

## **CHAPTER IV**

### **FINDINGS**

This descriptive cross-sectional study was conducted in 16 districts of Ayutthaya Province, Thailand. The study assessed the appropriateness of CUP management in support for family medicine and rational use of health services. Seventy nine CUP members were surveyed using a self-administered questionnaire and 16 CUP directors were interviewed in-depth using a semi-structured questionnaire including all questions from the self-administered questionnaire. Data was collected between 14 February and 10 March 2006.

In this study factors influencing management and management performance functions were assessed. Factors influencing management performance consisted of: 1) Socio-demographic data of respondents, 2) management training of respondents, 3) previous management related work experience of respondents, 4) availability of management advice, 5) autonomy in decision making, and 6) support by authorities. Management performance function consisted of: 1) CUP structure, 2) planning process 3) delegation of tasks and responsibilities, 4) human resource management, 5) financial management, and 6) monitoring and evaluation.

The same information from the in-depth interviews as the self administered questionnaire was treated the same way as information from the self-administered

respondents. In addition, the extra information collected from the in-depth interviews was summarized as statements but was not quantified. In this study respondents refer to both self-administered and in-depth interviews responses.

The performance of CUP management was judged by the answers given by the respondents who were CUP members including CUP directors. Since a precise description of management or an appropriate standard of CUP management is not given by MOPH or the NHSO, six important functions of management were investigated using criteria, which reflect international management standards and specific demands for management with regard to an efficient district health care system as recommended by World Health Organization (WHO, 1988).

The findings are presented in frequencies, percentages, means, and standard deviations. Correlation was used to test association between independent and dependent variables. However, due to conflicting information given by the respondents in the same CUP, analyzing the data at the CUP level was of limited value. All missing values were assigned a value "0" because it was assumed that since the respondents were part of the CUP management they should have known all information concerning the CUP management. The following are the findings of the study:

#### **4.1 Overall Appropriateness of CUP Management Performance**

The six management functions investigated were CUP management structure, planning, delegation of responsibility, human resource management, financial management, and monitoring and evaluation. The performance for each function was measured by 3-7 questions and allocating for each answer a number of performance

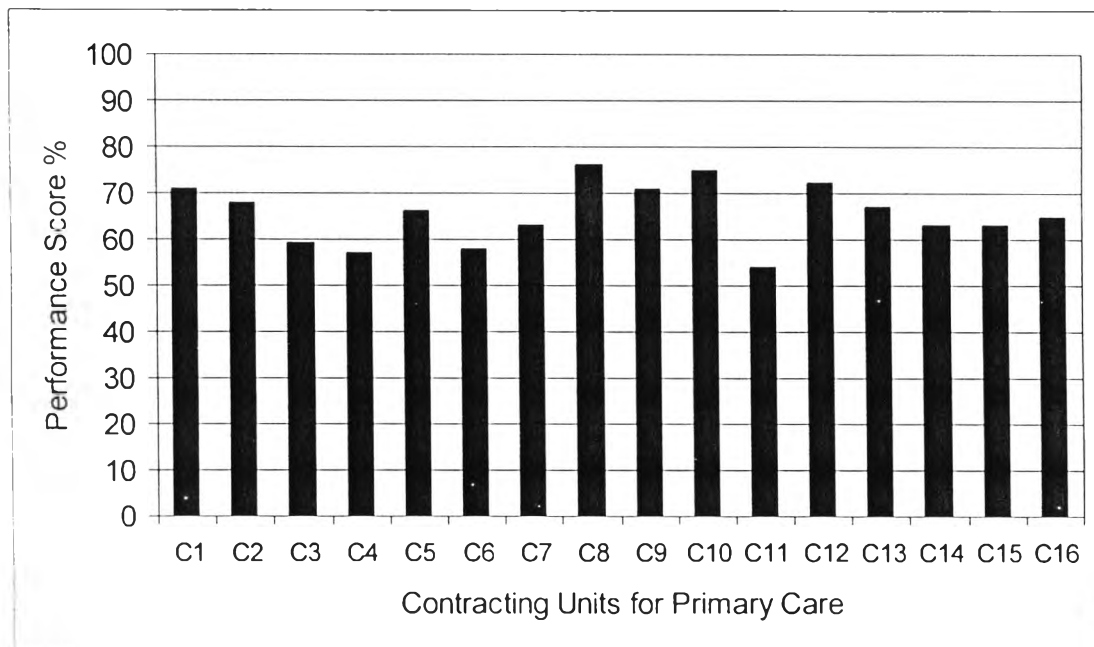
points ranging from 6-10 points. Differences between the importance of the functions were acknowledged by weighing the achieved amounts of points through multiplication.

