Daily Management Meeting in Healthcare Institutions for the Development of Control Items and Data Collection

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Abstract

Daily management is a component of Total Quality Management. It is important for medical institutions to ensure high quality in healthcare services. To ensure the quality of healthcare services, it is necessary to build a Plan-Do-Check-Act cycle and structure daily management for continuous improvement. Some literature proposes methods of deriving control items and specific lists of action items. It is not clear, however, what kind of difficulties exist in promoting daily management in healthcare services.

In this study, we held individual meetings to see the progress of daily management, specifically focusing on data collection and observation. As a result, managers in hospitals tend to have problems in observing the current situation carefully. In order to overcome these difficulties, holding individual meetings seems to be effective.

Keywords: healthcare quality, daily management, control item

1. Introduction

Reducing the incidence of errors in healthcare, that lead to adverse events and threaten patient safety, is a high priority in hospital administration. The possibility of applying the principles of Total Quality Management (TQM) to healthcare services is currently being discussed. It is important for medical institutions to ensure high quality of healthcare services. However, it is difficult to implement TQM into service industry because TQM is originally developed manufacturing industry which deals with outputs are visible and easily recognize quality characteristics. To ensure the quality of healthcare services, it is necessary to build a Plan-Do-Check-Act (PDCA) cycle and structure daily management for continuous improvement.

“Daily management” is a tool of TQM. It is used as a basis of management systems that sustain long term performance. Continuous improvement and innovative change would be effectively achieved with a solid management system based on daily management.

However, due to the lack of education related to management skills, hospital managers cannot perform their daily management. Takahashi [1] developed

control items for healthcare institutions based on nursing processes of their services. Iizuka [2] stated the conceptual model of daily management for the healthcare industry. In addition, Matsumori [3] proposed the step for visualization of nursing processes and conducting daily management. Endo [4] tried visualization and developed control items for diagnosis and treatment processes. However, there are no practical tactics for daily management in healthcare institutions. In this study, we held lectures regarding daily management for managers such as a chief nurse and a chief laboratory technician who have more than 12 years of work experience. Education content consisted of the visualization of process using process flow charts and the daily management and selection of control items base on Kajihara[5]. In addition, we held individual meetings to observe the progress of daily management, specifically focusing on data collection and observation since it is early stage of education program.

2. Education for daily management for managers

We set a goal for the training of managers in a hospital to be able to execute daily management with an understanding of the circumstances regarding healthcare

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policy. Education, as a whole, consisted of three parts: 1) Healthcare quality and safety, 2) Visualization and standardization of the process, and 3) Daily management.

Each item was covered by lecture and exercises. First of all, a pre-test is conducted to measure knowledge of participants. Then, prepared process flow chart was examined by the participant to develop issues and management indicators in 90 minutes. We also explained the relationship between the standard procedures and daily management.

We had two lectures. After a test, the first took two hours and focused on fundamentals for understanding healthcare quality and safety. The second covered visualization with the process flow chart to deliver control points.

In addition, participants chose their management indicators with measures for half a year for an upcoming workshop.

Kano [6] provided the following questions for performing daily management:

P1: What is the mission, role, or the objective of the job of your group?

P2: Have you prepared standards for the job?

P3: By what indicators do you evaluate the status of P1?

P4: Do you have a system to check the status?

D1: Are you doing the job as per the specified standards in P2?

D2: Are you monitoring the job with an appropriate frequency using the control points?

C1: Have you evaluated the current status of the job using data compared to specifications?

C2: Could you find abnormalities in appropriate frequencies?

A1: Have you taken immediate actions on non-conformities?

A2: Have you taken timely corrective and preventive actions? Have you revised standards, control points, and control levels as appropriate?

We executed training for two years with 56 participants, which implied an average of two persons from each department. It was held in a municipal general hospital which target middle managers are approximately 150. Participants are nurses, laboratory technicians and other co-medical manager not medical doctors. Based on these activities, managers scored an average 74 points out of a possible 100 on an assessment test of basic knowledge. Managers in hospitals performed daily management in medical institutions, although, first year training revealed that almost 60 percent of participants developed countermeasures after only three instances of monthly observations. Since the observation of the current situation is not enough, it is not clear why they considered certain situations to be problems. Therefore, some countermeasures were not adequate to improve the process. In addition, managers were inclined to implement countermeasures too quickly.

Consequently, we conducted individual meeting sessions in the second year with internal staff comprising medical doctors who were familiar with the TQM system after our lectures.

We used the following questionnaire (Table 1), presented to participants during a lecture, to raise control points. After developing control points from the results of these questions, three characteristics of control points were examined: meaningful, measurable, and manageable.

Table 1 Assignment for managers before the first meeting

No.	Question
Q1	What is the main role of your department?
Q2	Who receives your output?
Q3	What do you concretely offer to the recipient?
Q4	What viewpoint do they use to evaluate the quality of the answer of Q3?
Q5	What control point is necessary?

We held meeting sessions from two to four times during each year with various staff positions to evaluate the defined control points and indicators. Nurses tended to raise indicators according to their perceived problems without considering the process they should manage; therefore, the assignment was incomplete. On the other hand, technical staff, such as laboratory test technicians,

could set up indicators at the first meeting. Table 2 shows an example of assignments from a clinical test department. Almost all managers could set up indicators, which were measured for two to six months, at the second meeting.

