TOTAL QUALITY MANAGEMENT
at the
University of Michigan Medical Center:
"Achieving Organizational Excellence"

1993 Annual Report

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This report is the second in a series of annual reports on the Total Quality Process at the University of Michigan Medical Center, prepared for the Hospital Executive Board and other interested readers. This report summarizes the UMMC's progress in effectively implementing Total Quality Management up to December 1993.
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This is the second report in a series of Annual Reports on the Total Quality Management at the University of Michigan Medical Center.

Total Quality Management (TQM) was initiated in 1987, in response to a successful quality improvement effort undertaken by UMMC in participation with the National Demonstration Project on Industrial Quality Control and Health Care Quality. The successful completion of the project on Admissions/Discharge Procedures encouraged the initiation of UMMC’s TQM effort. On the institutional level, the UMMC has completed the Awareness, Knowledge, and Implementation stages, and is presently engaged in the Integration phase. This phase aims to put quality tools and methods into practice in the everyday working processes of the UMMC.

A specific effort was made this year to create a report that was more “reader-friendly”. The main goal of this report is to communicate to the entire UMMC community the successes of the TQM effort, and the value of each and every person’s efforts in its practice. TQM is a continuous effort that must be perpetuated for any long term reward to be realized. In order to maintain the positive attitude necessary for the continuing success of TQM, open communication at the UMMC on the subject is a priority. Accordingly, this report is designed to effectively reach as many people as possible. The report is comprised of eight sections: What is TQM?, Leadership, Divisional Lead Teams Programs and Initiatives, Milestones, Financial Impacts, Advanced Tools and Techniques, and Future Directions.

The Corporate Lead Team serves as the governing body for TQM in the UMMC. Two significant milestones were achieved since 1992. A self-assessment tool was developed and implemented using the Malcolm Baldrige criteria. The decision was also made to continue the use of full-time facilitators. The Strategic plan was designed to improve the working culture of the UMMC in order to provide workers with the type of quality working environment they need. A list of action items was developed for next year to improve the cost effectiveness of the UMMC.

All Divisional Lead Teams have had successful outcomes in the TQM process. Highlights of these successes include: the Clinical Quality
Improvement team has increased referrals from 60 to 200 in 1992. Inpatient Operations has reduced the required linen purchases substantially, as the Linen team completed their seven step storyboard. Ambulatory Care team reduced the number of pending charges in the Psychiatry department. Obstetrics/Gynecology also found patient satisfaction to be at 96% through a survey tool. Information Services developed their own leadership training tool, aimed at creating a total quality culture. Division wide quality measures were also developed, and are being implemented. Financial Services developed a new, revised billing system that responded to customer needs and concerns more adequately. Professional Services reported substantial gains, through the use of TQM techniques to streamline their processes, such as the $1.2 million savings in the Maintenance department. Human Resources worked to develop the Strategic Plan with the Corporate Lead team. Also, they worked to develop sufficient measurement tools in the form of surveys and focus groups throughout the UMMC.

The major programs and initiatives this past year were the 1993 Total Quality Expo, Total Quality Awareness Session III, National Quality Month in October, the Coordinated Care Program, and the Reward and Recognition Task Force. The Partnership in Care Survey was implemented, and training and implementation for self-directed work teams was completed. The seven quality measures for measuring the quality of care at the UMMC were developed, and appropriate measurement tools were also developed. In April 1993 the UMMC was also awarded the runner-up in the Rochester Institute of Technology/USA TODAY Quality Cup. The Quality Management Report for 1993 was completed, and several initiatives were put forth by the Diversity team.

Milestones for 1992 were significant. The UMMC became one of six hospitals nationwide to implement Quality Function Deployment as a method of implementing TQM. A new Total Quality Curriculum was developed and put into practice which provided quality indicators through the use of the Quality RoadMap.

A key goal of the TQM Program at UMMC is to reduce the costs of providing health care to the public. One of the most successful aspects of the cost savings efforts have been in the Gainsharing Program. Total
M-share gains to date amount to over $33 million. It is extremely effective in encouraging employees to search out cost savings in their programs and daily efforts, as they also realize benefit from identifying gains. Also, the Target Drug Program has also been quite successful, as mentioned before. The average cost savings per year due to the entire TQM efforts at UMMC has been $15.2 million.

The 1993 Annual Report on TQM at the UMMC is filled with a large variety of successes and new initiatives. TQM has been a worthy effort to date and will achieve greater success. Training efforts and improved communication throughout the UMMC are vital to the successful implementation and integration of TQM. The UMMC has pioneered the efforts to create its community of quality health care. However, this is an ongoing venture; its practice is a continuous path leading to progress, improvement, and quality.
WHAT IS TQM?

Carol Wesolowski
Divisional Lead Team Facilitator.

"The path to TQM is a winding mountain road. The way to the top is filled with slow climbs and fast plateaus while at the same time it's hard to see what's just around the corner."

Background on TQM Process

The University of Michigan Medical Center (UMMC) includes both the University of Michigan Hospitals and the Medical School, comprised of clinical departments and faculty.

The UMMC began its Total Quality Management (TQM) process in 1987 when it was invited by the Harvard Community Health Plan to participate in the National Demonstration Project on Industrial Quality Control and Health Care Quality. The UMMC and two other hospitals were paired with three industrial experts to research quality improvement methods.

The results of the initial pilot project, which analyzed the Admission/Discharge process, were very positive and provided evidence that the principles of TQM could be useful in health care organizations, as well as industry.

In the six years since implementation of the Total Quality process, UMMC has accomplished three of the four stages of the Total Quality Process:

- Awareness
- Knowledge
- Implementation
- Integration

The final stage is the Integration of Total Quality tools, techniques, and principles into the daily work life of all employees. During this phase the TQM process becomes the way of doing business. Formal quality improvement teams are replaced by informal teams. The people in the organization are empowered and the organization is customer driven. There is an ongoing evaluation of the process and internal/external customer assessments.

The Total Quality process developed at the UMMC is a composite of the teachings of Deming, Juran, Crosby, and others. Elements of the TQ process were developed both internally and externally.

It is only through making TQM a part of the job of every leader, manager, supervisor, and employee that integration can ultimately be achieved.
Vision of Total Quality and Quality Assurance Integration
UMMC is viewed by its customers as providing high quality services and demonstrates value to both internal and external audiences. To achieve this vision:

- Everyone embraces quality as their responsibility.
- Institutional quality indicators are based on all customer needs.
- The Total Quality Process will be used to identify opportunities for improvement that will result in improved patient care outcomes.
- An integrated clinical information system is in place to provide critical clinical and administrative data to those who need to improve a process.
Corporate Lead Team
The CLT functions as the governing body for the Total Quality Process. It provides leadership and direction for the Total Quality Process to meet the goals of UMMC. This team consists of executive leaders from the hospital and medical school, and provides support and guidance to the Divisional Lead Teams.

Milestones of the Corporate Lead Team in 1993 were:

- Development and implementation of a self-assessment tool using Malcolm Baldridge Award criteria.
- Decision to continue use of full time facilitators for an additional two years to assist in achievement of quality goals.

Development of Strategic Plan
A strategic plan has been developed by the UMMC with the following goals:

- Improve UMMC culture through an increase in constructive styles.
- Create an environment where all employees feel it is a responsibility to communicate.
- Balance family, home, and work life...a requirement for a successfully empowered employee.
- Implement reward and recognition systems
- Maintain and improve the UMMC salary position in the labor market.
- Develop and implement a plan for managing staffing needs to reduce costs per unit of service, and to provide appropriate staff mix, meaningful job opportunities, and employment security.
- Develop a plan to respond to new institutional and governmental policies, and governmental policy and legislation.

Managerial Actions
In 1993, the following action items were designated as managerial actions to “improve quality and cost effectiveness” toward the achievement of UMMC’s vision and goals:

1) Develop and demonstrate common direction
2) Demonstrate commitment
3) Develop departmental/area mission and goals
4) Identify and understand functions and processes
5) Identify external and internal customers and suppliers
6) Determine customer requirements
7) Choose key measures/indicators
8) Measure and understand process capabilities
9) Encourage ideas and “theories” for improvement
10) Investigate methods to manage workload and resources

Ellen Gaucher
Senior Associate Director.

“The lessons we have learned through flow-charting critical processes in each department and streamlining and improving processes will position us to compete more effectively in the new system.”
Managerial Actions, cont'd.
11) Evaluate and prioritize opportunities
12) Develop new process and methods
13) Check new process and ideas for improvement
14) Make changes within your control or influence
15) Ask for help to start inter-departmental quality improvement team

Types of Quality Teams
There are three types of quality improvement teams:

1) Functional Team: Members are from one specific functional area. The members select their target areas for improvement.