The findings of appropriateness are presented as a score, which is the percentage of points achieved of a total number of points possible to be achieved. The highest possible number of points per respondent was 51 and the highest total number of points possible to achieve was 4845 (51 points x 95 respondents). All the information given was analyzed at respondents' level. The determination of an adequate cut-off score for "appropriate management" is arbitrary. It was set as 70%. The reason was that, after looking at the criteria for scoring system, it was found that a mathematical cut-off of 50% could not reflect sufficient management quality. Therefore the cut-off was set at 70%, which is still arbitrary.

The overall mean score for CUP-management performance is 66%. Management with a mean score of  $\geq 70\%$  was seen as reflecting sufficient performance and this was reached by 5 out of 16 CUPs (31%). Table 1 shows the overall mean score for management performance and Figure 2 shows the mean score for structure and all management functions by CUP. In order to preserve confidentiality the CUPs are not identified by names.

**Table 1: Overall mean score for management performance (n=95)**

Mean	Actual points (SD)	Range	Median	Number of CUPs with mean score $\geq 70\%$
66%	33.27(7.50)	23% - 86%	67.6%	5 (31%)



**Figure 2: Mean score for all management functions by CUP**

## 4.2 Appropriateness of CUP Management by Function

### 4.2.1 The CUP management structure

The CUP management structure was measured by five questions with a total of 10 possible points to be attained. According to the developed criteria for appropriate management structure, having a CUP-management team/board/committee with 6-10 members who meet at least every other month and keep minutes of meetings was judged as most appropriate. It is desirable that functions of CUP director, DH/CH director, and head of the PCU located in hospital are held by three different persons. The mean overall score for management structure was 66%. (See table 2).

All districts had a CUP management structure but called it differently. More than one-third (41%) of respondents referred to the CUP as District Health Coordinating Committee (DHCC), less than a quarter (20%) as CUP-Core-Team,

14% as CUP-Team, 13% as Coordinating Committee of the District Hospital, and the remaining 12% referred to the CUP as CUP-Board, CUP-Committee or Administration Committee.

The mean (SD) number of CUP-management members was 16 (5.61), the median was 15 with a range of 5 to 50 members. More than half (56%) of the respondents stated that the CUP-management had more than 16 members, while 32% and 12% stated that the CUP-management had 11-15 and 6-10 members respectively. Over 70% of the respondents said the CUP-management had more than three CUP-management meetings in the past six months, 23% said the CUP had 1 or 2 meetings, while 4% said there were no meeting. All respondents said that all CUPs had written minutes of meetings held.

The respondents' answers show that, the majority (67%) of hospital directors were also the directors of CUPs and the PCU located in the hospital, 15% of directors were holding only one position, while 18% had a different person heading the PCU in the hospital. One CUP had the position of the CUP director rotated on a yearly basis between the district health officer and the district hospital director.

#### *4.2.2 Planning*

The planning process was measured by five questions with a total of nine possible points to be attained. According to the developed criteria for an appropriate planning function, it is seen as most appropriate that each CUP has a strategic plan for two or three years and a yearly plan of activities. The planning process should be

participatory with all actors concerned involved - including the community. The overall mean score for the planning was 64%. (See table 2).

