

# **Epidemiology Bulletin**

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Utilization and satisfaction with group  
practice centers and health clinics: A  
comparative study

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## **Utilization and Satisfaction with Group Practice Centers and Health Clinics: A Comparative Study**

In July 1983, the Department of Health, Executive Yuan, started to set-up Group Practice Centers (GPCs) in remote areas through the cooperation of teaching hospitals to improve the people's confidence in health clinics, to upgrade the medical care quality of health clinics, and to provide people in remote areas adequate medical care services with the hope of achieving health for all in the island of Taiwan.

H.C. Huang et al., selected two townships of similar ethnic groups, geographic characteristics and living conditions (Heng-shan township with a Group Practice Center and Hsin-pu township with a regular health clinic) to compare the utilization of the health and medical care services by the public, and their satisfactions with the services received for the future improvement of the Group Practice Centers and the primary health care services.

Household registration data of December 1986 in the two townships were used to select respondents by a two stage random sampling method. A total of 1,001 households was selected from the two townships: 502 households in 17 lins of 5 villages in Heng-shan township and 499 households in 16 lins of 9 li's in Hsin-pu township. Head of the household or the spouse of the head of the household was interviewed as he/she normally knew more about the health conditions of the household members.

Semi-structured questionnaire designed by the authors through initial review of relevant literatures and later consulting with experts were used in the study. The interview instrument consists of two questionnaires. The first questionnaire is mainly concerned with the types, numbers and distribution of medical care resources in the locality; the second questionnaire asked the respondents about their utilization and satisfaction with the services offered by the Group Practice Center and health clinic. The field interview took place between January 12 and February 12, 1988 with 401 households (79.9%) in Heng-shan township and 407 households (81.6%) in Hsin-pu township having completed the questionnaire respectively, totaling 808 households.

At the end of 1986, there were 11 villages in Heng-shan township with a total population of 16,883 residents. The available medical resources included one health station, two private clinics, 6

drug stores and 7 Chinese herb medicine drug stores, concentrated mostly in Hsin-shing village, and to a lesser extent in the villages of Nai-wan, Heng-shan and Ta-tu. There were again at the end of 1986, a total population of 35,832 residents were living in 19 lis in Hsin-pu township. The available medical resources in Hsin-pu consist of one health clinic, 11 private clinics, 20 drug stores and 19 Chinese herb medicine drug stores. Most of the medical resources centered in Hsin-min, Hsin-shan, and Hsin-pu, and to a lesser degree in Hsi-tso, Wen-shan and Hsia-liao.

As shown in Table 1, the respondents of the two townships are similar in terms of their ages and marital status. Most of them are Hakka, and are of the traditional religion. Respondents of the sample are similar in social status, and family structure. In addition, respondents from both townships have the similar proportion of being insured, but only respondents from Hsin-pu township, on the average, has a higher monthly income.

**Table 1. Distribution of Social and Demographic Variables**

Variables	Heng-shan		Hsin-pu		x <sup>2</sup>
	No	(%)	No.	(%)	
<b>Title of respondent:</b>					
Head 1th of household	275	( 68.6)	282	( 69.3)	0.047
Spouse	126	( 31.4)	125	( 30.7)	
<b>Age of respondent:</b>					
Uner 40	82	( 20.4)	77	( 18.9)	0.595
40-65	238	( 59.4)	240	( 59.0)	
65+	81	( 20.2)	90	( 22.1)	
<b>Marital status:</b>					
Married	351	( 87.5)	342	( 84.0)	5.593
Divorced	3	( 0.7)	8	( 2.0)	
Widowed	41	( 10.2)	43	( 10.6)	
Single	6	( 1.5)	14	( 3.4)	
<b>Ethnic background:</b>					
Hakka	358	( 89.3)	388	( 95.3)	10.453*
Non-Hakka	43	( 10.7)	19	( 4.7)	
<b>Religion:</b>					
None	144	( 35.9)	41	( 10.1)	86.886**
Traditional	244	( 60.8)	363	( 89.2)	
Others	13	( 3.2)	3	( 0.7)	
<b>Social status:<sup>1</sup></b>					
Grade I	6	(1.5)	1	( 0.2)	12.636
Grade II	16	(4.0)	23	( 5.7)	
Grade III	22	(5.5)	22	( 5.4)	
Grade IV	85	(21.2)	56	( 13.8)	
Grade V	272	(67.8)	305	( 74.9)	

Insurance status:					
Insured	190	( 47.4)	220	( 54.1)	3.598
Not insured	211	( 52.6)	187	( 45.9)	
Monthly income:					
-20,000 NT\$	223	( 55.6)	189	( 46.4)	9.490*
20-40,000 NT\$	154	( 38.4)	175	( 43.0)	
40,000 NT\$+	24	( 6.0)	43	( 10.6)	
Family size: <sup>2</sup>					
-5 persons	131	( 32.7)	157	( 38.6)	6.870
5-8 persons	236	( 58.9)	203	( 49.9)	
8 persons +	34	( 8.5)	47	( 11.5)	
Family structure:					
Nuclear family	235	( 58.6)	223	( 54.8)	1.196
Non nuclear family	166	( 41.4)	184	( 45.2)	
Total	401	(100.0)	407	(100.0)	

\*p < 0.01

\*\*p < 0.001

- 1) Five grades of social status by weighing both occupation and educational levels.
- 2) Including those family members who generally eat, work and live together, 2,211 in Heng-shan and 2,238 in Hsin-pu.