2) Cross-Functional Team: Members are from more than one functional area. The members select their target areas for improvement through flowcharting complex processes.

3) Task Team: Members are from one or more functional areas. The members are given a specific problem, group of problems, or strategic issue.

In addition to quality improvement teams, there are also improvement teams which are comprised of members from one or more functional areas. These teams use TQ tools and techniques, but do not necessarily follow the 7-step storyboard process.

Over 2,200 employees are involved in the TQM process at the UMMC. The three types of participants are: team leaders, team facilitators, and team members. The distribution of participation at the UMMC is: 850 team leaders, 350 team facilitators, and 1,000 team members. Of the formal quality improvement teams, 19% have completed the 7-steps, 77% are in the process, 3% are planning, and 1% are on hold.
Ambulatory Care
Currently, there are 15 quality improvement teams in Ambulatory Care. As of September 1993, 162 out of 190 (85%) managers were trained as team leaders. 95 out of 190 (50%) were facilitator-trained. Over 500 employees are team member-trained.

The Psychiatry department recently completed a QIT to look at pending charges within their CAPH Business Office. Before the project, the office had 633 pending charges at an average charge of $53, equalling $33,539 in outstanding charges. At the completion of the project, the number of pending charges was reduced to 37 with an average charge of $75. Outstanding charges equalled $2,775.

Milestones in Ambulatory Care include:

- Questionnaire developed to assess status of the various QITs
- OB/Gyn Patient Education documented patient satisfaction of 96% with their new card system
- Psychiatry completed OP Pending Charges QIT

Clinical Quality Improvement Team
Clinical Quality Improvement initiative was launched by the medical and administrative leadership of the UMMC. It was established as a vehicle to involve the UMMC’s clinical faculty and staff in a long-term effort to devise ways to improve the efficiency of clinical activities at the UMMC, while ensuring the delivery of high quality care. There are 5 improvement teams and 6 QITs.

An example where substantial results were achieved was by the HomeMed team. The team was able to increase the total number of referrals to the program from 60 referrals in July of 1990 to 200 referrals in 1992. They were able to accomplish this by using total quality tools and techniques.

Milestones of the Clinical Quality Improvement Team for 1993:

- Home Med team presented final report and recommendations
- Same-Day Surgery team recommended a major reduction in the number of pre-surgical tests
- Medical Records Management team developed a new, efficient electronic UMMC Patient Summary Sheet which would transmit patient data electronically rather than manually
- Multi-Disciplinary Care team provided initial recommendations which will be refined and implemented by future teams
Financial Services
The main TQ efforts in Financial Services in TQ have been related to the formation of the Financial Improvement Team (FIT), four years ago. From the FIT there have been substantial benefits and improvements made in the daily operations of Financial Services.

A major cultural change in Financial Services has come about due to a new evaluation program implemented this year. Now, in the performance review of managers, there is a stage in the process where the manager is reviewed by the employees. This employee review is purely voluntary, and response to the new evaluation procedure has been positive. The main result is that managers are now able to see and understand more easily the problems and concerns of employees in their daily work life. This effort is a major step in the progression towards an empowered work force.

Milestones in Financial Services include:

• Development of new billing system
• Streamlining of phone system for quicker customer response
• Administration of hospital-wide evaluation of Finance department
• Calculation of MAAP score three times per year

Human Resources
In the Human Resources Department, the major by-product of TQ has been an improvement in and greater focus on employee relations.

It is felt that TQ has successfully become part of daily life. Employees now trust TQM more, and do not consider it to be a fad. Consequently, attrition rates in the Human Resources department have decreased by over 6% in 2 years and employee communication and involvement is increased. Human Resources reported that the UMMC workforce is now 65% patient care and 35% overhead (non-patient departments), partly due to the implementation of TQM. This is a dramatic improvement from the 50:50 ratio of the UMMC workforce ten years ago.

Milestones in Human Resources include:

• Education and training completed for all teams
• Development of quality indicator statement
• Improvements in productivity and organization in meetings
**Inpatient Operations**

There are currently 23 QITs in Inpatient Operations and Diagnostic-Treatment Services. The use of TQM for this division has led to greater commitment toward unit vision/mission, better focus on the big picture and on major work issues. There has also been greater emphasis on team problem solving, commitment to group dynamics and greater focus on data.

One of the biggest successes includes enhanced outcomes related to preop/postop patient preparation. The most recent QIT of Inpatient Operations that has completed the 7-Step process is the Linen Team. They looked at linen usage at the hospital to improve the way linen was being processed. The improvements made by the team resulted in the need to buy less linen.

Milestones in Inpatient Operations include:
- Entire staff at the Kellog Eye Center finished Team Member training
- Linen QIT finished the 7-step quality improvement process
- Results Reporting QIT improved turn-around time of Radiology reports

**Information Services**

The Information Services Divisional Lead Team has 4 QITs and 2 improvement teams.

This division started their own leadership training program called the Staff Development Process: Creating a Total Quality Culture in May 1993. The program teaches the concepts, terms, tools, techniques, and skills essential to promoting a quality-focused environment. It is divided into two phases. The first phase teaches theory and introduces techniques. The second phase provides continuing education and skill building tailored to the specific needs of the individual departments.

Milestones in Information Services include:
- Initiation of staff and leadership training
- Formation of quarterly leadership forum
- Development of division-wide quality measures
- Design of new department logo
- Start of “Leadership By Walking Around”
- Reorganization of the divisional lead team.
Planning and Marketing
This is the youngest divisional lead team. Its formation began in February 1992.

This area’s teams are not quality improvement teams, but are considered to be “Quality in Daily Work Life” teams. After formal quality indicators are developed, QI teams will be chartered and assigned. The lead team has written a formal mission statement, where customer satisfaction is stated to be this DLT’s primary quality measure.

The Constituent Relations area has had notable successes. This group was designated to analyze paradigm shifts from direction to guidance. This task force has also instituted improvements in M-Line, M-Net, and M-CAS.

Milestones in Planning and Marketing include:

- Training session in TQ Education
- Quality Improvement Readiness Survey has been administered
- “Reducing Negativity in Work Environment” workshop was held
- Series of active listening and feedback sessions
- Paradigm Shift evaluations
- Use of consensus as staple to quality of decision-making

Professional Services
The Professional Services Team includes several different departments which are integral to the daily operations of the UMMC. They include Maintenance, Food and Nutritional Services, Pharmacy, Security, Project Management, Utilities Management, etc.

Maintenance achieved net savings over the last three years of $1.2 million through their efforts to improve quality of service. All hourly employees in the department were trained to be team members, and team efforts produced results. The goals were to improve the preventive maintenance completion rates, improve priority response time, and increase the overall productivity of the department. A new priority system was developed for assigning jobs for repair, reducing the number of priority levels from ten to five, and clarifying each. A customer evaluation form was designed, and is distributed after each job is complete.

The Food and Nutritional Services Department focused on learning and establishing the needs of their customers. Monthly reports are now received from Mott and Kellogg informing the department of their customer’s opinions on performance. Through customer survey instruments, the gap between customer expectations and what was actually provided is communicated to everyone in the department. It is a priority

Mindy Eisenberg
Facilitator,
Professional Services.

“The level of our communication has improved. Employees feel that management is now more approachable.”
Steve Raymond
Staff Development Coordinator.

"TQM has helped us to achieve cost savings without reducing the size of our workforce."

for every employee to reduce those gaps. One result was to bring the first-line supervisors more in touch with their staff. Another result is the practice of flowcharting the critical steps in processes prior to implementing any new program, and to examine those processes more carefully. The result is the elimination of wasted steps. These efforts have helped to achieve a 40% higher customer satisfaction rating.

The following TQ successes were achieved by a variety of departments within the Professional Services Divisional Lead Team:

- Reduced Utilities management reports and other administrative paperwork by 25%
- Reduced redrafting of the field orders
- Reduced the number of signatures needed on approval forms
- Made training classes available for employees
- QFT-8 achieved their storyboard in 54 days, as opposed to the original projections of 121 days
- Professional Services completed a Performance Planning and Evaluation effort. A scoring system for Merit $’s was developed measuring the individual’s contribution to the team, the individual departmental performance and the team performance.
- Expansion of the official Maintenance Service Area under the Area Five Program
1993 Quality Expo
The 1993 Total Quality Expo was held on May 17th at the Towsley Center. The purposes of the Expo were to:

- Recognize the efforts of QIT's following the 7-step process.
- Recognize the efforts of quality initiatives, work groups, and improvement teams.
- Educate, provide information, and update all employees.

Success of the expo was measured by the 2,250 participants were in attendance from many levels in the organization, 32 storyboards displayed, 6 table displays presented, 88 doors prizes given away. Educational sessions on TQM, tools, techniques, and formal presentations on how teams went through Steps 1-7, a video on TQ, and slide show of teams at work on display.

