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Information Resources for Hospital Administrator Healthcare Management Decision-Making

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Abstract

The purpose of this study was to identify information used by hospital administrators for healthcare management decision-making and what barriers hinder their practice of evidence-based management (EBMgt). A cross-sectional and non-experimental design was utilized. One hundred eight questionnaires were distributed to potential participants. Data analyses were performed using Spearman's correlation. The findings showed that the main resources hospital administrators used for decision-making was organizational data and personal experience. Lack of time was the top barrier to hospital administrators' practice of EBMgt. There was a significant correlation between lack of information searching skills and unfamiliarity with EBMgt ($p < 0.01$) among hospital administrators.

Keywords

Hospital administrators; decision-making; information resources; barriers; healthcare organizations; evidence-based management; medical librarians

INTRODUCTION

Evidence-based management (EBMgt) is defined as making decisions about the management of employees and organizations through the conscientious, explicit and judicious use of four sources of information (1). The four sources of information for management decision-making include the best available scientific evidence, organizational evidence, experiential evidence, and stakeholders' values and concerns (1). Inspired by the movement of evidence-based medicine/evidence-based practice (EBM/EBP), prominent scholars in healthcare management have applied the principles of EBM/EBP to their

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decision-making in healthcare organizations. They have published important articles and strongly advocated practicing EBMgt in healthcare management (2-6). Some scholars stated that an evidence-based practice would improve the competence of the decision-makers and their motivation to use more scientific methods in healthcare management decision-making (4-5). Shortell and colleagues published an article entitled Improving Patient Care by Linking Evidence-based Medicine and Evidence-based Management (7). In this article, the scholars stated that consistent, sustainable improvement in the quality of care received in the United States is unlikely to be achieved if both EBM and EBMgt are not linked together within effective organizational contexts. Patient safety, quality of care and access, widespread demands for reducing the cost of care in the U.S. health systems, and value-based purchasing all require healthcare administrators to make better decisions using the best research evidence in healthcare organizations. However, a review of the literature suggests that healthcare administrators do not often use management research evidence when making management decisions (4, 8). The literature review also reveals that there is not much known about what information is used by hospital administrators to make decisions on healthcare management issues.

It is well known that hospital medical librarians provide library and information services needed for physicians and clinicians to make clinical decisions in diagnosis and medical treatment for patients. In more recent years, medical librarians have also provided consumer health information and education to their hospital patients, family members and communities. More recently, roles of hospital medical librarians have changed as their value to hospital leaders and health systems to achieve organizational mission and goals by delivering quality patient care and reducing health costs in today's U.S. healthcare organizations is being recognized. However, not all medical librarians are fully aware of types of information resources that are used by healthcare administrators for decision-making in healthcare management and the barriers that hinder the practice of EBMgt among hospital administrators. As a matter of fact, healthcare administrative decisions have a significant impact on the delivery of quality patient care and the success of healthcare organization performance.

The purpose of this study was to identify what information was used most often by senior hospital administrators for healthcare management decision-making and what barriers hindered their adoption of evidence-based management in hospitals and healthcare organizations. It is hoped that the findings of this study will provide useful information for medical librarians to better understand hospital administrators' decision-making styles, use of information resources for decision-making, and barriers to the practice of EBMgt in healthcare organizations.

METHODS

Following are methods used by the authors to determine what information resources hospital administrators used for their management decision-making and what perceived barriers hindered their practice of evidence-based management. The methods include study design, study population and setting, survey instrument development, and data collection and analysis.

Study Design

A cross-sectional, descriptive, and non-experimental design was utilized in this study to identify what types of information senior hospital administrators use for healthcare management decision-making and what barriers hinder their taking an evidence-based approach.

Study Population and Setting

The target population in this study was senior hospital administrators. The criteria for selecting the study population were participants were current hospital chief executive officers (CEOs), chief administrative officers (CAOs), chief financial officers (CFOs), chief operating officers (COOs), or chief nursing officers (CNOs) in a hospital, medical center, or multi-health system setting in Idaho. All participants were Idaho Hospital Association (IHA) members.

Survey Instrument

Since there is not much research that targets this study population, the researchers developed their own survey instrument based on the purpose of the study and subject expert input. The content validity was established based on literature review and expert opinions in hospital administration and healthcare management.

