

## CHAPTER IV

### RESEARCH RESULTS

Medical costs in MAS have been rising steadily. The average cost increased from RM420 in 1992/93 to RM527 in 1995/96 (25.5%). This is shown in Table 1. Outpatient cost had increased from RM4.8 million in 1992/93 to RM5.9 million in 1993/94 and then stabilized at RM5.8 million for the next two years, before increasing to RM6.7 million in 1996/97. Inpatient cost increased from RM3.5 million in 1992/93 to a high of RM5.0 million in 1993/94. This fell to a low of RM2.4 million in 1994/95 before gradually rising to RM4.6 million in 1995/96 and to RM5.1 million in 1996/97. The increase in total medical costs had been due to inpatient charges.

TABLE 1

#### Medical Costs in MAS

Year	Number of Staff	Outpatient Cost (RM in Millions)	Inpatient Cost (RM in Millions)	Total Cost (RM in Millions)	Cost Per Employee (RM)
1992/93	19,783	4.8	3.5	8.3	420
1993/94	19,509	5.9	5.0	10.9	559
1994/95	19,381	5.8	2.4	8.2	423
1995/96	19,730	5.8	4.6	10.4	527
1996/97	17,766	6.7	5.1	11.8	664

(Source: MAS Medical Centre, KULAP, 1997)

## Results from the Panel of Clinics

Out of 51 clinics in the panel, 37 responded, giving a response rate of 72.5%. Table 2 showed that most of the clinics (56.8%) were group practices. Only ten out of 37 clinics were sole practices. It also showed that most of these clinics (70%) cater to a mix of self-paying and company paid patients. With regards to hours of consultation, 22% of the clinics were opened 24 hours; 32% were opened 8-14 hours daily with one day off; 46% of the clinics were opened 8-14 hours daily. When age of clients was considered, as shown in Table 2 (continued), 78% of the clinics attended to patients of mixed age groups.

**TABLE 2**

### Characteristics of Clinics by Frequency

	Frequency (N)	Percentage (%)
<b><u>Types of Practice</u></b>		
Solo Practice	10	27.0
Partnership	6	16.2
Group Practice	21	56.8
<b><u>Consultation Hours</u></b>		
24 Hours Daily	8	21.6
8-14 Hours Daily	17	45.9
8-14 Hours/1 Day Off	12	32.4
<b><u>Type of Clients</u></b>		
>75% Self-Paying	5	13.5
>75% Company Paid	5	13.5
Mixed	26	70.3

**TABLE 2 (continued)**

<b>Age of Patients</b>	<b>Frequency (N)</b>	<b>Percentage (%)</b>
<b>Mostly Children</b>	1	2.7
<b>Mostly &lt;40</b>	5	13.5
<b>Mostly &gt;40</b>	2	5.4
<b>Mixed</b>	29	78.4

The categories of personnel operating the clinics were shown in Table 3. Of these clinics, almost 92% had more than one doctor. Eight out of 37 clinics employed state registered nurses (SRN or 'staff nurse') and only two out of 37 clinics employed state enrolled nurses (SEN or 'assistant nurse'). The majority (89.2%) employed nursing aids who did not have formal nursing training. The table also showed that almost 30% of the clinics did not have administrative staff.

**TABLE 3****Categories of Staff in Clinics**

	<b>Frequency (N)</b>	<b>Percentage (%)</b>
<b>Clinic with 1 Doctor</b>	3	8.1
<b>Clinic with 2-9 Doctors</b>	27	73.0
<b>Clinic with 10-19 Doctors</b>	7	18.9
<b>Clinics with SRN</b>	8	21.6
<b>Clinics with SEN</b>	2	5.4
<b>Clinic with Nursing Aids</b>	33	89.2
<b>Administration Staff</b>	26	70.3

When it came to the types of facilities available, the clinics were generally well-equipped for laboratory investigations. Table 4 revealed that about 81% of them had urine testing facilities; 65% were equipped with blood tests facilities; 40% had X-ray machines; and only 22% had audiogram machines. However, there were not many clinics that were adequately equipped for emergency medical procedures. Only two out of 37 clinics had defibrillators, and 12 out of 37 clinics had resuscitators.