Coordinated Care Program
The Coordinated Care Program is a multi-disciplinary clinical system, which is patient centered and outcome driven. The purpose of the program is to describe, track, and monitor patient progress throughout the continuum of care, and to achieve maximum efficiencies in care delivery and resource utilization. Coordinated Care is specific to case type and individual patients. The following are the goals of Coordinated Care:

- Promote collaborative practice, coordination of care, and continuity of care.
- Direct the contributions of all care providers toward the achievement of quality patient outcomes.
- Facilitate the achievement of expected and/or standardized patient outcomes.
- Facilitate early discharge and/or discharge within an appropriate length of stay.
- Promote appropriate and/or reduced utilization of resources.

Diversity Initiatives: Valuing Diversity & Managing Diversity
The UMMC's approach to developing a comprehensive diversity program has two key elements: valuing diversity and managing diversity. Valuing diversity involves creating an awareness and appreciation of cultural and other differences. Managing diversity focuses on implementing that awareness into the corporate culture by capitalizing on the potential of all UMMC employees and customers. The following sections discuss the UMMC's efforts to integrate the issue of diversity into its TQM:

Valuing Diversity: Total Quality Diversity Task Force
This task force was initiated in February 1990 as part of the implementation of TQM by the Medical Center. The UMMC believes that a diverse
workforce will best serve the community and customers who benefit from its services. The task force has effectively met the challenge of addressing diversity in the UMMC by:

- Planning means of celebrating diversity
- Developing an educational program to value diversity
- Reviewing policies and procedures to ensure that the “rules” of the organization do not conflict with a diverse environment
- Conducting a diversity audit which identified barriers and determined a cultural benchmark

Managing Diversity: Employee Empowerment
The following programs have been started to incorporate all levels of management into the diversity initiative:

- Leadership for Total Quality Program: An educational program was developed which taught the most effective management styles. Managers would evaluate their approach to management using a survey and compare it to the program’s recommended methods.

- Management Assessment Action Plan: Through this program, managers evaluate and discuss their management styles with their supervisors on a quarterly basis. This review is used as an effort to provide ongoing, continuous improvement in the quality of all levels of management.

National Quality Month
National Quality Month was in October 1993. Activities included:

- Total Quality Essay Contest throughout the month
- Exhibits by clinical teams, and reward and recognition team displayed in the Triangle
- Speaker: Tricia Jarrell, Quality Manager for the Ritz Carleton Hotel
- TQ Videos shown over the Wellness channel
- Co-chair rounds: viewing team storyboards
- Speaker: Glen Laffel, MD
- QIT storyboard exhibits
- Leadership for TQM learning to ask appropriate questions

Terri Voepel-Lewis

“Now, there is more emphasis on evaluating what is it that our customers think is quality.”
Quality Management Report - Fiscal Year 1992
This report was developed by the UMMC Quality Management Program medical staff. This report contains one year’s data in the areas of Medical Information Services, Risk Management, Blood Usage, Infection Control, Pharmacy and Therapeutics, and Utilization Review.

Two new indicators were added to the Hospital Wide Quality Indicator report: Appropriate use of Prophylactic Antibiotics During Selected Surgical Procedures, and Incomplete Radiology Studies.

Reward & Recognition Task Force
There are twelve Points of Recognition. The first four “points” are informal and continuous:

1) Management by Walking Around (MBWA)
2) TQ Meeting Visits
3) Visiting/Reviewing Storyboards
4) Semi-annual Total Quality Expos

These points foster awareness, provide education, and recognize team efforts in a non-competitive atmosphere. The other eight “Points of Recognition” are geared to both individual and team recognition and are tied to specific milestones in the TQ process.

Pre-existing group and individual recognition and reward programs of the Hospitals include:

• Employee of the Month
• Manager of the Month
• “You’re Super” Program
• Employee Suggestion Program
• M-$hare

Richard Finger
Employee Suggestion Program Manager.

“Every dollar of savings from a suggestion not only helps put money in the suggestor’s pocket, but goes toward the group goal of beating the budget. It’s a double hit because each suggestion enhances the chance for all of us to benefit.”
Rochester Institute of Technology/USA Today Quality Cup Award
The RIT/USA Today Quality Cup awards individuals and teams who make significant contributions to their employer's quality improvement programs. The Quality Cup is awarded in order to encourage the application of TQM principles and to provide national role models for quality improvement.

In April 1993, the Charge Processing Quality Improvement Team from the UMMC was runner-up at the Rochester Institute of Technology/USA Today Quality Cup.

The Charge Processing QIT was formed in 1990 with Nancy Durance as the team leader. The 17-member team examined the root causes of charge ticket errors. At the time, as many as 500 charge tickets per day had errors in them. As a result, much time was wasted in correcting the errors.

Most errors can be attributed to the improper completion of documents. No one knew where to get instruction about proper completion. To address this, the team developed an instruction manual and provided training for the staff members responsible for completing the tickets.

Within the first two months of using the new system, the error rate for one department, Cardiology, dropped from 30% to less than 4%. In addition, one of the two Hospital Finance positions responsible for error correction has been freed up for other duties.

Self-Directed Work Teams
The Admissions department is using the self-directed work team concept. Preparation for the self-directed teams began in 1991. The department personnel took classes on topics as assertive communication and conflict resolution. The formal groups were formed in the summer of 1993. Team member training began in August 1993. Team leader and facilitator training began September 1993.

Four work teams were created to perform the functions of the Admissions department. In addition, a separate design team developed team membership, transition plan of supervisory responsibilities to teams, governance structure, team member and coordinator responsibilities, and star points. Team members now:

- Make staff schedules
- Perform supervisory responsibilities
- Make personnel decisions
- Review financial statements and activity reports
• Continually monitor quality indicators
• Hold monthly meetings

Employees now have a better picture of what they are doing and, as a result, admission wait times have declined.

Small Grants Program
The Small Grants Program was to implement innovative employee initiatives that related to UMMC's vision and to enhance the quality of patient care delivery. The program targeted clinical professionals such as nurses, physicians, allied health professionals, and all other direct patient care providers. It was designed to stimulate the development of innovative research and activities by “internal customers” (i.e., employees) through the funding of projects with grants from $5,000 to $20,000. The proposal sought to annually receive 8-10 such grants for 3 years to be used to assist the project's implementations in the following areas: methodology and project design, statistical consulting or support, data collection activities, data entry coordination, and data analysis and programming support.

SURVEY INITIATIVES
Integrating Customer Satisfaction Measures With TQM Survey
This survey is administered every two years. In 1993, it was given to 1203 outpatients and 857 inpatients. The results showed that the hospital was doing very well in serving customers, except in the area of making patients “partners in their care”. As a result of the administration of this survey, the following seven indicators were established in answering the survey question:

“People applaud the medical center when..."
1) They are provided the knowledge to be partners in their own care
2) They are treated with respect
3) They obtain the medical results they expected.
4) The staff members are caring and compassionate
5) Service is timely and accessible
6) Service and care are coordinated and efficient
7) Facilities are comfortable, clean and attractive

Partnership in Care Survey
A new survey series, called "Partnership in Care", will be administered to physicians and patients. The purpose of this effort is to gauge the expectations of the patient-physician relationship from both perspectives. It is also designed to define how the customers and providers view the other's needs and priorities. The survey sample size will be approximately 2,500 patients, and all hospital physicians.
TQM Impact & Integration Survey
Presently seeking approval by the Executive Board, this survey instrument has been designed to:

• Measure the progress of TQM in improving employee work environment
• Determine the employees' view of the role of TQM
• Determine the employees' view of their role in the implementation of TQM at the UMMC

Total Quality Awareness Session III
The TQM Awareness Session III: Preventing Waste was initiated in November 1993, in a continuing effort to inform and engage our employees in Total Quality.