Nearly all respondents (90%) stated that, their CUPs had both, a strategic plan and a plan of activities and more than half (60%) said that the CUPs had a strategic plan for two years or more. Most of the respondents (64%) had been involved directly in the planning process, 30% had been “somehow” involved and only 6% said they had not been involved at all. A third (30%) of the respondents said that the CUPs had planned with less than three institutions being involved in the process, while 37% said the CUP had involved the DHO and the PCU and 31% had also involved their communities in the planning process.

#### *4.2.3 Delegation of tasks and responsibilities*

Delegation of tasks and responsibilities was measured by two questions with a total of six possible points to be attained. According to the developed criteria for an appropriate delegation function, it is desirable that each member of the CUP has a written job description for their duties in CUP management. In the spirit of decentralization, the CUP should allow the PCU/HCs to decide and calculate their own drug demand. The overall mean score for delegation of tasks and responsibilities was 72%. (See table 2).

Almost two-thirds (68%) of the respondents said they had a job description for their duties in the CUP management. More than two-thirds (77%) of respondents said that PCU/HCs could decide and calculate their drug demand.

#### *4.2.4 Human resource management*

Human resource management (HRM) was measured by four questions with a total of nine possible points to be attained. According to the developed criteria for an appropriate HRM function, it is desirable that each CUP has an incentive system as well as a self-organized program for staff capacity building in both, technical and administrative skills. The overall mean score for HRM was 79%. (See table 2). More than 90% of the respondents stated that the CUP had a form of capacity building program in the district and over 80% said that the CUP had more than two training programs going on with 10 or more staff enrolled in these programs.

#### *4.2.5 Financial management*

The function of financial management (FM) was measured by four questions with a total of seven possible points to be attained. According to the developed criteria for an appropriate FM function, there is a need for transparency in financial issues and therefore the CUP members should have sufficient and equal knowledge about financial matters in their respective CUPs. The overall mean score for financial management function was 45%. (See table 2).

The majority of the respondents (64%) knew the budget that arrives to the CUP but not the proportion of total capitation budget without salaries of the CUP. More than a third (36%) of respondents did not know the budget at all. Almost half (43%) of respondent could correctly state the number of registered population under UC in their CUP, 16% stated wrong figures, and 41% did not know the number. More than three-quarters (76%) of respondents stated that the CUP calculated the budget to the PCU by the registered population or by activities, while 24% did not know how it

was done. A third (30%) of the respondents knew the budget that was forwarded to the PCU/HC, 14% stated incorrect amounts, and the majority 56% did not know.

#### *4.2.6 Monitoring and evaluation*

The monitoring and evaluation (M&E) function was measured by seven questions with a total of 10 possible points to be attained. The criteria developed for appropriate M&E function stipulate that, each CUP as well as PCU/HCs write at least one annual district or facility report, that the CUP does support/monitoring visits to the PCU/HC at least every second month, that there is a schedule of support visits, and a written report after each visit. It is appropriate for the CUP to do an in-house performance evaluation at least once a year. The mean score for M&E was 63%. (See table 2).

Half (50%) of the respondents said that CUPs wrote an annual report for the whole district, about one-tenth (10%) stated that CUPs wrote an annual report for the whole district and in addition reports by projects or facilities. Over a third (40%) of respondents said that the CUPs did not write a comprehensive annual report. Approximately three-quarters (73%) of respondents stated that the PCU/HCs wrote an annual report. About half (47%) said that the CUPs had made more than three support visits to the PCU/HCs in the last six months, 43% and 9% had done less than three visits and no visits respectively, in the past six months. More than 90% responded that the CUPs had a schedule for the visits and 81% said that the CUPs wrote a report after each visit. About two-thirds (67%) stated that the CUPs had an annual CUP-performance evaluation but of these only 28% used indicators to evaluate their performance.