**TABLE 4**

**Types of Facilities Provided by Number of Clinics**

	Frequency (N)	Percentage (%)
<b><u>Investigations</u></b>		
X-ray Machine	15	40.5
Urine Test	30	81.1
Blood Chemistry	24	64.9
Ultrasound	19	51.4
Audiogram	8	21.6
<b><u>Emergency Equipment</u></b>		
Defibrillator	2	5.4
Endotracheal Tube	16	43.2
Resuscitator	12	32.4
Suction Machine	28	75.7
Others	13	35.1
<b><u>Other Equipment</u></b>		
Physiotherapy	7	18.9
Cautery	16	43.2
Others	8	21.6

The doctors were asked for their opinion on the introduction of Health Maintenance Organisations (HMO) and capitation. Table 5 summarised the result. Only four clinics felt that HMO may be practical, 21 clinics (57%) did not think that HMO will be practical and 12 others (32%) were uncertain. Only one clinic indicated its agreement to capitation instead of the fee-for-service arrangement while five clinics were uncertain. However, the majority of the clinics (81.1%) did not agree to capitated payment.

**TABLE 5**

**Opinions on HMO and Capitation Payment by Number of Clinics**

	Frequency (N)	Percentage (%)
<b><u>Practicality of HMO</u></b>		
Yes	4	10.8
No	21	56.8
Uncertain	12	32.4
<b><u>Support Capitation</u></b>		
Yes	1	2.7
No	30	81.1
Uncertain	5	13.9

There were anecdotal reports of doctors being told by companies not to give medical leave. Conversely, they had being threatened by employees to give medical leave. On their relationship with the company, results in Table 6 indicated that all the clinics with the exception of one had expressed their good rapport with MAS.

**TABLE 6**

**Degree of Communication with MAS by Number of Clinics**

<b>Good Communications</b>	<b>Frequency (N)</b>	<b>Percentage (%)</b>
<b>Yes</b>	36	97.3
<b>No</b>	1	2.7

In addition, Table 7 showed that almost 65% of the clinics responded that they were not pressurized by the company to limit giving medical leave. However, slightly more than half (57%) of them felt threatened by employees on this while 38% did not feel threatened at all.

**TABLE 7**

**Pressure to Give Medical Leave by Number of Clinics**

	<b>Frequency (N)</b>	<b>Percentage (%)</b>
<b><u>Company Pressure Not to Give Medical Leave</u></b>		
<b>Yes</b>	12	32.4
<b>No</b>	24	64.9
<b><u>Threats by Workers to Get Medical Leave</u></b>		
<b>Many Times</b>	2	5.4
<b>Occasionally</b>	21	56.8
<b>Never</b>	14	37.8

With the enforcement of the Occupational Safety and Health Act 1994, doctors should have training in occupational safety and health. When asked if they had undergone medical education in occupational medicine, 48.6% indicated that they had some training while 51.4% said that they had no training at all (Table 8).

**TABLE 8**

**Number of Doctors Trained in Occupational Medicine**

	<b>Frequency (N)</b>	<b>Percentage (%)</b>
<b>Yes</b>	18	48.6
<b>No</b>	19	51.4

Due to the importance of preventive health measures, the doctors were asked if they had spent time on health promotion with their patients. Table 9 showed that 73.0% did so most of the time, 24.3% did so some of the time, and 2.7% seldom did so.

**TABLE 9**

**Frequency of Health Promotion Done by Doctors**

	<b>Frequency (N)</b>	<b>Percentage (%)</b>
<b>Most of the Time</b>	27	73.0
<b>Some of the Time</b>	9	24.3
<b>Seldom</b>	1	2.7

The doctors were next asked about computer and communication facilities they had in their clinics. Most of the clinics had computers (95%), fax machine (84%) and the Internet (68%). To improve communication, 29 clinics representing 78.4% of the panel of clinics were agreeable for their computers to be linked to MAS (Table 10).

**TABLE 10**

**Availability of Computers and Communication Facilities in Clinics**

	<b>Frequency (N)</b>	<b>Percentage (%)</b>
<b>Computer</b>	35	94.6
<b>Fax Machine</b>	31	83.8
<b>Internet</b>	25	67.6
<b>Agree to Link to MAS</b>	29	78.4



## Results from MAS Staff

There were two groups of respondents in the survey of MAS staff. A total of 200 questionnaires were sent out and 155 returned by the staff from the MAS Building in Kuala Lumpur and those at the Subang airport vicinity (henceforth called office staff). One was rejected as it was not completed. This gave a response rate of 77.5%.

Another 100 questionnaires were distributed to cabin crew at the MAS Academy and 98 were returned, giving a response rate of 98%. This was done because the cabin crew worked on irregular hours and did not have fixed offices or work areas. Furthermore, these employees had been identified by MAS management as having more problems with the panel of doctors in terms of medical leave.