The purpose of the awareness session was three-fold:

• Demonstration of a strong link between the Total Quality Process and the Cost-Effective Program
• Definition of waste prevention and types of waste at UMMC
• Empowerment to identify waste in work area
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<th>Month</th>
<th>Event Description</th>
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<td>February 1990</td>
<td>Diversity Task Force</td>
<td>First meeting of task force leading to the development of the Leadership for Total Quality Program</td>
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<td>April 1991</td>
<td>Medical Center Chairmen's Retreat</td>
<td>Retreat on TQ lead to development of electronic UMMC Patient Summary Sheet</td>
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<td>February 1992</td>
<td>Quality Function Deployment</td>
<td>UMMC becomes one of six hospitals nation-wide to use Quality Function Deployment</td>
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<td>May 1992</td>
<td>Target Drug Program</td>
<td>Program reached the savings goal of $1 million, since its inception three years ago</td>
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<td>January 1993</td>
<td>Managerial Action Items</td>
<td>Action items designated to improve quality and cost effectiveness within quality teams</td>
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<td>April 1993</td>
<td>Total Quality Cup Award</td>
<td>UMMC's Charge Processing QIT was runner-up at the Rochester Institute of Technology/USA Today Quality Cup</td>
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<td>August 1993</td>
<td>Gainsharing Program</td>
<td>UMMC employees received payments of up to $2100 as result of M-Share savings</td>
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<td>September 1993</td>
<td>New Total Quality Curriculum</td>
<td>New curriculum introduced by Curriculum Development Team which made major changes in QIT formation and improvements through the development of the Quality Road Map</td>
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<td>October 1993</td>
<td>Implementation of New Curriculum</td>
<td>DLT facilitators began using new curriculum</td>
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<td>November 1993</td>
<td>Total Quality Awareness III</td>
<td>Session III informed employees on preventing waste through total quality</td>
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<td>December 1993</td>
<td>Partnership in Care Survey</td>
<td>Survey administered to patients and physicians to get both perspectives on care expectations</td>
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<td>December 1993</td>
<td>TQM Process Benefit/Cost Report</td>
<td>Report published which studied the financial benefit of UMMC's Total Quality Process</td>
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At the UMMC, it is believed that “quality and cost effectiveness are not opposites”. This has been proven through a benefit/cost report published in December 1993 by the Management Engineering Department, which analyzed the financial impact of TQM from July 1987 to June 1992. Substantial financial benefit resulting from TQ efforts has amounted to a net gain of $17 million per year over the five year period since its inception. This figure shows that, within the UMMC, the financial benefits of TQM are five times more than the costs. The “bottom line” is that the implementation of TQM has resulted in reward, not only for its employees, but also to the financial success of the UMMC. A financial summary of TQM’s effects at the UMMC is as follows:

**Direct financial benefits**
(savings from QIT initiatives, employee suggestion programs, M$hare activities, etc.) $21,290,000

**Associated costs** $4,197,000

**Financial contribution** $17,093,000

**Training and education costs** $1,866,261

**Total financial contribution** $15,226,739

TQM training and education programs are essential to the successful practice of TQM in the daily lives of the UMMC's employees and customers. For this reason, an investment of over $1.8 million per year has been made toward various training activities offered to employees at all levels within the UMMC. This educational curriculum consists of 11 programs/courses, designed to develop a workforce which knowledgeably and actively practices TQM. A summary the financial impact of these training activities is as follows:

<table>
<thead>
<tr>
<th>Program</th>
<th>Required Hours</th>
<th>Number of Emp. Attending</th>
<th>Estimated Cost of Staffing per Program</th>
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<tr>
<td>TQ 101-105</td>
<td>40</td>
<td>200</td>
<td>$249,696</td>
</tr>
<tr>
<td>TQ 101-104</td>
<td>32</td>
<td>600</td>
<td>451,795</td>
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<td>TQ 101-103</td>
<td>24</td>
<td>100</td>
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<td>TQ Employee Orientation</td>
<td>1.5</td>
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<td>400</td>
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<td>TQ Awareness</td>
<td>1.5</td>
<td>5,000</td>
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<td>16</td>
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<tr>
<td>Team Leader Training</td>
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<td>Team Facilitator Training</td>
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<td>134</td>
<td>106,303</td>
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<td>Team Member Training</td>
<td>16</td>
<td>493</td>
<td>111,536</td>
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<tr>
<td>TQ Foundation</td>
<td>20</td>
<td>30</td>
<td>11,900</td>
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</table>

$1,866,261
M-$hare
M-$hare, the UMMC's gainsharing program, motivates employees to identify ways of reducing cost throughout the hospital. These cost-cutting suggestions are utilized in the Cost Effectiveness Program and result in reducing departmental budgets. Employee suggestion has gone up from 362 suggestions in 1989 to 500 suggestions in 1992. Both the UMMC and the employees benefit financially from these savings, each receiving 50% of the earnings. This year, the total savings is estimated to be approximately $10 million. The table below summarizes the impact of M-$hare:

### M-$HARE SIMPLIFIED CALCULATIONS (in millions)

<table>
<thead>
<tr>
<th></th>
<th>BUDGET</th>
<th>ACTUAL</th>
<th>GAIN RELATED VARIANCE</th>
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<tr>
<td>Adjusted M-$hare Operating Gain or Loss</td>
<td>$16,000</td>
<td>$49,304</td>
<td>$33,304</td>
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<tr>
<td>M-$hare Impact of Excluded Items</td>
<td>62,784</td>
<td>61,804</td>
<td>(980)</td>
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<tr>
<td>Total M-$hare Gain</td>
<td></td>
<td></td>
<td>$32,324</td>
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</table>

50% to Employee M-$hare Payments $16,162

---

Dave Southwell
Hospitals financial officer.

Of the $589 million budgeted for expenses, only $579 million was spent.

"That's why there's gainsharing--because we were able to save that kind of money."
Target Drug Program

As of May 1992, the Target Drug Program had saved approximately $1.3 million in its three years of operation. Drugs are targeted for the program based on expense and frequency of use by pharmacists, medical staff, and computer statistics. The seven drugs currently included in the program are: Imipenem (I), IV and oral vancomycin (IO), Cefazolin (CZ), Albumin (A), H2 receptor antagonists (H), and Cefoxitin (CX). The resulting savings for 1993 are as follows:

**Target Drug Programs' 1993 Savings (in $)**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Savings</th>
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<tr>
<td>I</td>
<td>10000</td>
</tr>
<tr>
<td>IO</td>
<td>8000</td>
</tr>
<tr>
<td>CZ</td>
<td>6000</td>
</tr>
<tr>
<td>A</td>
<td>12000</td>
</tr>
<tr>
<td>H</td>
<td>16000</td>
</tr>
<tr>
<td>CX</td>
<td>14000</td>
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</table>

![Graph showing savings for each drug]
Quality Function Deployment

This element of TQM is a process for improving products and services to offer what consumers want, rather than what designers think consumers want. The philosophy behind QFD is that it is better to spend time and money prior to product development, and truly understand what the customer wants, than to build a product and have to retrofit it after production has already begun.

The QFD process began prior to the Medical Procedures Unit ( MPU) opening in July 1991, but has continued after the unit’s opening. It is one of the few comprehensive quality systems aimed specifically at satisfying the customer. It is unique in that it solicits customer input throughout all stages of design, and turns customer requirements into process and organization requirements. In short, it is a formalized process to identify your customer, determine the customer wants, prioritize the customers’ wants, and align the organization resource to best meet the customers’ requirements.

Results to date include:
- Nursing issues were addressed prior to unit’s opening
- Changes in CME courses led to a 300% increase in attendance
- Changes in marketing communications saved $20,000, and produced a 14% increase in activity

Reengineering

The concept of Reengineering was initiated and implemented in early 1993 at UMMC. It tries to achieve dramatic improvements by fundamental rethinking and radical redesign of business processes. Reengineering asks the question, "If I could do this all over again, what would I do?"

Using Reengineering, processes will be much clearer and there will be improvements in the continuity of care and better communication for families. By re-engineering, the work for physicians and nurses will decrease along with diagnostic times. Most importantly, there will be major benefits in and improvements to customer satisfaction.

The clinical improvement teams that have started using Re-engineering are:
- Peds Cardiology and Cardio Thoracic Surgery
- Obstetrics\Gynecology
- Discharge Planning

Peds Cardiology and Cardio Thoracic Surgery began implementing this concept in August 1993, and have made the most progress in integrating this process. They have developed a new, combined vision and mission statements. They have developed flowcharts which describe their key processes and have identified their quality indicators.
Critical Pathway Analysis
The critical path for a particular diagnosis or procedure defines the optimal sequencing and timing of actions by nurses, physicians, and other hospital staff. The approach reduces variation in clinical care for the same diagnosis or procedure, and minimizes delays and resources in order to maximize the quality of patient care.

Construction and engineering fields originally developed the critical path methodologies. The health care industry began discussing and researching critical path concepts in the early 1970s. However, due to a lack of financial pressure and physician resistance, critical path development slowed. In the 1980s, new emphasis on cost savings resulted in a renewed interest in critical paths. The UMMC began researching critical paths in the late 1980s. At the University Hospital, critical paths were developed in January 1991 for thoracic surgery, neurosurgery, and neurology inpatient units.