**Table 2: Overall mean scores for CUP-management structure & functions (n=95)**

Management function	Mean	Actual points (SD)	Range	Median
CUP management structure	66%	6.57(1.35)	20% - 90%	70%
Planning	64%	5.76(2.80)	0% - 100%	66.6%
Delegation of tasks and responsibilities	72%	4.36(1.90)	0% - 100%	66.6%
Human Resource Management	79%	7.15(2.38)	0% - 100%	83.3%
Financial Management	45%	3.17(1.80)	0% - 86%	42.8%
Monitoring and Evaluation	63%	6.26(2.16)	0% -100%	60%

Although the information given on the management structure and functions of the CUPs, is only by an average 6 (25%) of CUP members in the same CUP and it does not provide much evidence on the real situation in the CUP, the numbers and percentage of CUPs with a “sufficient” mean score ( $\geq 70\%$ ) by structure and functions are presented in Table 3.

**Table 3: Number and percentage of CUPs with sufficient score by management structure and functions (n=16)**

Management function	Overall mean score	Number of CUPs with mean score $\geq 70\%$
CUP management structure	66%	5 (31%)
Planning	64%	6 (38%)
Delegation of tasks and responsibilities	72%	6 (38%)
Human Resource Management	79%	14 (88%)
Financial Management	45%	2 (13%)
Monitoring and Evaluation	63%	5 (31%)

### 4.3 Factors Influencing CUP Management Performance

Factors that influence management were divided into factors related to actors and administrative framework conditions. Variables related to actors consisted of 1) socio-demographic data of CUP team members, 2) management training, and 3) previous management related work experience. Variables related to administrative framework are 1) availability of management advice, 2) support by key actors in the health sector (PHO, DHO, TAO and Community), and 3) degree of autonomy for decision making in the CUP.

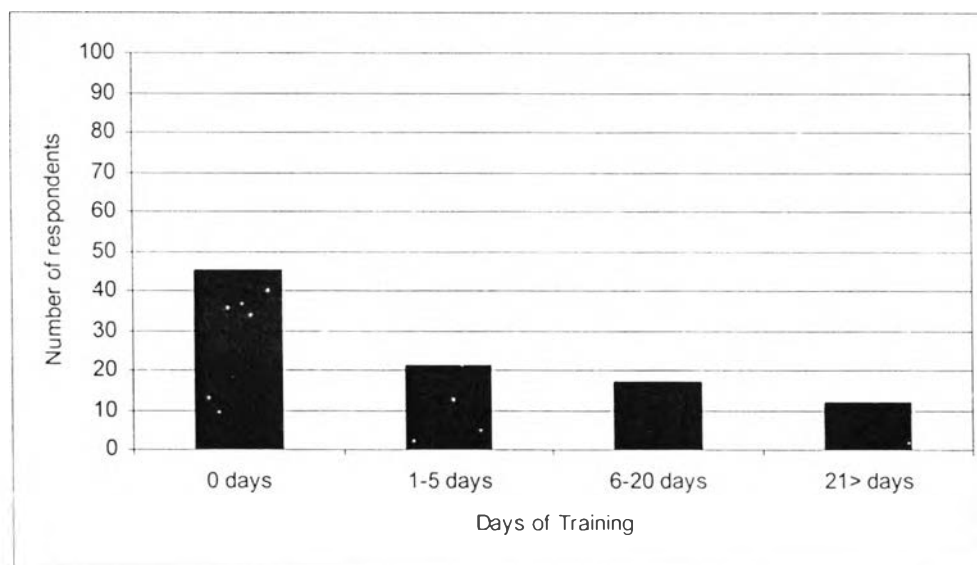
#### 4.3.1 Management training courses attended by respondents

For all management training courses attended a total of three possible points were given. Respondents who attended a relevant training in management scored “1” or more according to the duration of the training. More than half (53%) of the respondents had attended at least one relevant management training, while 47% of respondents had never had management training. The mean (SD) days of management training was 13.97 (37.15) days and the median was two days. The minimum number of training days was 1 while the maximum was 180 days.