Table 11 showed the demographic characteristics of the respondents. Most of the respondents in the office staff (40%) were middle-aged, namely between 40-49 years old. However, the majority (63%) of the cabin crew were younger (20-29 years old). There were more males among the office staff (65%) and more females in the cabin crew (54%).

In MAS, the employees were broadly divided into various groups such as managers, executives and graded staff. All the cabin crew were grouped under the graded staff category and were considered as shift workers as they work at odd hours. Among the office staff, 5.2% were managers, 26% were executives and 68.8% were graded staff. However, only 20.1% of them were classified as shift workers and 79.2% were not. One respondent did not indicate whether he or she worked on shift or not. About 85 % of the office staff were located at the airport (KULAP) and 14.3% at the MAS Building (KULTO).

TABLE 11

Demographic Characteristics of MAS Staff

	Office Staff		Cabin Crew	
	Frequency (N)	Percentage (%)	Frequency (N)	Percentage (%)
<u>Age (years)</u>				
<20	1	0.6	18	18.4
20-29	36	23.4	62	63.3
30-39	44	28.6	18	18.4
40-49	61	39.6	0	0.0
50-60	12	7.8	0	0.0
<u>Sex</u>				
Males	100	64.9	45	45.9
Females	54	35.1	53	54.1
<u>Grade</u>				
Manager	8	5.2	0	0.0
Executive	40	26.0	0	0.0
Graded	106	68.8	98	100.0
<u>Shift Work</u>				
Yes	31	20.1	98	100.0
No	122	79.2	0	0.0
<u>Location</u>				
KULAP	131	85.1	n.a.	n.a.
KULTO	22	14.3	n.a.	n.a.

Table 12 showed the duration of employment among the office staff. The range was deliberately chosen to reflect the different period in MAS history which had resulted in different subcultures (personal communication). Those who had worked over 25 years were those who joined the company before the formation of MAS in 1972. Those who worked 15 to 24 years were with the company when Tan Sri Saw Huat Lye was the General manager. Those who worked 5 to 14 years were in the years after Tan Sri Saw but before Tan Sri Tajuddin Ramli. Those who worked less than five years joined when Tan Sri Tajuddin Ramli became the Executive Chairman. Slightly more than half, namely 62.3%, worked for more than 15 years. Only 13% worked less than five years.

**TABLE 12**

**Duration of Employment Among Office Staff by Frequency**

	<b>Frequency (N)</b>	<b>Percentage (%)</b>
<b>&lt; 5 Years</b>	20	13.0
<b>5-14 Years</b>	37	24.0
<b>15-24 Years</b>	57	37.0
<b>&gt; 25 Years</b>	39	25.3

Table 13 showed the duration of employment among the cabin crew. Here the range was based on internal information that there were differences in cabin crew who had just been recruited, those who worked less than two years and those who worked more than two years. The number of those who had worked more than ten years was very small and hence excluded from this study. All the respondents in this study were employed for less than ten years.

**TABLE 13**

**Duration of Employment Among Cabin Crew by Frequency**

	<b>Frequency (N)</b>	<b>Percentage (%)</b>
<b>New Recruits</b>	37	37.8
<b>&lt; 2 Years</b>	17	17.3
<b>2-10 Years</b>	44	44.9

Respondents were then asked about how they perceive their state of health. Table 14 showed that about 70% of the office staff and 75% of the cabin crew claimed that they were health at least most of the time. However, 29% of the former and 24% of the latter said that they were not healthy sometimes. Only one respondent from each group claimed that he or she was not health most of the time. Statistical tests, however, showed that there was no significant difference when comparing age group, grades of staff, shift work and duration of employment with this variable.

**Table 14**

**Health Perception of MAS Employees**

	Office Staff		Cabin Crew	
	Frequency (N)	Percentage (%)	Frequency (N)	Percentage (%)
Healthy Almost All the Time	29	18.8	22	22.4
Healthy Most of the Time	80	51.9	52	53.1
Not Healthy Some of the Time	44	28.6	23	23.5
Not Healthy Most of the Time	1	0.6	1	1.0

When questioned on their level of job satisfaction, Table 15 showed that about 51% of the MAS office staff and 60% of the cabin crew said that they were happy with their job at least most of the time. On the other hand, 47% of the office staff and 40% of the cabin crew were not happy at least some of the time.