The population of Hsin-pu is twice as large as that of Heng-shan, its medical resources, however, is more than two-folds. In terms of the available medical resources, Hsin-pu is better than Heng-shan both in types and quantities, though the medical care resources are poorly distributed in both areas. With the exceptions of the ethnic backgrounds, religion and monthly income, the two townships are similar in many aspects and therefore are relatively homogeneous and comparable.

As shown in Table 2, during the past six months, more residents of Hsin-pu township utilized the services of the health clinic, particularly for immunization, inspection of environmental sanitation and the screening of adult diseases, with the exception of general health examination than residents of Heng-shan township. Residents of both townships utilized health clinics for immunization purposes and the screening of adult diseases. More residents in Heng-shan township visited the adult health and dental clinics for medical care services.

Table 2. Utilization of Health Stations in Previous Six Months<sup>1</sup>

Service	Heng-shan <sup>2</sup>		Hsin-pu <sup>2</sup>		t-value
	Average	(SD)	Average	(SD)	
1. Immunization	0.38	(1.10)	0.64	(1.30)	-3.07**
2. Ante-natal clinic	0.05	(0.51)	0.06	(0.43)	-0.43
3. Well-baby clinic	0.03	(0.25)	0.07	(0.32)	-1.80
4. Post-natal care	0.03	(0.26)	0.04	(0.21)	-0.41
5. Family planning	0.09	(0.56)	0.11	(0.46)	-0.64
6. Home visiting	0.08	(0.54)	0.09	(0.45)	-0.32
7. Health education	0.15	(0.94)	0.06	(0.41)	1.58
8. Sanitary inspection	0.13	(0.35)	0.21	(0.41)	-3.15**
9. General examination	0.20	(0.53)	0.10	(0.40)	2.97**
10. Screening for hypertension and diabetes	0.23	(0.99)	0.42	(0.85)	-2.38*
11. Pap smear test	0.04	(0.26)	0.04	(0.31)	0.46
12. General clinic	0.76	(1.74)	0.04	(0.33)	8.10***
13. Aging clinic	0.22	(1.05)	0.02	(0.19)	3.76***
14. Dental clinic	0.05	(0.49)	0.00	(0.00)	1.84
15. Delivery	0.01	(0.07)	0.00	(0.00)	1.42
16. Others	0.02	(0.28)	0.00	(0.00)	1.62
Preventive services <sup>3</sup>	1.44	(2.74)	1.84	(2.64)	-2.14*
Curative services <sup>4</sup>	1.02	(2.00)	0.06	(0.40)	9.44***

\*p < 0.05      \*\*p < 0.01      \*\*\*p < 0.001

- 1) Frequency of utilization per household during previous six months.
- 2) 401 households in Heng-shan and 407 in Hsin-pu townships.
- 3) Preventive services include items 1 through 11.
- 4) Curative services include items 12-14.

It seems from the present study that the utilization of preventive services by residents of Heng-shan township is lower than of Hsin-pu township. The present study has no way to discern the utilization of preventive services in Heng-shan township, either it was higher or lower at the time prior to the establishment of the Group Practice Center. It is, however, possible that the staff of the Heng-shan health clinic, being fully occupied with the functioning of Group Practice Center, may neglect the functions of preventive medicine. On the other hand, being a model health clinic, the Hsin-pu health clinic perhaps is more active in its public health functions. The use of curative services is higher in Heng-shan. The use of medical resources by the community is generally affected by the availability of medical resources in the community. Since there are more medical care resources available in Hsin-pu, the use of health clinic for medical care is therefore lower. Yet, the significant difference in the use of curative services between the two townships indicates that the Group Practice Center was used and trusted by many local residents, unlike other health clinics whose curative services are often unknown to community residents, seems to play an important role in Heng-shan township.

The satisfaction of clients with the services provided by the medical care institutions is often used as an important indicator of the quality of medical care services. As shown in Table 3, residents of Hsin-pu seems to be happier to spend time and money in traveling to the health clinic. This is perhaps due to the fact that Hsin-pu health clinic cares for the people who live nearby, whereas Heng-shan health clinic covers a larger area. Doctors of the Heng-shan health clinic, has heavier work-load because of the increased curative services, and patients complain about the longer waiting time and time to collect medicines. How to shorten the waiting time is one of the improvements to be made in the future. The heavier work-load does not seem to impair the services of the staff, for many patients of the Heng-shan health clinic are satisfied with their services.