**Table 4: Number and percentage of respondents with relevant management training and duration of training (n=95)**

Mean	Standard Deviation	Range	Number (%) of respondents with management training
13.97days	37.15	1 -180 days	50 (53%)

Of those who had had relevant management training, about a quarter (22%) had 1-5 days of training, while 18% and 13% had 6-20 days and more than 21 days of training respectively. (See Figure 3) The topics of training included, hospital administration, financial management/internal control, strategic planning/result based management, general administration, and human resource skills. The majority of the respondents stated that the management training they had attended was covering only basic skills/knowledge of the topic.



**Figure 3: Number of respondents by duration of relevant management training attended (n=95)**

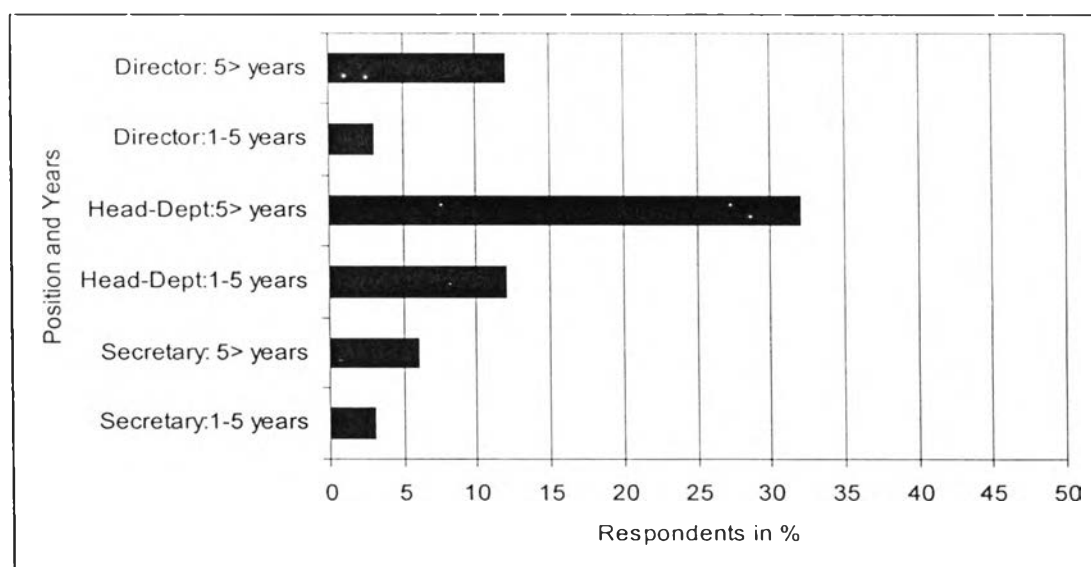
#### *4.3.2 Previous management related work experience*

The score for previous management-related work experience was measured by six questions with a total of six possible points to be attained. Respondents who had held a director's position for six years or more were given the highest score. Almost three-quarters (68%) of respondents had held at least one management related position prior to their current position in the CUP management, with a mean (SD) of 7.5 years (7.35). (See Table 5).

**Table 5: Years of management experience as well as number and percentage of respondents with management related work experience (n=95)**

Mean	Standard Deviation	Range	Number (%) of respondents with management related work experience
7.5 years	7.35	1 - 25 years	65 (68%)

Of the respondents who had management work experience, majority 42 (64%) had been heads of departments/section/committees/groups, 14 (22%) had been directors/ heads of health facilities (hospitals or health centers), and 9 (14%) had performed secretarial tasks in committee or committee members. (See Figure 4). Over half (54%) of the respondents had performed tasks related to planning and administration, 23% had experience in monitoring and supervision, 20% lead institutions - overseeing the overall management of the institutions, only 3% had financial management experience.