**TABLE 15**

**Level of Job Satisfaction of MAS Employees**

	Office Staff		Cabin Crew	
	Frequency (N)	Percentage (%)	Frequency (N)	Percentage (%)
No Complain at All	23	14.9	18	18.4
Happy Most of the Time	56	36.4	41	41.8
Happy Some of the Time	72	46.8	37	37.8
Not Happy Most of the Time	1	0.6	2	2.0

Statistical tests were done to detect any significant difference when the age group, grades of staff, shift work and duration of employment were compared with job satisfaction. The only significant difference ( $p \leq 0.05$ ) occurred when the grades of staff were cross-tabulated with the perception of happiness with the job. Table 16 showed that managers were found to be more satisfied than the graded staff.

**TABLE 16**

**Level of Job Satisfaction by Grade of Staff**

	Manager		Executive		Graded Staff	
	N*	%	N*	%	N*	%
<b>No Complain</b>	4	50.0%	5	12.5%	14	13.5%
<b>Happy Most of the Time</b>	3	37.5%	21	52.5%	32	30.8%
<b>Happy Some of the Time</b>	1	12.5%	14	35.0%	57	54.8%
<b>Not Happy Most of the Time</b>	0	0%	0	0%	1	1.0%

Pearson value=15.52832      DF=6      significance=0.01652       $p \leq 0.05$

\* N = frequency

Next the employees were asked how often they consulted their doctors. Table 17 showed that most of the office staff (92.9%) and cabin crew (75.5%) had consulted the company doctor. Almost 95% of the office staff consulted any doctor at least once in the past 12 months while almost 90% of the cabin crew consulted any doctor at least once in the past 12 months. However, only 28% in the office staff and 45% of the cabin crew consulted their doctor on health promotion.

**TABLE 17**

**Frequency of Consultation with Doctor by MAS Staff**

	Office Staff		Cabin Crew	
	Frequency (N)	Percentage (%)	Frequency (N)	Percentage (%)
Consulted with Company Doctor	143	92.9	74	75.5
Not Consulted Any Doctor in Last 12 Months	9	5.8	10	10.2
Consulted Doctor 1-3 Times in Last 12 Months	85	55.2	68	69.4
Consulted Doctor 4-10 Times in Last 12 Months	48	31.2	19	19.4
Consulted Doctor > 10 Times in Last 12 Months	12	7.8	1	1.0
Consulted Doctor on Health Promotion	44	28.6	44	44.9

Among the office staff, 73% had follow-up in the same clinic but 25% had gone to other clinics after they did not get better after an initial visit. Similarly, 63% of the cabin crew had follow-up in the same clinic but 37% changed clinic.



When asked if they would nominate just one clinic for consultation, 84.4% of the office staff and 80.6% of the cabin crew replied affirmatively.

Further analysis was done to see if there were any relationship between the age groups, grades of employees, shift work and duration of employment with the employees concern for health. Significant differences were found for two variables. Table 18 showed that managers were more likely to consult their doctors on wellness while executives were least likely to do so.

**TABLE 18**

**Wellness Consultation by Grades of Staff**

	<b>Manager</b>		<b>Executive</b>		<b>Graded Staff</b>	
	<b>N*</b>	<b>%</b>	<b>N*</b>	<b>%</b>	<b>N*</b>	<b>%</b>
<b>Consulted Doctor on Wellness</b>	5	62.5%	7	17.5%	32	31.4%
<b>Did Not Consult Doctor on Wellness</b>	3	37.5%	33	82.5%	70	68.6%

Pearson value=7.15209 DF=2 significance=0.02799 p≤ 0.05

\* N = frequency

Table 19 showed those who did shift work were more likely to visit the same clinic for follow-up if their illness did not improve after an earlier visit compared to those who did not do shift work.

**TABLE 19**

**Doctor Follow-up by Shift Workers**

	Shift Worker		Non-Shift Worker	
	N*	%	N*	%
<b>Follow-up in Same Clinic</b>	26	89.7%	86	71.1%
<b>Change Clinic</b>	3	10.3%	35	28.9%

Pearson value=4.26974 DF=1 significance=0.03880 p≤0.05

\* N = frequency

Table 20 disclosed the level of satisfaction that MAS employees felt about the health benefits provided by MAS. About 29% of the office staff were at least somewhat dissatisfied with the medical benefits provided by the company as compared with 29% of the cabin crew who expressed likewise. About 25% of the office staff and 24% of the cabin crew were dissatisfied with the insurance benefits provided. About 13% of the office staff and 28% of the cabin crew were dissatisfied with the panel of doctors. Almost 33% of the office staff and 46% of the cabin crew were dissatisfied with the KULAP medical centre.