The features of the critical path method are:
• Comprehensiveness
• Timelines
• Collaboration
• Manager

Key results which can be expected from this method:
• Reduced length of stay
• Reduced costs and charges
• Improved communications

The critical path method is one of the critical elements of the UMMC's Coordinated Care Program.
Diversity: A Business Strategy
As presented at the W. Glenn Ebersole Essay Competition in Anaheim, California, in February 1992, diversity is a critical issue that the UMMC has begun addressing through various initiatives: diversity audits, corporate cultural assessments, and the diversity task force. However, UMMC recognizes that the “celebration of diversity” is an ongoing process which will require continuing effort. One observation was that “tapping [the] full potential of existing diverse work force was challenge yet to be met”. For UMMC, the issue of diversity has evolved from a by-product of Affirmative Action to a “strategic business issue”.

Expectations of Management
As part of the continuous improvement initiative which is key to the achievement and maintenance of the Total Quality Process, the “Expectations of Management” document was developed for UMMC managers to sustain a commitment to quality through the following practices:

1) Develop and support a work environment where every employee’s capability is improved.
2) Promote an environment of open communication, trust, loyalty, and pride.
3) Create an atmosphere that promotes excellence through innovation and creativity.
4) Foster an environment which values human diversity and sustains respect for multi-culturalism.
5) Coordinate resources and activities to meet society’s expectations as well as our own objectives of quality and efficiency.

Quality Road Map
The Curriculum Development Team has developed a new curriculum which provides indicators of divisional lead team progress. It replaces the Qualtec Program in use since 1990. Using the new seven-step process called the Quality Road Map, teams can measure their activity and assess the extent of their progress. The Quality Road Map has the following steps:

R: Recognize the process. M: Measure the change.
O: Organize the data. A: Apply to the workplace.
D: Determine options.

The Curriculum Development Team initiated this improvement effort by re-analyzing the PDCA (Plan-Do-Check-Act) approach based on feedback from quality improvement teams and the customer. This team has also redesigned when quality improvement teams are formed and changed the curriculum for TQ training.
REFERENCES


APPENDIX
ORGANIZATIONAL STRUCTURES
FOR TOTAL QUALITY

Quality Improvement Teams

Corporate Lead Team
Hospital Executive Director
Senior Hospital Associate Director
Associate Director, Ambulatory Care Services
Associate Director, Inpatient Operations & Diagnostic Treatment Services
Associate Director, Professional Services
Administrator, Human Resources
Chief Information Officer
Chief of Clinical Affairs, Hospital and Senior Associate Dean, Medical School
Associate Dean of Clinical Affairs, Medical School
Chief of Nursing Affairs
Director, Alternate Revenue
Director, Planning & Marketing
Hospital Financial Officer
President, M-Care
Surgeon in Chief
Physician in Chief
Pediatrician in Chief
Physician at Large

Joint Staff
Hospital Executive Director
Senior Hospital Associate Director
Hospital Financial Officer
Vice Provost Health Affairs
Chief of Clinical Affairs, Hospital and Senior Associate Dean, Medical School
Dean of Medical School
Associate Dean of Clinical Affairs, Medical School
Director for Administration and Professional Services, Medical School
## QUALITY IMPROVEMENT TEAMS - Using 7 Step Process

<table>
<thead>
<tr>
<th>AMBULATORY CARE DIVISIONAL LEAD TEAM</th>
<th>Pat Warner</th>
<th>Wendy Behnke</th>
<th>LD: Systems &amp; Processes for ClTs</th>
<th>UHB1C257-9</th>
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<td>Jan Price</td>
<td>Apr-93</td>
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<td>Teresza Poe</td>
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<td>Bruce Cash</td>
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<td>Kathy Szakalis</td>
<td>A. Liberman-Lampep</td>
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<td>Jean Robinson</td>
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<td>Mar-93</td>
<td>Patricia Lees</td>
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**PLANNING & MARKETING DIVISIONAL LEAD TEAM**

- Ken Trester
- Jackie Robinson

**PROF SERVICES DIVISIONAL LEAD TEAM**

- David Learned
- Mindy Eisenberg

- Joe Diederich
- Cliff Arnott
- Cliff Arnott
- Clayton/Day
- Nov-91
- Work Schedules, Info System, clerical

- Mike Ryan
- Deb Guglielmo
- 5
- Training feedback
- UHB2301

- Kevin MacKillop
- Steve Raymond
- 4
- Reduce inventory stockouts
- UHB2B207

- Chris Peters
- Jean Robinson
- 4
- Improve biomed engr maintenance
- UHB2H108
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<td>Marilyn Lazon</td>
<td>Improve project close-out process</td>
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<td>K. MacKillop</td>
<td>Procedures - sharps related</td>
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<td>John Bailey</td>
<td>Processing, distribution, availability</td>
</tr>
<tr>
<td>70 Prof Investigation Rpt (PIR)</td>
<td>Functional</td>
<td>Aug-91</td>
<td>Ed Grady</td>
<td>Improve PIR process</td>
</tr>
<tr>
<td>71 Ambulatory Care Pharmacy</td>
<td>Functional</td>
<td>Sep-91</td>
<td>Mindy Eisenberg</td>
<td>Improve processes in ACP</td>
</tr>
<tr>
<td>72 Jazzy Don &amp; the Direct Dailer</td>
<td>Functional</td>
<td>Oct-91</td>
<td>Don King</td>
<td>Complete info on phone log</td>
</tr>
<tr>
<td>73 ACT - Accurate Correct Trays</td>
<td>Functional</td>
<td>Nov-91</td>
<td>Verna Johnson</td>
<td>Improve patient tray accuracy</td>
</tr>
<tr>
<td>74 Capital Plan Program Change</td>
<td>Functional</td>
<td>Nov-91</td>
<td>Mindy Eisenberg</td>
<td>CPPC's within UMH planning proc</td>
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<tr>
<td>75 Design Service Order Request</td>
<td>Functional</td>
<td>Nov-91</td>
<td>Tom Peterson</td>
<td>Streamline design service orders</td>
</tr>
<tr>
<td>76 Housekeeping Commodities</td>
<td>Functional</td>
<td>Nov-91</td>
<td>Jean Robinson</td>
<td>Commodities budget</td>
</tr>
<tr>
<td>77 Laundry TO</td>
<td>Functional</td>
<td>Nov-91</td>
<td>Joan Gillum</td>
<td>Improve laundry processing &amp; prod</td>
</tr>
<tr>
<td>78 Operating Room Waste Mgt</td>
<td>X-Functional</td>
<td>Nov-91</td>
<td>T. F. Dela Fuente</td>
<td>Complete handling of medical waste from ORs</td>
</tr>
<tr>
<td>79 Quality Patient Pleasers</td>
<td>Functional</td>
<td>Nov-91</td>
<td>Ramesh Verma</td>
<td>Improve diet order process</td>
</tr>
<tr>
<td>80 Snack Pack QIT</td>
<td>X-Functional</td>
<td>Nov-91</td>
<td>Wendy Behnke</td>
<td>3 Nourishment room utilization</td>
</tr>
<tr>
<td>81 Skin &amp; Bones</td>
<td>Functional</td>
<td>Dec-91</td>
<td>Jul Wooster</td>
<td>ID patients at nutritional risk</td>
</tr>
<tr>
<td>82 M-Quest</td>
<td>Functional</td>
<td>Jan-92</td>
<td>C. Peters</td>
<td>Menu checking process</td>
</tr>
<tr>
<td>83 Pneumatic Tube System (PTS)</td>
<td>Functional</td>
<td>Jan-92</td>
<td>Marilyn Lazon</td>
<td>Improve performance of PTS</td>
</tr>
<tr>
<td>84 Electronic Security Systems</td>
<td>X-Functional</td>
<td>Feb-92</td>
<td>John Glisan</td>
<td>Improve system design, install, &amp; main</td>
</tr>
<tr>
<td>85 IV Waste</td>
<td>Functional</td>
<td>Feb-92</td>
<td>Frank Krupansky</td>
<td>IV admixture/injectable waste</td>
</tr>
<tr>
<td>86 MSC Redesign</td>
<td>Task</td>
<td>Feb-92</td>
<td>M. Troxler</td>
<td>MSC Redesign</td>
</tr>
<tr>
<td>87 Technician Turnover</td>
<td>Functional</td>
<td>Apr-92</td>
<td>C. Friedman</td>
<td>Improve technician job turnover</td>
</tr>
<tr>
<td>88 Procurement/Ingrid Control C</td>
<td>X-Functional</td>
<td>May-92</td>
<td>L. Ward</td>
<td>Ensure needed ingredients received</td>
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<tr>
<td>90 Security Action Corps (SAC)</td>
<td>Functional</td>
<td>Aug-92</td>
<td>Jim Day</td>
<td>Improve quality of security services</td>
</tr>
<tr>
<td>91 Long Wayners</td>
<td>Functional</td>
<td>Nov-92</td>
<td>Zachary Johnson</td>
<td>Improve process to clean bathrooms</td>
</tr>
<tr>
<td>92 Midnight Raiders</td>
<td>Functional</td>
<td>Nov-92</td>
<td>Zachary Johnson</td>
<td>Improve equipment avail on Midnights</td>
</tr>
</tbody>
</table>

