

Upholding the Missions of Academic Medical Centers: New Work Roles for CEOs

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Abstract - This study uses Henry Mintzberg's classification of ten work roles of managers, and narrows it down to four work roles which are most frequently performed by CEOs as they uphold academic medical centers' missions of providing quality medical education, research and patient care. Through principal component analysis, the four roles were used to form a typology of CEOs. This typology can be used to identify work roles of CEOs in AMCs. Furthermore, AMCs can use this typology in the hiring process to identify CEO candidates that would best fit the requirements of the organization. In addition, it can be used to train and develop CEOs to improve their performance, especially to conduct appropriate tasks which will strengthen AMC missions.

Key Words: missions of academic medical centers, CEO work roles, typology of CEOs

Academic medical centers (AMCs) play a unique role in the health care system as the generator of unsurpassed medical education, state-of-the-art medical care and innovative research. However, the current health care environment, depicted by reductions in government funding for education and research, growth of managed care, and increased market competition, has adversely affected AMCs' missions.¹ Specifically, their mission to train highly qualified physicians and other health professionals is undermined by government funding cuts for graduate medical education. Medicare is the largest payer of graduate medical education at \$6.1 billion in 1994.² Unfortunately, government reforms such as the Balance Budget Act of 1997 has greatly reduced Medicare funding which contributes to the growing concern over the viability of AMCs.

As a result, AMCs have developed a number of innovative strategies to uphold their missions. One of the most commonly cited strategies includes possessing appropriate administrative structure and management that facilitates more rapid and timely administrative decision making by the chief executive officer (CEO).^{3,4} For the purpose of this paper, a CEO is defined as a high ranking health care executive who holds major administrative responsibilities in the AMC. For some institutions, the CEO may also be referred to or hold other titles such as that of

president, vice president, chancellor or dean. This study used Henry Mintzberg's classification of managerial work roles as a starting point in categorizing the activities of AMC CEOs.⁵ Mintzberg's scheme includes three interpersonal roles, three informational roles and four decisional roles defined below.

The interpersonal roles consist of the figurehead, leader and liaison. In the figurehead role, a manager is responsible for a variety of social and ceremonial activities. As a leader, a manager gives the organization direction and purpose. In the liaison role, the manager builds networks of contacts with individuals and groups who are in positions to provide information to enhance the nature of the organization.

The informational roles are made up of the monitor, disseminator and spokesman. In the monitor role, the manager gathers information and seeks to identify problem areas by making sure operations are running smoothly and develops plans to improve the organization. As the disseminator, the manager brings external information into the organization and passes information onto his/her subordinates. Contrary to the disseminator role, the spokesman role passes information out to the organization's environment, where the manager speaks on behalf of the organization, such as an expert in the field.

The decisional roles consist of the entrepreneur, disturbance handler, resource allocator and negotiator. As an entrepreneur, the manager acts as an initiator and designer of change in the organization. As the disturbance handler, the manager resolves disturbances and restores stability to the organization. As the resource allocator, the manager establishes and maintains priorities in the organization by allocating time, money, material, equipment, manpower and reputation to certain functions and is responsible for authorizing all major decisions. Finally, in the role of negotiator, the manager participates in various negotiation activities.

While Mintzberg proposed that his classification of roles is present in all managerial jobs, he challenged future researchers to validate his work, especially for a diverse group of managers. Consequently, the purpose of this research is to examine Mintzberg's classification of work roles and determine its relevance to today's CEO in AMCs. Moreover, it is useful to delineate the role of the CEO in AMCs for two reasons. First, understanding the current roles of CEOs is useful for training and developing CEOs and other managerial health care professionals to identify appropriate work roles to improve their performance. Second, an appreciation of these roles enables AMCs to link CEO performance to the needs of their organizations, especially in response to stress in the environment while maintaining their missions of providing quality educational programs, research and patient care.

Methods

The study combines a qualitative approach in the form of case studies and quantitative approach in the form of a survey questionnaire. These two methods are used in conjunction to present a clear picture of CEO role performance in upholding the missions of AMCs.