**Figure 4: Percentage of respondents by years of management experience and former positions**

### 4.3.3 Availability of management advice

The score for availability of management advice was measured by one question, the presence of a “management guide” with only one possible point to be attained. A “yes” response got one point. The majority (70%) of the respondents said that their CUP management had a written guideline for CUP management and a third (30%) stated that the CUP did not have a guideline. The CUP management guidelines were locally developed and written by the CUP members themselves because there was no official management guideline by the MOPH.

### 4.3.4 Autonomy in decision-making

Autonomy in decision-making was measured by four questions with a total of five possible points to be attained. Five points indicated a high degree of decentralization. There were four questions to judge the degree of decentralized decision-making for the CUP-management. The mean score of autonomy for CUPs was 50% (SD 2.12) and the median was 40%. The answers of a quarter (22%) of respondents reflected high autonomy and half (48%) at least moderate autonomy. (See Table 6).

**Table 6: Overall mean score for autonomy and level of autonomy by respondents (n=95)**

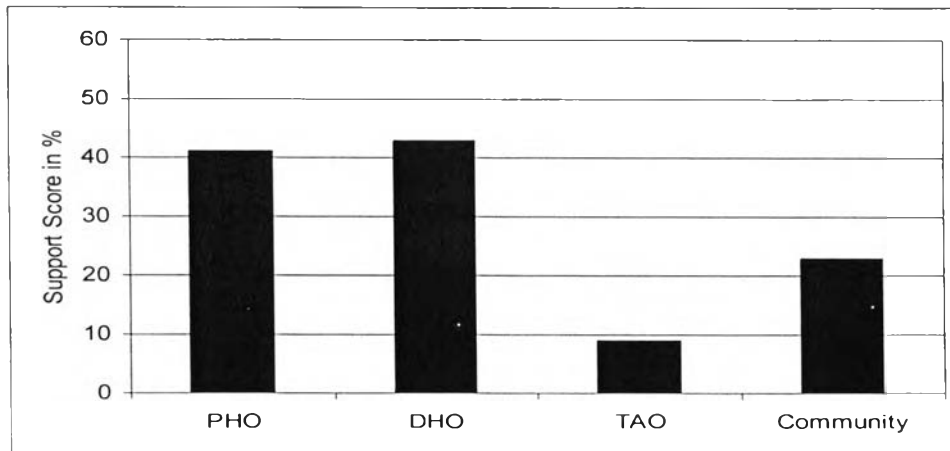
Mean	Actual score (SD)	Range	Level of autonomy as indicated by respondents		
			Low (0-1 points)	Moderate (2-3 points)	High (4-5 points)
50%	2.50 (2.12)	0% -100%	30%	48%	22%

Less than half (43%) of the respondents said the CUP had authority to move staff but more than half (55%) said the CUP had no authority to move staff within the network. A quarter (22%) of the respondents said the CUP could hire staff without restrictions but over two-thirds (78%) of the respondents said the CUP could not hire staff. Less than a quarter (21%) of respondents said the CUP had authority on less than 50% of the capitation budget. Less than a quarter (21%) of respondents had some idea of how much budget the CUP had authority to decide on spending. Majority (70%) of the respondents said their CUPs had authority to decide on staff incentives.

#### *4.3.5 Support by PHO, DHO, TAO and Community*

This section had four questions to judge the level of support to the CUP management by key actors in the district health sector i.e. PHO, DHO, TAO and community. The support was categorized into three levels (always, sometimes and never). The total possible points to attain were eight.

The overall mean score reached for support by all actors to CUP was 55%. The SD was 2.16 and the median was 62.5%. Almost half (43%) of the respondents rated the overall support as high, 29% and 28% of respondents rated the support as medium and low or no support respectively. (See Figure 5).