### Steps in Storyboard

1. Reason for Improvement
2. Current Situation
3. Analysis
4. Countermeasures
5. Results
6. Standardization
7. Future Plans

### Key to Coding

- **TBA** = To Be Announced
- **T** = Training
- **P** = Planning
- **P** = Planning
- **F** = Forming
- **C** = Completed
- **H** = Hold

* = Storyboard completed, Team disbanded or moved to new story.
### SUMMARY OF TOTAL QUALITY INITIATIVES AND IMPROVEMENT TEAMS

<table>
<thead>
<tr>
<th>Initiative/Team Title</th>
<th>Initiative Type</th>
<th>Date Formed</th>
<th>Team Leader</th>
<th>Team Facilitator</th>
<th>Finish Date</th>
<th>Opportunity for Improvement</th>
</tr>
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<tbody>
<tr>
<td><strong>AMBULATORY CARE DIVISIONAL LEAD TEAM</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>1 Ambulatory Care Administration</td>
<td>Improvement</td>
<td>Apr-92</td>
<td>Rosanne Whitehouse</td>
<td>NA</td>
<td></td>
<td>I.D. Systems &amp; Processes for CINPs</td>
</tr>
<tr>
<td>2 Cancer Center Lead Team</td>
<td>Lead Team</td>
<td>Apr-93</td>
<td>Marcy Waldinger</td>
<td>Joanne Leith</td>
<td>NA</td>
<td>Patient Wait Time</td>
</tr>
<tr>
<td>3 Missed Appointments</td>
<td>Improvement</td>
<td>Jun-91</td>
<td>Sandy Fink</td>
<td>Nane Stalwinski</td>
<td></td>
<td>Decrease notices to deceased patients</td>
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**CLINICAL & DIVISIONAL LEAD TEAM**

<table>
<thead>
<tr>
<th>Initiative/Team Title</th>
<th>Initiative Type</th>
<th>Date Formed</th>
<th>Team Leader</th>
<th>Team Facilitator</th>
<th>Finish Date</th>
<th>Opportunity for Improvement</th>
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</thead>
<tbody>
<tr>
<td>4 Clinical Process Comparison</td>
<td>Project</td>
<td>Aug-91</td>
<td>Ellen Gaucher, RN</td>
<td>Deb Guglielmo, RN</td>
<td></td>
<td>Compare critical pathways</td>
</tr>
<tr>
<td>5 Integrated Inpatient Mgt Mode</td>
<td>Project</td>
<td>Aug-91</td>
<td>New Leader TBA</td>
<td>Deb Guglielmo</td>
<td></td>
<td>Develop HIMM Implementation plan</td>
</tr>
<tr>
<td>6 Blood Utilization Protocols</td>
<td>Improvement</td>
<td>Sep-91</td>
<td>Robert Todd, MD</td>
<td>Amy Perry, RN</td>
<td></td>
<td>Reduce unnecessary blood product utilization</td>
</tr>
<tr>
<td>7 Extend the Use of Home Med</td>
<td>Improvement</td>
<td>Sep-91</td>
<td>Jeff Stross, MD</td>
<td>Amy Perry, RN</td>
<td></td>
<td>Maximize use of Home Med</td>
</tr>
<tr>
<td>8 Remove Barriers to Admission Day</td>
<td>Improvement</td>
<td>Sep-91</td>
<td>Fred Chang, MD</td>
<td>Mary Decker Staples</td>
<td></td>
<td>Reduce barriers to admission day surgery</td>
</tr>
<tr>
<td>9 ICU Utilization Protocols</td>
<td>Improvement</td>
<td>Dec-91</td>
<td>Ellen Gaucher</td>
<td>Nancy Duran</td>
<td></td>
<td>Develop protocols for effective use of ICU beds</td>
</tr>
<tr>
<td>10 Medical Records Manager</td>
<td>Improvement</td>
<td>Feb-92</td>
<td>Jim Wooliscroft, MD</td>
<td>R. Whitehouse</td>
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<td>To be announced</td>
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**CORPORATE LEAD TEAM**

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<thead>
<tr>
<th>Initiative/Team Title</th>
<th>Initiative Type</th>
<th>Date Formed</th>
<th>Team Leader</th>
<th>Team Facilitator</th>
<th>Finish Date</th>
<th>Opportunity for Improvement</th>
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<tbody>
<tr>
<td>11 Employee Empowerment</td>
<td>Improvement</td>
<td>Feb-92</td>
<td>John Forsyth</td>
<td>Deb Guglielmo</td>
<td></td>
<td>What is employee empowerment?</td>
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<tr>
<td>12 TQ Assessment Task Force</td>
<td>Task</td>
<td>May-92</td>
<td>Pat Lyons</td>
<td>Jean Robinson</td>
<td></td>
<td>Assess progress of TQ implementation</td>
</tr>
<tr>
<td>13 Reward &amp; Recognition</td>
<td>Task</td>
<td>Jun-92</td>
<td>R. Whitehouse</td>
<td>Wendy Behnke</td>
<td></td>
<td>Recommend reward &amp; recognition system</td>
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**FINANCIAL SERVICES DIVISIONAL LEAD TEAM**

<table>
<thead>
<tr>
<th>Initiative/Team Title</th>
<th>Initiative Type</th>
<th>Date Formed</th>
<th>Team Leader</th>
<th>Team Facilitator</th>
<th>Finish Date</th>
<th>Opportunity for Improvement</th>
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<tbody>
<tr>
<td>14 Accounts Receivable Lead</td>
<td>Local Lead</td>
<td>Jun-89</td>
<td>Tom Biggs</td>
<td>Lynne Erskine</td>
<td></td>
<td>TQ Implementation</td>
</tr>
<tr>
<td>15 End-Stage Renal Disease</td>
<td>Improvement</td>
<td>Jun-91</td>
<td>Sue Verbietsa</td>
<td>None</td>
<td></td>
<td>Implement HealthQuest System</td>
</tr>
<tr>
<td>16 Accounts Receivable</td>
<td>Improvement</td>
<td>Sep-91</td>
<td>Marc Wilson</td>
<td>None</td>
<td>Feb-93</td>
<td>Implement HealthQuest System</td>
</tr>
<tr>
<td>17 Admission</td>
<td>Improvement</td>
<td>Sep-91</td>
<td>Pam Chapperle</td>
<td>None</td>
<td>Feb-93</td>
<td>Implement HealthQuest System</td>
</tr>
<tr>
<td>18 Cash Application</td>
<td>Improvement</td>
<td>Sep-91</td>
<td>John Gerber</td>
<td>None</td>
<td>Feb-93</td>
<td>Implement HealthQuest System</td>
</tr>
<tr>
<td>19 Credits/Refunds</td>
<td>Improvement</td>
<td>Sep-91</td>
<td>Jim Powers</td>
<td>None</td>
<td>Feb-93</td>
<td>Implement HealthQuest System</td>
</tr>
<tr>
<td>20 Inpatient Billing &amp; Collections</td>
<td>Improvement</td>
<td>Sep-91</td>
<td>John Gerber</td>
<td>None</td>
<td>Feb-93</td>
<td>Implement HealthQuest System</td>
</tr>
<tr>
<td>21 Logistics/Mail/Delivery/Bill Dist</td>
<td>Improvement</td>
<td>Sep-91</td>
<td>Don Fitch</td>
<td>None</td>
<td>Feb-93</td>
<td>Implement HealthQuest System</td>
</tr>
<tr>
<td>22 Outpatient Billing &amp; Collection</td>
<td>Improvement</td>
<td>Sep-91</td>
<td>Sue Verbietsa</td>
<td>None</td>
<td>Feb-93</td>
<td>Implement HealthQuest System</td>
</tr>
<tr>
<td>23 Special Accounts</td>
<td>Improvement</td>
<td>Sep-91</td>
<td>Don Fitch</td>
<td>None</td>
<td>Feb-93</td>
<td>Implement HealthQuest System</td>
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**HUMAN RESOURCES DIVISIONAL LEAD TEAM**

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<thead>
<tr>
<th>Initiative/Team Title</th>
<th>Initiative Type</th>
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<th>Team Leader</th>
<th>Team Facilitator</th>
<th>Finish Date</th>
<th>Opportunity for Improvement</th>
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</thead>
<tbody>
<tr>
<td>24 Performance Planning &amp; Eval</td>
<td>Task Force</td>
<td>Feb-92</td>
<td>Jan Mulcone</td>
<td>Amy Perry</td>
<td></td>
<td>Re-evaluate PP&amp;E System</td>
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<tr>
<td>25 Classification Task Force</td>
<td>Task Force</td>
<td>Mar-92</td>
<td>Tony Denton</td>
<td>TBA</td>
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<td>Imp eff of reclassification system</td>
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**INFORMATION SERVICES DIVISIONAL LEAD TEAM**