Case Studies: To verify the work roles of CEOs in AMCs, three CEOs in three AMCs were selected for study. The CEOs were selected from the same state, where the environment is depicted by extremely high managed care penetration¹, suggesting the need for these three CEOs to perform work roles related to maintaining their AMC missions. The reason for

choosing all three CEOs from one state was due to limited time and resources on the part of the researcher. Therefore, these three locations were situated in close proximity, which allowed the researcher to readily access information, such as conducting interviews with the CEOs and their secretaries.

Due to time constraints, direct observation of the CEOs in the three AMCs was not feasible. Instead, the method used for data collection consisted of analyzing the appointment calendars of each of the three CEOs for an average work week. This form of data detailed their daily scheduled activities, especially those pertaining to the missions of AMCs. The next step involved categorizing the recorded activities into Mintzberg's typology of work roles. The duration and medium of the activities were also noted. Activities were conducted using one of the six types of media: telephone calls, desk work, unscheduled meeting, scheduled meeting, tour (visual) and mail (or e-mail). Furthermore, unscheduled activities were found and recorded after interviewing the CEOs and their secretaries, who noted additional and unexpected activities that took place during the week.

The case studies were used to narrow down Mintzberg's classification of ten work roles. Limiting these ten roles served two purposes. First, this isolated work roles that specifically addressed the missions of AMCs. Second, only those work roles were used to create a manageable survey for better response rate.

Survey Questionnaire: The researcher developed a survey questionnaire using the categorization of mission-related activities identified by the case studies. The instrument consisted of 20 close-ended statements of activities to determine the frequency of the CEO's activities in each of the four most frequently performed work roles of liaison, monitor, entrepreneur and resource allocator (5 statements per work role).

The statements were coded in two different ways (See Appendix A). First, each of the twenty statements was assigned a letter and a number. For instance, since statements 1-5 dealt with the liaison role, they were coded as liaison 1 for statement 1, liaison 2 for statement 2, and so forth. Second, the frequency of the

roles were based on a percentage scale. This scale was coded with a number from 0 to 5 and with a mean percentage for ease of analysis on SPSS. For instance, 1-20% was assigned a “1” on a scale from 0 to 5, and it was also assigned a

Results of the survey were analyzed using principal component analysis (PCA). This was selected as an appropriate analysis since it identified relatively small number of components to represent relationships among the sets of inter-

Table 1 - Total Amount of Time Spent in Each Medium of Activity for a One Week Period

Activity	CEO 1	CEO 2	CEO 3
Desk work	6.0 hrs (11%)	8.5 hrs (15%)	4.0 hrs (8%)
Telephone calls	5.5 hrs (10%)	7.5 hrs (13%)	10.5 hrs (21%)
Scheduled meetings	32.0 hrs (59%)	29.0 hrs (52%)	19.5 hrs (38%)
Unscheduled meetings	4.0 hrs (7%)	6.0 hrs (11%)	11.0 hrs (22%)
Tours	1.5 hrs (3%)	2.0 hrs (4%)	2.5 hrs (4%)
Mail	5.0 hrs (9%)	3.0 hrs (5%)	3.5 hrs (7%)
Total	54.0 hrs	56.0 hrs	51.0 hrs

10%.

According to the Association of Academic Health Centers, there are only 108 academic medical centers in the U.S. They comprise of the entire study population. As a result, all 108

related variables. In this case, the mission-related activities were derived from the measurement of the four most frequently performed work roles. Furthermore, PCA was also the preferred method since it worked with a smaller set of criterion variables which could potentially

