors/ population ratio and number of pop. protected:*

SMPL range: 1 - 400

Number of observations: 400

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-323.73014	35.598067	-9.0940369	0.0000
DR	3999.7458	146.48127	27.305509	0.0000
R-squared	0.651973	Mean of dependent var	626.1495	
Adjusted R-squared	0.651099	S.D. of dependent var	255.8113	
S.E. of regression	151.1022	Sum of squared resid	9087085.	
Log likelihood	-2573.755	F-statistic	745.5908	
Durbin-Watson stat	0.042221	Prob(F-statistic)	0.000000	

4) *The doctors/ population ratio and number of patients turned out:*

SMPL range: 1 - 400

Number of observations: 400

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	1066.7703	28.249395	37.762588	0.0000
DR	-3239.2635	116.24248	-27.866436	0.0000
R-squared	0.661143	Mean of dependent var	297.4938	
Adjusted R-squared	0.660292	S.D. of dependent var	205.7314	
S.E. of regression	119.9095	Sum of squared resid	5722556.	
Log likelihood	-2481.268	F-statistic	776.5383	
Durbin-Watson stat	0.042900	Prob(F-statistic)	0.000000	

APPENDIX 6

Regression analysis between the assistant medical doctors/ population ratio and the effectiveness of MCP (run by TSP):

1) The AMDrs/ population ratio and mortality rate

SMPL range: 1 - 400
Number of observations: 400

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	0.9963092	0.0281324	35.415013	0.0000
ADR	-1.8228139	0.0737877	-24.703478	0.0000
R-squared	0.605261	Mean of dependent var		0.317168
Adjusted R-squared	0.604269	S.D. of dependent var		0.189793
S.E. of regression	0.119393	Sum of squared resid		5.673410
Log likelihood	283.5594	F-statistic		610.2618
Durbin-Watson stat	0.182360	Prob(F-statistic)		0.000000

2) The AMDrs/ population ratio and morbidity rate

SMPL range: 1 - 400
Number of observations: 400

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	1334.4023	35.261826	37.842687	0.0000
ADR	-2583.4427	92.487342	-27.932933	0.0000
R-squared	0.662211	Mean of dependent var		371.8673
Adjusted R-squared	0.661362	S.D. of dependent var		257.1643
S.E. of regression	149.6507	Sum of squared resid		8913336.
Log likelihood	-2569.894	F-statistic		780.2487
Durbin-Watson stat	0.044577	Prob(F-statistic)		0.000000

3) The AMDrs/ population ratio and number of pop. protected:

SMPL range: 1 - 400

Number of observations: 400

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-325.13535	35.516371	-9.1545207	0.0000
ADR	2553.2473	93.154981	27.408597	0.0000
R-squared	0.653682	Mean of dependent var		626.1495
Adjusted R-squared	0.652811	S.D. of dependent var		255.8113
S.E. of regression	150.7309	Sum of squared resid		9042486.
Log likelihood	-2572.771	F-statistic		751.2312
Durbin-Watson stat	0.044031	Prob(F-statistic)		0.000000

4) The AMDrs/ population ratio and number of patients turned out:

SMPL range: 1 - 400

Number of observations: 400

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	1067.5218	28.209460	37.842688	0.0000
ADR	-2066.7541	73.989872	-27.932933	0.0000
R-squared	0.662211	Mean of dependent var		297.4938
Adjusted R-squared	0.661362	S.D. of dependent var		205.7314
S.E. of regression	119.7205	Sum of squared resid		5704535.
Log likelihood	-2480.637	F-statistic		780.2487
Durbin-Watson stat	0.044577	Prob(F-statistic)		0.000000

BIOGRAPHY

Mrs. Mai Tuyet Nhung is Pharmacist. She was born on 10th, October, 1950 in Habac province, Vietnam. At the time she is officer of Department of Personnel and Organization, Ministry of Health, Hanoi, Vietnam.

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