Table 2 Example of clinical laboratory test department

Main role	Customer	Viewpoint	Control point	Meaningful	Measurable	Manageable
endoscopic biopsy	Doctor	accuracy	No. of inquiry	NG	Good	Good
endoscopic biopsy	Doctor	accuracy	No. of Double check	NG	Good	Good
endoscopic biopsy	Doctor	delivery	Delivery time of report of endoscopic specimen	Good	Good	Good
surgical specimen	Doctor	accuracy	No. of Double check	NG	Good	Good
surgical specimen	Doctor	efficiency	No. of report within 7 days	Good	Good	Good
specimen preparation	pathologist	quality	No. of mistakes	Good	Moderate	Good
specimen preparation	pathologist	delivery	No. of processed specimen	Good	Good	Good
specimen preparation	pathologist	quality	No. of abolishment	Good	NG	Good
specimen preparation	pathologist	quality	No. of rejection	Good	Moderate	Good

Through these meetings, several patterns were observed: 1) Control level is determined with data collection when the process is stable and at an acceptable level. 2) New indicators are developed from original indicators, and 3) Participants cannot realize problems in their activity.

Finally, Table 3 shows an example of a control point list developed during the meetings. From Table 3, technicians set up control points from the viewpoint of delivery because the accuracy and delivery of their service is critical to medical doctors and it is easily understood by doctors and technicians. Nurses had

difficulties setting up control points since it is difficult to define their job and the output. For instance, nurses, in maintaining good care, observe patient skin status to prevent skin trouble, though it is difficult to recognize the observation quality with the data. It is sometimes important to routinely observe patient skin at certain time intervals, but at the same time, there should be a focus on managing how carefully staff observe skin status. We found those characteristics of service industry makes daily management difficult. After setting up these points, actual data were collected.

Table 3 List of control points among hospital

Department	Control point	Target process	Customer	QCDMSE
Clinical Laboratory	TAT	Blood test		D
Clinical Laboratory	Time of blood derivative	Blood transfusion		D
Clinical Laboratory	Delivery time of report of endoscopic specimen	Histopathological analysis	Patient	D
Clinical Laboratory	Number of foreign substances to MRI	MRI	Doctor	Q+S
Nutrition	Number of accident	Patient Food Service	Doctor	Q
Rehabilitation	Day from order to intervention	Rehabilitation	Patient	D
Ward A	Number of skin problems	Observation	Patient	S
Ward B	Number of reinsertion of indwelling needle	Drip infusion	Patient	S
Ward C	Number of falls and assessment after fall	Assessment	Patient	Q

TAT; Turn Around Time, QCDMSE; Quality, Cost, Delivery, Morale, Safety and Environment.

3. Typical flows of the meetings

Here we describe the typical flows of the meetings. At the first meeting, participants raised candidate control points, with or without the assignment. We discussed the validity of control points and if we had consensus, we moved to decide the method to collect the data using the development of a check sheet for frequency of data collection (such as once a week), for instance.

At the second meeting, although we agreed control points at the first meeting, some participants did not collect the data and reconsidered the control point since they faced difficulty in collecting the data as they could not persuade the staff involved to record it. At the third meeting, some could still not collect the data and asked questions that were not based on the collected data. Almost all members prepared the data but did not make the appropriate graphs or conduct an appropriate discussion based on the data. Some participants adjusted the process, calling it an “improvement.”

After several meetings, we held a conference for daily management. Participants were requested to make graphs and deliver insights based on observation. We excluded the result of improvement this time as we assumed that participants would immediately make adjustments without understanding the process stability and lines of control.

Though those flows, it is necessary to facilitate managers for proper daily management based on a concrete example such as a setting up a control item for a ward.

4. Discussion

We conducted lectures to explain daily management with control points and exercises to measure control points. However, some participants had difficulty in understanding variation among data and easy improvement. Although we had several meetings, we could not change their understanding as some managers selected control points to express certain problems that were not based on internal or external customer requirements. This tendency is frequently observed among nurses. We consider quality of technical services is relatively clear although it is difficult for nursing service to identify what the good quality nursing is.

Several reasons may explain the difficulty in daily management for healthcare managers. These include the following: 1) Unconsciously selecting control points that have potential problems, 2) Top management requiring only immediate improvement not necessarily based on observation, and 3) Lacking an understanding of data analysis and countermeasure development.

In particular, participants struggled with the development of time series graphs or control charts. They managed to collect the data, but could not draw graphs nor derive information from data. We did not include the fundamentals of data analysis and problem solving in this course; however, it would be necessary

for future courses. Through those lectures, it would be helpful to discuss function necessary for hospital to deal with improvement and data analysis with establishment of a new division.

In addition, hospital information systems should collect useful data for daily management. They are developed to manage the care delivery and record for each patient. Therefore, it is not complicated to obtain the current and past statuses in general. Participants should manually collect the data from the information system and summarize it themselves. After developing control points for the hospital, improved data collection from the hospital information systems would be necessary.

5. Conclusion and future issues

Previous studies have proposed management indicators for hospital healthcare and the specific procedures for deriving indicators through the deployment of working process models. However, it is not clear enough in these studies what kind of difficulty hospitals would face in conducting daily management. This two-year experience reveals that managers in hospitals tend to have problems in observing the current situation carefully. In addition, management skills among hospital managers tend to be weak compared to managers in manufacturing industries.

In order to overcome these difficulties, individual meetings to discuss a certain topic to understand deeply seem to be effective. Although it is difficult to accurately measure the effect of these meetings, it is important to hold them regularly to see the results. Moreover, the result of this experience implies the necessity of data analysis education and the use of tools for process improvement, such as QC 7 tools. We propose top management of hospitals to implement daily management with many resources to conduct skill training for middle management.

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