**Figure 5: Score for key actors' support by respondents**

#### *4.3.6 Socio-demographic data*

The mean (SD) age of the respondents was 41.54 (7.297) years and the median was 43 years. Nearly half (46%) of the respondents were between 36-45 years old, a third (30%) were 46-55 year old, less than a quarter (21%) were 24-35 years old, and 3% of the respondents were above 56 years old. Two thirds (70%) of the respondents were female and 30% were male.

Half (48%) of the respondents were nurse by basic profession, a quarter (23%) were physician or dentist, pharmacist were 7%, public health bachelors were 10% and other qualifications were 12%. More than half (55%) of the respondents had additional professional qualifications, of whom 10% and 11% had a management oriented postgraduate and bachelor degrees, 5% and 25% had non-management oriented postgraduate and bachelor degree respectively, and 4% other trainings. More than half (53%) of the respondents described their position in the CUP management as members of the team, 20% were sector head/managers, 16% were CUP Directors/deputies, and 11% were CUP secretaries to the CUP management. (See Table 7).

**Table 7: Socio-demographic characteristics of respondents (n=95)**

<b>Characteristics</b>	<b>Number</b>	<b>Percentage</b>
<i>Gender</i>		
Male	28	30
Female	67	70
<i>Age (years)</i>		
25-35	20	21
36-45	44	46
46-55	28	30
56 and above	3	3
<i>Basic Profession</i>		
Physician/Dentist	22	23
Pharmacist	7	7
Nurse(NP/Registered/Midwife)	46	48
Bachelor in Public Health	9	10
Others (BA, B.Ed, BA-Law, BSc)	11	12
<i>Additional Qualification</i>		
Management oriented postgraduate studies	9	10
Non-management oriented postgraduate studies	5	5
Management oriented undergraduate studies	10	11
Non-management oriented undergraduate studies	24	25
Other training	4	4
None	43	45
<i>Current Position in CUP Management Team</i>		
Director/deputy	15	16
Secretary	11	11
Sector head/manager	19	20
Member	50	53



#### 4.4 Association between Factors Influencing Management and Appropriateness of CUP Management Performance

Five factors were considered as having an influence on CUP management performance (respondents' management training attended, previous management-related work experience, presence of management guide, support by key actors and degree of autonomy). Pearson correlation coefficient was used to determine the strength and direction of the association between factors that influence management performance and CUP management performance. Pearson correlation coefficient test was chosen because it is the most suitable measure for determining strengths of association when the variables are in scale. (See Table 8).

**Table 8: Association between factors that influence management and CUP-management performance**

Factors that influence CUP management performance	CUP-management performance	
	Correlation	p-value
Degree of autonomy	0.412**	<0.001
Management training	0.158	0.126
Previous management-related work experience	0.233*	0.023
Support by key actors	0.345**	0.001
Availability of a written management guide	0.214*	0.038

\*\*Correlation is significant at the 0.01 level (2-tailed)

\*Correlation is significant at the 0.05 level (2-tailed)

#### *4.4.1 Association between degree of autonomy and CUP management performance*

Correlation between degree of autonomy and the overall CUP-management performance revealed a significant and a strong positive correlation (0.412)  $p < 0.001$ . This shows that respondents who stated that, their CUPs had more autonomy in decision-making had also better management performance in their CUP than those who had less autonomy. Therefore it can be assumed that more decentralization can result in better management performance.

#### *4.4.2 Association between management training and CUP management performance*

Correlation between management training attended by respondents and the overall CUP-management performance revealed a positive correlation (0.158) but not significant  $p = 0.126$ . This means that having more respondents with management training did not result in the CUP performing better than CUPs with less trained respondents. Hence, the management training received did not make a difference in the CUP management performs.

#### *4.4.3 Association between previous management-related work experience and CUP management performance*

Correlation between respondents' previous management-related work experience and the overall CUP-management performance shows a positive correlation (0.233) and it is statistically significant  $p = 0.023$ . This means that respondents with higher management related work experience were in the CUPs that had better management performance.

