VALUE MANAGEMENT FOR HEALTHIER HEALTH CARE

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Anita's background is in product engineering. She transferred to the Value Management (VM) department in December, 1992. Anita first became interested in VM when she was a member of a product improvement VM team.

ABSTRACT

This paper discusses the development and application of VM in the health care field. Two Value Engineers from Delco Chassis set up a Health Care VM workshop with the hospitals of the Dayton area. Three teams, with participation from five hospitals applied VM techniques to health care concerns.

INTRODUCTION

VM has a long and successful background in construction and industry, but does not have as much exposure in service industries. A high profile service industry that can certainly benefit from VM attention is the health care industry. In 1992 the United States spent 13.1% of its Gross National Product (GNP) on health care for a total bill of $903 billion What do we get for this money? The United States ranks 17th among industrialized nations for infant mortality. In addition our life expectancy in the U. S. is much lower than in countries which spend less of their GNP on health care. Furthermore, in a survey by Blue Cross of California, 89% of the people questioned feel that our health care system needs to be fundamentally changed or must be completely rebuilt.

Obviously, our health care system needs help. But where to start? Individually, we were not in a position to effect the whole health care system, but we could do what VM does best: deal with a well defined, specific problem at the local level.

APPROACH

First, a plan was developed to accomplish all necessary workshop requirements. The VM techniques of function analysis and the Function Analysis System Technique (FAST) diagram were utilized. The FAST diagram that was developed to get from workshop conception to implementation is shown in Fig. 1.