Table 2- Number of Activities Spent in Each of Mintzberg’s Work Roles

Work Role	CEO 1	CEO 2	CEO 3
Figurehead	5 (3%)	8 (5%)	8 (5%)
Leader	10 (7%)	11 (7%)	7 (4%)
Liaison	28 (18%)	17 (10%)	24 (14%)
Monitor	28 (18%)	41 (25%)	41 (25%)
Disseminator	9 (6%)	14 (8.5%)	9 (5%)
Spokesman	6 (4%)	2 (1%)	2 (1%)
Entrepreneur	15 (10%)	23 (14%)	29 (17%)
Resource Allocator	41 (27%)	32 (20%)	33 (20%)
Disturbance handler	2 (1%)	6 (4%)	6 (4%)
Negotiator	9 (6%)	9 (5.5%)	8 (5%)
Total	153 (100%)	163 (100%)	167 (100%)

CEOs were sent a survey, rather than random sampling, since the population is already small. This population includes the three CEOs in the case studies. The surveys were mailed in September and a second mailing was sent in early October. Telephone and fax reminders were also conducted to increase the response rate.

lead to higher reliability and robustness than working with large numbers of criterion variables. Both orthogonal and oblique rotational techniques were conducted. Results were based on the oblique rotations using OBLIMIN criteria, which yielded more interpretable results than the orthogonal VARIMAX criteria.

Results

Case Studies: Five workdays of activities conducted per CEO were recorded. A sample

were involved in mission-related activities. For instance, CEOs, in the monitor role, spent time meeting with department chairmen and/or faculty to discuss medical school curriculum, which

Table 3 - Descriptive Statistics of the 20 Activity Statements (N = 61)

	<u>N</u>	<u>Range</u>	<u>Mean</u>	<u>Std. Deviation</u>
LIAISON 1	61	0 5	2.41	1.28
LIAISON 2	61	1 5	2.46	1.39
LIAISON 3	61	0 4	1.34	1.08
LIAISON 4	61	1 5	2.77	1.33
LIAISON 5	61	0 3	1.54	0.99
MONITOR 1	61	0 5	3.21	1.20
MONITOR 2	61	0 4	1.28	1.14
MONITOR 3	61	0 5	3.03	1.21
MONITOR 4	61	1 5	3.00	1.06
MONITOR 5	61	1 5	3.11	1.03
ENTREP 1	61	1 5	3.18	1.13
ENTREP 2	61	1 5	2.61	1.10
ENTREP 3	61	1 5	2.75	0.94
ENTREP 4	61	1 5	3.43	1.13
ENTREP 5	61	1 5	2.62	1.02
RA 1	61	1 5	3.26	0.98
RA 2	61	1 5	2.51	1.01
RA 3	61	1 5	2.57	1.02
RA 4	61	1 5	3.21	1.07
RA 5	61	1 5	3.28	0.92

showing the duration, medium, activity and purpose and the Mintzberg’s work roles associated with the specific mission-related activity is found in Appendix B. For instance, CEOs spent time in the resource allocator role to allocate department budget for education and research purposes. Table 1 shows the six media of activities of CEOs, which indicates that CEOs primarily spent their time in scheduled meetings and unscheduled meetings. The combined amount of time for these two types of meetings for each CEO was above 60%. The second highest category for CEOs 1 and 2 was spent on deskwork, while for CEO 3 was spent on telephone calls.

Table 2 illustrates that while all ten work roles were found when conducting activities, CEOs most frequently performed four of the ten work roles. These included liaison, monitor, entrepreneur and resource allocator. In particular, these four roles occurred when CEOs

specifically addressed the medical education mission of AMCs. In the liaison role, CEO networked to enhance the nature of the organization, such as attending fund raising activities and conferences for educational and research purposes. As a resource allocator, CEOs authorized all major decisions, including allocating budgets for medical education or research.

Survey Questionnaire: Of the 108 surveys mailed to the study population of CEOs, 61 were returned resulting in a response rate of 56%. Descriptive statistics of the 20 activity statements are shown in Table 3.

It was possible to extract three principal components with eigenvalues greater than one, which in total accounted for 78% of the variance. Table 4 presents the factor loadings based on an oblique rotation of the principal components. Only loadings greater than 0.40 are dis-

played. All but three of the statements had factor loadings of greater than 0.40 on only a single

the activities of each of the CEOs. In some cases, each activity involved more than one role.