A pilot test was conducted among 6 hospital administrators who were practicing healthcare management outside of Idaho. Following the test, the survey instrument was revised based on the volunteers' feedback. To determine the consistency and reliability of the instrument, the researchers conducted a test-retest procedure among 10 healthcare management professionals across the nation. The test-retest measurement results showed 81% consistency and reliability of the survey instrument. Cronbach's alpha analysis was performed to test internal consistency of the survey items related to beliefs and attitudes. The results of Cronbach's alpha analysis (0.94) showed that the survey items were highly correlated.

Online Software

Qualtrics is secure and reliable web-based software that allows researchers to develop and conduct surveys (9). *Qualtrics* also exports survey results to a common statistical data analysis package, such as Statistical Package for the Social Sciences (SPSS) 21.0. The researchers used *Qualtrics* to develop the evidence-based management online survey, administer the survey on the Internet, and collect online participants' responses.

Institutional Review Board

A proposal was submitted to Idaho State University's Human Subjects Committee to obtain approval for this study. As required, the researchers completed online training in the protection of human subjects through the Collaborative Institutional Training Initiative (CITI).

Procedures

In 2013, a questionnaire was distributed to 108 members of the IHA, who were given two options to return the survey (online or mail). The hospital administrators were informed of the purpose of the study via email. They were advised that they could withdraw freely at any time during the survey and abstain from answering any questions with which they felt uncomfortable. It took about 7 minutes for participants to complete the online survey. Three reminders were sent out to any participants who did not complete the survey. To increase the response rate, the researchers provided participants with the option of a mail survey. Hard copies of the questionnaire were printed out and mailed to the participants who preferred the mail survey. To encourage participants to take the survey, a drawing for prizes was held. The survey data were kept confidential.

DATA ANALYSIS

Following data collection, the data were analyzed using SPSS 21.0. Frequency and descriptive statistical analyses were performed. Means and standard deviations, such as years of experience in senior management, hospital bed size, etc., were applied to analyze the data. Frequencies were used to summarize nominal level variables such as gender, education, and so forth. Spearman's correlation was performed to examine any correlations among perceived barriers in participating hospital administrators.

RESULTS

One hundred and eight surveys were distributed to the hospital administrators as potential participants via the Internet and mail, and 48 hospital administrators completed the survey, for a 44% response rate.

Demographic Information

Of the 48 respondents, 25 (52%) were chief executive officers and/or presidents of hospitals and multi-hospital health systems; 11(23%) were chief financial officers; and 12 (25%) were chief operating officers and chief nursing officers. Sixty-eight per cent (33/48) were male and 31% (15/48) were female. Concerning education, 17% (8/48) had bachelor's degrees. 75% (36/48) had master's degrees and 6% (3/48) had either a medical doctoral degree or doctoral degree in another field. One participant (2%) did not answer the item about education.

In this study, thirty-five (73%) participating hospitals and health systems were located in rural areas and 13 (27%) in urban areas. 45% of participants reported that their hospital had 25 beds or fewer, 18% had between 26 and 99 beds, 16% had between 100-199 beds, and 21% had over 200 beds. Due to geographic distance, Idaho has 27 critical access hospitals (CAH) that have fewer than 25 beds, the designation of which was established by law under the Medicare Program (10). To be designated as a CAH, a hospital must be located in a rural area, provide 24-hour emergency services, have an average length-of-stay for its patients of 96 hours or less, and be located more than 35 miles (or more than 15 miles in areas with mountainous terrain) from the nearest hospital (11).

Information Resources Used for Decision-Making

There were nine forms of information resources listed in the questionnaire. These resources included books, conferences/meetings, databases (e.g., PubMed, Business Search Complete, Health Business Elite, and so forth), libraries, organizational data, professional colleagues, professional journals, professional and organizational websites (e.g., ACHE, AHA, AHRQ, and so on), and social media. A five-point Likert scale was used to measure the frequency of using information resources for decision-making among hospital administrators. The participants were asked to respond to their frequency of using information resources for their decision-making. Among the above list of resources, participants were most inclined to use five types of resources for their decision-making. The first form of information resource was organizational data. The second information resource used for decision-making was colleagues and peers; the third, professional organization websites; the fourth, professional journals; and the fifth, databases. See Figure 1 for information resources used for hospital administrator decision-making. Figure 1 shows the average frequency of each form of the information resources used by reported participants in a five-point Likert scale. Thirty eight percent (18/48) of participants reported that they had never used libraries. In the state of Idaho, many hospitals do not have a medical library. Twelve participants (25%) reported that they had never used social media for decision-making.