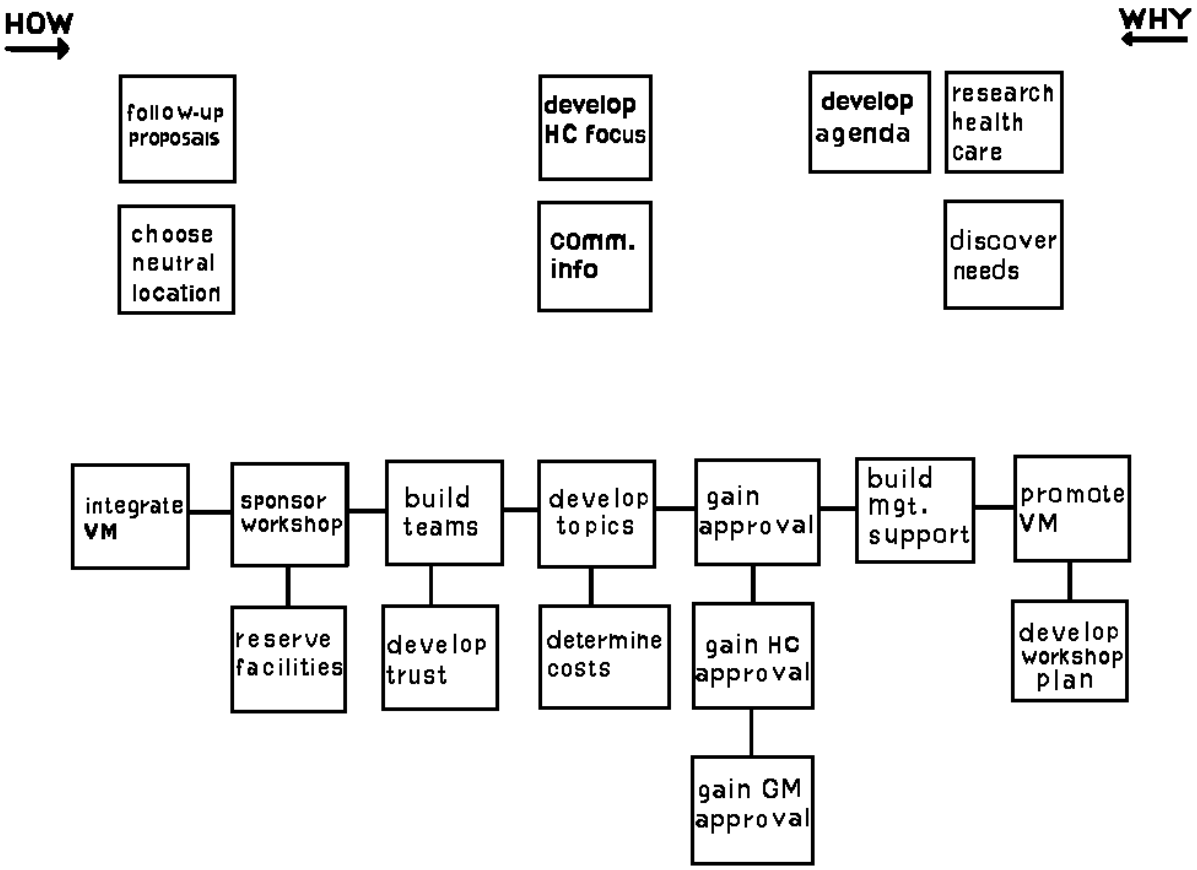

Figure 1. F.A.S.T. diagram of workshop development.

Because of our (the facilitators) unfamiliarity with health care and the participants, a well defined plan was necessary. Five goals for the workshop were developed. They were:

1. Organize an initial VM Health Care workshop
2. Introduce VM techniques to the largest local Health Maintenance Organization (HMO).
3. Help hospitals integrate VM into continuous improvement programs
4. Offer health care professionals cost reduction techniques used in industry
5. Develop new customers for DCD VM program

Second, approval was required to work on a program far outside of normal job responsibilities. GM has contracts with health care insurers and providers around the country. Clearance to contact local insurers directly was necessary. One advantage to working for GM is that their contract is large and health care insurers wanted to work with the customer. Additionally this workshop was being offered as a community service with no cost to the participating health care providers.

Third, a health care focus for VM had to be developed. Working in the auto industry gave us little knowledge of health care industry needs. Understanding where the most money is spent and who controls it was a required first step. Understanding medical language, acronyms, and culture was necessary as well as determining how the different carriers and providers work together. After developing a basic health care understanding, the VM presentation was adapted to focus on health care related issues. A shift in focus was necessary in the pre-workshop meeting. The information and data available for industry based VM studies does not apply to health care. Because of this, a new pre -workshop preparation form was developed. The questionnaire is general enough to be applicable to both industry and health care VM studies.

Fourth, support from management at the health care providers was needed. The health care community in Dayton had no experience with VM, they had to be sold on the benefits of the technique. This was done with a health care specific promotion of VM. After initial buy-in, top executives of three of the Dayton hospitals and Delco Chassis regional personnel formed a steering committee to direct the workshop.

Fifth, potential topics were identified that had a good chance for success and were ongoing problems for the hospitals. Three teams were finally settled on and staffed. They were:

- Psychosis Critical Pathway
- Hip and Knee Prosthesis Inventory
- Medical Imaging Request Turn Around Time.

Sixth, additional follow up and help with implementation was required because VM is not integral to the health care culture. We were asked to provide the Psychosis team with information about other programs that GM works with around the country. The Hip and Knee Prosthesis Inventory team is dealing with purchasing issues with which Delco Chassis purchasing has considerable experience.

THE TEAMS

Psychosis Critical Pathway
Mission:

Improve cost, efficiency, and patient outcome of psychosis patients by using a critical path for care planning.

Scope:
Admission to release from hospital

Team Members:
Coordinator, Family Therapy
Clinical Nurse Manager
Coordinator
OccupationalTherapy/Psychosis
Assistant Head Nurse
Registered Nurse
Registered Nurse
Registered Nurse
Continuous Quality Improvement Coordinator

The Psychosis team was extremely well staffed and had excellent support from hospital management. The team did well at defining its problem and pulling in a wide spectrum of ways to meet the challenge. The team knew that it wanted to utilize care mapping to improve patient care, but did not know how to implement the plan. Several issues needed to be addressed from initial check-in to nursing care to physician diagnosis. The multi-disciplinary team was able to work together and affect all areas of the hospital experience. At the end of the workshop, the psychosis team had identified potential savings of $215,600. Proposals already implemented include walking rounds and a new charting document. These two changes alone have already decreased the length of patient stay.