Table 4 – Rotated Factor Pattern Matrix

	Factor		
	1	2	3
ENTREP 1		.504	.408
ENTREP 2	.899		
ENTREP 3	.889		
ENTREP 4			.571
ENTREP 5	.879		
LIAISON 1		.867	
LIAISON 2		.617	
LIAISON 3		.945	
LIAISON 4		.757	
LIAISON 5		.671	
MONITOR 1	.681		.452
MONITOR 2		.846	
MONITOR 3		.629	
MONITOR 4		.701	
MONITOR 5	.912		
RA 1		.516	.488
RA 2	.872		
RA 3	.832		
RA 4			.612
RA 5			.905

factor. The remaining three had loadings greater than 0.40 on two factors.

Of the 20 activity statements, seven variables loaded most heavily onto factor 1, eight on factor 2 and six on factor 3. The activities that load most heavily on factor 1 pertain to the CEO's performance of exploiting opportunities to enhance the organization, supervising projects, formulating strategies, allocating resources and setting priorities. Activities loading most heavily on factor 2 primarily consist of the liaison and monitor roles of the CEO which refer to networking for the purpose of detecting changes in the environment and monitoring internal organizational changes. Activities loading most heavily onto factor 3 include initiating new projects, approving the budget and delegating tasks to subordinates. Appendix C provides a detailed description of each of these statements.

Discussion

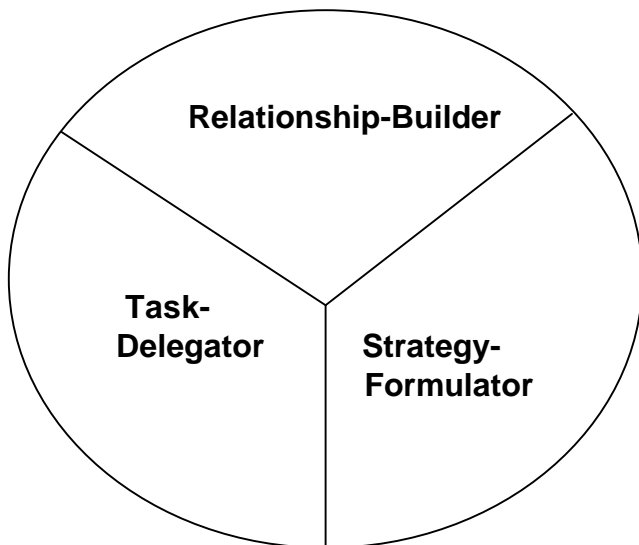
The findings are significant in that they revealed that all ten Mintzberg roles were found in

Consistent with the literature, several work roles were performed, suggesting that they were inter-related and could not be isolated when performing complex tasks.⁶ In addition, the results also indicate that AMC's missions of medical education, research and patient care were found in four work roles of CEOs, made up of liaison, monitor, entrepreneur and resource allocator. Specifically, using the three factors analyzed through PCA, a typology of CEOs in AMCs was created (Figure 1), depicting three distinct clusters of CEO activities: strategy-formulator, relationship-builder and task delegator. As a strategy-formulator, a CEO monitors the environment to identify trends, decides upon which strategies to make and allocates resources to those activities. As a relationship-builder, a CEO networks and builds contacts to develop relationships to enhance the organization. Finally, as a task-delegator, a CEO hands over certain functions to subordinates and devotes more time to managing the budget.

This typology is more closely tied than Mintzberg's classification to activities

specifically related to AMCs' missions. Furthermore, this typology is similar to Zuckerman and Dowling's trinity model⁷, which is made up

Figure 1 – A model of CEOs in AMCs



of leader, strategist and designer. Unlike their model, this typology does not refer to the leader role, which is a role of managers, but not selected as the one of the most frequently performed roles in the mission-related activities of CEOs.