Hospital Administrator Decision-Making Style

One question in the survey asked participants to rank the order of preference from 1=consultation first to 5=consultation last when facing major decision-making in their healthcare organizations. The five consultation choices included: 1) my own wisdom and experience; 2) scientific research findings; 3) trusted colleagues/peers; 4) information specialists/librarians; and 5) consultants. The study results showed that hospital administrators first consult their own experience and wisdom when facing major decision-making in their healthcare organizations. Second, the respondents would consult scientific research findings. Third, they would consult their trusted colleagues and peers when facing major decisions.

Barriers to the Evidence-Based Practice

Barriers in this study are considered the factors that hinder hospital administrators' using evidence-based practice in healthcare management decision-making. In the survey, there were eight barriers for participants to choose: lack of time, lack of training, lack of evidence, lack of access to information, lack of skills in appraising the quality of evidence, lack of information searching skills, lack of interest, and unfamiliarity with EBMgt. A seven-point Likert scale was used for measuring participants' perceived barriers to their practice of evidence-based management in healthcare organizations. Figure 2 shows the average of each barrier to the practice of evidence-based management perceived by the respondents in this study.

The above results indicate that the top perceived barrier to the evidence-based practice was lack of time. The second perceived barrier was lack of training. The third and fourth perceived barriers were unfamiliarity with the evidence-based management and lack of evidence. The fifth and sixth barriers were lack of skills in appraising the quality of evidence

and lack of skills in information searching. The results also showed that participating hospital administrators had no issue about lack of interest in EBMgt. Spearman's correlation was performed. The results showed that there was a statistical significance between lack of information searching skills and unfamiliarity with evidence-based management (Spearman's rho= 0.571, $p<0.01$). Lack of information searching skills also had a significant relationship with lack of access to information resources (Spearman's rho= 0.367, $p<0.05$). Lack of information searching skills had a significant correlation with lack of skills in appraising the quality of evidence (Spearman's rho= 0.614, $P<0.05$).

DISCUSSION

In this study, the types of information resources used for hospital administrators' decision-making were identified. There are differences in the professions between healthcare professionals and healthcare administrators regarding the use of information for decision-making. Participating healthcare administrators in this study reported that they often used organizational data for their decision-making. Hospital administrators, who lead health organizations, differ from healthcare professionals who usually provide diagnosis and medical treatment to individual patients. It is important to understand hospital administrators who often consult organizational facts and data for decision-making. However, the study results indicated that hospital administrators did not consult scientific research findings first when they face major decision-making in healthcare organizations. Some barriers to the use of EBMgt were identified among participating hospital administrators, for instance, lack of time, lack of EBMgt training, lack of strong evidence, unfamiliarity with EBMgt, lack of skills in searching information and appraising the quality of information, and so on.

Another finding of this study was that 38% of participating hospital administrators in Idaho reported never having used a library for seeking information when facing major decision-making. Idaho has a total of 22 medical librarians as of 2014. These medical librarians are mostly located in urban areas, such as Boise, Pocatello, Idaho Falls, and so forth. Seventy-three percent of participating hospitals and health systems were located in rural areas and 45% of participating hospitals had fewer than 25 beds. These hospitals likely cannot afford to hire their own medical librarians and have access to expensive online databases and journals with full text articles. Hospital administrators are underserved in rural areas, which might be a typical situation in rural states like Idaho. Given the geographical features in Idaho, healthcare administrators may find it difficult to visit the Idaho Health Sciences Library at Idaho State University, which is a resource library for Idaho designated by the National Network of Libraries of Medicine /Pacific Northwest Region.

Although this situation cannot be generalizable to some other states in the U.S., lack of time was considered by most participants to be the top barrier to hospital administrators' practice of evidence-based management in healthcare organizations, whether they lived in urban or rural areas. It is known that physicians and other healthcare providers are busy treating patients every day and they often consult medical librarians for information seeking for clinical decision-making.