Hip and Knee Prosthesis
Five Adult Hospitals in Dayton
Local Hospital Association

Mission:
Reduce the cost of purchasing and maintaining hip & knee prosthesis inventory.

Scope:
Hip & Knee Prosthesises

Team Members:
Directory of Financial Services - Hospital Association
Orthopedic SurgeryHospital - Hospital A
Director of Surgery - Hospital B
Director of Surgery - Hospital C
Director of Materials Mgt. — Hospital A
Director of Materials Mgt. — Hospital B
Director of Materials Mgt. — Hospital C
Director of Materials Mgt. — Hospital D
Director of Materials Mgt. — Hospital E
Manager of Purchasing DCD, GMC

The prosthesis team was a challenge. The five hospitals represented on the team are competitors. For this reason, none of the team members had ever worked together on projects before. The first challenge was to change the team members' thinking from competition to cooperation. At the beginning of the workshop, the team members did not feel that they had the power to make a positive impact. By the close of the 2 day workshop, they had realized the power of working together on a project such as this. A second problem that the prosthesis team faced was that the physician determines which prosthesis will be used, even though the hospital pays for it. Any proposal developed needed the support of the orthopedic surgeons. All of the affected physicians were invited to participate in the workshop; they chose not to. The team decided to start a group purchasing program for these implants. At the end of the workshop, the team had identified a potential savings of $500,000 - $1.2 million. Since the workshop, all of the other hospitals in the Miami Valley have pledged their commitment to this cost reduction effort.

Medical Imaging Request Turn Around Time

Mission:
Reduce average time required for feedback to less than 24 hours

Scope:
From time doctor writes imaging request until results are posted on patient's chart.

Team Members:
*Director, Medical Imaging
Administrative Manager, Medical Imaging
Nursing, Special Projects
Sr. Engineer, Management Systems
*Mgt. Engineer, Management Systems

*Did not participate in entire workshop

The Medical Imaging team represents the classic VM process workshop. Surveys had already been gathered to document how long the different steps of processing an imaging request take. The process was well defined at a general level. The results of this team should have been very impressive and predictable. They weren't. The Medical Imaging team suffered from poor staffing and lack of management support. During the preparation meetings, the VM facilitator suggested that a transcriptionist be added to the team (the transcriptionist represented the single longest step of the process). The team decided that a transcriptionist was not needed. Once the workshop started, the team found that they did not know exactly how the transcriptionist did her job. So, they were not able to make specific proposals as to how time could be reduced. The team also did not have floor layouts, so no proposals could be made for more synchronous layouts of the departments. By the end of the workshop, the team had identified several areas to be looked at for improvement, but because of the lack of personnel and management support no specific proposals were made.

VALUE MANAGEMENT APPLICATION

The six steps of the VM job plan were followed throughout the workshop. The information phase was started during workshop preparation. At least one preparation meeting was held with each team. During workshop prep, the project definition and scope were developed. The team's objectives were defined and customers' needs were reviewed. The meetings were held one to two weeks before the workshop so that the team had time to gather necessary information.

The medical imaging team had already started collecting information on the time break down for an imaging request. By the date of the workshop, specific information was available for each of the different imaging procedures, ex. x-ray, CAT scan, MRI. The average time and standard deviation was calculated for standard requests. Emergency requests were not included in the survey.

The teams started the 2 1/2 day workshop with function evaluation. Each of the teams developed a list of the functions performed by their operation. The function list was then used to develop a FAST diagram of the process. The FAST diagram helped each of the team members to focus on well defined parts of the problem. Because each of the teams dealt with time issues, a time function relationship was derived from the FAST diagram.

After the teams had thoroughly defined their projects in terms of functions, they entered the speculation phase. Each of the teams spent several hours brainstorming their problem as a whole as well as individual functions. The psychosis team developed over 250 different ideas dealing with all of the aspects of their challenge.