#### *4.4.4 Association between support by key actors and CUP management performance*

Correlation between support by key actors and the overall CUP-management performance revealed a significant and strong positive correlation (0.345)  $p=0.001$ . This means that respondents who stated better support were also in better performing CUPs. Therefore, it seems that a conducive and favorable operating environment created by the key actors enables CUP-management to perform better.

#### *4.4.5 Association between availability of a written management guide and CUP management performance*

Correlation between availability of a written management guide and the overall CUP-management performance reviewed a positive correlation (0.214) and was statistically significant  $p=0.038$ . This means that respondents, who stated that their CUPs had developed a management guide, had also better management performance. It can be assumed that availability of a written CUP guide is not a factor of its own but an indicator of better leadership and transparency in the CUP management, since all CUP guides has been developed by the team itself.

#### *4.4.6 Controlling for confounding factors*

In order to ensure that the findings of association between factors that influence management and CUP management performance were not confounded by age and gender a partial correlation was done. The partial correlation coefficient describes the linear relationship between two variables while controlling for the effects of gender and age as two additional variables. (See Table 9).

**Table 9: Pearson partial correlation between factors that influence management and CUP-management performance controlling for gender and age (n=95)**

<b>Control Variables</b>	<b>Factors that influence management performance</b>		<b>CUP management performance</b>
-none-	Autonomy	Correlation	0.412
		Significance (2-tailed)	0.000
		df	93
	Availability of management advice	Correlation	0.214
		Significance (2-tailed)	0.038
		df	93
	Management training attended	Correlation	0.158
		Significance (2-tailed)	0.126
		df	93
	Management related work experience	Correlation	0.233
		Significance (2-tailed)	0.023
		df	93
	Support by key actors	Correlation	0.345
		Significance (2-tailed)	0.001
		df	93
Gender & age	Autonomy	Correlation	0.390
		Significance (2-tailed)	0.000
		df	91
	Availability of management advice	Correlation	0.206
		Significance (2-tailed)	0.048
		df	91
	Management training attended	Correlation	0.136
		Significance (2-tailed)	0.194
		df	91
	Management related work experience	Correlation	0.187
		Significance (2-tailed)	0.072
		df	91
	Support by key actors	Correlation	0.328
		Significance (2-tailed)	0.001
		df	91

The results show that age and gender were confounding factors only for work experience. The findings from the partial correlation show that the factor “work experience” which had a positive correlation (0.233) and was significant  $p=0.023$  changed, but retained positive correlation (0.187) but not statistical significance  $p=0.072$ , after controlling for age and gender. Autonomy, availability of management advice, and support were not confounded by age and gender because there were no significant differences in results before and after controlling for age and gender.

#### **4.5 Findings from the In-depth Interviews**

The following is a summary of additional information collected from the in-depth interviews of 16 CUP directors. This information was not quantified.

##### *4.5.1 CUP Management Structure*

The CUP directors were asked five questions with regard to the CUP management structure. The answers revealed that the CUP draws members from different institutions and the representation of members from each institution differs from one CUP to another. All members of the CUPs were appointed and they held their positions permanently as long as they worked in the district. The only source of management advice mentioned was the PHO and the majority of the CUP directors said the CUP did not receive management advice from anywhere.

##### *4.5.2 Support by key actors (PHO, DHO, TAO, & Community)*

The CUP directors were asked to state what type of support they got from each of the key actors. The answers revealed that the PHO organized capacity building training for staff, interpreted policies and disbursed information to the CUPs. The

DHO was seen mainly as a cooperating partner in delivering health care services to the target population. The TAO and the community gave support in terms of cooperation with the health sector, volunteerism and funding.

#### *4.5.3 Planning*

The CUP directors were asked six questions concerning planning their CUP. The answers revealed that the CUPs had strategic plans with targets and indicators. However, not all CUPs developed own indicators and most CUPs did not have a comprehensive plan for the district but rather different plans by facilities or projects.