Hospital administrators also need medical librarians' information searching skills and expertise. One of the barriers reported by participating hospital administrators was lack of skills in information searching and appraising the quality of evidence. There was a significant correlation between information searching skills and access to information resources. Hospital administrators are very busy leading their organizations and managing resources. They do not have much time to keep themselves updated on healthcare management research findings. Pfeffer and Sutton explained what made it hard for managers to adopt evidence-based practice in management (6). They stated that there was simply too much information for any managers and executives to consume and lack of time was a barrier to the practice of EBMgt.

The researchers agree with Pfeffer and Sutton. Hospital medical librarians need to be aware that lack of time is the first top barrier to the practice of EBMgt among healthcare administrators. It would be good for medical librarians to approach their hospital administrators and ask if they need any assistance with information searching for healthcare management research evidence. Medical librarians have been involved for a long time in providing information services and library instruction in EBM/EBP. The movement of evidence-based management has been slow in the past, but its importance will become more evident in the next decade. There is room for medical librarians to play a role as team members in assisting healthcare administrators' decision-making in their organizations since some scholars state that consistent, sustainable improvement in the quality of care received in the U.S. is unlikely to be achieved if both EBM and EBMgt are not linked together within effective organizational contexts (7).

In recent years, medical librarians in hospital settings have faced many challenges, one of which is that some medical librarians have lost their positions. It may be helpful for medical librarians to use their expertise in information searching and related skills and talents to be actively involved in their healthcare organization's performance and to assist their hospital administrators in healthcare management decision-making so that the value of medical librarians will be recognized by their organizational leaders. It is noted that many successful hospital medical librarians are active in their organizations and play an important role as information specialists in the delivery of quality patient care. They serve on hospital committees and contribute to the success of their health organizations. Their efforts and hard work are recognized and much appreciated by their partners, collaborators, and health leaders.

Healthcare systems in the U.S. have never faced as many challenges as they face now. Patient safety, quality of care and access, healthcare reform, and widespread demands for reducing the cost of care in U.S. health systems all require healthcare administrators to make the right decisions using the best available evidence in healthcare management. Senior hospital administrators like chief executive officers and chief administrative officers are busy leading healthcare organizations. Medical librarians can play an important role in assisting their hospital administrators with the adoption of evidence-based management so that their health leaders can make better decisions in healthcare organizations by using the best available research evidence. The ultimate goal of taking an evidence-based practice

approach is to improve the quality of patient care and reduce high costs in healthcare systems in the long run.

CONCLUSION

This study was collaboratively and successfully conducted by a health sciences librarian and two teaching faculty members who have over 30 years of healthcare management experience as CEO/presidents of several hospitals and healthcare organizations. The study results indicated that evidence-based practice in healthcare management will require hospital administrators to use the best available evidence in decision-making. Both challenges and opportunities exist in today's U.S. healthcare systems. Medical librarians can become successful team players by using their talents and expertise in assisting busy hospital administrators in decision-making in their healthcare organizations.

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REFERENCES

1. Center for Evidence-Based Management. What is Evidence-Based Management?. <http://www.cebma.org/#what-is-evidence-based-management>. (10 Oct 2014). 2014
2. Kovner AR, Elton JJ, Billings J. Evidence-based management. *Front Health Serv Manage*. 2000; 16(4):3–24. Summer. [PubMed: 11183283]
3. Walshe K, Rundall TG. Evidence-based management: from theory to practice in health care. *Milbank Q*. 2001; 79(3):429–57. [PubMed: 11565163]
4. Kovner AR, Rundall TG. Evidence-based management reconsidered. *Front Health Serv Manage*. 2006; 22(3):3–22. Spring. [PubMed: 16604900]
5. Shortell SM. Promoting evidence-based management. *Front Health Serv Manage*. 2006; 22(3):23–9. Spring. [PubMed: 16604901]
6. Pfeffer J, Sutton RI. Evidence-based management. *Harv Bus Rev*. Jan; 2006 84(1):62–74. 133. [PubMed: 16447370]
7. Shortell SM, Rundall TG, Hsu J. Improving patient care by linking evidence-based medicine and evidence-based management. *JAMA*. Aug 8; 2007 298(6):673–6. [PubMed: 17684190]
8. Dopson, S.; Bennett, S.; Fitzgerald, et al. Health care managers' access and use of management research. 2013. http://www.netscc.ac.uk/hsdr/files/project/SDO_ES_08-1808-242_V01.pdf. (20 May 2013)
9. Qualtrics. About Qualtrics. 2013. <http://www.qualtrics.com/> (02 Jun 2013)
10. Idaho Hospital Association. IHA Member Hospitals. 2013. <http://www.teamiha.org/AboutIHA/IHAMemberMap/IHAMemberMap.cfm>. (20 May 2013)