From the speculation phase, the teams moved into the evaluation phase. The teams started by first eliminating ideas that would definitely not work. After the obvious fluff was eliminated, the teams started determining which ideas would work. Ideas were grouped together and then combined to see if the resultant combinations had value.

Experts were brought in for the prosthesis team during evaluation. All of the orthopedic surgeons that work at Dayton's five adult hospitals were invited to participate in the evaluation phase. Surgeon support is extremely important to the success of the prosthesis team and the team wanted early physician buy-in. Unfortunately, only one surgeon participated in the workshop. The 10 prosthesis manufacturers involved were also invited. The team wanted their insight on the project direction as well as any additional ideas the manufacturers might have.

After the teams were finished evaluating their many ideas, they started the Development phase. The teams refined the original ideas into workable proposals complete with definite action plans. The action plans included the people responsible, concrete activities, timing, and investment (both time and money). The groups also identified possible obstacles and objections they may face.

The prosthesis team discussed how to best promote their proposals to the hospital presidents, the orthopedic surgeons, and to the prosthesis manufacturers. They also put together a subgroup to develop a presentation to the whole Hospital Association.

The workshop wrapped up with the report phase. Each of the teams reviewed their proposals and associated action plans with their management and the whole group. The final review offered a great start toward building management support for the teams' proposals.

After the workshop was completed, the real work began, the Implementation phase. Each of the teams returned to the office to follow up on their action plans. We, Delco's Value Engineers, offered implementation assistance to the teams where necessary.

WRAP UP

The pilot workshop was generally a success. The psychosis team was successful with their efforts and were very pleased with the results they saw in just 2 days. The prosthesis team was very excited about the chance to finally spend a solid block of time on a continuous problem. They were also pleased with the opportunity to work with employees of other hospitals in their discipline. The medical imaging team was not successful in developing concise proposals to reduce turn around time. All three teams learned how to use a functional approach to help solve their problems.

Workshop Difficulties

Because this was a pilot workshop in health care, several challenges had to be faced. The first challenge dealt with the local HMO. One of the initial goals of the workshop was to introduce VM techniques to one of the local health care carriers. This was not possible because of reorganization activities at the HMO and political tensions between the HMO and General Motors due to contract negotiations.

The second difficulty was that we, Delco Chassis VM facilitators, had no clear understanding of how the health care providers and carriers work together. As we worked with the prosthesis team, we found that people within the health care community don't always know how the pieces fit together.

A third problem dealt with the lack of centralized control. No one group has control over the complete health care situation. The hospital has part of the care, the physician controls another part, the insurance company has say over the charges, different governmental agencies mandate controls, etc. There are many groups that must work together to make the system work smoothly and therein lies the challenge. In many situations, the coordination does not occur.

A fourth, major challenge to all three teams is that none of the hospitals have cost accounting systems. They have no way of allocating costs to services, procedures, departments, or activities within the hospital. This lack of cost accounting capability makes it very difficult to identify areas that need VM attention. It also makes it nearly impossible to identify improvements once they are made. Hospitals are stuck in the old paradigm that the only way to reduce cost is to cut services. Within a hospital, cost reduction is a very threatening activity.

Successes

There were several successes of the workshop. First, two of the original workshop goals were met and Delco Chassis purchasing has shown an interest in a health care VM workshop that would provide direct cost reductions to Delco Chassis.

Second, the regional Hospital Association realized that as a group it commands some real power. They did not understand their own power before the workshop and that understanding will be very important in future activities.

Third, the hospital personnel that participated in the workshop felt that VM is a good technique. They liked the fact that it could be applied to current organizations. Fundamental organizational changes are not necessary for success.

CONCLUSION

The pilot VM workshop showed that VM can successfully be applied to the health care community. There are many, many areas that VM could make improvements in the current system. But the health care community must learn, as industry has learned, that VM can help reduce costs without sacrificing quality.

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