This typology can potentially serve several purposes. First, it can be used to identify work roles of CEOs in AMCs. Second, AMCs can use this typology in the hiring process to identify candidates that would best fit the requirements of the organization. Furthermore, consistent with other findings⁸, work roles can be useful to train and develop managerial performance. IN this case, it can be used to train CEOs or other health care professionals in AMCs. This is particularly important given that many physician executives are moving into management positions, specifically CEO positions⁹ and management skills are not taught or emphasized in medical school.¹⁰ Consequently, this typology can be used in designing curricula for current and future physician executives in AMCs.

Limitations of Study

Although this research provides an encouraging foundation for future work in the area of CEO work roles and their linkages with the missions of AMCs, there are also a number of

methodological issues to be addressed. First, the reason for choosing to study the activities of only three CEOs was based on limited time and resources to conduct this research. Second with a sample size of 61, the results of the factor analysis may have been influenced by sampling error. With a response rate of 56%, non-response bias may have also influenced the results of the study.

Based on the findings of the three CEOs, only four work roles were used to create a survey. All ten work roles were not used in the survey since it would have produced an unwieldy instrument which would decrease the response rate. In addition, respondent bias may have occurred due to the self-reporting of data. Furthermore, moderate size cross factor loadings of the individual statements were found for a few of the statements suggesting the factor structure may not be simple and some of the roles were interrelated. Similarly, other researchers found that Mintzberg's work roles overlapped too much to be distinct roles.⁶

Summary and Conclusions

This study has revealed new work roles for CEOs in AMCs. Of the ten work roles described by Mintzberg, four were found to be most frequently performed based on the mission-related activities of AMCs. Using these four work roles, a typology was created which integrates the work roles into three categories, where a CEO could be a strategy-formulator, relationship-builder or task delegator. This typology could be used by CEOs to help them perform appropriate tasks to strengthen the missions of AMCs. Additionally, AMCs may wish to use this typology to train and develop CEOs to improve their performance.

References

1. Guo K. U.S. academic medical centers under the managed health care environment. *Biomed Environ Sci.* 12: 81-7, 1999.
2. Blumethal D, Campbell EG, Weissman JS. Report of the Commonwealth Fund Task Force on Academic health Centers: Understanding the social missions of aca-

- demic health centers. New York: The Commonwealth Fund, 1997.
3. Blumenthal D, Weissman JS, Griner PF. Academic health centers on the front lines: Survival strategies in highly competitive markets. *Acad Med.* 1999; 74:1038-49.
 4. Iglehart J. Forum on the future of academic medicine: Session III – getting from here to there. *Acad Med.* 73(2): 146-51, February 1998.
 5. Mintzberg H. *The nature of managerial work.* New Jersey: Harper-Row, 1973.
 6. Carroll SJ, Gillen DJ. Are the classical management functions useful in describing managerial work? *Academy of Management Rev.* 12(1): 38-51, 1987.
 7. Zuckerman HS, Dowling WL. The managerial role. In Stephen M. Shortell and Arnold D. Kaluzny, eds. *Essentials of health care management.* New York: Delmar Publishers, 34-62, 1997.
 8. Lau AW, Newman AR, Broedling LA. The nature of managerial work in the public sector. *Public Management Forum.* 19: 513-21, 1980.
 9. Schneller ES, Greenwald HP, Richardson ML, Ott J. The Physician Executive: Role in the adaptation of American medicine. *Health Care Management Rev.* 22(2): 90-6, 1997.
 10. Kurtz ME. The dual role dilemma. In David A. Kindig and Anthony R. Kovner, eds. *The role of the physician executive. Cases and Commentary.* Ann Arbor, Michigan: Health Administration Press, 1992.