Table 3. Satisfaction with Services<sup>1</sup>

Item	Heng-shan <sup>2</sup>		Hsin-pu <sup>2</sup>		t-value
	Average	(SD)	Average	(SD)	
Tiem spent on traveling	1.53	(0.64)	2.12	(0.70)	-7.49***
Expences of traveling	1.13	(0.50)	1.38	(0.79)	-2.95**
Service of the information staff	3.68	(0.68)	3.49	(0.75)	2.22*
Time of waiting	2.40	(1.29)	3.53	(0.70)	-11.16***
Conditions of waiting room	3.37	(0.85)	3.39	(0.74)	-0.28
Service of medical and nursing staff	3.84	(0.48)	3.38	(0.78)	5.62***
Skills of medical and nursing staff	3.66	(0.69)	3.38	(0.78)	3.27**
Care of physician	3.82	(0.50)	3.37	(0.73)	5.68***
Answer by physician to question	3.85	(0.43)	3.44	(0.66)	5.82***
Conditions of physician's office	3.41	(0.79)	3.42	(0.74)	0.12
Service of lab technician	3.64	(0.64)	3.34	(0.64)	4.07***
Equipment used	3.29	(0.86)	2.98	(0.97)	2.87**
Service of pharmacist	3.74	(0.57)	3.43	(0.66)	4.29***
Time for collecting medicine	3.35	(0.79)	3.48	(0.66)	-1.53
Expences (registration and consultation fees)	3.54	(0.72)	3.63	(0.54)	-1.33
Improvement after care	3.44	(0.83)	3.29	(0.72)	1.70
Emergency care	3.05	(0.98)	2.78	(0.91)	2.52*
Sufficient number of staff	4.01	(0.08)	4.01	(0.10)	-0.33
Total	60.04	(5.38)	59.16	(6.30)	1.25

\*p < 0.05      \*\*p < 0.01      \*\*\*p < 0.001

1) Satisfaction at five degrees; the higher score, the more satisfaction.

2) 315 households in Heng-shan and 100 in Hsin-pu townships.

Residents of Heng-shan seem to be more satisfied than residents of Hsin-pu with the services and skills of the medical and technical staffs, the facilities and the interaction between physicians and patients. The establishment of Group Practice Center in Heng-shan seems to be an important factor in promoting the medical care quality of the health clinic. No significant difference is found between the two townships in terms of the conditions of the health clinic, the medical costs and the effects of medical care. Therefore, in terms of satisfaction, the Heng-shan group practice center seems to have enhanced the confidence of the public over the medical care quality of a health clinic.

Though more primary medical services have been made available in Heng-shan with the establishment of a Group Practice Center, the preventive services require further improvement. A future direction could be through the provision of adequate medical care services, and acting on the satisfaction of the public with the services and their confidence on the medical and health personnel, to actively promote preventive services. The functions of a health clinic can be more fully implemented when both preventive and curative services are promoted adequately at the same time.

The Group Practice Center in Heng-shan definitely has improved the medical services and skills of medical care personnel, the facilities and the interaction between physicians and patients. But on the other hand, the quality of administrative services of local health clinic seems to have been impaired because of the increased work-load. How to simplify the operational procedures and to shorten the waiting time of the patients are some of the issues for future improvement. Because of fewer medical resources in Heng-shan township, the group practice center covers a larger area, patients often have to travel longer distance. If the functions of primary care units can be enhanced, medical care will become more accessible to the public in remote areas.

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#### References:

1. Department of Health Health and Medical Program. 1983.
2. Department of Health The Program of Group Practice Center, 1984.
3. Chang, Yu-Han and Tu, Yu-Lan. The Study of Utilization of Primary Health Center in General Population. Chinese Med. J. 24:170-181, 1977.
4. Chen, Chang-Chin. The Study of Knowledge and Utilization of Primary Health Center in General Population. J. Public Health 5(3) : 247-264, 1978.
5. Hsu, Mu-Chu and Ting, Chih-Yin. Factors Affecting The Use of Group Practice Center in Rural Community. The Research Report for Health and Medical Program (9), Department of Health, 1986.

6. Yang, Chih-Liang and Yang, Jung-Yen. The Evaluation of Satisfaction of Primary Medical Care on Patient. The Research Report for Health and Medical Program (2), Department of Health, 1986.
7. Wei, Shu-Ling and Lan, Chung-Fu. The Comparison of Ambulatory Care-Utilization and Care-Satisfaction of Two Primary Health Centers. J. Formosan Med. Assoc. 82:982-992, 1983
8. Aday L. and Andersen R. A Framework for the Study of Access to Medical Care. Health Services Research 9: 208-220, 1974.
9. Hulka B.S. and Cassel J.C. Scale for Measurement of Attitudes Toward Physicians and Primary Medical Care. Medical Care 8(5) :
10. LinderPelz S. Toward a Theory of Patient Satisfaction. Soc Sci Med 16 : 577-582, 1982
11. Ware J.E. et al. The Measurement and Meaning of Patient Satisfaction. Health & Medical Care Services Review (1) : 2-15, 1978.