11. Centers for Medicare & Medicaid Services. Critical Access Hospitals. 2013. <http://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/CertificationandCompliance/CAHs.html>. (20 Aug 2013). 2013

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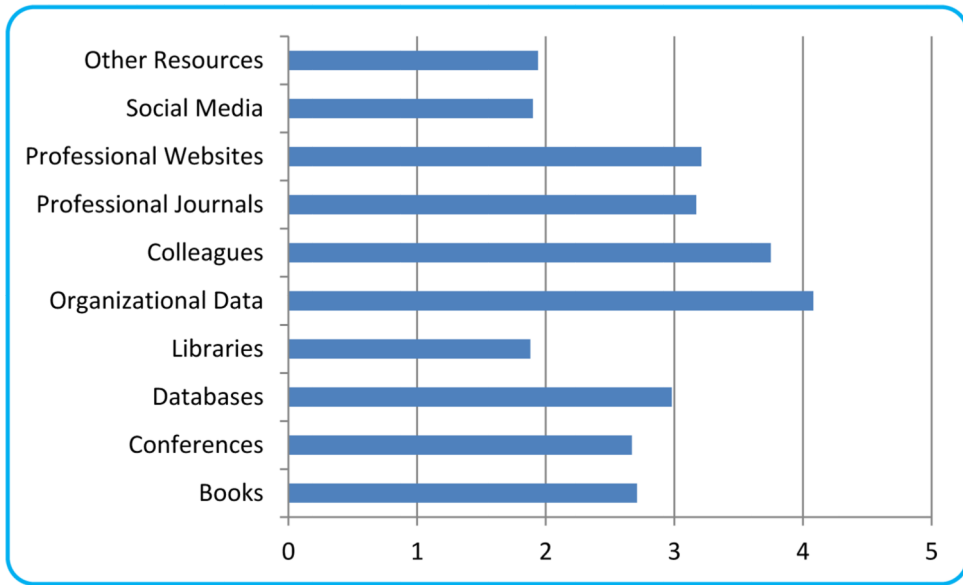


Figure 1. Information Resources Used for Decision-Making in Healthcare Management

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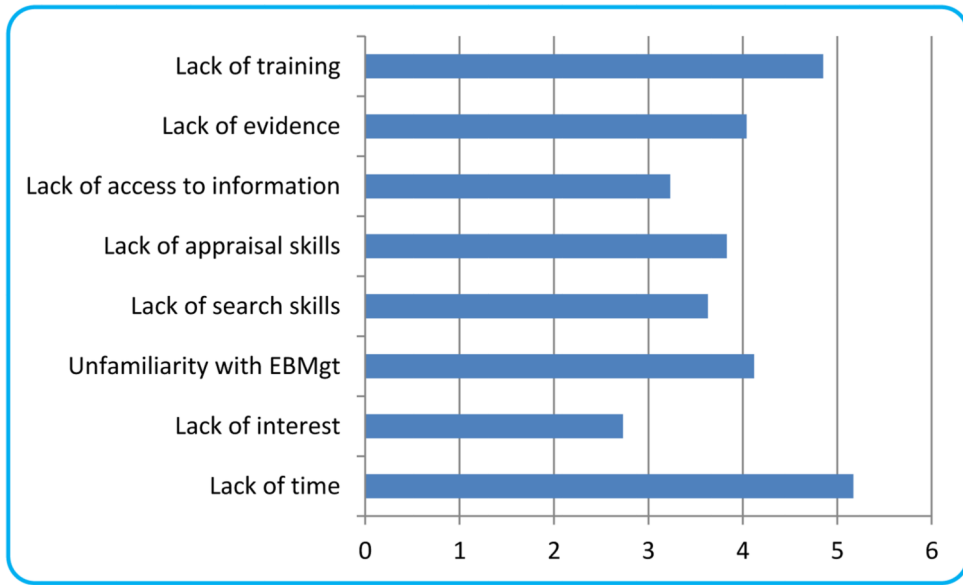


Figure 2.
Barriers to the Practice of Evidence-based Management

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