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<th>Initiative/Team Title</th>
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<th>Team Leader</th>
<th>Team Facilitator</th>
<th>Finish Date</th>
<th>Opportunity for Improvement</th>
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<tbody>
<tr>
<td>26 INS Security</td>
<td>X-Functional</td>
<td>Jan-92</td>
<td>Dave Selman</td>
<td>Lynne Erskine</td>
<td></td>
<td>Password Change</td>
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<tr>
<td>27 ISD Recog &amp; Appreciation</td>
<td>Task</td>
<td></td>
<td>Carol Mesk</td>
<td>John Richardson</td>
<td></td>
<td>Define/Implement R&amp;A Plan</td>
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**INPATIENT OPERATIONS & DIAG DX SERVICES**

<table>
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<tr>
<th>Initiative/Team Title</th>
<th>Initiative Type</th>
<th>Date Formed</th>
<th>Team Leader</th>
<th>Team Facilitator</th>
<th>Finish Date</th>
<th>Opportunity for Improvement</th>
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<tbody>
<tr>
<td>28 SICU Differentiated Practice</td>
<td>Improvement</td>
<td>Jul-88</td>
<td>Barb Kupferschmid</td>
<td>NA</td>
<td>Jun-89</td>
<td>Work redesign &amp; staff mix</td>
</tr>
<tr>
<td>29 6B Work Redesign</td>
<td>Functional</td>
<td>Jan-90</td>
<td>Mary Jo Maksym</td>
<td>None</td>
<td></td>
<td>Work redesign &amp; staff mix</td>
</tr>
<tr>
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<td></td>
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<td>30</td>
<td>6C Work Redesign I</td>
<td>Improvement</td>
<td>Jun-90</td>
<td>Diana Cprek</td>
<td>None</td>
<td>May-91</td>
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<tr>
<td>31</td>
<td>6C Work Redesign II</td>
<td>Improvement</td>
<td>Jan-91</td>
<td>Diana Cprek</td>
<td>None</td>
<td>May-91</td>
</tr>
<tr>
<td>32</td>
<td>Admitting/Discharge Local LT</td>
<td>Improvement</td>
<td>Jun-91</td>
<td>Mary Staples</td>
<td>Deb Guglielmo</td>
<td>None</td>
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<tr>
<td>33</td>
<td>5C Work Redesign</td>
<td>Improvement</td>
<td>Sep-91</td>
<td>Jennifer Miller</td>
<td>None</td>
<td>May-91</td>
</tr>
<tr>
<td>34</td>
<td>Shopaholics</td>
<td>Functional</td>
<td>Feb-92</td>
<td>Patricia Boczar</td>
<td>Wendy Behnke</td>
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**PROF SERVICES DIVISIONAL LEAD TEAM**

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<tbody>
<tr>
<td>35</td>
<td>Drug Usage Eval-Cefazolin</td>
<td>Improvement</td>
<td>Jul-88</td>
<td>Mike Ryan</td>
<td>NA</td>
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<tr>
<td>36</td>
<td>Stockroom-Robocarrier parts</td>
<td>Improvement</td>
<td>Jul-90</td>
<td>Kevin McKillop</td>
<td>NA</td>
</tr>
<tr>
<td>37</td>
<td>Cart Movement</td>
<td>Improvement</td>
<td>Dec-90</td>
<td>D. King</td>
<td>Jim Day</td>
</tr>
<tr>
<td>38</td>
<td>UH-B2 Congestion</td>
<td>Improvement</td>
<td>Dec-90</td>
<td>Don King</td>
<td>Jim Day</td>
</tr>
<tr>
<td>39</td>
<td>Perfect Attendance Task Force</td>
<td>Improvement</td>
<td>Jan-91</td>
<td>N. Grills</td>
<td>None</td>
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<tr>
<td>40</td>
<td>&quot;HWDB&quot; How we do business</td>
<td>Improvement</td>
<td>Sep-91</td>
<td>Ken Knickrehm</td>
<td>M. Rising</td>
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<tr>
<td>41</td>
<td>PYXIS Project</td>
<td>Improvement</td>
<td>Sep-91</td>
<td>Nabil Khalidi</td>
<td>None</td>
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<tr>
<td>42</td>
<td>Q-Scope</td>
<td>Improvement</td>
<td>Sep-91</td>
<td>Hal Patullo</td>
<td>None</td>
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<tr>
<td>43</td>
<td>&quot;Duck&quot; CEP</td>
<td>Improvement</td>
<td>Oct-91</td>
<td>Richard King</td>
<td>None</td>
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<tr>
<td>44</td>
<td>Patient Menu Task Force</td>
<td>Improvement</td>
<td>Oct-91</td>
<td>J. Kerestes Smith</td>
<td>None</td>
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<tr>
<td>45</td>
<td>Cold Plating Work Group</td>
<td>Improvement</td>
<td>Mar-92</td>
<td>M. Carroll</td>
<td>C. Bannan</td>
</tr>
<tr>
<td>46</td>
<td>IV Access &amp; Infusion devices</td>
<td>clinical</td>
<td>Apr-92</td>
<td>N. Khalidi</td>
<td>None</td>
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<tr>
<td>47</td>
<td>MCHC Turn Around Time</td>
<td>Improvement</td>
<td>Apr-92</td>
<td>S. Bickley</td>
<td>None</td>
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<td>48</td>
<td>PTS User Group</td>
<td>Improvement</td>
<td>Apr-92</td>
<td>Dick King</td>
<td>None</td>
</tr>
<tr>
<td>49</td>
<td>Payroll/Scheduling/Timekeep</td>
<td>Improvement</td>
<td>May-92</td>
<td>N. Grills/M. Carroll</td>
<td>None</td>
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<tr>
<td>50</td>
<td>Biomedical Engineering Train</td>
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<td>Sep-92</td>
<td>T. Smith</td>
<td>M. Lanzon</td>
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<td>51</td>
<td>Infusion Pump Task Team</td>
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<td>F. Krupansky</td>
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<td>52</td>
<td>Management 2000</td>
<td>Improvement</td>
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<td>J. Glialaneski</td>
<td>None</td>
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<td>53</td>
<td>OR-CSS</td>
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<td>T. Eubanks</td>
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<tr>
<td>54</td>
<td>PTS User Group</td>
<td>Improvement</td>
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<td>Dick King</td>
<td>None</td>
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<td>Wheelchair Task Team</td>
<td>Improvement</td>
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<td>G. Cox</td>
<td>None</td>
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<td>OR Supply Management</td>
<td>Improvement</td>
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<td>W. Chapelle</td>
<td>None</td>
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<tr>
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<td>Inventory Accuracy</td>
<td>Improvement</td>
<td></td>
<td>W. Chapelle</td>
<td>None</td>
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</tbody>
</table>

MacFolder: CLT Team Analysis
MacFile: TQ Teams 6/30/93

For further info call: Pat Lyons 73241
TOTAL QUALITY TEAM LEADERSHIP COURSE COMPARISONS

DAY 1

Qualtec Qi Story

Step One: Reason for Improvement

Objective: Identify a theme (problem area) and reason for working on it.

Key Activities:
- Research themes
  - Survey internal/external customers
  - Identify what the team already knows (Brainstorm)
  - Review departmental indicators
  - Interview individuals from the work area
- Consider customer needs to help select the theme.
- Set indicator to track the theme.
- Determine how much improvement is needed.
- Show impact of the theme.
- Schedule the Qi Story activities.
- Describe the procedure used in the problem area.

Helpful Tools/Techniques:
- Graph
- Process flowchart
- Control Chart
- Control System

UMMC Quality Roadmap

Step One: Recognize the Process

Objective: To identify customers and major work processes and to analyze those work processes.

Key Components:
1. Identify departmental major work processes, or critical processes
2. Produce macro level flowchart of major work processes.
3. Identify customers of those processes and valid requirements.
4. Establish quality measurement(s).
5. Identify gap in quality.
6. Identify team members.
7. Submit proposal to lead team.
8. Put up storyboard.
9. Train team members.
10. Initiate project profile.