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Appendix A – Coding of Survey Activity Statement					
	Statement 1	Statement 2	Statement 3	Statement 4	Statement 5
Liaison	Liaison1	Liaison2	Liaison3	Liaison4	Liaison5
	Statement 6	Statement 7	Statement 8	Statement 9	Statement 10
Monitor	Monitor1	Monitor2	Monitor3	Monitor4	Monitor5

	Statement 11	Statement 12	Statement 13	Statement 14	Statement 15
Entrepreneur	Entrep1	Entrep2	Entrep3	Entrep4	Entrep5
	Statement 16	Statement 17	Statement 18	Statement 19	Statement 20
Resource Allocator	RA1	RA2	RA3	RA4	RA5
Coding of Percentage Scales of the Frequency of Activities					
0%	1-20%	21-40%	41-60%	61-80%	81-100%
0	1	2	3	4	5
0%	10%	30%	50%	70%	90%

Appendix B - Day 1 - CEO of AMC 1

Duration	Medium	Activity & Purpose	Identified with Mintzberg's Work Roles
20 min	desk work	Check email; chat with peers	Liaison; monitor
30 min	Calls	Return subordinates calls-offer advice and seek information on research project	Leader; resource allocator
7 min	Call	Friend has relative coming into hospital; offer VIP treatment	Figurehead
5 min	Call	Refer friend to appropriate department	Resource allocator
10 min	Unscheduled meeting	Distinguished visitor drops by; chats to gather information	Spokesman; liaison; monitor
15 min	Tour	Takes visitor on a tour of campus; leaves visitor with subordinate	figurehead; liaison
1hr	Scheduled meeting	Meets with new chairman to discuss goals and strategy for department	resource allocator; entrepreneur, leader
1 hr	desk work	Sign letters, read contracts	resource allocator; negotiator
10 min	Call	Calls subordinate to handle several new clinical projects	resource allocator
5 min	Call	Faculty seeks advice with problem pertaining to educational programs and teaching personnel	disturbance handler
1hr	Scheduled meeting	Meets with faculty to discuss curricula changes	monitor
45 min	Mail	Process mail	resource allocator; liaison; monitor
2 hr	Scheduled meeting	Guest speaker at professional organization	spokesman; liaison; monitor
1 hr	desk work	Dictates instructions to secretary, including letters and scheduling appointments	resource allocator; liaison; monitor
30 min	Unscheduled meeting	Faculty drops in to inform CEO of status of research project; offers words of encouragement	leader; resource allocator
1 hr	Scheduled meeting	Faculty/staff meeting to discuss plans in new fiscal year; discusses budget allocations for education and research	entrepreneur; resource allocator; leader; disseminator
1 hr	Scheduled meeting	Board meeting – discusses strategy and current progress, increase fund raising activities	entrepreneur; liaison; resource allocator

Appendix C

Description of the Four Most Frequently Performed Work Roles

- | | |
|-----------------------------|--|
| Liaison 1 | Join external boards to seek and provide information. |
| Liaison 2 | Network with your counterparts in other hospitals to discuss issues related to your and their organizations. |
| Liaison 3 | Speak at social gatherings and charitable organizations. |
| Liaison 4 | Attend conferences to keep in touch and keep the channels open. |
| Liaison 5 | Provide time and expertise by performing public service work. |
| Monitor 1 | Meet with your subordinates to check on the progress of operations and get reports of the latest events and opportunities. |
| Monitor 2 | Tour facilities to detect disturbances in the organization. |
| Monitor 3 | Receive and request information from clients, competitors and associates to understand market changes, political matters and technological developments. |
| Monitor 4 | Analyze reports or briefings of interest to the organization. |
| Monitor 5 | Scan your environment to develop ideas and understand trends. |
| Entrepreneur 1 | Exploit opportunities to enhance your organization. |
| Entrepreneur 2 | Supervise or delegate project improvements. |
| Entrepreneur 3 | Bring about changes to the organization by initiating new methods and designing new projects. |
| Entrepreneur 4 | Hold review and strategy formulating sessions. |
| Entrepreneur 5 | Solve problems and seek areas of improvement. |
| Resource Allocator 1 | Make choices on how resources are to be spent. |
| Resource Allocator 2 | Set priorities for yourself and your organization. |
| Resource Allocator 3 | Implement changes to new facilities. |
| Resource Allocator 4 | Make, approve or alter budgets. |
| Resource Allocator 5 | Delegate tasks to subordinates. |