**TABLE 20**

**Level of Satisfaction with Health Benefits by MAS Employees**

Level of Satisfaction	Office Staff		Cabin Crew	
	Frequency (N)	Percentage (%)	Frequency (N)	Percentage (%)
Satisfied with Health Benefits	107	70.9	40	40.8
Satisfied with Medical Insurance	113	74.8	41	41.8
Satisfied with Panel Clinics	129	86.6	59	60.2
Satisfied with MAS Medical Centre	97	66.9	53	54.1

Chi-square tests were done to see if the age groups, grades of staff, shift workers and duration of employment were related to the constructs in Table 20. This was only significant for shift workers and their views of the health benefits provided. Table 21 showed those who worked on shifts were significantly more satisfied with the health benefits compared to those who did not work shifts.

**TABLE 21**

**Satisfaction with Health Benefits by Shift Workers**

Level of Satisfaction With Health Benefits	Shift Worker		Non-Shift Worker	
	N*	%	N*	%
Very Satisfied	5	17.2%	6	5.0%
Somewhat Satisfied	8	27.6%	17	14.0%
Satisfied	10	34.5%	60	49.6%
Somewhat Dissatisfied	4	13.8%	26	21.5%
Very Dissatisfied	2	6.9%	12	9.9%

Pearson value=9.44936 DF=4 significance=0.05080  $p \leq 0.05$

\* N = frequency

Among the main reasons indicated by both groups of respondents for choosing a particular doctor were the close location of clinics and convenient operating hours, as shown in Table 22. Table 23 indicated that the most important reason for disliking a particular clinic was poor quality of treatment. This was followed by long waiting times. The least important reason was "dislike for nurses". Table 24 showed that by far the most important reason for dissatisfaction with the MAS medical centre was the long waiting time there. The least important reason was "dislike for nurses" too.

**TABLE 22**

**Reasons for Choosing a Particular Clinic by MAS Employees**

Reason	Office Staff		Cabin Crew	
	Frequency (N)	Percentage (%)	Frequency (N)	Percentage (%)
Near to House	114	74.0	66	67.3
Convenient Hours	76	49.4	70	71.4
Doctor's Reputation	53	34.4	46	46.9
>1 Doctor in Clinic	30	19.5	17	17.3
Personal Liking for Doctor	24	15.6	17	17.3
Friend's Recommendation	13	8.4	17	17.3

**TABLE 23**

**Reasons For Not Choosing A Particular Clinic by MAS Employees**

Reason	Office Staff		Cabin Crew	
	Frequency (N)	Percentage (%)	Frequency (N)	Percentage (%)
Poor Quality of Treatment	93	60.4	72	73.5
Long Waiting Time	91	59.1	42	42.9
Don't Like Doctor	60	39.0	26	26.5
Don't Like Nurses	9	5.8	10	10.2

**TABLE 24**

**Factors Contributing to Dissatisfaction with MAS Medical Centre  
by MAS Employees**

Reason	Office staff		Cabin Crew	
	Frequency (N)	Percentage (%)	Frequency (N)	Percentage (%)
Long Waiting Time	100	64.9	40	40.8
Poor Quality of Medicine	29	18.8	9	9.2
Don't Like Doctor	24	15.6	6	6.1
Don't Like Nurses	6	3.9	4	4.1

## Health Benefits in Other Companies

There were only seven companies in the Kuala Lumpur area with in-house doctors to manage the corporate health care. Only three responded to the survey.

Company A is in the petrochemical industry with 1000 to 3000 employees. It offered outpatient medical and dental services to the employees and dependents. There was no limit to the fees charged to the employees but there was a limit to the fees charged to the dependents. This applied to consultation with both general practitioners and private specialists. Inpatient care in private hospitals was subsidised. These benefits were financed from a fund set up by the company with contributions from the employees and the company.

Company B is in the transportation industry employing more than 5000 staff. There was no limit to the fees charged by general practitioners. Fees of specialists were subsidised. Hospital care in government hospitals was fully covered but that in private hospitals was subsidised. The company was responsible for the funding of this benefit.

Company C is in the manufacturing industry employing more than 5000 staff. There was full coverage for employees to consult both general practitioners and specialists. However, dependents were limited to a maximum of RM400 a year. The employees received subsidised treatment in private hospitals.

All three companies surveyed agreed that medical costs were increasing although "not alarmingly". To control costs, they were considering the option of engaging HMOs to manage their health benefits.