Useful Tools & Techniques:
- Process flowchart
- Brainstorming
- Multivoting
- Affinity Diagram
- Customer Requirement & Quality Measurement Worksheet
- Control Chart

Terminology Differences

<table>
<thead>
<tr>
<th>Qualtec Qi Story</th>
<th>UMMC Quality Roadmap</th>
</tr>
</thead>
<tbody>
<tr>
<td>Qi Story</td>
<td>Quality Roadmap</td>
</tr>
<tr>
<td>PAL</td>
<td>PACT</td>
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<tr>
<td>Theme</td>
<td>Problem</td>
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<tr>
<td>Functional Teams</td>
<td>Departmental Teams</td>
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<td>Cross-Functional</td>
<td>Cross-Departmental</td>
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<td>Task</td>
<td>Task</td>
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<td>Quality Indicator</td>
<td>Quality Measurement</td>
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<tr>
<td>Qi Story Review</td>
<td>Milestone Checksheet</td>
</tr>
</tbody>
</table>

Process Differences

Team is not formed until end of Step 1
Emphasis on macro-flowcharting major departmental processes
CASE STUDY - Hospital Example

Information on how to select team members and request form for plan (Page 58-60)

Tools introduced - Affinity Diagram (Page 50-52), Control Chart (Page 41-44)

More information and exercises on how to flowchart (Page 25-31)

Video - The Business of Paradigms (Page 19)

Seven Guiding Principles instead of four foundational principles (Page 13)

Emphasizes on quality in daily work, cultural change and successful leadership behaviors

Discussion of UMMC Model (Page 9-11)

Cases Differences Day 1
DAY 2

Step Two: Current Situation

Objective: To select a problem and set a target for improvement.

Key Activities:
- Collect data on all aspects of the theme.
- Stratify the theme from various viewpoints.
- Select a problem from the stratification of the theme.
- Identify the customer's valid requirements.
- Write a clear problem statement.
- Utilize data to establish a target.

Helpful Tools/Techniques:
- Checksheet
- Histogram
- Pareto Chart
- Control Chart
- Graph

Terminology Differences

<table>
<thead>
<tr>
<th>Theme Selection Matrix</th>
<th>=</th>
<th>Prioritization Matrix</th>
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</thead>
<tbody>
<tr>
<td>Problem Statement</td>
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<td>Quality Gap Statement</td>
</tr>
<tr>
<td>Target</td>
<td>=</td>
<td>Target for Improvement</td>
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<tr>
<td>Project Planning Worksheet</td>
<td>=</td>
<td>Project Profile Worksheet</td>
</tr>
</tbody>
</table>

Process Differences

Micro-flowchart process

Content Differences

Additional information on how to reach consensus (Page 66-67)
Brainpower video deleted
Step Three: Analysis

Objective: To identify and verify root causes of the problem.

Step 3: Analyze Root Causes

Key Activities:
1. Generate a list of possible causes.
2. Determine major categories of causes.
3. Consider a cause and effect diagram. Organize causes under major categories. This type of diagram is also known as a fishbone diagram.
4. Search for actionable root causes within each bone.
5. Verify each actionable root cause identified.

Useful Tools & Techniques:
- Brainstorming
- Consensus
- Checksheet
- Pareto Chart
- Graphs
- Scenarios

Terminology Differences

Process Differences

Meeting Conducting

Rules & Responsibilities

Enhanced Information on running effective meetings (Page 141-142)
Information on how to conduct meeting critiques (Page 143-145)
Use of humor (Page 147-148)
Revised problem behavior exercise: diversity representation (Page 157-158)
Use of strategy (Page 149-145)
Enhanced information on running effective meetings (Page 141-142)
DAY 5

Step Five: Results

Objective: To confirm that the problem and its root causes have been decreased and target for improvement has been met.

Key Activities:
Confirm the effects of the countermeasures, checking to see if the root causes have been reduced.
Compare the problem before and after using the same indicator.
Compare the results obtained to the target.
Implement additional countermeasures, if results are not satisfactory.

Helpful Tools/Techniques:
- Histogram
- Pareto Chart
- Control Chart
- Graph

Step Six: Standardization

Objective: Prevent the problem and its root causes from recurring.

Key Activities:
Assure that countermeasures become part of daily work.
- Create/revise the work process.
- Create/revise standards.
Train employees on the revised process and/or standards and explain the need or purpose.
Establish periodic checks with assigned responsibilities to monitor countermeasures.
Consider areas for replication.

Helpful Tools/Techniques:
- Control System
- Control Chart
- Graph
- Procedures
- Training

Step 5: Measure the Change

Objective: Measure results of change and success of the proposed option(s).

Key Components:
1. Monitor action plan implementation and collect quality measurement data on piloted options.
2. Compare before and after quality measurement data to determine whether quality gap has improved and root causes have been reduced or eliminated.
3. Evaluate contributions toward Corporate Quality Goals.

Useful Tools & Techniques:
- Action Plan
- Control Chart
- Graphs
- Checklist
- Checksheet
- Histogram

Step 6: Apply to Workplace

Objective: Apply successful options to workplace from quality improvement process to prevent recurrence of root causes.

Key Components:
1. Identify and select "successful" options of quality improvement process for standardization.
2. Develop and test standard processes and procedures.
3. Evaluate existing or develop new quality and methods as appropriate.
4. Investigate if ongoing quality measurements can be
5. Develop implementation plan to continuously monitor.
6. Secure support to implement plan.
7. Implement plan and communicate.

Useful Tools & Techniques:
- Control Chart
- Customer Interviews
- Impact matrix
- Flowchart
- Brainstorming
## DAY 4

### Step Four: Countermeasures

#### Objective:
To plan and implement countermeasures that will correct identified root causes(s) of the problem.

<table>
<thead>
<tr>
<th>Process Differences</th>
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<tbody>
<tr>
<td>Action Plan</td>
</tr>
<tr>
<td>Force Field Analysis</td>
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<tr>
<td>Cost Analysis</td>
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<tr>
<td>Cause &amp; Effect Diagram</td>
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<tr>
<td>Proposed Option Matrix</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Terminology Differences</th>
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</thead>
<tbody>
<tr>
<td>Action Plan</td>
</tr>
<tr>
<td>Countermeasures Matrix</td>
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<tr>
<td>Cost Benefit Analysis</td>
</tr>
</tbody>
</table>

**Helpful Tools & Techniques:**
- Brainstorming
- Proposed Option Matrix
- Cost Analysis
- Force Field Analysis
- Action Plan

**Terminology Differences:**
- Countermeasure
- Countermeasure Matrix
- Cost/Benefit Analysis
- Practical Methods
- Barriers & Aids
- Content Differences
- Process Differences
- Proposed Option
- Proposed Option Matrix
- Cost/Analysis
- Methods
- Force Field Analysis

**Key Activities:**
1. Identify and evaluate options (potential solutions) that will decrease or eliminate the significant root causes of the Quality Gap.

<table>
<thead>
<tr>
<th>Step 4: Determine Options</th>
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</thead>
<tbody>
<tr>
<td>Identify and evaluate options (potential solutions) that will decrease or eliminate the significant root causes of the Quality Gap.</td>
</tr>
</tbody>
</table>

**Objective:**
- Identify and evaluate options (potential solutions) that will decrease or eliminate the significant root causes of the Quality Gap.

**Objective:**
- Select options (proposed solutions) that will decrease or eliminate the identified root causes of the problem.

**Objective:**
- Develop and evaluate potential countermeasures which will correct identified root causes(s) of the problem.

**Objective:**
- Develop an action plan to implement options which include:
  - who
  - what
  - when
  - where
  - how

**Objective:**
- Implement the options, using the specific Action Plan.

**Objective:**
- Obtain any necessary support, cooperation, and approvals.

**Objective:**
- Implement countermeasures.

**Objective:**
- Observe any necessary support, cooperation, and approvals.

**Objective:**
- Review the countermeasures, their effectiveness, and the success.

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**Objective:**
- Develop an action plan that:
  - improves or be cost beneficial
  - meets customer’s valid requirements
  - tracks verified root causes

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  - tracks verified root causes
Step 7: Plan for the Future

Objective: Plan for the Future

Key Components:
1. Generalize to other areas:
   - Determine which improvements can be generalized.
2. Identify potential departments/groups which could benefit.
3. Investigate improvements regarding process(es).
4. Identify additional efforts for valuable quality improvements via review of previous tools or steps; quality gap analysis, Pareto charts, option prioritization matrix.
5. Assign priority of additional CI efforts and select next CI project.
6. Review and possibly reconfigure team membership.
7. Present findings, recommendations and lessons learned to lead team(s) and other interested parties as appropriate.
8. Celebrate achievements.

Helpful Tools & Techniques:
- Action Plan
- PDCA
- Additional Useful Tools & Techniques: Valid requirements, Cost analysis, Consensus
Steps 5, 6, 7

Terminology Differences

Process Differences

Content Differences

- None other than names of steps

Steps 5, 6, 7

Termology Differences

Reward and recognition exercise added (Page 242-243)
Introduction to diversity added (Page 244-248)
Deleted mini-teach sessions - moved to Facilitator course
Histogram and Scatter Diagrams - not taught - moved to Appendix for reference